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West Maitland, N.S.W.: E. Tipper, October 28, 1898

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THE AUSTRALIAN BEE BULLETIN,

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 7. No 79. OCTOBER 28, 1898. PER COPY, 6D

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The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—OCT. 28, 1898.

WORK FOR THE MONTH.

Last Spring saw the end of a white box flow, a yellow box flow succeeding, and keeping on till Christmas. Bees worked up rapidly, so much so, that every morning we went extracting, we had to take frames with starters to replace the ones with honey we took from the hives, at the close of the day, those we found requiring supers taking up all the frames extracted during the day, and some good swarms came off. We found the advantage of having got our hives and frames ready in time. This season we again got our hives and frames ready. The winter white box flow was heavier, and the succeeding yellow box promised well the same. Strange, however the bees do not work up ; no swarms have come off ; taking frames of uncapping brood from strong colonies to coach up weak ones does not seem effective, and so picking out twelve of the weakest colonies we have doubled them up to six. Instead of the stack of prepared boxes decreasing, we have to increase them from the doubled hives. We are studying the cause, but whilst doing so read the following in the *American Bee Journal*:—"Last year Dr. Miller's crop was over 17,000 pounds of comb honey; this year—well, it will likely not reach 1,000 pounds. Though there was a profusion of white clover bloom—which is his main dependence—it seemed to yield no nectar, or at least the bees failed to work on the blossoms to any great extent." Is there consolation in hearing of others doing no better than ourselves?

You will by this time be able to judge the value of your different queens by the way the hives are progressing. While some will have only perhaps three or four frames of brood and not filling an eight frame hive with their bees, others will have up to ten frames with brood and will need a third super. It will not pay you to keep the former, so if you do not raise queens yourself get good ones from one or other of the queen raisers advertising in our pages, kill the unprofitable queens, and put the good ones in their places. Introducing such queens is a matter of great importance. We have nearly always succeeded as follows :—At the time you kill the unprofitable queen take the cage containing the new queen, take off the wooden cover, and lay the cage wire cloth down on top of the frames, so that the queen and bees have the full warmth and scent of the hive. Twenty-four hours after turn over enough of the wire cloth above the part where the candy is, to admit a bee. In another twenty-four hours the queen will be eaten out and contentedly perambulating the combs below. It is a good time now to transfer from box to frame hives, particulars of how to do which we have given at different times.

Laying workers are a great nuisance in an apiary. When a hive has been queenless through neglect or otherwise of the apiarist sufficiently long that there are no eggs or larvae by which the bees can raise a queen, one or more of the workers, who are all undeveloped females, will develop herself to the extent of laying eggs. These eggs all produce small drones. The eggs are not laid regularly one in a cell, but three or four in a cell, and are not capped same as worker brood are, but with a dome like the drone cells are capped. It is only a matter of a short time when the swarm dies out altogether. One way of dealing with this nuisance is to take the hive some one or two hundred yards away, and shake all the bees off, replacing all the frames on their old stand, and give them a frame of eggs or larvae by which a queen can be reared. The unnatural queens, it is supposed, will be too heavy to fly home and get lost. Perhaps a

better way would be to unite them with another colony containing a queen. Get a fresh hive and place midway between the two hives. Take the frame of the one containing the queen, place in centre of such fresh hive, then shake all the frames of the two hives alternately in front of such fresh hive, and placing them in it alternately, the bees will all run in and everything will come right—one swarm less, but the other somewhat stronger.

If you don't want to irritate your bees only go to them during the hours of the day when it is warm, and the bulk of the workers or fighters are out. Handle the frames gently, not hurriedly. A man or animal (especially the latter) in a state of perspiration is likely to be very irritating to the bees. Dark or woollen clothing is especially objectionable to them.

Ask your neighbouring beekeeper if he is a subscriber to the *A. Bee Bulletin.* If not tell him to send for a sample copy.

Bees require water. We have a log trough, in which is placed bagging kept wet. The bees are on it in hundreds all day long. Now and then we throw in a handful of salt.

We acknowledge receipt of numbers 14, 15, 16, 17, *Praktischer Weigmeiser für Bienenzûcher.* There is a great amount of bee information in them, some of which we trust to avail ourselves of for our own pages.

We acknowledge receipt of copies of the *Australasian Financial Adviser*, a publication for the purpose of assisting merchants, especially in the retail trade. It is well got up, and the reading is of a practical and interesting character.

We would call attention to advertisement in this issue of Mr. James Trahair, who after a continuous service of 15 years with Messrs Hebblewhite, and Co., as manager of their business has commenced business on his own account, at 74 The Strand, Sydney, and is prepared to execute orders for beekeepers supplies at low prices.

We very much regret to have to publish the following:—Friend Pankhurst, of Duri, met with a nasty and what very nearly proved a serious accident last week. Two of his children went into their bedroom, taking with them a lighted candle, and by some means they set fire to a quantity of clothing, &c. Their cries of alarm attracted the father, who, as soon as he saw the burning mass, tore it down with his hands, and fortunately managed to extinguish the fire with blankets and water, before any considerable damage was done. Mr. Pankhurst received some severe burns on the right hand, and it will be some little time before he will be again able to manipulate the bees, which will be rather trying to him just at this busy season of the year.

TAMWORTH BEEKEEPERS' ASSOCIATION.

JOHN G. GRAYSTON. HON. SEC.

The usual monthly meeting of this Association was held on Friday, 7th October. The vice-president, Mr. A. J. Pankhurst, in the unavoidable absence of the president, occupied the chair. There was a full attendance of the committee.

The principal business was to consider the advisability of the Association affiliating with the N.B.K.A.

The Secretary read the rules and conditions under which Associations could affiliate with the N.B.K.A., as published in the *A.* B. *Bulletin.* A general discussion ensued, and it was the unanimous opinion that country Associations, by remaining isolated, could do but little good except in their own immediate locality, but if they would join hand in hand with the National Association they would form a bond of union throughout the colony, which could not fail to exert a powerful influence on the Government to introduce the much-needed legislation which beekeepers require.

It was then unanimously resolved that so soon as the majority of the members had paid their annual subscription, the

Secretary should make the necessary arrangements for the Tamworth Association to affiliate with the N.B.K.A.

The Tamworth Annual Show will take place early in March next year, and the committee went through the apicultural section with the view to suggesting some necessary alterations, which are anticipated the show authorities will adopt.

Negociations were opened up with Mr W. S. Pender, of West Maitland, to endeavour to prevail upon that gentleman to deliver a lecture on beekeeping in Tamworth at an early date.

DRONE MATING.

F. W. PENBERTHY.

I am sorry that what I said should knock Australian Yankee all of a heap concerning the mating scent of a virgin queen. He wants to know "how in thunder" I know she does? well, I never smelt it. Did A. Y. ever smell the mating scent of a slut? Yet he knows she throws off a scent, which dogs will follow for miles. Most other animals do more or less; it is also common with insects, the female emperor moth is most notable.

The drone that followed the worker that A. Y. speaks of shows that the drone did not know a worker from a queen, much less a virgin queen from a laying queen by sight alone. What chance would a virgin queen have to note her hive and locality, if she was rushed as soon as seen? It would be a scramble and a lost queen, where there is a large number of drones. Queens when out with a swarm would get a great worrying, and in four cases out of five the queen would be mated with the drone of the same nest, as they are in the bush (which is their natural element) if drones followed queens by sight alone. I hold that when a queen has had a good fly, which would depend mostly by her strength, she opens her vulva, which would liberate the scent, drones that cross the trail would follow it, etc.

Now if the drone has no smeller, all this goes for nothing. But, I find the queen has 3,200 smell hollows on its two antennæ, worker has 4,800, the drone 37 800. He has nearly 8 times more than the worker, and nearly 12 times more than the queen. Will A. Y. tell us why the drone has so many?

CORRECTION.

