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The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—JULY 28, 1898.

WE would urgently appeal to the beekeepers of N. S. Wales to take greater interest in the National Beekeepers' Association, particularly those who follow beekeeping as a means of livelihood. To such there are many things that give trouble and annoyance: The very low price of honey; difficulty of getting markets; bad name our honey has got in foreign markets; ringbarking; disagreeable neighbours at swarming time; dilatory agents; diseases; the want of council and advice on this and that matter. These are matters the committee of the N. B. K. A. should be always alive to, and if so, every beekeeper in the colony should be ready with subscription and good words to back them up. Does this state of things exist? On the one hand a small band of earnest workers have striven year after year to carry on the work of the N.B.K. A., and have met and successfully fought battles for beekeepers as they have cropped up, to their own individual loss of time and money. On the other hand, with a few exceptions, are a most apathetic body of people, who would take advantage of a cheap trip, as to Bathurst, sell their honey at any rate they could get, and let the world slide, without any effort on their part to improve things, or help those who were trying to better them. Perhaps even a few, for some selfish object of their own be-littling the work of the few workers, who were thus not supported financially, or any way received the encouragement they deserved. The N. B. K. A. new committee have been elected. We ask our readers to glance through the names of the committee, read the annual report, urge their local associations to affiliate,

or else send their annual subscription of 5/- to the Secretary, Mr. J. D. Ward, 129 Pitt Street, Sydney. It is a duty they owe to themselves as well as their fellow beekeepers. What kind of a man is he who would let others work for him without lifting a finger to help himself?

Rules of the N. B. K. A. will be published in our next.

Live bees can now be forwarded to and from Great Britain by post.

Mr. W. S. Pender invites discussion on his paper on "Drones."

Frames all one kind in an apiary are of more importance than hives of all one kind.

Honey should never be kept in a damp place. It draws moisture, which causes fermentation.

Honey dissolved in warm water has been stated to be a great relief in case of scalding or burning.

Both in America and in New South Wales far more hives are being sold this year than last. Query—How will prices of honey run in future?

An English publication called *Answers*, gives the following valuable information—"Honey will turn to wax if left untouched for some time." Who'd a thought it?

No. 6 of the *Bee Master*, to hand. Mr. Hewitt, the editor, complains of great injustice done to him by the British Beekeepers' Association, including Mr. Cowan, and also lays blame on the Baroness Burdett-Coutts, the president of same.

Mr. George Bloxham, the worthy treasurer of the N.B.K.A. has passed over from the bachelors to the benedicts. He is a worthy fellow, and we are sure every beekeeper who knows him will wish him and his life partner all the happiness this world can afford.

HONEY LABELS.

We do all kinds of Honey-label work in one or more colors. Beekeepers' Catalogues a specialty. Send for prices and samples.

Mr. George Kelly, of Dungog, was at the convention. He informed us that last year, his hives (30) averaged 500 lbs each. We also had the pleasure of meeting Mr. Peterson, late of Wattle Flat, who still persists that one year he secured an average of 750 lbs per hive. We wish we could do something like it ourselves. It would atone somewhat for low prices.

Mr. W. S. Pender has given two readings in the West Maitland Town Hall, under the auspices of the local Agricultural Association, on beekeeping. At the second one, in reply to the question:—Is beekeeping over done? He replied, I emphatically answer no! We have a large export market awaiting for supplies from us when we can produce more than sufficient to supply our home market. Statistical returns show us that the amount of honey produced does not reach 4ozs. per head per annum of the population of New South Wales. Who can now say the business is overdone, when we have not developed the markets in our own colony?"

Being under the impression the disease among the bees in the Inverell district was caused by rust in wheat. Mr. Penberthy sent a sample of the pollen to the chemical laboratory. The following is the reply:—

Chemical Laboratory, Department of Agriculture, George St., North, 20/5/98, F. W. Penberthy, Esq., Dear Sir,—I must apologise for delay in replying to your letter of 27th April. As far as I can judge the red substance you refer to consists of pollen and does not contain spores of wheat rust or other fungus disease. At the same time I would prefer to get the opinion of someone more competent to pronounce on this subject than myself, and consequently forwarded the sample to Dr. Cobb, our Pathologist. Unfortunately Dr. Cobb was unable to attend to this matter before he left the colony, and to-day your letter has been returned to me. I shall send the sample of comb to Mr. Blunro, who has more experience of fungus disease than myself. You will hear from him in the course of a day or two.—Faithfully yours,
F. H. GUTHRIE.

WORK FOR THE MONTH.

HIVES.—As at this season of the year, the best work that can be done in the apiary is the preparation of hives for the coming season, a few remarks on same may not be out of place. A great many beekeepers have started their apiaries, with what they considered the best size or shape of frames and hives, without any reference to what others were doing. Where a number of hives and frames have been thus manufactured, it would give a great deal of trouble and expense to re-hive and re-frame a whole apiary. A few suggestions however, may in such cases be acted upon. A thick top bar prevents burr combs, also prevents bending in the centre and possibly breaking of combs. A wide top-bar is also an advantage in a good flow. Our experiences with narrow top-bars is the bees will make the comb no wider than the top bar; a broad top bar induces a fatter comb of honey, and we prefer to extract from the latter. Funny—Mr. Penberthy uses a narrow top bar, $\frac{1}{4}$ inch thick, edgeways up, slid in between cuttings in the side bars. The bees, however, make fat combs. There are many ways of self-spacing: The Root-Hoffmann frames have the upper portion of the side bars widened to about $1\frac{1}{2}$ inches, one edge being flat, the other pointed, the two meeting, the one being pointed prevented them being propolised together; others use tacks in the side of the bars to justify the spacing; self-spacing frames are very useful if hives are to be moved about. Many are not particular about self-spacing, trusting to judging distances apart by the eye and fingers. In a ten-framed hive they would have ten frames in the bottom box, with nine or eight only in the supers. The nine in the supers allow the bees to make fatter combs. Mr. Flood tells us he is going to try seven frames in the supers. We think it will be a mistake, as instead of fattening them to that extent they will build brace combs. Whatever you do leave a good bee space between bottom of your frames and the bottom board. There is a great advantage in having adopted the standard Langstroth frames, as it is that mostly made by manufacturers of bee goods, and the quantities they make both of hives and frames, enable them to do so at perhaps no more or less than the individual beekeeper would have to pay for the wood alone. Some frames, such as what is called the Heddon, have full side bars, that is, the side bars are full width from top to bottom, and pressed together with a screw, are capable of being lifted in one block, the tops and bottoms having narrow bars. They are also shallow, only half the depth of the Langstroth frames. The advantages claimed for them are: you handle the hives, not the frames, and without too much meddling can see the condition of the hive, amount of brood, queen cells, &c., also by reversing, or turning upside down, you cause the bees to complete the combs more quickly,

also prevents swarming by destroying the queen cells as they are turned upside down. Read Mr. Bolton's article on another page. The Munday frame has the top bar full, narrowing at the ends only to allow the fingers to take hold in manipulating. To have full sides of frames, as the Heddon, or tops as the Munday, must have a wintering advantage in the solid wall formed whether of side or top. Care however need be taken to avoid killing bees. The self-spacing Root Hoffmann frame, while sufficiently self-spacing—about two inches—to answer all purposes, avoids the killing of bees.

Re wiring frames, some do so horizontally, others perpendicular. It depends much on the style of frame. The shorter the lengths of the wire the less will they stretch and loosen. Now as to hives. Much discussion has taken place re the eight or ten framed hives. In a district where heavy flows are the rule we prefer the ten frames. The eight frames might do in a poor honey district, but otherwise it would require watching to put supers on in time to prevent swarming. Possibly in winter when the bees cluster to a small space it might be more snug than a larger hive, though a wooden follower might in the ten frame hive keep them quite as snug. Another style of hive we might mention, the Long Idea. We have tried several, all however with the entrance at end. This, (we using the full sized Langstroth frame, and the hive being for 20 of them) to a person not having long arms necessarily causes side working, which is not nice. If the entrance was in the middle of the side it would be more convenient. As a rule the brood is spread too much in them. In a honey flow there would be a great quantity of honey, but none takeable, as there would be brood in every frame. In a large apiary a few would be an advantage, as you would always know where to get a frame with brood in to strengthen a weak colony. Mr. Peterson of Wattle Flat, and Mr. C. U. T. Burke, of Lyndhurst, report having used Long Idea hives with success. We will have to get some idea how they work, and the kind of long idea they use.

This is one of the best months for removing apiaries or hives, and the re-arranging of the latter, if desired, the swarms being now small. In removing apiaries see that the frames are fixed up so as they cannot shift. This may be done by wedging bits of wood between the tops of the frames, if such are not self-spacing, or strips of thin wood or tin tacked across the tops of frames over a sheet of wire cloth. In warm weather the cover may be left off, but we would not recommend it in cold weather. See however there is plenty of ventilation. This spacing may be done in the day time. Also the fastening of the top, bottom and body of hive together by means of strips of wood, or what is known as Van Deusen clamps, which latter can be had of any supply dealer. Then at evening time,

when bees are all at home, all that remains to be done is to close the entrance either with wire cloth or perforated zinc. The former may be previously fitted on a thin strip of wood, so as to need only the driving in of a couple of tacks, and so enabling it to be done quickly and not let the bees have the chance of coming out to sting you. Where box hives are to be removed the best way is to turn them upside down, putting wire cloth over the bottom (now top.) If the hives are to be conveyed in a cart or waggon they should be so placed that the frames run cross ways of the road. If in the railway train the frames should run parallel with the line. The reason for this, is in a waggon or cart the greatest oscillation is from side to side; on the railway the "bumps" go "forward" or "backward." Where hives are shifted to distances a mile or less, many bees will go back next day to original stand, and it will be well to put a spare hive to catch such. Much of this can be prevented by removing bees late in the evening, and placing in front of the hive some obstruction so as to cause them to particularly note the location. There is bound to be some loss of bees in removing, but as they are old field bees and gradually dying off, the loss ought not to be more than the gain desired to be accomplished by the removal. Having been from home much during last autumn, when swarming came on unexpectedly, our apiary was somewhat out of lines. We lately rectified it, putting them all (175 hives) in proper lines and diagonals. We put down the loss of three queens to such shifting. For loss of bees, a great distance in removal, if bees are carefully packed, gives a less percentage than a short distance removal, and we have seen, where a few bees have escaped, their following closely to their hive for quite a long distance.

NOTES.

BY LOYALSTONE,

LIQUID HONEY AT SHOWS.—I think I made a mistake when I said the sample of honey at shows should be drawn from a bulk of two tons, as many beekeepers would not have that amount equal to sample, and so they would be debarred from showing. At the same time, I think there is a lot of "trickery" done with honey got up for show. For instance, what is to prevent a man (perhaps not a beekeeper) buying up first prize honey, and exhibiting the same at other shows. And if he is a beekeeper who buys it up, after touring important shows and gaining first prize

at some or perhaps all of them, he advertises it and so sells all his inferior honey. Once a man gets his name up for honey, it takes a long time for him to lose his reputation, unless he sells rubbish altogether. A good way to stop this would be for the honey to become the property of the associations, the exhibitors to receive full market value for their honey.

