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EDITED AND PUBLISHED BY E. TIPPER.

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STEAM WAX EXTRACTORS 15s each, large size, all parts which come in contact with wax are made of heavy tin
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QUEENS! 3s Each. QUEENS!



One Untested, any strain, 3/- each; three for 7/6.

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R. H. JERVIS,

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ALL ORDERS PROMPTLY ATTENDED TO

W. & S. FAGAN,
DURAL, N.S.W.

NOTICE

SHOULD any beekeeper have a doubt of the genuineness of any honey sold in his neighbourhood, send a sample to the Chairman Board of Health, Sydney, who will cause it to be analysed, and take proceedings if necessary.

Beekeepers! Attention.

Pamphlet on How to Refine Beeswax, and Obtain Top Market Price.

BY LOYALSTONE, PRICE 5/-, POST FREE.

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

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

Chas. U. T. Burke,

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MARCH 28, 1899

The Australian Bee Bulletin.

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— LARGE STOCK —
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Must Sell Queens, Swarms, Stock Hives.

Being in delicate health, and having, by advice of my doctor, to refrain from exertion, I am compelled to reduce my large stock of bees, and I am offering FOR SALE QUEENS and FULL STOCK of my SELECTED STRAIN of ITALIANS at very low prices. Soliciting your patronage. Besides being the introducer of the Italian Bees and modern beekeeping into Australia, I have constantly laboured to improve their good qualities and now you will reap the benefit if you give me your orders. Until my health improves I shall devote all my time to the Art of Queen Breeding and it will be to your advantage to send your instructions all to Australia's first and foremost beekeeper.

W. ABRAMS,
ITALIAN BEE FARM,
BEECROFT, NEAR SYDNEY.

VICTORIA.

BEEKEEPERS In Victoria or Anywhere, I can supply you with

And Guarantee Safe Arrival and Satisfaction at the following prices—

Untested—	One, 5/- ; Three, 13/- ; Five, 20/-
Tested—	„ 8/- ; „ 22/6 ; „ 35/-
Select Tested—	„ 15/- ; „ 40/- ; „ 60/-
Extra Select Tested, the very best,	25/- each.

I procure Fresh Breeding Stock EVERY SEASON, so as not to in-breed (a great factor I think in preventing Foul Brood). I had eight breeding queens arrive from Italy last month (September) My colonies have averaged me the past ten years 1 cwt. each—SUMMER COUNT.

JAS. MCFARLANE,
LYNDHURST, VICTORIA.

The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—MAR. 28, 1899.

CANDIED HONEY.

WHAT a nuisance! Unsaleable! Why? When honey is put in 60lb tins, the dealer cannot pour it out like liquid honey. It has to be dug out or else boiled to render it liquid, and when once boiled it is not so likely to candy again.

But is not candied honey nice? There was a vessel full of it on the breakfast table this morning. It was taken and spread on the bread like butter, no running or stickiness. It is nice, I'd like it there at every meal. How few of the general public know anything about candied honey on the table!

Try an experiment. Let those who have honey they know will candy, put some of it up in retail vessels for family use. Surely the storekeepers will get rid of a lot of it when once the public take on. And let our leading beekeepers put themselves in communication with the leaders of Society, such as our Governors, &c., get them to have it on their tables, and so make it fashionable. Society leaders can have a great influence this way. We charge nothing for this advice.

Mr. J. A. Brien secured both prize for liquid and comb honey at the recent Cumnock show.

This issue completes the 7th volume of the *A. B. B.* We will publish index of same with next issue. To those who wish to have their yearly volumes bound we will do the same for 3/6 per volume.

PUBLICATION RECEIVED.—*The Southern Cross*, a 1d illustrated magazine, edited by Mr. Maxwell Keely, in Sydney, con-

tains some very interesting reading matter, and is nicely illustrated. A real good pennyworth.

To hand Schedule of Prizes to be competed for at the 5th Annual exhibition of the Sheepbreeders Association in June 20th, 30th, and July 1st. In addition to the prizes to be competed for, it includes the rules and regulations, list of donors, and list of officers of the association.

Perhaps some of our readers as well as ourselves have been wondering as to where the Australian bee poet, Mr. Long had gone. He has been on a trip to England and America. He writes us he is going again and is not going to forget to push Australian honey wherever he can. May every good fortune attend him.

We are sorry we were from home when Mr. Barnett of Wallabadah called at our apiary. Mr. Barnett is not only an apiarist, but a most successful orchardist, having received as much as £6 from the fruit of one apple tree. He left us a taste of most lovely apples. We shall be very pleased to see him around our way again.

Re the Honey Pavilion at the forthcoming Royal Agricultural Show, Mr. J. D. Ward, Sec. N. B. K. A. writes:—The erection of special honey pavilion is being proceeded with. The frame work and sides only will be erected this year, and will be roofed in a temporary manner, and of course it will be as tight and substantial as a solid building. During next year the building will be improved.

To hand *The Producer and Exporter*, a fortnightly journal and market review, covering the interests of producers, shippers, and sellers of Australian products, printed and published in Sydney, and edited by L. R. MacLeod. Also two numbers of *The Childrens' Newspaper*, a monthly journal for young folks, printed and published in Sydney, nicely illustrated, and must be very taking to young folks. It ought to have a good future before it.

We have received from Mr. R. T. Baker, Curator of the Sydney Techno-

logical Museum, a photo of that admirable and most useful building. Very few persons in the country are aware of the really excellent work carried on here both in the collecting of valuable minerals, and other specimens, the scientific investigations constantly going on, and the great number of pupils instructed. Visitors to Sydney should not miss visiting it.

WORK FOR THE MONTH.

We cannot speak of what is going on in other parts of the colonies except as far as our various correspondents report. In our own apiary there is a slight flow from white gum, lucerne, pepper and some scrub, enough to enable them to go into winter well. A number of small birds have been darting around, seizing the bees and alighting to swallow them. We shot several and found their insides contained drones in nearly every case. We would not have interfered with them any more had we not a number of virgin queens unmated. When that work is accomplished they can eat as many drones as they like. Be sure your hives are snug and weather proof, and there are plenty of stores in same. Now is the time to prepare for next spring. Be sure you have no queenless hives. If you have either unite the colony to some other, or get queens from the breeder you most favour.

REPLIES RE EXPORT REGULATIONS.

W. T. J., Endlo, Queensland, March 7th:—With regard to the Board for Exports noted in February number of your very excellent paper, may I ask if I, an outsider as it were, being in Queensland, could forward honey to Sydney and participate? I think the idea excellent.

T. Ellerton, Muswellbrook:—I have perused the proposed regulations for the export of honey, issued by the Board for Exports, and published in your last issue.

After studying them very carefully I am of opinion that they should meet with the approval of beekeepers generally, but would suggest in connection with the 6th regulation, that senders be notified of the rejection of their consignments, so that they may instruct their agents to remove and sell it, instead of the Board selling it by auction. Of course I am now writing in the interests of country apiarists who cannot afford the time and expense of a trip to Sydney to "at once remove the consignment" as stated in the regulation in question. With this exception I am satisfied with the regulations. Before I shall be in a position to send any, the seasons will have to improve considerably over the one we have just passed through.

J. S., Paddington:—I see you ask opinion about the Export regulations for honey. Well, the thing is now overdone, thanks to the efforts of Messrs Gale, Pender, your journal and others. If a good export trade is established, a good many will bless those who advised them to start beekeeping. Should the effort to establish a honey trade not succeed, many will curse those who egged them on to become beekeepers, and will not want to hear the above names mentioned, in fact will recommend them to go back to obscurity.

