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The Australian bee bulletin. Vol. 7, no. 2 May 30, 1898

West Maitland, N.S.W.: E. Tipper, May 30, 1898

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THE ANNUAL CONVENTION

OF BEEKEEPERS

Under the Auspices of the New South Wales National Beekeepers' Association.

WILL BE HELD AT THE

TECHNICAL COLLEGE,

HARRIS STREET, SYDNEY,

—ON—

Wednesday, Thursday and Friday,

29th and 30th JUNE, and JULY 1st, 1898.

CHEAP EXCURSION TRAINS (1d. per mile 2nd class; 1½d 1st class) will leave all lines for Sydney on 27th June.

The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—MAY. 30, 1898.

We would call special attention that it has been decided that the annual Convention of the N.B.K.A. will be held in Sydney in the first week in July, particulars of which will be found in advertisement elsewhere. We do sincerely trust the beekeepers of the colony will rise to the occasion, realise the absolute necessity there is for unity and co-operation, and attend to do their best for the bettering of the industry.

To hand an excellent photo of Mr. G. Kelly's apiary, Dungog. He uses full size brood chambers, with half supers above. It makes a very neat picture.

We acknowledge receipt of the 23rd Annual Report of the Ontario Agricultural College and Experimental Farm, for the year 1897. It is full of very valuable information, not the least being the apicultural report by Mr. R. F. Holtermann, the apiarist. We shall give a good synopsis of same in our next.

H. B., Stoney Creek, Wilmington, S. A.:—It is very dry here yet. Bees that are left are doing nothing, and 50 of my swarms are dead out of 58. Spring dwindling and starvation. There are very few bees left round this district. Honey is 4½d per lb, but there will be none until Christmas, when the red gum will bloom. If it rains before then I think there will be a good crop. I have taken up 5,000 acres of bush country for a bee farm 7 miles from here, and will start with a few hives and imported queens after winter is over, when I will let you know how I get on.

N. B. K. A.

A meeting of the committee of the above was held at Messrs Hebblewhite's Sydney, on Thursday evening, May 26. Present.—Mr. A. Gale (President) in the chair. Messrs F. Ward (Hon. Sec.) Seabrook, Roberts, J. D. Ward, and Tipper.

Apologies for unavoidable absence were received from Messrs G. Bloxham, J. E. Taylor, and F. A. Maxwell.

Letter was received from Mr. Thos. Halloran, Wagga Wagga, complaining of the disadvantage he was placed under re freight on honey to Riverina towns, such as Narandera, Jeralderie, &c., as compared with beekeepers on the Corowa line. Those could send their honey at a special rate in 140 lb parcels. Mr. Halloran sends all his honey, except what he sells locally, to those towns, and found the unfair way he was treated by the railway authorities to be a great handicap, for the men around Corowa could land their honey in Hay cheaper than he could. He had written to the Commissioners but had received no reply. He asked if the committee could do anything for him. The letter was received and the matter was left in the hands of the President to deal with.

Mr. Gale said a letter had been received from Mr. McDade, President of the Forbes B. K. A. complaining that the Forbes Aldermen had resolved to ringbark a portion of the Forbes common, comprising the best honey bearing timber—white and yellow box and good gums. Thirteen beekeepers had settled on the common and were getting a living wholly or partly by the industry, besides a number of people keeping a few hives for domestic purposes.

A letter was sent to Mr. McDade from the committee asking for all particulars re the land. A largely signed petition was got up to the Minister for Lands, which Mr. Gale had presented. The Minister had referred the matter to the district surveyor to report on, but no reply had yet been received.

Mr. J. D. Ward, moved that the annual Convention of the N. B. K. A. be held the first week in July, the exact dates and place to be arranged by Messrs Gale and Ward, who were also to draw up list of subjects to be discussed, and communicate with suitable speakers. Mr. Tipper seconded. Carried.

Mr. Seabrook moved, and Mr. Roberts seconded that this committee express its sorrow at the death by accident of Mr. Ernest James, and sympathy with the bereaved friends.

We acknowledge receipt from Mr. C. U. T. Burke, of packet of his ant destroyer. We shall give it a good test and report later.

A good way to clear sections.—Place several section supers in a large bee-proof box, strips of wood between each, with one or two bee escapes in the box.

A late German lawsuit brought out that the much-prized heather honey of Scotland can be imitated so closely by a sugar syrup that chemical analysis fails to detect the difference.

Gippslander, Victoria—We have had a good fall of rain here since last month. Stringy bark blooming. Honey coming in every day when it is warm enough for the bees to fly.

E. P. P., Whyte Park, Wirraburra, South Australia, April 2nd:—I am sorry to say we have had the worst season ever known here; I have only taken 80lbs of honey from 40 swarms, and plenty of others none, although it is a good place for bees.

J. J., Herbert, Otago, N.Z., April 27: Things have been terribly bad here of late. We have had no rain to speak of for two years, and everything is completely dried up, and how stock are going to get through this winter is a mystery; as for the poor bees, they have had a very hard time of it.

T. A. P., Burruga, via Rockley, 13th May—I must report another bad season and a poor honey harvest. We had good prospects in the spring, but during sum-

mer a pollen famine set in, and bees did not increase as they should do. I began the season with 27 colonies, but have not had any increase. The drought still continues, and I don't expect a good season until after we get a wet winter. We have had a plague of swifts, bee martins and other bee-eating birds this summer; in the mouth and throat of one swift that I shot I found 14 bee stings. We also have the red-spot spider; it is surprising what a number of bees a spider can account for if left undisturbed for a few days. I think if we were to use a hive stand without space under bottom board spiders would not trouble us much. Blocks one foot high, cut out of a sound log 16in. thick, make good stands for 8-frame hives; bevel two sides at the top, making same width as the bottom board, and we have a stand that leaves very little room for spiders. Wishing you a good harvest of honey and subscriptions.

J. A., Chiltern, Vic, May 14:—I have been fighting foul brood the last three years, and together with the drought I have just been able to hold my own. I have the foul brood beaten for the present, and wish I could say the drought was over. However, I suppose a good time will come, which will pay us for lost time and trouble. All my box hive neighbours have lost their bees with the exception of one who transferred his bees (with my advice and help) into bar frame hives last year. Honey has been a splendid price in Melbourne market this season, viz., 5d per lb wholesale and 8d per lb retail; that will give you an idea what sort of a season we have had over here. All the different kinds of forest trees about here have been in bud since last spring, but none of them burst into blossom. I suppose for want of moisture. If they had blossomed we would have had a roaring time, but we may get a winter flow from them yet, provided the weather does not set in too cold. Later—Very happy to say that the drought has broken up since this letter was written.

WESTERN AUSTRALIA.

At the sixth annual conference of Producers of Western Australia, held April 29th, presided over by Mr Charles Harper, M.L.A., and at which the Governor, accompanied by Lady Smith, Sir John Forrest, &c., &c., were present, the following resolution was passed amongst others:—

Drake's Brook Agricultural Association.

That in the opinion of this Conference it is desirable to have an enactment placed on the Statute books making it compulsory to immediately adopt measures for the eradication of contagious disease in apiaries, in order to obviate the spread of same wherever they may appear, and that in the opinion of this Conference, with a view to encouraging people with only a limited knowledge of beekeeping to go in for apiculture, it is desirable to assist such with suitable instructions, and render help in cases of emergency.

PAUPONG.

W. REID, JUN

We have had some two inches of rain within the last fortnight. We consider that there is no more work here for our bees until September. Past season has been a fair one. Bees have good stores, I mean Italians; the poor old blacks with few exceptions have closed with poor stores, paid no rent. The Italians have given a clear profit of £1/7/- per hive (manual labour not counted.) The wax moth is cutting the black bees up in the bush nest, and gin cases. Success points to the live beekeepers.

The spring wattle promises better than it has done for two years. We seldom have an all round bad season here. If the spring is poor, the autumn is generally fair, but we never will, so I say, see those big returns, 1000 lbs per hive—nothing like that.

WINE.—I sold three 60lb. tins of honey (apple tree) to a gentleman—Mr Leatchfield, Matong, via Cooma—for wine making. He makes wine from cherries—Kentish cherry—which makes, he says, the best of its kind obtainable. Could not some of the other wine makers try honey for wine making? I do not wish

to recommend wine making. I have not tasted cherry wine yet—too young, only 50 years old; but still it will be made. Why not all beekeepers obtain a benefit from it by using honey for wine making? Try it. Would some of our beekeepers oblige us with a few pages of Sugar of Flowers. Lots of us thickheads cannot draw the line between clover honey and dark star thistle honey, or white box and apple tree honey.

VICTORIAN NOTES.

R. BEUHNE.

HONEY PRICES.—Honey is selling at 2d in Sydney, according to last A.B.B. It has sold readily in Melbourne at 5d during the last two months. Who is going to cry "Hurrah for Federation with intercolonial Freetrade?" The glucose man should have a good time of it in Victoria just now. I heard of a friend who went to West Australia; he says the honey sold there (on the gold-fields) is all made-up stuff, and he could not eat it, although he could eat it every meal on his father's farm here.

QUEENS.—Victorian beekeepers are delighted at Mr H. L. Jones' enthusiasm over his latest importation, and trust that this jewel of them all will turn out to have all the attributes which a beekeeper expects of a good queen, which however, under present circumstances it would hardly be polite to enumerate.

