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West Maitland, N.S.W.: E. Tipper, September 24, 1897

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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 6. No. 5. SEPTEMBER 24, 1897. PER COPY, 6d

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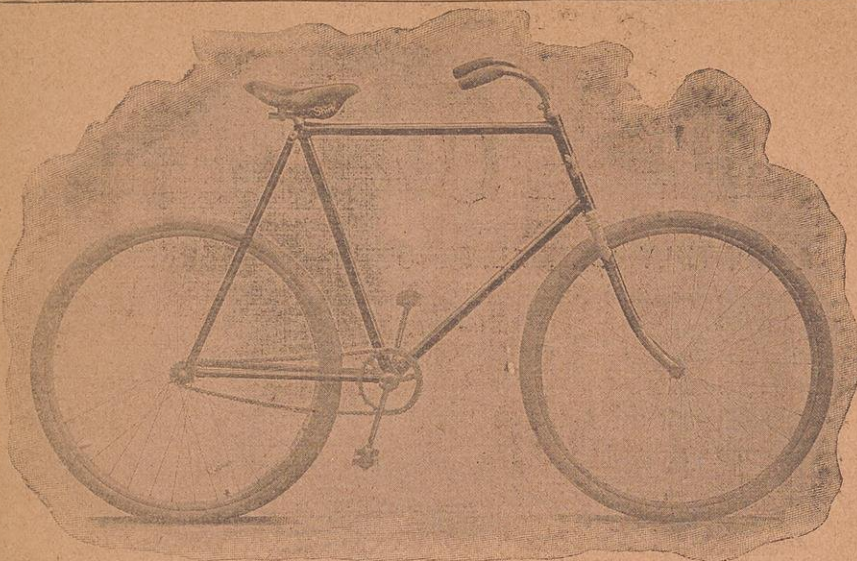
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Queensland Agent for the "Australian Bee Bulletin."

The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—SEP. 24, 1897.

WE acknowledge receipt of the report of the Co-operative Conference held at Kiama, on August 5th and 6th, at which were present delegates from seventeen dairying centres of New South Wales, each delegate representing some hundreds of producers. The opening address was delivered by Mr. Meares, Commercial Manager of the South Coast Company. He alluded to the actions of the Sussex Street agents in fixing prices of butter for their own benefit, then killing the market by importing large quantities of butter, the success of the South Coast Company in permanently rising the price of butter, the export trade, and urged the 'pooling' of the interests of the various co-operative factories. Last year the export was 1850 tons, this year it would be nearly 3000 tons. The various speakers alluded to the profits secured to their different companies by the co-operative mode of working. On the motion of Mr. J. J. M'Intyre it was unanimously resolved that all the delegates present agree to refrain from supporting the Commission Agents, and that they pledge themselves to support co-operation in future. Mr. Meares spoke very highly of the quality of the butter produced in the different factories, and said if they were able to supply their own market and keep it supplied they could checkmate the importers. Alluding to English buyers who were here and coming, they might combine and decide not to pay more than a certain price, therefore combination of farmers was absolutely necessary to meet this, and to say what prices should be fixed, and it was only by a combined front they could do that.

Mr. H. R. Gray moved, "That a council be formed, consisting of delegates from the districts represented at the Conference, with power to add to their number (admitting new districts establishing central refrigerating factories) the objects of the Council being:—1st.—To consult periodically with the South Coast and West Camden Co-operative Company Limited, with regard to matters relating to export and stored butter, or any other matters of co-operative importance. 2nd.—The Council to visit districts as occasion demands for the furtherance or protection of co-operative dairying." Carried unanimously, also that the subscription fee of each delegate be five guineas. Mr Meares stated that one Melbourne man boasted that he had made £12,000 last year on stored butter. He believed the Sussex street agents were now erecting factories and fighting the farmers out of the profits which rightly belonged to the latter. They never made the money out of the ordinary five per cent. In the matter of exports the Company would do so at bedrock rates, and the disposal of that butter in London would be on the same terms. He defied anyone to come in honestly and do the business any cheaper. The question for them to ask was: "Were they prepared to act as one common union?" Mr Michael Doyle moved "That the various Co-operative Companies represented at this meeting, having created a Co-operative Council, consider the time has arrived when the co-operative factories of New South Wales by a determined action (in pooling all their interests under agreement one with another, and with the South Coast Company) should retain for the producers all the legitimate profits of their business, by accepting the responsibility and securing all the benefits and profits from a co-operative marketing of their butter production, both in the local and London market; and they are also unanimously prepared, under the same arrangements, to take control, in conjunction with the South Coast and West Camden Co-operative Co., of all the business, management and profit con-

nected with the storage of butter for winter sale after the close of the export season." Carried unanimously. It was also unanimously resolved "That the central factories in each dairying centre elect one delegate each to the co-operative council." We have since been informed that the South Coast and West Camden Co. have made satisfactory business arrangements with Mr Fairbairn, the representative of the large co-operative organisation in Great Britain for the economic distribution of butter exported.

Some of our readers may ask, "What has this to do with bees and honey?" This much: That the beekeepers combined with such a powerful and well organised body, can secure similar advantages and better prices for their product, and this can be obtained by supporting the N.B.K.A. to at least paying the subscription of their delegate to same.

At the recent convention quite a lot of attention was given to the subject of co-operation. Possibly in the near future, some practical result may be achieved whereby honey producers will reap better returns. In the meantime much good may be done by beekeepers drawing closer together for mutual support and encouragement. It is not probable that in matters of detail we can ever have perfect agreement. It is apparent, however, that we approach closer to unanimity than ever before. Occasionally some friend endeavours to point out to us the wisdom of standing aloof from the Associated Beekeepers. We can say unhesitatingly, but in all kindness to those who differ from us, that the N.S.W. National Beekeepers' Association was never more truly representative than at present. The Editor of this journal has travelled quite a lot during the past winter and has everywhere met with expressions of confidence towards the Association, and beekeepers will be acting in their best interests by giving the Association loyal support. Every beekeeper who is not a member of the central organization, or some kindred society, should, in our opinion, think seriously on the advisableness of becoming a member, as it is apparent that the authorities are not giving proper recognition to our claims. The manner in which the Adulteration Act furnishes a glaring illustration of how not to do a thing. Before attending the Department with the deputation, we were of opinion that adulteration would soon be stopped; we came away wiser and sadder. The method of administering the

Act was explained to us. It is like travelling painfully round a very close spiral in order to arrive at the centre, with a very great probability of finding a hole in the centre when we get there. This one matter alone demands the combined energy and strength of all beemen.

SEASONABLE WORK.

As warm weather is approaching the apiarist's care is to see that his hives are filling with bees in readiness to gather such nectar as may be forthcoming. The stronger the swarms the more honey relatively will be gathered. Four thousand bees in one hive will gather very much more honey than four thousand in four separate hives. So with weak hives, the question is, Can they be assisted to work up strong? or had they better be united with another weak hive?

The former may be accomplished by giving a frame of uncapping brood from a strong hive, i. e. a frame in which young bees are just emerging from their cells, care being taken no more brood is given than the bees in the weak colony can cover, otherwise the brood not covered will be chilled, and—as many now believe, despite scientist's assertions to the contrary—lead to foul brood. The young bees coming out will add to the strength of the hive, and to the force of nurse bees engaged in preparing cells for the queen to lay in, also caring for and feeding young larvae. Not only is the hive strengthened by the additional bees hatching out from the given frame, but being better attended to by the additional nurse bees, the queen lays a far greater number of eggs. And so the hive works up strong.

In case the swarm is too weak to take care of or cover a frame of uncapping brood, it is better to unite with another weak swarm, either killing the poorest queen, or leaving the bees to do that themselves.

As strong hives are necessary for the production of honey, it is well to assist them at this time in gathering strength. For this purpose foundation is used, the same amount of care being also necessary not to overdo the amount given, and so cause chilled. Before giving a sheet of foundation in the centre of the brood nest, be very sure the weather is such the neighbouring brood will not be chilled and that there are plenty of bees to cover and keep all warm.

By carefully giving foundation in this way, and adding supers also when necessary, swarming will be very much retarded. We have seen a hive treated in this manner up to six boxes in height or 55 Langstroth frames in all. And then, it being a simplicity cover, with space over the blanket on top, the bees had started to build comb in the cover, which was also full of bees. We don't know how many more supers it would have taken, but it was too tall to work, so it was left and queen cells were started, and four

strong hives were made out of the one by artificial swarming. Our first swarm this season was from a hive on which we had placed sections with a queen excluding zinc underneath same.

Every apiary should have a swarm catcher handy. What is known as Manum's can be purchased from every supply dealer, or a substitute can be made by a piece of fencing wire bent into a ring about the size of the top of a bucket, on which a bag is suspended, the whole being fastened horizontally on the end of a long pole. Should the swarm settle on the branch of a tall tree, a stone attached to a string, attached to a rope, can be thrown over the limb, drawing the rope over, which can be made to shake the bees down into a hive or box placed underneath, into which the bees will soon run especially if there is a frame with a little larvae in it.

But an immense amount of trouble is saved by having the queen's wings clipped—a wing on one side only. She cannot fly; as the swarm issues she will be found near the entrance of the hive with a few bees around her. Place her in a cage, remove the hive she came from, and place another on that stand, in which place the caged queen. The swarm will immediately enter, after which the queen may be released; all the field bees will go to the old stand. In the removed hive there will probably be a number of queen cells, the queen first issuing from which, through the now weakened state of the hive, will most likely destroy the others. If a valuable queen, and increase is wanted, the extra queen cells may be saved, and placed in what are called West's Cell Protectors, in nucleus hives, formed by taking one or two frames of brood with adhering bees from some of your stronger hives, placing in same.

N. B. K. A.

A meeting of the Committee of the above was held on Monday evening, Aug 30th, at Messrs Hobbblewhite's, Sydney. Present—Messrs A. Gale (in the chair), Trahair, Tipper, Roberts, Bloxham, Bray, J. D. Ward, and Fred Ward (Hon Sec.)

Minutes of last meeting read and confirmed. Letters were read from Mr. C. C. Paul, Sec. Muswellbrook B. K. A. that the association was unable to send a representative to the deputations to take place, but wishing it every success. Telegram from Mr. Arkinstall, Inverell B. K. A., also regretting inability to send representative, but according fullest sympathy, and that association

had unanimously resolved to affiliate with the N. B. K. A. The Secretary stated he had received altogether replies from eight Beekeeping Associations expressing sympathy with the work being done, and intention to affiliate.

It was resolved the secretary obtain as soon as possible the likely available crop of honey in the colony, the same to be advertised in the *A. Bee Bulletin*, in order to assist in getting better prices.

A letter was read from the railway Commissioners, acknowledging receipt of expression of sympathy with the death of the late Commissioner Eddy.

Letter from Mr. Farnell M.L.A. to say arrangements had been made with the Minister for Mines and Agriculture, also the Minister for Lands to receive the deputation next day.

Mr. J. D. Ward gave some account of the trouble and time occupied in hunting up the Departments in order to get these arrangements made.

Mr. Roberts moved and Mr. Trahair seconded that the correspondence be received.