G. S., Warrah Ridge:—I read with pleasure the report of the Export of Honey, and so I make the following remarks: (1) Very good. (2) In three classes, not more, if honey is worse in quality than third class do not send it, a committee (as tastes differ) of three at least. (3) All is very good except the size of tins, and as honey is sold in the English markets and shops more readily in 1, 2, 4, and 7 lb. tins, we should tin it in the same size tins, and have it ready for retailing, and label every tin according to quality, and thus save it being retinned in England, and so avoid adulteration. The labels, I think, should be something like this: 1st. Australia's best Eucalyptus Honey; 2nd, Australia's Eucalyptus Honey; 3rd, Australian

Honey. We must try and raise the name of "eucalyptus" honey, for it is second to none, and if we are to get the honey a name we must start at the first to name it Eucalyptus, and send the best honey only. (4) Right. (5) Right. (6) Right. (7) As reasonable as it could be.

W. N., Eugowra:—In reference to the outline of regulations from the Board for Exports to export honey. From a beekeeper's point of view in those regulations I think there would be unnecessary expense incurred in preparing and handling the honey, all the grading, straining, and preparing of the honey, and the placing it in tins and cases intended for export should be done at the apiary. Beekeepers could have their honey in bulk and forward samples to the Board for Exports, and if accepted the honey could then be filled into tins and cases and forwarded to Sydney, where it would be compared with the sample, and if found right it would be then ready for export. Every effort should be made to keep down expenses as they all fall on the producer.

QUESTIONS.

G. H. ARKINSTALL.

203.—Does the progeny of a pure Italian queen, raised in black colony, partake of the traits or qualities of such black bees on account of being fed with chyle digested in the stomachs of the black nurse bees?

W. C.

204.—Which is the best wax extractor?

205.—If you have a good home-made wax extractor, give brief description how to make same?

X. Y.

206.—What effect, beneficial or otherwise have Agricultural Shows on the beekeeping industry?

207.—Give some account of bee enemies most prevalent in your apiary?

O. K.

208.—What accounts for pure Italian queens producing black drones?

209.—Would pure queens meeting black drones from pure mothers, be hybrids?

210.—Has any beekeeper had a queen not much good for laying the first season, but very prolific second season?

T. C. A. PYE.

188.—Eleven feet six inches long by eight inches wide, taken out of a white box tree.

198.—Eight frame is best in this locality.

207.—Swifts and martins.

J. SANDS.

191.—Better than queens reared in the spring of same year, only for the following season.

193.—Try squashing a few robbers amongst the bees on the alighting board.

195.—Every 10 days if swarming time, as little as possible if robbers about.

198.—Two bodies of 10 frames are not too large. I have one queen—third season laying—which filled 16 frames and laid in a super above.

200.—A good many people would like to know.

203.—I think not.

207.—I think black spiders keep hives weak, especially if they can get a footing inside the hive.

209.—Workers and queens the progeny of pure queen—other than black—would be hybrids.

210.—Yes, queens are at their best second and third season.

GEO. SMITH.

203.—Do not think so.

204.—Solar, I prefer.

205.—Place inside a wooden case (about a foot deep and long enough to take in two or three frames, and as broad as you like, a tin one, and about a foot from one end run a piece of gauze wire from side to side being about nine inches deep, make it firm to the bottom and the sides. This is for a strainer. Place on top of the case a sheet of glass, fasten so the wind cannot shift it; tilt up one end until it is at such an angle as to get full benefit of the sun's rays; leave of course the end which has the gauze at the bottom, place the comb above the gauze and the wax will run through and lodge in the bottom end. Have the whole thing as near air tight as possible.

206.—Dinna ken.

207.—Ants, but Loyalstone's ant destroyer shifted them all, so we have none now.

208.—Mated I should say by a black drone.

209.—It depends on the kind of pure queens. If an Italian queen mates with a German (black) drone, her progeny will be hybrids. If a pure queen of one breed mates with a drone of another breed, the progeny are hybrids. Hybrids,

I believe are the best bees, they are savage and for that reason they protect the hive, they are more energetic and in all better than pure breeds. I intend to have all hybrids in our apiary.

210.—Queens with me have always been in their best in their second year.

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

188.—Mr. Penberthy, cap this. Our station master Mr. Brown, and a young feller named Ackhurst, felled a bee tree, and got three combs 12 feet long in one piece. As the tree is here this can easily be verified by doubters.

198.—Up to the present I have always advocated 8 frame hives, but now I want 10 frame. For a poor season 8 frame and for good 10 frame.

199.—I used two in a board and found they gave plenty of ventilation.

200.—The other day the Northern rivers were much lauded to me. Personally, I do not know. N.S.W. is a big place, and plenty of room yet.

201.—No, I think it would be better later on, in the winter.

202.—No, never knew them to destroy their own handwork for a stranger.

203.—I have done a lot of this work from time to time, and have not found it so. The queen carried the traits of her mother not her nurses.

204.—The Solar, but of course it depends on the kinds of comb you wish to work. I use bright kerosene tins, and for old combs tie up in netting with a weight to keep it under water. Never use an iron-pot, or zinc, or galvanized iron. Use bright tin vessels and you will turn out bright wax.

206.—I think they are beneficial on the whole.

207.—Bee Martin, Dragon Fly, Bee Moth, a small insect like a wood bug, all well known.

209.—You mean her progeny? No, they would be pure.

212.—Have you ever tried the Langdon non-swarmling device mentioned in the appendix of A.B.C. on Bee Culture in 1891, and if so with what success?

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

213.—What smoker fuel do you use, and recommend?

214.—What do you think of paint for hives? What colour, or do you prefer unpainted hives.

GEO. COLES.

215.—Has any one tried Loyalstone's tarred felt cure for foul brood, and if so with what result.

216.—Suppose a queen with her wing clipped leaves a hive with a swarm and there is no one about to hive the swarm, will the queen never go back to the old hive if left alone.

VICTORIA NOTES.

W. L. DAVEY.

A very pleasant and instructive gathering took place in the Melbourne Athenæum, recently, under the auspices of the Victorian Silk Association, and a very fine display of silk exhibits they possess.

Beekeepers were represented by Messrs McFarlane, Chambers, and your humble servant. I may mention that Mr. J. Barnes a large retail dealer in Melbourne, had a very fine display of comb and liquid honey. Melbourne people eagerly drank in the information which was disseminated by my brother and myself, showing them queens, different honies, the extractor, and how it worked and so on.

I prefer making my nucleus hive to hold five frames instead of three. After queen rearing ceases I add a couple of frames of hatching brood from strong colonies to each nucleus, instead of doubling them up. I let them retain their last raised queen, and winter them as they stand. This is a quick and easy way of increasing an apiary. By placing them in a full sized hive in spring they are soon equal to the best. For instance we have nucleus hives with young

QUESTIONS NEXT MONTH.

F. SWAIN.

211.—Can you please state how the following will do for storing extracted honey that you know will candy, from experience or supposition. A very close tank stand with a rim of wood for the edge of the bottom of the tank to rest on, and several more pieces of wood to support the bottom of the tank inside the rim, placed so as to leave space for steam to circulate freely between the bottom of the tank and the stand, to liquify the honey; and what size would the boiler need be for a 200 gallon tank, the honey to be drawn off through a tap at the bottom of the tank as it melted?

queens laying, the five frames nearly full of eggs (which is only a few frames behind the full bodied hives) and they must go into winter in good condition. I don't think I shall ever allow natural swarming again.

In transferring from box hives my plan is to use wired frames as follows: Place two cords on your table, then your sheet of brood, which cut to the size of your frame, now place your frame on top of the brood comb, run a sharp knife along the wire, cutting into the brood about $\frac{1}{4}$ inch; after marking out each wire, press your frame, and if you have cut your comb properly the wires will fit into the cuts; now take the end of your cords and tie each one fairly tight, place the frame in your hives. In a couple of days take off your cords, as the bees will have the comb finished so that there's not a mark to show it was transferred.

I could send you a few hints about ants and other things, but am afraid there are so many of larger experience and knowledge, that I will say no more, unless you would like it. [Send on.—ED.]

A DRY ASSOCIATION.

The Victorian Beekeepers' Association, has been grumbled about in the past, and I think justly so too.