THE V.B.K.A.—The Victorian Beekeepers' Association at the last Convention re-organised itself out of existence. The theory of the new organisation was beautiful. It was like one of those radiating spiders' webs, with Melbourne and the secretary in the centre. All round this were to be smaller webs, with a little spider in each, but connected with the centre like one of those European wood-spiders, the web of whose young are all round the mother's web. A few country associations were formed, but they were still born. We formed one here, and called it the C.D.B.K.A., and some evil-minded person said that stood for County

of Dalhousie Beekeepers' Association. All is beautifully quiet now, chiefly owing to the absence of the necessary lubricant—honey. There were some meddlesome people on the old committee who always stirred things up. They were dropped at the last Convention. Our much-discussed F. B. William is asleep too; in fact I think he is dead. That other Bill—Federation Bill—smothered him.

APICTURE AND SERICULTURE.—Beekeeping and silk-growing were supposed to be kindred industries, but an old farmer friend has just pointed out to me that the one industry will destroy the other. He had a good many hives some years ago, "but," said he, "the worms destroyed them all. Those people who let silkworms escape ought to be punished."

NO WALL FOUNDATION.—Michigan beekeepers are experimenting with no wall foundation. I made and used a quantity two years ago. As thin as tissue paper, and the sections built from it could not be told from natural comb. Nine people out of every ten, however, would find no difference between it and comb from ordinary thin foundation, or if any did they did not care about the difference. It had, however, two bad faults; first it warped terribly, causing faulty combs in the sections, particularly with colonies none too strong; and secondly, unless there was a good honey flow on, or during a few days' break in the weather, the bees would gnaw it out wholesale. Used in frames it was even much worse. Close wiring notwithstanding it would bulge between the wires.

G.F.B., Wellington, N.S.W., May 12
—Every appearance of a good winter for bees; colonies strong, with box in blossom, with fine weather. I introduced a number of queens from Queensland this season, and I found a great improvement in my returns. I am importing queens from Canada for the coming season, so as to get fresh blood.

NOTES.

BY LOYALSTONE.

SYDNEY SHOW. —Yes, Mr Editor, I was there, but had not much time to spare. I admired the honey exhibits, especially extracted honey. In this class the judges had their work cut out, but I don't think they went astray in awarding first prize to Messrs Bloxham Bros. I tasted their sample, and it was A1, but could Messrs Bloxham Bros. produce say two tons equal to it in every way? I am a believer in the honey (extracted) exhibited at shows being a sample taken from a bulk of at least two tons, without any special straining or "faking up." There were two honey trophies exhibited—one, Mr Abrams, first prize; the other Mr Seabrook's. The latter gentleman went for me straight away when I spoke to him; accused me of claiming myself the originator of the long idea hive, when he as much as assured me that I knew he was the originator. When I started to explain myself to him, he cut me short by giving me to understand I knew very little about bees, when I gave up Carniolan bees for Italians, when he, a beekeeper of 20 years' experience (he impressed this very firmly on my mind) still kept Carniolans. Mr Seabrook says Carniolan bees do not swarm when worked the way he works them, and that way he seems to keep a secret to himself. I doubt whether he would tell his customers the way to work them. Mr Seabrook "puffs" himself up with the idea that he was the originator of the long idea hive. Allow me to tell him they were in use in Australia sixteen or eighteen years ago. I started to use them only four years ago, and the long idea hive I use is entirely different to his. Mr. Petersen of Wattle Flat sent me a sketch of his long idea hives, and I took my pattern off him.

FOUL BROOD.

This remarkable disease keeps cropping up in each number of the A. B. B. without giving any fresh information. I will add a little to this number. I do not know whether beekeepers have

known any such thing before as wax Foul Brood proof, that is wax disinfected so that the Bac-Alvei do not care about tackling it. Here is the remedy that has proved successful with me. Three years ago my home apiary was attacked with Foul Brood late in the autumn. I cured all but two by the McEvoy method. These two (one was very bad) I thought I would let alone till next season. I made the bees comfortable by putting over the frames for the first time, a piece of tarred felt (I never used this before among bees.) In the following season I opened up these two hives expecting to find them rotten with Foul Brood. To my surprise the bees seemed to winter well, and Foul Brood bad. In fact the hives looked only slightly affected with Foul Brood. I put it down to tarred felt and proceeded to experiment with the felt and Foul Brood in the following manner:—I got some foundation, wrapped a piece of cheese cloth over it, then I got a box of thin wood, placed two pieces of tarred felt in the bottom of it, put the foundation in cloth on top of this. Then put two more pieces of tarred felt on top. Put this in a warm place for three weeks, when the foundation had inhaled the tar it smelt very strong. I then hived two swarms bad with Foul Brood in a fresh hive with starters made of this foundation, and hived two other swarms bad with Foul Brood in a fresh hive with starters of ordinary foundation, with this result:—The two swarms hived on tar smelling foundation showed no sign of Foul Brood. The other two hived on ordinary foundation were again attacked with Foul Brood. So again I experimented. The worst of these two hives I hived in a fresh hive with starters of tar smelling foundation. The other I hived in fresh hive with ordinary foundation. Again the hive with Anti-Foul Brood foundation showed no signs of Foul Brood, whereas the other one was infected. This last hive I transferred into a fresh hive with Anti-Foul Brood foundation, and it showed no signs of Foul Brood. I then got a lot of thin cakes of wax and

put in a box in a warm place surrounded with tarred felt, and in six weeks the smell of the tar was so strong in the wax that you could not boil it out. The more the wax was boiled the stronger was the smell. Make this wax into foundation and Foul Brood will not trouble you. It has not in the many cases I have tried. The following is my plan of curing on the McEvoy system, viz, During a honey flow when you have a hive affected with Foul Brood, prepare a fresh hive with starters of three inches deep of Anti-Foul Brood foundation on the frames. At nightfall remove affected hive, place fresh hive on its stand, shake the bees from affected hive in the front of fresh hive. When the bees are all in place queen excluder on entrance, and that hive for the future is Foul Brood proof, that is as long as you give them the Anti-Foul Brood Foundation when they want fresh frames. The smell on the wax interferes in no way with the honey placed therein. Now any beekeepers who try this simple remedy for Foul Brood next season and succeed with it, kindly remember and give their experience through the A. B. B.

WAS THE BEE IMPORTED?

Mr. Jeff Wallace, Editor *South Coast Herald*, Albion Park, May 3rd, writes:—Dear Sir,—Although the appended paragraph has been going the rounds of the provincial press for some time, I have not yet seen anything advanced to refute the assertions of the writer. Can you or any of your readers throw any light on the subject? The following is the paragraph referred to:—

"Mr. Geo. M. Ashby, of Mudgee, writes to the *South Coast Herald*:—"I notice that a paragraph has lately been going the rounds of the press to the effect that the bee (misnamed "English") was introduced into New South Wales by Captain Wallace in 1821. Now, as my great-grandfather (James Ashby) collected no less than two tons of honey within the same number of months in

the year 1814, from trees in the bush near Windsor, it is my opinion that the common black bee was not imported at all, but is indigenous to this continent. I can find any amount of testimony that these bees were far more plentiful in the bush in the very earliest days of the colony than they are at the present time. The only bee imported to the colony in the early days—about 1830, I think—was a species of Ligurian, introduced by the late Commissary Miller, and which was known as "Miller Bees." I can remember seeing a colony of these bees at work on the estate of the late Alexander Berry, at the Crow's Nest, near Sydney, early in the thirties, but I don't think they were ever successfully acclimatised, as I never remember seeing them in later years."

QUESTIONS.

G. STEVENSON.

156.—I know a man who keeps about 100 hives in common boxes and strains the honey. He would like to keep his bees in better hives but can't afford the expense. If I find the hives, foundation and extractor, he to fill them with swarms, keep an eye on them, and help to extract, what would you consider a fair share of the honey to be allowed him? As to the value of the bees, I may say that I frequently buy swarms from him at 3/- and I would retain the ownership of the hives, allowing him 3/- if I should remove any of them. I should be glad to have the opinion of some of your leading beekeepers on this point?

J. F. MUNDAY.

157.—Do bees spread or transfer disease among plants, say among potatoes?

GIPPSLANDER.

156. I would consider half the honey a fair thing to allow him. Would prefer to take the bees at 3s. per box and work them myself.

157. This is a question for scientists. How could we tell unless we knew all about spores, germs, &c.?

J. C. FITTILL.

149.—Have not tried it by solar heat, but think it could be made much quicker. Nothing easier than making good vinegar. Mix 2lbs of honey to the gallon of water, let it stand in open cask about 10 to 12 months. I have made vinegar several years this way.

150.—Have not heard of any.

151.—Take supers off by all means. They are warmer and come out better in the spring. I like the doors shut in cold weather and boxes are better under cover.

152.—I prefer canvas.

153.—Yes, but don't like sheds. I like the open air, the bees are easier to work and you have more light.

154.—Three and four frames.