W. ABRAM.

Through the incorrect report of what I said in reply to Mr. Gale's question (see page 112,) Australian Yankee found a peg whereon to hang himself, as I certainly never said as reported, and now must ask you to correct that error. Of course, had Australian Yankee been at the Convention he would have heard what I said; still the report is misleading—nor is it the first one either—and I should have corrected it before, and would have done so had I been in better health. What I said was in effect this: "If Mr. Gale meant whether such drones would be capable of fertilising, then I can at once answer in the affirmative. It has been tried over and over again, and I tried and have proved it myself." As a matter of fact, whether I speak or write on matters appertaining to bee-culture in a positive term, I do so after having gained the knowledge by actual experience. Furthermore, I mentioned that drones produced by laying worker bees are capable of fertilising, and this statement ought to have been an indication that the first assertion could not be correctly reported, and so Australian Yankee saw an opportunity to show off, and quite right too. But whilst one cannot be held responsible for what is reported of what one says, or does not say rather, I assume the matter is different as to what one writes. Here also mistakes will occur I admit, but if so, let the guilty be punished. Anyway. Australian Yankee concurs with Mr. Pender's paper read at the convention, Well, I don't, there! But as Mr. Penberthy has knocked him all of a heap, I

will not strike him when he is down already. His parallel of a drone trying to mate with a young worker bee, however, is a little too thin in point of a positive argument, to say the least of it, and if I had the inclination, I could give him the reason why. So can others, I have no doubt, and I leave it them to pull his mask down.

The concluding paragraph of Mr. Bolton's "New Management" is in my opinion the best part of it all, and ought to have come on top. Besides in some seasons bees will not swarm, through not inverting them, a fact that must not be overlooked, while at times they do swarm with only eggs in queen cells. Another fact!

SWEEPINGS.

AUSTRALIAN YANKEE.

WHAT CONSTITUTES A GOOD BEE.

Doubtless many would say a bee of the Italian race, well marked, with three golden bands, but in my humble opinion such does not necessarily constitute a good bee. When I say "bee" I mean all the bees in a colony, or for that matter all the bees in every colony in the apiary. A good bee should have all the following good points:

1. Prolificness of queen.
2. Longevity of workers.
3. Honey gathering qualities.
4. Size of workers.
5. Length of tongue.
6. Gentleness of workers.
7. Colour.

I place colour last, as I think that is the right place for it. I am afraid that beekeepers, and queen-breeders, have looked too much at colour, rather than the other sterling qualities of the honey bee. I want a bee that will just roll in the honey, I don't care ducats for the bright golden bands, if they are not accompanied with good working qualities. Some of the golden bees that I have seen, remind me of some extra pretty girls, they (the girls) care for nothing else than titivating themselves out in the best dresses, and looking their nicest, so as to attract the boys, whilst their plainer sisters attend to the house work. Mind you, I don't say that all pretty girls do so, neither do all golden bees spend the most of their time humming around, but I never found them so industrious as the darker race. I often feel inclined to champion the black bee; they take a lot of beating, and they are a hardy race of bees. If as much trouble was given to breed them up to a high standard, as is given to the Italians, I do not doubt but that they would prove as good. Who will undertake to breed up a choice strain of black bees?

Re question 178. I would like to ask brother Hughes, if he is sure the bees did not gnaw the foundation away, and then build drone comb in the place where the foundation had been. I have known the bees to gnaw away patches of foundation, and fill the gap with drone comb, but never a whole frame full. Will Mr. Hughes please examine that comb, and then tell us if the foundation is there. If it is, I think it will be the first case on record, where the bees have changed an entire frame of worker foundation into a drone comb, and I also wonder if the frame was wired.

QUESTIONS.

G. W. HALL.

174.—Can any of your readers supply me with the best idea for sealing bottles? I mean the quantity of ingredients, &c.

A. E. SHAW.

175.—Has brass wire cloth any bad effect on honey, when used for straining?

176.—Are queen excluding honey boards better with or without wood slats?

H. E. BIGG.

177.—What is glucose? How is it made? Where does it come from? What is it used for?

W. G. HUGHES.

178.—Has anyone ever had a full sheet of heavy brood foundation converted into a complete drone comb? I had one this season; never saw the like before.

J. P., MORPETH.

179.—I shall be glad to know if any of your contributors have had any experience with white ants, as I am to some extent a sufferer from the ravages committed by this destructive insect. I may be excused for introducing an outside subject so intensely interesting to dwellers of wooden houses, especially if this question should receive some attention from those that have battled successfully with the pest.

GEO. KELLY.

175.—Never tried wire cloth, I consider cheese cloth tied over top of tanks, the best strainer procurable. I use nothing else, and don't wish for better.

176.—I consider ordinary wood bound honey boards are best. But I don't make a practice of using any.

F. W. PENBERTHY.

177.—Produced in America in enormous quantities, by the action of acids at high temperature upon the starch of maize. Used in confectionery, and I believe in ferments.

178.—Your foundation most likely broke down, the bees built drone comb in its place. They will build drone comb on capped honey.

AUSTRALIAN YANKEE.

174. I have never used any.

175. I never use it, as I believe it is unfit for use where honey can touch it.

176. With wood slats.

177. A saccharine substance made principally from corn and potatoes: has uses too numerous to mention here.

178. I have never had one so; see "Sweepings" on another page.

179. No experience.

JOHN BURNS.

176.—Would not have them without. Being wood bound, bees stick them fast to top of frames without.

179.—Get a shilling's worth of arsenic, and go to white ants nest, crush a few ants with a bit of stick, put a pinch of arsenic on them at the same time. Repeat this in several places if you like. I would have had my shop and dwelling house scoffed long ago only for arsenic, and a shilling's worth will last one's life time. White ants are cannibals, and eat one another up when dead or get killed.

J. WILSON GREEN.

175. Should say not if kept clean, particularly when not in use.

175. I prefer all zinc.

178. I once had a full sheet of heavy brood foundation, one side every cell drone comb, whilst the other was all worker; have had several odd patches of drone comb drawn from full sheets, but only noticed the above where a complete side was drone. May possibly have had both sides all drone, but in that case it would be cut out without noticing if built from a starter or otherwise.

F. J. MCGEE.

175.—I believe not, as the honey on cloth will prevent oxidization while in use.

176.—Better with slats, as there would then be a bee space between tops of frames and excluder. Used without slats, the excluder would lie on tops of frames, thus rendering more than half the excluder useless to the bees in passing to and from the top story.

178.—I have not had such experience. Have known bees to make a few drone cells where wire was embedded in foundation, but that was caused I believe through my own clumsiness in using the wire embedder. I have had bees to eat away portion of wired comb to build drone cells when none had been supplied to them.

A. G. PIGOTT.

175.—Have used a brass wire sieve for straining for some time, and have never noticed any bad effect, and don't believe it would have, as long as it was kept quite clean.

176.—I prefer them without, as I think there is too much climbing for the bees with them on.

177.—Don't know, only what the *B. B.*, and other periodicals have told me.

178.—Don't think so, have never heard of such a thing happening before.

179.—Have seen them ousted from a post by keeping their haunts saturated with kerosene, poured in with an old teapot. They are not very troublesome here, however.

GEORGE SMITH.

174. Had no experience with bottles—always preferred tins.

175. I have used brass wire, and prefer it to other wire; it has no bad effect on honey as far as my experience goes.

176. I suppose you mean excluders to place between supers. If so, I always knew them by the name of queen excluders, and not honey boards. I prefer the bare excluder made the size of the hive. I have used both, but do not care for slats.

177. Know nothing about it, and haven't been long enough in the colony to learn. Don't use such stuff in Maoriland.

178. Never; am inclined to think that there is a mistake somewhere.

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

175.—None, if ordinary cleanliness is observed.

176.—Have used both, but cannot vote for either. I prefer to let the queen have her own sweet will.