Do they intend meeting again in May? If so, I think its high time something was said about it.

Last Convention we got short notice, consequently attendance was small. I think think the main reason for small attendances, is only to be put down to the dryness and inactivity of the association. What beekeepers want is not a theoretical association, but a practical one. If we cannot have the latter, let us have no more of the former.

I would suggest that we meet again in May, and the first item for discussion should be, "is it advisable to longer continue this association." If not we should wind the thing up.

So far, the genuine, hard working, beekeeper's lot is not one whit the better for all (spare the term *all*) the meetings held by the Association in the past.

We thought at last Convention that in two years time, branch associations would have been started freely, but alas, could such a puny infantile association throw off one single offspring? Had but one association been started in the country, as a result of the convention, the joy would have been too much for our Victorian Association. It would have died as a result of it wonderful efforts. I draw this to a close by protesting most emphatically against repeating the past on the part of our Association. It is most unfair, unjust, and unprincipled to ask the country beekeepers and others to spend their money and waste time coming to Melbourne, when their committee which they appointed nearly two years ago to carry on the work of the association have only met once during the whole of the intervening period, and then did nothing.

The whole thing is a farce from beginning to end. The only hope for us is to amalgamate with the National Association, that is, let's "Felerate" next May, or else go to the next beekeepers' convention to the tune of "The Dead March," and then as we wend our way homeward after burying the last remains, we can each silently shed a tear in memory of "Our Association."

VICTORIA NOTES.

R. BEUHNE.

Notwithstanding my prolonged silence, I am still alive, very much so, but I have been rather busy on account of bush fires, water-famine, and honey-flow.

WAX EXTRACTOR.

My solar wax extractor has not seen the sun for five or six years. I keep it indoors, and use it only on days when the weather permits no outdoor work. As a rule, in winter I work it with steam and should therefore re-name it.

The cappings I allow to drain till the following day, when extracting, and then press the remaining honey out in the wax press, and stack the press cakes till the season is over. They are then

melted, giving a small quantity of dark honey, the wax boiled up with water, poured into the press and screwed down, leaving not a particle of wax in the residue. Old combs, scraps, etc., I treat in the same way, and the blackest brood combs will give as much as, and often a little more, wax than clean new comb—as a rule 4 oz. to the foot of comb, if built from foundation.

The liquid wax together with the boiling water runs from the press into a box tank constructed to separate the waste water from the wax. The tank retains the wax while the water flows over and if fairly clear may be used again, saving time in boiling and water, should it be scarce. Thus I can go on all day, as each fresh lot of wax running out of the press keeps up the temperature of the wax already in the tank. If any of the comb or wax scraps were very dirty, I put a few gallons of clean boiling water through to finish up. The wax is then measured out into clean bright tins, one fourth filled with hot water. They are filled to about three fourths each, two put into a case and the lid put on to keep it from cooling too quickly, as otherwise the wax will stick to the tin, and to give it time to clear and settle. Next day when the wax is still warm, the tins are drawn from the cases, the water poured off, and the wax cakes turned out. If of the proper temperature, the blocks of wax may be cleaned of all impurities adhering to the bottom, such as pollen, etc., by rubbing with the palm of your hand, frequently dipping the latter into water. The same collect in little rolls and falls off till a smooth surface of wax shows. If you wish to make your cakes a certain weight, every inch of wax in a kerosene tin bucket weighs three pounds.

A CHEAP PAINT FOR HIVES.

3 lbs. Salt; 3 pt. oil—fish or whale; 28 lbs. rough lime; 7 gallons water, hot.

Dissolve salt in water, put lime in tub, pour hot water on lime, when lime is bubbling up pour in oil, and stir till cold, let stand two or three days. Use consistency of cream.

INVERELL SHOW.

W. A. CHAPMAN.

For variety and quality the apiarian products shown at this show are equal to anything in the colony. For best collection apiarian products in trophy form Mr. Pennington took a first prize showing a really splendid variety of honey, extracted and in comb, wax, &c., The whole lot was built in the form of a pyramid reaching half way up the building and for variety would be hard to beat. Mr. Arkinstall's exhibit carried off a very creditable second prize, his honey being of tip-top quality, his beeswax moulded in baker's tins being of very exceptional quality. He also showed a variety of fruit preserved in honey. Following are the awards:—

- Best Leather Queen and her progeny, G. H. Arkinstall, 1 and 2.
- Best Golden Italian Queen, J. Pennington, 1.
- 12lbs Extracted Honey, Mrs. S. Turner, 1;
- J. W. Brown, 2.
- 12lbs Granulated, J. Pennington, 1; J. W. Brown, 2.
- 12 1lb Sections, G. H. Arkinstall, 1 and 2.
- 2 large frames, J. Pennington, 1; J. W. Brown, 2.
- 12lbs Beeswax, G. H. Arkinstall, 1 and 2.
- Best and most attractive display of extracted honey, J. Pennington, 1; G. H. Arkinstall, 2.
- Fruit preserved in honey, Mrs. S. Turner, 1;
- G. H. Arkinstall, 2.
- Jam made with honey, Mrs. Turner, 1; Mr. McCombe, 2.

NEW ZEALAND.

The almost continuous showers during December and January have produced a most prolific crop of white clover around the neighbourhood of Auckland; even the roadsides are quite white with the bloom. Latterly the bees have been gathering quite a quantity of honey between the wet spells, and well finished sections have been placed upon the market much earlier than usual. Altogether the outlook for beekeepers is a very hopeful one, and at present there is every indication of the honey harvest extending much later than usual.

PREVENTING SWARMING.

There is only one way of absolutely preventing swarming, and that is to take out every frame in the lower story at least once in every seven days and destroy every queen cell that the bees may be building. This job to many may seem a tedious one, but it is really very little trouble. An expert beekeeper ought to be able to take out each of the ten frames and destroy every cell in about five minutes.

Producers of comb honey are likely to have, unless precautions are taken to prevent it, a number of unfinished sections at the end of the season. Although these can be preserved and held over till the next season, still it is not good management to be obliged to do so. Of course it is not possible to have some partly finished sections after the honey flow is over, especially where comb honey is produced on a large scale, but with judicious management these need not be many. As soon as the honey flow begins to slacken the surplus boxes should be examined and every finished section removed. The remainder of the unfinished sections should be collected together, and a few of the very strongest colonies selected on which to place them. In the course of a week or ten days a similar overhaul, and the finished sections again removed, collected together, and disposing of the unfinished ones as before. In the meantime no new sections should be given to any of the colonies, but should additional room be required after the removal of the sections, some frames of comb or foundation should be placed in the upper boxes. Such frames of foundation, should they be worked out and stored with honey, will come in very handy for winter food, or they can be held over for the spring. By such a system as that described, nearly every section can be made available for market at the end of the season, and the bother and loss of holding half finished sections over the winter is avoided. Where an extractor is available, should there be any partly filled sections, with the aid of

a broken comb basket they may be relieved of the honey before being placed away for winter. Care should be taken when placing away such sections that it be done at once—as soon as they are removed from the hive and before the bee moth can get a footing in the combs. A good method of packing securely is to leave them in the frames and the boxes taken from the hive, and piling them one above the other, and pasting some narrow strips of paper round the junction of the boxes. The bottom box will need to be made secure by covering the bottom with a thick sheet of brown paper pasted well up the sides. The top should be secured in a like manner, unless a cover be put on and made secure round the joint.—*APIS IN New Zealand Farmer.*

CORRESPONDENCE.

A. C., Mia Mia, Victoria, March 2 :—My bees are doing very well this year.

A. W., Dubbo, March 6th :—Terrible season here this year, no honey, no increase, owing to drought.

H. S., Bacchus Marsh, Vic., March 1 : We have been having a pretty good season so far, and the price of honey is going down according.

J. H., Wodonga, Feb. 27th :—It has been a very good season here for honey, and it is not all over yet. Wishing you and *Bulletin* every success.