Mr. Tipper moved that in urging on the Minister the passing of the Foul Brood Act, he be asked to insert a clause similar to one in the Victorian Bill, viz., that all apiaries be registered, a small registration fee per apiary be charged, also a small fee per hive after for expense of registration. Seconded and carried unanimously.

Mr. F. Ward suggested that in the interviews with the Ministers Mr. Gale appoint and arrange the speakers. Carried.

Mr. F. Ward moved that a standing advertisement be inserted in the *A. Bee Bulletin* at a cost of £2 per annum of the N.B.K.A., giving the secretary's name and address, also that subscriptions to same be acknowledged in the *A. B. B.* every month. Seconded by Mr. Trahair and carried.

Several accounts were passed for payment, the Treasurer (Mr. G. Bloxham) stating that the funds were very low.

Mr. Tipper said he thought a wrong stop had been taken at the Convention,

in the proposal to amalgamate with the Woolgrowers Co-operative Co. There were other co-operative companies, who being large provision distributors, were more suitable for the purposes of beekeepers and recommend the South Coast & Camden Supply Co. be communicated with.

Mr. Ward in seconding same said it would be well to ascertain how much the company could get through, also how much the beekeepers would be able to send them.

It was arranged the committee meet at Mr. Ward's at 2 o'clock next day for the purpose of forming the deputation.

At meeting next day Mr. Ward said the Minister for Lands would receive them at quarter past two. They were introduced by Mr. Frank Farnell who said the beekeepers did not want to interfere with the pastoralists, but to see if the regulations in existence could be so worked that the industry could not be interfered with so disastrously as it was at the present time, giving instances of how beekeepers had been seriously interfered with by wanton destruction by squatters of the trees on which the beekeeper depended for the feeding of his bees. The deputation wished to know whether he would have power to do what they suggested, viz. Allow them to take out a business site, say an acre, in a certain district, to include the tops of the trees.

Mr. Gale further explained what beekeepers wanted was not to interfere with the squatters, who were quite welcome to all the grass, but were prepared to pay for the tops of the trees in proportion to what the squatters paid for the grass. Where two sheep to the acre would be worth 15/- there would be a pound's worth of honey from the tops of the trees. Alluded to where some Chinese had ruthlessly ringbarked some thousands of acres.

Mr Tipper said the yellow and white boxes were the most valuable honey trees in the colony, the yellow bloomed regularly every year, and white box

every two years. The apple tree was of very little good as a honey tree. If we were to work up a good honey export trade, it would have to come from the boxes as its mainstay.

Mr. Carruthers said he was with them in preserving the forests of the country, he would cause enquiry to be made in every case, and every effort made to discriminate between judicious and injudicious ringbarking.

The deputation then went to the office of the Minister for Mines and Agriculture. Messrs R. A. Price, Frank Clarke, T. R. Smith, and Frank Farnell, M's.L.A. accompanied them.

Owing to Mr. Sydney Smith the Minister, being away to Mr. Reid's reception banquet, the deputation were received by the Under-Secretary, Mr. D. McLachlan. Mr. Farnell again introduced them.

Mr. A. Gale said there were three matters they wished to urge on the Department, the Foul Brood Bill which had been promised for several years. There was a little clause they would like added to it, that all apiaries be registered, and would include in it the man that has one case of bees as well as the man with 200. It was not the practical beekeeper they were afraid of, who understood sufficiently well how to stamp Foul Brood out. But his neighbour with one hive would see his bees disappear not knowing or caring what was the matter, the comb and wax would be left exposed, to the loss and destruction of the large apiary next door. It was not wished to put the country to any expense. Beekeepers should pay somewhat for every stock or colony of bees they possessed for the purpose of protecting themselves against this disease. Mr. Gale gave several instances where great losses had been sustained in this way, and concluded by urging if the Minister would see his way to pass the bill it would be a great boon to the beekeepers.

In reply to Mr. McLachlan, Mr. Gale said the disease was in every part of the colony. Mr. Gale said the next question

was that of Adulteration of Honey, and said the beekeepers wanted the act relative to adulteration of food to be put into force.

Mr. Ward said the common way of adulteration was to mix starch glucose with a small quantity of honey. It was decidedly deleterious to health. He suggested the Department might buy up samples and initiate prosecutions, and thus protect the public.

Mr Rhodes placed a sample on the table a bottle labelled "Pure Garden Honey" in large letters in front, while on very small label at bottom of back quite out of sight at first "This honey is adulterated with pure sugar only."

Mr. Tipper said the Government had spent a deal of money in inducing people to become beekeepers. Beekeepers had spent time and money largely to produce honey, had bad seasons, disease, and adulterators to contend with, and when they brought their honey to market to find a state of things existed in Sydney and Newcastle that no other civilised country in the world would tolerate. The laws in France, Germany, and the United States were so stringent against adulterated food, and the punishment so severe, that the wretches who had no bad seasons to contend with, but could produce their stuff at any time, could not exist. They, by the inferiority of the stuff they fastened on the public as honey shunted the masses of people off from using honey, as well as lowered the price of the genuine article most considerably.

Mr. McLachlan asked if some beekeepers did not object to registration and taxation.

Mr Ward said he had communicated with a great many and not heard one objection. When registration was first introduced in the matter of scab in sheep there were some who objected.

Mr. Tipper also said he had spoken to a great many beekeepers, but all heartily approved of it.

Mr. McLachlan asked whether Paralysis was not to be dreaded more than Foul Brood.

Mr. Gale said, Decidedly not.

Mr. Bray alluded to an instance where he had tried to sell honey to a storekeeper who told him he would buy his honey if he would sell it at the same price as he could get the adulterated, as that answered him as well.

Mr. Ward in answer to Mr. McLachlan explained that the deputation was a representative one from all parts of the colony.

Mr. R. A. Price, M. L. A., complained bitterly of the dilatoriness of the Government. The Foul Brood had been promised by them years ago, and yet nothing was done. He would suggest the Department took the matter up. An important industry has been really humbugged. Something must be done in the matter.

Mr. Rhodes said it was the duty of the Government to send round and try and prosecute. No individual beekeeper would do it. It was the right thing for the Government.

Mr. McLachlan said the Board of Health was tied by the enactment.

In conversation it was stated the Board of Health had referred the matter of adulteration to the Mayor of Sydney, and between them nothing had been done.

Mr. Preddy (of the Department) said the Minister had called the attention of the Board of Health to the matter.

Mr. McLachlan said everything had been taken down in shorthand, and would be placed before the Minister next morning.

A Deputation consisting of Messrs Gale, Roberts, F. Ward, and J. D. Ward and E. Tipper then waited on the Manager of the South Coast and Camden Co-operative Co. in reference to co-operation with the same. Much practical conversation took place, but detail working is left in the hands of the Sydney sub-committee. We have no doubt arrangements of a most practical and profitable nature to beekeepers will result, of which we shall give full particulars.

QUESTIONS.

EVERTON.

118.—Are naphthaline balls known to be a preventative of foul brood in any way, and would it be injurious to bees to have naphthaline balls in the hive, either during winter or all year round?

AUSTRALIAN YANKEE.

119.—Have you ever tried fertilising queen bees by hand? If so what success? I have succeeded twice, all the other times were failures.

T. B. HOLMWOOD

120.—Which is the best practical way to prevent after swarming?

121.—What are your methods of preparing and packing honey—comb and extracted—for market?

122.—Have drones from laying workers stings?

W. S. & H. J. WILSON

For Victorians chiefly.

123.—Are you in favour of reducing tariff on beekeeping appliances. Present duty is 25 per cent.

VICTORIAN.

124.—What is your experience with Golden versus Ligurian bees?

R. H. JERVIS.

120. If you need increase have a laying queen on hand and move old hive to new stand and introduce laying queen same evening by lifting cover and let queen run in.

F. MAXWELL.

117.—No. The price of Beekeepers requisites has not been reduced by it, but so soon as honey becomes scarce and a fair price, we will be swamped with it, pure and adulterated, from outside till prices go down, thus fleecing us of the little we should have in a bad season.

SPARROW.

118.—I believe that Naphthaline assists very materially in the prevention of Foul Brood. I have been using it continuously for about a year and I never had my bees in such a good condition in September before, and during my first Spring overall I did not see any sign of Foul Brood, while this time last year half my brood combs were rotten with it. I use two balls to a hive and wash the bottom board twice a year with a strong solution of carbolic acid. Naphthaline is not injurious to bees.

JOHN RUSH, VICTORIA.

123.—Yes, because the duty is a direct tax on bee-keepers and is detrimental to the interests of every Victorian Apiarist. The Government has

no right to protect a handful of manufacturers at the expense of thousands of bee-keepers. I will support any measure which has for its object the abolition of this unjust tax on honey farmers. Urge the local Beekeepers Association to move in the matter, and at the coming elections support Freetrade candidates and beekeeping.

A. J. BROWN.

120.—As soon as the primary swarm issues, remove all queen cells except the best ripe one, when this one hatches, the young queen then takes command of the hive.

122.—I never knew any drone to have a sting and I consider drones from laying workers a sure sign of bad management in the apiary.

123.—Here we have no tariff to pay. In any case I think the 25 per cent is as acceptable to the beekeeper as to the Government.

124.—As honey gatherers the Leathers are on top here, although Goldenes have made good averages. Taken all round the differences are not much and a lot depends on the locality where kept.

THE WASP.

117.—E. T. Johnson is wrong in his calculations when he says £50 sent away only brings £50 back. But is perfectly reasonable and perhaps correct in his other calculation £50 sent out of the colony means only £50 value brought into the colony, which is soon consumed or worn out and then you are left without money or marbles as they say. As blood is the life of the body so is money the life of the community, so good people mind your cash and keep it at home, which alone can be accomplished by protection. I think that if the matter was properly thrashed out it would be found that the slight period of protection we have had gave a wonderful start to N. S. Wales beekeepers. I haven't felt the price of timber &c. when starting—sale for honey was my difficulty.

C. W. GRIFFIN.

119. I have never tried to fertilise queens by hand. It is only a lot of stuff, as it is against nature, and the drones will see to that better than we can.

118. As for foul brood, I think the best way is to destroy all the combs, and put the bees in clean hives on starters for a few days, then destroy what comb is built and give them full sheets of comb foundation. Let them work for four days, then give them two combs of capped brood and they will be all clear of foul brood.

I don't think this season will be very good for honey, as some of the timber was backward, and a bad winter on bees.

JAMES BENNETT.

118. No experience.

119. Never. And dear Yank, will you kindly inform us in next *Bulletin* whether in those two cases in which you "succeeded" you took the precaution to clip the queens immediately after the operation so as to prevent the possibility of a mistake.

120. Depends upon your methods of working and appliances. The most generally useful is probably Heddon's method of hiving swarm on stand and moving old stock to new location a few days afterwards. I may add that contrary to general experience, breaking down all the queen cells save one *does not* always prevent after swarms with me.

121. No special methods. Extracted put up in new 60lb tins and crated, two tins to the crate. Sections, 24 to the case, no glass.

123. Certainly.

124. None.

QUESTION NEXT MONTH.

J. A. H.

125.—Will it cause Foul Brood if comb is given to bees with dead larvae in it which died after spring dwindling.