177.—Mr. Bigg has given a big order. Glucose is the name of a class of substances which occur largely in nature, and differs from the

sugars in fermenting in the presence of yeast. It forms a large per centage of honey in the form of dextrose and levulose. It is also manufactured commercially put up in the form of a thin syrup, or thick syrup clear as crystal, or in a white semi-solid form like candied honey, or in a hard white form which requires an axe to break. It is made from starchy substances boiled with weak acids (sulphuric acid) in large wooden vats, until testing with iodine, shows the starch to have all been converted. Then clarifying with lime to take off the acids. The process is too long to give in full. There are six stages in conversion of starch to glucose. Glucose is made largely in America, France, England, and Germany. I do not know if any of it is made in N. S. Wales. It is used mainly by brewers and liquor makers, also largely by confectioners, and in other trades, also it is added to honey by unscrupulous persons. Now although honey contains naturally a large proportion of glucose, yet the addition of even a small quantity of added glucose can readily be detected. Glucose is not injurious. I have eaten large quantities of it in its various forms, and never suffered from it; others also have the same experience.

J. SMITH, Q.

174. Most satisfactory and cheapest idea in the end is to purchase wax like that used for wine bottles.

175. When only used for straining, brass wire can do no harm, but it should be kept perfectly clean and bright.

176. Don't know; never used slatted zinc.

177. Glucose is said to be one of the curses of civilization. Is made principally from maize, potatos and starch, on the continent of Europe and in America. (Is, however, found naturally in many kinds of fruit.) It is known as grape sugar, starch sugar, and diabetic sugar. It is used to cheapen or adulterate beer and alcoholic drinks; very much less malt is required when used in the manufacture of beer; and as plain or German spirit, it forms the principal ingredient in the fiery stuff sold as cheap brandy. Glucose is also used in the manufacture of sweets, and was extensively used in America for the adulteration of honey, as much as 75 per cent. of glucose being found in several samples of "*Pure* Honey," analysed by government authority in United States.

179. White Ant.—It is not an outside question to beekeepers. Several of our bottom boards have been more or less eaten this last season by the pest, but I noticed that all over this district the white ants were building higher out of the ground, and everywhere attacking posts and rails, and sheds, &c., in a much more energetic manner than I have known for several years past, thus foreshadowing a rainy season and floods, which all came true, we know to our sorrow and expense. They ate through two of our stump caps (zinc.) Fortunately we discovered them almost immediately. I saw in the *Queenslander* newspaper a photo of a revolver bullet eaten clean through by white ants. It is said they are cannibals, and the way to destroy them is to get a quantity and kill them, mixing them up with strychnine; then the others eat them and they die; and they in turn are eaten until all perish. There is a remedy sold called "Street's White Ant Cure," sold both in the powder and liquid; have not used it myself, but I believe it is a good thing, and not very expensive.

QUESTIONS NEXT MONTH.

180.—Which have you had best results from, in spring managements:—Uniting weak colonies; or, strengthening them by frames of unhatching brood from strong colonies?

S. G. FATHERS.

181.—Do queens wings grow after being clipped? If so, how long does it take to grow?

F. J. MCGEE.

182.—Which is usually regarded as the better quality in candied honey, coarse or fine grain?

183.—Will honey placed in very black old combs become darker by coming in contact with the cocoons left in cells by young bees?

GEO. KELLY.

182.—Which is the best hive for an out apiary.

CORRESPONDENCE.

W. W., Cooranbong, September 27:—I enjoy reading your paper, and when I'm in doubt about anything, I generally find it in. Bees here doing well.

J. C., Gympie, Queensland, Sept. 30: We will have to be content with very little honey up this way this season, very little timber likely to bloom, and that very light.

C. E. J., Minimay, Vic., Sept. 29:—It is an extremly good year for honey here so far. The white gum (or white box) flowers are overflowing with nectar, but unfortunately I have no bees to gather it. I lost them with paralysis last season. The red gum and box are also very heavy in bud, but are not so reliable as the white gum.

S. G. F., Mundarloo, Oct. 4th:—I am sending a bee in a small box (dead). I killed it in the garden here. It is a different kind to any I have seen. Would you kindly let me know what sort it is, I thought that you would be the most likely to know. I received labels alright and am very pleased with them, also A. B. B. Wishing you every success.

The bee to hand. Black with white bands. We have known it as the solitary bee. It lives in very small communities, and we believe lives in holes in the ground. It is of no commercial value.

T. B., Wyong Creek, October 6:—I am very pleased with the *A. Bee Bulletin*. It contains a lot of useful information of great importance to beekeepers. By appearance of the season I think we are going to have a good season this year. I have already taken 30 cwt out of about 60 hives, and the flow is keeping up well. Bees very quiet and very strong, free from diseases or moth. I think the situation must suit them. I had a bit of an attack (not me, the bees) of paralysis a year ago, but your advice which I followed rid me of it, and it has not appeared again. Wishing the *A.* B. B. every success.

F. M. C., Sydney, September 23rd:—Out at my Gamore Estate, I have two hives of bees; we have lost two swarms from them already. Can you tell me how beekeepers catch the swarms? I don't like to lose them, and should be glad of any information how to transfer the swarms to new hive.

You do not say what kind of hives your bees are in. We presume they are small, and as the bees have increased with the coming warm weather, perhaps honey coming in, you have not given them increased room. Result they were crowded out. If you use bar frames, the best thing you can do is to get another hive (same size) fill it with frames and starters on foundation, and put underneath present hive. We are sending you copy July number of *A. B. B.*, in which, on page 75, you will find instructions for transferring. To catch a swarm get a frame with larvae, put in new hive, and brush or shake swarm into it.

F. G. M., Coolah, September 26th:—Re in reading the *Bulletin*, discussions on bee enemies, I see that Mr. Niven said that the little black ant was the worst. But should Mr. Niven wish to have a cheap remedy, I will let him know one, or any other persons who are troubled with the same. It is an old and simple way to rid them and cheap. Should any one see some of my hives lined with these little terrors, would naturally think they would drive the bee away. But the remedy I use they will not dare cross the line to the entrance, etc. Should you wish to have it published let me know.

We shall indeed be pleased to get this remedy for the benefit of our readers.

T. L. I., Quirindi—You can place my name upon your list of subscribers, for I think the *Bulletin* a first-class little paper. I am very glad to inform you that the information you so kindly sent me re transferring bees was a complete success. I only lost one swarm. I did not see them go, so I think they must have gone into one of the other frame hives. They are working away well now, and bringing out the string that I tied the brood with. Some of them are out in the front of the hives about the middle of the day pretty thick, but I have not had a swarm yet. Can you tell me how I could tell the day a swarm will leave?

When bees mean to swarm they usually start a number of queen cells. When the first of these is capped over the queen usually goes out with the swarm.

S. G. F, Mundarlo:—You remember, no doubt, me writing to you, about this time last year. I was then troubled with foul brood. I cured the balance left, and find on looking through my hives (forty in number) no foul brood, but one hive has I think paralysis. The bees die in numbers, and are fluttering in front of hive, and looked as if their bodies were oiled. I have killed the queen and re-queened, as by what I read

that seems the only cure. It was re-queened last year, so I suppose it must be queen's fault, although they worked splendidly last year. It was about March when I re-queened. Kindly let me know what you think of it; the brood seems healthy enough. Wishing your paper every success.

This old matter of paralysis. It really is difficult to advise. Try sulphur sprinkled at entrance and on top of frames.

Mr. Thomas Ellerton, Muswellbrook, October 8th:—I am pleased to be able to report that bees are doing well here, on white box and ironbark, yellow box just opening and spotted gum is making a good show, though the high winds prevailing for the past two or three days seem to be blowing a lot of the buds off before they open. This is only a small place consisting solely of farm houses situated at some distance from each other, and yet we have managed to institute a Beekeepers' Association. Though few in numbers (not more than a dozen) we make up what is lacking in that respect, with enthusiasm. Swarming commenced some little time ago, but it is not yet in full swing, though everthing tends towards early swarms this season, and in another forinight it should be at its height. Wishing you a prosperous season, and a good price for your pro duct.

Mr. Petersen, late of Wattle Flat, writes:—I saw in last *A.B.B.* that some people objected to the Long Idea hive, on account of having brood in so many frames and consequently only few combs to extract. As I am no doubt a man to speak with authority on this hive, having used hardly any other for near 20 years, I can't see this. Any objection as the more bees the more honey and as for extracting brood combs, in a good flow I would extract every frame in the hive, and have done so hundreds of times and not kill any brood. It simply means getting up the right speed to sling out the honey and not the grubs. Of course if you get a new boy he might out a few grubs till he acquires the right speed. Loyalstone is right, it wants a good locality for the long idea, where a strong colony will fill a twenty frame hive after being completely emptied in from three to five days in a good honey flow.