F. J. K., Horsham, Vic., 23 Jan. :—The season up here so far has been fair. Have extracted 5 tons from 80 stocks with more to come in during the next three months.

A. J. Brown, Parkville, Feb. 25th :—Bee matters in general have been very good here this season. Good business in queens, and four tons of honey so far, and all sold including $\frac{1}{2}$ a ton not yet extracted. Very dry whether does not seem to injure the honey flow, which is chiefly from scrub on the mountains. Since you were here I have made a run at wheat growing as well, 100 acres last season, over 4 bags per acre. 150 ready for this season.

J. C. H., Rose Bank, March 17th :—The season here has only been middling, three tons from sixty hives is the extent of my crop. Bees, are, however, very strong, in fact swarming, so will go into winter in excellent order. Wishing you all the success you deserve.

H. N., Wellington, N. S. W.:—It is a long time since I last wrote you. The reason is I had very little good news to write about. This is the worst season we have had since I started keeping bees. No rain, no flowers, or anything from which bees can get honey.

G. S., Warrah Ridge, March 13 :—Our bees are in good condition, gathering as much honey as they are eating, the hives are full of honey so I do not expect I'll have to feed them. Very dry weather here. I notice it is a bit drier than what I've been used to in New Zealand, I would not mind if I had some of New Zealand weather here now, I could make good use of it.

'O. K.', Holmwood : There is not much bee news of any importance from this quarter of her majesty's mud ball, only the all the year round cry dry weather and no honey. There has not been honey since September. Although we have had a fair amount of bloom, it contained no honey. Re question, how often in a year should we look through our bees.—I think the less they are driven about the better they must do, as it only disturbs them while at work. A look through them in early spring, swarming time, and preparing for winter. Inside progress can pretty well be ascertained by the look of the bees while at work.

J. A. B., Dilga, Feb. 27 :—Last spring was the best spring honey flow I have had yet. I have taken 40 tins from 18 hives since June. The red gums bloomed this spring, so I suppose it was from them the extra honey came. The honey is very clear and thick, and to my fancy has a very nice flavour. I hope we will get a good market opened up in England for our honey, as I have the opinion that honey will get very cheap here if a good export market is not obtained, as production will exceed consumption.

W. S. M., Moonambel, March 4.—By this post I am forwarding you grubs taken from among honey comb, it is said here to be codlin moth. It is destroying bees wholesale. One man last year had 160 hives, and this year has only 40 left through it. Kindly answer in A.B.B.

It is the ordinary bee moth. Keep strong Italian colonies and you need not fear them. You can keep them down by occasionally looking over the frames. They form web tunnels in the brood, which you will soon learn to distinguish, and out of which with point of pin or penknife, you can tear the grub.

C. B., Nailsworth, S. A., March 17 :—We have had a record flow this year. Beekeeping would go ahead if each season was equal to the present. Prices are low at present. I think our colonial market is improving, the people seem to be using more honey than what they used to. We had a hive of bees whose drones had white heads, a thing we had never seen before. We were wondering if any other beekeeper had the same thing if so we should like to know. We had the misfortune to lose the queen of the hive the other day.

J. S., Gunning :—I wish to convey my thanks to Loyalstone per *A. B. B.*, and to you, Mr. Editor, for so kindly answering my enquiry re foul brood and tarred felt. I treated nine hives, and the disease appeared in only one hive, but the bees cut the cells out, and it has not developed again as yet. We have had a very good season here. I have extracted 3835 lbs. from 26 hives. Considering that these include the nine treated for foul brood I think it is very good. My best hive gave 15 half-depth 10 frame supers, and three full depth 9 frames, well ripened. There is still some honey coming in. After five bad seasons I think it is only right we should have here a good one at last, and I hope it will not be followed by a positive dearth, as was our last. Several new beekeepers have settled about here this season. I am sure it is not because of glowing accounts of the district being good for the production of honey.



LARGE HIVES.

C. P. DADANT, IN *Gleanings*.

I must own up that there is nothing perfect in this world, and that the large hive is no exception. In the first place, it costs a great deal of money, and that is a big point for a beginner who may not like bee culture after he has tried it a year or two. While an eight-frame Dovetailed or Simplicity hive costs about \$1.25, the large hive we use costs something like twice as much. Then they are not suitable for comb honey unless under special management, because if left to themselves, as Doolittle says, the spaces that are not filled with brood, in case there is more room than the queen can fill with brood, are filled with honey by the bees, and the result is too much honey in the brood combs and too little in the supers, especially in an inferior season.

Again, those large hives are very cumbersome. It is out of the question for one man to carry one of them from one place to another in the apiary, unaided, even if it does not contain any bees; for it is voluminous as well as heavy; and when the bees are to be put into the cellar for winter it is fully twice as much labour to take in a given number of large hives as the same number in small hives, or eight-frame Langstroth bodies.

But the worst thing is transportation. In a good large waggon we could easily place two rows of eight-frame hives, and about seven in each row. If they are carried with supers and only a shallow cover you can put in two tiers of them, which makes about 28 hives in a load, while 12 of our large hives make a big load for a waggon. In shipping by rail the cost of transportation is outrageous anyhow; but one of these hives costs about twice as much as one of the small ones, being fully twice as heavy, and no one short of a Vanderbilt or a Rockefeller can afford to have such a hive sent by express, for the express companies' rates on such packages amount to a small fortune, and they have still added the

war-stamp, which they demand of their customers, and this, by the way, in my opinion, is neither honest nor patriotic. What do you think of it?

The objection of the great cost of shipment of our hives is such that we took special pains to make lighter hives when we shipped bees for breeding, and it is quite probable that our customers still thought our hives too expensive in this respect.

Now, Mr. Editor, I believe this is all. I assure you I can't think of any other objections to the large hives, and I made the case as black as I could. It is true I make a poor State's attorney in putting the case before the jury, for the people as against myself, and it would probably have been better to let Hutchinson do it. He surely would do it better.

But, hold on! I can not be content to let the case rest in this way; and as I believe I have a little room left in your paper to make my article of average length I will beg leave to add a few words in defence of my position, and explain why I stay with the large hives in spite of the enormous defects mentioned.

The hive is too large for transportation, but we do not transport it except in rare instances. We consider the hive a fixture, after the bees have been put into it, and we see no more need of transporting it about than a house. We have hives that have certainly been in the same spot, unmoved, for ten years, perhaps fifteen. If we wanted to carry on migratory bee-keeping, or move our bees to and from our out-apiaries, as Dr. Miller does, this point would have much more weight; but we have never practised any such thing; and as to cellar wintering, which we have not practiced for some ten years, we consider it of small import whether it takes two men or one for half a day twice a year, if our profits are increased thereby. The hive could be made much lighter than we make it, by having a cap or cover fitting over it dovetailed, or simplicity fashion, instead of a telescop-

ing cap; but we have tried both, and no one can run fast enough to catch up to us to make us a gift of such a hive for our use. We want the overlapping cover for several reason. This being outside of the scope of my article I will return to the question. You understand my position—I want the hive to stay there like a hog-shed or a chicken-house, and its weight concerns only those who expect to move it about.

As to the cost, I do not believe, if we look at all sides, that it is much greater to the apiarist. With the small hives many more swarms will be harvested, and there is need of about as many empty hives as you have colonies of bees; while with the large hives ten per cent, of the number will be sufficient. But, put it at twenty per cent, or, if you like it better, say that as many hives will be needed as with the small hives, and let us see what it will cost. A hive, if well made and well painted, will last thirty years. We have two dozen in our apiary here that were made in 1867, hence are 31 years old, and some look sound enough for another 30 years. It is true, they have been kept sheltered with a roof; but the roof costs only a trifle when it is made of cheap lumber. The additional cost of a large hive, if double that of a small one, will represent, in interest and sinking fund, between ten and twenty cents per year, or one to two pounds of honey. Is it likely that I can raise this much more, if we consider the better facilities for wintering, the less danger of spring dwindling, and the greater scope given to the queen if she proves fertile? In a word, am I not better off at that difference of cost with a hive that can be made as small as any one can wish it or as large as may be needed to accomodate the best queen? I leave your reader to reply, and decide in his mind whether I am right.

