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West Maitland, N.S.W.: E. Tipper, June 23, 1894

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THE AUSTRALIAN BEE BULLETIN.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

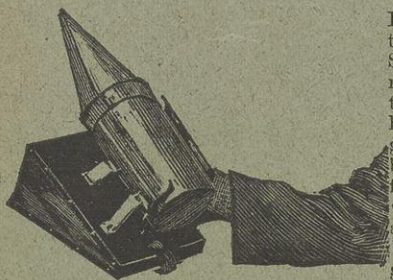
VOL. 3. No. 27.

JUNE 23, 1894.

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Hunter River Bee-Keepers' Association.

MONTHLY MEETINGS.

TUESDAY, JULY 17TH.

TUESDAY, AUGUST 14TH.

TUESDAY, SEPTEMBER 18TH.

C. MANSFIELD, Hon. Sec.

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NOTICE.

All Communications must reach the office not later than the 20th of each month to appear in that month's issue.

— THE —

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BEEKEEPERS' CONVENTION.

TECHNICAL COLLEGE, ULTIMO, SYDNEY,

JULY 4, 5, & 6, 1894.

THE Superintendent of the Technical College has agreed to allow Exhibits of Bee Goods to be made at the Convention.

THE Owners of S.S. Trident, trading to the South Coast, have agreed to reduce the return fare for delegates to the Convention to £1; and the N.C.S.N.Co. have agreed to charge the single fare for the return journey from the Northern Rivers. This is for bona-fide delegates, and a certificate from me will have to be produced. Anyone wishing to take advantage of these reduced rates will please write me for a certificate to Prospect Street, Leichardt.

MAJOR SHALLARD,
Secretary.

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The Australian Bee Bulletin

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.,—JUNE 23, 1894.

IN the issue of July 22, 1893, will be found the following:—

The New South Wales Convention Committee have accomplished what it was meant to do, or as much as it was possible to do. A Beekeepers Union has been formed, of which every beekeeper should be a member. The Government of the day has promised to introduce a Foul Brood Act, and also to deal with the question of adulteration. Also a system of judging by points has been agreed to.

At the forthcoming Convention we shall hear what has been done since those words were written, and whether the organisation formed to carry out the beekeepers' interests have fulfilled their trust. We surely think, if possible, every beekeeper in New South Wales will feel it his duty to be present. Then, if what has not been accomplished during 1893-4, should not be accomplished during 1894-5, they will have themselves to blame—if a good honey-flow finds honey so plentiful that no prices can be obtained; if our forests are rapidly and wantonly ringbarked and destroyed, against even existing laws; foul brood is rampant throughout the country; the glucose fiend has destroyed public confidence even in good honey; and your neighbouring colonies, through their energy and organisation, having secured good foreign markets, and perhaps even your own, quietly laugh at you. It is to the interest of every beekeeper in New South Wales to be present at the Convention. We conclude by calling attention to proposed alteration of Union Rules elsewhere.

A Glucose factory was recently burnt down, in Buffalo, U.S., that daily consumed 500 bushels of corn, and employed 400 men, whose annual wages were 200,000dols.

N. S. W. B. K. UNION.

A meeting of the committee of the above was held, by the kind permission of Mr J. Trahair, at Messrs Hobbwhite & Co's., Sydney, on Friday evening, June 8. Mr Abram, vice-president, in the chair, and the following were also present—Messrs. Shallard (sec.), Trahair (treasurer), Seabrook, Tipper, Mansfield, Allport, and G. James. Mr H. R. Whitte, secretary of the N. H. & P. Society, was present as a visitor.

The minutes of previous meeting were read and confirmed.

The secretary read the replies received in answer to advt. calling for suggestions re matters to be discussed at the Convention. They were twelve in number. Mr Dockrell, of Casino, asked if arrangements were being made for cheap rates of travelling per steamboat as well as per train, the same as was done at the 1893 Convention. It was resolved that the Secretary make application to the several steamship companies for such reduction. Mr J. F. Munday had sent a subject for discussion, but would be unable to attend the Convention.

Communication received from Technical Department, granting use of room at the Technical College, Ultimo, in which to hold the meetings, the meetings to close at 9.30 p.m.

The various suggestions were read, and the following list of subjects agreed on to be taken at the Convention:—

1. Selecting Judges and Judging in general, by J. G. G. Caddan.
2. Should Schoolmasters and other Civil Servants compete in beekeeping with professionals? By H. R. Roberts.
3. Co-operation of Beekeepers, by R. Patten
4. Marketing honey generally, by E. Tipper
5. What is a pure Italian Bee? G. James
6. Diseases of Bees, and jointly the effect of our present system of queen breeding, by T. H. Bradley
7. Hives suitable for N.S.W., by W. T. Seabrook.
8. Mailing Queens, by C. Mansfield

It was agreed that other subjects than the above could be put on the question board, the following being handed in:—

What is the difference of the effect of a cold spell on a deep or shallow brood frame? G. James.

The position of frames in hives.

Does the number of drones in an apiary affect the tendency to swarm? J. F. Munday.

It was resolved that the annual meeting of the Union be held at two o'clock on Thursday, the 5th, and that the secretary issue notices of such to the members at once; and that, during the holding of this annual meeting the other beekeepers present occupy themselves with questions.

On the notification of Mr Trahair that Mr Scobie, the president, might not be present, it was resolved that the president of the Convention be elected at the commencement of the meeting.

Mr Mansfield handed the chairman a set of proposed amendments to the rules of the Union, to be discussed at the time of the Convention.

The times of meeting were then fixed: Morning sessions, 10 a.m. till 12.30; afternoons 2 till 5; evenings 7 to 9.30.

Programmes of the business of the Convention were ordered to be printed, and it was arranged the committee meet on the Tuesday evening previous to make final arrangements; also that a collection take place at the Convention to defray the expenses connected with it.

H.R.B.K.A.

The usual meeting of the Hunter River B.K.A. was held at West Maitland on June 20. Mr J. W. Pender, vice-president, in the chair.

Mr C. Mansfield, the secretary, read a communication from Mr Major Shallard, secretary of the N.S.W. B.K.A., suggesting that two delegates from each of the associations in the colony should meet on the first night of the Convention to discuss the advisability of amalgamating with the N.S.W.B.K.U., each association becoming a branch of that and the Sydney organisation becoming the Sydney branch of same. It was resolved that Messrs. R. Patten and M. Scobie act as such delegates, but not to commit themselves in any way without again consulting this association.

Mr E. Tipper gave an account of the proceedings at the previous Convention committee meeting.

Mr J. F. Munday read a paper on *Marketing of Honey*. He said some could raise honey but could not sell it. Others could sell but could not raise it. There was the same difficulty in disposing of honey as that of any other crop. The public should be convinced that the daily use of honey was both beneficial and useful. Representing honey as a luxury was not beneficial to the trade. He believed more honey would be sold if carried round and sold like milk was. Would not recommend depots, but good sellers abroad. He alluded to the unpopularity of comb honey in the Hunter district. He had lost a good deal by sending honey per train, for which probably both rough handling by railway porters and bad tinsmiths' work were to blame. He had had no difficulty in marketing his honey, but honey producers should remember that honey would keep for years, and beekeepers should hold back if prices were low till more satisfactory prices could be obtained. When the home market is glutted the producer should make arrangements with some agent abroad. He had great faith in good agents. He recommended the judicious giving away of honey, especially at show times, to encourage the public taste for it.

The discussion of the paper was postponed till next monthly meeting.

THE CONVENTION.

The following suggestions reached us too late for insertion in our last:—

A. FRANK BURBANK, "Castra Apiary" Queensland.

(1).—It is to be hoped that the matter of "foul brood" will receive the earnest consideration of the members, for if that alarming disease is not at once stamped out, few successful apiarists will be in existence, and fewer beginners heard of. A correspondent writes re it in your issue of May 23rd, and deals with the subject practically, and I only wish to add to his remarks, that the burning of all brood taken from forest trees be included in the schedule which I hope will

be presented to legislation. The disease must be stamped out, so that when a market is secured, we may continue to supply it with the produce of healthy stock. (2).—Apriarists are of necessity so alive to the importance of preserving the eucalypti, that I consider no remarks from Queensland would assist members in carrying a resolution antagonistic to the wholesale destruction of timber by ringbarking, not only on account of the apriarists for its yield of honey, but to the colony at large for the future loss of its oils and timber.

(3).—MARKET FOR HONEY.—This will of course be the subject at the Convention. Each has his own particular idea as to why the English market is not open (to any extent) to us, and the remedies, so that mine may not be out of place. First,—*Sine qua non*, Combination. Secondly—Selecting the right men as contributors of produce, to send to market, who would not be in a hurry for returns. Thirdly—Selection of a good business, honorable and perservering apriarist, as agent and shareholder. Fourthly—To dispel from our minds that the English public is averse to our honey, for, practically speaking, I feel confident that it has never tasted it, but when once tried the demand will be enormous, as, up to the present, it would appear as if all samples forwarded have been received by business men *in the line*, which to my mind accounts for the unfavourable reports. Fifthly—First shipment to be accompanied by comb honey, which could be used as reference or comparison if circumstances required it. Sixthly—No honey to be sent to market until it had been extracted not less than six months previously. Seventhly—Government supervision over each and all consignments, which are to be branded. Eighthly—Part of the first consignment to be disposed of retail and at such a price as to ensure its being purchased by the public, individually. When the quality and purity is established the price then could be slightly raised to a remunerative figure. Lastly—Each interested apriarist to be

a philanthropist for the first consignment in so much that he will supply stock without expense to the combination (whether company or otherwise), or hope of immediate gain.

Mr. H. L. Jones, Goodna, Queensland, writes:—Re the Convention. Last year two or three places were named where visitors could obtain first class accommodation. Now, would it not be a good idea to name some central establishment so we outsiders could locate together. The three days would then be one continued convention. Reduced rates also might thus be secured as in America. A good many of us know little about Sydney and would like some establishment close to the place of meeting suggested. Our prospects for the coming season are bright. Blue gum is now nearly in full bloom, whilst an odd spotted gum will also be met in bloom, and the ironbarks are one mass of buds, which augurs well for a spring flow. Even now, although it is midwinter, the strong colonies are bringing in honey nicely, and I can assure you, it is a pleasing sight to see the new honey glistening in the cells, and the beautiful white comb appearing. Drones too are in abundance, and I have no more trouble in getting queens fertilised than in mid summer. Hurrah for Queensland.

Mr. M. Shallard, secretary of the N. S. W. Beekeepers' Union, writes us that the Superintendent of the Technical College has agreed to allow exhibits of bee goods to be made at the Convention. Also that the owners of the s.s. Trident, trading to the South Coast, have agreed to reduce the fare to delegates to the Convention to £1, and the N.C.S.N. Co. to charge a single fare for the double journey from the Northern Rivers. Persons wishing to avail themselves of these privileges should communicate at once with the Secretary, Mr Major Shallard, at Leichardt.