Mr. Wm. Pacey, Marrar, October 17: In September's issue of the A. B. B., I notice that Mr. R Beuhne of Victoria has criticised my views as well as others, on the little black ants, as to whether they are detrimental to the well being of bees or not. Well, when I started keeping bees, I put them on the ground, but they were not there long before I had to lift them from that position, as the hives got smothered with these little black ants, and bees began to swarm out. There is not a beekeeper in this locality, but what has had to put their bees on stands, on account of this pest. The ground is literally black with them. The soil in this locality is the red soil; with a very meagre rainfall and with these conditions bees can't live on the ground. Even Australia's first and foremost beekeeper in this colony has about two hundred colonies on stands, with the tar brush ready to stop the ants travelling up the legs to the bees, and he is in a far more favourable region than here, that is in keeping the ants in check. No, R.B., I haven't to keep a watercart going; no boys employed to fish out dead bees; tinware is not at all expensive, hive legs don't get the foot rot, as I had them half soled, and things are not so gloomy with me as you predict. Of course in keeping bees with success, I may not be possessed with the attributes that make a successful beekeeper, and also my bees may not be up with the times. But of course I will learn more as I go on, as I am young yet. I notice Mr. R. B., in your epistle, that the ants have troubled you and you have had to run around with a watercart, track the ants at night, boil some water and go out with the kettle and scald the ants in bed, for one hundred yards round. Oh dear, talk about native industry, that's a seat of work and a waste of water. I am afraid I shall have to stick to the herring tins a little longer, as I am a fixture and cannot shift camp.

WHEN TO UNITE WEAK COLONIES.

G. M. DOOLITTLE, IN *American Beekeeper.*

From years of experience I have learned that weak colonies will often "pull through" alone, while, if united, all may perish. The why for this seems to lie in the fact that by thus uniting, an excitement is caused which wears out the nearly exhausted life of the old bees which then compose the little colonies, so that they die before the young bees are sufficiently mature to take up the labour of sustaining the colony, thus causing the loss of the whole thing. Being left as they were, without uniting, they seem to realize their condition, so no great amount of extra labour is performed until the young bees are sufficiently mature to stand the "heat and battle of the day," after which such weak colonies build up quite rapidly.

In early spring, all the colonies which I think will not make good strong colonies by the middle of June are shut to one side of the hive, upon only as many combs as contain brood, by means of a movable division board, which number of combs will be from one to five, according to the strength of the colony. They are thus kept shut up till said combs are full of brood.

For feed, I generally set a frame of honey beyond the division board, the carrying of which stimulates brood rearing wonderfully. When the strongest of these weak colonies have their five frames full of brood, I take one of them away and give it to one having four frames nearly or quite filled, always taking a frame where I can see plenty of young bees gnawing at the cappings to the cells. An empty frame is put in the centre to take the place of the hatching brood, which will soon be filled with eggs. It is not best to give this frame of brood to one of the weakest colonies at this time, as some advise, for by so doing a part of the brood is apt to be lost, should a cold spell occur, for the bees in the weakest are not yet sufficiently numerous to care for more brood than they already have.

In about a week I take a frame of brood from each colony having five frames filled (this including the one I gave the frame of brood to the week previous) and give a frame to each colony having only three frames filled. Thus I keep on taking from the strongest and giving to the next stronger until all have five frames of bees and brood, giving brood the latest to the weakest of the little ones. Now, having all of them with five frames of brood, I proceed to unite as follows: I go to No. 1 and look it over until I find the frame the queen is on, which with bees, queen and all, I set over in the vacant side of the hive.

I now take the four remaining frames, bees and all, and set them in a box made for carrying combs, when I set the frame having the queen upon it, back where it was, placing an empty frame beside it and adjusting the division board to suit, when the hive is closed.

Next, I take the box of combs and proceed to No. 2, which is opened and the division board taken out. I now take the first frame next to where the division board stood and place it next to the opposite side of the hive, when I take a frame from the box, bees and all as taken from No. 1, and place it next the moved frame in No. 2. Next I move another frame in No. 2 up to the one taken from the box, when another is taken from the box and placed beside this, and so on until the four frames from the box are alternated with No. 2. As my hives hold nine frames, it will be seen that I now have in No. 2 nine frames completely filled with brood, which will soon make a very populous colony, and one which will gather honey and store it in sections to the best advantage. In this way I keep at work until all are united, and the sequel always shows a better result from these united colonies than from those that were considered the very best in the spring.

Some may fear that the queen in No. 2 might be killed in this way, but I have never known a queen to be killed when bees were thus mixed up at any season of the year, and much less now, providing the queen was one that belonged to one of the colonies to be united.

BEE PARALYSIS.

The following cure for Bee Paralysis is given by J. A. Golden, in *The Southland Queen*:—The first thing you do get a lexix gum bulb antimiseo, and prepare two jars of salt water, designated as Nos. 1 and 2. In No. 1 dissolve sufficient salt to make the water pretty strong but not briney. If you are near a dynamo or a battery have jug No. 1 electrocised, by putting two wires down and attaching one to the positive and the other to the negative wire of the battery, and apply the electricity. In a few minutes the water becomes so charged that it will taste. (If you have a sore throat this water will cure it quickly.) Now, put in jar No. 2 salt until it won't dissolve any more. This you need not electrocise. This constitutes your medicine. Now, take an empty hive body and set it near the diseased colony. Lift all the frames out and set them in the empty hive body; take the water in No. 2 and give the diseased hive a thorough washing inside and leave plenty on the bottom board. Don't wipe the hive dry, but leave it dripping, and set it back on its stand. Now take of the water in No. 1, shake the bees from one frame at the entrance, and with your atomizer spray that comb—larvæ, eggs and all, thoroughly—and set it in its proper place. Continue until all have been sprayed, and then cover them up. On the second or third day, take off the cover and give that colony a thorough spraying with No. 1 right down between the combs. Repeat this every third day for three or four times, and if you still see any signs of bees having the symptoms give them another spraying, and so on till the disease disappears. If you can't get your water electrocised just use it without and you will succeed. If apiarists would give their colonies a thorough spraying in the spring and fall, I do not believe paralysis or foul brood would ever be heard of. In early days such diseases seldom occurred where plenty of ventilation was given, even sitting hives on blocks an inch high. These diseases seem to follow the system of closing, or nearly so, the entrance, thereby causing a sweat or dampness to accumulate. Even the old rotten perpoles become clammy and dead bees cannot be readily removed. Consequently they become rotten, and the stench from this putrid matter causes disease. It is well known that bees carry out their dead, even cutting them to pieces in order to get them through the "fence.'

HONEY MEAD.

The following recipes are by writers in the *Southland Qneen*:—To 5 gallons of boiling water add 10 or 12 lbs of honey stirring in the honey while the water is boiling, then set off the stove. For flavoring I use one to two tablespoonful of vanilla extract, and a little ginger. Set the can in a box and fill up the space around the can with some kind of packing material to keep an even temperature. The can should have the top cut out and be covered with thin cloth to give plenty of air. Set in a warm place and it will be ready for use in about a week. This makes a fine summer drink, and is as good as the best apple cider, but is not intoxicating.

On twenty pounds of honey, pour five gallons of boiling water; boil, and remove the scum as it rises; add one pound of best hops, and boil for ten minutes; then put the liquor in a tub to cool; when all but cold add a little yeast spread upon a slice of toasted bread; let it stand in a warm room. When fermentation is finished, put in a barrel, bung it down, leaving a peg-hole which can afterwards be closed, and in less than a year it will be fit to bottle.

CHARACTERISTICS OF FOUL BROOD.

Exactly How to Detect It; and also Exactly How to Get Rid of the Disease.

By Hon. R. L. Taylor, late Superintendent of Michigan Experiment Apiary, in Bee-keepers' Review

Continued.