W. REID.

156. Something must have gone wrong with the works. If present owner is not blind, crippled or disabled by illness or any other way, buy him out. If you cannot pay cash down, pay him by instalments and let him hold hives as security. Give him interest, say $7\frac{1}{2}$ per cent., as long as you owe for hives, only £15. If he is disabled in any way and you want to help him, well other arrangements can be made. If he will watch carefully and work well, find extracting house, &c., I would give him half honey. You will no doubt have to re-queen, as well as find hives, &c.

157. Have been working among plants for 30 years. Consider this an open question.

LOYALSTONE.

156.—A very difficult question to answer. However if I arranged similar with any bee-keeper, I would allow him 1-10th of the honey crop the first season; 1-5th of the honey crop second season; and $\frac{1}{2}$ of the honey crop every season after. Just look at the expense, time, and trouble a man would have the first season.

157.—I should say bees would never spread disease of any kind among vegetation of any kind. Diseases are spread among vegetation owing to the insects which infect them with disease increasing and multiplying. You may as well say ants infesting a "foul broody" hive will carry the disease to their own homes. Oh no! please don't blame the busy bee for anything of the kind. Such a thing was never heard of, and in my opinion will never be heard of.

W. S. & H. J. WILSON.

151.—Greatly depends on locality, some districts are milder in winter than others. In our Teesdale apiary we leave them on, as it is sheltered amongst pines, etc., and in winter much milder than the Deansmarsh apiary, which is situated in mountainous country, with more cold and wet. It depends again, on the state of your apiary, amount of food available, clean or diseased. Everything being favourable, should leave supers on.

152.—Good bagging, or old wool bales cut to size.

153.—Never tried it. but don't like the idea. Too expensive for benefits that would accrue, too many spiders, not enough light, and, if hives well built, not enough gain.

154.—From 3 frames (L) upwards, but not more than 6.

156.—This is a matter of business which should be settled between the parties interested. Should certainly not dabble with any man's bees, but would become absolute owner if it only cost 3/ extra, as you say. This would save you any amount of bother and trouble, besides giving you satisfaction and more profit.

QUESTIONS NEXT MONTH.

158.—The matter of honey exhibited at Shows is one that must have a great influence on the sale and consumption of honey. Loyalstone makes some remarks on another page. He believes in the honey exhibited at shows being samples not faked or strained up, and should be taken from say a bulk of two tons? We want some opinions on this subject.

159.—What is your opinion of "Was the bee imported," on page 30?

GIPPSLANDER.

160.—What experience have you had with Carniolans or Carno-Italian bees? Have you found them better for honey-gathering than the Italians? Are they more subject to disease?

W. S. & H. J. WILSON.

161.—If requeening an apiary of blacks, what strain would you decide on, and why?

162.—What qualities do the Cypri-Italians and Carni-Italians possess (if any) over and above the Italians?

163.—When do you consider the best time for re-queening? Give reasons.

164.—Should the Victorian B. K. A. hold a Convention in June, and where, and why?

H. R. A. & H. A. SHOW.

The following are the apicultural prizes awarded at above:—

Comb honey display, Geo. Paine, 1; Pender Bros., 2. Sections, Geo. Paine, 1; Pender Bros. 2. Extracted honey display, Pender Bros., 1; Geo. Paine, 2. Liquid honey, Geo. Paine.

Franulated honey, Geo. Paine. Beeswax, J. G. Munday, 1; Pender Bros., 2. Leather-coloured Italian queen and bees, Pender Bros. Yellow Italian queen and bees, Geo. Paine. Honey vinegar, Pender Bros. Honey beverages Pender Bros. Comb foundation, Pender Bros. Cookery made with honey, Pender Bros. Wire frame of comb foundation, Pender Bros. Colony of bees, Geo. Paine. Bee-hive, Pender Bros. Naturally built combs, Geo. Paine. Comb foundation, Geo. Paine.

THE LOVE OF FLOWERS.

R. H. LONG.

The first, faint dawning rays of light reveal
The merry bees that shake the blue bells peal
To wake the flowers.

The nodding blooms half ope their dreamy eyes
To shrink with flushing light in coy surprise
Deep in their perfumed depths unguarded lies—
Their golden dowers.

Those golden dowers, those blissful marriage fees
Those sweet rewards that tempted poisoning bees
To blossoms fair.

There, as they drained the melting honey cell
The tinted germs of flowers love down fell,
And thus was wed, how wonderful to tell
An amorous pair.

The last sweet lingering rays of light reveal
The bees as from each sleepy flower they steal
A goodnight kiss.

Then through the gloom, they take their homeward flight

Braving with cheerful hum the shades of night,
Speeding with silvery wings thro' fading light
To hours of bliss.

FATAL SHOOTING ACCIDENT.

A magisterial enquiry was held before the Police Magistrate, Mr. C. Smith, touching the death of the young man Ernest James, who had met with his death while wallaby shooting on the previous day.

James Schofield, farmer, of Winburndale Creek, deposed that he had known deceased about two years as manager of a bee farm at Winburndale Creek; about 2.30 p.m. on the previous day he saw him lying between two rocks about 1½ miles from Bruceedale house; he was in a wounded condition and was unconscious; he recovered in about twenty minutes, and when able to speak witness said to him, "Well, Jim, where is the poor boy?" he said "Can't you help me out of this;" witness told him he would try, and then asked him how it happened; he said "It was only an accident, Jim," and he could not help it. Where is he. George?" Witness then took

George Oakes to him and deceased, seeing him said "Never mind old man, you could not help it;" he then asked witness to try and get him to Mrs. Oakes' place; witness and his brother then carried him as far as they could; they then got a stretcher and a cart and arrived at Mr. Suttor's house about 6 o'clock; deceased told witness that George Oakes was loading his gun and that it went off accidentally; they had been out wallaby shooting and he was sitting on a rock; Oakes was a few feet behind him and was loading a single barrelled breach loader; the gun went off, and the shot lodged below his left shoulder, the deceased lived until about two o'clock in the morning.

George Oakes, a lad aged 15 years, deposed that he lived at Peel with his mother; had known deceased for some time; on Thursday, by arrangement, they went out wallaby shooting; they left home about 1.30 p.m. for the Rock, about 1½ miles from Bruceedale; witness fired at one wallaby while deceased was behind him; deceased then came up and passing witness to the left sat down on a rock about three yards away; witness was then re-loading the gun, a single barrel breach loader; witness put the cartridge in and the gun was pointing towards deceased; witness forgot to put the hammer of the gun up and jammed the barrel tight against the stock and dragged the lever forward; the gun went off and the contents struck deceased low down on the left shoulder; deceased fell on his back and cried out "You have shot me. It was only an accident and you could not help it." Witness remained with him for about ten minutes and gave him what attention he could; he then ran over to James Schofield, and told him what had happened; they secured a cart and sent for other help; witness had been accustomed to use fire arms for two or three years and had been out with deceased twice before.

Finding: That deceased Ernest James died at Bruceedale from the effects of a gun shot wound accidentally inflicted by George Edward Oakes when wallaby shooting with deceased near Bruceedale.

(Mr. Ernest James is a brother of Mr. George James, the well-known beekeeper of Gordon, and was a promising young beekeeper and had a good grip of the whole business. He was widely known and much respected. He was for several years with Mr. J. E. Taylor, and Mr. R. M. Nancarrow.)

The *Canadian Bee Journal* says:—Thousands and tens of thousands of dollars have been lost to the Province of Ontario alone, by having the idea circulated by certain influential men that beekeeping required neither skill, experience, study, or time.

WORK FOR THE MONTH.

Are your bees snugly fixed up for the winter? Are there no leaky covers? Are they in substantial hives, with sides and tops not less than one inch thick? Have you good quilting on top of frames? These are questions every beekeeper should now ask himself. There is a good deal in the matter of covers and matting. Some people like big gable covers with ventilation holes in ends. We don't. Some people like bagging on top of frames, overlapping on outsides of hive. We don't. We visited one apiary where foul brood was said to have destroyed a lot of swarms. There were big gable covers. Another same way. Bagging was hanging all round outside below cover. Big gable tops may do well enough when filled up with some warmth-retaining material, but not otherwise. A solid chunk of wood top of linoleum or bagging will do well. Overhanging bagging in wet weather draws moisture to the inside of the hive, the whole piece of bagging, inside and out, becoming damp and so chilling to the bees and brood.

A leaky cover, or one with ever so slight a crack, is a great source of ill. Heavy rain soaks through. If bagging underneath, it absorbs like a sponge or blotting paper. Well examine your covers for such, and don't spare pitty or paint. Here is a reason why we like linoleum before other things for an inside covering, and the oiled side up. Should damp leak in it simply lays on the oiled surface and don't soak through like it would with bagging. We know several apiaries where sheets of iron on top are effectual preventives of moisture getting to the interior of the hives.

Weak hives are best to be united, so that the larger number of bees may gain increased warmth, winter better and come out stronger in spring. Where there are not enough bees to cover all the frames in a single hive, a follower, or board the size of a frame may be used to confine them to the portion of the hive they fill, or the combs with bees

may be placed in the centre of the hive, and a follower on either side, the vacant space on either side of them being filled with chaff or other warmth retaining stuff.

Feeding is another matter must be attended to, if you have not sufficient honey in the hive. There are various ways. The best is to give them a comb of honey. Sugar blended with hot water poured on a frame. An inverted pickle bottle, the mouth tied tight with muslin, and filled with sugar syrup, placed inside the hive; or candy made of baked sugar, placed on top of frames. There are also many devices sold by supply dealers for feeding.