The Key note of the Convention should be—Organisation! Organisation!! Organisation!!!

The expenses of the Convention will have to be met by a collection. Dont be mean over it.

Our Mr Edwin Tipper will be at the Convention, where he will be happy to receive subscriptions and advertisements for the A.B.B.

Over 500 tons of glucose imported into New South Wales last year. What was it used for, and how many persons are being slowly poisoned by it?

Mr W. D. Russell, of Fyan's Creek, Victoria, writes us he will give £10 towards the expenses of sending a good Australian agent to England to work our honey trade there? Seeing the Victorians have a bonus granted them by their Government for exporting honey, would we be out of place in asking if there's not more *grit* among the Victorian than the N.S.W. beemen?

VICTORIA.

W. D. RUSSELL, FYAN'S CREEK.

I have been waiting for some time to write you re beekeeping for this season in Victoria, and am sorry to say it has so far been without any returns, though those who are situated in a district where black box, or as some call it, grey box, grows, will get a small harvest. Of course we expect to have each alternate year bad. It has always been so, but this season things appear to be going to be different, so much yellow box and red gum were in bud, also peppermint gum, but the first two blossomed without containing any nectar, while the latter is just commencing to blossom, but what has opened seems also to be devoid of any honey whatever: therefore so far our yield has been "nix," while in many hives foul brood has played havoc. I have travelled about inspecting bees very considerably this season, and in nearly every place found foul brood. Next season's prospects seem to be very good, and abundance of honey will reward intelligent beekeeping without doubt. This brings me to think where we are going to sell it. If honey this season of leanness is only 3d per lb. what may be expected in the season of plenty next summer. I trust some export trade will have been started to clear off the superabundance we are sure to have. I have been reading the account in A.B.B. of October last of Mr J. W. Pender's experience in England with Australian honey, and I am convinced the reports are not fair expressions of the writer's own opinions. Its nonsense to suppose the millions of people in England earning small wages are so fastidious in their tastes as to reject

Australian honey from its taste, while these are the people who in the aggregate will buy the bulk of what we send. Mr Editor, I would suggest the Australian beekeepers taking hold of this matter themselves, and establishing a regular hawking business in England, like the Canadian bookmen did with their books in Australia. Say one smart man was sent as a general agent. The beekeepers' association could send him the honey through a bank, and as he needed it he could lift it (for a start.) His business would be to appoint hawkers to go from door to door selling it, and these could be appointed in as many towns as necessary. Thousands of cheap handbills could be distributed by these agents, and in a few months Australian honey would be better known than Mother Seigel's Syrup, and do as much good, perhaps more. The less price it could be sold at would soon overthrow any prejudice, while its flavour would establish it, I am sure, as a favourite relish. I hope some of our beekeepers will let us know what they think of it. Our bookmen from Canada managed to flood Australasia with books at three times their cost, and we ought to be able to do a trade in honey in England. Cannot we form an export company? I would like to ask our beekeeping brethren if any of them can tell us how to get the bees to work out a sheet of worker comb from the starter. I've tried having queens of all ages, but they insist in putting as much drone comb in as worker. If those who are getting a good flow of honey this season will let us know where they are located it would be interesting I am sure to many. I notice the green blossom or leek parrot is never here in our "off" year. Where do they go? Where are they now, this season for instance. Probably you can find out for us. I guess there's honey where they are.

May 4th.—I have just received the *Bulletin* for April, and it struck me that my letter to you written in February, was unsent, so I am now forwarding it. I wish to add a few more words. I notice at bottom of second column, page 4, of April *Bulletin*, an article headed "Foreign Market," in which a quotation from the *Age* newspaper, of Melbourne, would make it appear that the suggestion of sending an active canvasser to England to dispose of our honey originated in that paper, whereas as a matter of fact every suggestion there, viz., canvass, handbills, labeling honey distinctly "Australian," reference to the less price being the inducement among millions of small income people in England, and in fact the whole article seems to me to be a copy of mine. I enclose my letter to the *Home and Farm*. It was sent to them in December, and appeared in February number. You will see it is the same suggestion, and also my letter to you, now sent, but written in February, is on the same lines. Now, sir, I hold that our export trade is the most important subject to be considered, and I trust you will make this plain in

your paper. I shall, at the Convention, propose that his matter be taken up, and your Union invited to co-operate, as well as the other colonies. I am positively certain of results, and before long we shall have our honey sought after as our butter is now.

Since enclosed letter was written I have had a small flow of honey, 60 tins of 60lbs. each, but had the weather been warmer there was blossom enough in March and April for 300 tins, but it was and still is too cold for the bees to gather. Prospects for next year—never were better. Blossom or leek parrots mentioned in other letter returned in March. Millions here now. Am trying formalin for foul brood—seems to give promise of success. Will report in spring when I can continue experiments. Will endeavour to send you more frequent letters if not too wearying.

[We are sorry this communication came to late for last issue, but its contents are no less valuable, and we will gladly welcome more from same writer.]

THE PROPOSED BEE-KEEPERS CONFERENCE IN VICTORIA.

As the past season has been so barren of results, and money being so tight, the members of the local committee have thought that the conference should not be called for this year, as the prospects of a good attendance are remote. There is but little business calling for immediate attention. The matter of shipping bonus remains in abeyance until we have some honey to export—which certainly is not this season. The Secretary for Agriculture promises that he will see that the bonus vote will be reinstated on the estimates of the current year.

Other matters arising from last year's conference have received attention so far as is possible. We all, doubtless, feel that we would gladly meet together and discuss matters of mutual interest; but with the prospect of the absence of many of our members the time had better be deferred.—*Farm and Home.*

A writer in an exchange recommends one or two sheep in an apiary as a good means of keeping down grass around hives.

THE SULPHUR CURE FOR PARALYSIS.

BY L. C. WOODHOUSE, Nonpareil Apiary, Vacy.

Paralysis has been very prevalent and destructive in this district, Paterson, during the autumn. Having seen sulphur recommended in the *A. Bee Bulletin* I determined to give it a trial, and doubtless your readers will be interested in the results. I have 120 hives, mostly blacks, and 70 were attacked more or less seriously. Some hives having the full width entrances would be choked in a morning with dead and dying bees. To make sure of the effect of the sulphur I decided to try its effect on a few affected hives at a time. I therefore tried it on eight, and of those seven were cured in two days, and the eighth was very soon free after a second dose. In the hives not treated the disease continued as virulent as ever, but I applied the sulphur to them in batches as before and I am pleased to report that my bees are now entirely free from this most distressing complaint. A couple of hives, having leather coloured or Ligurian queens, showed no signs of the disease, so, I intend to Italianize with Ligurian blood next season as far as possible. My uncle who lives near me, has about 70 hives, and they were nearly all touched by the complaint, but two days after an application of the sulphur they were free from it. I applied the sulphur by lifting out the combs and sprinkling the dry sulphur over the combs (bees and brood). In box hives they could be turned mouth upwards and sprinkled. My uncle applied his with sulphur bellows such as are used by vigneron. When it is remembered that bee-keepers in this neighbourhood who had as many as 50 hives, now have none, you may form some idea of my gratitude towards the *A.B.B.* for having drawn attention to the sulphur cure. I reckon the idea worth my subscription for a long time to come.

June 4, 1894.

Take care of each month's issue of the A.B.B. At the end of twelve months they can be bound into a nice volume, always handy for reference. Those who have the numbers from April, 1893, to March, 1894, will know they make Volume II. Send them to us and we will bind them for you for 2s. 6d.

Mr. J. Y. Hutchinson, Lismore, writes: In a recent number you state you have 650 names on your list unpaid for. One party bought a small quantity of honey from me here and never paid for it and was too mean to return the empty tin. Since that time I do not allow anything to go out without the cash, except in exceptional cases, and I find it far the best way. Now, Sir, *make* your blue marks pay and strike them off your list, especially as it is only supplying information to *parasites* to compete against practical beekeepers, and we have enough to contend with in the shape of low-prices, adulteration, &c. If you got the money regularly we might then have a chance of seeing the A.B.B. illustrated occasionally. The Convention committee seem to have been very dilatory in announcing date, &c., of Convention, and now the information has just been sprung upon us, as it were, at the last moment, leaving little time for any arrangements. As it is possible I shall not be able to get down this time, I do hope that something definite will be done in regard to adulteration. When at last Convention a gentleman promised to take half a ton of honey in the spring. So I wrote and sent sample. His reply was as follows:—"We do not doubt the genuineness of your honey, but as it can be so nearly imitated by local manufacture we cannot do any business." We must put a stop to such humbugs, and the chance, I hope, will come when the present "jelly-fish Ministry" are relegated into oblivion and a better one takes its place. Our motto must be "agitate." Wishing the A.B.B. every success, &c.

[Has it been the fault of the Ministry, or of our want of organization.]

For our next issue we have a very interesting article, "What a visit to the Carrington apiary did?"

BAD LUCK.—Mr. Frederick James Cox, Boggabri, writes:—I had over 60 swarms die last winter started with 75 and got through winter with 14, all died.

Mr. E. Ezzy, Milthorpe, writes:—Re the *Bee Bulletin* I may say, I am glad to see it is improving in size and general get up, and very much of it is thoroughly interesting. It is to be hoped however, that too much printer's ink will not have to be spilt over windy confabs between our wiseacre beekeepers, who might employ their pens to a better advantage, by writing simple and instructive essays on articles for your columns, for the benefit of us novices.

Mr. D. W. Parker, Springwood, writes:—Splendid winter weather for the bees so far, bright, fine days, nights cool enough to cause them to cluster well into the day, when they seem happy to be able to take a constitutional daily in the bright sunshine. Poor season last time but hope for brighter days. 28 inches rain in 31 days. Although abundance of bloom, does not seem conducive to the prosperity of the honey business. Give fair trade and fine weather and the honey bee will be on top next time.

The N.S. Wales *Agricultural Gazette* for May, has a lengthy article on The Tallow Wood, by J. H. Maiden, in which it is stated that "tallow flowers in August and September (October should be added) and that the flowers are much sought after by bees. I may mention that on behalf of the beekeepers of the Colony, the Department is busily collecting information in regard to the best flowers for bees and the periods during which they are out. As is well known, many eucalypts have irregular flowering periods, and the Department is trying to ascertain the period in each district for particular years."

Mr Grunsell, Goulburn, writes :—This last season has been a very bad one for bees. There was a slight honey flow in December; after the new year it set in wet, and the bees started breeding. This continued for some time, and owing to the wet they could not gather sufficient honey to tide them through the long winter. The result is that a great number are dying from starvation, and I find it necessary to cover the hives with bags in order to keep the bees as warm as possible.