The plan insisted on by some that the colony be shaken out into still another hive after being allowed to build comb for four days I have proved in a hundred cases without a single failure to be entirely unnecessary.

I wish here to put in a word of caution against the placing of any reliance upon drugs for curing this disease. My earliest experience was with 30 diseased colonies upon which I tried the use of drugs thoroughly. I repeated its use upon other colonies later, sometimes with extreme care, but with entire failure in every case.

Sometimes when the disaase is discovered in its early stages there are large amounts of healthy brood in colonies that are to be treated, and the disposal of this is a problem that deserves consideration. Sometimes such colonies cast swarms in the swarming season. In such case I hive the swarm on foundation or on frames with starters, always avoiding combs for that purpose. Then in three weeks I shake out the bees from the old hive according to the directions already given.

Other colonies that are fit to swarm during the swarming season but not disposed to do so I compel to swarm, *i, e.*, I shake out a swarm and then treat both old colonies and swarms as in case the swarms were natural ones. With weaker colonies and at other seasons this course is not always practical. Under such circumstances, if there are several colonies it is sometimes convenient to shake out all but one or two and give all the brood to that one or two, which are to be treated three weeks later. If there is but one colony it may sometimes be desirable to cage the queen for three weeks—but not often—it is generally better to sacrifice the brood and give the colony a new start.

If colonies have become greatly reduced in strength by the disease, as the bees are mostly aged under such circumstances, it is advisable either to unite or destroy them, but in doing this extreme care is necessary to prevent the escape of any of the bees into hives containing healthy colonies.

I have already intimated that the chief difficulty in effecting a final cure is the existence of the disease among neighbouring bees, especially among wild bees. The reason of this is that the spread of the disease is owing principally, if not wholly, to the visiting o diseased combs by bees from healthy colonies—or, in other words, by the robbing of diseased colonies, and if there is any other way of contracting the disease it is because there are other ways by which the germs of foul brood may get into hives of healthy bees. If one considers that diseased colonies in the woods or belonging to careless neighbours are sure in time to fall a prey to healthy colonies, the serious nature of the difficulty is readily appreciated. This consideration also indicates the extreme care that should be used to prevent robbing in a locality where the disease is known to exist, as well as the care that must be given to secure from bees the combs and honey taken from diseased colonies. Their immediate and complete destruction by fire would be the safest course for many to pursue, but the honey and wax are sometimes of considerable value, and this extreme course need not be pursued if one is careful and has proper conveniences for disposing of the honey and comb.

When there is but little honey in the combs it is best to boil the combs at once and secure the wax. If there is honey which it is desired to save, first cut out all parts of the comb containing brood and boil or burn them, then extract the honey, which may be used for the table or boiled with one or two parts of water and used as food for the bees. Boil at least 15 minutes. The comb must then be boiled and the wax secured. Or if the honey is only desired to feed the bees, the combs, honey and all may be boiled in just the amount of water necessary and the bee-food and wax secured at the same time, and with less labour and trouble. It is to be borne in mind that all honey from these combs is dangerous for bees unless it is thoroughly boiled.

Not a few, I fear, will exclaim at my intimation a little ago, that foul brood could only come from foul brood germs, and begin to assert that it can come equally well from brood that has been chilled to death. In Virgil's time swarms of bees were bred from the carcase of an ox; when good Isaak Walton lived the fish called the pike bred from pike-weed; lately chess grew from wheat, and now foul brood grows from something else!

Well, bees, and fish, and chess, have *now* come to increase normally, and if foul brood has not yet, it very soon will.

No, it is still true that men do not gather grapes of thorns, nor figs of thistles.

QUEEN REARING.

By W. H. Pridgen, in Beekeepers' Review.

The preparation of the cell-builders is an important factor. To begin with, we will fill a hive with combs of brood, without bees, taken from the colonies that can best spare them, sub-

stituting empty combs or frames filled with foundation. Place this brood over a populous colony with a queen-excluder between. Ten days later remove all queen cells, if any; give the hive body a top and bottom, set the lower hive containing the queen off a few feet, and the other in its place. If the bees are flying freely the queenless half will be ready to accept a batch of cells in four or five hours.

This plan has the advantage of having young bees added to the cell-builders, for a day or two, from the part containing the queen and brood, and adds much to the quality of the young queens.

When the batch of queen-cells are removed, select the next colony for cell-building; find the queen and hang the comb she is on on an empty hive near by. Set her hive off its stand and the former cell builders on it with an empty body over the latter. Now shake the bees from nearly all the combs in among the queenless bees; return the comb and queen, and place her hive where the queenless one stood. In a few hours, or as soon as the bees become restless, or show the queenless sign, they will be ready for cell-building. As they have no brood, we must not forget to place a comb on each side of the cells as soon as they are sealed; as it has a good effect generally and prevents the bees from gnawing off the points of the cells too soon. Besides, if this is not done, this operation cannot be repeated more than twice before laying workers will appear, and then we will have to start with a new set of combs. In fact, when the second batch is removed, the queen from the next colony to be prepared should be given to them, the bees to build the next cells shaken off on combs free from unsealed brood, and the brood placed over an excluder as in the first case, to be used ten days later for cell building. If one is in so much of a hurry that ten days is too long to wait, the first batch can be built by bees prepared as in the last case by forming a nucleus with the queen, or otherwise disposing of her.

Whenever the combs are to be used the second time, by exchanging places and shaking bees into the hive so as to get young ones, the brood given about the time the cells are sealed should be from over an excluder or from bees long enough queenless so that all the brood will be sealed by the time the first batch of cells mature, then it will not have to be removed.

The main idea is to have bees just deprived of their queen and of unsealed brood. The cups can be given in an hour or so when they have some sealed brood. Those who do not desire increase, but wish to rear a few queens, can hive the swarm on empty combs on the old stand, cage the queen and place her on the frames and return her to the parent colony at night.

The cells should be given as soon as they can be prepared after the swarm is hived; and, when they are mature, the parent colony returned to its former position, having been set back a few feet, at the time of swarming, and the swarm shaken from the comb.

No one can tell in one article of all the little things connected with the manipulation of the bees, or anything else about queen rearing, but it is hoped that some ideas will be advonced that will aid others in properly varying matters according to circumstances, for no one can make a success of it unless he can do some planning and thinking for himself.

The dipping stick should be made not larger than 5-16 of an inch in diameter. The tapering part should be 5-16 of an inch long; reduced rapidly for the first $\frac{1}{8}$ of an inch and then gradually reduced to the end. It should slip into a worker cell $\frac{1}{8}$ of an inch before filling the mouth of the cell, form a sink in the wax cup that will bear sufficient pressure to make the cocoon fit snugly without touching the bottom.

The stick should be dipped rather less than $\frac{1}{2}$ of an inch deep into the wax, and four dips complete a cup and attach it to the bar. For the first three times hold the stick so that the drops will form and set on first one side and then the other, and thus form a foot to fit in the notches. Then loosen it up on the stick, dip again, place in the notch, and it will adhere, and not snap off when the transfer of cocoon is made. The notches are exactly $\frac{5}{8}$ of an inch apart from centre to centre, and the tin divisions in the nursery the same, so that a whole batch can be placed into it without detaching the cells. Some may imagine that the notches in the bar interfere with the cutting off of the cells when it is desirable to do so, but such is not the case, as a table knife inserted at one side of the cell will easily pry it out. After a bar is notched it should be mopped with melted wax, especially in the notches, before the cups are attached. During a honey flow the cells are joined together by the bees building wax between, but they can be easily separated with a hot knife. Any number of cups desired can be used. I usually have eighteen, and out of five batches built within the last few days there were only three cups rejected.

Cut out the lower half of a comb, and notch the end bars of the brood frame, even with the part left, and by having the slat or bar (I use bars $\frac{1}{2}$x$\frac{5}{8}$ of an inch) just the right length they can be slipped in and out very handily.

Instead of alternating the cells I now have them built in one straight row, so as to be convenient to insert in the nursery. If it is not desirable to remove and introduce the young queens as fast as they hatch, which I prefer doing, so as to discard such as I do not like, it will be found that the cells will be more readily accepted if protected by the nursery until the first queen emerges.