We take it for granted that every careful beekeeper has already seen there are good queens in all his hives. For ventilation the bees will manage all that themselves at the entrance.

Having seen to these matters the less the bees are meddled with for the next three months the better. Here in Australia we are not called in to put them in cellars as in the northern countries of Europe and America, nor even when wintered outside as in some countries to use double walled hives with chaff between. The matters given above as essential are sufficient to bring them in good condition in the spring, ready to breed up into strong colonies, and bring in the crops to repay us our trouble and outlay.

In some parts of Australia there will be a flow all the winter. In such case leave all spare combs and supers on the hive. The bees will look well after the brood chamber, packing it well around with pollen and honey to retain the warmth. It is said there is more warmth in a frame of honey than in a follower.

Devote spare time to making hives and frames ready for the coming spring, and aid the prosperity of the industry by sending your subscription to us, and joining whatever beekeepers association exists in your colony.—In *N. S. W.*, the *National Beekeeper's Association*.

N. S. W. FARMERS' AND SETTLERS' ASSOCIATION. FEDERATION OF AUSTRALIA.

MANIFESTO TO THE MEMBERS OF THE FARMERS'
AND SETTLERS' ASSOCIATION AND OTHER PRO-
DUCERS OF NEW SOUTH WALES.

GENTLEMEN,—The President having appealed to the members of the Executive Council of the New South Wales Farmers' and Settlers' Association for an expression of opinion on the Federal Convention Bill, with the result that 13 members out of a total of 15 have declared themselves in favour of issuing a manifesto to the members of the Association and the other producers throughout the colony in support of the bill, has much pleasure in complying with the request, and for the following reasons:—

1. The tendencies of all highly civilised people are towards a federation of interests, to economise the cost of government, to promote a national feeling among the people, and to enable them to assert their influence among the nations of the world,

2. In the interests of Australian producers the disabilities and restrictions upon commercial intercourse with the markets of Australia should be removed from the borders and ports of the colonies, to allow Australians absolute freedom of access, to their own markets, as in the United States of America, Canada, and the other confederated states of the world.

3. The facts that large additional areas of land are being brought under cultivation each succeeding year in New South Wales, and that large tracts may be made available for agriculture, indicate that in the near future New South Wales, with her varied climatic conditions must produce more grain and fodder than any of the colonies, and become a larger exporter, in which case free access to the different markets of Australia must prove of great advantage to her.

4. Agriculturists of a desirable class will be induced to settle in New South Wales, consolidating settlement of the sparsely populated parts of the colony, which will increase railway traffic, reduce freight on products, give an impetus to industries and employment and place the many benefits of civilisation within reach of all.

5. Having read and carefully considered the bill, it is clear that it is a broad, liberal, and democratic charter on which the future of Australia may be built. It is a reasonable compromise between the conflicting interests of the several colonies. The defects in the detail of the bill are far outweighed by the broad, liberal principles which permeate its basic provisions, and the elasticity of the clause which provides for altering the constitution. A constitution that could be altered with greater facility would not command sufficient respect.

6. For the foregoing reasons it is to be hoped that the members of the association and the pro-

ducers of New South Wales will not further delay or risk federation, but that they will on 3rd June record their votes in favour of the Convention Bill.

GUNNING F. PLUNKETT, President.
JOHN L. TREFLE, Hon. Sec.

Yerong, May 4, 1898.

DEATH.

Mr. John Burns, Palmer's Island, 5th May, writes:—I had a sad loss last month. My dear wife died very suddenly in her confinement. I had three doctors with her, but they did not save her for me. My house has been very lonely ever since. I am left with eight of a family, the youngest is three years. I have never opened a hive since my loss. The world seems so cold now without her, as she used to take such a great interest in the bees and was such a good help to us when we were extracting. She was worth all the rest of us put together.

(We have to express our deepest sympathy with Mr Burns in his trouble, but he has consolation. She is at rest, no more pain. As for himself and his little ones, the great Controller has found a remedy for the greatest sorrow—Time.

QUICK VINEGAR PROCESS.

1½ lbs of honey and a quarter pint of good yeast to the gallon, let it ferment for three or four days at a temperature of 75 to 80 degrees F. which will produce alcohol. You may now add 1 oz. of cream of tartar and 1 oz. of crushed raisins. It has now to be exposed to the air as much as possible to induce oxidation of the alcohol into acetic acid (vinegar).

Take two casks, ends up, fix one some distance above the other, bore a few holes small enough in bottom of the top cask to let the liquor pass through in a day, down through a crate of loose shavings or straw into the cask below; you will need only one inch hole in the top of the bottom cask. Run off the liquor and pour it into the upper cask daily, but don't

use a galvanized bucket without waxing it. The crate can be made by tacking narrow battens around the inner rims of the casks, say three inches apart, and fill with shavings. If the temperature is kept between 90° and 100° F. it will be ripe in a few days.

In the manufacture of vinegar it is highly important that as free a supply of air should be admitted to the liquid as possible, since if the oxidation takes place but slowly, a considerable loss may be sustained from much of the alcohol, instead of being completely oxidised to acetic acid, being only converted into aldehyde, which, on account of its volatility, passes off in the state of vapour. This is secured in this process by enlarging the surface exposed to the air, which, however, not only diminishes or prevents the formation of aldehyde, but also greatly curtails the time necessary for the whole process.

[Culled from a long article on Vinegar in Dr. Ure's Dictionary of Arts, Manufactures and Mines, by F. W. Penberthy.]

THE DIGESTIVE MACHINERY OF HONEY-BEES.

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

We know from our study of geology that early life-forms in any branch of animals are simplest, and later gain more and more in complexity. Among insects, bees and their near congeners were the latest to develop. Indeed, there were no flowering plants until the Cretaceous Age—the age just before recent time—and so of course there could have been no flower-loving or nectar-sipping animals. As bees were so late in their evolution, we should expect them to exhibit marvellous development, not only as a whole, but also in their various organs. And such is the case to a most marked degree. I know of no animals—nor need I except man in the statement—where the development of so many organs is carried so far. Man in his brain, and the hand that it directs, shows transcendent modification. The bee in its mouth-organs—almost all

of them—in its glandular structures; in its leg development; in the very hairs that adorn it; wondrously modified ovipositor; and, lastly, in its marvellously modified digestive organism, shows structural modifications that are hardly surpassed in all the realm of life. If we add to these the functional differentiation into queen, male and worker, we surely have reason to place the bee away in the lead among the marvels of God's creation. The bee's food is peculiarly refined and complex. Its provident storing of food, social habits, long life, entire care of the young, are exceptional among all the lower animals. It fashions vessels for food depositories, of incomparable mechanism and beauty. It has lunch-baskets and dinner-pails that challenge anything of man's device; while its brushes, its pincers, as also its industry, may well give it a first place among all God's creatures—man alone excepted. The food of bees is for the most part very concentrated pollen of flowers, which, like meal and flour, is rich in albumen, starch and oil; and honey, or the transformed nectar of flowers, which supplies the other element of a perfect food regimen. To prepare such food, we should expect the bee to possess a very highly wrought digestive organism. When we add to this the fact that the young or larval bees are wholly fed by the mature bees, and with a food so perfect in its composition, combination and preparation that almost all of it—essentially all—is assimilated, then surely we are in way to appreciate the alimentary apparatus of the honey-bee. Once more, the queen-bee, also fed by the workers on prepared food, possibly the same that nourishes the immature bees, lays often 2,000 to 3,000 eggs daily. These actually weigh nearly double the queen's weight. Does this not speak volumes for the excellence of the food given her, and of the organism that prepares it? I have already shown how honey is the result of action upon the nectar of flowers, by the secretion from the large glands in the head and thorax, which is emptied just at the base of the

tongue, and so mingles generously with the nectar as it streams into the mouth en route for the honey-stomach. This part of the bee's alimentary system is different from that of many other animals and I will not discuss it farther now. The point of greatest interest is the source of the "jelly", the specially prepared food for the larvæ and the queen, and doubtless the drones. Some have thought this to be a secretion from the large lower head-glands. But as I have shown that charcoal finally pulverized and fed to bees is found in this "jelly" and in the "royal jelly"—the special food of the larval queen—it seems certain that the jelly cannot be a secretion. The most probable view seems to be that the pollen is mixed with the secretion from the lower head-glands and then passed to the true stomach, possibly mixed with some honey, and digested or changed to the marvelous food—the jelly. This is probably regurgitated and served to the larvæ, queen and drones. If the secretion from the lower head-gland is not used to digest the pollen, it is difficult to know what is, as it does not seem possible that the stomach could secrete enough "gastric juice" to do it. An objection to the above view is urged in the fact that a membranous tube hangs from the lower end of the honey-stomach into the true stomach, which acts as a valve like our ilio-colic valve, and would not permit any of the contents to pass from the true stomach back to the mouth. This would be so except that the bee doubtless has the power to draw the honey-stomach up, so that this tube ceases to hang into the true stomach, and thus loses its force as a valve. Just so our ilio-cæcal valve can be made to lose its valvular action, as in cases of severe wrenching when the contents of the large bowel may be vomited up. Thus it seems more than probable that the incomparable food prepared by the nurse-bees is compounded of digested pollen and honey; that it is prepared in larvæ, and possibly for the older workers. There is one more organ in the honey-stomach of the worker-bees which merits notice. It is a

spherical organ with jaw-like segments that leave a central opening, thickly set with hairs that reach upwards. When the bee is taking honey into the honey-stomach these jaws are constantly opening and closing, which draws in the nectar and forces it back. Any pollen in the nectar is caught and held by the hairs, and thus these stomach-jaws, or this honey-stomach mouth is constantly ridding the nectar or honey of the pollen; and thus we see why honey is so free of pollen, even though the nectar may be rich in the same. This ever-active stomach-mouth is always screening it out, as the bee is gathering the precious nectar.

