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## **The Australian bee bulletin. Vol. 4, no. 48 March 24, 1896**

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

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# THE AUSTRALIAN BEE BULLETIN.

MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

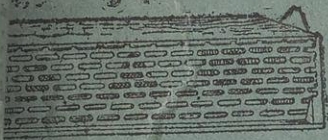
No. 48.

MARCH 24, 1896.

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(Continued from Back Cover.)

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See  
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 Back Cover.

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

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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, let me book your order now, and you can send cash on receipt of queen. I will guarantee my breeders to be equal in all respects to any obtainable.

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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.

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"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.M., Williamstown, South Australia.

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

**H. L. JONES,**  
Goodna, Queensland.

Queensland Agent for the "Australian Bee Bulletin."



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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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September, 2nd, 1895.

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Gentlemen,—Doubtless you would like to hear how I got on with the Carni-Italian Queen got from you, the 15th November, last year. Well, she put down both my Italians and Black honey gathering. Notwithstanding that she swarmed twice during the season. I extracted 30 lbs. of honey from her hive, which record, I think would take a lot of wiping out. I intend going in for Carni-Italians this season, in preference to Italians, for some of which I paid a high price. Believe me, Yours faithfully,

"CHAS. U. T. BURKE."

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Send me your order if you wish the best of Queens. All my Queens are bred with care, and the most approved methods, and from the best imported mothers that can be obtained. My Queens cannot be excelled for beauty, gentleness and working qualities. Either strain, Golden or Leather (Ligurian) :—

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Choice Breeding Queen ..	30/-

On a number of Queens Special Quotations.

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

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ITALIAN BEE FARM,

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**FOUNDATION PLATES.**

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**MELBOURNE.**

**THINK OVER THIS!** If you would dispense with brushing your combs singly and have the pleasure and profit of "handling cases" successfully, with bees that will "shake out," if you would enjoy the full advantage of divisible brood-chamber hives and shallow frames, inversion and swarming controlled to fixed intervals, then you need a strain of bees different to pure Italians. Cypro-Italians give you the above points, in addition to beauty, vigour and prolificness, and ability to resist foul brood that cannot be surpassed, if equalled by any race.

Queens of this strain during fall of year 4/- untested; 7/- tested. Five for 18/- and 33/- respectively. Safe arrival guaranteed. Please mention this journal.

**T. BOLTON,**

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

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# *The Australian Bee Bulletin*

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—MARCH 24, 1896.

THE summer is now over. And for the bee industry it has been a very poor one. In our own locality a fair flow was coming in from lucerne as long as rain kept off. That came. The plants, that had till then consumed their energy in blossoming, commenced to grow, and the farmers cut it all down for hay. If the weather keeps right another flow might shortly take place. In every other part of Australia the honey crop has been a failure. Many are expecting the white and yellow box to bloom about April. We hope their anticipations will be realised. The main thought, however, should now be for wintering successfully. Don't think of the past, but look to the future. For this reason, don't be too greedy in taking the honey off if there should be a flow during the next month or so. We believe a great deal of the loss of bees during last winter and spring was due to unseasonable taking of honey. The bees store for themselves, not you. The surplus only is yours. If you take more than that, the bees must suffer, and you ultimately become the loser. See that all colonies are fairly strong, and have good young queens. You can strengthen a weak colony by giving a frame of hatching brood, i.e., a frame where the young bees are just emerging from a hive that can spare it. Look out for moth worms. You soon learn to recognise their silk covered track, or tunnel among the brood. Follow it up with the point of a pen-knife or pin. You'll soon see the white worm. Don't let it escape. A lot of moth-eggs may sometimes be found about the bottom board. For this reason you cannot be too careful to keep that clean.

As honey becomes scarce any spores of foul brood that may have been buried in honey in an apparently healthy hive are likely to get a foothold now. For this reason it is well to keep the hives disinfected by a weak solution of carbolic acid and sprinkled occasionally on the frame or entrance. As the queens cease to lay or approach of cold weather, see that the bees are snugly enclosed by a follower. All spare frames may be taken off, and placed in a spare room, where an occasional burning of a pan of sulphur will kill all grubs. Some, however, leave the spare frames in the lower story, and the bees in the top story, so that the bees—if they be Italians—may keep the grubs down as they continually pass them up and down. During the winter time look at your bees as little as possible, and only on bright, warm, sunshiny days. By these means, when spring-time comes, you may hope to have good strong swarms ready to gather from fruit, clover, willow, and other things that are then seasonable.

As this issue terminates the fourth year of the *A.B.B.* we would respectfully ask those whose subscriptions now terminate to forward their renewals at the earliest. With the April number will be issued the index of the now concluded volume. We shall be very glad to receive your twelve numbers for binding into volume, for which we charge the sum of 3s. 6d.

Mr. Pacey, of Junee, made us his annual visit during the past month, but he hurt us very much. We asked him how much honey he had got this year. "Only about 900 lbs." "What did you get last year?" "A ton." "Out of how many hives?" "12 hives." And we have only got 250 lbs out of some 40 hives, and bees in splendid condition. We'll have to rake up some good country somewhere. He told us with his good flows half stories will not suit him. He will always go for full sized supers. He complains about the ringbarking going on in his neighbourhood.



We have had a long, very interesting, though sad communication from Mr J. Sterley, the "Bee King," of South Africa. He has had a sad loss in the death of a fine promising son aged 19. Our deepest sympathy goes out to him. While writing largely on the politics of Southern Africa he speaks in the highest terms of Mr Rhodes, who he considers ought to be the president of the future South African republic. He has also sent us a pamphlet entitled "Jamieson's Ride to Johannesburg," together with several newspapers, giving very full particulars of that unfortunate event. They are very interesting.

## QUESTIONS THIS MONTH.

44.—What system do you adopt in taking your honey from the hive during a good season.

45.—Does Foul Brood affect any but immature bees?

46.—Why do the bees always make the colour of the cappings of brood agree in colour with the comb? New comb light cappings, old comb dark cappings.

47.—Which is the most profitable to put in frame, starters or full foundation?

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

No. 57.—Explain the little experience on page 282.

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?

A. E. HOBBS, N.Z.

45.—After six years experience with foul brood I have no doubt that there are, as some claim, two forms of that disease, a mild and also a virulent type. In the mild type the embryo bee will sometimes reach the nymph stage, while in the virulent type it will seldom pass the larval stage before it is destroyed.

46.—Because the bees take the material for the cappings from the surrounding cells.

47.—Except on two occasions I have always used full sheets and always regretted when I used any starters. I have now (November) on hand 460lbs of foundation which I am putting in full sheets into horizontally wired frames.

A. SHAKESPEAR.

55.—Sydney would suit most beekeepers best, being warmer and more suitable. Beekeepers should be allowed half fares on the railway, no free tickets.

E. T. PENGLASE.

57. I can't explain that little experience. If you want to unite bees without getting them killed, try this plan. Take the two frames from the nucleus, and the one from the other hive. Shake them all on to the ground together, and let them run into a small box without frames. Put your frames back into your hive with the queen caged on top, and in about ten minutes shake the bees down by the entrance. In half-an-hour you can release the queen, and there will be no more trouble.

58. I think the Root-Hoffman is small enough. I would contract the top story with a dummy and sawdust cushion if there were not enough bees to cover all the frames.

59. I don't think it matters what colour you wear, but I would prefer white, because it is cool.

A. AYLING.

58. I may say that after reading friend Humble's paper on "Heddonism" I was persuaded to try his plan this season. I have used 10 frame Heddon supers on my old L hives, with the best results. The combs are straight and strong, being fastened to the frame all round, and can be uncapped very quickly, and extracted without danger of breaking. No more L-frame supers for me.

59. I don't know what material or colour is best, but I think I can come somewhere near the worst. I have (or had) a small cap of plush. I am told that the colour is nearer puce than anything else, and my bees won't let me go within yards of them with it on, though I can handle them other times without smoke. I can't say whether it is the material or the colour they dislike.

J. R. H. GAGGIN.

57.—I consider it too risky a procedure to attempt to introduce virgin queens by the direct method, *unless chloroform is used*. You were unusually lucky, according to my experience, to loose but two out of five queens, having, apparently, only employed smoke as an introducing agent.

58.—Am only experimenting as yet with  $\frac{1}{2}$  depth stories, bnt, so far, they seem to admit of much faster manipulation than the full depth, ditto. They are also, to a great extent, preventive of robbing, as the frames can be replaced in the extracting house, allowing every story to be placed directly on hives *minus* the exposure of a single frame. Frames are also much easier to uncapp.

59.—Refer to Roots' "A. B. C. of Bee Culture" under article "Veils." Personally I have found cellular shirts very comfortable. A wide brimmed white linen hat is the coolest form of head gear, much more so than the straw. I always tuck the unmentionable's terminations inside my socks, to prevent crawlers from traveling up my leg, meandering deviously over the person, and stabbing me at their leisure, where irritated by the friction of the clothes, etc., etc.



W. S. PENDER.

57.—It is so well known that virgin queens are so difficult to introduce, that I believe beekeepers have almost given up (except when the virgin does not exceed 12 hours old, and is given to bees that have been not less than three days queenless.) To give a frame of bees and brood to nuclei having virgin queens is the same as giving a virgin to colony just deprived of its queen and I wonder that all the queens were not destroyed. By the bye you did not say if 2 3 and 4 are O. K.; you might do so in this issue.

(Yes, and laying well.)

58.—Half depth frames have every advantage over full depth frames in supers, but one, and that one is, they are not interchangeable with the brood chamber. The slower the honey flow the more definite do they show their advantage in the honey crop. I have noticed many write in their favour in the previous issues of *A. B. B.* I would now be glad to see some one write them down as it would be interesting to see what points he would take. Having said a great deal in previous numbers of *A. B. B.*, I need simply say here they help considerably to cheapen the price per lb of honey in its production.

59.—I know of no preference as far as bees are concerned, but light clothes in summer are decidedly cooler for the beekeeper.

ANONYMOUS.

The writer omitted to put his name.

57.—I have only had two years experience with frame boxes, but I have had a good deal in the old gin case style. Well, I will try and tell you what I do know. It is a certainty that bees differ at times according to the honey flow. They will not take a queen as well in a bad time as they will in a good season. I introduced 50 queens this season, in a good honey flow, and 49 got on alright. I introduce my queens with smoke. I put three queens in three different boxes on the one day. I put them in at the top of the box without any smoke and they were alright, and did well. I tried since the honey was scarce and lost two out of three and had to fall back on the Benton cage.

58.—I believe in half size boxes, that is, one and a half story. They are much easier to uncap and also to extract, and by using shallow boxes you have your honey ripened in half the time as in full sized boxes. You must not extract your bottom boxes when you get a honey flow great or small, you can make good use of the supers, as they will fill them in nine or ten days and have it ripe. I use, Root-Hoffmann eight frame boxes with supers, and I find them much better for wintering the bees when honey is scarce.

59.—I believe light clothes are the best. I use light moles and I find them the best. I have tried dark clothes with sorrow. If they are woollen they will run you out of the yard at times.

R. H. JERVIS.

57.—It was not the effect of the atmosphere on the bees, but bees and brood, for No 2 3 & 4 being longer exposed, gave the old bees an opportunity to return to their own hive, hence only young bees left, which will readily accept any queen. It is a mistake to strengthen hives in the evening, should be done midday, when most of the old bees are away. Then a frame of brood and bees should be taken and bees shaken off in front of hive to be strengthened, so that most of the old bees will fly back to their old hive and all will be well.