EGG LAYING.

G. M. DOOLITTLE in *Gleanings*.

Up to 1874 I had thought that nine Gallup frames would entertain the best queen to her fullest capacity, no matter whether the colony was worked for extracted or comb honey; for up to that time that was the greatest number allowed when working for either. In the spring of 1874 I read up on the (Adair) Long Ideal hive, and became infatuated with the same. I made two of them, working one for extracted honey and the other for comb, these hives being made to hold 32 Gallup frames when the whole number was in. I selected two average colonies out of my nine-frame hives; and when the nine frames were pretty well covered with bees, and brood in some six or seven of the combs, I set each over into these four-foot hives. At the same time I selected another colony of about the same grade, to be worked for extracted honey on the tiering-up plan, and one to be worked for comb honey on the nine-frame "side and top box" plan I had used before. In due time the two long hives were filled out with the full 32 combs with sections on the one for comb honey, and extracting going on every third or fourth day from the other, as used to be the style under which extracting was done. In the tiered-up hive, the queen was kept on the nine frames by means of a slatted honey-board, and the one worked on the side and top-box plan manipulated as well as Doolittle knew how. Now for the result: Before the basswood harvest arrived, the queen in the long hive, worked for extracted honey, had brood in every one of the 32 combs, to the amount of some 18 or 20 combs *full* of brood; while the one worked for comb honey, having 32 combs, had brood in only 13 combs, the same amounting to only about 9 frames *full*, the rest of the combs being partly occupied with honey, which ought to have gone in the sections, and would have gone there had this

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queen had only the nine combs for her brood-nest. So the queen from the extracting-hive was laying about 5000 eggs daily, to where the one in the comb-honey hive was giving only about 2500, each evidently laying to her fullest capacity. What made the difference? There is something about extracting honey that causes bees to *feed* a queen in such a way that she will give double the eggs, if she has comb room, that she will when no extracting is done, and thus a queen is coaxed to produce and develop all the embryo eggs she has in her ovaries, in the shortest possible time, while under normal circumstances she she will be laying up to her fullest capacity when not producing half the number of eggs she does under the stimulating influences which come from extracting.

All four of these queens were reared during the swarming season of 1873, so they were less than a year old when the experiment was commenced; but the one in the long extracting-hive died of old age that same fall, while the other three lived and did good work the next season. I have tried nearly the same thing several times since, and proven to my entire satisfaction that a queen will occupy double the number of combs with brood, where extracting is being carried on, as often as the combs are filled with honey, that she will when her colony is worked for comb honey.

In passing I will note that the hive worked for extracted honey on the long-idea plan gave 566 lbs. surplus, while the one worked on the tiering-up plan gave about 400 lbs., thus showing that I had only 166 lbs. more honey as a result for double the brood reared. The long hive worked for comb honey gave only about 50 lbs. of section honey, with the 32 combs nearly solid full of honey, while the one worked on the side and top storing plan gave 309 lbs. of section honey, with enough below to winter the colony on. The average from the whole apiary that year was 166½ pounds from each old colony in the spring, all

of which was comb honey, excepting that from the two colonies worked for extracted, the whole number in the apiary in the spring being 69.

Now just a word more: I do not get, on an average, any more brood in the ten-frame Langstroth hives at the out-apiary than I do in my nine-frame Gallup hives here at home. To be sure I often have brood in the whole ten frames, but not more than enough to fill from six to seven full, while the nine Gallup frames are *full* clear out to the corners, as Ernest says the Holy Land and Cyprian queens will do. Now if, when working for comb honey, I get to the amount of only 6½ Langstroth frames of brood out of 10 frames, or 9 Gallup where I use 12, 18, 24, or 32 in a hive, will Dr. Miller say that 9 Gallup frames or 6½ L. frames will not entertain any queen to her fullest capacity in this locality? And allow me to say, in a *very friendly* way, that I am inclined to think that what is applicable to my locality will come very nearly the truth in other localities, if others will work along the same lines as Doolittle does, and experiment, and note things as carefully.

QUILTS.

QUILT OF AMERICAN CLOTH.

Mr. A. Gale, says in the *Agricultural Gazette*.

The more flexible or leathery the material the better. Of late there has been much discussion on its merits or demerits, some affirming that the bees quickly gnaw through it, others that it creates dampness within the hive. Where there is an imperfect knowledge of how to use this quilt, both arguing undoubtedly from experience, if I may be permitted to use an illogical phrase, both were right and both were wrong—right in that the glazed side is for summer use, when, the bees having a sufficiency of storage room, they would not waste their labour in trying to perforate the leathery side, it being too smooth for

their mandibles to work upon—*i.e.*, if a material of good substance has been used, but I will not argue the point if a cheap, flimsy article has been chosen. I have quilts that have been in use for about four years, and fairly good to-day, only they are rather thickly covered with bee glue. In the winter, the glazed side being non-absorptive, the stratum of cold air without the hive coming in contact with warm air within, condensation is the result, and produces those globules of moisture seen on the glazed surface in the winter months. Wrong in using, the woolly side next to the bees in summer, as they object to a fabric of that nature so near to them. They are always labouring to get rid of it; hence they quickly gnaw through it. The other ones who argue that it creates dampness, use the glazed side next to the bees. They therefore, in winter months, find dampness on the underside of the quilt next to the bees. Under the circumstances both were right, and both were wrong; but if the glazed side had been placed next to the bees during summer and the woolly side in the winter, neither of the two troubles named would have happened. Again, some good practical bee-keepers object to the use of the quilt altogether. That may do for men of exceptional experience, but to my mind no hive is complete without a quilt. The hives with a flat cover are the ones that are so used. Let us see. We cannot make sure of bees being perfectly subdued without the aid of smoke. When the flat cover is placed over the super, or over the brood-box, there is sure to be some space between it and the upper edges of the hive that the bees object to, and stop up with propolis. This always fixes these two portions of the hive firmly together, and to separate these more or less force has to be applied. The result is that the cover comes away with a jerk, which always greatly annoys the bees, after which a good deal of time is required to reduce them to that frame of mind that will be congenial to the bee-keeper; but where the quilt is used

in the manner before described, the cover is easily removed. The quilt is glued to the sides of the hive instead of the cover. One corner of this is easily turned back, the nozzle of the smoker applied to the opening, and the bees are easily driven down. As the quilt is peeled off, so the inmates can be driven away with the aid of smoke. Other material than American cloth may be used. I have used leather, bagging, tin, paper, &c., but I find nothing equal to that advised.

HIVES.

AUSTRALIAN YANKEE.

The discussion of hives seems as if it will always be a topic of intense interest to beekeepers. In fact, it appears to be the fashion amongst beekeepers to want to change the size of their hives about every other year. Why this everlasting unrest? why not adopt a hive and then stick to it? In the first place, unless the beginner in apiculture adopts the standard frame, he will in the course of a few years, see his mistake and begin to figure up the cost of changing over to the standard Langstroth size of frame. Here he is confronted with quite a variety of the Langstroth size. There is the old all-wood, the thick top, metal cornered, Van Deusen, and last but by no means least the Hoffmann self-spacing frame. They are in my opinion the very best frame that is made. I am working in the Hoffmann frames as fast as I can, using them in the regular eight frame hives. I fancy I hear a loud shout from some of the ten frame men, telling me that I am a fool for using such a small hive. But hold on a minute, don't you know that the hive bodies go to tier up—that's where I have got you. Let us analyse the matter a little. You "ten-framers" say that the eight frame hive is too small to accommodate a prolific queen; granted, and so is a ten frame hive. Now with the eight frame hive I can put on an extra body when the queen gets crowded for room. This allows her six-

teen frames, to deposit her eggs in, and I think all will admit that sixteen frames is sufficient for the most prolific queen. But in most hives the bees use one frame on each side of the brood nest to store honey and pollen; it leaves but twelve frames for the queen to lay in. But, you say, why can't we use the ten-frame hive the same? Too large, twenty frames is too large a brood nest for any colony to use to the best advantage. Its just like building a large stable to shelter a shetland pony, and a ten frame hive used single is too small for a good queen, and another thing an extracting super off the ten frame hive is rather heavy to lift, especially when handling them all day, with the thermometer standing at 100° in the shade. The eight frame super is just a nice load to carry.