Mr R. McKnight in a paper published in the *Review of Reviews*, on "Where honey comes from," says—"the atmosphere is the source whence our honey is derived, and that the substance of every green thing on the earth's surface, from the tiny plant to the monarch of the forest is mainly derived from the same element." "Carbonic acid is the source whence we derive our honey . . . The proportion of carbonic acid in the atmosphere is small, being only about four-tenths of one of its volume. . . It has been estimated that there are twenty-eight tons of carbon in the atmosphere that overhangs each acre on the earth's surface." "The epidermis or outer skin of a leaf is closely studded with pores. these pores range in number from 800 to 170,000 the square inch of surface, and it is through these pores the carbon of the atmosphere is absorbed and received into the cells, where it is worked into honey. Cells also abound in the inner bark of branch and stem, they are especially active in the interposed *Cambium-layer* laying between the newest strata of wood and bark. These are annually renewed, and maintain a living communication between the rootlets on the one hand and the foliage on the other. These cells—wherever found—contain protoplasm, which has definite relations with neighbouring cells and with the out lying carbon of the atmosphere. Protoplasm is the active, working, living matter of the plant or tree. When the carbonic acid of the atmosphere is received

into the protoplasmatic cells of the leaves of plants and trees it undergoes three changes before it is fitted for cell building. It is first converted into starch—the basis of honey—then into sugar or honey if you like, afterwards into cellulose, which is fully elaborated plant food."

We know the season just past as a rule has not been as profitable for bee-keeping as could be wished, and now is the most apparently profitless season of the year, still our object is to impart all the latest and best information in order that when the time comes the greatest quantity of honey may be gathered. Will our friends show their appreciation of our efforts by watching for the blue mark and noting what it means.

Mr. T. A. Coghlan, Government Statistician, sends us the following information re imports of honey, &c, into N.S.W. :—The importations of honey, for the year 1893 was 58,913lbs; the quantity exported amounted to 4,980lbs. With regard to the production of honey in the colony, my returns give the figures thus :—Number of beehives, productive, 44,371, unproductive, 8,730. Quantity of honey made being returned as 1,129,846lbs.

Mr G. M. Doolittle, in a letter to us dated Borodino, New York, April 21st, says :—I have booked you for one of my best breeding queens, to go by the July or August steamer. If it should reach you alive I trust you will give a note to that effect in A.B.B. I expect to experiment quite largely with queens to Australia, for I have not lost faith entirely but what queens to your country will be a success yet. I shall do all I can to make it so. Got my bees out of the cellar the 16th and 17th, since which the bees have had good weather, but from March 20th to April 14th was stern weather all the time, the temperature going as low as zero with plenty of snow.

Great Britain imports 10,000,000lbs of honey per annum.

Mr J. W. Hawke, Boggabri, writes:—Enclosed please find 5s. stamps for one year's subscription to the *A.B. Bulletin*. I will try it, but trust as time goes along I will be able to learn something from it that I do not see in the one you sent me—how to manage bees. I mean, how long does the egg stop in the comb before the bee is born? How old are they when they begin to work? How long do they live? How often do they swarm? How to put the new swarms in a box? What month do they swarm? And how to make bee boxes with frames? In this issue it speaks of foul brood, but does not say what foul brood is, and a new beginner does not know what the thing means. It also speaks of hives being Italianised—what does that mean? Then again, it says, some breed for queens only and other for honey only, but do not say how these things are managed. But I suppose I am like all other boys when they first go to school. They think the thing is not right, when perhaps it is my own head that is wrong. I hope as things go along that I may learn to understand and fit things a bit.

Our friend has evidently not a copy of the *A.B.C. of Bee Culture* but we strongly advise him to get one. As there are other young beekeepers who may also like to be enlightened on these matters we will tell you a little about them. The egg laid by the queen hatches out in about three days as a tiny white grub. It grows fast, and in four more days the bees cap it over and hide it from sight. While thus hid from sight, it rapidly develops, and in about fourteen days more cuts her way out of the cell as a perfectly developed bee. For the following eight days, she works in the hive, attending to the queen, feeding the larvae, cell building, &c., and after that goes out to gather honey and pollen for the rest of her days. Bees as a rule, if left to themselves, swarm three times in a season, but practical beekeepers control to lessen this number. To put a new swarm in a hive see the hive is supplied with comb foundation. If convenient some brood from another hive as well. Springtime is the natural swarming time. Buy a good hive with frames, and if you have time and skill make others like it, if not buy as you want them. Foul brood is to bees what the great plague was to humanity. The brood all die, assume a coffee-colored hue, if drawn-out with a pin is tough and stringy, and has a nasty smell. The capped brood be-

comes sunken and unshapely. To Italianise your hives means the killing of the black queen and putting an Italian one in her place. She will fill the hive with Italian bees as the blacks die out. Some beekeepers make beekeeping pay them by raising and selling queens. Must strive to make it pay by raising honey. We conclude by again recommending our friend to get a text book of Bee Culture.

A Belgian agriculturist, so an exchange says, planted, at the beginning of spring two white birch trees, and pruned them at the time when the sap was rising. The next day, from each opening flowed an abundance of liquid, and the trees were then surrounded by quantities of bees, which gathered with delight the sweet water. This natural flow of water continued for several days, and the colonies of bees the whole time presented a great sight. Beekeepers who have small trees are recommended to make incisions in the bark in the spring.

Mr. J. J. H. West Bargo, writes:—I received my third number of the *A.B.B.* in good time, and as I had a few questions to ask, I thought I would drop you a few lines. The *A.B.B.* seems to improve at every mail. I am now on the lookout for June. The past season here has been very poor with me, I have not taken more than 12lb per hive of surplus honey of eleven hives. I have sufficient left to carry through the winter. The bloodwood did not bloom well, too much wet, and the gums did not bloom within two miles of me and poor at that. No stringy bark or iron bark. Do you think it is the black bee; I have no other. Is it too late to get an Italian queen, as I am thinking to try one. Do bees gather honey or pollen only from the scrub wattle? I, not being a member of the B.K.U., can I attend the Convention. I would like to write more, but must not trespass on your valuable space.

[You had better leave your bees a few weeks before you get an Italian queen to supersede your black. They gather more pollen than honey from the scrub wattle. As the object of the Convention is, or ought to be, to devise means for the bettering of the bee industry, every beekeeper is welcome, with any ideas or suggestions his experience may dictate.]

The present duty on honey imported into the United States is 20 cents per gallon, or about 1 2-3 cents per lb. Comb honey is about 2 cents per lb., under which tariff, in 1893, were imported 1,172,472 lbs.

SPECIAL SUBJECT NEXT MONTH.

EARLY SPRING MANAGEMENT.

QUESTIONS NEXT MONTH.

23. What is the best arrangement of hives and buildings for an apiary.

24. What is the best manner of keeping the ground around the hives, whether grass, clean soil, ashes, or otherwise?

QUESTION.

F. BURBANK, Castra Apiary, Queensland.

22. It is not necessary to specially prepare hives for winter in Australia. All you have to do is to see that all hives have young and prolific queens, and if you use Langstroth hives, two and a half frames of sealed honey in each side is sufficient. In some of the Southern districts it may be necessary to remove supers, but it is not necessary north of Sydney, if bees start into winter in proper order, with well painted hives and lids.

W. S. FENDER, West Maitland.

22. Yes; i.e. if the beekeeper wishes to winter his bees to the best advantage. See that the combs are clean and contain plenty of honey, that no rain or moisture can get through the covers or to the bees and that there is no other ventilation to the hive than a good, large wide entrance. I prefer to put on a half story fold in a thick bag (as a flour bag) and put on the cover. The bag absorbs any moisture arising and prevents the cold outside of flat cover causing moisture to condense under side and drop among the bees.

J. F. MUNDAY, Woodville.

21.—The situation I would like for an apiary would be in some extensive valley or plain, in proximity to a range of hills on the south or south-west, the vicinity abounding with a variety of good honey-yielding plants and trees, and possessing a constant supply of good water, easily accessible to a public thoroughfare, and plainly seen from the dining room of my house.

J. J. H., West Bargo.

Question 21.—The best situation for an apiary, as regards aspect, locality, shelter and convenience of working.

In answering this question I would start with aspect, which should be in my humble opinion a nice gentle fall to the north-east. This aspect will be quite sufficient for shelter also.

Locality.—For one to answer this correctly I think he should be well acquainted with bee forage which would produce honey most favorable for the home and foreign markets.

Convenience of working.—I would recommend to have the hives placed as A. I. Root does, with the extracting house in the centre, with a shop for making hives or storing spare ones in built at the highest side of the apiary, with an airtight fumigating room attached.

J. J. McGEER, Yarralumla.

Aspect.—Northern, commanding as it does more sun than any of the four cardinal points, while it escapes the cold winds of the south.

Locality.—For this I would prefer a valley opening to the north or north-east, with sides thickly timbered with a good variety of eucalyptus, brush wood trees and scrub. I would place my apiary so that the bees could have access to the clover fields as well as the eucalyptus, &c., &c. Kangaroo Valley I consider would be an admirable place for an apiary.

Shelter.—Situated as before mentioned, the hills forming the eastern, western and southern boundaries of the valley would afford shelter to a large extent from the cold winds of the south, and the strong, as well as cold of the west.

Situation as regards convenience of working.—Of course the apiary should be near the house of the apiarist, in such a position that a view of it may be readily obtained from the most frequented door of residence, say the kitchen door.

W. S. FENDER, West Maitland.

21. Various parts of this colony (N.S.W.) require different aspects for the situation of an apiary. What is wanted is shelter from winds and driving rain. For our coastal districts a valley or gully opening to north or north-east, is best, with high hills on South and West. Special covering from the hot sun in summer is advisable. I find shade boards very convenient, though trees not too dense would perhaps be best. Locality: The best locality is such that there is an immense variety of honey-producing plants, and so situated that all of one kind do not burst into bloom at once and die off quickly. What is wanted is a continuous bloom such as would be obtained on the sides of mountains when the various altitudes would cause the bloom to be continuous. As for convenience of working, perhaps a flat piece of ground for the apiary stand would be most convenient, but the beekeeper will need to arrange for his conveniences according to the site.

QUESTION.

21. The best situation for an apiary, as regards, aspect, locality, shelter, and convenience of working.

R. MANKIN, Cowra.

21. Can't answer, as I would have to be guided by circumstances.

H. L. JONES, Goodna, Queensland.

21. I prefer the hives arranged in straight rows, about six feet apart, on a gentle slope, with protection from westerly winds in winter and summer.

W. SHAW.

21.—Locate near or in heavily timbered country, or in close proximity to cultivated land. Let the apiary be so situated as it will command the rays of the sun during the winter months. An easterly or northerly aspect should be the best. I believe in the hives to be out in the open fresh air.

WILLIAM NIVEN, Eugowra.

21. Rows of hives north-east and south-west. Locality: Low land, with permanent water, but not subject to being flooded, with high hills within bee range. If the apiary is surrounded by green timber, as it should be, no artificial shelter would be required. Extracting room to be in the centre of apiary, and as convenient to railway communication as possible.

GEO. SPENCER, Clarence River.