58.—No experience, all full depth frames.

59.—White cotton or linen, not wool on any account.

F. W. PENBERTHY.

54.—I think Mr. E. J. Rien's plan is the best to keep ants out of honey house. It would be a lot of bother looking after, especially windy days, leaves getting in. I use flannel between the cover and tank. While filling the tank I put on a lead gutter (1 x 1 in. inside), with water in it, that fits within  $\frac{1}{2}$  inch and around the neck of the tank and run up the half inch space with flannel. I have necks to all my tanks 6 in. high so that the strainer is clear of the honey when the tank is too full of running off honey and no time to solder up. I put a small piece of flannel on the hole with a weight on top. Flannel makes a close fit, if there is enough of it, the wool prevents the ants from passing through. I have had no trouble with ants since using it.

TOOBORAC, VICTORIA.

57.—The fact of the bees in No 2, 3, and 4 not doing the same as those in No 1 and 6 seems to point to a difference in character or rather temper for the time being. In fact this season I should have expected slaughter in each case, especially if there was no honey coming in at the time. It is always risky to mix the bees of a virgin queen with those of a laying one, unless there is a good flow of honey. I do all uniting after nightfall.

58.—I prefer to have both full size and half size supers, as I then can get the advantages of either and avoid their drawbacks. I start a strong colony with a full size and a weaker one with a half size super. Two half supers would not answer so well in the former case on account of the break in the combs through the extra bee space, and a full size super gives too much air in spring and autumn to the latter, besides being too long getting filled. If I cannot keep up with the bees extracting I add a half super to the full sized one and another half to the half size. I can thus allow all combs to be well sealed all over without giving the bees a chance to loaf.

59.—I do not know, for so far I have had to wear what I have got. I know however that they greatly object to rough or wollen cloth, ladies fringes and scent. Jealousy I suppose.



H. V. M'GEE.

57.—I have had bees treat me the same, I tried to build up some nuclei in the same way, but they would fight. I cannot account for such behaviour. I find the best way to build up nuclei is to give frames of emerging brood without the old bees of the hive from which the frames are taken.

58.—Full depth frames are cheapest and best where the honey flow is heavy, but where one gets their flow in patches half depth frames are best. The shallow frames are easily uncapped but with good tough combs one can make good work with full depth frames.

59.—I have not found any difference in the clothing worn when working among bees. I think, if I had to choose a suit, especially for bee work it would be blue "dungarie." It is strong, cool, and too much for their stings.

W. NIVEN.

57.—My experience is that a nuclei may be small, at the same time they may be in a prosperous condition and able to do for themselves. If so there would be some difficulty in uniting them with other bees. Another nucleus might have a larger number of bees but not be in such a prosperous condition. It would be much easier to unite bees with them. Probably 1 & 6 were doing better than 2, 3 and 4. In bad seasons we often see bees leave their own hives and unite with others in the same condition as themselves without destroying one another.

58.—Full size are by far the most economical.

59.—Any kind of material will do but I would prefer cotton with dull colours.

JOHN GALE.

54.—The concrete floor with water gutter surrounding the honey house is the *ne plus ultra* remedy, I have used it for years. My present building has been greatly admired by all who have seen it, and my brother, Mr. Albert Gale, has suggested that I should send a sketch or photo of it to the Technical Branch of Public Instruction. I'd rather give it to the readers of A.B.B. but I am doubtful whether I could draw an intelligible sketch of the affair. I have a concrete pedestal 10 feet in diameter, surrounded by a water trough 4 inches wide, 2 inches deep. Inside this water trough rise 8 posts, 10 feet high, these support eight rafters which of course meet in the centre like the ribs of an umbrella. The rafters project 4 feet beyond the upright posts, and from the point of each of these, two ordinary battens descend to within 3 inches of the ground. These upright battens support lateral battens, extending from one set to another seven sides of the building, the eighth side gives access to the honey house and to the hives, which in two tiers are placed on the transverse battens as on shelves—28 hives in all. Thus I have my honey house and 28 colonies of bees all safe from ants, and the latter (the bees) convenient to the extracting and storing room. If anybody can devise a better arrangement I would like to know it.

C. U. T. BURKE.

59.—Straw hat with veil, white shirt and trousers. Bees object to any dark material, affects their eyesight I fancy.

## QUESTION NEXT MONTH.

60.—Toboorac.—What causes bees to kill or ball a virgin queen hatched amongst them, and left unmolested for over a week?

61.—This year's Conventions, Victoria and New South Wales: Suggestions.

## AUSTRALIAN HONEY IN AMERICA.

Mr. J. D. Ward, of Sydney, recently sent samples of New South Wales honey to Dr. C. C. Miller. The following is the Doctor's account of the same, copied from *Gleanings*.

"Mr. J. D. Ward, of Sydney, New South Wales, has sent me six samples of Australian Honey, all of it Eucalyptus. I had no idea that, under that one name, there could be such a variety. The samples are marked A, B, C, D, E, F, and I'll try to tell you what they look like.

"In the first place, however, I wish you could all see in what nice shape the samples came. They are in six bottles, each six inches long and  $\frac{3}{4}$  in diameter, corked tight, and covered with sealing wax. In these long slender bottles they present a very fine appearance, as evidenced by the exclamations of delight of the women on seeing them. If I wanted to sell honey by sample I should copy closely Mr. Ward's example. And the packing could hardly be improved upon. A piece of  $1\frac{1}{2}$  inch plank has 1-inch holes bored into it to receive the bottles, each bottle being wrapped in paper so as to make a close fit, then a thin board cover screwed on.

"Describing them, Mr Ward says: "A is ironbark and gum; B, C, D, E, varieties of box; F, assorted gums. A and B are from my own bees, located 30 miles from the sea. F is from the coast close to the sea. C, D and E are from the mountains."



"A looks for all the world like a nice sample of light yellow beeswax; and before opening it I had to look at the accompanying letter to assure myself it was not so. It is candied solid, and I'm describing them just as I received them for I haven't melted them. The flavour is peculiar and I do not altogether like it. A little rank, one of the tasters called it. I have been told that, on becoming acquainted with this flavor one likes it; but of course I can't speak from experience.

"B is also granulated with a fine grain, beautiful in appearance, very light coloured, looking a good deal like linden, slightly more of the cream colour in tint. It has the peculiar flavour in a less marked degree than A; and, after tasting it and appearing to study over it a minute, Mrs. Miller said very decidedly 'I like it. It has a kind of candy taste.'

"C is very light in colour, evenly granulated, but not yet solid. Mrs. Miller likes it. Emma likes it better than B, and I think I like it less. I suspect it is not the easiest thing to tell just what one does think of these samples as compared with each other, especially when not many minutes intervene in the tasting.

"D is partially granulated, and is the darkest sample in the lot—at least the dullest, for it inclines the least bit toward perhaps brown as compared with the bright colour of A. The flavour approaches that of A, but Emma thinks there's a shade of maple sugar flavor mixed with it.

"E is not granulated in the least; of heavy body, clear as water and almost as colorless—just a tinge of amber in it. It would be a very hard matter to find a sample of honey presenting a finer appearance. Emma says, 'I rather like it.' Mrs. Miller leaves out the 'rather.' I think I like it better than any of the preceding. Whether its being free from granulation has anything to do with the preference I can not say.

"F is in appearance the same as E, with just a little deeper tinge of amber. The flavour is also a little stronger, and Mrs.

Miller still prefers E; but I'm not sure but I like F the best of the lot. It's not merely a milder flavour than that of A but the flavour is different.

"I intended to melt the four granulated samples but on further thought I'll send the whole lot just as they are to Medina. You Medina people have more experience in sampling and your judgment may not at all agree with mine.

"If these samples were submitted to the palate of the general public I suspect there would be great diversity of opinion. Some would like all of them, some none, some would like part and dislike part, and between these three there would be all the varying shades of opinion. The liking, too, might increase on acquaintance."

## RAISING SECTIONS.

H. V. M'GEE

With pleasure you shall have my system of raising sections, thus:—I have my hives as full of bees as it will hold, and as little honey in the brood chamber as I can get. I put on a half depth super of frames and when the bees get nicely to work I raise this (I should have said the raising of half super to put on sections shows the colour of honey coming in, dark or light. I always prefer light honey for sections. If dark honey is coming I add another half super instead of giving sections, and continue this until I see light honey coming, then on go the sections) and put my crate of sections under the half super. In about 7 to 10 days bees will be found at work on these sections, then change places of half super and sections. You then have sections on *top of all* for bees to finish off. By changing half super and sections in this manner you run no chance of bees putting *pollen* in sections as they are apt to do if the queen is doing her duty and filling all cells as the brood hatches. I have noticed that bees rarely *fill* the cells they put pollen in, especially if pollen is plentiful; they seem to glory in having it in as many



cells as they can get. Now to get back to our half super, etc.—Before the sections are fit to come off the half-super will be capped and must be removed and replaced *under* section crate. By having section crate always on top (after a start has been made in them) you get clean and white sections.

With the *long idea* hive I think sections can be raised as good as can be had and with much less labour. Storified hives are a deal of trouble to work, *too* much lifting off and on supers, and all this shifting of supers throws the bees off their work for some time. I do not use queen excluders or separators in raising comb honey. Should the honey flow begin to ease off you might look over your sections and remove all finished ones, putting empties in their places, but if the flow is continuous, the lot may be taken at once and a fresh lot given.

I think the long idea hive is the one for producing honey in quantity.

## BEE PARALYSIS.

R. PATTEN.

Dear Sir,—While I do not wish to detract the praise which Mr. Abram deserves for the interest he takes in matters apicultural, and diseases in particular, I think it only right to draw your attention to the fact that Mr. R. Helms, in his experiments at Campbelltown some years ago, discovered and recorded the presence of two bacilli in the intestines of the bees under treatment. Early this season, Mr. W. S. Pender again drew my attention to their presence in some bees he had under observation, and later I was able to confirm his views by actual microscopic examination. This led me to a similar conclusion to that arrived at by Mr. Abram in his article in your last issue—"a cure can best be effected with the food." I experimented largely in this direction, and after many failures at last hit upon what has with me been entirely successful. Knowing as I do, that many apiarists have been

experimenting along this line, I am diffident about announcing my cure until more colonies of bees have been under treatment than I have had opportunity to place, and in case my success is not borne out by others I do not wish to add another humbug to the many already launched into existence. "Fools rush in where angels fear to tread." I have no particular desire to add to their number, but if any of your numerous readers are troubled with the dreadful disease of so-called paralysis, I shall be glad to send them a small quantity of the specific, free gratis, which has proved so successful with the colonies I had under experiment.