126.—H. E. B. Thalgarrah.—I make "honey toffee." I find shortly after it is made, it commences to turn soft and sticky; there is some way of preventing this, can any of your correspondents inform me. I have seen this toffee in the shop in Sydney quite dry and brittle, so that there must be some chemical or ingredient used to prevent this return to what is almost very thick honey. I find that toffee made with sugar and butter also gets damp and sticky if kept, but not to the same extent as that made with the honey.

VICTORIAN NOTES.

BY R. BEUHNE, TOOBORAC, VIC.

UNITING.

In regard to the Editor's directions for uniting colonies, I think it can be done with less labour. I never scent the bees, nor do I shake them off the combs to mix them. Just alternate the combs with bees on them, smoking each colony first and a whiff between each two combs as you mix them. Never had any bees killed yet uniting in this way, but some once when placing one on top of the other with paper between. When the paper was getting gnawed through a battle royal began. I then united them as above and the fighting ceased.

Starters on sheets of foundation in the brood-nest placed alongside or between finished combs will result in drone comb from starters (a good percentage) and badly built combs from sheets unless placed facing combs sealed all over, which at this time are hardly present in the hive. Otherwise the cells of the old combs not

containing brood will be lengthened at the same time that the foundation is being drawn, and ugly combs old and new will result, which can only be used between other frames after being trimmed.

If you want straight even combs completely filling the frame, put your frames with full sheets in the super (no honey board,) if possible without a bee space between top bar of brood frames and bottom bar of foundation frames.

Some colonies are much better at comb building than others. I had a few doing nothing but drawing foundation, one set of frames after another all through the honey season. As they appeared to be experts at the business, I kept them going, putting another set of foundation between brood chamber and super whenever the former was well under way.

Almond trees for bees are highly praised and priced by Australian Yankee since he would pay \$100 to have 60 acres near him. But local conditions make all the difference, I should not give 100d for them, they are too early and coax the bees out when they should better stop in. There is also abundance of bloom of different acacias at the time, and no quantity of honey could be stored as the bees are only breeding up then.

HEATING HONEY BY STEAM.

Mr. Bolton suggests a vacuum and coil of steam pipe to evaporate excess of water from honey. The vacuum is alright but I think the steam pipe all wrong. A sluggish liquid like honey will become overheated and spoiled in contact with the steam pipe, even when frequently stirred, as no circulation is set up as in the case of water or other thin liquids. Hot water pipes would do, but whatever means are used the temperature of the heating medium should not exceed the maximum temperature for honey. It requires a considerable time to raise the temperature of a tank of honey to the point of fairly rapid evaporation, but of course the honey may on its way from the extractor pass over a warm surface into the tank and will retain its temperature with but very little application of heat.

I passed all last season's honey through a warming apparatus, not to evaporate, but to liberate the air which becomes incorporated in the extracting process, which sooner or later would rise and show as froth in the tins if tinned too soon. By this method I can draw and tin the honey the day after extracting. Of course combs are almost completely sealed when extracted.

I use steam to heat water, and hot water to warm the honey. The surplus water from condensed steam goes back into the boiler, which is located in the kitchen fire-place, with a steam-pipe leading into the honey room, and the cook being my stoker it is automatic so far as I am concerned.

HONEY MARKET REPORT

The South Coast and West Camden Co-operative Co. report under date September 15th—

There has been a very heavy inrush of supplies during the last couple of months, and all the large buyers have stocked heavily, so that we anticipate very limited and slow sales for this and next month. We are advertising and canvassing freely, using every effort possible to effect sales at satisfactory prices.

BEEKEEPING & PROTECTION

JOHN RUSH, MELBOURNE.

In your last issue, under the above heading, Mr. L. T. Chambers supplied the Customs returns to show that Victoria exports more beeswax than her sister colony, N.S.W., but the figures below, which are the official returns of the Government Statist of each colony, show that N.S.W. is ahead of Victoria in the actual production of honey and beeswax:—

PRODUCTION OF HONEY & BEESWAX

Years ending 1st March, 1894-96

NEW SOUTH WALES.

Season.	Honey. lbs.	Beeswax. lbs.
1893-4 ..	1,139,557	59,242
1894-5 ..	1,135,128	29,326
1895-6 ..	1,123,209	27,520
Totals ..	3,397,894	96,088

VICTORIA.

Season.	Honey. lbs.	Beeswax. lbs.
1893-4 ..	732,130	26,557
1894-5 ..	1,323,982	38,752
1895-6 ..	381,683	16,873
Totals ..	2,437,795	82,182

SINGLETON SHOW.

The following were the Apicultural awards at the above held on Wednesday, Thursday, and Friday, Sept. 1, 2, 3:—

Extracted Honey, most attractive display: A. J. Brown, Leaford Apiary, Parkville, 1. 2 entries. Honey in comb, most attractive display, A. J. Brown, 1 2 entries. Comb honey six lb sections, A. J. Brown, 1 and 2. 2 entries. Extracted honey, liquid, A. J. Brown 1 and 2; G. Paine, v h c; J. L. H. Schomberg r p. 13 entries. Extracted honey, granulated P. Krams 1 and h c; G. Paine 2. 9 entries. Extracted honey, liquid, G. Paine 1; A. J. Brown 2; G. Paine recommended for prize. 10 entries. 2 large frames comb honey, Lang-

stroth size, A. J. Brown, 1 and 2. 3 entries. Three small frames comb honey, half Langstroth size, A. J. Brown, 1 and 2. 4 entries. Beeswax, not less than 7lbs, P. Krams 1 and 2. 5 entries. 3 Sheets comb foundation, A. J. Brown 1 and 2. 2 entries. Wired frame comb foundation, Langstroth size, A. J. Brown 1. 2 entries. 2 Empty combs built on foundation, C. H. Dight 1 and 2. 5 entries. 2 empty combs, naturally built, A. J. Brown 1 and 2. 4 entries. Italian Queen and progeny in single comb observatory hive, A. J. Brown 1; P. Krams 2. 3 entries. Letters formed of honeycomb by bees, A. J. Brown, 1 and 2, 2 entries. Lot of queen cells, on one frame, A. J. Brown, 1 and 2. 2 entries. Frame of drone comb, A. J. Brown, 1 and 2. 4 entries.

Special prize of half a guinea to the winner of the largest number of prizes in the apiculture section, offered by Mr. A. J. Brown, Leaford Apiary, Parkville, A. J. Brown.

SOME HINTS FOR BEGINNERS.

E. B. TYRRELL, IN *A. B. J.*

A few things I believe a beginner should remember—

1st. To handle frames and hives of bees as though they were eggs.

2nd. Not every bee that flies in your face will sting you.

3rd. Never think of *defeat*. When starting in bee-keeping, remember the most trying time is at first; and when handling frames of bees, never back out or flinch if they do act a little cross. Always accomplish what you commence.

4th. Never get mad when working with bees, even if they do sting you.

5th. Never bundle up your hands. I have received more stings by bundling up my hands so they were clumsy, than I ever could have received barehanded.

6th. When you are handling bees, never let a bee-sting unnerve you; but work just as carefully as though nothing had happened.

7th. Don't believe all you read or hear until first proving it.

8th. Do some reasoning of your own; and don't follow others simply because *they do it*. What suits some one else may not suit you.

BACCHUS MARSH B. K. A.

The usual monthly meeting of the B. M. B. K. A. was held at Hollis' Tea rooms on Wednesday Sep. 1, 97 Mr W Serjeant (J. P.) in the chair.

The minutes of the previous meeting were read and confirmed. Mr W Smith (Pres.) then took the chair. The Secretary gave in his resignation which was accepted with regret although pleasure was expressed at the circumstances which required it. Some of the members speaking in very complimentary terms of Mr Hollis and the way he had carried out his duties as Secretary of the Association and wishing him every success in his new position. On the motion of Messrs Serjeant and Simon a hearty vote of thanks was accorded to Mr Hollis. Mr H Simon was elected Secretary on the motion of Messrs Slack and Serjeant. A communication from L. T. Chambers was laid on the table re-formation of district Associations, etc. Resolved that all available data be forwarded. Moved by Mr W. Smith seconded by W Serjeant that the Secretary of the Bairnsdale B. K. A. be communicated with complimenting them on the successful formation of a B. K. A.

HUNTER RIVER B. K. A.

The annual meeting of the above was held in Science Class Room, Technological Museum, on Saturday evening, September 18th.

Present: Messrs J. W. Pender (in the chair), M. Scobie (Hon. Sec.) W. S. Pender (Hon. Treas.), Harden, Noble, Hopkins, G. T. Pender, Munday, Thompson.

Minutes of previous meeting read and confirmed.

Four new members were elected.

The Secretary read the Annual Report and Balance Sheet, which showed a credit balance of 6s 2d.

Moved by Mr. Hopkins, seconded by Mr. Noble, that the Report and Balance Sheet as read be adopted. Carried.

The election of officers for the ensuing

twelve months was then proceeded with and resulted as follows:—President, J. W. Pender; Vice-Presidents, J. F. Munday, A. J. C. Voegelé; Secretary, M. Scobie; Assistant Secretary, G. T. Pender; Treasurer, W. S. Pender; Committee, Messrs Harden, Noble, R. L. Pender, Hopkins, Thompson.

The next business was the Reception of Report of Delegate (Mr. Tipper) on deputation to Minister of Agriculture re "Bee Legislation."

The Report (which appears on another page of this issue), was read and approved of by the members present.

Moved by Mr. Scobie, that a special vote of thanks be accorded Mr. Tipper for his report. Seconded by Mr. Hopkins and carried unanimously.

Reports of condition of bees and prospects for coming season, were next given.

Mr. Harden said he had 32 hives in good condition, and very busy.

Mr. Pender said bees came through winter better than ever, rain wanted, all doing well.

Mr. Munday said bees are in capital condition. Hives fairly strong, little honey from fruit blossoms. Lost two or three through queens dying. Prospect of good honey flow.

Mr. Hopkins said things were not as brisk as this time last season. Paralysis starting in half-a-dozen hives. Last season was very good, this season not so good.

Mr. Noble reported bees in very good condition for this time of the year.

Mr. Scobie said at present bees are coming on well, slight honey flow, expected extraordinary honey flow soon.

Several members reported swarms very early.

Mr. Munday, in opening the discussion on "Means of preventing, breaking and melting down of combs," said much depended on the management of the bees to save bees and combs from being smothered and broken no matter how hot the weather is. Want $\frac{1}{2}$ in. or $\frac{3}{4}$ in. space between bottom board and frames bees get very hot if less. Lids grooved

2in. wide on top lid boards, space between top board and lid. Re breaking in extractor, had few through using starters, had few damaged when extracting with frames wired longways, reason was the wires being long and slack, the combs bend. If combs are properly wired, hives shaded, and full entrance, there was no fear of combs breaking. Sometimes bees gather thick honey which should be exposed to heat before being extracted.

Mr. W. S. Pender said position has much to do with it. When extracting last year, as he took the frames from the hive he would shake the bees in front of the hive and ten per cent never reached the hive. The ground was so hot that they were immediately killed. Side shade was wanted as well as top shade. In hot weather, new combs if not attached to bottom bar crack from wire downwards. As the hour was getting late the meeting adjourned to Saturday, Oct. 9th.