SEASONABLE QUESTIONS.

Gleanings.

Mr. G. M. Doolittle, says:—I often think bee-keepers are as ignorant regarding the value of good straight combs as they are regarding being prepared for the season. Such combs are as good as money in the bank, and I would allow no one to melt up the surplus combs I have, even if he would give me twice the number of square feet they contain, in foundation. What is there to hinder hiving swarms the next year on those combs from which the bees were killed, and thus save the cost of honey used in producing the material from which they were built, and all the labor of the bees besides? No, no! don't melt up good combs for the fun of it, or for the sake of making the bees build more. But why allow those colonies which are to produce the swarms to be hived in those shallow supers, and then killed, to swarm at all? Don't know how to work for comb honey and not have swarms? Well, then, I will tell you how I worked my out-apiary last year without swarms, and had good results as to comb honey. First I made as many cages for queens as I wished, by wrapping wire cloth around a stick that was $\frac{1}{2}$ by $\frac{3}{4}$ square. The pieces of wire cloth were cut four inches long. Having the wire cloth formed into cages $4 \times \frac{3}{4} \times \frac{1}{2}$, inside

measure, I sawed off as many pieces, $\frac{1}{2}$ inch long, from the stick I wrapped the wire cloth around, as I had cages, when each piece was slipped into one end of each cage and tacked fast. Then other pieces were sawed off, for removable stoppers, to be used in the other end of the cages, when caging the queens. Then as many more pieces were sawed off, which were two inches long. These last had a $\frac{3}{8}$ hole bored through them lengthwise, which hole is to be filled with "queen-candy," when wanted for use. We will now suppose the swarming season has arrived, which is generally from a week to ten days before our honey harvest comes. I now go to each hive which is strong enough in bees to swarm or to work in supers; catch the queen, put her in one of the cages, using the short stopper to fasten her in. I now look over the combs till I find one which has a vacant space above the bottom-bar to the frame, sufficiently large to admit the cage so it can lie on top of the bottom-bar to the frame. This vacant place should be about one-fourth way back from the end of the frame nearest the entrance of the hive. This, supposing that your frames run endwise to the entrance. If I find no such vacant place I make the same by cutting away the comb. Having the queens thus caged I wait 9, 10, or 11 days, according to the weather, when I proceed to cut off *all* queen cells which may have been started, shaking the bees off each comb in front of the entrance, so that I may be sure not to miss any. In replacing the combs in the hive I remove the stopper from the cage and replace it with the long one which was filled with candy that morning, so the candy will be fresh. It will take the bees from two to three days to eat the candy out of these long stoppers, which, when done, liberates the queen. While the bees have not been queenless at all, they have been without a laying queen from 12 to 14 days, which I find is sufficient time to stop all inclination to swarm, unless the honey flow holds out more than four weeks, which is an unusual thing. During the time the queen has been caged, the most

of the honey coming in has been stored in the brood-combs, unless the bees had commenced in the sections earlier, in which case they keep right along the same as though nothing had happened. In any event, thus caging the queen seems to change all desire for swarming to that of storing, as soon as the queen commences to lay again, when the honey will go into the sections as if by magic. Why I said 9, 10, or 11 days, according to weather, was that it is alright to cut the cells on either of these days, so we need not go out on severe stormy days, unless it storms on all three. I generally cut the cells on the 10th day, where I can have my choice of days. Then why place the cage just where I have said? I formerly placed it anywhere in the hive where the bees could have access to it, so as to care for the queen; but last season I happened to place the cage on the bottom-bars of the frames in several hives, as given above, and I found these colonies not only worked better in the sections, but did not seem to consider themselves queenless to an extent sufficient so that any of them started a single queen-cell.

CAPPINGS.

Willie Atchley says a queen cell must be at least one inch long.

It is estimated there are 400,000 beekeepers in North America.

About 120,000 lbs of beeswax were exported from New York in 1897.

Mrs. Atchley says she likes the Hoffmann frames, but wants the bottom bars at least $\frac{3}{4}$ inch wide.

Over 212° the tendency to soften propolis mixing with the wax is increased, giving the wax a darker colour.

There are some 53,000 beekeepers in the British Isles averaging five colonies each. Average yield 50lbs to 60lbs.

J. H. Manlove says a good way to stop robbing is to tie coal oil rags about four inches above the entrances of hives being robbed.

A Mr. Nichols clips his queen's wings—in the first year, one wing—next year the other—third year supersedes.

Trouble in finding a queen may be overcome by placing in the hive, a cage in which another queen has been confined. You will find her in it in a short time looking for a supposed rival.

R. C. Aiken, in *Gleanings*:—I believe (and think I know) that wax is secreted when there is a prospect of its being needed, and always more or less at all times when honey is being gathered.

L. L. Skaggs, says in *Southland Queen*, As to Italians being worse affected with paralysis than blacks. I think it is a mistake. It is not noticed so much among the blacks because they don't change colour, but if you look under the hive and in the grass in front of them you will find dead bees.

A German beekeeper finds that bees destroy purposely such larvae in queen-cells as will not mature good queens, reserving only the best. Acting on this hint, instead of taking cells from a colony immediately after the issuing of a first swarm, he waits until four or five days later, and finds he has not only more beautiful queens, but decidedly better ones.

REARING QUEENS. Fill a 10-frame hive with combs of brood, place it over a proper colony with an excluder between, and 11 days later remove all cells in the upper story and shake all bees from the bottom body into it, placing the latter with queen elsewhere, he will have bees in the right condition to accept, start or build cells, and the brood or prepared cups should be given as soon as the bees show the queenless sign.—W. H. Pridgen, in *Southland Queen*.

E. S. Miles, in *A. B. J.*, says:—Beekeepers are the only class I know of who are always urging others into their business. I have noticed those who are always booming the bee-business as the best paying thing on earth, always have something to sell to the prospective beginner. I have the same motive in not wanting so many to go in. So you see I

don't claim to be "holier than thou." Let beekeepers beware lest in inducing their neighbours to keep bees, and educating them in the business, they destroy their own. "He that provides not for his own is worse than an infidel."

Reindenbach thinks he has determined that wax is produced from pollen in the large intestine of the bee. In his opinion, honey serves only to keep up heat during its production, making only a small amount of honey necessary for wax production during warm weather. Careful analysis of the contents of the large intestine fixed him in his decision. He thinks more wax might be secured without loss of honey if the bees always had opportunity for building, as in the super and in late summer in warm weather toward the outside of the brood-nest. In the time of dearth, in very hot weather, he took from a strong colony half its combs, they being densely covered with bees. In place of the removed combs he gave frames with starters. The bees began lively to gather pollen, and in eight days had built a half-pound of beautiful comb, with no loss of honey. Having enough of the old combs for brood, the queen did not occupy the new combs. At the same time the other colonies lay idle.—*Pfäzler Bienenzucht*.

R. C. Aiken, in the *Canadian Bee Journal*:—Twenty years ago it took 25 pounds of honey to build a pound of comb and therefore ready made combs saved that much for our surplus, less our investment in these ready made combs. Today many are getting it down to less than half that, and I believe that less than one-quarter would be nearer right. Can you Mr. Heise, or any other Canadian apiarist, stand up and say that ready made combs will cause the storing of any more, brood chamber stores included, than when they build comb, save in the rare cases of a very sudden and profuse flow? My experience says very little is gained. I am willing to be convinced, but only by proof. I, too, used to tell that wonderful story of so much honey lost when wax was secreted; but when I

cannot get the extra yield when extracting, and find wax secreted and plastered about the hives in useless waste in spite of combs ready made, I conclude I will have to allow of the wasted honey till I get a strain of bees that will not secrete wax.

Reversing Sections in the Super, for the sake of having them finished to the bottom-bar, seems to have died out. R. C. Aikin says, the plan was a failure with him, because some sections would not be far enough advanced for the comb to stand alone on its head, while other sections were already completed.—*A. B. J.*

At the Illinois State Convention, Mr. Becker asked, "Should beekeepers encourage the common farmer to keep bees?" President Smith thought not; that every extra good year brought everybody into beekeeping, and as the years grew bad they all went out of the business, with no good result to any one. Others thought about the same.

Dr. C. C. Miller, in answer to question:—Suppose I have 30 colonies of bees, and I go out some day and find a swarm clustered on a tree. How am I to tell from which colony it issued? says, —The nicest way is to have the wings of the queen clipped, then watch what hive the swarm returns to. If your queen is not clipped, hive the swarm or get it in some kind of a box and take it away from where it is clustered (it will make it a little surer if you put it in a cellar for the time being), then take a handful of bees from the swarm, dust them well with flour, and watch what hive as the powdered "ladies" return to it.