## FOUL BROOD.

W. D. RUSSELL

Having studied all available matter, re foul brood and its cure, and having I believe made as exhaustive experiments under favourable conditions in its treatment (using the suggestions and advice of such eminent men as Cheshire, Cowan, McLean, Helms and others.) I beg now to lay my experience before your readers and to say that I believe that no cure exists other than what is known as McEvoy's system. This spring I removed to my present location, bringing with me a number of hives showing among them a few cells of F. B. Before bringing these here I thoroughly extracted all honey and as no honey has come in from the trees this season at all, the bees have only had such as I fed them. I used as feeder an (outside) open box, of course watertight, into which I place six gallons of *thoroughly boiled* honey syrup in which I knew foul brood germs to be, with 2oz of pure No. 1 Scherring's Carbolic, on which I placed a slatted float every other day for two weeks. This was generally emptied in about three hours by the bees from 50 hives. I also prepared pollen by boiling split peas into a pudding, mixing boiled honey to form it into a paste and adding ½ oz salicilic acid to each 4 lbs. This I



rubbed into frames to substitute pollen. The bees bred splendidly on it but developed foul brood in sheets. I tried formic acid instead of carbolic, this the bees greatly preferred but results nothing but foul brood. I use 5lbs carbolic, 3lbs. formic and  $\frac{1}{2}$ lb. salicylic acids, 40 gallons boiled honey, and got foul brood in perfection in these hives. I have tried other plans I'll write on later but no cure in any case. Now, Mr. Editor, I am stupid enough to think I have tried these experiments with as much intelligence as usual to be found among others of my calling, and I have done it more for the sake of positively proving this matter than with any great hope of cure. I find that if honey is coming in McEvoy's method is very satisfactory. I have three apiaries, with foul brood in one only. There has been no honey at all so far this season, bees fairly starving except in apiary where I have been feeding for foul brood, but plenty buds on blue gum. White gum and black box will open in about a month's time. In May next I intend to visit the South Sea Islands (some of them) with the object of spying out the land for beefarming. Shall be glad to send my observations there to *A.B.B.* in due time.

P.S.—Since writing just got *Bulletin*. Our season fits in exactly with others. No honey, no brood, plenty pollen now, but none awhile ago. Black box just near breaking into bloom, also blue and white gum, but will be almost too late. I think pollen from wattle. I notice Mr. Jas. Trahair's advertisement re Honey Supply Company. Now, Mr. Editor and Mr. Trahair, cannot those who did apply for shares, with many I am sure would be willing here, form an export company and send a man to force it on the English consumer. Would be glad to work tooth and nail here for the forwarding of such.

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J. R., New Lambton.—My bees are doing nothing and I am going to feed them.

## STUCCO WHITEWASH.

T. Walls, Inglewood, V., March 9—

Some of your subscribers appear to be in a fog whether to paint their hives or not. There is no doubt that painted hives will last much longer, and will greatly add to the appearance of an apiary, but the cost is a big item. On the other hand, there are beekeepers who would not paint their hives upon any account. I enclose a receipt which will give nearly all the advantages of a painted and an unpainted hive, and at a mere fraction of the cost of oil paint. Try it and let us know through the *Bee Bulletin* how you like it. I have my hives whitewashed with the same recipe, and I find it answers the purpose splendidly.

The following is the recipe for making the celebrated stucco whitewash used in the President's house at Washington, United States:—Take 30lbs. of good unslacked lime. slake it with boiling water, covering it during the process to keep in the steam. Strain the liquor through a fine sieve or strainer, and add to it 15lbs of clean salt previously dissolved in warm water, three pounds of good rice, ground to a thin paste, and stirred in while boiling hot: half a pound of powdered Spanish whiting, and a pound of clean glue which has been previously dissolved by first soaking it well and then hanging it over a slow fire in a small kettle within a large one filled with water. Add five gallons of hot water to the mixture, stir it well, and let it stand a few days covered from dirt. It must be put on quite hot. For this purpose it can be kept in a kettle on a portable furnace. It is said that one pint of this mixture will cover a square yard upon the outside of a house if properly applied. It retains its brilliancy for years. Any required tinge can be given to the preparation by the addition of colouring matter. A fawn color may be made by mixing four parts of amber, one of Indian red, and half-a-part of lampblack, previously dissolved in alcohol.



**MOUNT MERLA, MOSS VALE**

J. W. M.—II.

CONTINUATION OF THE TIME OF BLOSSOMING, AND VALUE AS HONEY PRODUCERS OF OUR DIFFERENT TREES.—We have the Mountain Ash, which comes into bloom in September and October, this being a good honey tree, which produces a very nice honey (amber colour), also the Peppermint, which I think is a good honey tree, blooming in November. I cannot say anything about the class of honey it produces, simply because this is the first season I have seen it in bloom. But of course it had no show to yield honey through the hot winds and dry weather. We have the Stringy Bark in abundance, blooming in October and November, being a good honey tree, and producing a fine quality. Also the Mahogany, blooming in December and January, this being a good honey producer, but very dark in colour. And then comes the White Box, blooming in January and February, this being a splendid honey tree, which produces a very nice honey. Also the Iron Bark, blooming in November and December, and is a good honey tree, producing honey of a nice quality. Also the Yellow Gum, this being another good honey tree, which yields a nice coloured honey. And the Grey Gum, blooming in February and March, and is another good tree giving a nice quality. And the Cabbage or Snappy Gum being in bloom now, and it's well worth mentioning as a honey tree, producing a very nice quality. The White Messmate and the White Top Messmate, coming into bloom in January and February, being a splendid honey yielder, the honey being a little dark in colour, but of a first class flavour. Then comes the Grey Messmate, which I consider the daddy of the lot, blooming in February, being a very heavy yielder, and of a very fine quality. We have also the Bloodwood, which is in bloom now, and looks lovely, being a tremendous bloomer, and the honey appears to be of a very nice

quality. The Bees are rolling in the honey off this tree.

Well, I was just beginning to think my bees were not going to bother me for the extractor this season, but since the drought broke up, the honey has been coming in pretty freely and has every appearance of continuing for some time, as I think the Bloodwood and the Snappy Gum will bloom into April.

**THE CONVENTION.**

J. D. G. CADDEN.

Sir,—In last number of A. B. B. I notice most replies to question 55. Sydney is given and as I suggested Sydney some months ago, I am pleased to see such a number favour it, and I feel certain that it suits the majority to visit Sydney and see the latest (if any) in hives and appliances, besides a change from the country to the city and a smell of sea air is beneficial. As your number appeared after the last committee meeting of N. B. K. A. was held, it could not have influenced the members at all and I am told that Goulburn was selected as the place to hold next convention. Now I am of opinion that it is unwise to go to Goulburn, especially after replies giving Sydney, and at the season of the year it is far too cold. The coast district is cold enough in July. Surely the members who attended Bathurst were not impressed with the desirability of always meeting in a cool part of the colony. If not too late I desire to enter a protest against Convention at Goulburn, and in fact I am not in favour of any Convention only the annual meeting of N. B. K. A. and no more Conventions, for so far it has only been a loss of time and money, and little good resulting. I intend to oppose free passes also and see if those who really are beekeepers have not enough spirit to pay their fares or at most reduced fares, say single fare for the double journey.

Copies of the A. B. B. were on the table at the committee meeting.



## NATIONAL BEEKEEPERS' ASSOCIATION.

A meeting of the Committee of the above was held at Messrs Hebblewhite's, George street, Sydney, on Wednesday afternoon, February 26. Present—Mr. Abram (in the chair), H. R. Whittell, secretary, Trahair, G. Gordon, G. Bloxham, E. Tipper, and H. Nancarrow.

Mr. Abrams made a statement in much the same words as his communication in our last issue complaining that the Agricultural Department had not followed up the experiments on paralysis, notwithstanding a lot of culture had been made from diseased bees.

It was explained these experiments could not be carried out in consequence of the want of a proper laboratory, which the Government were procuring.

Mr. Abram considered there was sufficient apparatus at the present time to go on with the experiments, and he himself would worry the matter up.

Minutes of previous meeting were read and confirmed.

Correspondence received:—Letter from the Agricultural Department re sample of honey sent by Mr. Tipper, giving its analysis and stating the honey was undoubtedly not genuine,

From Mr. J. E. Taylor, Cowra, per Mr. G. Bloxham, apologising for absence and stating that an application had been made to ringbark 6000 acres at Clear Creek and enquiring if anything could be done to prevent it.

Conversation ensued, and it was decided to try to interview the Minister for Lands, Mr. Carruthers, but it was found that gentleman was away from town so it was left to Mr. Whittell, the Secretary, to write re the same. The ground is a reserved gold field. The loss of the timber in the production of honey was commented on, it being stated it would amount to some two tons per acre, and produced honey of the very best quality.

The following draft constitution of the Association, as drawn up by the sub-committee were submitted, and the fol-

lowing appointed a committee to further, consider the rules of the association, Messrs Bloxham, Trahair, Whittell Abram, G. Gordon.

1. COUNTRY BRANCHES.—Branches can be created in any country, town or district.

2. REPRESENTATIVE.—Each branch shall elect one delegate for every twenty members or portion of twenty to serve as its representative at the annual or special general meeting of the N.B.A. such representatives to have equal voting powers to any member of the N.B.A. in the transaction of any business at such meeting, and it shall be the duty of the Hon. Sec. of every branch to notify the General Secretary of the N.S.W.B.A. of such election three months prior to the annual meeting.

3. CAPITATION FEE.—In order to cover the cost of postage and other expenses each branch shall contribute a capitation fee of one shilling per member annually to be paid on receipt of the names and addresses of the delegates nominated to the N.B.A. who shall have power to refuse such nominations until the affiliation fees are paid.

4. REVENUE.—Each branch shall receive and expend its own revenue, and a copy of its yearly report and balance sheet shall be sent to the general secretary together with a list of paid up members. The N. B. A. shall if it deem necessary, order extracts from annual reports from branches, &c., it to be printed as an appendix.

5. ANNUAL MEETING.—The annual meeting of all branches shall be held at least three months prior to the annual meeting of the N.B.A.'s, so that the whole of the N.B.A.'s operations throughout the year may be published for the benefit of the members.

6. LOCAL OFFICERS.—Each branch shall elect its own local officers and committee and shall be designated the branch of the N. B. A.

7. Subscription.—Each branch shall fix its own rate of subscription.

8. Reports.—Any branch shall report on any matter when requested to do so by the committee of the N. B. A.

9. By Laws & Resolutions.—Each branch may make by-laws and pass resolutions so long as they are not in contravention to the rules of the N. B. A.

10. List of Members.—Nothing herein contained shall prevent any member of any local association from joining the National N. B. A. in conformity with the rules of said association. Every member of every affiliated association shall be an associate member of the N. B. A. but no such associate member shall be eligible for office in or vote at meetings of the N. B. A. All delegates are eligible for any office in the N. B. A.

The following correspondence was also read:—



Department of Mines and Agriculture,  
Sydney, 22nd January, 1896

Sir, I have the honour to inform you that the Secretary for Mines & Agriculture has caused a copy of your letter of the 13th instant, respecting the reports on the consignment of beeswax forwarded to England, to be transmitted to the Agent-General, who has been asked to furnish a reply on the matter.

I have the honor to be, Sir,  
Your obedient servant,  
HARRIE WOOD,  
Under Secretary,  
per J. W. O.

H. Rawes Whittell, Esq.,  
Hon Sec The National Pomological Society,  
70 Hunter Street, Sydney.

Department of Mines and Agriculture,  
Sydney, 13th February, 1896

Sir,—With reference to your letter of the 28th ultimo asking upon what date a deputation from your Society respecting diseases in bees can be received; I have the honour to inform you that the Secretary for Mines and Agriculture is fully aware of the importance of the subject and intends to submit a Bill to Parliament next session, and it would therefore appear to be unnecessary for a deputation to wait upon him.

I have the honor to be  
Sir, your obedient servant,  
HARRIE WOOD,  
Under Secretary.  
per W. S. Campbell.