WORKSHOP AND HONEY HOUSE COMBINED.—Many beekeepers are often puzzled how to start their honey house—how to build it. Well, I propose to give you a description of a building that will suit all purposes, being cheap, and a building that will last a life time. First of all, build for a workshop, a building 16ft square composed of oregon pine studding, 2ft 6in apart; instead of weather boards, use thoroughly seasoned $\frac{1}{2}$ inch baltic pine. The building gable end with iron roof, at the northern side you want a window (size to suit yourself,) at the southern side you have your door 3ft wide. This size of building is quite large enough for a workshop. Now on the western side of this building you place a skillion 8ft wide and 7ft 6in high at the lowest side, close the sides and one end in with weather boards, closing up the other end with a strong batten gate with a strong padlock attached. This skillion building you use for storing away the timber you use for making hives, frames, etc., likewise empty hives and hosts of other things connected with an apiary. You need not floor this place nor the workshop, as a ground floor suits just as well. Now on the eastern side of your workshop you build a skillion 9ft wide and 8ft high at low side, roof with iron. This skillion is for extracting, storing honey, wax extracting, etc. You need this skillion weather boarded all round, with window on eastern side, and one on northern side, door to be on southern side. You make this building bee-proof, floor it with hardwood flooring. Around the two sides and northern end you make a strong bench 1ft 8in high. These benches are to place your honey tanks on. You make the benches wide enough to suit whatever size of

tanks you use. About the centre of this skillion you have a small Dover stove, cost 30/-, which keeps a good heat, and well ripens the honey in summer time, besides being handy for hot water at extracting time, also for wax extracting. Close to this stove you make a stand for your extractor so that a bucket can be placed underneath to run honey out as extractor fills. This kind of building is suitable for home apiary of upwards of 500 colonies, and the cost if you build it yourself, will not be more than £35. But just according where you live, timber may be cheaper dearer. You might ask, what about ants in honey house? Well my reply is, always have a pot of "Loyalstone's ant-destroyer" on hand, and ants won't trouble you. I may mention the height of the wall of workshop should be 9ft. Should any beekeepers build according to description of this building they will find it suits all purposes to a T.

COVERING OF FRAMES UNDER COVER.—I have often thought that perhaps we take too much care of our bees in the winter time, "molly coddle" them too much and make them a bit delicate for the spring. Bees in a nice home like we give them, should be able to winter through without any help from the beekeeper. Who knows, but that sometimes we may do more harm than good. My reasons for so thinking is that I have observed bees nests in the bush that have been in the same tree for years, and their entrances large and exposed to all kinds of rough weather; they have no bagging, no paper, no linoleum over them to keep them warm, and yet I notice they are flying strongly in the early spring, some times much stronger than some of my strongest colonies. I wish a few beekeepers would take this subject up, and discuss it well through the medium of the A.B.B. It is the moth that destroys most bush nests, not disease. I think apiaries are responsible for spreading disease among bush nests. So I close by asking again, Do we not "molly coddle" our bees too much in winter time?

THE NEW MANAGEMENT.

No. 3.—CONTROL OF SWARMING.

T. BOLTON.

Or perhaps it would be more correct—seeing my system permits of no *natural* swarming—to say “control of bees at swarming time.” How this may be secured and no less important *maintained*, during our often prolonged swarming seasons, I shall now endeavour to explain.

About the end of September in my district, colonies that have wintered well should be occupying two cases with brood and as soon as honey commences to come in at all freely, there will be a rapid extension of the brood nest, and preparations for swarming, and the earliest swarms may be expected, if allowed, to come off about the middle of October, and swarming be in full swing all November, on a lessening yield as Cape weed dies off; and when red gum opens and yields heavily, swarming seems to be given up. So much for local features, and bees as directed naturally here. About the first week in October, or two to three weeks before natural swarming begins, an inspection is made of each hive in consecutive order—the hives I must here explain usually all enter upon winter about the same in size and number of cases, and have their supers left on till this period usually, though some seasons where fear of starving necessitates an overhaul in August, they are then removed from the weakest colonies. But I would prefer not to remove them if in a diseased country, till the general hatch of two or three batches of brood made the existence or not of disease in any hive certain—these matters however, are extra to my theme. To return to the first October overhaul, the main end of this is to get a knowledge of the strength of each colony, and to make this *manifest* to a glance by outward variation in their size, that is by their having one, two, three, or four cases. Instead then of an apiary as early in the day to outward appearance, uniform in size, at the close of this day's work it will consist of boxes four and five story high, down to those of one story, the removed empties being stacked here and there ready for use as required shortly. In a diseased apiary this plan would have to be substituted by one of “notes” as to the strength of each preferably on the lid, but the “size” indication if I may so style it is far preferable. When rapidly inverting and swarming an apiary one has cases of brood to distribute there is no waste of time looking up lid or book notes; at a glance it can be seen where to place the case at disposal to advantage. So far there is nothing in this peculiar to my system of Control of Swarming. If I let my bees swarm as of old these features would apply. (By the way with a hive like the ‘long-idea’ one cannot adopt this “size” indication plan.) When making this (which I shall call first

round or visit) any colony occupying fully two cases or over of brood, have these cases separated and a glance along the bottom bars of the frames taken, and as the cases were laid back they were turned upside down—the bottom bars thus becoming top, and the spherical shaped mass of brood spread into a shape resembling roughly \sphericalangle say two saucers placed bottom to bottom. Now this manipulation occupies just about as long as it takes to raise the lid and remove the quilt and super, but no frames from a Langstroth hive, no longer; and by it we secure the abandonment of any young queen-cells that may perchance have been started in any hives. There has been no frame handling to accomplish this, nor any time spent to find out particularly whether there are cells, for this reason that if there are *not* the inversion of these hives (containing colonies well forward as I have said, and able to stand it and profit by it) is a good thing in its other results of brood spread, and frames built out solid all round to wood, and if there are *young* cells, well the inverting destroys them, and so—as will be obvious—all our colonies are made to start, with regard to swarming, on the *same footing* that day, that is to say none can have any new queen cells they may start, even if commenced that day, sealed before a date nine days thereafter. “What is the beneficial result of this?” some may ask who have not even yet seen, as Mr. O’Grady puts it “what I am driving at.” Well, I can leave that, say out apiary, perfectly satisfied that no swarms will issue before I call again 9 days later, so I am free to spend the intervening time in other apiaries, and so enlarge my business and out put. It means at home apiary, that a man who would otherwise be spending half his time looking out of the door, and round the trees, etc., to see if a stray swarm was out, can for 8 days settle down to work or worship at ease in his mind. But let us imagine a man with the L hive say, desirous of having these 8 days similarly free from swarms, or desirous of having an out apiary, and yet not have to pay for an attendant at it, to watch for and attend to swarms. How can he secure the same security? This comparison is to my mind so important that at the risk of repetition I must point it out. He can proceed as in my last article, by Mr. Atkin's method of dequeening—fancy dequeening when we want the queens to do their very utmost, “that won't pay” voice all my readers—or he can invert in traps of many descriptions to catch his swarms, or duplicate his hives for some plan of *self* hiving side by side style, equally expensive, and I fear so unreliable that he would not feel very much at ease as to swarms; or he can adopt the plan of E. France, referred to more than once, of carefully hunting over all brood frames and destroying one by one every cell. Now if one grants for a moment that this is a sure means of preventing swarms (which I can later on show

it is not after the first time, and even then one would feel misgivings as to having missed one or two in the course of a day's work,) still it takes such an expenditure of time that whilst I could invert and be positively sure of 150 divisible hives, in the same time I could possibly make my way through 50 L hives of equal strength, and then perhaps think "well just in case I missed a cell I will run up in a day or two, and see if any swarms are about." So that the way of cell pulling is just about as profitable as leaving it and watching for swarms daily, and neither are much to be relied upon, for dinner *must* be eaten, and backs must be turned on the apiary sometimes, and swarms will sneak off just at such times, as long as bees are bees; and when swarming advances, and virgin queens and after swarms begin to come out, and the "fever" grows, where then is cell pulling or watching either? In closing this chapter I hope it will not amuse or startle any of my readers, if I do so by saying that by my system, unless desirous of increase, or queens, and specially arranged for, there are no first swarms allowed, no virgin queens are reared to *hatching* in their own hives, so the after swarms don't come out. There is no increase and no idle plant needed except one lid and bottom, and say two cases to every fifty hives and yet every hive will be gratified as to its swarming impulse* or desire or need, whichever one likes to regard it, and by the month of December every box in normal seasons will be full storied (4 cases,) even in strength and supering for the first heavy rush of honey.

REPLIES TO CRITICISMS.

If Mr. O'Grady will read my first article carefully, instead of "unrestricted increase" he will doubtless see that I wrote "no increase" and so I answer him.

If Loyalstone will answer my questions, and also say how he calculates that I will need so many (14) Heddon cases to equal his one, or give us the *size* and number of his combs that those queens of his fill, no doubt it will be of general benefit. Again I remind him I don't claim that inversion *stops* swarming—next article will make this more clear to him and others—I but delay it to suit myself as shown in part in this chapter. He will find other points answered as I proceed. Yes! positively I never handle frames to find out how much brood, it can be seen without that labour. It is necessary to lift a frame now and then for two reasons: chiefly in regard to searching for the signs of foul-brood *closely*, or to ascertain *early* if I should require to know whether a young queen has begun to lay; or to give brood for queen rearing, or to test a hive for queenlessness with brood. His difficulty (page 267) re a queenless hive is easily answered. When a hive has cells under construction for swarming, eggs are in one cups; when from queenlessness eggs are not in cups, so in the latter case I don't invert

till by further signs I am sure which. If perchance I did invert a queenless box, the sealing of the cells is delayed only five days. If I invert a normal hive, the sealing stage is however, set back 9 days at *least*. A five days' delay means no such serious loss to a hive even if it did occur as possibly a swarm, and one of those big ones, lost under other management would mean. Re thumb screws, I use iron ones, so they don't swell Sir! More anon.

VICTORIAN NOTES.

R. BEUHNE.

WAX PRODUCED FROM POLLEN.

Reindenbach according to page 38 of May number thinks that wax is produced from pollen. I wish it were, for I generally have pollen in excess, and besides a 200 lb bag of flour would go a long way. If wax is made from pollen where do the bees get it when you shut a swarm up in an empty box, and feed them with sugar or syrup, and they do build combs? Wax production would be a grand thing, such a ready market for it, but I'll not commence till honey is down to $\frac{1}{2}$ a pound, by which time I shall be anything but a beekeeper. I have experimented a great deal (too much) when I was south of the Divide, and the honey inferior. The best results I obtained by feeding back, was 1lb wax from 20 lb honey. According to the respective formulæ of wax and honey, the constituents of 1lb wax are contained in 6lb honey. There is waste somewhere, even allowing a good percentage for heat production. But even were it possible to get the maximum, I can see no profit in it, unless honey sinks still much lower in price or wax rises considerably.

HOW TO DISPOSE OF OUR HONEY.

The advantages of co-operation are pointed out in an article from the *Australasian* on page 64 of June A.B.B., and the California Honey Exchange is instanced. According to *Gleanings* the Exchange handled 1-12th of the honey of California, instead as was anticipated 1-8th. A similar project was proposed here some four years ago, but assuming that the whole annual production passed

through the hands of a proposed establishment, a five per cent. commission would not pay the expenses of rent, salaries, etc. The project therefore is not feasible, even apart from the fact that not half the annual crop could be depended on being dealt with.

I quite endorse what "The Drones" says in regard to nothing having been done for professional beekeepers excepting raising a crop of competitors, and I am pleased that the writer has apparently given up to champion the amateur and the gin-case man as against the specialist.

That the condition of the honey producing industry is unsatisfactory cannot be denied. It is however, not easy to suggest a remedy, and very little can be done in the way proposed. The Exchange is impossible unless production is greatly increased, and most beekeepers are doubtless of opinion that owing to the doubtful prospect of honey export, increased production would more than counteract any benefit obtained by the medium of a honey exchange.

Selfishness is the essence of business, and as a writer in *Gleanings* puts it, that honesty itself is but intelligent selfishness. Beekeepers do not differ from other mortals (although they are sometimes expected to produce honey for the benefit of humanity at large, and to instruct all and sundry how to compete against them.) If reducing the price to the consumer will not also reduce it to the producer, we do not object, but at present I have doubts.