My ideal site for an apiary is the side of a hill with an eastern aspect, with terraces cut, to admit of hives in rows, with room to work behind, fronts of hives different colours alternately, extracting house in the centre. Hives want sheltering all the year round from sun and weather, by what means depends upon style and situation. If in rows a framework covered with bark, coming winter see each colony is strong and every frame full of stores, removing empty ones and replace with full and unite all weak ones. Do not remove covers after being once sealed, regulate entrance to suit fine and dull weather.

DONALD G. GRANT, Muswellbrook.

Question No. 21 is rather vague. In most cases the selection of a site for an apiary is very like "Hobson's choice." An apiary to my idea should be on level ground or slightly sloping from back to front, hives in rows running north and south, entrances facing east with good shelter on the west against the (with us) strong winds from that quarter. I do not hold with artificial shade such as sheds, &c., but a few trees would make matters more pleasant in summer time. I should have my hives on the ground, seven feet or so apart each way with sawdust or fine sand banked up to the alighting boards and the grass kept as short as shears or a mower could cut it. Honey house (ant-proof) as centrally situated as possible with all necessary appliances. The whole surrounded with a good stock-proof fence, if wire-netted so much the better.

A. FRANK BUBBANK, "Castra" Apiary, Queensland.

The best situation for an apiary in Queensland is in ridgy or mountainous country, that is covered with scrub and eucalypti forest. The greater the variety of trees the better, swampy country should be avoided. The hives should be placed nearly at the bottom of a gentle slope facing north east with hill ranges or dense forest on south-east, south and westerly sides so as the bees will be well protected from all cold winds.

HENRY NANCARROW, Wellington, N.S.W.

No. 21. The position of an Apiary. I would prefer a gentle sloping ground, near a small creek, facing north and close to the hills. In my district, we have abundance of small streams, and beautiful hills, which in August begin to look lovely with yellow wattle and other flowers. Peppermint, yellow box, gums, stringy bark, and white box abounds, and comes later on and continues right into the winter; the hills shelter the Apiary from strong winds and heavy frosts, and the bees in their homeward flight, find it far easier to going down than flying upward with their heavy loads, consequently you lose less bees and get more honey.

T. BOLTON, Dunkeld, Victoria.

In brief. The best situation for an apiary is where an annual crop of honey may be reasonably looked for; that district found, look for a railway station and keep within easy reach of it, (under four miles preferably), then hunt for a spot free from danger of floods on the slopes of some timbered range, not too high, remembering the horses, not too low, being mindful of the frosts. In some such spot, on a gentle fall to the west, set down your hives; on the lower side of the hives erect your honey room, etc., and on the lower side of your buildings project to have your honey tanks standing in the full blaze of summer afternoon sun and filled by gravitation from your extractors. Shelter is good, but I would sooner wait for it to grow, than be on a site with it, but unworkable except at the maximum of toil. If an easterly aspect is wanted for some outside reason, then reverse the order, but keep the tanks on the north end of your building. As soon as possible get a back ground of foliage to your apiary, it gives you much readier sight of the thickness and manner of flight of the bees. In selecting an out apiary site, make consideration of safety from a grass fire prominent, get near a home-stand, and as close to a supply of water and good road as you can. If you pitch on an open plot with no land marks, haul a few logs between hives, and devise rough and ready sights for your bees, or you will mourn the dead on your next visit. Above everything get into abundant pasturage, nothing compensates for lack of it.

J. R. H. GAGGIN, Lismore

21. "The best situation for an apiary as regards aspect, &c." Much has been written on the question of the best aspect for an apiary, but so far as practical results (i.e., the honey crop) go, I believe it is not worthy a moment's thought as towards what quarter the ground inclines; whether the hives front north, south, east or west, whether they stand in the open, swept by the rays of a semi-tropical sun, or are hidden in the deep shadow of a forest. For convenience of working I should like to have the hives situated on a gentle slope, with the extracting house below all. For the protection of the little workers the apiary should, if possible, be sheltered from strong winds, and the vicinity of sheets of water ought to be avoided. High trees are objectionable in swarming time.

REV. J. AYLING, PITT TOWN.

To Question 21 I would reply that in an article in *Gleanings* for April 1st. page 268, the first part of it, my idea is stated exactly. My own apiary is situated about as well as can be; just outside the house, so that anyone may easily hear the noise of an out-coming swarm; well sheltered by tall pines, with an undergrowth of pittosporum, lemon, camelia, rose, and other small trees, so that the force of the strong westerly wind is completely broken, and on the other side a line of pepper tree and camphor laurel furnishes a shade from the sun. These trees are close, and high enough to form a sort of living wall, over which the bees must fly in and out, so as not to come in contact with passers-by on the roadside. Some of my hives face east, west, and north-west, but, as I am situated, the aspect is immaterial. My advice would be, before setting up an apiary, if you have no trees, plant them. The pepper is as good as any, perhaps better. Select a site, elevated a little if possible, and naturally sheltered from prevalent winds. The honey room, or operating house, should be just as near and as handy as possible. And if you can find a locality where the native flora bloom more or less all the year round, just select that place, and don't depend very much on cultivation. One advantage of plenty of small trees such as I have named, and including fruit trees, is that my bees very rarely swarm out of my boundary.

N.Z.

21. The first and most important matter for consideration when choosing a situation for an apiary—I presume a large one is meant—is locality, with regard to bee forage. It seems scarcely necessary to remark that it would be very unwise to attempt carrying on bee culture on an extensive scale in a poor district. Now, in choosing a locality a person should have some knowledge of the requirements of the honey trade with regard to the most popular and saleable kinds of honey, and whether the particular

district he wished to start in was a good one for raising plenty of any one of those kinds. If he had a knowledge of the honey trade, he would know it would pay him best to raise extracted honey. It should therefore be a first consideration to know that the honey of district will extract easily, for there are plenty of kinds that will not extract in the ordinary way. Having this knowledge he would be almost certain to know the most saleable kinds. It goes of course without saying that the clover honeys are the best, but clover does not grow everywhere, and as I understand, is very scarce in some of the Australian colonies. It becomes then a matter of taking the best we can get, keeping the question of extracting always in view. Comb honey need not be considered, as that can always be raised where there is honey; nor is there any need to consider locality by those who only intend to keep a few colonies, as you can raise a little surplus honey almost anywhere that human beings live.

With regard to shelter, which should next be considered. With the hives standing on the ground, as is generally recommended, very little shelter is needed, or rather, the shelter required may be very easily obtained. For instance, advantage may be taken of a depression in the ground in the first place, and also of any natural shelter there may be about in the shape of trees and other vegetation, especially in the direction of the prevailing strong winds. Failing these, or as an addition, some quick growing suitable shrubs or trees should be planted. Some of the privets are very suitable for this purpose, they grow very fast, are evergreen, and give excellent shelter, look nice, make good bee forage when in blossom, don't grow too tall, and may be trimmed to any amount. On new ground a plough might be run along where the plants are to be put, turning it up about a yard wide, some bone dust should then be strewn along the centre, and the young plants be put in 1ft. or 18 inches apart. A decent shelter fence can be had in this way in about two years. If there are cattle about, some kind of fence would be required outside the hedge to keep it from being destroyed. There are of course other plants that might do equally as well.

As regards aspect, in N.Z., we find a north-eastern aspect as good as any, and I think this is generally adopted here. If the ground slopes a little to the north east all the better.

Convenience is best secured by having all your plant, such as extracting room, honey room, and workshop all under the one roof, but communicating with each other, and this building should be within a short distance of the bees for convenience when extracting.

There should be a good supply of water close at hand, if in the shape of a running stream all the better.

The prize schedule of an agricultural show states—Best jar of Clear Honey, not less than 6lbs. One exhibit is clear liquid honey; the other is granulated. To which would you award the prize? Flavour was not taken in, so evidently it is a matter of looks. [We should decidedly say the clear, as the prize was offered for clear, not granulated.]

JOTTINGS FROM FOREIGN BEE JOURNALS.—N.Z.

FEEDING.

Although it may not be necessary to practice feeding too much in these colonies as in some colder countries, as England and America, still in some cases it becomes absolutely essential to do so. In a recent number of *Gleanings*, Dr. J. T. Beall recommends syrup made with the aid of a percolator, and gives the following directions for making the apparatus and preparing the syrup.

THE APPARATUS.

Procure a five gallon tin having a honey gate or tap at the bottom. Punch three or four small holes about equal distances apart, one and half inches from top of the can; for convenience will call this tin can the receiver. Now have another five gallon can made so that it will drop into the top of the receiver about one inch. The bottom of this can (which we will call the percolator) should be made in the shape of a funnel with a slightly tapering nozzle one inch long and $\frac{3}{4}$ inch in diameter at the outlet. Into the nozzle of the funnel fit a cork having several vertical grooves cut in its circumference 1-16th of an inch deep. Now pack the funnel end of the percolator with a good quantity of cotton previously saturated with water and well squeezed out. A loose fitting cover completes the percolator. Fill the percolator about two thirds full of granulated sugar and then pour in cold water until the can is about full. Soft water is preferable. The first half gallon of water that passes into the receiver should be returned to the percolator, as it will be too light. All that is necessary now, is, to keep pouring in sugar and cold water occasionally and to draw off the syrup as it accumulates in

the receiver. Always keep enough sugar in the receiver to cover the cotton to a depth of about two inches. It is not necessary to weigh the sugar nor measure the water; just keep up the supply of material, and the apparatus like the Kodak will do the rest.

Dr. Beall says that this syrup is heavier than any syrup that can be made by boiling and is never over or under done. That it is perfectly stable in any climate and will never sour nor granulate. If the above is correct, it certainly seems a great improvement on the old going way of boiling sugar.

THE SPREAD OF FOUL BROOD.

At the Michigan Experimental Station Mr. B. Taylor, the apiarist in charge, has been carrying on lately some extensive experiments with foul brood, and quotes the following five causes by means of which the disease may be spread.

1st. The swarming out of bees from a diseased hive and coalescing with a healthy colony.

2nd. The artificial unity of a mass of bees, from a diseased colony, with a healthy colony.

3rd. The giving of a comb from a diseased colony or even a very small piece of such diseased comb, to a healthy colony.

4th. The robbing of a diseased colony by bees from a healthy colony.

5th. The feeding of honey taken from a diseased colony to healthy bees.

Mr. Taylor recommends, as the best cure, the disinfection of the hives and frames by boiling for fifteen minutes, the destruction of combs and placing the bees on starters of frames of foundation. This plan he says he has never known to fail.

BEEES ON FRUIT GROWING.

I believe I mentioned a short time ago that Mr. A. I. Root intended issuing a pamphlet on bees and fruit. It has just been issued and consists of 10 pages. It shows the important part played by bees in the fertilization of blossoms. It should have a wide circulation, the price

is only two (2) cents for a single copy or 1dol. 25cents per 100. These should be largely distributed.