H. Rawes Whittell Esq.,  
Hon. Secretary,  
The National Horticultural & Pomological  
Society,  
70 Hunter street, Sydney.

The place of next convention was also discussed.

Mr. Tipper moved that as the majority of the replies re this question in the A. B. B. had been Sydney, that that should be where it be next held.

Mr. Whittell seconded it *pro forma*.

Mr. Nancarrow moved that it be held at Wellington, but afterwards withdrew it, in favour of motion by Mr. Gordon, seconded by Mr. Trahair, that it be held in Goulbourn, and which was carried.

It was considered that when Conventions were held in Sydney the attendance was interfered with by counter attractions about town.

On the motion of Mr. Tipper, seconded by Mr. Bloxham, it was resolved it be held on July 1, 2, & 3 (Wednesday, Thursday and Friday).

Mr. Trahair offered, on behalf of Messrs Hebblewhite and Co., to supply catalogues as on previous occasions. Accepted on the motion of Mr. Whittell seconded by Mr. Bloxham.

On the motion of Mr. Tipper, seconded by Mr. Nancarrow, Messrs Bloxham and Ward were appointed auditors.

## BEE-KEEPING.

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

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

(Continued.)

When the larval transformation is nearly completed the organs of locomotion commence developing, first the legs, followed by the wings, and so on; this is the beginning of the chrysalis stage. The nurse-bees now begin the work of enclosing the inmates by sealing them in with a brownish mixture composed of wax and pollen, or bee-bread, the same kind of material as the larger cappings of the drones and the cell of the queen bee is formed with. Under the microscope these cappings are seen to be full of small holes, which freely admit the warm air from the clustering bees to be utilised by the two spiracles in the thorax of the maturing inmate, the ten in the abdomen remaining inactive during the final stage of this transformation.

During the second stage of transformation the larvæ frequently moult or change their skin; this occurs five or six times during growth. After the final moult they are fed for about four days. The inmate is now supplied with no more food, and the work of cocoon-spinning begins as soon as the capping of the cells is completed. The silken threads composing the cocoon are produced from a fluid yielded by a gland, and the work of its construction is exactly similar to that of the silkworm and other cocoon building insects. Indeed the bee cocoon may be described as made of bee-silk. The fluid escapes



from spinarets in the lips of the larvæ, and after its extrusion quickly hardens and becomes fibrous. On the completion of the cappings, all further attention from the nurse bees ceases. The construction of the cocoon occupies about thirty-six hours. While the final development of the chrysalis stages are completing they remain motionless until the twenty first day is reached, when they emerge from the cell to commence the duty of perpetuating their race, having all the material instincts of the mother bee without the sexual appetite and the power of parturition. The love of offspring, and the perpetuating of her race in the queen, is seen in only one sexual intercourse with the drone-bee during her life time, and her inborn desire for egg-laying. Further than that, the queen is one of the most unconcerned onlookers in the hive, as it regards the rearing of the family that is developing from the very eggs she has laid. Not so with the workers. Their one thought is the protection and nurture of the helpless young; and incessant, laborious, patient, and life-long toil; a life cut short by premature death when the family is most numerous; not a death from a ripe old age, but a life worn out by industrious labour, in what should be the spring time of energy.

The first duty devolving on working bees on entering into active life is the care of their brothers and sisters during their infantile life; a solicitude for their welfare; their cleanliness, their health, always anticipating their every want. Huber was the discoverer of nurse-bees. He speaks of two kinds of workers. One of these is, he says "In general destined for the elaboration of wax, and its size is considerably enlarged when full of honey; the other immediately gives what it has collected to its companions; its abdomen undergoes no sensible change, or it retains only the honey necessary for its own subsistence. The particular function of the bees of this kind is to take care of the young, for they are not charged with provisioning the hive. In opposition to the wax

workers, we shall call them small bees, or nurses. Although the external difference be inconsiderable this is not an imaginary distinction. Anatomical observations prove that the stomach is not the same; experiments have ascertained that one of the species cannot fulfil all the functions shared among the workers of a hive. We painted those of each class with different colours, in order to study their proceedings; and these were not interchanged. In another experiment, after supplying a hive (deprived of a queen) with brood and pollen, we saw the small bees quickly occupied in nutrition of the larvæ, while those of the wax working class neglected them. Small bees also produce wax, but in very inferior quantity to what is elaborated by the real wax-workers."

There was never a more careful observer of scientific bee life than the physically unfortunate Huber. Since the introduction of the Italian bee painting and other mechanical aids to observe the various works carried on by the inmates of the hive—the species, class, or kind so named by Huber as wax-workers, nurses and foragers—have dwindled almost to nothingness. That in the hive there are nurse-bees, wax-workers, foragers, &c., is well known to the practical beekeeper; but that these functions are deputed to various sections of operating bees is now known to be incorrect. Huber must have the credit of the discovery of the division of labour among bees; but that a nurse-bee is *always* a nurse bee is incorrect. These different functions or classes of labour carried on in the hive are performed by every bee during her lifetime. The first duty of a worker bee is that of elaborating chyle food, the nursing of the inmates of the cells, and as she advances in age so is she promoted from office to office until she becomes a bread winner of the establishment. In this final duty her wings wear out, and she dies in harness, at her post, as the little busy bee.

These nurse bees are all-important to



the beekeeper. When bees refuse to cluster on the brood comb, or to accept a new queen, or even to rear one, it is because some of the natural conditions of the hive are absent. A want of a sufficient number of nurse bees is a serious drawback to the prosperity of a colony. In artificial swarming, "forced colonisation," if on the brood comb introduced there be not sufficient adhering bees or nurses to feed the larvæ the foragers become dissatisfied at the deserted appearance of the comb, and, refusing to stay, they swarm out or return to whence they came. A constant, regular, and good supply of nurse bees is the important factor in queen raising. If increase of colonies is the thing sought always note that the comb introduced contain brood in all stages of development, from egg to chrysalis, as well as a good supply of stores, honey and pollen. This last is indispensable.

### INQUISITORIAL.

See, there's a bee on that pane of glass, trying to get out. Poor thing, how anxious it is. We will catch it gently by the wings. See, there's a way to hold it and it can't sting you. Now look the little thing straight in the face. What are those two dull looking beads, one on each side of the head? Only two compound six-sided eyes, composed each of 6,300 separate eyes, or a total of 12,600. Her mother, the queen bee, has only 9,840, but her big brother, the drone, has 26,180! No wonder the tiniest flower, perhaps several miles away, is distinctly seen. And the drone, who does not gather honey, why is he so amply provided with eyesight? There are sometimes hundreds of drones in a hive. There is only one queen. She meets only one drone once in her lifetime, and he dies in the act of coition. That act can only take place in mid-air, under the impulse and excitement of the chase. A crowd of drones espy the virgin queen on the wing. They all give chase, and the one keenest of sight and strongest of wing secures the prize, be-

comes the father of many thousands of future bees, never lives to see one of his offspring, but dies immediately after. One of nature's provisions for the survival of the fittest. In addition to these masses of eyes they each are provided with three small eyes in the centre of the forehead for use it is supposed in the darkness of the hive. Now mark those two little antennae, so flexible, proceeding from the centre of the face. Each consists of one long and eleven short joints. These are organs of scent as well as hearing. The worker bee has in its antennae about 12,000 sensitive hairs, also 2400 smell hollows on each antennae. Fancy, all in the short space of about 1-16th of an inch! So that, both by sight and smell, what wonderful powers the bee has to search for and gather its food. The bee is said to be the one-millionth part of the size of a man. She seeks her food up to five miles away from her home. We will take half that distance, to which it is said a bee will go, and return with a load in ten minutes, and ask ourselves what corresponding distance in miles would that be to a man? Each bee has two pair of wings. In flight they are joined by hooklets, so working as if one pair only. They vibrate at the rate of some 200 flaps a second, (some say as much as 440 flaps, and the rate of speed has been calculated at from eighteen to eighty miles an hour. A bee has six legs. The two first are used mostly for keeping the eyes clean. The last pair have the pollen baskets, and the middle pair are for packing and unpacking the pollen baskets. Wax is a secretion from four small pouches on each side of the abdomen of the worker bee. The queen at times lays as many as 3,000 eggs a day, and a hive of bees has at times as many as 40,000. The life of a worker bee is about 45 days, and that of a queen sometimes five or six years.

Every way we look at Nature we are bound to admire its beauty and harmony. Too many of us only value the bee for the honey she gives us, and respect her for the sting she can inflict on us. But



her part in the processes of nature are of far greater importance than these. The division of life into male and female is not confined to the animal and insect world. In some form or other it exists throughout the vegetable world. Each flower has its pistil, or stamen, or ovule, and in most cases all. The pistil or female portion of the flower contains the honey or nectar. The stamen or male portion the pollen. Without the union of the two neither flowers, or fruits, or trees, or grasses, would germinate, and soon all such would cease to exist. The bee, in searching among the flowers for honey, conveys the pollen from the stamen to the pistil, and takes home of the pollen to feed the young, and of the honey to store by for winter use. The deeper we look into the truths and the workings of nature the more and more wonderful and interesting they appear.

## CAPPINGS.

(From American and other Bee Journals)

Honey, if heated over 150° will become darker if it contains wax. Live steam will burn wax.

Dzierzon does not use frames in the brood chamber even now, only in the surplus chamber.

There were 380 colonies of living bees on exhibition at the great German convention at Goerlitz.

The Weed new foundation press turns out from the section mill, extra thin, at the rate of a pound a minute.

Wilder Graham in the *American Bee Journal*, gives what he terms a Napoleon Method. He keeps one strong hive specially to take brood from to build up other colonies.

Mr H. P. Wilson, says:—Judging from the way bees work on them, I believe that one acre of phacelia or mignonette would produce more honey than ten acres of buckwheat.

Sections have been kept two years without granulating, by putting in a common tin biscuit box and gumming a strip of paper round the lid to exclude the air.—J. T., in *British Bee Journal*.

Mme. Modjeska, the once famous actress, according to an item in the *British Bee Journal*, is now a California farmer with 760 colonies of bees on her ranch at the foot of the Santiago Peak.

Mr. T. S. Ford contradicts two popular errors—that paralysis is not conveyed by the queen, and that blacks do not get it. The queen has paralysis and conveys it, and blacks have it as well as Italians.

The Messrs Porter have invented a modified bee escape to place in upper parts of windows of extracting houses. They say it is very effective in letting the bees get out and prevent robbers getting in.

Another way of stopping robbing. Leave a piece of board over the hive entrance and pour a few drops of carbolic on it. Wet another small piece of board with carbolic acid and place it at the entrance.

About the last idea of Father Langstroth was that honey, water and malted milk has an exact similarity to the food given to bee larvæ. American beekeepers are going to try same well this season. A preparation sold as Hulick's Malted Milk is said to fit the case exactly.

G. M. Doolittle, :—All who have had experience know that the best queens are reared in case of two queens in a hive, or, in other words, when a young queen is reared and fertilized from the same hive which has an old and laying queen in it at the time when the young one is reared. This is a fact which none will dispute; but the point to be arrived at is, "Are queens thus reared less likely to swarm than are those reared under the swarming impulse?" The method I have adopted and given in my book, is nearly the same as that used by the bees where two laying queens are tolerated in a hive at the same time, as the queens are reared above a queen-excluding honey-board when the old queen is doing full duty below, the colony not having the least disposition to swarm while the queens are being reared.