The difference between wholesale and retail given as twopence and sixpence is the opposite extreme on either side. Honey is sold in Melbourne nicely got up, in small packages, at a very small profit, and I have several times bought some, suspecting adulteration, on account of cheapness, and found it pure.

Honey is a luxury, and more or less will remain so. My reasons for this opinion I give further on. The idea of pushing the sale of honey by personal canvas appears amusing to me. To pro-

duce a crop large enough and of the right quality, beekeepers have in the great majority of instances, to locate themselves not only away from centres of population, but in most cases also from ready means of communication; for the rule is where there is settlement there is no pasture for bees, no suitable pasture at any rate. 100 to 200 hives, to produce the best results will occupy a man's time for eight or nine months every year. During the rest of the time he prepares for the coming season. Is he to try and sell his crop during this time? It would cost him more to do so (even if he succeeded) than he would gain on the price of the honey sold by auction. Much has been said of late years about the middleman; he undoubtedly does fairly well, but he is not nearly the bogey that he is made out to be. I had the middleman night-mare myself once. So I decided to deal with the consumer and the retailer direct. The result was the reverse of satisfactory. I advertised and sold just enough by doing so to pay for the advertisements. I canvassed and picked up a number of customers; they paid cash once or twice, and then kept me waiting (for some I am waiting still) or left me, if I wouldn't trust them. Then there were complaints and demands for deductions if the honey candied. Then there was correspondence, trips with one or two tins at a time to the railway station, and when the busy season came I could not afford the time to bother with small lots and gave it up. The last few years I have sold all my honey through commission agents again, and I am in pocket by it. I can send it away in bulk, sell when the market is favourable, secure myself by sufficient reserve against a sacrifice, and receive cash within a week. The honey is sold on its merits, no labels to show whose it is, and there are no complaints about candying, and those agents I have dealt with I have found strictly honest, although I know of some the reverse.

As for my reasons for saying that honey would remain a luxury—Some

years ago when honey was very low I sold some to families at the price of treacle, and some at even less; after a while they would have no more, it came too dear; they said although it was cheap they eat it so much faster; some even said that so much extra bread was eaten in consequence. To argue out this mistaken economy on nutritive percentage principles was more than I could accomplish. People buy honey for sore throats, when butter is dear, fruit scarce or they are tired of jams and other lubricants. There are some few who use it regularly, but in my opinion honey will hardly more become an article of general daily consumption than oysters, however cheap either may be.

There is, however, plenty of room for an expansion of the present consumption. Efforts to induce the substitution of honey for other substances in cookery, and manufactures, the suppression of adulteration, and the avoidance of flooding the market during certain seasons, are subjects for the serious consideration of a live beekeepers' association, which, however, from the Victorian Association as now constituted, we need not expect. If the present Association has not been managed with an eye to the increase in the ranks of beekeepers, and the consequent enlargement of the supply business, this is at any rate the opinion prevalent amongst beekeepers, and while it exists, rightly or wrongly, no success can attend any efforts to improve the conditions of beekeeping. The interests of the body of beekeepers are antagonistic to those of a secretary as a manufacturer to a large extent, and even where they are not they are naturally suspected to be.

QUEENSLAND NOTES.

H. L. JONES.

As I mentioned some time back the past season here has been a record one, and now to make matters still brighter, we are experiencing an exceptionally good winter, while every indication

points to another fine season. Blue gum is in full bloom, also a few Iron-barks, so honey is being stored nicely, and colonies all building up rapidly, and raising drones at a rate that is delightful to the queen-breeder. I have no trouble whatever in getting queens fertilized, although they are usually two to three weeks old before commencing to lay. Spotted gum and iron-bark are in full bud and will soon be out in a glorious mass of blossom, so that, without predicting too far, a good spring at least is assured. Considering that it is mid-winter, we are having comparatively warm weather and the bees are revelling in it, so that the apiary is just one roar with the panting workers tumbling in with their heavy burdens of nectar and pollen, reminding one of a mid-summer's day. It is seldom that we have two really good seasons in succession, and this is due probably to a peculiarity of the Eucalypti in that they seldom bloom profusely two years in succession.

According to my diary this winter is identical with that of 1889, and I trust that it will continue so, as during that winter I had sections completed, and close upon 1,000 lbs. of new honey extracted before the end of July.

I promised to give you a record of the times that the different trees bloomed up this way, as I have kept a pretty complete list for 12 years. But I regret to say the longer I record the more muddled I get, as I find that no reliance whatever can be placed upon their periods of blossoming, and that most of the trees have at one time or other bloomed nearly every month throughout the year. The Blood-wood, Moreton Bay, Ash, and Box appear to have some regularity about them, and will not vary more than a month or two. Blue gum also is not too erratic, as it will commence to blossom more or less sometime through the winter, but most of the other trees come out at just any time. A peculiarity too that I noticed about the Cabbage gums (and more power to them) was that they bloomed in October and November,

and after that the blossoms had all disappeared, the same trees bloomed again in January. I wish others would give us the benefit of their observations in this line, and then eventually we may have some data to work upon.

QUESTIONS NEXT MONTH.

165.—Linoleum on top of frames under cover. Which should be next the bees, the absorbent or non-absorbent side?

W. REID.

166.—The best hive for a man of small means. How made, resulting in profit?

W. TODD.

167.—Is it best to have hives on the ground, or on stands?

W. S. & H. J. WILSON.

168.—On page 38 appears an extract from the *Canadian Bee Journal*, by R. C. Aikin, where the question is raised whether ready made combs cause the storing of any more honey than when the bees have to commence on starters?

AUSTRALIAN YANKEE.

169.—Have you used reversible frames, if so, what kind, and with what results?

A. C. FRASER.

170.—What is the best timber to use in making hives? I use Redwood, some beekeepers won't use it, because it splits and must be well painted.

171.—Would brackish water make any odds to bees?

AUSTRALIAN YANKEE.

165.—Non-absorbent.

166.—Ten Frame Langstroth Hive.

167.—Each Hive should have a stand of its own raised a few inches off the ground.

F. W. PENBERTHY.

158.—A honey exhibit should be a sample of the honey in stock, if not, where do the good effects of a show come in? I consider a honey exhibit should be four 60lb tins, and six 2lb jars. Two tons is out of the question, as small beekeepers have as good a right to exhibit as the large ones.

159.—Imported.

161.—Italians, to get the greatest amount of honey for the least amount of labour.

163.—If black bees, as soon as possible in the spring; if old Italian queens in the autumn; if any hives are below the average requen at any time.

W. REID.

159.—From what I have read, I believe the black, or the German bee has been imported to Australia. W. Glanville, sen., says, I saw several hives of bees 12 miles out of Sydney in 1834, at Morris' public house, also Clegg's public house. So no bees (Germans) on Monaro 1856, came to Monaro 1832. Probably the honey obtained by Mr. Ashby was native honey, quantity has been exaggerated, or a miss-print. How would it read 2 cwt, or 20lbs., native honey. At the time spoken of, 1817, there were few if any residents at Windsor. How about the wild black fellows.

R. H. JERVIS.

Re "Australian Yankee's" reply to No. 158, I take exception to the word faked, as the word would convey the idea that the honey had something put in it to make it have a better appearance.

No. 166.—The Langstroth shell is easily made, and the frame being standard size, can be bought cheaper than one can make them.

No. 167.—About 4 or 5 inches from the ground so the bottom of hive does not get wet. Bee Recognition.—Reply to Friend Kerr, I am against the sight theory, the reason why No 1 & 2 would fight if kept separate for a number of days the one lot would have a virgin queen, and the other a laying one, which always means a fight to a finish if one attempts to unite them whether the bees with the virgin queen look different, Friend Kerr would say, I would say smell different. Take a quart of bees from a hive, shut them up in an empty box and introduce a virgin, keep them closed up a couple of days, then go and shake them in front of the hive you took them from, results the hive from whence they came will smell the scent of the virgin queen on them and kill the greater part of them if not all.

W. S. & H. J. WILSON.

158.—If Loyalstone means by "faked up" simply extra care in straining and cleaning, I am bound to say I cannot agree with him. To what object are Shows promoted? To educate, and to encourage producers to attain, and strive, to a higher and better quality of produce. This being so, there should be no restrictions put on an exhibitor which would prevent him from preparing his exhibit and showing it in its best form. On the other hand, I do not see even if advisable, how it would be possible, in a great number of cases, however, to get honey ready for show without a certain amount of "faking." For instance, by the time the date of the Show comes around, your two ton bulk of honey will most probably be candied. In this case how

are you to draw off your show quantity without melting, straining, and generally "faking up." I can well see what Loyalstone is driving at, but it won't do. Every apiarist, if worthy of the name, will, if his honey requires it, resort to a certain amount of "faking up" before sending it to his customers. How would some of our prize live stock appear if the exhibitors were not allowed to "fake up"? No, on the whole, I should be inclined to encourage than otherwise, faking up, both at shows and in private, for the more honey is "faked up" the better it is, the more will it be relished by consumers, and consequently the greater will be its market price, and its sale.

T. BOLTON.

156.—If no other features are involved, such as cartage or risks, and reckoning his labour as an offset to yours, I should say his share should be to yours in the ratio of 3/- to the capital; your boxes, foundation, extractor, etc., represent (in shillings also) per colony. If he is wholly ignorant of the work, then the labour on you will be more at starting and should be allowed for.

157.—I think not.

158.—Honey awards are useless as at present. One man by care and skill raises a crop of say blue-gum honey. It is excellent for blue-gum say, but the lazy slipshod strain through a stocking beekeeper, scoops the pool on a sample of another source altogether, naturally a pale honey yielder, say red-gum. His success at beating the bar frame man confirms him in his dirty methods or false convictions as to honey and its raising. Have only the producer exhibit; have awards for honey from similar sources; have authentic statement of time and place of harvest, with compulsory display of some twigs and blossoms, or fruit of the tree; and let a bona-fide crop be $\frac{1}{2}$ ton at least, in a poor year at discretion lower the limit; and let the merit of the production be enhanced by the yield average; then shows will be worth competing in.

159.—Accept his (Mr. Ashby's) offer to "find any amount of testimony" and publish it, then I'll tell you my opinion.

160.—None.

161.—If I were going to requeen an apiary here, I would take Cyprians first, last, and all the time.

164.—It would be useless.

Rules of the N. B. K. A. will be published in our next.

R. A. B., Owen's Gap, June 21st:—This honey season has been a far better one than I anticipated. My bees have all got good full stores for their winter use. Wishing you every success with your interesting little paper.

W. F. H., Frogmore, 19th June:—Considering the season we have had, my bees did very well, averaging 100 lbs. per hive, which I have no trouble to dispose of at 4d a lb., customers coming to the house for it. On April 30th, I finally closed down my hives, leaving each with plenty of stores and covering the frames with soft bagging to keep them warm and absorb the moisture, letting it hang down between the end frames and the sides of the hives. I have always found them winter well treated thus. Have been a beekeeper on a small scale for about eight years, and during that time my bees have never had foul brood or any other disease, so I consider myself very lucky. I never have fed yet, always being careful not to over extract. Your *Bee Bulletin* keeps improving and I always look forward to its perusal with pleasure. Hoping that it is also proving a success financially.

Messrs W., Ligurian Apiaries, Vic:—In May's issue, J. T. A., Mooropna, Vic, makes a few remarks (page 43) about his bees, etc., and adds that one of his irons (the vineyard) worked alright. I should like to take this opportunity to ask J. T. A., what his experience has been with regard to "Bees attacking and destroying grapes and other fruits." If J. T. A. keeps his apiary in the same locality as his vineyard, his testimony re the above will be valuable. From time to time considerable correspondence has taken place in our newspapers on this question, and I became involved, defending, of course, the cause of the bees. If J. T. A. would kindly reply through the A.B.B., I'm sure it will be read with interest by all. Experiences from other apiarists would also prove interesting. In conclusion I wish to compliment Mr. Long on his last production, but think it would be very kind of Mr. L., to defer such "staggerers" as the 5th line in 2nd verse until such time as our Victorian minds are easier, (on account of bad seasons they are very dull at present and not in the state to cope with problems.)