GETTING BEES OUT OF SUPERS.—Dr. Miller says:—The supers are piled 10 or 15 high, although 8 is much better than 15; a Lareese escape is put under the pile with free chance for the bees to get out under the escape, and a Lareese escape is put on top, unless, better still, a large cone escape is put on top. If piled early in the day on a bright day when bees fly well, an hour or two may empty

them, otherwise a few may stay in all day. Of course a high pile will not be cleared so rapidly as a small one.

"Bee Student" in the *American Bee Journal*, says: I hinted very strongly, in a previous article, that there was a *best* time to do our work, and I find that time to be when nothing else is *pressing*, but it is too often the case with most men that there is *always* something pressing, and the queen-cell cutting must be delayed until the swarm is disposed of, or until next day, and although grandfather managed thus, it is no excuse for you and me, in this progressive age. You may say it is impracticable to disturb the bees while swarming. How do you know it is? Every bee ready to go out with the swarm will go, and not one bee more by being disturbed at that time; and when you begin to take out the frames, the swarming part of the colony will take wing immediately, and they are in reality helped instead of hindered; as the majority of the old colony are afield, the combs are almost bare, and queen-cells are found at a glance; whereas, when you have to use smoke, the centre combs, where you expect to find the best queen cells, will be so thickly covered with bees that it will require about 15 minutes to make safe work of it.

W. H. Eagerty, in *A. B. J.*:—My apiary is located on a gentle swell of land near a creek bottom, and just high enough to give me a good view of my bees as they come and go when at work during the busy season of the year. From what I have seen I am led to believe that the bee flies in a very straight line from one object to another, but those objects are not so far apart as some might be led to believe. I have seen the bees, when coming home with their loads, nearly all make for a tall apple-tree, and from there to the hives. Having found their line, I have gone along it to see how they operated further along the line, with the result as above stated. My best chance to see the flight was when the bees were going from the hive to the fields to get their loads, and

I saw that they moved a little sidewise with each stroke of the large wings, going first to one side, then to the other, something as a skater moves when skating on the ice, going first with one foot then with the other, but keeping a true line in the main. A single bee seemed to fly as if in a tube with a diameter of about $1\frac{1}{2}$ inches, moving not only side wise but also up and down, to something like the same extent, and like the skater they seem to gather more force with each side movement.

FINDING DARK QUEENS.—Mr. Baldridge, in *A. B. J.*:—I think I should put a cover on the hive about two inches deep, something similar to the Simplicity cover, and as you blow the smoke at the entrance, rap on the hive. I find that the queens are generally in the cover, and in a very few moments, without taking the comb out of the hive, I found them frequently on the cover. It is a very easy matter to rap on the hive, and if you take that cover off at the proper time, you will find, almost invariably, the queen in the cover. Dr Besse—Black queens are very shy; they don't stay on the hives; they will slip around and hide in the corners; my experience is when I want to find them, the same as Mr. Baldridge's—drum them out, and if you can't see them then, shake them on the alighting board in front of the hive; then take out one frame and shake them on, and the next one, and so on; they are a trouble to find, sometimes. Mr. Norris—Once I was bound I would find the queen, so I shook the bees out of the frames on a large sheet of paper in front of the hives. I got all the bees out and watched them carefully as they went in, and could not find any queen until they were nearly all in, and about made up my mind there was no queen. I then raised up the paper, and the only bee under it was the queen.

E. H. Schaeffle, in *Gleanings*, says:—I have gone over my bees on a frosty morning, and found them clustered along the bottom-bar with the frost close to

and at times showing on the hairs of the bees. As there was an abundance of room above, why did the bees select the coldest place in the hive? Those that winter indoors tell us that the bees cluster below the bottom bars. This is not an accident, and I have concluded it is for want of ventilation. The top of the hive is hermetically sealed, the air grows foul, and the bees leave the stores and warmth of the upper part of the hive for the pure air to be found below. I winter my bees on their stands. So far this season the thermometer has stood at 40° to 80° , but we are now apt to have it crawl down to "freezo" any night and remain there for weeks. My hives all have ventilators in the rear of the hive, just below the lid. To leave those open in winter would make the hive too cold in a protracted cold spell. My bees must be allowed to fly. To hit the combination I have concluded that a ventilator in the front of the hive, not over $\frac{1}{2}$ inch in diameter, just below the lid, will give the hive the needed ventilation without subjecting the bees to the draft as the air would circulate from the entrance up the front and out of the ventilator. Gallup pointed the way when he wrote:—"The thermometer for sixty days in succession was not above 10° below zero, and for eight of these days the mercury was frozen; yet my bees, in box hives with a two-inch hole *in the top and the bottom plastered up tight*, came through in excellent condition." The italics are mine. Unfortunately, Gallup does not say how he protected that top hole from snow and mice. Gallup's system is suited only to those sections where the bees do not fly throughout the winter; but it shows, what we have all found in ventilating our rooms, that he ventilation should be *at the top*.

G. S., Gisborne, N. Z.:—We have had a poor season in New Zealand. No rain and few flowers. Foul brood decimated my apiary last winter, and I spent half the season getting the remainder put right.

THE NEW PLAIN SECTIONS AND FENCE.

Mr. G. M. Doolittle is against them. He says: To make the change will cost the great mass of beekeepers up into the hundreds and thousands of dollars, if not into the millions. And all for what? Just that we may have things a *little different* from what we are now using, is all that I can see in the matter.

A photograph of 12 sections, 6 of the old style, and 6 of the new style, the former having corners with holes, the latter without. Mrs. Doolittle picked one of the former as the best of the lot, her reasons being—That the comb could be cut from the sections without marring the comb containing the honey, except a very few cells at the bottom, and, when the section was lifted off, instead of having all the cells on the sides "dauby" with running honey, these side cells would show the honey through them in such a transparent way that it would set the mouth of any person to "watering" for a taste of it. "Then" she continued, "after cutting the honey out of any one of the sections on the lower tier, there would be a troublesome scraping of the section to save all the honey; or else there would be a dauby, dripping thing to be disposed of in some way; liable to take another plate, which must be washed, yes, and steps used to get it, or else run the risk of having honey dripped or daubed on the tablecloth, floor, or somewhere which would tend to ruffle the feelings of any person who cared how their honey looked. Then, by the time the company was ready for the honey the nice comb of honey would be "swimming," so to speak, in the drip from the broken cells at the sides; thus giving it much the appearance of a little comb honey swimming in glucose, as seen in cans of honey on the market."

E. E. Hasty, in same periodical says: It is the section that looks best on the plate, and not the section that looks best on the counter, that will finally win. The more or less awkward problem of getting the tender comb out of its integu-

ment of wood has got to be surmounted before it can shine as the choicest ornament of the tea-table. This work *usually* has to be done by persons with very little dexterity in that particular line. Let Bridget take one of the plain sections, and with a case-knife in an unsteady hand proceed to cut out the honey. What is the result? Half the time the knife wanders away from the wood. Besides the main square, several thin slices of comb have to be stacked on one side of the plate, to the serious detriment of looks. Now let Bridget take one of the old style sections. There is comparatively little cutting to do. The knife can be put through without ramming it through. Even a child can see right where to cut. *The edges of the cake are all nicely rounded off to start with, and will remain so.* The matter when duly shaken seems to resolve itself into this: Plain sections will look best in the grocer's window, while the other kind will look best on the table. Good looks on the table are all our customers are willing to pay for *when once their minds are directed to the matter.* And those of us who sell largely to consumers are likely to do some missionary work right in that spot.

To endure bravely and to do one's duty steadfastly is the noblest thing in life.—Dr. A. T. Peete.

The *Pacific Bee Journal* says live bees are sometimes shipped on ice to keep them dormant during the journey.

Mr. R. L. Taylor, says in *Busy Bee*:—I would not jump to the conclusion that bees will in no case be injured by disturbance in the winter, though I feel certain that colonies with perfectly sound stores would endure without injury almost any degree and almost any kind of it with full daylight added. But in the case of bees with unsound stores I am not so certain. It seems reasonable and it may be the case, that disturbance hastens the effects of bad food, but this is a point very difficult to determine.

VICTORIA.

W. S. and H. J. Wilson, Victoria—You have not had a line from us re bees for some time, and we notice that the rest of our Victorian beekeepers are lying low. Well, the truth is, we ourselves have nothing much to crow about, as the past season has been anything but a good one with us, and I think this is the position with most Victorian apiarists. A fair yield up to Christmas—then afterwards, nothing but blanks. In fact we had to feed. The long drought and terrific heat, followed by sweeping bush fires, has put our apiarists in anything but a joyous mood, and I'm afraid some apiaries will undergo a deal of shattering during the winter. However, we'll have to "grin and bear it," and get through as best we can. That article on Queen Rearing by Mr W. S. Pender, read at the Muswellbrook Conference, is, I think, the most practical and instructive one one that has appeared in the A.B.B. for some time. It is so clear and concise. The article by Mr Pleffer on Foul Brood is also very good, and if these two articles are a fair sample of the papers read at New South Wales Conferences, then, Mr Editor, on behalf of your subscribers, I trust you will let us have a few more of them. I notice you have a few more to spare, viz., "Out Apiaries," by Mr Burke; "Wintering," by Mr Cooper, &c. Come now, let us have them, and also some of the good old extracts from *Gleanings* we used to get. You will doubtless think I am hard to satisfy, but I would really like to see a little more of the above and a little less of the "other" you know. I have no wish to be selfish, but think I am writing the wish of the majority of beekeepers. Wonder what has become of the Victorian Beekeepers' Association. I fancy it's got Foul Brood, or else its like Micawber, waiting for something to turn up. Question 155 in last A.B.B. has reminded me and I am sending a similar question for next month, which I trust will receive the attention of Victorian apiarists, especially those who are not yet sick of paying 2/6 a year for fun.