The *American Bee Journal* says:—As nearly as we are able to learn (and we believe it is not far out of the way), since the season for shipping honey opened for 1895, there have been shipped to the Chicago market up to this time, about 60 car-loads, that means about 600 tons, or 1,200,000 pounds of honey. and that would only be about one pound for each person living in Chicago!

Lady beekeepers in America—Mrs. N. L. Stow, of Evanston, Ill., has 55 colonies, had, in 1895, about 1,200 pounds of mostly comb honey from 37 colonies, spring count; Mrs. Poindexter, a few years ago, had 200 colonies in De Witt county, Ill., and one year produced 12,000 pounds of honey; Miss. Mathilda Candler, of Wisconsin. from some 80 colonies produced between 4,000 and 5,000 pounds of honey in 1895.

**HONEY PRODUCTION IN GERMANY.**—An exchange says that it should be noted that in Germany little comb honey is produced, there being for the greater part no market for it. From the hives with fixed combs the best honey that is obtained is what is called "run honey," and it approaches extracted honey very nearly in quality. The crushed combs are placed in a sieve or a trough, and the honey permitted to run off. What remains is gently heated and strained. Extracted honey and "run honey" are sold on the average for 25 cents per pound, the "strained honey" 12 to 12 cents per pound. Comb honey and extracted are the same in price.

Wm McEvoy in the *Canadian Bee Journal*:—In the honey season, and in the same day, if you take the three first swarms, each weighing about six pounds, and put one in an empty hive, another in a hive filled with foundation, and the third in a hive filled with nice, bright combs, to which a half story of choice combs is to be added, about how much extracted honey would you get from each colony in the first 12 days, if the season was a good one? This question can be answered better after some fair testing has been done. In the mean-

time I will make a guess and say, nothing from the colony that had all its own combs to make; 20 pounds to the one that had its hive filled with foundation, and 45 pounds from the colony furnished with plenty of combs. The colony with its combs made out of foundation would be worth 1.25 dollars more for real business every year than one that made its own sort of comb.

Mrs. L. Harrison says:—Women have made a success in bee culture, and what women has done women can do. Two young women attending a boarding school suddenly found themselves thrown upon their own resources. Their father's fortune had flown, and with it his mind. In a log house, upon a little clearing in Michigan woods, they engaged in bee-culture, and from its source supported their invalid parents, and obtained means of erecting a good home, surrounded not only with the comforts, but the elegancies of life. Mrs. Sherman a grand, noble woman of Texas, left a widow with an only son, reared and educated him, at the same time caring for an aged father, by the culture of bees and poultry. Women of education and means would do much good by engaging in bee-culture, and interesting less favoured women in its pursuit. It is a panacea for those in feeble health, taking them out into the open air, where basking in the glorious sunshine amid flowers and the happy hum of industry, they will forget their aches and pains. When they uncover a colony of bees, and breathe in the aroma arising from thousands of flowers, they will take on new life, forget to worry and fret, singing instead "Praise God from Whom all blessings flow."

Experiments reported in *Review*, by R. L. Taylor, show that 145 degrees of heat melts honey, and that at 165 degrees there is some change in the quality of the honey; above 165 degrees rapid deterioration; the greater the heat the more rapid the deterioration. Better hold 145 degrees as the highest limit. [We have generally cautioned beekeepers not to heat their candied honey over 180



degrees, because some of the finest clover honey we ever had was that which had first been raised to a temperature of 180 degrees and no higher. If the honey is then sealed in glass it will remain liquid for a long time. Ours kept clear for two years. Mr. Taylor's experiment was with honey in the comb or unfinished sections from the season of 1894. This honey was raised to the various temperatures mentioned, and samples at each temperature were taken for further comparison. Mr. T. says that raised to 145° degrees and no higher was the best, and that the others were inferior, both in color and flavor. I am not surprised, because wax melts at 145°; and when the temperature was raised to a higher point some of its own flavor and color would be incorporated into the honey. I know this would be true, because extracted honey from chunk honey rendered in a solar wax extractor is always darker and poorer in flavour than the same honey squeezed or extracted from the comb. I am sorry he did not take honey free from the comb. If this had been heated to the various temperatures I think 180 degrees of heat would not have shown a deterioration. Boiling I know, does affect its flavour. I sincerely hope he will try the experiment over again.—*Gleanings*.

One of the recent improvements added to the Home of the Honey Bees is some 1500 dollars worth of new piping, and two new and larger exhaust-fans to carry away saw-dust, especially the fine dust that comes from the sanders in polishing the sections. In order to turn out first class sanded and polished work it is necessary to have a powerful blast to remove the fine dust in the polishing. In connection with this piping there are two centrifugal dust separators, one of which is on the boiler room roof, and the other is on the three story wood working building. They are large cylinders terminating in an apex at the lower end, some six feet in diameter and fifteen feet high. The dust as it comes from the machines is carried by piping to these cylinders and by centrifugal force it is thrown

against the sides, allowing the air freed of dust to escape through the centre at the top, through a large hood. The dust as it strikes the sides inside, falls to the apex of the cone at the bottom, and is then forced over to the boiler furnaces, and fed automatically above the fire, so that a good part of the time there is no shovelling at all. Another improvement that we have recently put in is what we call our hog. It is nothing more or less than a ponderous machine that swallows as it were all short refuse edgings, chews them up fine, and then discharges them into one of the pipes connected with one of the large fans. It is then carried by the piping and fed automatically to the boiler furnaces, the same as sawdust and shavings as they come from the machines. It has been found that wood in a finely pulverised condition will go further as fuel than in any other form. The object of our hog is to reduce all edgings and waste material to a pulverized condition, so that it can be blown by a blast of air right under the boilers.

—*Gleanings*.

R. Taylor, says:—As to the inquiry as to whether we have propolis here, I would say that, so far as we know, it is as plentiful here as elsewhere; but we have far less of it than most others. I remember that at the hotel in Madison, Wis., we explained our way of preventing propolis and burr combs to two distinguished bee-men (A. I. Root and C. C. Miller) and they said they wished it was true elsewhere than at Forrestville, Min. Our way is to have all bee spaces kept very close to and not above  $\frac{1}{4}$  inch to prevent burr combs, and to have everything about the hives where the bees have to travel made very smooth. For this purpose we now paint the inside of our hives, and have them, as well as the frames, supers, sections and every part the bees must walk over, very smooth. And now, friends, this does lessen the evil of burr-combs and propolis, not only at Forestville, but everywhere that bees work. A rough fuzzy board is about the same to a bee as a piece of rough



boggy brush land would be to a labouring man to travel through; and the first thing the sensible bee does is to make the ways they must constantly travel as smooth as possible. This they do by gnawing and varnishing with propolis, and I am now certain that all frames should be very smooth, and may be dipped into proper paint with profit; and if only one side of the hive is painted, the inside should be preferred, as it keeps the wood from being soaked with water in winter, and injuring the colony's health and causing the wood to warp and check.

## SOME LARGE AMERICAN YIELDS OF HONEY.

Dr. C. C. Miller, Marengo, Ill.—My largest yield was in 1882—16,549 pounds from 172 colonies, comb honey.—*American Bee Journal*.

Chas Dadant & Son, Hamilton, Ill.—The largest crop of honey we have ever harvested was harvested in 1889, if we remember right, from about 400 colonies of bees, mostly Italians with some hybrids and a few blacks—45,000 pounds.

G. M. Doolittle, Borodino, N. Y.—Largest yield of comb honey, from one colony 309 pounds. Largest yield of extracted honey from one colony in one season, 566 pounds. Largest crop in one season, 11,492 pounds, from 69 colonies; mostly comb; from choice Italian bees.

Mrs. L. C. Axtell, Roseville, Ill.—The season of 1882 we received 39,000 pounds of honey, mostly comb, in first-class sections, from 180 colonies, and increased to 295 colonies, being a little over 216½ pounds per colony. Our greatest yield from one colony (a good hybrid) was about 300 pounds. Of the 39,000 pounds only 500 was extracted. The honey netted us in Chicago 12½ cents per pound.

James Heddon, Cass Co., Mich.—I am unable to answer further than to say that I once took 410 pounds of surplus

from one colony not fussed with in any way. The hive has no moveable frames at all; 362 pounds of the surplus was comb and 48 was extracted honey. This was about 25 years ago, when we had fresh moisture at the roots of the basswood trees. From 48 colonies, that season, the yield was very large. One year I began an out-apiary with 102 colonies; increased to 225. I kept no account of the number of pounds, but I did of the cash I received from it, and it was 1,070.00 dollars. It cost me less than 70 dollars for labour. I once hived a full prime swarm on ten Langstroth frames, during a copious basswood flow. After three days I opened the brood chamber (all there was to the hive) to see how the queen was laying. I found about 50 square inches of comb in the centre of one frame, empty and shining but not an egg in any cell. All the rest was solid with basswood honey, and partly sealed over. I threw all out clean, and got about 70 pounds of honey. Next day at precisely the same hour (10.30 a.m.) I opened the hive to see if my queen was then laying, and I found so much honey (all unsealed and ¾ ripe) that I threw it all out and weighed it. It tipped the scale beam at 29 pounds and 13 ounces. This is my best record. One year I got 800 dollars from 16 colonies, and increased to 33. I sold the honey (it was extracted) in glass jars, and it netted me 32 cents a pound. These were the days when nature favoured us. Bees paid then.

W. A. M., Mingoola.—That little bee with golden bands, can't talk, nor does she care, but when she stings us in the eye she teaches men to swear.

Major F.S., Lowood, Queensland, 27-2-96.—Have had a very bad year indeed, first drought and now floods. Swarms are however very strong. I enclose herewith the addresses of two beekeepers to whom I have spoken re your paper, and I think both will subscribe.

Thanks. Addresses of neighbouring beekeepers are always welcome.