N. S. WALES CONVENTION.

*The Seventh Annual Convention of the N.B.K.
A. of New South Wales, held on June 29th
and 30th and July 1st, 1898.*

THE seventh annual Convention of the N. B. K. A., just concluded, was to our thinking about the best yet held. There was a goodly gathering of practical and deeply interested beekeepers. There were representatives from all parts of the colony. Mr. Penberthy from Inverell; Tipper, Willow Tree; Pender, Maitland; Packham, Molong; Ayling, Dubbo; Peterson, Bathurst; Halloran, Wagga; Niven, Engowra; James, Bathurst; Seabrook, St. Ives; Kelly, Dungog; Abrams, Beecroft; Cadden, Windsor; T. Barber, Tabulam; Falconer, Dark's Creek; Eather, Bargo; Roberts, Bathurst; Ward, Parramatta; and others that we must apologise for not mentioning here, our memory failing. On the second evening Mr. Lord, teacher of agriculture at the Technical College, instead of giving the usual lecture, brought his class to the convention. Among the work done was the revision of the scale of points in judging, the decision to hold a grand display of honey at the next Royal Agricultural Show in Sydney; the calling attention to the fact that it is the Foul Brood and other Diseases Act, not Foul Brood only; the alteration of the first clause of the Rules of Affiliation to allow members of affiliated societies to have a vote for every five paid up members of such societies.

The winding up social at Quong Tart's rooms was a most enjoyable one. The

cry of being a Sydney Association will surely never be raised again, when it is known there are only three such on the committee, including the President, Mr. Gale, who has been a most zealous worker, and Mr. Ward, the most energetic of secretaries. We have reason to believe that work will be done during the next twelve months that will awaken the apathy of beekeepers to their own interests, the need of unity, and of joining and supporting the central association, both by cash and counsel, and we shall hear no more of the parrot cry of a *very few* only, that the Association was as good as defunct. If it wants improving or re-organising, those who think so should speak out, or for ever hold their peace, and public opinion will judge them and the Association as well.

The seventh annual Convention of the National Beekeepers' Association of New South Wales took place at the Technical College, Ultimo, on Wednesday, Thursday and Friday, 29th and 30th June, and 1st July.

The chair was occupied by Mr. Albert Gale, president, who apologised for the absence of Dr. Morris, President of the Technical College, and Mr. John Waterhouse.

Mr. Gale, in his opening address, said a heap of work had been done through the year. Early in the year a Sydney sub-committee had been appointed by the general Committee to carry on the work, and he himself, being in connection with the Government departments, had made dozens of visits to such for the benefit of beekeepers. They might have noticed a want of many deputations. The committee had suggested that he

himself should form a standing deputation. Under these circumstances a great deal of work had been done, notably in connection with the ringbarking around Forbes, with the result that the matter had been placed in the hands of the surveyor and looked after. The matter of adulteration had not escaped them, and he had been constantly working up matters re honey. He saw in a late number of A.B.B. that heather honey had been so well imitated in Germany that chemists had failed to detect the fraud. He had visited chemists and was shown samples in their possession, some of which were placed upon the table. One, called Golden Syrup, had 90 per cent. of glucose and 10 per cent. of treacle, was sold at 4d. per lb. Another showed him an American manufactured article sold under the name of Crystal Syrup. On being analysed the contents of the bottle were found to be: $1\frac{1}{2}$ d. worth of sugar to sweeten, and a little isinglass to thicken it, the lot costing $1\frac{1}{2}$ d. Another chemist was told by Mr. Gale adulterated honey could not granulate. The chemist replied that he could manufacture honey that would granulate. Again he (Mr. Gale) told the chemist made honey would not contain pollen. The reply was, flour could be added. He produced a sample manufactured at the Colonial Sugar Company's refinery, which, though not containing a particle of honey, the chemist of that Company said no chemist could detect the difference between it and honey, but it would not pay to produce commercially.

Mr. Cadden suggested in future Conventions papers to be read should be type-written, and in the hands of the members.

Mr. Ward agreed with the suggestion, and said it should be carried out at future Conventions. He then read the Annual Report, as follows:—

Annual Report of the Committee N.S.W. National Beekeepers' Association.

"In pursuance with the wishes of the Convention held in the Temperance Hall last year, your Committee gave much time and thought to the question of co-operation. If the Committee could have seen that any good would have resulted to you by joining with any Company, they would have sent out a general circular recommending that course. But so far as they could see the benefit would not be to you, so it was decided to let the matter drop.

"Another matter much discussed at that Convention—the destruction of timber—was early attended to. Your committee formed a deputation that waited on the Minister for Lands, and secured from him the promise that in future ringbarking would not be allowed in the indiscriminate manner that has characterised the past. While pointing out that beekeepers could not justly expect their interests to be placed foremost, he promised that in all applications for permission to ringbark they would be considered.

He did not look with favour on the suggestion to lease separately the tree-tops for beekeeping and the land below for grazing.

"The members of that deputation then called at the office of the Minister for Agriculture to learn if our industry could not be protected by efficient measures against the sale of adulterated honey. They were informed that this was properly a subject for the Public Health Board to deal with. The Department had made several representations to that body.

"With regard to the proposed Foul Brood, Act no further definite promise was given. It was hinted that beekeepers were not sufficiently united in their desire for such legislation.

"Later on in the year the Committee formed another deputation, which waited on the President of the Public Health Board. They were promised the help of that body to check a practice, injurious alike to the public and to the industry. To show that our activity in the matter has done good service, it is only necessary to tell you that we have just heard from the Health Board that honey, put on the market by certain firms mentioned by the deputation, had been purchased in the ordinary course of business, analysed, and found to be pure.

"Altogether five committee meetings have been held during the year, and many minor matters attended to.

"The Committee desire to record their thanks to the various Public Departments, where our grievances have always been courteously listened to, and redress promised when practicable. Also to various Members of Parliament, and particularly to the *Australian Bee Bulletin*, a paper that is always active for the welfare of our industry.

"Knowing that they have done all in their power, your Committee and Officers now hand over the trust reposed in them, with the hope that those you elect to fill the vacant offices will do better.

"But before closing this report they would like respectfully to point out that their efforts have been greatly discountenanced by the lack of that general support that they have striven to deserve.

"Beekeepers as a whole cannot justly expect that consideration that their industry deserves unless they form a powerful organization behind the officers appointed to represent and conserve their interests.

"F. WARD, Hon. Sec."

The Chairman invited discussion on the report.

Mr. Cadden spoke against the report. The Conventions had dwindled from year to year. What was the cause? It was not a bill for foul brood alone that was wanted. Beekeepers could cure foul brood, but not bee paralysis. From the fact that only five meetings were held in the year he thought fresh blood was wanted.

Mr. Ayling pointed out the lack of support given the Association. At Bathurst a number of members joined the Association, but waited and waited for reminders to pay their subscriptions.

Mr. Tipper said members should have been regularly billed, as in any other society or business.

Mr. J. D. Ward moved that the report be adopted. He referred to the remarks of Mr. Cadden and Mr. Ayling. From past experience the committee thought it advisable to have a sub-committee, who met sometimes once a week, but every time they worked up to a certain point we called a general committee meeting. The title of the proposed Act was, "An Act to prevent the spread of Foul Brood and other contagious diseases." Re members, every month they are reminded in the A.B.B. The suggestion was a good one that we should personally invite. He agreed to do it in future. But this could not be done without money. They had had expenses. They had purchased about twelve samples of adulterated honey. This, with other things, made them about £3 out of pocket. In reply to Mr. Ayling he said he had sent out 500 circulars, with a result of two subscribers.

Mr. Ayling said circulars were apt to be put in the waste paper basket. A written letter would have more effect.

Mr. Abram said it was not the subscription that would make the Association financial. It was the actions of the committee that would make beekeepers see the advantages of being members. The Association had worked for a few years. Then hobby beekeepers had got the matter into their hands and brought it to what it was at present. He had given advice which had not been taken notice of.

Mr. Tipper said beekeepers were not loyal to their own local associations. Instanced one case where having only one extractor kept them together. When they got their own extractors they ceased to meet. So they must not wonder at the apathy to the N.B.K.A. and their own interests.

Mr. Packham said an association had met and learned all they could off of him, and then despoiled him of his market. He seconded the adoption of the report.

Mr. Gale said a good deal had been said that was really barking up the wrong tree. A good deal had been made of this committee, who run the Sydney show, being Sydney men. There were only three Sydney members out of the whole lot. He would go for a committee of country members, but you could never get them together. It had been looked upon as if there was nothing to do, but he himself had been in Sydney on business of the Association two or three times a week. Nine out of the twelve members of committee were country members. If free passes were issued now, as at Bathurst, there is no room in Sydney would be able to hold them. At the time of the Bathurst Convention several who obtained passes came and did their business in Sydney, and never went on to Bathurst at all. The Government would not grant passes next year. They had had enough of it.

The name of the Act was "Foul Brood and other diseases." As soon as we wiped out the Sydney members we wiped out the Beekeepers' Association.

The report was carried unanimously.
Adjourned till two o'clock.

WEDNESDAY AFTERNOON.

Letters of apology were read from Messrs. Bloxham, Sydney; Maxwell, Albury; Nancarrow, Wellington; Arkinstall, Inverell; J. E. Taylor, Cowra. A communication was received from the Board of Health, stating that the samples of supposed adulterated honey submitted to them by the committee had been found to be not adulterated.

Mr. Gale read his paper re Points of Judging. He had as large experience in judging as any one. He adhered to the points adopted at the High School Convention, but suggested several alterations.

The following gentlemen were appointed a sub-committee to consider the same:—Messrs. F. W. Penberthy, W. Abram, W. T. Seabrook, W. Niven and George Packham.

Mr. Abram gave his paper on Bee Paralysis. He said he had devoted a deal of time and attention to this matter. In the first place he intended to find out the origin of the disease. On the other hand he had tried to find a cure if possible. About six or seven years ago this disease made its first appearance in Australia. Years previous there had been immense losses in bees, especially about the spring. Thousands and thousands perished for almost no reason whatever. At the time the disease was called "spring dwindling," because the bees disappeared in the spring. At first a few bees were on the front of the hive, and unable to fly. The abdomen is greatly swollen. The diseased bee subject to paralysis will appear almost larger than a bee filled with honey. If you take up a bee and squeeze its abdomen a liquid substance protruded. If you take this and smell it the odour resembles the urine of a tom cat. In about two or three weeks a fairly strong hive in June will be almost beardless by the end of August. In some cases, under certain conditions, it will carry through the whole season. He had tried to find a remedy. For seven years he had spent more than half of his time investigating the matter, which was the reason of his present illness. He could never find a remedy. Had tried one thing that was effective—next time it failed. So he went on, circumstances always misleading. He gave up experimenting with any remedies, and exactly the same result. Had seen it again all through the season, not only in the spring, but in the winter. At present was of the opinion that no cure was yet found for paralysis. Had sent a quantity to Germany to be examined by the microscope. The whole of the intestines were simply one mass of bacilli, therefore he thoroughly believed the disease was a bacillus, the cure for

which we have not discovered. There was no variety or race of bees free from attack. At one time he believed that mongrels were more subject to it, but had altered his mind. The best remedy was really a good honey season. He mentioned various experiments he had tried without satisfactory results. Expert beekeepers could cure foul brood, but not paralysis. Three or four years ago, within a hundred miles of Sydney, you would not be able to buy bees, for the simple reason that they had nearly all perished. Now you will be able to find apiaries of 40, 50, or 100 hives again. He thanked them for their attention. It showed the kind regard they had for him.