I have not yet determined how many days in advance of hatching it will do to protect the cells with the nursery, and thus reduce the number of days of queenlessness by the cell builders.

The comb should be quite old, such as has been used for many generations of brood; so that the cocoons that are to be transferred from will be thick and heavy, and then shaven down with a thin, sharp knife, slightly heated, so that the cells are barely ⅛ of an inch deep. It should be cut very smoothly so that there will be no ragged edges; and when bent back and forth the cocoons will loosen up, and can easily be removed. Some allow them to fall out on a piece of flannel, and then take them up, but with a properly made transfer stick such as shown at the small end of the forming stick, made a little tapering, so as to stretch the cocoon a little above the hollowed out point, I have no trouble in taking the cocoons right out of the comb. By having cups warm (at a temperature of 90°) they stretch when the cocoon is pressed in, and then a little twist of the stick makes all smooth and nice.

This plan is objected to by some because the combs have to be cut, but practice will prove that the advantages in being able to use larvæ too small to transfer otherwise, surrounded by food supplied by the bees to suit its age, will more than counterbalance the damage to combs. Besides, old ones that have been in use until they need removing can be used repeatedly during a season.

In selecting the larvæ, that used in different sets of cups should all be of the same age, if it is expected that all will be accepted, fed alike and hatch the same day. For the best results it should not be larger than can be just seen easily with the natural eye; and many times I use it when only a tiny wet spot can be seen in the bottom of the cell. It is best after a comb is filled with eggs to give it to queenless bees, as the larvæ is fed more abundantly; especially is this the case during a honey dearth. My experience is that there is not as much difference in the hatching of the queens as there is in the age of the larvæ used; and unless surrounded with an abundance of food, one larger than the head of an ordinary pin produces a black tipped runty queen.

If it be desirable to form nuclei, a hive can be filled with combs of brood, (sealed and hatching preferred) and placed under the cell builders when the cells are sealed. In any of the cases mentioned, when the cells mature slip them in the nursery, or any nursery you have convenient, and as soon as enough young queens hatch, form nuclei by using a comb of honey and one of brood, giving each a queen. Place them in a dark room one day for them to become accustomed to their changed condition, when most of the bees will remain, when the nuclei are set out; especially so, if the weather or conditions have been such that they have not flown freely for several days.

If only one batch of cells is to be built, and the first arrangement be used, when the nuclei are formed as described above, the hive over which the first brood was placed can be set in its former position, and it will be seen that a batch of cells has been built, and a number of nuclei formed without stopping a queen from laying, or removing her from her hive.

FORMING NUCLEI.

Forming Nuclei.—The first requisite to the plan I use is a box made as follows: Get out two pieces of lumber, eight inches long by seven wide by ¾ or ⅞ thick; also two pieces 14 inches long by 7 wide by ¼ thick. The latter are nailed to the former so as to form a box about 12 by 7, inside measure, without sides. For sides I use two pieces of wire cloth, cut 14 inches long by 8½ wide. One of these is nailed on permanently, while the other is left so as to be easily removable, by nailing the wire cloth to a little frame like a slate-frame, which frame is lightly tacked to the box, or hinged, according to the wishes of the operator. In the top of the box is bored a large hole, into which a funnel is to be inserted. This funnel is to be large enough to allow one of the brood-frames from your hive being shaken inside of it, and the hole in the small end should be 2½ to 3 inches, so that the bees will readily roll or pass down through it and not clog. This funnel is very similar to those used five or ten years ago in putting up bees, when so many were sold by the pound. The hole in the box should also have something to close it, like a large button, made from your ¼ inch stuff, or a tin slide. Having funnel and box ready, go to any hive that can spare from it from a pint to two quarts of bees, according to the size of the nuclei desired; take out a frame or frames having bees on the combs, and place on the outside of the hive. If at a time of honey-dearth, so that robber bees may be troublesome, hang the frame in an empty hive, and throw some old bag or blanket over, thus running no risk of creating a row in the apiary, or having your nuclei robbed out after made. Give the frames several sharp knocks with your thumb

nail or a little stick, to cause the bees to fill themselves with honey, and, when so filled, shake as many bees down through the funnel into the box as you wish in your nucleus. Take out the funnel and close the hole, when you will put the frames from which you shook the bees back into the hives, and close them. In all such operations especial care must be used not to take the old queen with the bees thus taken; for if you do the colony will be greatly injured, and the virgin queen you attempt to introduce will be destroyed. To be sure you do not get the queen, it is always well to see her, and then set the frame she is on out of the hive till you have taken all the bees you wish at that time. Having the bees in the box, take the same to any room or shady place, or to the cellar, and throw a blanket, old coat, or piece of carpet over it, to darken it, where it is to be left for four to six hours. In an hour the bees will begin to realize their queenless condition, and tell of it by breaking the cluster they had formed, and running frantically about the cage; and, as time goes on, this distress will be more manifest till they will fairly beg for something in the shape of a queen, and the longer they are kept without one the more sure you will be of their accepting the one you give them. When the time has arrived that I think it proper to give the queen, which in no case should be in less than four hours from the time they were shaken into the cage, I go to the queen-nursery and get a virgin queen and give them. To put the queen in, set the box down suddenly, so that all the bees will fall to the bottom, when the hole is opened in the box and the queen allowed to run in with the bees. The bees will at once set up a most joyful hum, thus telling of their new-found treasure as plainly as if they could talk. The box is now left as it was before the queen was put in, for from five to twelve hours, just in accord with the time the bees were put in. If put in during the early forenoon, then they are taken out near sunset; if during the afternoon, then not till the next morning. When ready to take from the box, a hive is prepared by placing in it a division board, a frame containing a little brood, and one having two or three pounds of honey, all of which are put on the opposite side of the hive from where you wish the bees. Now get the box, in which you will find the bees all compactly clustered like a swarm, and carefully remove the wire-cloth movable side, when, with a quick jerk the bees can be dislodged from the box to the bottom of the hive. Now quickly draw the comb of honey, brood, and division-board across the rabbets of the hive, in the order named, to where the bees are, and they will be immediately on them. The hive is now closed, the entrance opened on the side farthest from the combs; and if all has been rightly conducted, and works as it should, in a week you will have a nice little colony with a laying queen, from which a full colony can be built up, or queens reared for market. If you do not wish to make the box and funnel, the bees can be shaken into a tight hive, some wire cloth fastened to the top, the queen run in through a hole in the side, or under one corner of the wire cloth, and the hive left bottom up after the queen is put in, so that the bees will cluster on the bottom. In hiving, turn the hive right side up, remove the wire cloth, set in the combs and division-board, doing all so quickly that the bees will not have time to crawl up the sides before you get the combs in. Now close the hive at the top and open the entrance, when you have the same thing as before, though the box plan makes one much more independent of the whims of the bees; and where many nuclei are to be formed, it amply pays for all cost in construction.—*Gleanings.*

J. C. H., Bexhill, September 26th:—The winter here was very hard on the bees, and losses were heavy all round. However, they are looking up now, and the season is opening fairly well.

CAPPINGS.

From American and other Bee Journals.

Sweet clover requires plenty of lime in the soil.

C. Dadant says he has used hives for 30 years without repairs, and only a second coat of paint.

The *Southland Queen* says Mr. Aiken and Dr. Miller have had some colonies store dark honey while others were storing white.

A Queen Breeders' Union is being organised in the United States. The secretary is Mr. J. O. Grimsley, of Brydstown, Tennessee.

How some beekeepers can extract from the brood chamber without at least a loss of 50 per cent. unless they take the honey green "is beyond me."—D. W. Heise, in *Canadian Bee Journal.*

Dr. Donhoff found that a queen larva increased in weight 1500 times in five days. According to that, a baby weighing 10 lbs. at birth would weigh 7½ tons when five days old.—Dr. Miller in *Gleanings.*

T. R. Woodard in the *American Bee Journal* recommends putting extracted honey up in paper bags, tying string around the top. The bags need to be strong.