## HOW TO MAKE A START IN BEES.

BY LOYALSTONE (*Continued.*)

V. DISEASES OF BEES, CAUSE AND CURE.—This is a subject that no one but a scientist should speak about, and I am sorry to say that at present our scientists of Australia are rather dilatory about writing about them. Nothing is more aggravating to a novice making a start in bees to find just as he is getting settled down to the business, that he has a disease among his bees and if he finds it has spread through a number of hives, in nine cases out of ten he throws up the business in disgust. I will deal with the following diseases, as I have experienced them and cured them, viz., Dysentery, Foul Brood, and Paralysis. The first-named is caused by dampness in the hive in the winter time, and is also caused by a long spell of cold weather, in which the bees are unable to fly. You will take notice of it by the dirty state of the entrance. Also in looking over the bees you will notice them discharge a muddy matter, sometimes greenish looking. Should they not appear to be very bad the first day they will rid themselves of this disease. Should they appear very bad and the weather be cold, you should carry the hive into a warm room, take the cover off and spread the frames apart, so that the warm air can get to them. Take them into the room in the morning, and put them back on their stands at night. This will generally effect a cure. I have also cured them with warm ginger and water sprayed over them. The liquor to be made about one teaspoonful of ginger to an ordinary cup of water. The best cure of all if weather permits is to take bees and frames from hives affected, leaving frame with queen on in the hive, take the rest on a warm day about 50 yards from hive, shake on to a cloth on the ground, and in flying back to the hives they will at once rid themselves of this disease. After shaking the bees off return the frame to their hives. The next—Foul Brood—is a much more serious disease, for if not looked to in its earliest stages it will spread through all your hives and completely ruin them. The disease will be first noticed on looking over a frame of brood in all stages. The little white grub, instead of being snugly curled up in the bottom of the cell will be stretched out horizontally, laying at the lower side of cell, and the pearly whiteness will be gone, and gradually it becomes darker and darker until it dries up a thick coffee coloured crust. You will notice the disease before the grub is stretched out by looking over a frame of uncapped brood. You will notice some of the grubs curled up not looking quite so shiny as the others. This is foul brood in its first stages, keep your eye on this frame and look again in three days and you will notice these grubs stretched out quite lifeless

looking. Again you may not notice foul brood at all in uncapping brood. It may not attack the brood until it is capped, in which case on looking over a healthy looking frame of capped brood, you will notice a sapping here and there dark and sunken, and on pricking this you will find it filled with a sticky mass, sometimes smelling just like a strong smelling glue-pot. This is reckoned an advanced stage of foul brood, though I differ and call it first symptoms. The cause of this disease is germs called bacillus alvei, but where the germ comes from and how it finds its way into the hive is a problem that has not yet been solved. With regard to cure of same there are many, the quickest and surest being to fill another hive with starters of foundation, and artificially swarm the bees from diseased hive into the fresh hive by shaking bees in front of it, take away diseased hive and put queen-excluder on fresh hive to prevent queen flying away. If there is much good brood in diseased hive, it will pay you to put it away in some warm place for 5 days to allow brood to hatch. Then artificially swarm this lot of young bees into a fresh hive with starters, and give them a laying queen, introducing her by letting her run in the hive along with the young bees, then take all diseased brood and honey and burn frames and honey, as it is a messing job trying to save wax, honey and frames, and not worth the trouble. Make a good fire and then burn frames and combs straight away. With regard to the hive—clean and wash it out well with hot water and soap, and when dry paint the inside with pure carbolic acid and expose to the air for 3 or 4 days, when it will be fit to use again. I have cured this disease by taking the queen out of the hive, and keeping same hive queenless for three weeks, allowing all brood to hatch. Burn suspicious looking combs and put queen back in hive. The only time to use drugs is in the following case: When the capped brood is only attacked take a vial of pure carbolic and a common slate pencil, take out frames attacked (this is only when one or two combs are attacked,) dip the pencil in carbolic acid and run it in diseased cell, withdraw it and do same to all cells attacked, and this will effect a cure. But when you have foul brood bad, do not neglect to do the first mentioned cure as it is the safest and best. With reference to Paralysis—This is a disease only found out a few years ago, and from which the bees suffer in the winter and early spring, killing off large swarms in the course of a week or so and no real cure has yet been discovered, but as I had the same will give how I cured it. By sprinkling flower of sulphur over bees and combs is supposed to be the most successful cure, though in some cases this treatment is nearly as bad as the disease. If sprinkled too freely it gets into the cells and prevents the queen's egg from hatching, and in other cases it affects the queen so much as to render her thoroughly useless, prevents her



from laying, and in three cases out of five the bees will supersede her. The cause of this disease is also unknown, my opinion, it is nothing more or less than a kind of disease arising from dysentery and too close a confinement of the bees, for I find that hives affected with this disease, if the cover was taken off on any fair day, and a wire cover put in its place, so that the air could get to them (plenty ventilation) that hives so treated invariably recovered, while others treated with sulphur and other cures for paralysis died right out, and by treating hives affected by the cure mentioned for dysentery also at once cured paralysis. You will first notice this disease by the number of bees dying in front of the hive and the appearance of dying bees, who seem to be affected with a kind of spasms or cramp, and ginger is a good cure for cramp, which was my other cure for dysentery.

(To be continued.)

## HAWKESBURY DISTRICT B. K. ASSOCIATION.

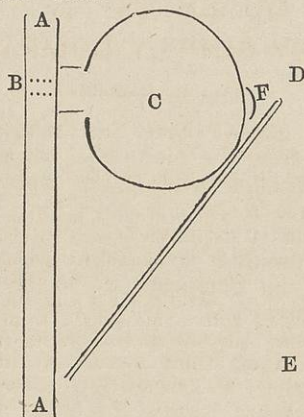
J. D. G. CADDEN.

Sir,—Early in 1893 the beekeepers in Windsor and Richmond formed an association, naming it the Hawkesbury District Beekeepers Association, and so met alternately at Windsor and Richmond. Rev. J. Ayling was elected President, Mr. F. G. Daly, Vice-president, Mr. F. Rodda, Treasurer, and Mr. W. C. Barker, Secretary. The first four or five meetings were fairly well attended, but afterwards, from absence of secretary and other causes, no meetings were held, and the annual meeting from some cause best known to the secretary was not held and has never been held, or as a member I should have received notice. Others besides myself think it is time a meeting was held so as to decently inter the defunct before it smells too bad, and the members are fairly entitled to know how their money was spent and what has become of the balance. Trusting the officers will wake up, &c.

M. C. Y., Coraki.—If we get fine weather for awhile there will be a good fall crop about here. Gum, Bloodwood, and Ti Tree just coming into bloom. I have 50 colonies in good order and making honey.

## BEEKEEPING IN THE KASHMIR VALLEY, INDIA.

The following interesting extract from letter has been handed us by Mr. L. T. Chambers of Melbourne, who also informs us he is sending prepared queen cages to the writer in order to get queen from there, and so add to our knowledge on this subject: "I note your 'Bee Appliances.' There are heaps of bees in Kashmir and where honey sells at 3d. per lb. Some of it is got wild from the trees, the natives make hives in their houses. A.A.—Mud wall of house in



which natives live. B. Passage through which bees enter to hive (C). C. Hive; an ordinary round clay vessel about "14 deep by 14" diameter. E. House where natives live, any one room of it sometimes as many as three or four hives in one room. D. Wooden or other support for hive. F. Small hand-hole broken in back of hive and covered over by a plain clay saucer, fixed and closed on with wet clay. The whole arrangement costs about 3d. Procedure,—Bees are attracted to hive like any other civilized hive, and they make honey as elsewhere. When honey is ready, remove saucer at back, (this can be removed and replaced at will to look at work on). Smoke out bees and take down (C) the hive. Break the clay vessel and your honey



lies exposed. They sometimes remove the bulk of the honey through F. by hand without taking hive down, but I think the former is the usual plan. We have ideas of starting the natives later on at civilized hives with frames, &c., but our hands are very full at present. It will come in time. We cannot go in for keeping them ourselves, because bees near a sugar work of any sort are deadly for work, you cannot keep them out of the preserves, &c.

## THE QUASHING OF THE HONEY SUPPLY COMPANY.

J. R. H. GAGGIN.

Dear Sir,—I have just received a cheque from the Hon. Sec. concerning my application money ("less expenses") for shares in above proposed Co.

Would it not have been well before hastily deciding to abandon the formation of the Company, if the Directors had threatened to publish in the "*Bulletin*" the names of those defaulters who pledged their words at the last Convention to subscribe, afterwards failed, thence became the cause of the Company going down? Had this been done—a reasonable notice being given—surely such would have promptly redeemed their words in forwarding their several subscriptions, and have saved themselves from the obloquy of being pilloried in their shame before the whole beekeeping community of the colony.

The Provisional Directors would have much better consulted the interests of beekeepers in general by such a commendably and courageous course, however much it might have subjected them to the odium of those negligent few (only some 13 I understand) than, has they have done, by letting the whole affair slide back to its position before the Bathurst Convention met.

It is too late of course to do anything now, but one cannot but regret the lost opportunity.

As matters stand now, primarily through these 13 skulking defaulters, and indirectly from the comparative inaction of the Provisional Directors, the present position of honey growers is, every one for himself, and may a certain objectionable gentleman take the hindmost.

## THE WINDING UP OF THE PROPOSED BEEKEEPERS' HONEY SUPPLY CO., Ltd.

To the Editor.

Sir,—Would you, in the interests of the late subscribers of the above Company, kindly publish the two letters following, which will explain themselves? The copy of my note, being taken from but a rough draft of the original letter, is not quite literally exact, but it is as nearly so as possible.

Copy of Letter from J. R. H. Gaggin to Jas. Trahair, Esq., Secretary for the proposed *Beekeepers' Honey Supply Co., Ltd.*

Lismore Apiary, Lismore,  
4th March, 1896.

Dear Sir,—Your circular with cheque received some days since, for which please accept thanks. Before sending you a formal acknowledgment (as requested in said circular) I should like to enquire as to whether the Provisional Directors intend to publish a balance sheet—showing money actually received, and the items of expenditure, as I note that you have deducted 9s. 2d. from £2 10s., paid by me, which is allowing about a fifth part of application money for expenses, *which are unspecified*. I understand that some 300 shares were applied and paid for, which would mean about £75 received as deposit money. At the rate at which I have paid this would mean that some £14 or £15 have gone in expenses. *I do not in the least mean to convey the slightest innuendo by above*, but I write this believing it to be the usual business procedure under the like circumstances to publish a balance sheet. Without such a due explanation there is sure to be dissatisfaction on the part of some subscribers. Apologising if I have unnecessarily troubled you.

I am, yours faithfully,  
J. R. H. GAGGIN.

[REPLY.]

From Mr. Trahair, secretary of the proposed *Beekeepers' Honey Supply Co., Ltd.*, to J. R. H. Gaggin, Lismore.

George-street, Sydney,  
Undated.

Dear Sir,—Your letter re balance sheet of affairs of the proposed Honey Supply Co. (now wound up) came duly to hand, and is nothing



more than could be anticipated from one who thinks everybody is of the same inclinations as himself; no doubt nothing would satisfy you but for the provisional directors to have done the work, and paid all expenses. If you are agreeable to pay cost of publishing a balance sheet, send me £1, as there are no funds in hand, and I will prepare a balance and forward to all applicants. Show your generosity to the fraternity.

JAS. TRAHAIR.

#### P.S.—THE ONLY ONE DISSATISFIED.

The questions now are: (1) Whether I had the right; or (2) Whether I had no right to inquire in a reasonable and proper manner if a balance sheet was or was not to be published. As far as I can see my presuming to think I had such a right constitutes the sum total of my offending. (1.) That as a subscriber I possessed an indisputable right seems perfectly clear and evident to me. In this case no ghost of an explanation had been vouchsafed to the depositors in the Company as to how about 1-5th part of their money had been spent. As far as I am acquainted with the subject it is always the invariable practice in the like circumstances to publish a balance sheet. The fact of the Director's trustworthiness, honourable character and high standing never obviates or abrogates the necessity for this plain business dealing.

2. But supposing that I was altogether mistaken in thinking that a statement of receipts and expenditure should have been published, might not my mistake have been pointed out in a decently courteous manner, instead of a series of foul insults and insinuations being so clumsily hurled against me.

I remain, Sir,  
Yours faithfully,  
J. R. H. GAGGIN.

P.S.—Mr. Trahair contemptuously brands me "the only one dissatisfied." Can that gentleman explain to *anyone's* satisfaction *how* he has ascertained that every other subscriber to the Proposed Honey Supply Co. is in a state of absolute satisfaction with the manner of the winding up of the affair? Since Mr. Trahair thunders forth this statement, it remains the fact without doubt; still, as no opinion on the matter has been yet expressed by the subscribers generally, it would be extremely interesting to know by what process of clairvoyance, or other inscrutably occult method Mr. Trahair has arrived at this conclusion, when seeking to crush me by bullying assertions, and, as I think, by wholly undeserved and unprovoked insults.