CHAFF HIVES.

There has been a little talk this season about "tucking the bees in too warm." Some hold that it caused the bees to die through excessive moisture; of course it will in our mild climate. I find that mine winter and spring best with nothing but the flat board for a cover, no quilts or any other "trash." A few years ago I thought my bees would appreciate chaff hives, they would be so warm you know, so I made a dozen or so of chaff hives with chaff cushion on top of the frames. Well, what was the result? I'd rather not tell, but I suppose I must. Well, they just spring dwindled every spring, when all others were building up well. It was not because the moisture collected in the hives, the chaff cushion absorbed that; the only way that I can account for it is, that the hives being warmer than the single walled hives, the bees were tempted to fly out when it was too cold, and perished before being able to return; anyway dwindle they did and to such a degree that I have had quite enough of them. They are now packed up under the fence "FOR SALE" to any fool that wants them.

JAPANESE BEEKEEPING.

I will briefly say that the "Kumana" hive derives its name from the province of that name in Japan, where bee-keeping has been carried on since ancient times. Like the Kumana, the "Unshu" hive is considered an improved style. It is kept either standing upon the ground or suspended under the eaves of the houses. In removing the honey, the bees are driven to the front of the hive by knocking upon the back, then about two-thirds of the combs are cut out and placed in a basket, where the honey is allowed to drop into the vessel. The honey that yet remains in the combs is placed in a cloth sack and pressed out. The "dropped honey" is the best quality, being purer and cleaner, so that from the press is ranked second quality. After the honey has been pressed out, the sack is placed in the boiler and boiled. As the wax rises to the top of the water it is skimmed off and put into a barrel of water to cool. The cool pieces are then put into a pan and melted, when it is poured into a mould. This we call "yellow wax," which is of inferior quality. To refine this yellow wax it is put into another pan and boiled, dipping it off with a spoon and dropping it into cold water, where it is stirred rapidly with a bamboo fork. The pieces which come to the top are spread upon a mat in the sun to bleach, where they are turned over two or three times. If the sun is too hot while bleaching it is sprayed occasionally with cold water to prevent it from melting.—J. IKEDA, in *American Beekeeper*.

CAPPINGS.

From American and other Bee Journals.

Honey in glass can be liquified by simply placing the jars or bottles in the oven of a common cook stove. No fear need be entertained for the safety of the glass, as hot air has not the same effect on glass as has hot water. The process of liquefying is also considerably hast-

ened by the hot air plan; neither is there any injury done to the labels.—*Gleanings*.

I used to think that there was only one way that honey could make me sick—that was for the want of it; but 20 or more years ago I learned that I could take no quicker or more certain emetic than to eat honey with *pork* or *pork* gravy; and to this day I will lose my dinner in five minutes if I do it. For a nice, delicate meal—supper for instance—there is nothing, to my notion, that quite equals honey and *cream*, with bread, instead of butter. It just “touches the spot,” and better yet, it stays there. Do I hear someone say that this is extravagance? On the contrary my wife says—and I am quite inclined to agree with her—that it is economy, for the same amount of cream churned into butter will not go as far; besides it saves the churning.—A. F. FOOTE IN *A. B. Journal*.

J. A. Bearden has a hive tool. It is a piece of steel $\frac{1}{2} \times 1$ inch, about 12 inches in length, with one end drawn out to about $\frac{1}{2} \times \frac{1}{2}$ inch, and sharpened sidewise like a screw driver, for moving frames. The other end is drawn out as wide and thin as possible with the end for the edge. But right here is where almost all of the hive tools quit off. Mine is carried just a little farther, so this wide end is just turned at right angles to the main body or handle, and sidewise of the same, and then it is sharpened with the bevel all from the outside end, thus making a fine scraper for cleaning covers, hives, etc. Then the tool is relieved of all sharp corners on the handle, and rubbed generously with some emery cloth to smooth and polish, and you are all ready for work.—*A. B. Journal*.

HONEY IN THE UNITED KINGDOM.—The last number of the “Journal of the Board of Agriculture” (England) has an article on “Our Imports of Honey.” During the past five years the imports have averaged $2\frac{1}{2}$ million lbs., of the declared value of £31,000, or $3\frac{1}{4}$ d per lb. The chief supplies come from United States, Chili, and Peru; other contri-

butions being West Indies, France, Australasia, Canada, Germany, and Italy. The United States sends about one third of the the quantity imported, and Chili and Peru send another third. In Germany, apiculture was formerly a popular occupation of the small farmer, but in recent years, owing to the unremunerative prices obtained for honey and wax, and the cost of maintaining the bees through bad seasons, the industry has declined. The total exports of honey from Australia in the three years 1894, '95, and '96 were 176,000 lbs., 539,000 lbs., and 61,000 lbs. respectively.

Description of Elmer H. Hunt's apiary in the *Beekeepers' Review*:—The ground is dug out where each hive is placed, eight inches larger all around than the hive. Four cedar stakes are driven into the ground for the hives to rest on. The part dug out is then filled with coal cinders and packed hard. This leaves a space all around the hive free from grass, and allows room for the lawnmower to be run. We have found cedar stakes more satisfactory than hive stands, because the moles cannot work around them to such an advantage, and change the hives from their level. In driving these stakes a square frame is used for a guide, and a spirit-level to get them true on top. Our yard has been laid out in this way for twenty years and during this time the grass has always been kept short, and we know that it pays.

A section cleaner made by John S. Bruce is thus described by F. L. Thompson in the *Progressive Beekeeper*:—“The framework is the same as that of Mr. Aspinwall's, but the roller, about two inches or over in diameter, consists essentially of a rasp made by punching holes in a sheet of tin with a $\frac{1}{4}$ inch fine chisel. The centre is a core of wood, and between the wood and the tin rasp are T tins, forming a number of little alleys into which the propolis falls, and is punched out occasionally with a wire. The superfluous roughness is taken off the rasp by turning it with a file until it has acquired just the right degree of cutting surface

to remove propolis and do smooth work. On the same level with the roller is a knife made of an old file, which, when the section is passed along to the rasping roller, first cuts away any large sized chunks of propolis or wax. It is so near to the rasp that one end of the section is passing over the rasp before the other has left the knife; and on the other side of the rasp is another roller, covered with emery-cloth over felt, also quite close to the rasp. All being on the same level, the section passes over the knife, the rasp, and the emery-cloth at one operation and one sweep. The edges are cleaned just like the sides, strips between and on each side of the rollers forming a table above the level of which the rollers slightly project."

The University of Pennsylvania has established a sort of experimental menagerie in which the scientists intend to study animal life under the most possible natural conditions. The scientific experts want to solve, among other puzzles, why monkeys won't talk; how animals communicate with one another; whether domestic animals have increased powers of expression; whether animals dream; why animals in captivity fail to breed; how much do spiders spin, and how much honey does a bee gather in a day. Special observation hives will be constructed, so that photographs may be made of what is going on inside and the weight of "workers" recorded as they leave the hive with empty sacs and return laden with sweets from the flowers. Each bee going out will be marked with a colouring substance so that there will be "no mixing these babies up." The scientists will also study the different changes in the hatching of drones and workers, and the methods by which queen cells are constructed and the egg placed therein, and nourished to maturity, particularly in the absence of the resident queen. Efforts will also be made to trace to its origin the reason why bees live under a system of polyandry. Of course all this is dependent on the humour of the inhabitants of the hives that will be under

study. Lively times may be expected around the university when the experiments get under full headway.—*American Beekeeper*.