A writer in the *Southland Queen* is going to try separators with sixteen slots to each, in four divisions, four in each, slots to be scant 3-16th x 3⅞. He believes it to be equal to the plain section and fence separator and less expensive.

The *Canadian Bee Journal* says, that tens of thousands of dollars have been lost to that province alone by influential persons circulating the mistaken idea that no experience nor labour is required to make beekeeping a success.

The only practical way to improve the working or honey gathering qualities of our bees, is to breed from colonies that will store the most honey. If this is followed out we need not go to the bother of measuring their tongues.—*Canadian Bee Journal.*

L. A. Aspinwall in *Beekeepers' Review* says:—Having had experience with open end frames for years, I am forced to the conclusion that bees not only winter better in closed ends, but maintain their strength, and breed up much faster during the spring months, while the colonies are uniformly stronger.

Separators or no separators, fence or no fence, plain sections or sections with beeways—well it sets my head in a twirl. The finest comb honey put on this market is produced by a beekeeper that never uses separators or fences, but uses plain sections set a bee space apart in the super.—*American Bee Journal.*

Dr. Miller says:—The chief disadvantage of paint on hive bodies is that the paint does not allow the prompt drying-out of the wood in the spring. A large amount of moisture comes from the bees, and if the hive is painted this stays on the walls. It is perhaps best to have the cover painted but not the body.

E. H. Hasty, in *Bee-keepers' Review*, says:—I would remark that the quantity of essential or flavoring oil secreted by a plant seems to be about the same whether the honey secretion be much or little. As the honey secretion varies enormously we of course get varied characteristics from the same kind of honey—slightly flavored when the flow is profuse, and strongly flavored when the flow is scarce. The amount of coloring matter in the honey is also affected in the same way; abundant harvests always lightest in colour.

J. F. Teel, gives in *Gleanings*, the following plan to start Foul Brood:—Cut out about three gallons of brood, both drone and worker. Put it between ice, so it will freeze to death, then put it in some warm place, about 70 or 80 degrees. Keep it in bulk, and moist all the time for ten or twelve days; then put it in water, and make the bees sip at it a few days, and that will be sufficient. If you cannot find foul brood in your hives in the second catch of brood hatched, draft on me, First National Bank of Van Alstyne, for $5.00.

R. L. Taylor:—Two or three years ago I made some incidental experiments with foul brood, one by introducing a queen from a badly diseased colony to a healthy one, and another by giving a healthy colony a comb of honey from a diseased colony. The comb was the outside one in the brood chamber, and probably had never contained brood, at least no diseased brood. The colonies thus experimented upon continued to be healthy up to and through the season of 1897, and it is safe to say that no disease was conveyed by the operation in either case. Would not recommend it as a safe thing to do with our present knowledge.—*Beekeepers' Review.*

F. Rauchfuss, on bees removing comb.—I once noticed a lot of refuse in front of a hive, like the refuse which a mouse makes by gnawing the combs. I inspected and found the colony queenless. The bees took advantage of a time when there was no brood in the way. Since then I have noticed this in colonies, queenless or made queenless. A neighbour beekeeper last summer noticed it in six colonies at once, all of which had been de-queened—With a single cover, even painted white, I have known sections to be melted down. I have not known it to happen when an oilcloth was under cover. A single cover alone is sealed tight. A cover with an oilcloth gets ventilation between.—*A.B.J.*

My practice was, and is largely yet, at the approach of the swarming season to replace the two outside combs with those that contain the most sealed brood, the two from the outside which usually contain a large proportion of what pollen there is in the hive are then placed in the centre. If done at the right time, this has a tendency to check swarming, and I soon noticed sections over colonies so treated hardly ever contained any pollen. Such an abundunce of pollen right in the centre of the brood nest may possibly act as a check to their gathering much more for a time. However this may be, there would be soon plenty of room for them to store a large amount again in the two outside combs.—C. Davenport, in *American Bee Journal.*

In reply to a question in the *American Bee Journal*, as to the average cash value of colonies of bees, twenty five replies are given, averaging from 50 cents to 10 dollars.

A Californian beekeeper made a shipment of two colonies of Italian bees to Auckland, New Zealand, a sea-voyage of 7000 miles. Several parties had tried to accomplish this feat, but had failed, and this was the first successful long-distance shipment made to those distant islands. His hives were so constructed that they gave ample ventilation. Old and strong combs with natural stores were used, and a sponge was arranged where the bees could get at it, and directions were attached, requesting that water be given them at stated times. Mr. Crayton, of the San Francisco *Post*, was interested in the success of the shipment; and the two colonies, when put aboard the vessel at that city, were placed in the captain's cabin, and he personally saw that the directions on the hive were fulfilled. The first shipment arrived with but few dead bees. Other orders quickly followed; and Mr. L., in 1880 and '81, made many shipments, all through the same steamer and captain, and not a colony was lost. The bees were ordered by an association that was organized by New Zealand for the purpose of introducing valuable plants, insects, and animals from other countries. Owing to their failures heretofore to import successfully the Italian bee, they had made arrangements to send a man to Italy for that purpose, and had set apart $2,500 for expenses. The Australian papers, at that time, claimed that Mr. Levering was entitled to that money. It seems that others thought differently, for he never received it. The successful shipment was quite an event for the New Zealand beekeepers, and attracted much attention. Extended notices were published, not only in New Zealand papers, but the Los Angeles papers also.—*Gleanings.*

J. H., Newcastle, September 26th :— Being a subscriber to your paper I take the liberty of asking you for a little information re a disease that has broken out in one of my hives. It is a strong two story colony, and there are a great number of the glossy black and hairless bees among them. Great numbers of bees drop in front of the hive and die; they seem to be unable to fly, and their bodies seem to be swollen. The brood seems to be quite healthy. When this colony went into winter time I know they had a good queen with wing cut, but when I opened the hive about a month ago, I noticed that the queen's wings was not cut, so that they must have reared one during winter.

This seems to be the genuine bee paralysis, which has puzzled the scientists all over the world, without any definite result. The principal attempted remedies are, changing the queen, and giving sulphur—sprinkling it on top of frames and entrance. Sometimes they succeed, and sometimes they do not. It may be due to hereditary weakness, or to the food they are getting in.

G. K., Dungog, Oct. 19—I must say that I look forward to the end of the month to get your bee paper, so as to learn all the bee news of the colonies. I have commenced extracting, and am looking forward to a good season, but I can't see why beekeepers are, or seem to be satisfied with such low prices. Why not all unite and petition the Government to help to open up an export trade. They sent our respected friend, Mr Gale, round the country inducing people to start beekeeping. Now, surely, we are justified in asking them to spend some money in finding a market for our honey, and once that is done there is room in the field for thousands more. But we will get them, whether there is a market or not, for they are springing up like mushrooms in this district, as it is the general opinion that there is neither work nor expense attached to beekeeping, and some of them say 10s a tin is a good price for honey; that they are well satisfied with it. So if this state of affairs continues they will soon have to be satisfied with a great deal less.

G. S., Warrah Ridge, October 7th :— I was much pleased to read the Hon. R. L. Taylor's letter on foul brood, and as far as my experience goes with the horrid disease, I think the Hon. gentleman right. I have had six years experience with foul brood in New Zealand and I will not give it a hearty welcome to Bee View, should it attempt to come. Our bees are in fair condition and bringing in a good supply of white box honey. I have so far kept down swarms. The people of Australia don't know what honey is, or else the beekeepers are not business men. I never sold a lb. of honey under 4½d in New Zealand; here you can only get 2½d. In New Zealand preference is given to solidified (candied) honey, while here nothing will sell but liquid, solidified is by some termed as honey gone bad. I for one am going to send my honey out of the colony, for I will not sell any more than I can help under 4d per lb. I sold some when I came here first for 2½d, but some of my customers offered 3d without being asked; they said that the honey was too good for 2½d. I thought my brother apiarists were selling for 2½d, and that is why I asked that low price. The white box honey is real good honey, it is nearly as good as the white clover to my taste. I sold white clover honey, gathered in Otago, New Zealand, in the London market for £40 and over per ton. From the name, I am sure it is nothing else. The Australian honey brings £15 per ton less than New Zealand Honey in London markets. I think if all New South Wales beekeeper were to unite and appoint a trustworthy man to take the place as agent in London, we might then get a fair price for our honey, or even if beekeepers were to unite in the colony and not sell under a set price, say 4d, it would be better to get 1/- for 3lbs than the same for 6lbs, but our free port would spoil us, I suppose.