STICKING LABELS.—Some time past there was a deal of writing and advice on paste for labels. Everyone had a way of their own, but here is a cheap, simple and effective paste and once used will always be. Take three or four ozs. common starch, make into a paste with *boiling* water. (Paste about the consistency of thin jelly.) Let cool. Add 3 drops of diluted sulphuric acid, mix well and you have a paste which will stick to tin, glass, or anything you desire. Sulphuric acid is very cheap and may be had at any good store.

J. A. T., Thelangrin, Hay, N. S. W. : Your little paper arrives regularly, and helps me very often. My bees have had a terrible hard time, but owing to their wise instincts they sent off no swarms this season, and my colonies have been very strong; they killed the drones as soon as they appeared at the end of September. I look on it as a bad omen, and truly we have never known so dry a time in February. They took possession of the feed boxes in the stable, in the bran and pollard, so I suspected they were short of pollen, and gave 3 or 4lbs. of flour daily for a fortnight, dusting it over my violet and other flat growing plants. The first 3lbs. I gave them they carried away in 2 hours. I have 17 colonies. After two or three days whenever I went into the garden they gathered round me, settling on my hands as if asking for more. I see numbers of questions re bees and fruit. When it is a good flower season, they do not touch the fruit here and never at any time until a bird or hornet or ant has made the first incision and of course in a dry season like this birds innumerable come for shelter and food, and their need is the bees opportunity. I am quite sure they only take what would otherwise waste.

W. B., Young:—It is a long time since I have sent you any news of my bees. Well, the fact is I have not had any of an encouraging nature till this last season. I will give you particulars

and you can give your opinion of how I succeeded. I started with 13 colonies (had 50 two seasons ago) only 7 swarmed, making 20 in all. I run 16 for extracted honey, the other four, sections, etc. On December 6th, I commenced extracting and took 200lbs; 13th 240lbs; 23rd 180 lbs; Jan 6th 250lbs; 21st 100lb, and so on till March 26th. I finished up with 120lbs. Altogether I got about 1300lb from 16 colonies, making an average of 81lb each. I only got 80lb from five of them. I had no trouble in getting rid of it. I get £1 per kerosene tin, 10/- per dozen for whisky, brandy bottles, and 1/- single bottle. The only trouble I experience is in the procuring of white bottles. Dear Editor it seems almost a sin to see the white box only just bursting open, the larger majority of red gum even to the suckers are fairly loaded with buds, which I surmise will open in a month, when it will be too late for the harvest. I keep my bees in two story hive, but I never extract from the bottom one. You state for us to be sure and leave 20lb of honey behind for the winter. Well most of mine have got that and a bit to spare, and with all the buds bursting they ought to come out A1, at any rate I hope so. A little incident— I was sitting outside the other day when I happened to look at a blue-bird circling around the hives, when greatly to my surprise I saw two bees following him; they kept it up for ten minutes to my knowledge, but for how long afterwards I cannot say. There were other blue-birds flying about but no bees following them. Can you account for it.

J.T.A., Moroopna, Vic., May 16—No doubt you think me a silent member, but the old saying is, "the least said is easiest mended," but I have really had nothing in the bee line to write about, unless to grumble at Dame Nature for her fickle traits, and I doubt whether this would have germinated if I had not looked at the date on last A.B.B., and read March, 1898; I awoke to the fact that a line and something else was due

to you. Well, when I read so many bad accounts last year in the *Bee Bulletin* I shook hands with myself that I could always get a little honey, for last year I did get something over two tons, and thought that was as bad as it would be, but, alas, Dame Nature says take that shake back, and I have taken it. Oh, yes, for I am on the blue list this year myself, my hives shut down all the season. But that is only one of the irons I have in the fire; the other (the vineyard) worked alright, as it happened. But the worst thrust I have had is the amount of enquiries I have had for honey I have had to reply to the last two months. I had 8s. worth of stamps sent as payment for honey; put them in bee correspondence box. Now what's left? Two: That's 46, not counting post cards sent out, and not a tin to send to any of them, wanting tins, cwt., and tons. Well, I have learnt something. What is it? I am now looking (over the garden wall) of next season, and the first picture is not re-assuring. Yellow box due in next October is blooming, alas, for No. 1 on the page. Next is red gum, to come January, 1899; it is all buds—never saw them so laden before. If they hold out till blossoming things will be brisk (in the sweet bye-and-bye, and bees will be singing "over the river Goulburn, that's the river we'll cross. And now, I must not forget what I said at the beginning of this, but before I close I must tell you that though I have been a silent onlooker my appetite for the little book has not lost its keen edge, and I spend many hours over it, weighing the arguments therein, to know as much as both parties in it. I am at present out of depth in the Loyalstone v. Bolton hives controversy. I now want to see a model of Loyalstone hive, at least in figures, if he will. If that B.B. was only illustrated now. But there, I am forgetting my wisdom again. I think I had better say good night all.



CAPPINGS.

Mr. Rankin, of the Michigan Experiment Apiary, says:—It has always been one of my desires to breed a strain of bees with a tongue long enough to reach red clover, and we began this systematically the past season. The average length of bees' tongues in our vicinity are: Black, 4.2 m. m.; hybrid, 4.9 m. m.; and the Italians, 5.3 m. m. The ordinary bumble-bee has a tongue 8.3 m. m. We made one direct cross, or an in-cross of one colony, and the bees from this cross have a tongue 5.5 m. m.; an increase in length of 1 m. m. over the parent colony. I have not told you about the unsuccessful attempts—there were very many, more than our successes. If we could control the mating of queens we would, I think, be certain of success. We have tried clipping the ends of the queens' wings, and in every case the queens were not fertilized. The ordinary red clover corolla-tube is from 9 to 10 m. m. long, so we still have a tongue 4 m. m. too short. When the tube fills with nectar up to 4 or 5 m. m. from the bottom, as it sometimes does, our bees work on it quite freely.

C. P. Dadant, in *American Bee Journal*, says:—We do not like to ship bees without an opening at the bottom of the hive. As a matter of course, in a double-bottom hive, it is out of the question to give them air in this way. But this may be remedied by a larger opening at the top. We never put wire-cloth over the entrance, because we have often noticed that the bees, being accustomed to flying out at that spot, will fret themselves to death, and their dead bodies will soon obstruct that entrance, so that it might as well be closed. When the air comes from the bottom there is more chance for a circulation. In warm May weather, with single-wall hives, we have often shipped bees by covering the entire brood-chamber with wire-cloth, protected by a board raised two inches above it and cleated on the hive. The cap or cover, which accompanies the hive, is then shipped separately. We have shipped

bees in the hottest weather, in July, by removing half of the brood-combs and replacing them with dry combs, alternating them with the others. In hot weather it is also well to leave a part of the old bees behind. In this way a man may readily have a small swarm on the spot from which the bees are removed, without injury to the colony removed, but rather for its benefit, for a very populous colony will find difficulty in a trip of several hundred miles. If they are confined in too small a space, in hot weather, suffocation will soon take place, the bees seemingly being drenched with perspiration, and the combs breaking down from the temperature being raised above the normal degree of blood heat. To recapitulate the above remarks, we will say: Ship the bees when the hives are the lightest, but as early in spring as practicable. In cold weather give but little ventilation. If the weather is fair and the colony strong, have an opening either at the top or the bottom. If at the top, shelter this opening with a board cleated above. In hot weather open both top and bottom and remove a part of the brood-combs, or space them so they will not be all together.

L. Stachelhausen, says in *The Southland Queen*:—We know that the life of a worker bee has the following course: Three days in the egg state, six days in open larvae and twelve days in the sealed cell. During the first sixteen days the young bee will generally do house-work; then she will fly out to carry in pollen and honey. In the height of the season we can suppose, that after sixteen days more the bee is dead. Consequently, if a queen lays for instance 2000 eggs daily, for some time in the hive will be present: 6000 eggs, 12,000 open larvae, 24,000 sealed brood cells, 32,000 house bees and 32,000 field bees. We will call this the normal state of a colony, and if we know the number of one kind, we can find out the numbers of all the other kinds by the proportion of 3-6-12-16-16 respectively. This proportion is of great importance in the life of a colony. If a queen had laid

2,500 eggs daily and for any reason does not lay any more, or considerably less, in a few days the number of sealed brood cells and young bees will be large, compared with the uncapped larvae. On the other hand, if the egg laying capacity of the queen is increasing every day, the number of unsealed larvae will be large, compared with the number of bees in the hive. At the beginning of the honey flow, the combs of our bee hives get filled with brood and honey. If the hive is not very large, the queen cannot lay as many eggs as she did before, because a part of the cells, from which young bees grow out, are filled with honey, and the queen has not cells enough to lay the same number of eggs daily. Consequently the young bees can find no customers for the chyle, and preparations for swarming are made. Practical experience teaches that small hives may many swarms, large hives with given empty combs, no swarms.