Mr. Tipper said the disease had disappeared in California. It seemed to come and go like the great epidemics that came and disappeared.

Mr. Seabrook had had some experience about five or six years ago; had five or six stocks affected with it. Had imported some pure Carniolans from Austria, which had no sign of it. Had found no good with sulphur. Had superseded queens. In about a month the hives were perfectly free from signs of bee paralysis, a proof that the disease must have been hereditary, through close breeding. He attributed the after freedom from the disease to the young queens mating with Carniolan drones.

Mr. Niven believed it was the food the bee obtained that caused the paralysis, and a scarcity of pollen. He had given wheaten flour. Had fed 600lbs. in one season.

Mr. Cadden, Mr. Ayling and Mr. Gale spoke on the subject.

Mr. Roberts thought there was no better way of curing than by superseding.

Mr. Packham had tried nearly every cure mentioned, and believed that in-breeding was the cause.

Mr. Eather had bred from diseased queens with no bad result.

Mr. Abram believed the colour had to do with it. It had broken out when he bred from queens from America. He thought at one time he had discovered a cure in sulphur fumes.

Mr. Gale believed that in-breeding had to do with it.

Adjournment till evening.

may account for the low prices of honey there. These conditions may operate also to a great extent in New South Wales, but in addition, New South Wales, unlike the sister colonies of Victoria, South Australia, Tasmania, New Zealand, and Western Australia, has free ports, by which means her stock of honey is increased by consignments from Queensland, and in good seasons even from San Francisco. So that while honey can only realise 2d to 3d per lb. here, in the other colonies it reaches from 4d to 6d per lb. wholesale. We also suffer in addition from the cheap importations, duty free, of all those articles of food that come into competition with honey, and not the least of which the adulterant glucose. Beekeepers may also well pause to think whether there has not been sufficient missionary work in the industry, both by Government and beekeepers themselves, and whether the prosperity of those already in the industry should not now be the aim of those who have launched out money and time in it. A smaller number of prosperous beekeepers would be better for supply dealers than a large number of amateur beekeepers, who do not take sufficient interest in its prosperity to make an effort to raise the price, take a bee journal or join an association. Let it be remembered also, the higher amount a beekeeper receives for his product the more he has to spend, the more employment he gives, and the more he adds to the general prosperity around him; the less he receives, the less the community around him is benefitted.

"I will now pass on to another important subject.

"Marketing of Honey has been a subject very much discussed at Bee Conventions as well as in bee newspapers, in other countries as well as in New South Wales. Not much new can be said on the subject. The first duty of a honey raiser should be to work his own market up in his own immediate neighbourhood—his own and neighbouring towns. Here, if seasons are good he has competitors, mostly probably of the amateur class, whose small quantity of honey, for sale, sold at what-it-will-fetch prices, is soon exhausted. Let the genuine beekeeper watch his time for selling his honey, and never be afraid to ask his price, a matter of justice not only to himself but to his fellow beekeepers.

"Beyond that market comes the great centre of population in this colony—Sydney, where the consumption, not only for domestic purposes, but also for manufacturing and other uses is great. Great also is the amount of honey being constantly sent in to it, not only from all parts of the colony, but from outside the colony as well. Go into the produce warehouses in Sussex street, and you will always see cases of honey waiting to be sold. To send to Sydney great expense for carriage has to be incurred. In many cases teams have to carry it for miles before it reaches a railway station. On the railway one point should be particularly borne in mind. It costs

On resuming in the evening Mr. Tipper read the following paper:—

"I conceive the most important matter that should be discussed, the real work that should be undertaken by this conference, the most important, because it is a matter that affects every beekeeper in the colony, and every beekeeper in the colony is a sufferer, is the Low Price of Honey ruling in this colony—lower than in any of the other colonies except Queensland. In that colony we presume the smallness of the population compared to the vast extent of the colony, and consequent large beekeeping area,

very little more to send at on than half a ton—the larger the quantity the smaller the cost per ton.

“Not only in New South Wales but other countries efforts have been made to start honey supply companies, the idea being such companies should have sole control of the product, and regulate the prices at which it was sold, making it more profitable to the producer. Is this a wrong or mistaken idea? Previous to the efforts made several years since to start one such in New South Wales, Mr. Hopkins of Auckland, N. Z., said one had been started there, and turned out a failure. One has been in existence in California for several years. Late mail advices says it controls only one-eighth of the crop. By the *Bee Master*, a bee paper published in England, all honey sold by the British B.K.A. costs 1/2 for every 1/- worth sold.

“The question naturally arises—Would it be well if all the honey in Sydney waiting to be sold were in one flat, with only one set of people pushing its sale, instead of dozens doing so as at present? We will presume this question answered in the negative, and then say, What next? Well, the next thing to be desired would be that all the people who receive honey for sale should, be honest straight-forward people, who strive to get the best prices they can, sell as much as they can, be as prompt as possible in sending returns to the producer. Also that the producer miles away in the interior should know such men, and feel confidence when his honey leaves his apiary that it is only a matter of a few weeks when he will receive the hard-earned welcome cheque.

“The commission man is not without his troubles. Sales are hard to be effected on account probably of the cheapness, or surfeit of other things, such as jam, treacle, butter, &c., that come in competition with honey. He has business expenses to meet, also a share of bad debts to put up with.

“These, however, are nothing to do with the beekeeper, who likes to have confidence in the man he trusts his property with. *And here* should be one of the duties of the N. B. K. A. To enable its members to know who are such reliable commission agents, and those agents who are doubtful—not safe to be trusted. The English law of libel is a very unjust one, but there are confidential business ramifications, whereby such information can be obtained, and imparted, and which might be of very great benefit to country beekeepers. This information it should be the duty of the N. B. K. A. to be able to impart to its members.

RE JUDGING.

“Judges should be persons with a general acquaintance with the different kinds of honey, and a knowledge of what is most in demand by the general public. Otherwise they may have a local preference for honey produced in their own

immediate district, though that honey may not be liked or saleable in the general markets of the world.

RE POINTS OF JUDGING.

“At the High School Convention, in 1883, a system of points was adopted, in which flavour was put down at 30 points, and density 10 points. My own experience has shown me that the public think equally as much of density as of flavour. That thin honey, though of beautiful flavour, is not so saleable as dense honey with a moderate flavour. I should therefore advise the placing of the numbers in these cases at least equal—say 20 to each.

“There are Shows where the stewards are the same from year to year; the prize winners are the same; but the number of exhibitors decrease. Suspicion of collusion naturally arises, especially if the steward is not backward in advising the judges. It might avoid suspicion of collusion and wrong doing if fresh stewards and fresh judges were appointed in such cases. I have often heard the remark “I am not going to exhibit again. The stewards are the same every year, they know whose every exhibit is, and so-and-so always get the prizes.” This remark applies to a good many kinds of exhibits besides honey. If honey exhibits at Shows are for the purpose of popularising honey, the very thought of such a state of things should be studiously avoided by all interested.

“I would suggest that every exhibitor of honey should give an *affidavit* as to the apiary and season the honey exhibited was raised in. Some writers in the *A.B.B.* maintain exhibits should be samples—one says of several tons, another says several hundred-weights. I know that exhibits that have won prizes have been the same as exhibited perhaps several previous years, so no possibility of a quantity being producible. In one case, a sample that did not get a prize last year got first this year. Such facts, if known might lead to valuable information as to the improvement of honey by keeping a length of time.

“Under our present system a person might get a prize, for good honey not his own raising at all, and then work up a good trade with adulterated honey on the reputation so gained. I have heard of cases where a producer's honey was bought, and then exhibited under another name, winning prizes against the producer himself. While we can produce any quantity of honey in New South Wales, equal to any in the world, wrong doing and mis-directed zeal has lowered its good name in the eyes of the large foreign markets. Let it be our aspiration to take such steps at this Convention, as will lead to the bettering of that name. If our Shows are to aid in this, *sterling honesty and straight-forwardness* must rule, and these added to the low prices that are the result of our over-production, or other causes, and which may not be an unmixed evil, may let us

hope, open, and expand the foreign markets to us. These once gained, prices will soon rectify themselves."

Mr. Halloran said Mr. Tipper's paper was mostly on the price of honey, also getting up the honey for market. Anyone who wishes to get a good name for his honey should have his ripening tank to put it in till he gets an order for it, then put it in tins; then the honey has got time for the thick honey to get to the bottom and the air and inferior honey to the top. There are certain places that will not give good honey once in five or six years. Then he would not attempt to sell it. The selling of bad honey caused people to say—"If that's honey, I've done with it, and no more honey for me." As to the fiscal question, if honey is taxed, other things would be taxed.

Mr. Pemberthy takes generally 4lbs. to 7lbs. of inferior honey from the top of a 3-ton tank showing the necessity of waiting before sending to market. Gave instances of honey being sold unnecessarily low.

Mr. Niven always got 2½d. per lb, and sold all he could sell in his own district. Never sold extracted honey in Sydney for less than 3d. Had had it laying in Sydney for twelve months, but never sold it for less than 3d, but it always went off.

Mr. Gale said that when a good article is put upon the market and gets a good name, it will always come to the surface.

One present said that a friend had a crop average from four to five tons from 160 colonies, which he sells for 6d. a pound, and always disposes of the lot.

Mr. Cadden said he differed in some respects from Mr. Tipper. The Californian Exchange was a flourishing and profitable institution. Marketing of honey rested a great deal on the producer.

Mr. Tipper said his authority was the *Pacific Bee Journal*.

Mr. Cadden said honey from the rivers was not worth 1½d per lb.

Mr. Gale gave a number of instances of incompetent judges at shows, and of collusion between stewards and judges.

Mr. Cadden had never seen a steward suggest what judges ought to do, and if the judges knew their business, they would at once sit upon the stewards.

Mr. Packham also gave similar instances.

Mr. Tipper expressed pleasure at the discussion his paper had caused.

QUESTIONS.

"Is the black bee indigenous to Australia?"

Mr. Halloran said the first bee he saw was in 1856. Was not known in the interior before that time.

Mr. Ayling, Dubbo, had made enquiries out west and had come across people who remem-

bered their first coming, and thought they were now evidently going still back and back.

Mr. Packham remembered distinctly when bees first came to Molong 46 years ago. When his father first planted corn in the district there was not a single bee in the corn. Next year there was a swarm of bees taken away from the place. His grandfather was in the district for a number of years previous, and if the bees were in the country he would have known.

Mr. James gave an instance of an old man he had known who had recently died at the age of 94 years. He came to the colony as an orderly to an officer and remembered a ship being moored off Miller's Point, and on board of her was something like 100 boxes of bees. They were by order of the Government allowed to go as they liked. The old man had kept no record, not thinking it of value at the time.

Mr. Niven, of Eugowra, spoke of a tree being felled in 1842 and getting a quantity of honey from the tree. Remembered several trees being cut down for honey in 1853.

Mr. Cadden remembered bees in the Hawkesbury district in 1843.

Mr. Gale had heard that the first bee on the Williams River was brought from England. The name for the bee among the blackfellows up there was "white fellows' sugar bag." They had no aboriginal name for it. From that he concluded the bee was not indigenous to New South Wales. They must have been introduced here.

Question: "Can two bees be reared in one cell?"

Mr. Ayling had once seen two young queens in a cell within two days of hatching.

Mr. Packham had often seen two larvae, but they were always destroyed before they came to maturity.

Question: "Had anyone ever found two working bees in a cell?"

No reply.

Question: "What is the best ant exterminator?"

Mr. Tipper; Throw litter or straw on the ant hills.

Mr. Halloran: The best thing he found was to put ashes round the boxes.

Mr. Niven had no difficulty in getting rid of ants. In making stands for his hives he uses four wires.

Mr. Gale got rid of them by throwing hot water on them several times.