A NEW MATERIAL FOR COVERS.

A correspondent in the *British Bee Journal* recommends the use of wire wove roofing as a cover for hives. He says it is light and durable, is indestructible to the weather and is not affected by heat or cold, whilst the cost is about 6d per square foot.

AN OLD CUSTOM.

Tanging bees in 1665. I clip the following amusing paragraph from the *British Bee Journal*. It is an extract from an English writer of the 17th century, named Dekken, which seems to show a further development of the old ideas of key and frying pan. The belief was that it would not only make swarms settle but would even draw them out of the hive. Dekken, dated 1665 says:—"He was a musical tinker that on his kettledrum could play any country dance you called for, and upon holidays had earned money by it when no fiddlers could be heard of. He was only feared when he stalked through towns where bees where, for he struck so sweetly on the bottom of his copper instrument that he would empty whole hives and lead the swarms after him by the sound."

Tanging swarms to induce them to settle is still practical in many parts of the old country. Whether it has any effect on the bees I am unable to say. Many eminent beekeepers hold that it has not. Anyhow it can do no harm.

STRAIGHTENING COMBS.

Mr. Doolittle recommends the following plan for straightening crooked combs:—Take the combs from the hive to a warm room, one whose temperature is up to a 90 or 100 degrees, and when thus warm and pliable lay on a flat surface and press them in conformity to that surface cutting out little strips of comb if necessary, from the most bulged, so that the combs will come straight without spoiling too many cells by pressing them out of shape. Mr. Doolittle states that years ago before the introduction of comb

foundation, he straightened hundreds of combs in this manner, so that all the combs in his hives were as straight as a board.

OLD HONEY.

Mr. Eugene Secor has kept comb honey 8 years without granulating, and, when eaten, it turned out to be perfectly fresh and good. A good deal of our N. Z. honey would granulate within as many days; comb honey keeps best in a warm dry place.

ADULTERATING HONEY.

Five cartloads of glucose were used by one firm in adulterating honey according to Mr. Levering, in the Californian Convention. With a duty of 2d per lb on glucose, it does not pay to adulterate in New Zealand. Dr. Miller says:—Quince jelly made with honey, of exquisite flavour is one of the delicacies mentioned as on exhibition at a French Beekeepers' Convention.

ALSIKE CLOVER.

Mr. M. W. Shepperd recommends the cultivation of Alsike Clover, as it makes better hay and pasture than does the red clovers; it furnishes a large amount of nectar for bees to gather, and its long fibrous roots hold it in the ground when red clover will have no foothold at all.

THE BEST BEES.

In the *American Bee Journal* for March under queries and replies the question is asked of a score or more of beekeepers, who answer the questions in that department, what race of bees they prefer? 19 out of 26 vote for the Italian; one Italian crossed German bees; two Italians crossed with Carniolan bees; one the Syro-Albino and two the Carniolans. It is remarkable how the Italians seem to hold the preference among prominent beekeepers. There was a time when the Holy Lands, the Syrians and Cyprians were preferred by a large number of beekeepers. These with the exception of a cross of the Syrians are totally ignored and the next in point of preference are the Carniolans.

I noticed in one of the *American Journals* a short time ago (I cannot put my

hand on it now), a proposal by some bee keepers for controlling the fertilization of the queen bee. Of course if such a thing could be carried out it should prove invaluable to queen breeders. This method was to confine the bees and virgin queen, also the drones in the hive selected for the purpose in a cool dark room until the afternoon or such time as all the other drones had retired to their respective hives. The imprisoned bees were then placed in their original stands, released and fed with warm syrup, which induced both queen and bees to take flight when the desired end was attained. The writer of the article claims to be able to rear any quantity of pure fecundated queens even if there are hundreds of black or hybrid stocks in the same apiary. Now this *discovery* is as old as the hills. I perfectly remember the *secret* being sold to English beekeepers some 25 years ago at 10/- each, purchaser, being at the same time pledged not to divulge the secret to any one. I need scarcely say it turned out to be perfectly worthless, and whether the purchasers ever got their money back I am unable to say, but I fancy not.

FOUL BROOD.

Mr. Wm. M'Evoe writes in the *American Bee journal*:—

Mr. D. A. Jones, of Beeton, Ont., had a very bitter experience with foul brood in his apiaries. Mr. Jones and his men gave the drugs a very thorough trial, and found them a complete failure. His colonies were so bad with foul brood that he failed to cure them by putting them on starters, foundation, or giving them a partial starvation before he gave them foundation. At last he resorted to almost starving the bees to death before putting them on foundation, and then succeeded in curing. After that Mr. Jones became an advocate of a thorough starvation of the bees before putting them on foundation. Where the colonies are not bad with foul brood and there is little or no

unsealed honey in the brood combs, they can be cured at once by removing the diseased combs and giving them full sheet of comb foundation. I don't remember ever finding one foul-broody apiary in all my experience where *every colony could be cured by putting the bees on foundation at once in the time of a honey flow*. If all the hundreds of hives that I have handled in my time, that once had foul brood in, had been boiled or scalded, what a lot of valuable wood would have been burned, time wasted and much curing delayed through time taken up in boiling and fussing with empty hives, at a busy season when work of all kinds was pressing. But the worst of all would have been—the most of this sort of work would have fallen on the women, the ones least able to bear it. *I knew that the empty hives that foul brood had been in, never did give the disease, and could not cause it. Knowing all this, I thought it would be a very unjust thing in me not to warn against the boiling of hives as a waste of time.*

Mr. M. M. Baldrige gives, in the *Beekeepers Review*, the following method of disinfecting foul broody hives:—It is way ahead of boiling in hot water and far less trouble. Simply scrape the inside of the hive until most of the bee-glue is removed, then paint the same with kerosene. Place inside a piece of burning paper and let the kerosene burn off and you have a clean box, thoroughly disinfected, and no harm done to the outside, whether painted or not. Don't let the fire burn so long as to *char* the wood, but when slightly charred no special harm is done as it can be scraped off. One person can thus disinfect fifty hives in a few hours. The fire can be quickly put out by laying a board over the top or simply by turning the hive over. Try one or more empty hives and see how nicely the plan works.

Karl R. Mathey says, yellow vaseline applied with a brush to the grooves and bars and different points of contact, prevents propolis of bars and frames.

QUEEN REARING.

Dr. G. L. Tinker, in the *American Bee Journal*, says:—I never saw a good queen that had not been properly fed for the first four days of her life; and I think I was one of the first if not the first, to rear queens by transferring small larvæ, from 18 to 30 hours old, to queen cells well filled with royal jelly after the removal of its occupant. These queens would all hatch on the tenth day after, and would often be large and fine to all appearance. Still I never reared one in this manner that was extra prolific and long lived, and hence I abandoned that way of rearing fine queens, because in developing a new strain of bees, as I have been doing for the past nine years, it became absolutely necessary. The result has been an improved bee, highly prolific, and great workers. Out of swarming time it is possible to bring about all the conditions for rearing perfect queens as follows:—

Catch and cage the queen of a strong colony full of young bees, and take away all of their brood and give them a comb of honey and empty combs. Place the caged queen upon the frame to keep them quiet.

At the end of three days take away the queen in the evening, and the next morning give them a frame of cells with just hatching larvæ, on the Alley plan. Not more than 20 larvæ should be given them. Now feed them well for five days. Eggs may be given in the same way, but they will not quiet the uproar in the colony like the young larvæ, and black bees have the singular habit of eating all of the eggs but will accept of the larvæ. Should a comb of just-hatching eggs be given to the colony instead of the 15 or 20 cells prepared on the Alley plan, it will be found in a few hours that every larva in the comb will be swimming in royal jelly, showing that all are fed as if to rear queens, although but 15 or 20 queen cells will be completed.

Thus reared, I have many times got queens that lived four years, and were highly prolific to the last. With such

queens I have obtained the equivalent of two 10-frame Langstroth hives full of brood by the 10th of June, but the ordinary queen would hardly fill eight Langstroth frames under the same conditions.

Of late there has been some talk of having two queens in a hive in the spring to build up large colonies, but from the above it will be seen that one good queen is enough for any colony.

BEES NEED WATER IN CONFINEMENT.

JENNIE ATCHLEY.

I am becoming more and more convinced that bees need water when confined, *especially* through the mails to foreign countries. I have been hauling bees all spring from thirty to one hundred miles, and my bee waggons that came in Saturday last I noticed those that were given water on the way arrived quiet and in good condition, and those not watered were restless and suffering. Willie came in with thirty colonies of bees three days ago, and it is swarming timenow, and three hives sent out swarms in his waggon while travelling, settled in the corner of the waggon bed, and were hived O.K. on arrival. Now he (Willy) said he could tell along the road when the bees were in need of water by the noise they made, and when he gave water they would drink and quiet down. Now, if these bees suffer from water when confined only one week, surely bees in the hot close mail bags. I might add that our bee wagon is about six feet high by twelve feet long, all made of a frame and covered bee tight with wire cloth. We do not close the hives at all, having found that bees are no trouble to move at any time of the year if they are not confined to their hive. We just remove the covers from the hives and also leave entrance open, and they do not suffer from heat. It is confining bees in close quarters as their hives when full of brood and bees in hot weather that injures them. Now, I *do* believe that if some plan can be devised to supply bees

with good food and plenty of fresh water they can be sent to any part of the world with safety. Who will volunteer to help us out?

Beeville, Texas, April 23, 1894.

We are pleased to be able to state that, in addition to the efforts in the direction of sending bees long distances being made by Mrs Atchley and Mr Doolittle on the American side, we know of at least here in Australia—Messrs. Mansfield, Patten, and Pender—who are also experimenting on different styles of queen-mailing cages. We have also a scheme of our own which if successful we shall be pleased to make known.

Americans for years advised against the use of galvanized iron for any purposes where honey would come in contact with it. They in common with other American beekeepers are beginning to think there's no harm in it now.

Mr. John Smith, Eugowra, writes :—Please find enclosed year's subscription to *Bee Bulletin*. It is a grand paper, gets better and better. But, sir, we shall have to get an export trade for our surplus honey, or I fear some of us shall have to go to the wall. I cannot sell mine this season at all.

Mr. A. Brown, Parkville, writes—I notice in last A.B.B., you mention Mr Munday has clipped two queens' stings, and had them laying in one hive. I have had two laying in one hive for over two months (without clipping stings) and at present their hive is overflowing with bees and brood, although winter is upon us, and other colonies are feeling slight winter effects. These two queens are mother and daughter, and strange to say, this old queen has not swarmed for two years, and when I first observed the young one, I imagined they were superseding, but it is longer coming about than any I have seen yet, if such is their intention; however I will watch and see. Last season was very fair season for honey here, and coming in now from white box and blind nettle, but days are too short to store much. Wishing your little journal every success. Am sorry to see disputes are arising amongst bee-men.