An old queen will lay a large quantity of eggs for some time, but afterwards their fertility will be less, and so the same condition is caused. This is the reason why colonies with old queens sometimes swarm with plenty of empty combs in the hive, and why such swarms nearly every time change their queen soon after swarming and many times will get queenless. If a colony is forced to build new combs, the young bees secrete the wax, and in this case the chyle is changed to wax in their bodies. Consequently, this colony will not swarm. If the honey flow is very good and there is plenty of room in the hive to store it, the young bees will be partially engaged in changing the nectar to honey and storing it into the cells. Consequently no surplus of chyle and no preparation for swarming. We can prevent swarming by putting an empty comb between two brood frames; because, by so doing we increase the number of open larvae. By taking away sealed brood, we reduce the number of young bees. A young queen, as a rule, will not swarm out the same year she is reared, because her fertility is increasing for some time

before she will reach her full capacity in egg laying. In fact, I do not, as yet know anything about swarming, that can not be explained by the above theory.

Plenty of honey going from San Francisco to London.

Great quantities of honey is being shipped from the United States to Germany and other countries.

J. C., Tarrawingee, Vic., April 23: We have had a very fair season for honey here. I have about fifty hives, and they averaged about 65lbs per hive, and at the present price (5d per lb.) is very satisfactory. I will conclude by testifying to the merits of your paper, which I always read with interest, and profit by many valuable hints therein.

J. E. F., Narrabri, May 11:—I put a frame of Italian brood containing queen cells into a black hive, did not get rid of quite all the drones. Found queen and saw that she was spangled black and gold. Does this denote hybrid?

If it were pure Italian eggs you gave the queen from such could not be hybrid. If she mates with a black drone some of her bees will be blacks and others Italians. You must wait till her progeny comes out to know that.

A. F., Darke's Forest, via Helensburgh, April 19: This season has been a failure again; six or eight weeks of howling winds and strong sun in early spring killed all the buds, and the trees were showing well too. Next season will want to be something out of the common to make up for the last three or four, or one would have to look out for fresh fields and pastures new. Hoping it has been better with you.

J. N., Saumarez, Dumaresq, Ap 28: The past season has been a very poor one indeed. Though we had very good rains in the early summer, the buds of the forest trees were destroyed during the previous autumn, and so they did not blossom. Now they are nicely budded, and we are in hopes of making up during the next season our loss this year. My hives yielded about 25lbs. per hive. With kind regards and best wishes for a well-deserved success in your admirable little paper.

C. W. L., Inverell, April 25th, 1898—The bees in this district will most probably have a good time of it this winter, or at least their owners will, because there is a great show of box, ironbark, and other forest blossoms. I have only two hives and since the beginning of February we have taken between 80lbs and 100lbs from each of them and expect to get about 25lbs more from them in another week or two. The weather continues very dry and the roads are very dusty, but in all other respects the district is in a very satisfactory condition.

E. S. W., Wingen, April 26: This has been on the whole a poor season for bees about here; there has been nothing that could be called a honey flow except for two or three weeks in January from the apple blossom, and that is only dark stuff of little value. I have taken to date 903 lbs honey, and increased my hives from six to twelve. The best has given 225 lbs., and the worst nil. The gum and some of the yellow box are now in full bud and must soon blossom. I am leaving supers on my hives, hoping to find them full by the end of August, as was the case last winter. It is wonderfully dry here; not more than .05 of rain since middle of February.

J. F., Eel Creek, Q., April 15: I don't know what sort of weather you have had down your way, but we have hardly been able to get outside for rain since the New Year. The bees did well this season until the rain commenced, averaging about 225lbs for three months' work. The trees were a mass of flowers through January and part of February, but the bees could not work on them. I see by your last issue that W. G. thinks the trees bloom earlier in the west, (will others give their experience, my experience is they are earlier in the east. If I were moving I should go nearer the coast and it seems likely I may have to by the ringbarking that is going on.

W.M., Amaroo, May 5—Splendid rain commenced to fall at 10 p.m. last night, and has continued without intermission until now (3 p.m.) and shows no sign of

abatement. Yellow box coming into blossom. If weather proves mild we should have a good winter flow. When in Sydney at Easter I saw some honey for sale in a shop on North Shore. It was put up in 1 lb clear glass jars with metal screw cap, and the price asked was only 1/6 per jar. Ye Gods! and then one goes into the city and is offered the magnificent sum of 2½d per lb. Where does the difference go? I have not had time to send any bee news to-day, but will write later on.

**That Liver Again! Utter Despair.
Consulted Numerous Doctors,
but finally threw their
medicine away.**

**Took to Clements Tonic, received
a radical cure,
and says it Saved His Life.**

Mr. W. A. Jones, Uralla, N. S. W., writes on Sept. 7th, 1896:—I have much pleasure in sending you this testimony. About seven years ago I was seized with a languid feeling, my stomach would reject all food, I could not sleep at night, my mouth was always parched, especially at night, the least noise would cause irritation of the nerves, the slightest cold air seemed to go right through me. I also suffered with palpitation of the heart to such an extent as to become alarmed. I had pains in the region of the liver; I became very nervous, and also suffered from shortness of breath. I consulted doctors in this town and Armidale; their medicine would give me slight relief, but nothing permanent. I was also treated by doctors in Sydney and Newcastle with the same result. I became so weak I could scarcely stand, and despaired of ever regaining my health. I continued in this state for three years. Reading one of your books, I was struck by some of the statements of some of my personal acquaintances. I sent for a supply of Clements Tonic and threw the other medicine away. After taking Clements Tonic, in conjunction with Dr. Fletcher's Pills for a few days, I seemed to relish my food, which I had not done for months previously. After taking half the supply I had regained sufficient strength to work in the garden, and when I had taken it all, the day was not long enough. I slept well and calmly, and all nervousness was gone. I have not felt any of the old symptoms for over three years, thanks to Clements Tonic, which I always recommend, as it saved my life.—Yours truly, W. A. JONES.

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Untested Queens	..	5/-	13/-	20/-	39/-
Tested Queens	..	8/-	22/-	35/-	65/-
Select Tested (Breeder)	1 for 15/-, 2 for 27/6				

Honey or Beeswax will be taken in payment for QUEENS (if preferred) for all orders of 10s. and upwards. Safe arrival guaranteed to any Post Office in the Australasian Colonies.

I can also supply you with anything you require in the Apiary. Write for prices.

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BY LOYALSTONE, PRICE 5/-, POST FREE.

THIS is a cheap and inexpensive way for Beekeepers, large and small, to refine their wax. Read the following extract from a letter of that well known beekeeper Mr. A. A. Roberts, of Muswellbrook, N. S. W. Referring to my wax he says, "It is really a splendid sample of wax and a credit to yourself and method of refining it. It is the best sample of wax that I have seen and I have shown it to several and they consider you are a champion at refining wax." Note the address:—

Wax treated by my method gained 1st prize. Welling-ton, 1896, and Two 1st Prizes, Muswellbrook, 1898—only times shown. Are you troubled with ants in your apiaries? Then try Loyalstone's Ant Destroyer, price 1s 3d per pot, post free. Guaranteed to banish all ants about a homestead or apiary. Full directions with each pot. Beekeepers! Try one and be convinced. One pot is enough for each apiary.

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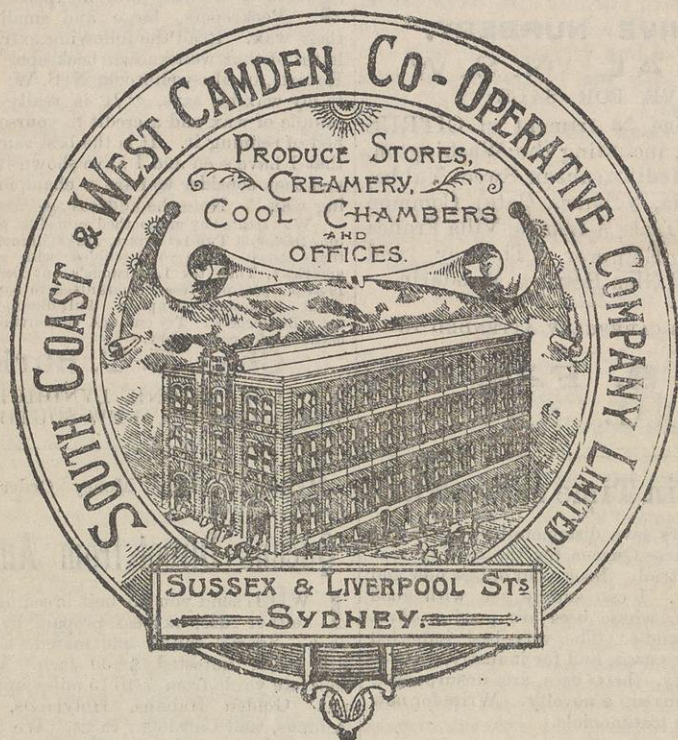
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