CONVENTIONS IN GERMANY.—F. Greiner writes in *Gleanings* :—Generally the inhabitants of a city where a convention is to be held offer free board and lodging to all who prefer this to hotel board, and much is done to amuse the guests. How far this is carried, the reader can form an opinion from what took place at the Salzburg convention last September, and which I will here relate, translating it from the Leipzig *Bienenzeitung*. As there was only a forenoon session on the first day in Salzburg, the afternoon was set apart for sightseeing and amusement. Accordingly the great swarm of beekeepers, over 200 strong, with Dzierzon at the head of the procession, carried on the shoulders of men, made their way to Castle Heilbrunn, in the vicinity of the city. After all the sights were taken in there, the guests were led on by the guides to a celebrated cave called the Stone Theatre. The greatest surprise would meet them here. After all had entered, differently coloured lights flashed up all among the rocks, and a grand illumination took place. The sweet strains of (as it seemed) angels' voices singing were heard in the distance, and coming nearer. As soon as this had ceased, the rocks, high up, seemed to open up, and the Dwarf King, in rock-coloured dress, and with long flowing beard, appeared and began to address the surprised listeners in poetic strains, welcoming them to Salzburg. No sooner had the King spoken than a multitude of cunningly dressed dwarfs (or perhaps so-called brownies) seemed to emerge from among the rocks. They all carried baskets filled with bouquets and flowers, with which they proceeded to decorate the bee-keepers. The surprise was a perfect one, and created a storm of applause. In company with the happy set of youngsters, the return trip to the city was then made.

To halt swarming Mr. Aikin makes

nuclei with the good queens, kills the poor ones, and cuts off every queen cell. Cell cutting is repeated the eighth (or preferably the ninth) day after. He emphasizes the fact that the seventh day will not do—worst kind of a worker-queen will result, and a swarm. He has proved his method by eight years' practice. Putting all brood, except a little for a rallying point, above an excluder, and the queen below on another set of frames, he thinks is going to work as well, and be but half the work. When all brood above is sealed, the entire lower story is made a nucleus by carrying it away. But in this case a cell, or some sort of royal daylight, will have to be given at the old stand to keep them from stopping work. Doolittle thinks that sufficient brood chamber space, *if filled with clean empty comb*, will always prevent swarming. Both Aikin and Doolittle, give strong evidence that sometimes they select a home before starting. During the summers of '90 and '91 Mr. Aikin saw thousands of bees exploring all sorts of places, houses, boxes, cracks, holes and empty hives. This hunting was only when they had queen cells; and with the passing of swarm conditions the exploring ceased. Mr. Doolittle adds that the first Italian bees in his vicinity selected an empty hive in a neighbouring apiary, were detected at it by their unusual colour, their owner heard of it before the swarm actually left home, and with the help of a lively horse he stood by that hive to see his runaways come down and go in. Presumably in locations where hollows are scarce the policy of setting decoy hives for runaway swarms is more profitable than elsewhere.—*Beekeepers Review*.

F. Danzenbaker, in *A.B.J.*:—Having spent the greater part of the past 22 years in the South, I am aware of the insects and creeping pests that infest that otherwise favoured region. Take them away, and for me it would be an earthly Eden; and I have desired for years to learn if there is any place in an

all-time summer land free of insect pests. If so, I would like to go there to live, as I have no use for frost and snow. I have been on the east coast of Florida several seasons, and I know of no place in the United States where as much health and pleasure can be had for the outlay as on the Halifax and Indian Rivers, and the region of Lake Worth, and Biscayne Bay, on the east coast of Florida, from October until May. But I have been told by people that I met in their own homes in Key Largo, Cuba, that during the summer months mosquitoes sometimes covered the sides of their houses till the colour of the boards were hidden by them, and they were forced to shut themselves in-doors to escape the mosquitoes at certain hours of the day; but there were sand-flies and gnats, fleas and jiggers or redbugs so small that but few people can see them without the aid of a glass; the poison of their bites lasts for days. I would rather endure a thousand mosquitoes that I can shut out, than one of these redbugs, as they threw me into a fever. I have scars that I have carried for 20 years resulting from their bites, before I learned how to destroy them, which can be done by heating the flesh at an open fire, hot enough to kill them, which also cures the terrible itching and swelling caused by their poisonous bites. I would not suffer these things anywhere, even if I could produce 1,000 fancy sections of honey to the colony; and I would be very glad if any one will tell what we can learn nowhere else of the dark side—what the beekeeper must meet that makes his life miserable in Cuba.

A teamster named Kelly had a novel but unpleasant experience lately. He was in charge of a load of wheat, and when near Corowa a swarm of bees settled on his head and arms. He was severely stung. The bees also attacked the horses, which became so restive that they bolted, and upset the waggon, which however was not much damaged.—*Maitland Mercury*.

AMONG THE TAMWORTH BEEKEEPERS.

At the kind invitation of the Tamworth Beekeepers Association, we, on the 7th inst., took train for their thriving town of some 6000 inhabitants, on the Great Northern Line, arriving there about 9 p.m. It is well laid out. The streets and shops have a busy, lively appearance, and the suburbs some very nice villa residences. The Peel river separates it from Tamworth West. The country around is hilly, and well covered with timber, mostly box trees. The flats along the river banks and the contributory creeks are well occupied by prosperous farmers, great crops of lucerne being grown. The Peel River Company owns large tracks of land in the neighbourhood, which for a time checked the progress of the town, but of late they have been disposing of much of it, to the great advantage of the town, by the addition of so many more to the surrounding agricultural population. The town boasts of some good public buildings including School of Arts, and Public Library. The streets are lit by electricity. A very large hotel, to cost £5000, is in course of construction. Its great want at present is a public hall. A commodious one was burnt down about twelve months since, and a small building, the Oddfellows Hall, has to answer all purposes, the building of a sufficiently large building not being considered a paying speculation. The Lynch Family Bellringers appeared here one evening during our stay. About half that applied for admission gained it, every spot where standing room could be squeezed was occupied, it was a warm night and the atmosphere most oppressive both for audience and performers.

By the kind offices of the worthy secretary of the local B. K. A. (Mr. Grey-stone) and who was also steward of the apian department at the annual show, we were very comfortably accommodated during our stay at Claraston House, a

private boarding house, most excellently managed by Mr. and Mrs. Lambert.

The show ground is conveniently situated near to the town, but it is on rising ground. That and doubts as to whether a more suitable site could not be obtained, has prevented any substantial improvement being made, so that it is by no means what a show ground should be.

The greatest feature of the show were the agricultural implements. We believe no better collection has ever been seen in any town in the northern district. The apicultural exhibits were in the pavilion. It was a very fine collection, and reflected great credit on the energy of the beekeepers who had contributed, and so tastily arranged the different items. The exhibits consisted of a stand on which many of the exhibits were placed; a very pretty display of extracted honey, nicely arranged with labels, by Mr. W. Jacobs. Mr. Pankhurst had three queens in nucleus. Mr. Smith, one. There was some good specimens of wax. Mr. McDouall securing 1st prize, Mr. Jacobs second.

The whole display was a great source of attraction both days.