Mr. James Blundell, Raymond Terrace, writes :—The *Australian Bee Bulletin* is one of the best Bee Journals I have read, and I am greatly pleased with it, as there is a good deal of information, and it must be a great service to beginners in apiculture. I am not a beginner in beekeeping, as I have been at it all my life, but never had anything to do with frame hives till last year, when I started with three, and I now have 37 hives.

Mr. C. Arthur Lee, Tenterfield, writes :—The weather is splendid and the bright warm days bring the bees out in great numbers, although the nights and early mornings are very cold. The wattles are beginning to bloom. Which of course means a supply of pollen all ready for the spring campaign, and I think they are getting a little honey from the eucalyptus. The coming season promises to be a good one. With best wishes for the *Bulletin*.

Chalon Fowles gives the following plan in *Gleanings* for trapping stray swarms :—You want an old hive if you can get one, or if you can get two or three to put in different places, so much the better. Now you want an old brood comb to hang in each hive—the older and blacker the better. If you can't do any better, get two or three pieces of old combs and fasten them in the tops of the frames by means of melted wax. This is for bait. You want it old and black so it will smell strong; but it should be free from the moths, and no honey in it. The bees will look for an empty hive to store honey in, but they don't want honey already stored in it. Now fill up the rest of the hive with empty frames; tie on the cover with stout twine, drawing it tight by twisting in a stick, and you have your trap ready. Now carry it to the woods, find some tree easy to climb and draw up your hive by means of a cord. Finding a good resting-place for it among the branches, tie it securely; 10 or 15 ft. is high enough if you can find a good place. Don't go very far into the woods. If the tree you select is near a field of white clover, so much the better.

The Rev. L. J. Templin, commences a communication in *Gleanings* with:—The offspring of a cross between different species is a hybrid; and the result of a cross between different members of a species, or between different races of the same species, are mongrels."

Mr. Alfred Wallace, Wingham, writes: Enclosed please find 2/6 stamps for my half year's subscription to Bee Bulletin. I have received two copies and find it very interesting. I have been beekeeping for a number of years on a small scale with the black bees; they gather a lot of honey and of excellent quality, but it is a difficult job to keep them clear of grubs. I intend during the incoming spring to make a fresh start with Italian, as it is a good place here for honey.

Mr. James Coyle, Teralba, writes:—Being on business in Walsend the other day, and the weather being cold, I called in at an hotel to get a glass, expressing a partiality for rum, if the article on tap was good. This Boniface assured me it was, and that he had the name for the best spirits in the district. I had my glass, and it fully bore out the good name bestowed on it, so much so, that I was tempted to repeat the dose. I enquired the particular reason therefore, and it may interest your readers to know that to HONEY it owed its particular smoothness and quality. The hotel-keeper uses one pound of honey to each gallon of rum, the water used being previously boiled.

HEREDITY.

R. HELMS.

Knowledge without understanding is like a spurious coin; the glitter and stamp of a sovereign with a leaden body.

Very reluctantly I reply to Mr Gale's verbose effusion which appeared in the April number of the A.B.B., as I consider it a wanton waste of time, because the whole lengthy rigmarole does not contain a single point that advances the question at issue one iota. Besides, I am afraid that the readers of the journal will get tired of seeing a controversy continued in

the style it has drifted into and may ask the editor to stop it. Were it not that Mr Gale is becoming rather too personal I would gladly let him have his say unchallenged; but since he cunningly avoids the main point and diverts the readers' attention to my person more than to my arguments, he almost forces one to this reply. Before entering upon the several statements made by him I confess that with such a writer as Mr Gale it is a difficult matter to deal, for as the sequel will show he either does not understand the meaning of certain terms or lives in the hope that most of the readers do not, and consequently has the audacity to make it appear that his opponent does not know what he is writing about. This places the latter in the unenviable position of being obliged to defend himself; a very clever move, probably acquired no doubt in a third-rate debating club.

In the outset Mr G. accuses me of fault-finding, and infers most unmistakably that I went out of my way to seek for weak points in his article. Alas, there is no need for it, as they are staring one in the face in all directions. In fact, the whole thing is so dreadfully weak-kneed, that were it not for the new theory, by which atmospheric influences are elevated to throne as a creative power, contrary to all previous attainments of philosophy, by which it is proved to be constantly destroying all things, there would be nothing worth noticing in it. Everything else is dry bosh, and, when not that, absurd.

If Mr Gale expects that I can read all that is printed about bees he is much mistaken. Even had I the time I would not do so, because of the mass of trash that one meets. He is quite correct that I did not read the article he borrowed the title for his paper from. However that does not make the choice a wit the better, and as Mr Gale acknowledges that nothing about heredity is said in his paper except that he attributes all to "conditions and agencies," which he states the only things to be hereditary, the title remains ill chosen. He distinctly states

in his paper that constructive and mental characteristics are *not* hereditary; yet in his last effusion he has the effrontery to tell the reader that I must be labouring under the misapprehension of considering only mental characteristics hereditary, and then enumerates the various physical characteristics that are hereditary, which no doubt he considers necessary for my information, and I suppose for other benighted readers. This is however just in accordance with the customary contradictory assertions the writer seems, one would charitably feel inclined to believe, not to be aware of making.

From my critique Mr Gale has gathered the information that I am very young at the knowledge about bees. Why then does he take so much notice of what I say? The paragraph should have settled the matter; or better still it were in such a case had he not taken any notice at all of what I said. Seemingly my critique must have nettled Mr Gale very severely, that he should make use of such a trivial defence. This move reminds me of a friend of my grandfather, Major Patterson, who from all accounts was a downright good fellow, but who was possessed of the ludicrous fad to deny the greatness of Napoleon as a general because he could not understand such a thing being possible since Napoleon had been still in his swaddles when he (Major Patterson) was already lieutenant.—I acknowledge the seniority of Mr. Gale.

After regaling me to inexperience and ignorance an appeal to the intelligent jury is made. So far, however, the jury has left Mr Gale in the lurch, and none of those for whose understanding the article was specially written has come forward in its support. It is certainly lamentable that only second or third-rate intelligences should have written about it, and all the jury will probably do is to pity Mr G. that his pearls have fallen before such snorting gruntners. None of the epitomes, however, Mr G. might have copied from standard works would have helped him to make me swallow his wind theory.

Advisedly I spoke of the outer network, not to be misunderstood; for really the only true network is the inner or cocoon; the outer is but such by appearance. Mr Gale carefully avoids to touch upon his statement regarding this inner network, "shrouding only the *head* of the queen larvæ and leaving the abdomen free," as being one of the specialties connected with her development; whilst I pointed out that all other larvæ, whether drone or workers, similarly make but partly covering cocoons. No doubt he thinks it a very smart thing when he says that bees are not so wasteful to work up pollen uselessly. If it were necessary that the queen cell should be constructed of wax and pollen there would be no waste but necessary use. Bees use pollen for covers and would certainly do it the more so for the queen cell if necessary. Mr G. states: "The queen cell is not made wholly of wax, but a large portion is *built* with a mixture of wax and pollen. The capping of the brood comb, both drone and worker, is *built* of the same material." This unmistakably infers the building in of pollen. Unfortunately for Mr G.'s statement the queen cell contains scarcely any real pollen.

A whine is set up by Mr Gale for not quoting him correctly because I say he makes respiration the chief agent to mature the queen; whilst he really says—"one of the chief agents." This is simply playing with the tenor of the article, which certainly hinges upon the assertion: "that the food theory is wholly untenable," against which the respiration of the larvæ is marched to the front. Further on a similar whine is set up because I use the word trachea instead of spiracle, as used by Mr Gale. This certainly shows that his ideas not only about the food but also about the system of respiration, are very confused. I should have thought that when breathing is discussed that it would not much matter whether one said "I breathe through the nose," or "I breathe with my lungs." Mr G. finds fault with the statement that the larva is surrounded to a great extent with food substance, but is forced to admit that it floats

on the food and has only half the number of her spiracles available for breathing. It does not seem to strike him that this admission is about as damaging to his theory as anything he could possibly say. If the respiration were to produce such wonders as Mr Gale has evolved in his theory, there should be no need of floating on food, first of all; and secondly, the spiracles should all be in operation and not the half of them only, unless they are proved to be sufficient to produce the alleged wonder. Moreover, one would imagine that if the respiration played such an important part as asserted, the tracheæ would become fully developed during the larval stage. But such is not the case, for as a matter of fact they change to their complexity during the chrysalis stage when the insect is nearing towards the time they really are more particularly required for their special functions in the adult and independent individual. During the larval and chrysalis stage the bee, like all the insects of a regular metamorphosis, does not seem to require much oxygen, and therefore her tracheæ are simpler, although the spiracles are more numerous. In his confusion Mr Gale frequently exposes his want of knowledge. He attempts to enlighten me regarding the number of spiracles, adding that when the larva becomes erect, as the sixth dorsal plate has none, only the spiracles of the fifth dorsal plate are submerged in food. As he is speaking of the fifth and sixth dorsal plate Mr Gale no doubt confuses the mature insect with the larva, and it is evident from this that he is not aware that the larva has twenty spiracles besides two rudimentary on the last segment. During the chrysalis stage, when really all the organs are matured, amongst other marvellous changes a numerical reduction, but better development of the tracheæ takes place. The spiracles are reduced to half their number, and only five pair remain, the rudimentary pair on the last segment disappearing like those of the thoracic region.

Fault is also found that I assert the q.

c. to be rather solid. I think everybody understands the meaning of this quite well. The way Mr G. defines solid is a little too smart, even for him, who methinks is the carper and flounderer if anybody. Nor does he make a much better hit about the definition of tissue. Both terms were used by me in the generally understood way. If I attempted to define the meaning of solid it would be insulting to the reader, and the same might also be said considering tissue. The ordinary meaning of it is well understood, and I have used it in the sense as Mr G. does. His wisacredom displayed by telling me what tissue may mean scientifically is simply a subterfuge to divert the readers' attention from his faulty assertion. There can be no doubt that Mr G. meant by "tissue-like cells" that these were pervious to air. This, however, is not the case as far as the q. c. is concerned. However solid tissue may be scientifically, the term is never applied to constructed or manufactured articles unless they are tissue-like in the commonly understood thing. No one will call a sperm candle or a lump of putty tissue-like, and the q. c. is on the par with these.

After this I again mention that the q. c. is rather solid, and now add that it does not consist of a mixture of wax and pollen. It consists to the greatest extent of wax and the "shells" of pollen, which will not make it porous. I found but a very small percentage of pollen in the q. c., but variable in quantities some cellulose, which is the indigestible part of the pollen, besides some portions of cast skin. The few real pollen grains found by me I think most probably to be from the part near the cover, and therefore it may almost be said that the cell proper contains no real pollen at all. Mr G.'s statement, therefore, is fundamentally fallacious.