Mr. Packham had used tartar emetic, mixed with honey. They disappeared, and he had not seen them since.

Question: Can a pure Italian queen produce black bees?

Mr. Ayling had known it to be the case. Had had a queen from America, a bright, beautiful queen, was superseded. A young black queen

was afterwards found in the hive, and the offspring were all black.

Mr. Tipper gave a case where a bright yellow queen was found in place of a very black queen. Some discussion took place, but no definite conclusions were come to.

Question: What difference is there between a queen mated when five days old and one four weeks after hatching?

Mr Packham had no experience with a 28-day queen.

Mr Gale said Huber gives 30 days as the longest time for a queen to mate. There would be a great loss of bees for every day's delay in summer time.

Mr Cadden would be inclined to take the late mating queen's head off.

Mr Ayling's first batch were a long while in mating—didn't mate till 18 days old instead of nine. They were considerably over time, but good.

Question: What is the best extractor for throwing out thick honey, or which is the best way of throwing out thick honey?

Mr Halloran had had much experience with thick honey. Impossible to uncap. He used a steam jet, in half a tank. Would put the combs into and cover up for an hour or more, and could then uncap and extract. Had put boxes, one top of another, with bags on top, and fire or hot water underneath the combs.

Adjourned till next day.

SECOND DAY. THURSDAY.

Mr. Gale in the chair.

Apology was received for the absence of Mr. W. S. Pender.

Mr. A. Gale gave an address on the

NATIVE BEES OF AUSTRALIA.

There are numbers of native bees indigenous to the colony. Had tried to find some publication describing its habits and life history, without avail. There are undoubtedly two varieties, possibly three, in N. S. W. It was classed among stingless bees. It was frequently asserted by writers on the domestic bees that the bees used the poison in the poison sac for the purpose of injecting it into the honey cells for the purpose of preserving the honey, and the honey receives a certain flavour from being stung by the bees. The little insect he had to deal with happens to belong to the stingless race of bees, having no poison sac, and yet the honey has the flavour peculiar to the honey bee, therefore it is not caused by the formic acid. They are common among the Western slopes of N. S. W., especially northward. There is one remarkable thing about the stingless bee, their wings are much longer relatively than those of the ordinary bee.

Re their life history he could not determine the length of their life. The inmates of their nests consist of three different members—the working bee, the male and the female—the queen. In one case he discovered five queens, each mated and each one laying. It must be so, because some nests in hollow trees would be two or three feet long full of young hatched brood, and the perfect insects are literally in swarms. One queen could not produce them. The little worker is black along under the wing, her abdomen is striped. The queen is twice the length of the ordinary worker bee. They are very pugnacious. The drone is not so long as the queen, perhaps one third less, but the wings are better developed than the wings of the worker, whether for more rapid flight or copulation in the air he did not know. Their cells are built of similar shape to our honey cells, in addition to which they have honey cups. The brood cells are arranged similar to the cells of wasps. The honey is contained in egg shaped cells, lined, coated and furnished with some gum, making it more air tight. In one small nest that he opened and cut he discovered between 200 and 300 of these little honey cells. They are for use for no other purpose but for storage. The length of time the insect was developing he could not tell. A swarm he once had he covered with a sheet of glass. They covered the glass over so as they could not be seen. Some other method must be adopted to find out their life history. In habits they differ much from the working bee. Once saw a swarm coming out. His attention was called to it by a school boy at the corner of a barn. It was a peculiar sight. Instead of rising in the air and simply scattering they went away into the bush in a string of five or six feet long and all disappeared. I have never met with anyone that has found a swarm of them clustered. They go and find a home first, then all the rest follow. He could not find where they went. Another peculiar habit is they protect themselves against cold or enemies different to any other bees. They plastered up the holes and cracks every night and opened it every morning, excluding the cold air and robbers. On cold wet days the holes are not open at all, and they worked in their little hollows perfectly protected. The honey differs from the honey of our hive bees. A great many writers thought honey gathered by bees is gathered from flowers that we all know. One is told that the honey gathered by them is gathered from different flowers to what our honey bee gathers from. Their tongue is much shorter and they cannot reach far down. But they work upon apple, plantain and bananas. Had seen the English bee and the little native bee working together, on the same bunch of flowers and on peach trees. Had taken the honey from both nests and the distinction between the honey was extremely great. One had a sourish flavour, whilst the other had a good honey flavour—both honeys being gathered from

the same sources. The juices of the stomach caused the difference. The peculiar sour flavour was something imparted by the bee itself. The wax was very dark and sticky. He could not tell if it was of any commercial value. Samples of the honey and wax were in the Museum adjoining. In nature the little native bee has its uses. They are pollen gatherers. The hive bee pollen is much lighter in colour than that of the native bee. Did not think the little insect in any way will be ever domesticated. The wax was in such small quantities that it would not cause many people to run the bush to get lots of it as with the hive bee. Had only been able to give experience of some 35 years ago.

Mr. Packham thought Mr. Gale did not properly describe the way they formed their combs—It was a kind of worm. Started at the top and built down.

Mr. Roberts said chemists would give a much larger figure for the wax than for other wax.

Mr. Gale said he had known boys collect a tin billy full of the wax.

Mr. Ward said the wax used to get a high price but not now. They tackled the larger bees, and they could not get them off them.

A Voice: The native name was Cobboi.

Mr. Niven had known a swarm settle on a thistle bush, in the morning, but they were gone before he got to them. Had taken a swarm in a hollow tree and put it in a case and left them during the winter. They worked for several months, closing the entrance of the box altogether but in the spring they did not come out.

Mr. Tipper had often seen three kinds of bees on one sunflower—the Italian, the native, and the carpenter or solitary bee.

The annual meeting of the N. B. K. A. now took place. The annual report having been previously read the election of officers for the ensuing year were now proceeded with, with the following result:—President, Mr. Albert Gale (re-elected); vice-presidents, Messrs H. Lord, J. E. Taylor, J. T. Wilshire, and E. Tipper; hon. secretary, Mr. J. D. Ward; hon. treasurer, Mr. G. Bloxham; committee, Messrs George Packham (Molong), W. Abram (Beecroft), D. Grant (Muswellbrook), W. T. Seabrook (Bathurst), J. Trahair, H. R. Roberts (Bathurst), J. J. Maxwell (Albury), A. Ayling (Dubbo), R. Pender (West Maitland), F. W. Penberthy (Inverell), H. Nancarrow (Wellington), and F. Ward (Liverpool).

A telegram was here received from the Muswellbrook Beekeepers' Association, wishing success to the Convention.

THURSDAY AFTERNOON.

On Thursday afternoon the proceedings commenced by the reading of Mr. Pender's paper by Mr. Fred. Ward, on "The Importance of Mating with Selected Drones," as follows:—

"The drone—the male bee of the bee-hive—exists solely for the propagation of its kind. Great attention is paid by beekeepers to the production of a perfect queen, one that will reproduce herself in all her progeny, and these progeny be well marked, quiet, and good honey gatherers. The drone seems to be almost neglected by most beekeepers. If we go to considerable trouble and expense in our selection of the female, when we are breeding any animal up to a standard of type, disposition, colour, etc., we would be ridiculed if we left to chance the sire of the progeny, and our labours wasted. I acknowledge in the case of bees we have a difficulty in controlling the mating of our selected and specially reared queens, copulation taking place during flight only, and on account of the existence of this difficulty it behoves us to use greater vigilance in our management to secure the selection of the male parent, and a great deal can be done by care and attention. Many experiments have been tried to secure the fecundation of a queen artificially in confinement, and a few claim to have been successful in a single instance, but their failing to repeat their success leads to the belief that they either made a mistake or unintentionally gave the queen an opportunity to fly. Of what use will it be to us to be able to control the mating or select the drones to mate with our queens? First to produce a better honey gatherer. By selection in our cattle we have produced cows that are better milk producers, poultry that are better egg layers, &c., &c., and by the same care in selection we will be able to produce a race of bees that will be better honey gatherers. Secondly, there is beauty to be found in everything, and by combination greater beauty is produced and a type fixed. We can improve the colour and symmetry of the bee without sacrificing its useful qualities.

"Can we select our drones and have them mate with selected queens? Yes. How? By isolation of the apiary. I have been asked, why is it that in the same apiary two colonies standing side by side and as far as we can judge every bit alike, one colony would quite outstrip the other in the quantity of honey stored. I can only say a great deal must be due to the drone and by breeding drones from colonies that possess all the desirable qualities in a bee to the exclusion of others, we can bring all our colonies to an equality in usefulness. For the time being we will take for granted we have control of the drone by selection. If I place before you all kinds of drones and ask you to select the drones you would have mate with your queens, which would you select? The large, the small, the yellowest, the blackest of any peculiar type. I say which would you select? If placed before me I would select none. I would select the drones from the queen that produced the best honey gatherers, first; (2) then I would look to the activity of the drones, for some are sleepy,

seem to be wanting in energy, while it would be necessary to crush one of the sleepy sort to get the same result; (3) then I would select for size and colour and evenness of colour in the drones throughout the hive and my choice would then cause me to examine the workers and see if they were of an even type. When I have a queen that gives me all the above qualities, I value her, and from such a queen would stock my apiary with drones.

"Our object in selecting the drone, should be for useful qualities, first; making colour a secondary consideration, for it is far easier to produce working qualities without symmetry and colour than with it, and as we keep bees for the profit there is to be obtained from them, all other considerations must be secondary, and when they can be obtained combined with work, by all means let us have them. I will now suggest a method by which we can mate at least 95 per cent. of our queens with hand picked drones. I have proved to my own satisfaction at any-rate, that drones in an apiary of over one mile away have but little influence over our queens, if we are careful to provide plenty of drones. I have had hundreds of 3-banded queens mated to 3 banded drones, when there was an apiary of 5 banded bees only a mile away, and in only a very few instances could I find traces of a mating with 5-banded drones in the progeny, about 3 per cent.

"To fix a type of bees we must select a locality at least a mile away from other bees and where the honey flow is not likely to be heavy, but sufficiently good to keep the bees at rapid brood rearing. Place here our nuclei with our virgin queens with a few colonies previously prepared, for 100 nuclei. I consider from 5 to 10 colonies sufficient. The colonies should be sufficiently strong to cover 10 combs, should have no drone comb except say about 4 inches square, and this should be kept near the middle of the hive, and every time it has maturing brood in it, the brood should be destroyed by cutting with a sharp knife sufficiently deep through the cell to shave off the heads of the drones. Every 21 days will be sufficient to attend to this, and the comb again returned to the bees. It is natural for the bees to rear drones, and they should be allowed to do so. As we do not permit these bees to have drones of their own rearing, we will supply them with fresh frames of drone brood every few weeks and will place it in the supers over a queen excluder to prevent the queen laying in the drone cells. At the same time place a comb of brood from the brood chamber in the super; a hole bored in the back of the hive will permit the drones to fly, and they will mix with the other hives and nuclei. All the drone brood is raised in another apiary from a queen we have specially selected for the purpose, on account of its qualities as previously mentioned, and by keeping this colony droneless, we can obtain a comb of sealed drone brood about every

10 days to remove to the queen mating apiary. Two colonies kept drone rearing will supply drones enough to keep a large apiary of nuclei in laying queens, and the number will also prevent a queen flying any distance before meeting with a drone, so many drones are not necessary to keep the young queens fertilised, but simply to prevent the queens going any distance in search of them. It is also advisable to have the queen cells raised in an apiary away from nuclei. By so doing young queens do not get into hives rearing queens, destroying their queen cells. I have carried hundreds of queen cells during the last two seasons from a small town apiary, raised by hybrid bees, and had them fertilised at my Drumfin apiary with the very best results, and by removing every colony, as soon as the bees indicate having a mated queen, to the town apiary for cell building, I have very few queens mated, for none but pure drones can be produced. I think I have said sufficient for anyone to work out a system of management for themselves. I would like the Convention to suggest or adopt a standard for the drone. At present drones are of all shades, from all black to all yellow, and one beekeeper at least told me he preferred all-black drones from pure queens, he believed their bees were quieter and better honey gatherers. The black drone comes from the real Ligurian bee from Italy and I think is being gradually worked out of our race of bees. The presence of a black coloured drone produced by a queen purchased from a queen breeder is often a sore point with an amateur and no amount of persuasion will lead him to believe that the queen is pure.