HONEY PRICES.

There is more or less a prevailing opinion that bees work for nothing and board themselves, and there's some basis for it, but it does not follow from that that honey should not bring a fair price in the market. A farmer has two or three colonies of bees, and the season having been good, he gets more surplus than he thinks he needs in his own family although his family would eat every ounce of it in the course of the year if they had the chance, and be the healthier for it. He takes it to the grocer and asks for a bid on it. The grocer says.

"Well, this has been a good bee-year, and honey is pretty low, but that's a nice article of yours, and for such as that I guess I can afford to allow you 10 cents in trade."

The grocer knows very well it is worth from two to four cents a pound more than ten cents, but he also knows from past experience that the farmer will take just about what is offered. The farmer goes home congratulating himself, and says to his wife :

"Not a bad thing to have a few bees ; there's 2 dollars 50 cents just as good as if I'd picked up that much on the road, for the little time spent on the bees don't count for anything."

The poor woman says nothing, but sighs to herself as she thinks how much help that 25 pounds of honey would have been to her in furnishing her table ; how nice it would have been for company, and how the children would have enjoyed it, and somehow she can't clearly see why they could not afford it all the more because it was low in price.

That farmer is very foolish to care so little for the pleasure of his wife and the health of his children, and additionally foolish to sell the honey for less than a fair price. If he had found a bag of oats on the road, he would hardly sell it for less than a bag of his own raising ; the fact of costing him nothing not counting or figuring on its value.

Not only has he done a foolish thing ; he has done a wrong thing as well, for a short time afterward a man comes in who makes the production of honey a principal part of his business and when he asks for a fair price for his honey he is met with the reply :

"Oh I can't afford any such price. I can get all I want for 10 cents a pound. Got a nice lot last week at that price."

The beekeeper then goes to the grocer across the way, who says :

"It does seem as if good honey ought to bring more, but the fact is I had to come down on the price to meet my competitor across the way. I bought a lot at 12 cents selling it out at 15, but my customers would come in and say they could buy the same thing across the way for 12, so there was nothing to do but for me to come down."

So the bee-keeper who has worked hard for his crop, suffering a failure for the two previous years, is practically defrauded out of one-sixth of his recompense by the man who sells for the first offer that is made—because bees work for nothing and board themselves !

See that your honey is put up in good shape to go on the market, find out some-

ANOTHER CHAPTER ON HONEY AS FOOD.

BY, PROF. A. J. COOK. *A. B. Journal.*

Every bee-keeper—indeed every person who has the care of any kind of live stock—is interested in food. In fact, no such limitation as the above need be given, for we all have to feed our own bodies, and the principles of nourishment are very much the same throughout the animal kingdom, from the lowest protozoan up to man himself.

All foods consist, when perfect, of four classes of elements, viz: the inorganic elements—which are already capable of being absorbed and need no digestion; the carbo-hydrates—sugars and starches; the fats—which are often classed with the last as the hydro-carbons—and the albuminoids. Every perfect food must have all of these elements. Thus we find these in milk and in eggs as these foods at times furnish all the food of animals, if we except oxygen, which is really the most important of all, though we are not in the habit of speaking of it as food. In this article we are only interested in the carbo-hydrates.

The carbo-hydrates are so called because they consist of oxygen, hydrogen, and carbon; and the oxygen and the hydrogen are always in proportion to form water. Thus the symbol of water is H_2O , and of sugar—the sugar of honey— $C_{10}H_{10}O_5$. In both these cases we see that there is just twice as many atoms of oxygen as there are of hydrogen. As stated above, this class of foods is made up of starch and sugars. Honey consists mainly of sugar, and so belongs to this group.

As we all know, there are two groups of sugars—the cane-sugars and the glucose or grape sugars. Cane-sugar has a slightly different chemical formula from glucose sugar, and is sweeter, and not so easily assimilated by the tissues, and so must be digested before it is ready to be used by the body. It is well known that we use a great deal more of cane-sugar than we do of any other at the

present time. In the olden days people ate honey, which consists of the glucose series of sugars, and needs no digestion. Thus many think, and with much show of reason, that honey is a much safer food than cane-sugar, as it is more ready for the body and does not require energy in its preparation. The cane-sugars are often referred to as beet sugar and cane-sugar, depending upon their origin. If secured from the beet, we speak of it as beet-sugar; it from the sugar-cane as cane-sugar. This however, is misleading for both sugars, if prepared with equal care, are exactly identical.

If there is an odour or other peculiarity of beet-sugar not known to cane-sugar, (of course this latter term is wrongly used as both are cane sugars), it is simply because clarification has not been complete. It is a common opinion in California that fruit put up with beet-sugar is less likely to keep well than when put up with the sugar from sugar-cane. I doubt if there is anything in this. I have used the beet-sugar the last two years freely in putting up fruit, and have lost none at all. We do find, however in preparing the fruits there is quite an unpleasant odor; as already stated, this must be owing to some lack in preparation. It is well to state here that when fruit spoils, it is owing to the presence of vegetable germs—microbes—which should never be present in fruit. If the fruit is thoroughly heated—it should be boiled for some minutes—and then sealed hermetically, so that the microbes cannot get into the cans, the fruit will never mold, ferment or decompose.

Glucose or grape sugar is used to refer to several kinds of sugars, which have usually been regarded by the chemist as identical. These are corn-glucose or the glucose of commerce; glucose of digestion (which is transformed cane-sugar or starch, acted upon by the animal juices of the intestines); honey, which is probably the same as the last mentioned, as the bees gather the cane-sugar from the flowers and transmute it by digestive process into the

wholesome and delicious honey; and liver sugar, which is the product of the liver. This last may be almost identical with honey-sugar. At least, like honey-sugar it is very easily assimilated, and so is just what the body needs for its nourishment.

As stated above, the chemist speaks of all these sugars as glucose or grape sugar, because they all act similarly in reducing the copper salts, which is the common test for this group of sugars. Cane-sugar does not respond to this test, and so is easily distinguished by the chemist from any of the glucose sugars. It is safe to say, however, that these sugars are not all identical. Every well informed bee-keeper knows that while honey is a safe food for his bees, commercial glucose is far from safe. Indeed, the bees refuse to take commercial glucose if they can get anything else. They seem to know that it is an unwholesome food, and thus only take it as a matter of necessity. They seem to say, "Better this than starvation." It is probable that if bees could fly regularly, commercial glucose might be a safe food; but it is certainly far from this when fed for winter supplies; in which case the bees have nothing else to feed upon for long weeks, possibly months of confinement.

Thus we have another reason for crying aloud and sparing not regarding the adulteration of honey and other food products by use of commercial glucose. Such action is not only a base fraud but is pernicious, in that it is giving to the people an unsafe food. If glucose will kill bees it stands to reason that it is very probably deleterious to all animals, and should be relegated to the limbo of "innocuous dessuetude." It seems to me that it is not only the privilege but the duty of every person to work with a will—to fight by every possible means—the nefarious practice of adulterating food products with commercial glucose. I believe the Bee-Keepers' Union should at once commence this work, for it means a hard fight, and the Union alone can undertake such a battle with any con-

siderable hope of success. I feel very certain that the Union can wage such a warfare and bring the iniquitous practice to an end.

Honey, as I have stated above, is a glucose-like sugar, and very likely identical with the sugar of digestion which we obtain when we take either starch or cane-sugar into our digestive cavity. It is found that sugar of honey is really two sugars, each of a glucose character; that is, both reduce the copper salts. But one of these sugars (dextrose) rotates the ray of light in the polariscope to the right, while the other (levulose) rotates the ray to the left. We see clearly then here that there are two kinds of sugar. Levulose is usually called "fruit sugar," because it is very abundant in various fruits; it is very apparent that it is a very wholesome sugar, else fruit would not be such a rare and admirable diet.

Dextrose is more easily crystallizable than is levulose, and thus when honey granulates, or candies, as we term it (these are simply other terms for crystallization) the dextrose crystallizes in the levulose. This is no disadvantage to honey, in fact is one of the best tests that the honey is genuine. With very few exceptions all honey will granulate when cooled down below 60°, and often at a higher temperature. Thus the fact that honey granulates is very good proof that it is genuine honey. One firm, of New York, in apologizing for adulteration of honey, stated that they did it to prevent granulation. Customers did not like the honey to solidify, and by adding commercial glucose (which as we have seen, is unwholesome if not actually poisonous) they retain the honey in liquid form. Granulation does no harm to honey. Granulated honey can easily be reduced to the liquid state by heating, and if this is carefully done the product should never be raised to more than 180° F.—it does no injury to the honey. I have found it true that if the honey is once liquefied and then sealed closely, it is very much less likely to re-granulate,

even though the temperature be reduced below freezing. I have never been able to explain why this should be so.

From what has been said above, it will be seen that if we keep honey in a warm place, it will very likely retain its fluid condition indefinitely. I have thus kept ordinary honey for over a year which showed no sign of granulation. It is also true that occasionally we have honey that does not granulate at all. I do not know the cause of this, but venture the suggestion that honey is largely composed of levulose and has but little dextrose. I suppose it is the product of certain flowers, but may be owing to the kind of manipulation undergone while being transformed by the bees. Some of our best physicians think, as they told me, that some of our worst diseases, like Bright's disease of the kidneys—which, as they claim, is more prevalent now than in the past ages of the world—is owing to the large consumption of cane-sugar. However this may be, I think we are safe in saying that honey is a safer sugar than cane-sugar. We know that sugar is a very necessary food; this is evident from the fact that the liver is very early to appear and very large in the newly-formed embryo; and what gives added force to the argument is the fact that a wholly pre-natal organ (the placenta) produces sugar before the liver is able to furnish a sufficient supply. The fact, too, that the young child so craves sweets, is another proof that sugar is a very important food element. Children then, should have all the sugar they desire to eat, but of course this should only be given to them at meal time. We shall be much healthier people when we learn to take our food at regular period, the same time each day.

We all know that early childhood is a very susceptible period. All the organs at that time seem sympathetic. The cutting of a tooth may bring spasms and possibly death. Is it not wise, then, while we must give our children plenty of sweet, to give them honey? I believe that no parent can do a wiser thing than

to furnish his young children with all the honey they desire to eat, giving it freely at each meal, but only at meal-time. Honey is surely a safe sugar.

The conclusions, then, that we arrive at in this article are as follows: First, adulteration of food by commercial glucose is not only a fraud but a dangerous practice, and should be remedied at all hazards.

Second, the Bee-Keepers' Union is just the organization to commence this warfare, and carry it to a successful issue. Let us bravely on to the conflict, and not cry halt till this iniquitous practice shall utterly cease.

Thirdly, it seems more than probable that honey is a much safer food than is cane-sugar, and may well replace the latter whenever appetite will give its consent. This is specially true with children. Children should have all the sweets they crave, and honey may well be the source of such sweets. This should be given *ad libitum*, but only at meal-time.

QUEEN CELLS BY WHOLESALE.

NEW VERSUS OLD METHOD.

By H. L. Jones, Goodna, Queensland.