A. H., Lakes Creek, Sept 22th :— Would you kindly let me know a little about the manufacturing of comb foundation. Am getting a mill next

week, and I know very little about making it. I had the loan of a mill for a week last year and made a little for my own use, but I had not a good sheet in the lot. I used thin starch lubricant, but I turned out miserable stuff compared to what I see at other places. Am told that kerosene oil and Sulphuric acid is used in cleaning and giving the wax a good colour. I have never seen any of the manufacturers of wax making foundation, and I would not care to ask any of them how it is done. I have *A. B. C.* on Bee Culture, so I trust I am not going over the mark too far in asking you to enlighten me a bit on the combmaking etc. the length and thickness of dipping boards, and how many dipping boards would I require, and what do I lubricate dipping boards with. Trusting you will let me know early.

A South Australian correspondent asks for information re the working of the Foundation Mill. You want a vessel deep enough that a board can be dipped into it the length of the sheet of foundation you want, and space beyond to manipulate the board with and also the width of the foundation you want. A sheet of galvanised iron will answer the same purpose. You want two. The board should be of pine, true and very smooth. The vessel should have an outer or water jacket, in which boiling water will melt or keep melted the wax in the inner vessel. Wax melts at 145 degrees fahr., and the contents of the vessel or dipping boiler should be *as little as possible over that.* The boards should be first soaked in cold water and then drained, then slightly touched over with soapy water. The press should be kept perfectly clean by boiling water or steam. Soap lather is the most commonly used lubricant. A little salt in same is also effective in helping the sheets to peel off. Too much soapy lather might make the foundation detrimental to the bees. After a little use the machine works better than when new. The board being prepared as above, dip it in the melted wax, lift out and let drip. Dip again and again if necessary, till the adhering wax is at the required thickness. Then dip in cold water and peel off. The sheets should be left a day or so before putting through the machine. All frames should be wired previous to putting foundation in to give Two or three horizantally is the most common way. For placing the foundation in the frames a tool called the daisy roller is used. The edge of the sheet of foundation is laid along the underside of the top bar, and the roller first dipped in water, is pressed up and down it till the sheet is affixed. The wires are embedded in the combs in several ways. One is the Easterday wire embedder, which is pressed by the hand, embedding the wire into the foundation beneath it. Another tool called the spur embedder, is also used for the same purpose. It has also been done by electricity—an electric battery being so connected that the wires become heated and melt the foundation laying over them, becoming embedded as the wires cool by the withdrawal of the electric current.

It does not appear to be generally known that in case of a sting by a wasp, if that wasp or any other wasp be at once caught, the sting cut off, and the body of the wasp crushed and rubbed over the place stung, it affords not only instantaneous relief and freedom from pain, but any swelling is at once reduced. With bees, as they always leave their sting in the wound, it is necessary to do nothing more than crush and rub the bee on the wound. This is said to be a certain remedy in every case.—*Contemporary.*

Will someone try it, and report to us.

H. P., Mosman, October 19th:—I am building a couple of cottages, and have been very busy lately, else I would have written before. I have the entrances of the long idea on the side of hives, four or five inches from ends, or one six or seven inch entrance in the middle of the side, as I find it very handy when I want to unite two or three lots, by placing the queenless crowd at on the side of hive, they will unite peaceably. If it wasn't for the uniting, I would have the entrance on the end. I have the hives facing north, and at the end of season place all brood on the west end of hive, as this is the warmest part, and place a division board outside the cluster and they generally winter well. In early spring I generally put flour out for them to carry home for pollen; they will take advantage of every bit of fine weather, as they have the stuff handy. When there is plenty natural pollen about they won't trouble the flour. When extracting I use two or three frame boxes holding 10 frames each. When honey is coming in brisk, and I

have a man and boy to help, I take 8 to 10 frames out of No. 1, (of course experience and judgement are required to know how much honey to leave in the hive) send it to extractor, then take 8 to 10 frames out of No. 2, the same No. 3. By this time the first lot of empty combs are back, and I put them into No. 1, for I don't like to intermix comb, for if you have even a slight touch of foul brood about you are sure to spread. Well I put the first lot back into No. 1, and take out another 6 or 8, or if a good honey flow is on, all the frames. Next No. 2 first go is back and so till further orders. Of course there will be poor lots that can't afford to lose much and they get a comb of hatching brood every extracting. This way of working is very time saving, and a man and two boys or two men and a boy ought to do from 40 to 60 hives a day extracting only, besides carting honey home and putting into tanks ought not to average more than 9 or 10 minutes per hive. I have done it at 7 minutes average per hive, 4 or 5 hours at a time, but it has to go ding dong then and not more than half capped. The brush I have been using was Cogshall, the smoker a Bingham. This will keep the swarming fever down, although most of the colonies ought to be boiling over, for the more bees in a hive, the better I shall like it. In a good situation and season, the bees are apt to have all honey combs sealed in six or seven days, may be sooner, even three or four days, and then you want another hand, if you have say 200 colonies, for you have to keep up to them, comb only half capped. If you find my experience interesting I will give some more next week or later, if I can spare the time. I know Willow Tree, I came past there in 1860; there was a road branching from there to Breeza. A man and 2 good boys, or better two men and a boy, have their work cut out to go through 150 to 200 hives every week, and attend to other work, when honey is coming in smart. For a weak flow every ten days would be sufficient, but, I like to see how bees are getting on every week as long as the honey is coming in.

Ask your neighbouring beekeeper if he is a subscriber to the *A. Bee Bulletin.* If not tell him to send for a sample copy.

Extract from *Centralblatt fur Zucker Industrie*, a German paper devoted to the manufacture of sugar— "Manufactories of table honey— Lately several factories have started business for the manufacture, from best honey and inverted cane sugar, of a nice tasting and cheap table honey, which can be sold retail at 80pf. per kilogram (4½d a lb); one of these factories does a turnover which requires 125 to 150 tons sugar every momth."

Professor Cook, says in *American Bee Journal*:—Of late I have secured some honey which undoubtedly is eucalyptus. Of course there is no reason to suspect that the peculiar flavour of the juice would be reproduced in the honey. The nectar-glands make or form nectar from elements obtained from the juice, and do not draw it all formed from the juice. I was glad to find that this honey was light in colour, and delicious of flavour. To be sure, this honey will always be secured in the season when it will be useful for stimulation, and food of bees, yet in favourable seasons it may come in such profusion as to be a generous supplement to the season's crop, and it is good to know that in such case no harm will result. Indeed, the common planting of these trees will add another point to California's fame as the great honey region of the world. The beekeeper may well rejoice, as the vigor, beauty, fragrance, and long-continued bloom of these trees insure that they will be more and more extensively planted in our State. The last feature makes them of special value to beekeepers. Abundant nectar-secretion in late summer, fall and winter, makes them of much value for stimulative breeding.

Mr. Burt says in *Gleanings*:—Raising hives on four blocks, while it reduces swarming and prevents hanging out, is a big nuisance in swarming-time, for a clipped queen may go out at any one of the four sides, and the beekeeper doesn't know where to look for her.

G. Kimbrell planted musk melons close to his bees, and also ¾ mile distant, surrounded by timber, where no bee was ever seen to visit them. They grew alike, bloomed alike, but the vines near the bees set four melons to every one on the other vines.—*Busy Bee.*

Do not overstock your field.—Suppose within range of your bees throughout the summer there are 4,000 pounds to be gathered, and 80 pounds per year are necessary for each colony for their own use. If you have 50 colonies, and there are no other bees in the neigbourhood, your bees will live through but afford no surplus for you. If, however, you have only 25 colonies, and these can gather all the honey, there will be 2,000 pounds of surplus for you. Something to think about.—German extract in *A.B.J.*

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