[CONVENTION TO BE CONCLUDED IN OUR NEXT.]

Rules of the N. B. K. A. will be published next month.

BEES RECOGNISING BY SIGHT.

R. HELMS.

Dear Sir,—In the June number of the "A.B.B.," which is just to hand, I see an article by J. Kerr on the recognition of bees. The writer believes it to be erroneous that bees recognise each other by their odour, and advances the opinion that they do so by sight or acquaintance. He may probably be correct, as nothing definite is known about the subject; still the mere non-belief of anyone in particular is not a refutation, nor does the believing and the claim of being the first to state so, prove that the recognition is

by sight, &c. Anyone may believe and is justified to state his opinion, but in itself this goes for nothing; a thing must be proved, or at least be made feasible by logic, arguments and analogy, in order to make it acceptable to others. Mr. Kerr has omitted to give definite facts that those who consider the recognition among bees due to odour are in the wrong, nor has he advanced anything tangibly certain that he is right with his opinion.

The subject of senses in bees and their application by them, relatively, and comparably with those in man, is a highly interesting scientific problem and to me of special interest. On this account I would ask Mr. Kerr to give us the benefit of his observation upon which he bases his theory. I feel sure he must have more in store than the one he makes known (namely, that he has seen bees fight over exposed honey comb) and which is scarcely sufficiently convincing to accept as undoubted proof that the supposed strangers were recognised through sight.

CORRESPONDENCE.

D.J.R.Mumbil, July 3rd:—I had five hives last season and I extracted about 1000 lbs.

F. W., Geurie, July 14th:—The past honey season has been the best we have had here for several years. The honey flow extended from August till April. We had to keep the extractor continually going. The bees all went into winter quarters fine and strong with plenty of stores.

A. C. F., Rose Valley, Inverell, July 16th:—My bees are wintering very well getting a good supply of pollen and honey from the white box, which is flowering well since the last rain we had. I have taken 812lbs from six hives since July, 1897.

T. H., Cooktown, Queensland, July 8th:—Honey season here commenced in September (this year) and ends in July.

Until such time we have never had one solitary pound of honey, but a decrease of twenty three hives. All the boxes are full of brood and stores. This season seems to have a plentiful supply of bee bread.

A Cowra beekeeper has his bees near the junction of two streets in the municipality. The Council have applied to the Municipal Association to know whether they could pass a bye law prohibiting beekeepers keeping bees within say 40 yards of any road, or street, or public place within the borough. The Council was informed they had no power to pass such a bye-law, but injured persons had their remedy against the owner by an action at common law.

Mr. H. L. Jones, Goodna, Queensland, 18th July:—The forest trees here appear to be bent upon blossoming themselves almost out of existence this season, and in the light of my past experience, this makes me rather apprehensive about next season's prospects. Honey is now coming in at a fine rate and some of my colonies are so strong that they are hanging out at the entrance and an examination of one of these on the 16th revealed the fact that queen cells had just been started preparatory to swarming. How's that for winter? Alas, however, such seasons as these never wear out their welcome by coming too frequently.

A very funny incident occurred at Mr. Pine's residence, Castlemountain, a few days ago. It appears that two cages, with two birds in the one, and one in the other, were left close to some hives of bees, and there being some attraction for the bees in the cages (perhaps sugar). Anyhow the old dame queen not being satisfied with the presence of the birds, ordered her men out, when a fierce battle ensued, and before help came, to the scrow of the owners, one of their favorite pets was dead, and the other two died shortly afterwards, being full of bee stings, while hundreds of dead bees were lying in the bottom of the cages killed by the birds.—*Quirindi Gazette.*

M. E., Anderson's Creek, June 30 :— We are having real winter weather here and we wanted it badly. But we sometimes get too much and then we are not satisfied. We can't grumble about the price of honey over here in Victoria just now, so wishing the *Bulletin* every success.

J. S., Gunning, 16th June:—In last issue of the *Bee Bulletin*, Loyalstone recommends tarred felt as a preventative of foul brood, but does not say whether pine or coal tar is used. As I am troubled with foul brood I would like to know definitely which is used. The past season has been a failure in this district, but the coming season should be a good one, as almost all trees have a splendid show of buds. Wishing your journal every success, and yourself a prosperous season.

Will Loyalstone kindly reply re the tar?

A. J. P., Duri:—We have had a very fair season, and having a good winter, white and yellow box out enough for them to do fairly well. You may know that they are doing well when there are hundreds of drones flying when the sun comes out, but the cold winds are a bit bad. I am waiting to extract as soon as we get a nice warm day, as all my supers are full. I have taken a few, and those that have two supers I take 12 combs and leave them four full frames of honey and all the bottom box, and that is the R.H. 8 frames, as I work all them and like them very much. I worked up a few queens last month, and they are doing well with all the good season we had.

J. F., Rosemount, Drayton, Q., July 12th:—I hope you will let me know when my year is up for payment as I don't like to get into arrears and I always look for the little paper, as there is a lot of good and useful information. Now a little about the bees, as I never had the pleasure in writing to you. Last spring I had great loss with them. About the beginning of the spring I had the whole of the eighty doing well, so far as an amateur could see, I suppose, so I did not take much notice of them

for a week or two, but when I did, to my sorrow I only managed to save 30 or so about that, some of the hives with only about half-a dozen bees and a queen left and plenty of honey. Some of them with sealed brood and the tops eaten or the caps of the brood. So far this winter they seem to be doing pretty well as yet and gathering honey from the white box and ironbark. Maybe through your valuable journal you might be able to say what was the matter with them. The only thing I did was to keep boxing them and as the season grew warmer they began to get stronger, but got very little honey all season.

[There might have been several causes—Scarcity of food—they might have become queenless. You should have known the condition in the previous autumn.]

E. J., Berwick, Victoria, June 22nd :— The labels are most satisfactory, but my luck again, no honey to label. This season here has been a bad one. I extracted about 10 tins from 70 odd colonies. Although the summer was exceptionally dry, what few trees did bloom all seemed to yield honey. However, I live in hope of next season, perhaps then things may hum again, as the redgum and messmate are both laden with buds for bloom. Lately we have had an immense lot of rain. I have noticed from last January, from then on until the queens stop laying, two three colonies, one in particular, had a disease of the young brood dying, when just about to gnaw their way out of the cells, and dry up to about half their natural size. I could find perhaps a couple of dry dead bees on one comb. When the caps would drop off the cells the workers would then carry them out. This disease in every form resembles the fungus disease spoken of in the *A. B. B.* about eight or nine months ago. This is not chilled brood. The one colony I speak of in particular was a strong colony, which since has reduced to a very small hive. I took the queen away and replaced with a young one, but I have noticed it slightly in several others colonies since then, more especially in the pure Italians. All the

colonies were well off, as far as honey and pollen were concerned, and standing under the shades of pine trees. Have never noticed any thing of the sort before, therefore I am becoming alarmed. So if you can help me in any way, or let me know if it is serious, I shall be much obliged to you.

You did the right thing in changing the queens. Give them a dose of phenol and epsom salts mixed sprinkled on top of the frames, both as a disinfectant and purgative. Possibly as in our own case, the disease might go away. Would the hot weather have had to do with it? How were the top of the frames covered? Possibly a little more circulation of air on top of frames might have been a cure.

J. A. B., "Fernside Apiary" via Cumnock, June 15th:—Once more I take up my pen to write to you after a prosperous season. Although it was a dry Autumn it was splendid for honey. The Ironbark gave the largest flow; you could see the nectar shining in the blossoms, each little cup was full. Tons and tons of it went to waste for want of bees to gather it. My bees used to fill their hives every three weeks. I took 28.60lb tin of honey from 10 hives, and increased to 20, and they all went into winter with their hives full 2½ stories. I could not extract it as it was thick and the weather cold. I have seen different opinions in the *A. B. B.* re winter mats. Some prefer bagging. I can't understand that, for if I put bagging on, the bees chew through it, and destroy it. Oilcloth by itself is bad as the hot air condenses and runs down on the bees. A cushion above it is a lot better, and better still, take an empty half box, tack bagging over the bottom, and fill it with chaff, placing it on top of oilcloth. But the best covering is a porous one that the bees can't chew, and the only cheap one is a straw mat, which I have not seen mentioned in the *A. B. B.* yet. It lets the moisture up and the chaff above keeps all warm. The twine used in making the mats must be painted or otherwise hardened or the bees will chew it. I see that you don't believe in gable covers. I like them best, its all in the way they are made and managed. I make the ventilating holes so that they can be

closed or opened at will, by a sliding piece of wood held by a screw in one end. Now I will tell you the way I pack these roofs for winter. Turn them upside down, fill them with chaff and tack a piece of bagging on, and I have an ideal winter covering, no empty box or cushion required. These roofs are the only ones that will keep out rain at all times. Flat roofs will warp, and the rain runs in; it seems to follow along the flat surface underneath. Then again you have to use a mat with the flat roof, if you don't the bees stick it to the frames. And under a mat they will build films of wax. Now in the summer with the gable roof a mat is not required and the bees do not build wax on the top of frames. If you let them get crowded for room they will then build comb upwards. Then again they are nice and cool in summer; you don't require to go fooling with shade boards. Its only carelessness that gets the Gable roof a bad name. A good way to mend cracks in roofs is to take a strip of calico, paint over the crack, put the calico on and paint over it, and the water will never go through that crack again. I will have to close as my letter might be getting too long. Please find 5/- in stamps to pay for my paper for another year.

HOW TO MAKE HIVES AND WINTER-CASES.

EDWIN BEVINS, IN *A. B. J.*

If it is the intention to make hives of the capacity of the 8-frame dovetailed hive, you should get some thoroughly dry pine-boards planed on one or both sides, 9½ inches in width. I generally get boards 10 inches wide, and plane down to the right width after they have been sawed into pieces of the right lengths. The right lengths are 20 inches for the sides, and 12½ inches for the ends of the hives. You are probably a little curious to know how I rabbet these hive-ends without the use of any machinery or power except a common hand-saw and

my good right arm, aided a little now and then by the left one. Well, I lay the hive-ends on a work-bench and measure from the upper edge down 3-16 of an inch, and make a mark with a lead-pencil. Then with a jack-knife held perpendicularly I cut along the mark as deep as I can. Then turning the knife towards the top of the board I cut out a sliver of wood so as to make a groove to start the saw in. Then I put the board in a vise, measure 7-16 of an inch from its inner edge, make another mark, and cut another groove as before. With the saw in good order one can quickly saw to the proper depth. Then lay the board on the bench, fasten at both ends, and you can quickly complete the job. Having made the rabbets for 150 hives in this way, I think I may be believed when I say that the work is not so formidable as it may seem before trial. Some of my hives are two-story hives, and besides rabbeting the hives I have made and rabbeted the supers for nearly all of them. Having the rabbets sawed out you may consider the work of making a hive-body as almost done. The nailing should be started on a perfectly flat surface. It is best to have a sort of platform a little larger than the hive, with a cleat strongly nailed at one edge for a bumper to nail against, and another cleat nailed on another edge at right angles to the first one. The nailing can be finished by turning the hive on its sides, and the hive-corners can be kept at right angles by using a square. The nails should be cut nails, made so as not to be wedge-shaped crosswise of the grain of the wood. When the hive is nailed, nail in the tin rabbets. You do not have to gouge out any hand-holes to lift the hives by. Make cleats 6, 8 or 10 inches long, plane them so that their upper edges shall slant outward and downward; whittle the ends so that they shall be rounding, and nail one on each side of the hive near the top. My bees have never kicked on the use of these cleats, and I like them better than the holes. For covers and bottom-boards I get lumber a strong 14 inches in width, using

the best of it for covers, and the poorer parts, if not too poor, for bottoms. Sometimes I make the bottoms of two pieces. All of the covers and bottoms are sawed exactly two feet long, and have cleats two inches square nailed under each end. The cleat at the back end of the bottom-board is nailed about $\frac{1}{2}$ -inch from the end for convenience in lifting, but the cleat in front is nailed just even with the end for the convenience of the bees. The cleats for the cover should be nailed so as to give a play of about $\frac{1}{8}$ -inch. For all 8 and 10 frame hives of standard depth I use flat covers, and have never had but one to twist. This twist can be taken out by the use of the Dibbern hive-hook, and when once taken out it will stay out. Lath can generally be found of the right thickness to make the $\frac{3}{8}$ -inch strips for the bottom-boards. If too thick it is not much work to reduce them with a plane. A word about painting hives: It may be that Mr. Doolittle's idea that an unpainted hive is just as good, if not a little better, than a painted one, is correct, but for myself I prefer to paint. No more expensive paints for me, however, except for covers. For these I use the best of white paint. For the other parts of the hive a paint made of sweet skimmed milk and hydraulic cement looks well, costs nothing, is quite durable, is odourless, and dries quickly so that it can be renewed with the bees in the hive without annoyance to them.