Friend Root:—Under separate cover am forwarding you photos illustrating results achieved by the 'new-fangled plan' of queen-raising that you wrote unfavourably of in *Gleanings*, July 1 and Aug 1, 1895. I felt sure that some of your leading breeders would take exceptions to your evident retrogression in going back to the "good old-fashioned way," but if silence gives consent the most all indorse what you have said which is indeed quite incomprehensible to me unless conditions for queen rearing are not identical in our respective countries.

Your first objection, that the cell-cups are too expensive to make, is soon dispensed with, since there is no necessity for making the cups as a strip of drawn comb, which can be prepared in a coup

of minutes, is preferable. I have not made a cell-cup for years, but have raised thousands of queens on the drone comb principle. In the lower frame you will notice 17 fine large cells completed out of 19 furnished; in the centre frame, 17 out of 18 have been accepted; while in the top frame all the cells are in a fair way towards success. Could you, by the "good old fashioned method," average the same number of fine available cells? One big advantage of the "new fangled plan" is that you know that all queens are started from young larvæ, and will, therefore be fully developed. You can also tell to within a few hours when the queens will hatch, if you have been careful to utilize larvæ of only the right age, and experience will soon teach you this. By the method you follow, of allowing the bees to build their own cells as they wish in colonies from which you have removed breeders, the cells must, to make a sure thing of it, be cut out on the tenth day, and will then continue to hatch up to the sixteenth, instead of the lot in about 11½ days and you can figure out what a vast difference in the net results this variation in time must make where over 1000 per annum are raised. Then, again these drone-cell cups by being built altogether in one compact cluster, require fewer bees to maintain the requisite temperature; the cells are not joined together so that they can not be separated without destroying one or more cells, and there is no mutilation of brood-combs.

Another good feature about these cells is the ease with which they all fit into the West cell protectors, just as if they were built to order; and I may mention that I would just as soon think of producing extracted honey with an old one-frame honey slinger as to raise queens in quantity without the aid of cell-protectors and cages. I give a ripe cell in one of these cages at the same time that I remove the reigning queen; but when sending off young queens that have been laying only a few days I usually give a virgin queen from one to three days old, liberating her right on the combs at the same time,

and have very few destroyed. Look at the lower row of cells in Fig. 1, which are within 24 hours of hatching, and you will notice that they are so much surrounded with comb that only the points of the cells are visible and I find that, when used without protectors, they are less liable to be torn down than the ordinary cells, as the thick incrustation of comb protects them. In removing these cells from the bar I place my queen cell knife on the hot barrel of the smoker for a few seconds, and then cut off the whole row of cells as easily as cutting butter; the warm knife is then slipped between each cell, dividing them ready for the cages. I can assure you that it is a pleasure to handle these cells after those built hap-hazard on the combs. I don't know whether you have ever tried this drone-cell plan; but in any case I will describe briefly the *modus operandi*.

Toward the end of winter I select several of my finest colonies as lone producers, and, after removing the lids, place an empty super on each, and then cover the frames with good thick cushions stuffed with cotton, and then on top of each super I lay a sheet of glass. We usually have bright cloudless days, and the increased warmth thus generated induces the bees to breed more rapidly and I thus manage to secure thousands of fine drones much earlier than I otherwise should. When the weather becomes warmer, and the strength of the colony will admit of it, the glass is dispensed with. A zinc honey-board is placed on and the bees induced to work in the upper story, and are then devoted to completing cells as per photo. Sometimes I place the prepared cells at once into these upper stories, but usually place them in a strong queenless colony for a couple of days before placing them in the upper story, by which method very few cells will be refused, and results identical with those shown in the photo will be achieved.

To prepare these cells I cut off a row of drone-cells and then cut them down to about ½ inch in depth, after which I attach them to the bar with melted wax. A little royal jelly is then placed in each cell

nicely, at the bottom. Next I obtain a frame containing newly hatched larvæ from one of my choice breeders, and then seating myself in a chair in front of a strong light, I place a sheet of paper on my knees, and on this lay the frame of brood, and transfer the larvæ. The centre bar being secured by one nail at each end, is grasped as shown and can be moved to any angle so as to strike the light. The little stick used for transferring the larvæ is simply a piece of section stuff about $2\frac{1}{2}$ inches long, one end being about $\frac{1}{8}$ inch wide, and the other about 1-16th, and as fine as can be sharpened, with the point bent just a little so as to slip under a larva. The larger end of the stick is used for placing the royal jelly in the cells, and occasionally for bruising down a cell so as to get conveniently at the larva. Fig. 2. shows the act of placing a larva in a cell; and the supporting-bar, being wider than the cells, acts as a rest to steady the hand, so that the larva can be placed in the bottom of the cell very gently. I can't for the life of me, imagine how you can raise more queens by the old fashioned method.

Goodna, Queensland, Australia.

[The proof of the pudding is in the eating. The proof of your statement is shown in the half-tone plates herewith reproduced, and I am very glad to take back all I have said that could be in any construed as reflecting on the new way of queen rearing. If the results shown in Fig. 1 are what you secure on the average (and I have no reason to question it), then any queen-breeder who does not use your method or one equally good—for instance the Doolittle, is not looking to the interest of his pocketbook. It was G. M. Doolittle who first made a success of having cells built in regular "rows on a stick." A good many have since made a success of his plan, although some of us did not succeed to our satisfaction. It was J. D. Fooshe, I believe, who first made a practical success of raising queen-cells from drone cells. As I judge, you have simply followed out or elaborated his plan. One thing is certain, friend Jones: If you and Fooshe and Doolittle can get such results as these, then we old fogies who have not made a like success had better work and plan until success is achieved. You may be sure the plan outlined above will be fairly tested in our apiary; and if we do not succeed we shall keep on fussing until we do.—E1 Gleanings.

FOUL BROOD IN BEES.

Mr. G. Packham, Molong, recently reap a paper on "Foul Brood" before the Molong B. K. A. He agrees with Professor McEvoy. Mr. McEvoy (Foul Brood Inspector, of Ontario, Canada,) who probably has had more experience of this disease than any other man in the world, he having treated 3500 infected colonies in the province of Ontario, believes that chilled brood is the cause:— Personally, I am inclined to favour that opinion. In Queensland and the Northern portion of this colony, where the day and night temperatures are more even, foul brood is unknown. It has been stated that the Orange district suffers very much more from the malady than we do here, the temperature there being more uneven. In the Spring, during a spell of hot weather, the bees spread out over the comb, the queen deposits her eggs in a large number of frames, and things go on all right for a time. Suddenly, however, the wind changes to the south, the thermometer which remained at from 90 to 100 degrees in the shade for days—aye, weeks—falls to say 50 degrees. The bees then are forced to close in for warmth, leaving some of the brood outside to perish, which it soon will do if neglected. This perished brood is not easily removed by the bees, and the consequence is it becomes decomposed in the hive. It is therefore, easy to imagine the serious and disastrous effect dead larva is likely to have upon healthy brood. I do not wish you to think that in all cases where perished brood exists foul brood will take its rise; but the conditions being favourable to the growth of germs, it appears to me to be more reasonable to attribute the origin of the dreadful malady to the prevalence of chilled brood. When once foul brood attacks a hive it soon spreads, and if relief is not afforded, the colony becomes weak and eventually dies out, or abandons the hive to seek fairer fields and pastures new. The old home, if not removed, is likely to be visited by sober bees, which will carry the honey if any, to their own hives, and thus establish the

disease there: Under no consideration should honey, in any shape or form, whether diseased or not, be exposed to bees, for if affected with any disease your whole apiary may be destroyed. If not diseased, by leaving it to be cleaned up by the busy little insects, you incite the bees to violate the eighth commandment. I remember on one occasion, some years since, where two apiaries started to rob in this way. The war continued until the dead bees lay inches thick in front of the hives, while one lot became so weak that it never recovered. Combs which have contained foul brood retain the spores. The queen lays her eggs in the cells, and the workers deposit their honey and pollen also in them. Both honey and pollen in this way become vehicles for the transport of the disease to the larva during that process of feeding by the nurse bees; thus it is hard to say, if precaution be not taken to eradicate the disease once its presence becomes known, where the loss might end.

If you have a few colonies affected with foul brood in an apiary, of which the bulk is healthy, it is not advisable to "fuss" about with them in order to effect a cure as you are running the risk of spreading the disease to the adjoining hives. Go at night with an old smoker, charged with sulphur, smother the lot, and close the entrance. Next morning, watch the hive for some time, and if any bees are seen about the entrance kill them at once as they may have been lost the previous night, and if not destroyed would most likely join the colony near and establish the disease there. The next thing to do is to take the hive, frames, bees, combs, honey, and throw all into a fire. If the disease has a good hold of your apiary it would be a serious loss to destroy everything in this way. Caution then is absolutely necessary, and if you are careful and vigilant you may safely extract the honey, making vinegar of it, or food for bees after having well boiled so as to destroy any germs of foul brood that it might contain. It is stated by scientific men that affected honey

requires to be kept at a boiling temperature for at least three hours before the germs are destroyed. The wax may be melted as usual. The safest time to treat it is during a good honey flow, and when bees will not attempt to rob. Great care should be taken that not one bee from another hive gets a sup of the honey from the diseased colony. Honey from a hive infected with foul brood should not be sold, as the person who purchases it is likely to throw away the empty vessels, which may be visited by bees, and the disease thus established in other apiaries in a different part of the country. Before you start to treat the disease, open the hive in the evening, and secure the queen. A very good, handy, and easily-made cage in which to secure her is a piece of fine wire cloth, tacked round a short piece of broom-handle. The object of capturing the queen is to prevent her from flying away with the swarm, which is often the case when deprived of their stores. After obtaining the queen, shake all the bees off the frames into an empty hive, which should be as much like the old one as possible. Then hang the queen in one corner, and give a "starter" by fixing a piece of foundation comb near where the queen is hung. The bees having no larva to feed are forced to consume the diseased honey in their sacks, and by this means they, within four or five days, cleanse themselves by exhausting whatever supply of affected fluid they have inside them. After the period mentioned, open the hive and take away what comb and honey it contains, shake the bees into a clean hive containing starter and, when finally settled down, liberate the queen and your work is complete. In cases where the colonies are weak, it is best to unite two or three, as one strong colony is worth a dozen weak ones. All hives that have contained a diseased colony should be well cleaned before using again. A very good plan of cleansing is to sprinkle kerosene inside, set it alight and let burn for a few seconds.

FOUL BROOD.

T. G. BRICKELL, NEW ZEALAND.

Dear Sir,—I looked forward to the arrival of the July number of the A. B. B., in order that I may see what was done at the Conference and must confess to some disappointment. The paper on Foul Brood (a subject on which I am intensely interested, as I have devoted much time during the past ten or twelve years in experiments with it), although showing a knowledge of current literature, contains only a rehash of text book knowledge, and the usual platitudes of what to do, instructions which cannot be carried out effectually in practice.