J. R. H. G.

## RE HONEY SUPPLY.

JAMES TRAHAIR.

Dear Mr. Editor,—In forwarding receipts for refund of application money for shares in the proposed honey supply company, a great number of the applicants expressed their appreciation of the efforts made to start the above company and their deep regret at the cause of its failure. A few extracts from these letters I should like you to publish.

EXTRACT No 1.—I had certainly thought that the beekeepers of N. S. W. had learnt a lesson from their bees, *working together*. One bee cannot support herself, nor can any one colony support its owner, the more individual worker bees in a colony the thriftier it will be. This I think should also be applied to the marketing of honey. Should at any future time another company be started I shall interest myself in it again, and hope to a greater extent. Thanking you all for trouble taken in this matter.

Extract No. 2.—I am sure it is very disheartening to all the Provincial Directors to see the cold indifference displayed by those beekeepers who are the cause of this project becoming a failure. It seems there are men calling themselves beekeepers who through ignorance or too much selfishness are totally opposed to their own interests, and are indifferent to the efforts to promote their welfare. In conclusion, I tender to you as well as to the other gentlemen my thanks for all you have done in your efforts to promote the welfare of honey trade, to the interests of all beekeepers, although they have signally failed in backing up your endeavours.

Extract No 3.—I much regret that you have been unable to start this company, and I still hope that you may see your way at some time in the not far distant future to successfully float a company on somewhat similar lines. It appears to me that if the beekeeping industry in N. S. W. is to expand to the dimensions it should, I really think that it must in future pull together and that can only be done by association and co-operation.

Extract from Secretary.—No doubt the season had something to do with the failure of the proposal. It has undoubtedly been a very bad one, and all of us have felt it, but this in itself is an object lesson of the necessity of some means for increasing the demand for honey, because with such a bad season naturally there cannot be the usual supply, but I can buy honey cheaper this year than ever before, showing to my mind that when there is a big yield producers or agents are compelled to go and look for buyers, thus selling honey which would otherwise not have been bought. This canvassing and pushing wants to be done systematically if our product is to

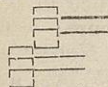


take its proper place in the market. It is without doubt a difficult matter to please everyone and have had one letter only complaining of the expenses (11d per share) being high. Considering that 1500 prospectuses were posted in 1894, stamps, advertising and receipt books had to be purchased, then in 1895 when the applicants altered the 1894 prospectus, new ones had to be printed, and sent out, taking the double expense into consideration, cannot imagine where any thing could have been reduced, and feel sure that anyone who could consider or had any knowledge of what is necessary in such cases, could but say that everything was kept as low as possible.

## HIVES, &C.

THOMAS BOLTON, VICTORIA.

We are hard at work extracting and very busy so I can't write much just now. By the time I get home and have tea and a look at the bairns, and post my books, I begin to want to sleep, not write. No, I have not used frames that *stand* in Heddon hives, but I know from using sections in  $\perp$  supers and such like that squashing bees is unavoidable, if work is to be done rapidly, when the support is under and out of sight. Then again Heddon's plan necessitates a frame but little shorter than the interior of the box in order to avoid end play, which would permit, if it existed, of the frames slipping out of contact on their end bars. Now this tight fit becomes tighter when bees propolise things up, and if you make more end play to avoid this you fall into another danger of missing contact,



fatal to inversion of your hive bodies. But if you hang your frames by the top bar, you can adjust end play by your top bar as in the L. hives, and have the body of your frames a bee space shorter than the inside of your hive cases, and consequently much more easily handled than if exactly as Heddon directs. Your idea of making your hives to take 10 instead of 8 frames is a mistake I think. Your 10 frame case when full of honey will be too heavy to shake out with success, the cases will be strained and

in doing so and the extra weight will make inversion difficult as the frames will be more apt to drop down. A full case of honey of eight frames weighs about 35 lbs to 38 lbs gross, of ten frames nearer 45 lbs.

The iron screw I prefer because stronger and having an eye one can use them more readily. The points should be taken off with a file before use and a clout nail or button put on the dummy opposite where the point comes, and in making up a lot of hives set your marking gauge and make the holes for screws exactly in the same place in each case, then button and screw will come out in contact, whatever case your dummy may be put into. Do you comprehend? If you don't do this your screw will bore and won't hold your frames tight when inverting. If you use wood screws lubricate them with dry plumbago (blacklead) not oil.

I use two cases for brood nest (sometimes the queens have three) and two to four for supers. Each hive has a wood and zinc excluder  $\frac{1}{2}$  bee space on either side. These are used more in spring and gradually dropped out at end of season when bees are disposed to crowd the queen below and neglect the supers. They are left on or under the lid for safety and shade, and in winter supers and honey board are all left on their hives.

My frame is  $18 \times 5 \frac{3}{16}$ ; top bar  $19\frac{1}{8}$  by  $\frac{3}{8} \times 5 \frac{1}{16}$ ; bottom bar,  $18 \times \frac{3}{8} \times \frac{1}{4}$ ; end bars,  $5 \frac{3}{16} \times 1\frac{3}{8} \times \frac{3}{8}$ ; cases,  $5 \frac{9}{16}$  deep by  $12 \times 18\frac{1}{2}$  inside; frames hung  $\frac{1}{2}$  bee space above and below, Dummy  $18\frac{1}{4}$  over all, top bar,  $19\frac{1}{8} \times \frac{3}{8} \times \frac{3}{8}$ , Kauri end pieces  $\frac{3}{8}$ . Don't have contact  $\frac{1}{2}$  way only as in Hoffmann frames, but all down end bars.

My Cowan reversible and Novice extractors take four frames. Every extractor had to be specially braced by me to stand the tendency to bulge the baskets using too shallow instead of one deep L frame, a point I have brought before those who make and sell these goods without any improvement resulting, so I



have to fix them myself. Root's four cage Cowan would not do for my frames at all, its circular reel gives no support to centre of basket where most needed and I've told them so. I don't wire my frames and those I did wire if cut I do not re-wire. These frames are ahead of L for wax production on that very account. They need no wire or centre bar whatever and I travel mine over rough country and ship considerable comb honey in these frames to distant markets in the cases it is built in.

## PARADISE LOST.

R. H. LONG

There's music in the humming of a bee,

But who can catch the gentle melody,  
As homeward's honey laden,

Like an undeveloped Haydn,  
It flutters out its fairy symphony?

Like Beethoven they are bringing from the skies

The music of a choir that never dies,  
And if with hearts we listen

We shall see the nectar glisten  
In blooms that only flower in Paradise.

There's passion when in minor key they sing,

And buzz like angry demons on the wing,  
With a sharp and short crescendo

That concerted piece will end oh,  
In an allegretto movement—for the sting.

Of the beauty of that moment, few can tell

Alas, they're mostly feeling far from well,  
For their bodies rage and burn, oh,

Like a Dantes' fierce inferno,  
And they wish both bees and music back in h-10!

N.B., Narrandera—I had not much honey this year, and strange to say, not one swarm. I have no time to look after my bees as they should be looked after. I can see plainly that I should breed young queens and kill the old queens, but that takes time and study. I am ashamed to say some *Bee Bulletins* I don't read at all, and I am sure there is always plenty of information in it on bees. I am in hopes there will come a time when I can attend to them better, as there are always a few pounds coming in for little troubles. Wishing the *Australian Bee Bulletin* success.

J. A., Chiltern, Victoria.—It has been a very bad season on this side for the bees, I have not taken a single pound of honey and will have to feed up for the winter. You are improving the *A.B.B.* The last number is the best you have sent out yet, and I must say that it is a pity subscribers do not pay up regular and keep it going.

W. Bros., Kilmore East, V.—We have had a very bad season, the fruit blossom started breeding and peppermint then came in, but no honey. The trees were white with blossom but not a bee on them and no other blossom came out, and so it went on all the summer. Robbers very aggressive and invading every place containing sweets and trying every hive. Commenced to feed last month under great difficulties but now all is changed. White gum is out in full bloom and they will now get full supplies to winter on.

From an article in the *New Zealand Farmer*, by Mr. I. Hopkins, re the first importation of bees to New Zealand, we take the following:—At present the case stands thus: Lady Hobson landed bees at Bay of Islands early in 1840; Rev. W. C. Cotton landed some at the same place in the first half of 1842; Mrs. Allom's bees arrived at Nelson it is believed in 1843. In the opening paragraphs of a small work published by George T. Chapman, Auckland, about 1868, entitled 'How to manage the honey bee in New Zealand,' the following occurs:—'The Rev. R. Taylor says ("Notes and Queries," 8th December, 1855) bees were introduced into New Zealand before Mr. Cotton's arrival, but the chief supply is derived from his stock. Mr. Cotton arrived in Auckland in company with Bishop Selwyn on 29th May, 1842 (this fixes the date of arrival.—I.H.), and although there are several things connected with New Zealand beekeeping, he was not aware if Mr. Cotton remained long enough to prove the fact that 'New Zealand will be a great honey producing country.'



Read Mr Wall's "Stucco-Whitewash" elsewhere.

Robber bees, in fall and spring, only try to go into hives while the sun is shining on the entrance, hence those fronting north are seldom if ever bothered by them, and usually winter better, because the bees are not induced to fly when the weather is too cool, and do not cluster at one side of the hive because it is warmer, as they sometimes do when it fronts east and west.—*Southland Queen*.

[In Australia these terms are reversed. For North reads South.

A. A. R., Muswellbrook, Jan. 28th,—I have heard and read a lot about drones with white heads in the bee journals, especially *Gleanings*. I have seen them among the Italian drones, and to-day when at the out-apiary I found one with his head and shoulders as white as milk. This was in a colony of blacks (the only one we have), so I put him into a box and brought him home to show him around to those who had not seen one. I left him in the box till morning and he was still alive, but the white had vanished from off his shoulders and one side of the head, leaving only one side white, and on looking at him, I saw this white portion a little rumpled on one side, and I thought it was a skin so I took out my penknife and I peeled the whole of the white portion off and it did not hurt the drone one bit, only restored him to his natural colour. The cause of this skin I cannot say, farther than suppose it to be caused by the moth-worms. This may be of some interest to you as it is new to me to know the skin will peel off. If others see these drones let them keep them in a box and see if the skin wont peel off.

A.T.C., Bendigo, Victoria—I don't know who ordered the *Bulletin* to be sent to me—I did not—but I have read it with pleasure. I have only two hives. I had two last year, but one died off during the winter, although they had plenty of sealed honey. The hive that was left threw off a very strong swarm, but although they have been some

months in the hive they have made very little comb; it has been so dry. Last year by this time I had taken over 200 lbs. of honey from the two hives. The hive from which the swarm came is very strong, and they are now working in the super, so there must be some bloom about, but I have not taken any honey yet. I was wondering if it would be right to take one or two of the side combs from the old hive, and put them in the new hive, and fill up the spaces left in the old hive with empty frames with starters. I lifted out some of the side frames last week, and they had brood comb in. I did not know whether it was right to put the brood comb in another hive.

You can put combs from one hive to another, if frames of the same size, and there is no disease in the combs you are shifting. It is a common thing to strengthen weak hives by giving them a frame of uncapping brood (not bees) from a strong colony that can spare it.