CAPPINGS.

From American and other Bee Journals.

Chalons Fowls in *Gleanings* recommends hot water applications for stings; cold water, he says, is dangerous.

A writer in *Gleanings* says bee-paralysis or the nameless disease, formerly so destructive in California, is on the wane, and now attracts little attention.

The *San Francisco Post* reports that "a captive bee striving to escape has been made to record as many as 15,540 wing-strokes per minute in a recent test."

I think that the plain section is a decided humbug.—R. F. Holtermann, in *Canadian Bee Journal*.

QUEEN CANDY.—Best extracted honey, warmed, but not scalded, mixed with fine powdered sugar until it makes a stiff dough. Knead in all the sugar you can, working it thoroughly. Let it stand a day or more before using.

Professor Shutt stated at the Ontario Beekeepers' Meeting "the main object of supplying bees with foundation of not less than 8, 9, or 10 feet to the pound. I doubt very much when you exceed that if you are really furnishing the bees with anything they make use of."

BEES IN TREES.—Look into every tree that may have the appearance of being hollow, and if you keep the tree between you and the sun, looking a little below, the sun will reveal the bees quite readily by the flashing of their wings in the sunshine. DOOLITTLE in *American Beekeeper*.

A Mr. Taylor, of Canada, has invented another swarm catcher. It consists of a box some two or three feet long, wire sides, expanding from a space fitting to the entrance of the hive to the end, some 13 or 14 inches high. It is placed to the entrance of the hive when a swarm issues; a large apiary would need a good stock of them.

The *Beekeepers Review* recommends when a colony is to be shipped a long distance to be set on a new stand for a few hours before shipment, so that the old bees that do most of the worrying enroute may be eliminated. The buyer might object to getting a less number of bees, but the colony on arrival would be worth more.

Mr Hewitt, of the *Bee Master*, is certain foundation will kill the extractor, "considering the time spent in uncapping combs, extracting them, and then giving them back with fully 1-5th of the honey still left in, compared to a press in which the honey could be pressed out to the last drop and the wax given back in the shape of foundation."

At the recent Ontario Beekeepers' annual meeting:—The President—

Another question which has been handed to me is: "What is the best and quickest way to make honey vinegar?" Mr Hall—If you are going to make it for fun, it is all right; but if you are going to make it for profit, you had better quit; it will cost more than it is worth. Honey vinegar is the best you can get, but it does not pay to make it.

J. S., Gunning, June 16th:—In last issue of the *Bulletin* Loyalstone recommends tarred felt as a preventive of foul brood, but does not say whether pine or coal tar is used. As I am troubled with foul brood. I would like to know which is used. The past season has been a failure in this district, but the coming season should be a good one, as almost all trees have a splendid show of buds. Wishing your journal every success and yourself a prosperous season.

J. H. Martin went to an X-ray entertainment with a mailing block containing two bottles of honey in his pocket. The lecturer requested any person present to place what they liked between the ray and the screen, and Mr. Martin placed his mailing block there. The block and honey both disappeared, but the bottles remained and were plainly shadowed upon the screen. Mr. Martin suspects that the action of the X-rays has prevented the honey from granulating, as while other honey has "frozen" hard the honey in the bottles submitted to the X-rays test has remained liquid for months.—*The Drone in the Australian*.

A supply dealer, from a business standpoint, is anxious to do as much business as possible and anxious to supply as much material as possible, but I can find no difference in this respect, that if you take metal, which you can buy perforated accurately and exactly, which is perfectly smooth, at less money, it will answer the purpose fully as well as the wooden divider, and all they have to do at the end of the season is to throw it into hot water and add a little lye to it, and it is just as good one year as another. But if you use the wooden

divider and you are anxious to produce a choice article, you practically throw those separators and dividers away every year, and it is difficult to get them quite as nice again. The wooden ones are comparatively expensive and you will find the zinc answers perfectly as well.—*Canadian Bee Journal*.

At the Colorado States Convention:—Mr. Varian—I'm an Irishman. I came here 20 years ago, and was recently on a visit home. Hardly any product could be more easily shipped to the other side of the Atlantic than honey. They could produce much there, but they do not do so. They get from a shilling to one and sixpence a pound, and extracted is higher than comb. There is a quantity of California and West Indian honey in London, but not in Dublin or other cities. I am sure there is quite a chance for the sale of our honey in England and Ireland, but it will need concentration and proper parties on the other side. It is just the same with honey as with butter and cheese—it is a matter of custom. England and Wales consume quantities of cheese; in Ireland none eat it at all but the wealthy.—*A. B. J.*

Mr. J. H. Martin, in *Gleanings*:—When the pepper is in full bloom the bees work incessantly over the tiny blossoms. They gather pollen and some honey; but as to the amount, there is a difference of opinion among beekeepers. Sometimes, when the skin of the berry cracks, they work upon that with about as much vigour as they do upon the blossom. The nectar they get from either the blossom or the berry partakes of the nature of the tree, and is peppery or strong in flavour, and dark in quality. We have heard of no great yields from this source; but as it is in bloom at a time when other plants are secreting nectar, and of a better quality, the pepper comes in for some condemnation for giving a pungent flavour and dark hue to what would otherwise be first-grade honey. On this account some beekeepers are opposed to planting it. It is distinctively a shade tree, for the berry and the timber are of but little use.

The queen is the mother of all the bees in a colony, she laying all the eggs producing them. Under the greatest stimulation, she is capable of laying from 3000 to 4000 eggs a day, yet often she is laying only from 500 to 1000 eggs daily at the time she should be doing her best. After the egg is laid it takes three days for it to hatch into a little larva. This larva is fed six days, during which time it has grown so as to fill the cell, when it is capped over and remains hid from view for twelve more days, when it emerges a perfect bee. This bee now works inside of the hive for sixteen days more, when the colony is in a normal condition, doing such work as feeding the larvæ, building comb, evaporating nectar, etc., when it is ready to go outside as a field labourer; and at forty-five days, during the working season, from the time of hatching, it dies of old age, and another generation takes its place.—*Gleanings*.

C. C. Miller, in *Canadian Bee Journal*, says:—I believe a man has the same right to keep bees that he has to keep hogs or hens or to raise wheat. But I don't believe that I have a right to raise wheat on Bro. Dibbern's land without his permission. Not a whit more do I believe I have a right without his permission to plant an apiary of a hundred colonies within ten rods of him, no matter on whose land it is, when he already has there an apiary that fully stocks the field. If I do, I damage his business to such an extent that it may not be profitable for him to continue longer in that place. It doesn't matter that it would be against my own interest so to do, I am merely considering his case. He may cultivate his wheat field in perfect assurance that I will not interfere with his crop, but after he has been to some trouble and expense to complete his plant to produce honey, he has no assurance that I or some one else may not encroach upon him. Now what I believe is that the element of uncertainty as to holding a field should no more come in with regard to producing honey than wheat. I think all fair-minded men agree that Bro. Dibbern has a moral right to the field he has already

occupied. No one, I think, has said a word to the contrary. But I think his moral right should in some way be made secure by some sort of legal right. If the production of honey is ever to become profitable enough to be regularly followed, I believe there will come a time when a man will be just as safe from interruption in producing honey as in raising wheat.

C. Davenport, in *Gleanings*:— Some time ago, in the *A. B. J.*, I gave it as my opinion that the fumes of bisulphide of carbon would kill the germs and spores of foul brood. I described how I subjected a piece of foul-brood comb containing dead and rotten larvae, as well as cells of sealed honey, to these fumes for about ten hours, in an air-tight box. This piece of comb was then placed on top of the brood-frames of a colony. The cover was pressed down, and the front of the hive raised so that none of it could escape or get out of the hive unless carried out by the bees. This was three years ago last summer, and no signs of the disease have appeared in that colony yet. There is no mistake about that comb being foul broody. It was genuine foul brood in an advanced stage of rottenness. Of course, one trial is not sufficient to test the matter for certain; but from numerous experiments I have made with these fumes I believe they will kill the spores of foul brood or any thing else if they are subjected to them for ten hours, in an air-tight box. Perhaps much less time would suffice. I see from experiments made at some of the State experiment stations that these fumes will also kill or impair the vitality or germinating power of grain and seeds. Now, if these fumes will kill the spores of foul brood by their use, the disease can be cured with less than half the work and expense of the most approved methods practiced at present; for, as I explained in the article referred to, a tank could be made large enough to hold a number of hives at once. If there were many colonies affected, only a few extra hives with frames would be necessary, as the

infected hives and combs could, after treatment, be used for the second change. These fumes do not injure the combs or frames at all; and to disinfect combs or hives by this method, all that is necessary is to place them in an air-tight box, or one as nearly so as possible, with some of the carbon in an open dish so it can evaporate. The amount to use would not matter, so there is enough, as any that did not evaporate would be just as strong or good to use the next time.

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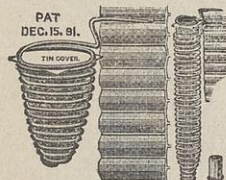
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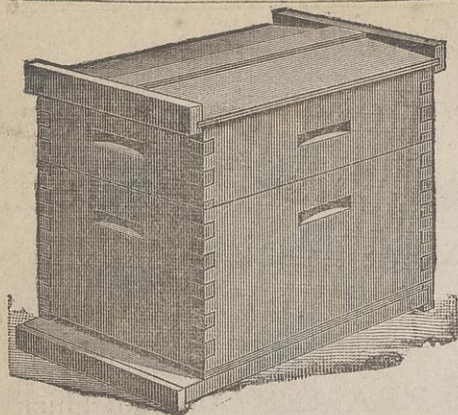
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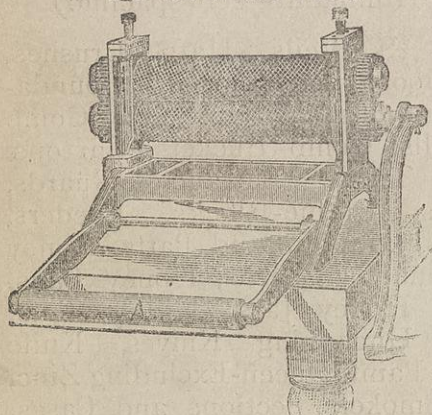
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