It seems to me that if there is one thing beekeepers who keep their bees in frame hives are unanimous about, it is in condemning the poor benighted beekeeper who keeps his bees in box hives, and in attributing all the dire results of the spreading of Foul Brood, and contaminating whole localities, entirely to him. It is time this fallacy was exploded. The up-to-date beekeeper has done more to develop and spread Foul Brood, than the box hive man possibly could do. Of course if a diseased colony of bees in a box hive dies out and the combs are left, all the bees that have access to them will take the disease home with them, but so will the bees from the combs of a similar colony, even though they died in a frame hive, and there is not one beekeeper (modern beekeeper), in twenty who is sufficiently thorough and conscientious to at once destroy the combs. The nineteen will put them carefully on one side to be attended to at the most convenient time, with the usual result, that in consequence of some one's thoughtlessness the bees get access to them. Foul brood can be easily cured, but very, very few beekeepers are sufficiently thorough to do so effectively. It would be interesting to know how many beekeepers in whose apiaries Foul Brood has existed, who have carried out McEvoy's system in its entirety and utterly destroyed every comb in the

apiary in any one season. In all my experience and I have been brought into contact with hundreds of beekeepers in the course of business, I only know of two; I know many who have started to do so, but invariably find that when afterwards they complain that in spite of what they have done, that they still have the disease, on enquiry they confess they saved a few of the combs which did not look tainted. Scientists tell us that Foul Brood, being caused by a particular *Bacillus*, can only be propagated by the introduction of that *Bacillus* into the combs from a previously infected source. I believe that to be utter nonsense. I have over and over again proved at any rate to my own satisfaction that Foul Brood can be started in a perfectly healthy hive at any time, by improper manipulation at unseasonable times, particularly in cold climates where the brood chills easily on being taken out of the hive. Any one can test this by taking out two of the combs containing brood in all stages, keeping them out 24 hours or until the brood is all dead and then put them back again. If there is not genuine Foul Brood in that hive the next Spring it will be surprising. I do not mean that Foul Brood will start in the dead larvae; it will not, it wants living victims for it to thrive on, but the dead larvae supply just the necessary insanitary conditions in which Foul Brood will develop. But suppose the scientists are correct and that there must be contact with the disease before a healthy colony can become infected. What then is the use of advising beekeepers that "the simplest and best way is to destroy the bees and burn the hive" when the source of infection—it may be only over the fence or it may be three miles away—is left untouched. But the paragraph to which I take the strongest exception is where beekeepers are advised to—"Examine your bees closely and often so as to detect the disease at its commencement, &c." This is in my view most pernicious advice, and I would say in the strongest terms, do nothing of the kind, never lift a comb or disturb the

brood nest if it can be possibly be avoided. The ease with which bees can be handled, the excessive use of the smoker, and the frequent visits of the amateur to examine his bees to see if the queen is alright is largely responsible for the universal prevalence of this scourge of beekeepers.

WAX EXTRACTORS.

At the 17th Annual Meeting of the Ontario B. K. A., we take the following report from *The Canadian Bee Journal*.—

Mr. McEvoy—The best extractor that I have seen anywhere is Mr. Hughes', of Barrie; he has got an arrangement. He can explain it.

Mr. Hughes—It would be a pretty hard thing for me to explain it. I can coil two layers of comb right in on their edge. It is done by steam. We use a coal oil stove; I can run it with one burner or three, whichever I like. The water is underneath, and we put the combs in a basket with perforations; we turn on the steam and it melts the wax right out. I wire all my frames, and I can shake the frames right out and leave the refuse in it. There is a small trough runs right around the side; it starts at the bark and slants to the end and down to the side and down to the centre. It is something on the same principle as the old Jones extractor, only a great deal larger, and I do it with coal oil instead of fire. I use the same extractor for melting honey; I can melt 200 pounds at once. I have a tube up the centre with perforated metal, and the steam passes through the comb and melts everything up and there will not be any wax in it when it comes out of it. I have tried to see if there was any wax in the refuse and I could not find any. I never burned the refuse that came from my extractor; I threw it out. I never examined it with a microscope.

Mr. Armstrong—The refuse will burn fiercely if there is no wax in it at all, because I have tried it. I put my refuse in a sack and into a box with holes bored along the front, having the box

on a slant, and I put all the power on to a screw, that I have in connection with it, that I can put on and the refuse that comes from it will burn.

Mr. Hoshal—Did you ever examine it under the microscope?

Mr. Armstrong—No, I did not.

Mr. Lang—I have an extractor that I have shown here at the Industrial Exhibition; I use it for various things; I call it the combination wax extractor. I think I could render more combs with it than any wax extractor I ever saw. It is made a boiler shape; it takes up three lids on the common stove, and from the time I start, when I get the water boiling and steam going, I can put in fifty square feet of comb, cover it up and when that is pretty well run out I put in about fifty more; then if I think there is quite a bit of sediment and dirt in the boiler I let it run perhaps for a couple of hours. The centre of it is raised and there is a tube about three inches in diameter all the way through the centre and a cap on top. I can let the steam out at the top or I can shut it down and make it come around the boiler in the inside. I have steam in the centre and all around. In three hours from the time I start to put the old comb in it is done and I take it off and set it to one side and start over again. The wax I run out in the first place I run over again by itself and my work is done.

Mr. Hoshal—Mr. President, I was only asking questions for personal information. It is one of those questions that I have been stuck over considerably, and I confess to a failure to my own satisfaction along that line. I have had no experience with the solar extractor. I use steam. The best way I find in using a steam wax extractor is not to put it on the stove at all, but to take a great big boiler to cover the top of your stove, if you have got enough comb, and put a little water into it, put your comb into it and melt it, then put your steam extractor on where you can keep it hot, dip it out of the boiler into the extractor and you save an immense amount of time by doing it in this way.

QUEEN CELLS.

BY ADRIAN GETAZ, in *Gleanings*.

EXCESS OF NURSE BEES AND LARVAL FOOD THE CAUSE OF THE CONSTRUCTION OF QUEEN CELLS.

I said that an excess of larval food was the cause of construction of queen-cells. It may be remarked here that the queen-cells (barring the case of loss of the queen) are constructed only when three conditions are present.

1. Nectar and pollen coming from the field.

2. Numerous young bees, or, what is the same, nurse-bees, producing larval food.

3. An insufficient quantity of brood to feed, due either to lack of comb for the queen to lay in or to a failure in her laying powers, or, I think very often, both together.

If either of these conditions is lacking no queen-cell will be constructed; and even those started may be destroyed when one of these conditions happens to disappear completely. I will give a few examples.

If you destroy the queen-cells of a colony ready to swarm, and divide that colony in two, completing both hives with empty combs, the probability is that both will construct queen-cells again, and, of course, swarm. In fact, it will happen in the majority of cases. Now, if was merely a question of space, why should they do so? But the fact is the discrepancy between the number of nurses and the amount of brood to feed still exists in both hives, hence the construction of queen-cells.

But if in a few days you cut out these cells a second set will never be started (unless one of the queens happens to fail and is about to be superseded.) Why? Because by that time there is the brood of two queens to be fed, while only the young bees of one are there to do the work.

Very often people have tried to prevent swarming by taking away a comb of brood occasionally. The process has been sometimes successful, and often unsuccessful. If the comb subtracted

was of eggs and young brood, the remedy was worse than the disease; for it left the nurse bees still in excess. The comb taken away should be of sealed brood, so as to diminish the number of nurses, and increase the room for the queen to lay in.

Dr. Miller tried to prevent, not swarming, but increase, by the following process: In the place of the colony that just swarmed, put an empty hive with one or two combs of brood; then the supers of the old colony on the top, then the old colony itself on the top of the supers, shaking the majority of the young bees in front of the new hive below. He says that the old colony will give up swarming entirely, and destroy all the queen cells—at least, they did the first year he tried the process; but the second year he was not always successful.

Well, the old colony on the top was then without enough young bees to feed the brood, and that is why they gave up constructing queen cells. Probably there was not enough bees left to protect cells against the attacks of the old queen, and she succeeded in destroying them.

I "don't know," but I am pretty nearly sure that, if Dr. M. did not succeed as well the second year, it is because he was careless and did not shake off the young bees from the combs as carefully as he did at first, and therefore too many was taken "upstairs" with the old brood-nest.

Again, Dr. M. tells us that he tried to prevent swarming by giving a young laying queen in place of an old one, destroying whatever queen-cells might be there, but without success. Now, why is it so, while, if you take the old queen away, and let the colony raise another queen of her own, no swarming will take place with her? I see by one explanation. In exchanging queens the conditions are not changed, or, at least, but a little, and that on account of the superior laying power of the young queen. But in allowing the colony to requeen with one of her own cells (the apiarists destroying the others,) the bees are necess-

arily without brood to feed at all—at least, during a few days before the young queen begins to lay. I think that, during these few days, quite a number of the young bees take to the field work and give up the nursing business; so when the young queen begins to lay, the number of nurses is reduced; and this, coupled with her superior laying powers, puts an end to the discrepancy between nurses and brood—provided, of course, there is sufficient room to lay.

With sufficient room and a good queen I have often prevented swarming by taking away a comb of sealed brood before the number of nurses was too large, and a second comb a week later, perhaps a third one at most. This is a very good way if a moderate increase is wanted, without giving up a honey crop.

HARDKNOCK'S APIARY.

Mr. John Pollock, of Wingham, is just one of those enterprising, intelligent workers that materially assist the development of industries in the community. His natural aptitude for educated handling of industrial pursuits has been sharpened by the experience gained by much travel in the colonies. He is a keen observer of circumstances, and his motto is to put them to the best advantage. Although he was the very type of Longfellow's "Village Blacksmith," that industry locally failed with him, because people were profuse enough in orders for work, but were not active in paying up. So, he thought bee-farming would be a profitable undertaking, if carried out on intelligent principles. Once get a useful idea in Mr. Pollock's head and he is not content to leave it there unfruitful; he looks out for room for the "next best thing." Well, Mr. Pollock "went into" bee-farming, for which industry he secured eleven acres of land about 2½ miles from Wingham. To outward appearance the land belonged to that class that has become a reproach as being "unequal to feeding a kangaroo rat per acre." It

resembled that clayey, sickly looking soil that puts one in mind of a recovery from jaundice. Such a class of soil looks uninviting, but, really, scientific cultivation will make it very prolific. Upon this holding Mr. Pollock set to work, with a determined will. He has put up a very comfortable dwelling house, and has improved the holding wonderfully. The land is being perfectly drained, by large drains being dug and then filled in with trees, which, of course, necessitates a lot of labor, as the drains appear to be cut out of solid clay. Fruit trees of various kinds are being planted, and the property made into a very useful one. As to the apiary arrangements, Mr. Pollock has 116 hives (or colonies) of bees, of a well-selected breed. These are worked very systematically, so that the very best results are obtained, and as a slight idea of what it takes to make provision for the large store of honey brought in by these little insects, we are informed that it cost this gentleman the large sum of £40 last year for tins alone. Mr. Pollock took a number of his colonies over to the Brushy Mountain last season where he obtained splendid results from them. He contemplates putting out two this season, one at the same place as he did last year, and the other at Bungay. Provision is now being made for a large honey house, which is very necessary. During our visit to the Hardknock's Apiary we were given a large amount of useful information with reference to bees, which will be published from time to time. The owner of this well-known apiary and his good wife are always pleased to show anyone interested what can and is being done with bees, and do all they can to make the visitors most welcome. Mr. Pollock took fifteen tons of honey last year, which went at a good price in the market. He speaks enthusiastically of the success of his venture, and points to his establishment as evidence of what may be accomplished, under somewhat untoward circumstances, if a man will only "put his shoulder to the wheel." We cordially wish Mr. Pollock further success.—*Wingham Chronicle.*

thing as to its real value, then insist on getting what it is worth.—Iowa Homestead.