It is difficult to imagine that Mr G. should confound inverted and pendulous, and consider them synonymous as he does. And therefore his objection to my supposition that he meant pendulous is

scarcely comprehensible, seeing quite plainly from his own quotations that I did not make a mistake. As to the term cone being applied to the fruit of pines, there is no need for me to state I am well aware of this, but if Mr G. had such special application in view when he wrote, he ought to have stated this. Considering his paper was not on botany, but involved a zoological question, the term can hardly be applied, in spite of his assertion that cone has many applications in many sciences. Perhaps Mr. G. desires to substitute queen cone for queen cell, which would certainly be more rational than his wind theory, although somehow I don't think it will pass either.

One of the boldest denials of what he has written is indicated by the question he asks, where he has said that the shape of the cell affects the development of the queen. He distinctly writes—*its shape an inverted cone*; when he enumerates the conditions and agencies which he advances to help in supporting his theory.

What I have written and given as *my observations* Mr G. may rely upon as being minutely correct. He tries to throw doubts upon my veracity regarding the statement of the nine queen cells, and seems to class it with the periodical snake yarns. It does not suit his trashy theory, and as the nine cells are an unusual occurrence, he pounces upon my statement as a fit object for ridicule. The beekeeper who reared the cluster will probably at a future date give the reader an account of the queens when sufficient time has elapsed to prove or disprove their quality.

Coming to the unhappily-chosen parallel between bees and aphides, Mr Gale lets his light shine so profusely, that probably many readers are dazzled by it, and will think that he must know a great deal about aphides, and therefore to challenge his assertion would be presumptive. My plain opinion about the matter, however, is that Mr Gale copied the whole from some popular text book,

and then made himself believe that he knew all about it. Yet it seems pretty clear, when he objects to my introducing parthenogenesis, that he must be lamentably astray from the vital point of my objection to this peculiar so-called parallel. I say that parthenogenesis is the only thing common to the bee and aphids, and I may state here that in reality in name only, because it is of quite a different nature in either insect. The bee is about as far removed from the aphids as the elephant from the kangaroo, if not farther, and therefore the peculiarities of their development cannot possibly be a parallel. But the real point is that I doubted Mr G.'s assertion that the change of the nature of the insect after several generations takes place without a change in the nature of their food taking place. When I previously considered this a very problematical question, I feel quite prepared to prove that the change in the nature of the food has everything to do with it; as this, however, does not interest beekeepers very particularly, I need not bother them with this subject any further.

That Mr G. should bring his motto so well home to himself, and seek for faults even when these may be attributed to the omission of a little word, and be therefore more likely that of the printer, could only be expected of him, since the whole of his reply is scarcely anything else, and nothing to the point. And then he speaks of tautology without understanding the term.

Towards the finish I am accused of abusiveness, and by using the comparison about the bad sixpence. He means the same, although he objects to tautology. Mr Gale is sorely mistaken if he thinks I meant to abuse him; why should I do so? I regret such misapprehension, because such impure motives can only emanate from a spirit of vengeance, and as far as I can say the meetings between Mr Gale and myself, few as they have been, were always friendly and cordial. There consequently exists no such feel-

ing with me that would lead me to the error of abusiveness. It seems to me that Mr Gale must fancy himself seated enthroned as the Pope of beekeepers, and what he utters *ex cathedra* he fancies to be infallible, which to gainsay is worse than heresy. He has written about an absurd theory of his, and is offended because I do not believe in it. What I have written I do not feel the least bit inclined to revoke. It is full weighty coin, and only the dimmed eye of a chagrined mind can mistake my glistening, sterling half-sovereign for a bad sixpence. There is nothing rational in the respiration theory, but that would not matter, were it not likely to do harm to speculative experimentalists and others that might give credence to such novelty. The food theory is sound, and the only tenable. *Queen breeders should make it their paramount aim to rear queens only by the help of a superabundant number of young bees, as it is demanded by nature.*

No one denies Mr Gale to possess practical knowledge, but as a theoriser he lacks the necessary penetrating deductive logic that is requisite, besides some scientific training to successfully deal with the very subtle problems of nature. As soon as he can logically prove his theory, or disprove the food theory by the same, or facts, I shall be quite ready to withdraw all I have said. Hoping, however, that he will leave coining bad pennies alone, and instead of chimerical ideas give us something with a substantial foundation.

R. HELMS.

Sydney, 24th May, 1894.

VISITORS TO THE CONVENTION.

Beekeepers visiting the Convention desiring to secure accommodation can communicate with Mr Trahair, of Messrs Hebblewhite & Co., who will make all arrangements, and at reduced rates if possible.

AFFILIATION WITH THE N.H. & P. SOCIETY.

The following letter has been handed us by Mr Albert Gale for publication:—
Victoria Arcade,
19th June, 1894.

A. Gale, Esq.,
Technical College.

Dear Sir,—My council would like the coming Convention to consider the advisability of affiliating with the N. H. and P. Society, with a view to giving to apiculturists the complete control of our apicultural section, thus adding to the representative nature of both institutions. I may mention that our subscription to each section corresponds with the subscription now paid by beekeepers to the Union and associations following. I give below rough outline of affiliation.—Yours faithfully,

H. RAWES WHITTELL,
Secretary.

All members of the United Beekeepers' Association to become members of the N. H. and P. Society Apicultural Section, but retaining their own officers and management, under power of resolution of council of National H. and P. Society, and to govern and control the whole apicultural section of above Society. All subscriptions received from apicultural section to be voted by council to committee of control of apicultural section immediately on receipt thereof, plus any sums that may be available from the general fund. The main society's office to be available for all necessary business of the united apicultural body, and such other details as may be determined on after conference between associations.

HEREDITY IN BEES.

BINN.

The discussion that has been going on in your past issues under the above heading, quite overlooks the point in Mr. Grimshaw's article which is supposed to have brought Mr. Gale to the fore. To those of your readers who are acquainted with any of the difficulties surrounding "Heredity" and the obtruseness of the arguments involved, the present trend of the question appears very pitiable. Winnowed of all the chaff, burrs, &c., the grain left appears to be a discussion as to what causes "tissue" to develop. Is it not a fact that all animal tissue depends upon nitrogenous food for its development? Is it not also a fact that this food can only be assimilated by

the aid of oxygen? Cannot Messrs Gale, Abram and Helms, reconcile their statements on this basis? As "Heredity" is a matter of interest to some of your readers and would be to all, if only practical questions were discussed, I would suggest that the concluding remarks of Mr. Abram in your May number, be considered in detail. Above all let us put personal animus behind our backs. The advancement and good of the cause is far more important than implying by roundabout ways the truth of that ancient axiom, "All men are liars." *Revenous a nos moutons.* "Color" is hereditary—the constant race characterises its constancy—the black race "the black color—the yellow race, the yellow color."

Permit me here to request acquiescence to the following postulates:—

1. Hive bees all belong to the same species.
2. Races are varieties of the same species,
3. Hybrid is therefore a misnomer. According to the above statement it must be admitted that the black race is pure, it is constant in color. Where are we to look for the pure yellow race? Clearly, to those who, "Characterise their constancy," in color. Some apiarians claim that the Cyprian is the true yellow race. Does the Italian meet the case? "I ha' me doots."

What is the Italian then? Evidently a mongrel, because it is not constant in color. Hitherto it has been stated by apiarists that a queen whose workers show three yellow bands is a pure Italian. Does that prove there is no Cyprian or Syrian blood in her? She may be pure enough, but in the light of the above statement, to which I heartily concur, if her drones and queen progeny are not constant in color how can she be pure? Where are we at then? What constitutes a pure Italian? Has not the time arrived when a clear definition of this race should be given?

Bolwarra, June 12, 1894.

[We feel assured our readers will agree with us, that the discussion on Heredity has reached a stage at which it must now close. Any further communications on the subject will not be inserted.]

JUDGES & JUDGING.

To the Editor A.B.B.

Sir,—In your footnote to the Hon. Secretary N.H.P. Society's letter in last issue re above subject you ask will the judges have a say? etc. Well, Sir, to comply with your request, I will answer as one of the judges, that the letters of several of your correspondents, to put it mild, are untruths of the meanest order, and are in my humble opinion calculated to do a few respectable beekeepers a great amount of harm, and I think this ink-slinging business has gone quite far enough already. I can hardly comprehend how such fellow-beekeepers as Messrs Abram and Caddan could set themselves the task of writing what they must know is not true, to gain what end? To deal with the letters, page 253, A.B.B., Messrs Abram and Caddan do not agree with the judges, solely because they do not award the prizes to the malcontents, and reminds me of a leading beekeeper who sent some exhibits of honey to the R.A.S. Show, Moore Park, and sent along a memo which saith: *If my honey does not secure first prize enter a protest.* Class 330 referred to does not concern judge's duties. Letters in April issue are of no special feature for judges' comment, but to May issue I do not see that Mr H. Rawes Whittell or his Society's committee are called upon to feel hurt over the matter, as I understand judges were nominated by the exhibitors. To Mr Abram's letter I must take exception, being composed of very objectionable matter, and when read between the lines are ill-omened. I really cannot understand why the agitators do not state the other side of the question, giving facts, and then let the readers of A.B.B. form their own opinions upon the facts stated; but no, they go on crying

out for the judges' reasons. Well, sir, as we came to an honourable agreement as judges, with all the facts before us, I beg to refrain from giving what is not mine to give. Will Mr Caddan positively aver that his letter in May issue was not written after the Hawkesbury Show? The question may be pertinent, but I have a few facts to rely upon. To conclude, Mr Abram I am sure does himself no credit when he tries in one act to crush a fellow-beekeeper, as he certainly does in the latter part of his letter in May issue, and which is only too surely verified in earlier issues of the A.B.B., and I do hope that in future the bee-keeping friends will try and show a little more charity towards each other, and to quote from our good friend Terrey, "May God take away the strength from my right hand when I use my experience with the pen to simply 'lay out' a brother beekeeper who may not think as I do."—Yours respectfully,

GEORGE JAMES.

[We think this matter has had quite enough space given to it, and must declare it closed.]

my special study on this account, but I consider I have something yet to learn on the subject. It cannot be mastered in one or in half a dozen seasons, no matter how clever a person may be who attempts. If I commence to correct Mr Horsefall I shall have to do so throughout the whole of his letter, as he is wrong on every point. "Maoriland" has already referred to our reports on the flora here, which is quite opposed to Mr. H's statement, but I will just mention two instances only, to show how unreliable his last accounts are. He mentions "Manuku (ti-tree) as quite out of court," meaning, I presume, that it is not worth mentioning as a honey plant; why it is one of our best, and so is Puriri. A number of our colonies, situated near to these two kinds, have stored from 20 to 30lbs each this autumn, more than enough to last them through a long winter. The same could be said of all the other flora Mr. H. condemns. I would advise him to wait and make close observation for several seasons more before he writes again on the same matter.

Yours truly,
T. BLACKWELL.

GREAT BARRIER ISLAND.

New Zealand, May 10th, 1894.

To the Editor A. Bee Bulletin.