J.S., Auckland, N.Z.—Can you tell me if empty salt meat kegs would do to ship honey in? This being the readiest means at hand in the S. S. Islands, where freight runs high upon empties! Have you yet seen Root's devices, Catalogue page 22, 1894, for holding  $\frac{1}{2}$  story super rigid when shaking bees out and do you consider it a success? Should you be acquainted with the above can you give me a brief sketch of same, and oblige.

[We would not recommend salt kegs, being afraid the flavour would injure the honey unless the kegs are thoroughly well scalded and waxed. We have not seen that device. Heddon half supers answer the same purpose. But for cleaning the bees off a carbolised cloth on top, an escape board underneath, or both together, would, we imagine would do as well. The following plan is recommended by Mr. Heddon: When removing supers from the hives, by a judicious use of smoke at the top, we drive more than four-fifths of the bees down into the lower cases, and then we take the case by its handles and by a quick, trembling motion, we shake nearly all the remaining bees down in front of the hive. We now carry the case, with its 50, to 100 remaining bees, to the screen house, where we stand it on end, freely admitting the light into the spaces between the combs from either side, when within a half an hour the last bee will have gone to the wire screen.



W. C., Braidwood, writes:—The season so far has been a complete failure here. I have not yet extracted an ounce of honey, and don't think I shall do so this season. There is a little honey coming in now which may give the bees a supply for winter, and so save feeding for which I am indeed thankful. Say, did you ever try Boardman feeders? In my humble opinion, they are the nearest thing to perfection in the line of feeders that I have seen, put them on any time you like, and you need not be afraid of robbing, at least that is in my experience up to the present. All the same to be on the safe side, I would only advise putting the bottles on of an evening. It is quite a pleasure to just go along and put a bottle of food in the box made to hold it, and then go on to the next one and so on. Some how I never could be bothered opening hives and pouring in the syrup, it was too much trouble, and besides some prowling robbers were sure to get a smell of the syrup, and give some trouble, but with the Boardman feeders, you can just fill all your bottles inside, and go along and slip them in, and the job is done. The only objection is the cost, but I think the time saved will make that up, but I think later I shall be able to tell how to make them at a very small cost. On page 302 A. A. Roberts says, "the secret is to get the bees in the right condition to accept and rear good cells." Perhaps he will tell us new chums exactly how to do it, etc. So far this year, I have not been able to rear a queen simply because no drones were flying to fertilise them, as the bees killed all drones off early in the summer. My experience is, no drones, no honey. Please tell J.S.L., Grossdale, to make quite sure that he has not got F.B. in his hives, for if his queen cells won't hatch out, something is wrong. I was in the same fix myself once before, I knew what F.B. was, I was trying to rear queens, but instead of rearing queens, I was spreading foul brood through my hives, and out of perhaps a dozen I would only get one or two

queens. If his has F.B., just tell him not to waste time trying to cure it by means of mitigated syrup. My opinion is that it is not possible to effect a cure, unless you clean all diseased comb out, you may check it, but only temporarily, for it will break out again for a certainty. Did ever anyone try sending home a few tins of honey adulterated with glucose? Perhaps it would just suit those people who won't have the pure thing itself.

A.S.B., Molong, Mar. 2nd, 1896.—Your journal I am happy to state has given me every satisfaction, and its value to beekeepers cannot be overestimated. I am sure every beekeeper should become a subscriber. I am sorry to hear there are so many behind in their payments. This has been a very bad season for honey. Bees have not been able to gather any honey since October, and I am afraid it is little they will get for the winter. At present they just get sufficient to live. I had rather a peculiar experience in queen raising last month. Wishing to get rid of my black bees I killed the queen in one of the hives. The bees then started to raise three, so I transferred some Italian larvae. Whatever happened I could not say, but in a few days I looked to see how things were getting on, and to my surprise the bees had only gone on with one cell, the other two being empty. I did not examine the other part of the hive. On the day that I expected the queen to hatch, I had another look in, when to my disgust, I found a hole eaten in the side, and of course the cell empty. I then started to look for the cause, lamenting over my loss, when to my surprise I found a beautiful Italian queen. I then found the cell she came from at the other end of the hive. How she came to be an Italian queen puzzles me.

[The answer to your query is either that the bees had removed one of the larvae you transferred or else what you called black bees must have been hybrids, and the apparently Italian queen arose from the Italian ancestry, in the same way we have just had a black queen from a beautiful yellow mother.]



E. J. R., Richmond.—We have had a terrible season, no honey in apple tree at all, besides other troubles. The heat here was fearful, I wonder any hives escaped.

Mrs Jennie Atchley, Beeville, Bee County, Texas, U.S.A., Jan 7th '96.—We are having a mild winter so far, and the prospects are very bright indeed this year. Plenty rain, and all vegetation seems full of life and vigour. With the compliments of the season, along with best wishes and kind regards.

Tooborac, Victoria, writes,—I had 20 queens cells (from two different queens), and introduced them, some to nuclei, some to colonies, both queenless for some days, they all hatched, and I saw them the day after, and again four days later, when I gave each a comb of eggs (no bees), in case the queen should get lost in her mating flight. On the eighth day, I examined them all again. One was laying, six were balled, three I found dead, three were fertilised, four still virgins and three missing. On the tenth day, I examined those which had balled their queens, four of them were still or perhaps again balled, the other two were about, but still virgins. On the 18th day, six were laying. Of the six that were balled, two were cripples, the others still unfertilised. They all hatched from fine large cells, were from two different queens. The bees of the nuclei behaved just the same as those of the colonies, even the colony which raised one half of the cells balled the queen that hatched from the cell I left with them, and there was some honey coming in all the time, and they had brood in all stages, and were not raising cells. This experience is new to me. Of course I had virgins balled before, but not a week after hatching, and not for two days. Usually, I do not lose more than one out of twenty in mating or otherwise. Bees have behaved very strangely all through this season. I had one of my best queens in one of the strongest colonies (and splendid fighters), killed by a

handful of blacks, which came from the bush, their own queen entering a hive ten yards away from where she was balled. Another travelling swarm of blacks entered a nucleus, and a small one too, and were killed (the blacks) to the last bee. A third which arrived, divided the queenless half, were accepted by one colony; the others and queen entered another. The workers were accepted and balled my queen, and the bees of the hive balled the other. I killed the black queen and caged my own, and three days in succession, she was immediately balled again when I released her, although the number of black bees was not a twentieth of the number of her own.

J.S.L., Warri.—Reading in your A.B.B. I find that Australian honey does not find favor on the London market on account of the eucalyptus flavour; that it is only fit for making blacking, etc. Rather rough, this! Now, sir, you know it is of no use to try and alter this taste, but we must alter our mode of proceeding, and go in for bee farming, pure and simple. The A.B.C. gives us many valuable hints about sowing honey plants, and gives us the names of the best sorts, &c. I consider that we ought to plough 5, 10 or more acres, according to the size of our apiary, and sow with best honey producing plants, to flower during successive months, and more especially during that *obnoxious eucalyptus blooming season*, such as sunflower, mignonette, bokhara clover, buckwheat, trigosata, poppies, &c. You may expect to have a return of at least £10 per acre, without poultry feed and fodder, far more than can be got out of wheat growing or grazing on the quantity of land used for the bees. I intend going in for this kind of farming, and if bees pay they are worth the labour, if only to produce a honey of high grade. If bees have only box and gum trees to gather from during the great yield, they cannot produce the same standard as if gathered from cultivated plants, however educated the bee may be. I have seen a few apiaries,



and in only one did the owner try the experiment, and he sowed about one acre of sunflower, from which I hear he extracted two tons of honey (80 hives), and there were no flowers for miles, during this last drought. It is no use our telling the English consumer that our honey is as good or better than any other, and it is their taste that is at fault; if they don't take to it you cannot make them. Now if it was known generally that Australian honey was gathered from properly cultivated Bee Farms, under the superintendence of an expert to visit the bee farms periodically, from plants especially sown for the purpose, don't you think, sir, the English public would make a rush for it. As at present there is very little difference in wild honey to that in hives, they are gathered from the same plants, one is stored for years in the hollow of a tree, the other in a box. There is nothing done towards giving bees suitable pasture. Another fault I find is sending honey in tins. I consider it very detrimental to the quality, but if sent in barrels well waxed inside, the honey would not deteriorate. Same as in iron, wax is a natural package for enclosing honey, not iron, then to be transferred into useful and ornamental glassware in England by a competent firm who would push the sale of it, and not mix glucose in the transaction. The working classes in England prefer to buy their jams and honey, &c. in glass; they see what they buy, and do not like tin. We are used to it, they are not. I think that if some of these ideas were carried out, we should produce an article that would cause a rush on the honey market, and many to start bee farms. I know it will entail more labour, but where can you earn a living by not working for it. It is no use sitting on a hive cover or under a shady gum tree and watch the bees work on any rough material they can get hold of and expect a first class article. Re poppies, I have seen the heads swarming with bees rolling over one another trying to get at the pollen, &c. I don't notice this

plant mentioned in bee books. I send you a honey producing plant—it is a climber like clematis—a mass of yellow blossom at every joint. The scent of honey may be distinguished for half a mile, bees like it, it is a bush plant and have seen no seeds but will examine it again. In bloom Jan. Feb. March. Can you name it.

[The name of the plant is *Lyonsia Eucalyptifolia*.

## WELLINGTON P. & A. ASSOCIATION.

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- 287 Best Trophy of Agricultural Produce, may include honey in jars, frames, sections, beeswax. 1st prize Fong Lee's special £1 1s., second 10s.
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- 289 Best Wax Extractor, 10s.
- 290 Best Collection of Edibles made with honey, prize 20s.
- 291 Best Queen for an apiary, any breed, prize £1, 1st., 10s 2nd. Queens to be shown in single glass nucleus hive with progeny.
- 291 A Best four bottles of honey mead. Bottles to have no label. Mr. Bray's special, 10s.

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- 292 Observation hive with colony of bees at work, 20s, Mr. Bassett's special, 10s 6d., 2nd.
- 293 Bee-hive, not painted, any design, 15s, first, 10s 2nd
- 294 Best honey extractor, 10s.
- 295 12, 1lb sections of honey, 1st 15s, 2nd 10s.
- 296 Best 3 large frames of honey, 10s.
- 297 Best 3 shallow frames of honey, 10s.
- 298 Best 20lb honey in 2lb glass jars, 1st prize 20s, 2nd 10s.

Open to Members of the W.V.B.K.A. whose subscriptions are paid up.

- 299 Most attractive display of bee products, first prize Messrs Wise & Co's trophy, second Mr Satchell's trophy.
- 300 Best specimen of six sheets of comb foundation made by exhibitor, 10s. E. J. Matthews, special
- 301 Best 5lb of beeswax, to be produced by exhibitor and unadulterated, 1st, 20s, and Western Post special, 10s, 2nd.
- 302 Best collection and trophy of bee appliances and products, the property of exhibitor, 1st prize Lasseter's trophy, second H. Nancarrow's special 20s.
- 303 Best 10lbs. dark honey, 1st 10s. second, 5s.
- 304 Best Wax Extractor, 10s.
- 305 Best locally owned Queen, any breed, to be shown in single glass nucleus hive with progeny. Hebblewhite's trophy.
- 306 Best 2 large frames of empty combs, Messrs. Cureton's special, 10s.



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1 Full Colony, with untested queen .....	5	0
Nuclei, 3-framed, untested queen .....	0	15 0

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Golden or Ligurian.

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