CORRESPONDENCE.

C. A. L., Tenterfield:—I must say you have made giant strides since your first issue and the A. B. B. is now a reliable and valuable friend to the beekeeper. Trusting you will continue to prosper.

E. L. W., Windsor, Sep 2:—I left the supers on some of my hives all the winter and on opening them during the last few days found them quite full of honey. The bees have been working every fine day all through the winter.

W. F. H., Frogmore, Burrowa, 4th Sep. I opened my hives for the first time to day and although they have plenty of honey left from last season, together with a little new, also sealed brood and even young bees; they appear to have dwindled considerably during the winter.

K. R. D. Red Hill, August 28th, Just a line to let you know that I am still in the land of the living. My bees have come through the winter in great style; they have been making honey all the winter. Most of the hives are chock full at present, I hope to have a bit better season this year than I had last.

R. H. Jervis, Moss Vale, Re Crumbs (page 86):—Australian Yankee's opinion re prolific queens are opposed to that golden rule of keep your colony strong for the best possible results. I have a great number of nuclei; if I have surplus made for same according to A. Y. I will get more honey than from full colonies. The best way to transfer from box hives; wait till bees are gathering honey and weather warm; then turn box hive upside down, set frame hive over same with a frame of brood in same, get queen and part of bees in same, then place excluder between the two and have the bees hatch below, they will move up above and in a week take box away.

E. B., Cundletown, Sept 10th:—Thanks for letter and advice. I discovered that it was Foul Brood, as it

made its appearance in two other hives which I destroyed before receiving your reply. I lost thirty colonies with the same disease two years ago; you may judge my dismay when I saw it again. As I could not detect the Foul Brood odor and the cappings were not perforated, I was hoping that it might be chilled brood, therefore sent you sample. The whole of my trouble is due to careless neighbours. They are around me men with two or three colonies, some in gin cases who tell you they have no time to bother looking at their bees. When are we to have "Foul Brood Act?"

H. St. J., Telegraph Point, August 16th. 1897.—Although I am one of those wicked bee men that require no foul brood act but only wish to be left alone without the inspiration so many seem to wish for, I think the bee men are making a rod for their own backs. My bees came through the winter in splendid style we had a splendid time last summer and it looks like another good season coming after a very mild winter.

E. B., Cundletown, Aug. 27th, 97:—Per same post am sending sample of brood comb. Kindly let me know by return post whether it is Foul Brood.

It is decidedly Foul Brood, though we do not think of a very malignant character. Some of the cells have dead larvae, some dead bees. The brown stringy appearance was only in two or three cells. We have always had an idea Foul Brood originated from chilled brood. You might let us know the past history of the hive in reference to the latter. Cure by giving fresh starters in new hive, repeating the same again in four days, then hiving or melting down all old comb. Put queen excluder on entrance, or cage queen, else bees will swarm out.

A. McL., William Town:—There is every prospect of a good season for honey in this locality. My bees have wintered splendidly, no losses whatever, in fact they have stored honey already. The frames are literally packed with brood and eggs. I have 68 colonies all pure Italians, have had no trouble yet with any kind of disease. I attribute the cause principally to prevention of inbreeding. I think if beekeepers would be more careful in that respect there

would be less diseases among their stocks. Could you give me a recipe for making dark honey a light colour without using any injurious ingredients, don't put in with the adulterating click, for I don't move in that society. But I would like to know if there is a way of doing it without using any injurious chemicals.

The only way we know of is to mix it with light honey. Place the two in a strainer and let them fall through it in to a vessel below.

T. E., Muswellbrook, Sept. 13th :— I have recently bought the Ayr Creamery at Muscle Creek (8 miles from here) to where I intend removing my bees as soon as possible. It is a fairly good bee district, plenty of good timber, mostly Ironbark, Box, and Spotted Gum, and it is my intention to devote all my time to them or at least as much as the foresaid creamery will allow. In ancient days "Milk and Honey" was synonymous of all that was good, therefore Cream and Honey should be one better and butter and Honey better still, but Mr Editor if you pay me a visit you will have to bring your own strawberries (cream will be provided). At the present time there is no garden on the place.

Hear hear, every success to you. We will have to spare a day or two in your neighbourhood before the year is out.

A. Ayling, Dubbo.—You will be interested to know that the apiary at Pitt Town is not broken up, but is to be worked on shares by a pupil of my father's. By present appearances we are likely to have a much better season than last. The bees have been storing all the winter and the queens are now breeding fast. I had occasion to open a hive on 20th July, and found it full of bees with L. frames of brood and as many drones as there would be in summer time. Could you get an article from an authority of preparing and packing honey (comb and extracted) for market, also would it be possible to publish reliable quotations of market rates over the names of the buyers and commission agents as is done in the American bee papers. The quotations in the Sydney papers are useless as they are very seldom changed, and even then no one

knows where to send honey to. Could not a special column be kept, and agents induced to advertise.

We will make packing, &c., a question next month. Re prices, wait and see what will be done by the N. B. K. A. re Co-operation.

F. L., McLaren Vale, S. A.— I have a colony of bees the drones of which are a bit of a curiosity ; they are the size of an ordering worker, with drone heads and worker bodies with stings. There are odd ones that are just like a drone only smaller. They do not live to be any age for just about as soon as they are hatched they either crawl out of the hive or the bees being disgusted with them pitch them out neck and crop to die, for I have some times found from 30 to 40 crawling about the entrance of the hive. It was like that last season and it is the same now for there are drones hatching and I found them like that a few days ago. This is the first colony I have seen that way. What do you think of it Mr. Editor, are we going to breed drones that will sting. We don't want to do that for the workers do that fast enough. I might say this hive of bees is fairly strong and very good workers. It don't seem to make any difference to it only the drones are a failure.

This a puzzle to us. Perhaps some of our readers can tell us if drones from laying workers sting? The hive being strong would seem to speak against working layers in the hive, otherwise we just put it down to that. Have you seen the queen?

I. H., Trongie, 11th August, 1897 :— Can any of your readers tell me if (1) pollen is necessary for the rearing of young bees ; (2) Do the *queens* continue to lay when honey is coming in fast but no pollen to be procured ; Also (3) what is the proper temperature to be maintained inside the hive during the summer to be conducive of the best results ; (4) Give me advice of the best means of getting the queens to lay early in the spring. I am right into spring here — rose trees in full leaf. But my bees are still weak. When I brought them up here last February I got several cwt. of honey, but the queens left off laying and the colonies became weak.

What was the cause of the queens (5) discontinuing laying? Can you say? Plenty of honey but no young bees and all young queens.

(1) Pollen is decidedly necessary for the rearing of young bees. (2) All flowers that produce honey also produce pollen; it is Nature's plan. The attraction of bees to the honey causes the bees to fertilize the flowers by taking the pollen or male seed from one flower to another. (3) If you have the top of your hives rainproof and a good wide entrance you need not trouble about the temperature, the bees will see to that themselves better than you can. (4) If there is no honey or pollen coming in give them artificial pollen in the shape of pea meal or flour. Roses are not of much account for honey or pollen, if the bees have to depend on them you will not get much stimulant. It is well the queen should have a winter spell from laying. Spring is however early yet, so do not be downhearted.

G. S. H., Cootamundra,—There is not much to relate in the bee line. If our experience are to be similar to that of the Americans, we are not likely to have a very good season. A recent writer in the A.B.J. says that his experience after a number of years careful observation, has been that for poor honey flows succeed when the previous season has been dry and *vice versa*. Although a good number of beekeepers in this district we have not yet managed to form a Beekeepers' Association. But should the coming season prove encouraging, I think this end will be accomplished, as the matter is now freely talked of. Our Show Schedule Committee have allotted the magnificent sum of 10s to the encouragement of apiculture, and 10s to the best made hive. This however is a matter for the beekeepers to see to. In past years we have had good apiarian exhibits. In future we hope to see a representative to the Conference from this district, appointed by the beekeepers. Although it was very kind of Mr Kendall to represent Cootamundra, notwithstanding that he resides in another town some 16 miles from here. The winter so far has been open, bees doing a little brood rearing, and some little honey coming in, but we have not had sufficient rain to assure a good box bloom.

H. W., Leadville, 6th Sept. 1897:—

Under separate cover I am sending you a little box containing an insect very like a "Cock-roach." I have noticed them on top of the frames when I have taken the lid off my hives, they are very quick and run away among the bees who do not seem to mind them at all. The most I have seen at a time in a colony are five. They are lighter in colour than cock-roaches. I find the best way to catch them is to put paper over the frames, and when you open the hive lift it up quickly and these insects will be on it. So far I have not been able to tell whether they hurt the bees or not; the five that I saw were in a box that had lost their queen and were getting rather weak, but I have seen them in strong colonies too; perhaps you can tell me more about them. With the exception of the queenless hive all my 16 colonies are exceptionally strong and the top boxes so full of honey that I am going to extract next week. I take a great interest in the A. B. B. and get a lot of useful information from it. I find there is nothing better than a good thick sward of grass to keeps the ants from troubling the bees. I flood it with water occasionally. There is every prospect of a good season up here and I hope you will have the same.

We have often seen these small cock-roaches in our own hives, but not in really strong swarms. We cannot think they are bee eaters, only feeding on wax, &c. Perhaps some of our readers can tell us more about them. That about keeping ants in check by means of a good sward of grass is very good and to our thinking original.

E. J. Rein, Wyee, Aug 20th, 1897 writes:—I was unable to get to the Convention but hope to be free by the next to take a more active part by the time the next one comes round. I gave a lantern entertainment on Bees at Catherine Hill Bay (I have a set of slides) which was much appreciated. I put in a word for the A. B. B. which I always do. There are several Beekeepers about that locality, one going in extensively, named Beauchamp. It is a mining township. The lecture opened their eyes, they never thought there was so much in

bees. I have had misfortune with my own bees; some one that did not know better or I should say "did not want to" robbed my best queen of honey brood and all, resulting of course in her death before I could get her fixed up again. I also had a strange experience with a bee and which occurs once in a very little while. After half a days work to lose the was not encouraging. I will now have to practically make a fresh start and with black bees until I can afford a better queen. I agreed with your notes on advertising. What fools men are, they have a thing to sell and they keep it to themselves. I wanted a queen some time back which had been advertised in your paper but the man's name was gone, is he dead? I asked and I searched then for others I found but two or three live Beekeepers in N. S. W. How am I to know what a man has to sell, if he does not advertise it. A note about that cookery book I got from you—my wife finds the receipes really good and recommends it to her friends. Well I have had quite a ramble. My rambling days were nearly closed a week ago. I got mixed up with the sea and rocks; I came off with a battered face by the mercy of God—no serious injury. With kind regards from self and wife.