I was very much amused when reading Mr. W. Horsefall's letters in your journal—especially where he refers to the "bee flora of New Zealand"—to think that any person would presume to write so dictatorially on such a subject, after but one season's experience. Had he a better acquaintance of our native flora I am certain he would not have laid himself open to correction on so many points. I am now nearly 28 years of age, and have been brought up in the midst of a heavy bush district, where all the trees &c., Mr. Horsefall mentions exist. I have been keeping and working among bees since I was old enough to do so, and have made our native flora

A BEEKEEPER'S WEDDING.

Saturday afternoon, June 4th, was the occasion of a very pleasing event in St. Paul's Church, Paterson, when Mr. John Tucker, our well-known orchardist and bee-keeper, was united in marriage to Miss Florence Munday, eldest daughter of Mr. Munday, the noted beekeeper, of the Woodville Public School, and the bride in her soft, white dress, bridal veil and flowers, was as pretty and charming as her floral name. The Rev. John Shaw, our worthy incumbent, conducted the marriage ceremony, and Miss Nellie Smith officiated as organist. A large number of friends gathered in the church to witness the union of two so well known and esteemed residents, and to bestow their heartfelt good wishes on the newly married couple, who have entered on their wedded life in Mr. Tucker's pretty villa residence.—*Maitland Mercury*

Mr E. B Martin, Gisborne, N.Z., writes:— I am sorry to say that the honey season here has been a very bad one, there being very little honey indeed. The beekeepers here are few, and barring my friend Stevenson (who has a fairly large apiary) and myself (who has a very small one), nobody keeps bees in frame hives. Also foul brood is very bad in the district, and as of course nobody does anything to remedy it I'm afraid it will be so for some time.

BEEKEEPING INDUSTRY.

The beekeeping industry in N.S.W. has acquired sufficient importance to deserve some notice. Hives are kept on a large number of farms and there are also a certain number of apiarial establishments where the industry is solely carried on. These latter are mostly situated in the Blue Mountains near the main line of railways and in the district surrounding the metropolis.

The total number of hives reported in the colony in 1893 was 48,204, their production having reached 1,395,350lbs of honey and 48,178 lbs of wax. Of these 10,245 are in the Northern division, the greater number being on the farms of the North Coast, which produced 184,887lbs of honey. In the Central Division, there were 25,965 hives producing 799,485 lbs honey, 22,621 of wax. In the Mountain districts and the environs of the metropolis, as mentioned above, having the major portion of this industry in their midst and producing 331,056lbs of honey and 11,477 lbs wax. A few hives are kept in the Western Division which furnish a small additional quantity of honey and wax. The value of this product has lately suffered a decrease but at the average price, 3d per lb of honey, the total return for the year would reach about £17,500.—From the Wealth and Progress of N.S.W. 1893, by the Gov. Statistician.

NOTICE OF MOTION.

Of Alteration of Rules of N.S.W. Beekeepers Union, to be discussed at the forthcoming Convention.

That all words after "member," in second line of Rule 4, to "corresponding," in fourth line, be struck out, and the following substituted; "That the power of electing members be vested in the Committee, and any person wishing to join must send his name and address in full, to the Secretary or other member of Committee; on being elected the Secretary shall notify him of same, and on receipt of his subscription by the Treasurer shall become a member."

(Signed) JAMES TRAHAIR.

PROPOSED AMENDED RULES OF THE N.S.W.B K. UNION.

1. The name of this organization shall be "The Beekeepers' Union."
2. Its objects shall be the advancement and encouragement of beekeeping in all possible ways.
3. The Union shall consist of a President, Vice-Presidents, Secretary, Assistant Secretary, Treasurer, Ordinary, Associate, and Honorary Members.
4. The Union shall be managed by an Executive Council consisting of the President, Vice-Presidents, Secretary, Assistant Secretary, Treasurer, and twelve other members, who shall all be nominated in the manner following, and elected at the annual meeting to be held as hereafter provided. At every meeting of the Council five shall form a quorum, and the chairman shall have a casting vote in addition to his own.

5. Every member shall be furnished with a list of members of the Union during the month of April in each year, and from this list nominations for the various offices, as per rule 4, shall be submitted to the Council previous to their May meeting, and such nominations shall be included in the circular convening the annual meeting.

6. The annual subscription of each Ordinary Member is fixed at 5s., payable in advance. Any person may become a member, with the approval of the Council, upon forwarding his subscription with his name and address to the secretary.

7. Persons who are members of Beekeepers' Associations in N.S.W. may become Associate members of this Union, subject to the approval of the Council, upon payment by the officials of such Associations of the sum of 2s. each per year. Associate members shall be entitled to all the privileges of the Union.

8. The Council shall have the power to appoint scientific and other gentlemen as Honorary Members.

9. Any member by paying the sum of £5 5s. to the Treasurer shall with the approval of the Council become a Life Member.

10. The business year of the Union shall commence on the 1st July in each year.

11. The Annual Meeting shall be held at such place as the previous Annual Meeting may appoint by an absolute majority vote, on a day fixed by the Council, of which at least one month's notice shall be given to the members. All interested in beekeeping shall be cordially invited to the Annual Meeting.

12. At each Annual Meeting the Council shall submit a printed report of the proceedings of the Union, and a duly audited statement of receipts and expenditure for the year ending as per Rule 10.

13. The Council shall have power to make and alter by-laws and business rules for the guidance of their proceedings, provided that they shall in no way contravene any rule or resolution made at annual meetings.

14. The Council shall meet quarterly, on the last Friday in the months of February, May, August, and November, and at such other times as pressing business may require, for the transaction of business, but each member of the Council shall receive at least seven days' notice of all such meetings.

15. Any five members of the Council may by notice in writing to the Secretary or President require him to call a special meeting of the Council, and such special meeting shall be convened within fifteen days from receipt of such notice, and the circulars convening the meeting shall specify the business.

16. All propositions at any meeting shall be disposed of by a show of hands, but a ballot of the members present shall be taken on the demand of any three members in the room.

17. Votes must be given personally, but on questions of vital interest to bee-keeping, at the request of four members the Council shall refer to the whole of the members. The votes, in case of such referendum, must be returned to the Council within thirty days from their dispatch.

18. Any member guilty of obstruction to the interests of the Union may be expelled by the Council, but such expulsion shall be subject to confirmation at the ensuing annual meeting.

19. These rules shall not be altered except by a majority of the members present at any annual meeting, of which due notice has been given, with a statement of the alterations intended to be proposed.

C. MANSFIELD.

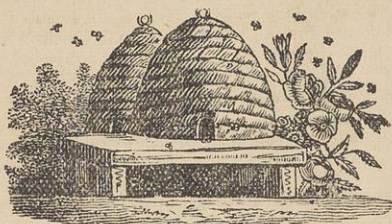
1. This organization of bee-keepers is styled "The New South Wales Bee-keepers' Union."

2. Its objects are the encouragement and advancement of bee culture, the establishment of honey depots in the principal towns of N.S.W., the regulation of the price of honey, the disposal of honey on co-operative principle, the holding of conventions and exhibitions, the prevention of the importation, manufacture and sale of adulterated honey, the obtaining of legislative remedial enactments respecting bee diseases, and to guard and secure the best interest in all apicultural matters.

3. Any beekeeper may become a member upon the payment of (say 5s.) annual subscription in advance.

4. The Union shall be managed by a Council, consisting of a president, two vice-presidents, a secretary, a treasurer, and ten councillors, to be elected by ballot, for one year (two or three years might be better.) The secretary shall send to every member a ballot paper containing the names and addresses of candidates for the various offices, who shall have been duly nominated. Every member desiring to vote shall then strike out any names objected to and forward the ballot paper in a sealed envelope to the "Scrutineer. Beekeepers' Union, c/o Secretary," and such ballots to be in the hands of the secretary twenty-four hours before the time fixed for the meeting. Retiring officers may be re-elected.
5. Any member may nominate any member or members for officers by notifying the same in writing to the secretary at least fifteen days prior to the date of any meeting, called for the purpose of an election.
6. At any Council meeting five shall form a quorum. The chairman shall have a casting vote in addition to his own vote.
7. All councillors act honorary, but absolute cash expenses are refunded from the Union Funds.
8. The council undertakes the following obligations:
 - a. It represents the Union in every respect.
 - b. It shall endeavour to carry into effect the Union's objects, as per rule 2, as far as possible in the interests of the Union.
 - c. It manages the Union funds, which may consist of subscriptions and donations, and present an account thereof at each annual meeting for discharge.
 - d. It shall fix the date for the Convention and annual meeting, of which one month's notice has to be given to members by circular or otherwise, and arranges the programme for Convention and other matters connected therewith.
 - e. It makes and alters by-laws for the guidance of their proceedings, provided that such by-laws shall not contravene any rule made by the Union.
9. The Union shall as a rule hold one Convention annually, at such a place as has been decided upon at the last Convention.
10. At the Annual Meeting the order of the business shall be:
 - a. The election of the council as per rule 4.
 - b. The presentation and consideration of the report for the previous year, and the financial statement, audited and certified to by two auditors.
 - c. Such other business as may be brought forward.
11. Every member may take part in any debate and vote, and participate in any advantage the Union may offer.
12. Special general meetings may be called by a requisition from any seven councillors, or by any fifteen members setting forth the objects for such meeting, and twenty days' notice shall be given to all members. A quorum at any annual or special general meeting shall be not less than twenty members.
13. Any vacancy in the Council shall be filled by the Council at their next meeting by the appointment of any member, who shall continue to act subject to the rules.
14. It shall be the duty of the secretary to promptly attend to all correspondence of the Union, to receive subscriptions and acknowledge same, to deposit the money in the bank to the credit of the Union, to keep a list of members, to submit to the Council, and whenever requested, a statement showing receipts and expenditure up to date, and to countersign all cheques. The books shall be open to the inspection of any member.
15. The treasurer shall submit all accounts to the Council for approval before payment, to initial the butts in the secretary's receipt book, and to inspect the deposits in the bank as often as desirable.
16. Persons desirous to become members should communicate with the secretary and forward their subscription. Membership dates from the date of payment of subscription.
17. All members shall abide by these rules.
18. Resignation of membership must be in writing to the secretary, but it shall be lawful for a majority, at any annual or special general meeting, to cause the name of any member to be removed from the roll for non-payment of subscription, or other reason determined by the meeting, and such member or members shall thereupon cease to be members.
19. These rules date from the 1st of July, 1894.
20. These rules shall not be altered except by a majority of two-thirds of the members present at any annual meeting or special general meeting called for such purpose.

W. ABRAMS.



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1. The queen you sent me produced splendid honey-gatherers. I got from the single hive over 200lbs. in ten weeks. C. D. T., Hastings River.

2. The two queens were the best I ever saw, giving me lots of swarms and whips of honey. I received the two queens about eighteen months ago, and since then I have increased to 40 hives, and extracted 16 cwt. of honey. R. B. H., Lansdown.

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