Sparrow writes:—As extracting time is coming round I should like, sir, to ask would honey be injured by storing in galvanized iron tanks. I ask the question because it might be more convenient for some of us to store at least temporarily in galvanized iron vessels. I see that quite a number have taken exception to remarks by Sparrow in your June issue. Well just let them compare the articles complained of with, say, those by Australian Yankee, and the answer is obvious. I think they will agree that it would be much better to let such writers as Australian Yankee occupy such valuable space. The ideas thrown out in either of those articles is worth a year's subscription while bushels of such matter as Sparrow complained of would not pay for reading. Nearly all who get the "Bee fever" make in my opinion two mistakes;

first they advise all their friends to go in for bees, and second by they have a desire to write and tell all about their bees. Prospects for coming season look A. 1. although the best is very poor in comparison with most other districts. If some of those beekeepers dont cease telling about their 200 and 300lbs per hive they will some of those mornings find Sparrow just outside their boundary fencepegging out a claim Why an average of fifty lbs would be a big yield here. However, may every one have a good season is the earnest wish of the Sparrow.

H. M., Glenrose, Victoria:—The "Italian" or domestic bee is unknown to me at present. If they are as ready to meet a stranger half way, and give him a warm welcome, after the manner of the common, or garden variety of bee, all I can say is, that it would take a team of bullocks, to drag me up to a hive full of them. There is no person that I am aware of in this part of South Gippsland that keeps bees in scientific hives, or any thing of that sort, unless it is ——— of Alberton, (14 miles from here) who about 5 years ago exhibited a large jar of extracted honey at the local Show. He is a very old man, and I have no idea if he still has the bees, or if they were pure (Italian) bees that he did have. This is purely a pastoral district, very little cultivation being done, fattening cattle, and dairy farming being the principal industry, the land being nearly all reclaimed forest country, there is still large areas of bush, and forest land (unrung) in the district, but the forest trees—narrow leaved blue gum, white gum, yellow string bark, messmate &c., blossom very rarely. There are plenty of scrub bushes that are flowering now, wattle trees (silver) are now in full blossom, and the blackwoods are coming out; they must be splendid honey trees but the flowers do not last long, and the trees are only found among the ranges in the gullies, the Pitosporum (wild orange) also found in the gullies, is another good tree for bees; the sweet smelling white flowers, always attract the bees especially on a bright day. Down

towards the coast, there is a good deal of poor land which is covered with heath, honey suckles, and hundreds of acres of ti-tree. About 12 years ago almost every selector had a few boxes of bees, now you scarcely find a person with any bees, I do not know the reason, the boxes were mostly robbed late in the season, and the bees generally died, That may account for it. They used to get fresh swarms in the bush, in the Spring to replace them, but of late years, swarms are very scarce. There is plenty of bee food here for a few months in the Spring, but very little in the summer, and nothing in the winter, which is very cold and wet here. The only honey sold in the district is got from trees in the bush; there is none obtainable at the stores, only jam, golden syrup, and butter 1/6 a lb at present.

Dear Sir,—At your request I am sending you a little bee news, you know I live at the extreme South of Tasmania a very wet, but not cold climate, a splendid place for bee forage every thing comes out in rotation. From the middle of July till the end of March I have never known bees to want. Our best honey is from the Pinkwood, a tree which grows from 40 to 50 feet high and from one to two feet in diameter. It is in bloom from the middle of December till the end of March, and that every season. I have never known it to fail. I am sending you a sample this mail; which has been bottled up twelve month. Please let me know what you think of if in your next issue. Some seasons we get a lot of honey from the stringy bark but not every year the honey from them is very dark. We have the Myrtle or Tasmania Beach, Iron Bark Teatree, Sassafrass, Horizontal, Box, Peartree, and Wattles, and Dogwood. These although the same names they are quite different to what you have in N. S. Wales. The Blue gum also grows to perfection here, (or rather in the Southern part of Tasmania. There are none to speak of within a couple of miles of us.) I will be glad to give you prices of honey in Hobart or any other information about our climate, forests etc.

I received *Bulletins*, all right and was very pleased with them. Re names of beekeepers. I don't think there are half a dozen in Tasmania. I have no bee keeping neighbours within 46 miles of me except Mr. C—— at Port Esperance 25 miles away.

Sample to hand somewhat thin but most beautiful flavour. What was in the bottle before? We will be glad of these prices.

CAPPINGS.

2d a lb duty was placed on honey imported to New Zealand in order to keep Californian glucose honey out of the colony.

If the queen is yellow and of pure origion, her drone son will be of the same type, just the same as a black queen of pure origion, her drone sons will be black.

N. E. Frances, the Wisconsin F. B. Inspector, says:—"I find many Wisconsin bee-keepers who did not know their bees were diseased, and nearly every case is where they do not take a bee-paper." May be one section of a foul-brood law ought to compel every bee-keeper to take a bee-journal.—*Gleanings*.

Dr Miller says there is no better way of managing after swarms than the old box hive plan of returning the swarms as often as it issues. One of the best plans is to hive the swarm on the old stand, set the parent colony beside it, then set the parent on the new stand a week later. He also says:—"A common opinion seems to be that, when you take away a queen, the bees in their eagerness to replace her makes use of larvae, so old that a good queen can not result I'm sceptical. In hundreds of cases that I have observed the queen rarely emerges before the eleventh day from removal of queen, making the larval only one or two days old at time of queens removal.

Mr. A. W. Fisk, addressed the Californian State B. K. Convention on behalf of the American Fruit Growers' Union. He said the Union accomplished the equitable distribution of the produce of

its members all over the country; that they had 22 salaried agents, each under 500 dollars bonds, who kept them informed of the condition of the market at all points, so that they never sold to a glutted market. Ten per cent. commission is charged. Individual shippers obtain a rebate of 2 to 4 per cent. They wish to take up the honey question, having had many demands for honey. To illustrate the unequal distribution of produce, Mr. Fisk stated that Denver has 160½ per cent. of fruit to population, Chicago 113 per cent., and Philadelphia only 8½ per cent. What the Union does is to sell to customers in Baltimore, for example, at the same prices as in New York.

The editor of *Gleanings* says:—The glucose that is ordinarily used for purposes of adulteration is hardly fit to put into the stomach of a pig, let alone that of a human being. A few years ago, in testing samples of glucosed honey I made myself sick, and it took me nearly a week to get over the effects of sampling the "vile stuff." It was nauseating, to say the least; and even now it brings to my mind the horribly nasty taste that clung to me for days after tasting it. I grant that there is a glucose of very fine quality that does not taste bad; but we seldom find such used as an adulterant, because the cheaper grade when put into honey looks just as well and fools the uninitiated just as easily as the better grade. You say further, that glucose is a "legitimate article of commerce;" I don't know how you make that out. If glucose were not used for adulterating syrups and honeys it is doubtful if there would be a glucose-factory on the continent. It is true, glucose is sold in bulk for what it is; but to whom, pray, does it go? To the mixers, who will put it into syrups and honey, cover up its identity, and who will name it either "pure maple syrup" from Vermont or Ohio, or "pure farm honey," etc. If glucose is to be ranked as an honest product in the sense that honey, flour, and meat are, why do we never see it advertised in the general run of papers? In common market quotations it is never

mentioned. Is not this fact alone enough to convince any one that this stuff goes directly from the factories into the vats of those who mix it with the product of honest labor to rob the farmer to just the same extent they enrich themselves? Did you ever hear a grocer recommend an article because it contained glucose? Does he not always carefully conceal that fact if he can? It signifies nothing to say that it is a legitimate article of commerce. I have been told that glucose has been used to preserve dead bodies; that, when immersed in the "vile stuff," said bodies will keep indefinitely. There are other "vile stuffs," such as alcohol, etc., that have the same property. But alcohol has a few legitimate uses; but glucose, beyond the possible one mentioned, is used first, last, and all the time for cheating and defrauding, unless when it is used for making beer or spirituous liquors. I will grant that the sugar of glucose is chemically identical with the saccharine matter of honey. Chemically the diamonds in the British crown are identical in substance with charcoal.

G. M. Doolittle, says in reply to a question:—Would not a queen-cell hatch about to hatch, or a virgin queen, introduced into a hive immediately after its colony has cast a prime swarm, prevent after-swarmling by the young queen tearing down the cells before they were ready to hatch? In nineteen cases out of twenty, if the swarm is hived on a new stand the cells will not be torn down, and not once in five times where the old colony is removed to a new stand, the swarm being hived where the old colony stood—at least, this has been my experience in a practice of nearly 30 years. The bees do not want those cells torn down, for in them is cradled the choicest thing they have—that which they valued more than they did their own dear mother, and that which sent her out from her own home to seek a new one in some strange land; and if they considered them better than their own mother, are they now going to sacrifice them for any stranger, one on which they had bestowed no care or wish? By no means, only a

they are forced to do so by being thrown out of a normal condition by having all of the field-bees drawn off by a removal of the hive from its old stand, or by the apiarist cutting off all of these queen-cells. And even in this latter case they will often kill the virgin queen given, or destroy the cell, preferring to rear a queen from their own sisters in the egg or larval form, which still remain in the hive, rather than to accept a stranger.

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The Government Botanist furnished the following name:— *Leucopogon muticus*, R. Br. Natural Order—*Epacridae*. D. C. McLACHLAN, Under Secretary,

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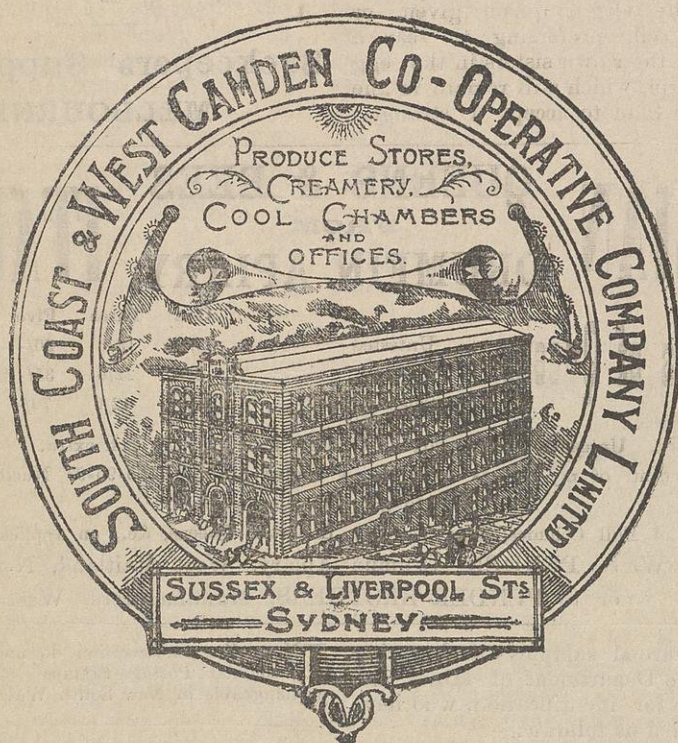
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Mr. W. J. May, Parawai, N.Z., writing to Mr. E. Tipper, editor of the *A. Bee Bulletin*: The Best Imported Queens of last season are those I got from A. J. Brown, Parkville

Mr. W. Reid, Boloko: The Brood Queens I got from you have proved all that can be desired. The Golden produces evenly marked first-class workers and real active drones. The Leather is the largest and most prolific Queen I ever saw, her young Queens and workers are first-class.

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