The following were the apicultural awards, our Mr. Tipper doing the duty of judge:—

487 Honey, in comb, best 6 1lb sections. 5s; 2nd, 2s 6d. A. J. Pankhurst 1; H. L. Cousens 2. Six entries.

488 Honey, in comb, 2 large frames. 5s; 2nd 2s 6d. W. G. Chaffey 1; W. Jacobs 2. Two entries.

489 Honey, in comb, 2 small frames. 5s; 2nd 2s 6d. W. G. Chaffey 1; E. J. Warner 2. Five entries.

490 Honey, liquid, extracted, 6 1lb jars. 5s; 2nd, 2s 6d. E. J. Warner 1; E. J. Warner 2. Ten entries.

491 Honey, liquid, 6 pickle bottles. 5s; 2nd, 2s 6d. W. G. Chaffey 1; A. J. Pankhurst 2. Five entries.

492 Honey, granulated, 6 bottles or jars. 5s; 2nd, 2s 6d. A. J. Pankhurst 1; W. G. Chaffey 2. Eight entries.

493 Beeswax, best 4lbs. 5s; 2nd, 2s 6d. G. McDouall 1; W. Jacobs 2. Five entries.

494 Best leather coloured Italian queen and her bees, displayed in a single comb glass nucleus, 10s; 2nd, 5s. A. J. Pankhurst 1; F. Smith 2. Three entries.

495 Best Yellow Italian queen and her bees, displayed in a single comb glass nucleus. 10s; 2nd, 2s 6d. A. J. Pankhurst 1; A. J. Pankhurst 2. Two entries.

496 Best display of extracted Honey, general get up to be considered, labels allowed. 10s; 2nd, 5s. W. Jacobs 1. One entry.

497 Best 12 pickle bottles Honey. 10s 6d presented by T. G. Treloar, Esq. W. Jacob 1.

We had a very pleasant time with the beekeepers on both days of the show.

On the day following Mr. Charles Lye called for us immediately after breakfast to take us for a drive among the beekeepers. As on a former visit we had visited Messrs Pankhurst, Warner, and Schomberg's apiaries, on this occasion we went in another direction. We first called at the apiary of Mr. R. H. Crawford, who with his brother are the owners of 1000 hives in two apiaries about half a mile apart. For thirty years they have been keeping bees in old fashioned box hives. They are, however, somewhat ahead of the ordinary box hive men, as they believe in large hives, many of their hives being four feet long, by two feet wide, and a foot deep. Their mode of working is to leave the box till it is full, then turn over—the bottoms are loose—cut out comb, honey and all, place in tubs with perforated zinc bottoms, crush all together, and so squeeze the honey out and boil the wax. Last season from the 1000 hives they secured 29 tons honey and took £37 for their wax—getting 1/1 per lb for the latter. Mr. Crawford, however, is awaking to the advantages of the bar frame system, and has ordered a number of hives. Now, as showing the disadvantages under which he has laboured with the old fashioned system, we will take the average honey return. The 1000 hives returned 29 tons—an average of a ton for every 33 hives only. We have often heard of averages of a ton for every eight or ten hives in bar frame hives. Of course such a number of hives in one place may be too much for the bees, but it is a good place, plenty of box and lucerne. Again, say 250lbs of honey is taken from a bar frame hive during a season, with several extract-

ings. The hive that would hold that amount with brood and bees, would be some six stories high—nine frames each—considerably more room than his largest box hive. How much honey must he lose then when his hive is once full? As to the condition of the hives, other than by weight, he could have no knowledge, either as to grubs, disease, or kind or condition of queens. He considers his present management takes less time than the bar frame system and he kills less bees. He had shot a number of small birds but finding their insides contained only drones, he desisted, believing he had been destroying friends instead of enemies.

From Mr. Crawford's we drove on to Mr. Lye's own place. He has some 60 hives, 8 frames, on platform close to his cottage, has seven acres of orchard, so he has advantages with his bees over and above the honey he raises; he makes his own hives from the cypress pine of the district, considering they are very much cheaper than the bought hives. He stores his honey in a square iron tank, the inside of which has been well waxed. After a short stay and refreshment we drove on through nice country past the village of Nemingah, with its pretty church, blacksmith's shop, &c., thriving looking farms, owned by their occupants, every inch being cultivated, till we came to the residence of Mr. W. Jacobs. Here we dined and then had a look at his bees. He has some 125 hives 8-frame, many with half-supers on. He believes in spreading the frames in the top story, in an 8-frame hive having only five. It gives good fat combs, one we tested weighing 12lbs. The working of his farm takes much of his time, so he cannot give as much attention to his bees as he would like. He has a well built honey house, with all the necessary appliances. We noticed a good stock of comb foundation, which he will probably use up next spring. Like several other beekeepers we have come across, he has discarded using wire in his frames, as after a season or two it slackens. He

uses strips of wood which he considers better in every way, and we quite agree with him. In extracting he takes the super bodily into the honey house, replacing same on same hive again. He finds a hive tool very handy. After partaking of tea we bid Mr. and Mrs. Jacobs good-bye, and turned the horse's head towards Tamworth, going by a different road to what we had come. The dry weather had created a vast amount of dust, and one portion where repairs had been withheld pending the formation of a deviation, was very rough and unpleasant. We came on to Mr. Peek's apiary at Angledoon. When we visited the apiary before he was using all eight-frame hives. Since then he has changed them all into Heddons, some 60 swarms being lodged in from two to eight of these half stories each. He has also shifted his apiary from the proximity of his parents residence to the edge of their lucerna paddock, some 300 or 400 yards away. Here he built a honey house, including a room with a stove in which to warm his honey before extracting. At recent sales he had purchased a farm on which he was away working when we called, so we did not have the pleasure of a shake hands with him. His mother kindly made us however stop to tea, and then we drove on into Tamworth, arriving somewhat before seven o'clock, having had a very pleasant day's outing, for which we cannot thank Mr. Lye and his good nag too much. The remainder of the evening we spent in the company of Mr. Graystone, to whom and all the beekeepers of Tamworth we owe a great debt of gratitude for their kindness and hospitality.

And a word in conclusion. It is a grand district for bees, plenty of forage, both timber (box) and lucerne, but there are a great many beekeepers and the real trouble is it is overstocked with beekeepers', particularly as a lot of the timber is being cut down as the land is sold.

AGE OF QUEEN CELL LARVÆ.

R. C. ATKIN IN *Gleanings*.

As most bee-journal readers are aware, I have for a number of years practiced unqueening to prevent swarming, and to keep the colony very strong for honey-gathering—especially section honey work. Beginning with the season of 1890, I have unqueened more or less every year. I should judge that I have practiced unqueening on not less than 1000 colonies in the nine years. The colonies were suddenly deprived of their queens, without regard to whether they were preparing to swarm or not; for the bees were in out-yards, and a certain yard must be worked certain dates, and made safe from swarming for a certain period while I was at other yards.

I always calculated to remove any cells that might have been started, at the time the queen was removed. I always counted that there positively would be no swarming for ten days *after* the day of unqueening. I also counted that, by the end of the eighth day after, all worker brood would be sealed, so that, if I worked the yard the ninth day after unqueening, there was no open or unsealed brood in any hive.

With the great amount of work to be accomplished in putting on extras, etc., it frequently happened that the tenth and eleventh days came around before the work of cutting out cells was accomplished. I have even allowed them to run till the twelfth and thirteenth days. I had accepted the commonly taught theory that bees thus suddenly made queenless would use larvæ as much as three days old, or six days from the laying of the egg, making the selection, probably, within ten or twelve hours after the queen was removed. Reasoning thus, the first queen should emerge the tenth day if she fully matured in sixteen days. Actual experience, however, began to teach me that a *very* small per cent would have a queen emerge the tenth day (I always count exclusive—that is, the ninth, tenth, etc., *after* the day of



unqueening), and even a very small per cent the eleventh day. I was also surprised to find a considerable per cent would not have a queen out of the cell till the thirteenth or fourteenth days.

I believe, but do not know, that, when a colony has already started cells before the queen was removed, such a colony will mature queen a little sooner than the one that had no notion of swarming. This would be reasonable from the facts that there might be queen-cups with eggs in, and overlooked in cutting out cells (I do not try to find all such), and that the cell-building spirit was on them, and no time would be lost in waiting to find that they were queenless.

My experience is that the greater part of the swarming resulting from my unqueening would occur from the twelfth to the fourteenth days, more coming on the fifteenth than on the eleventh. Colonies worked the eleventh day would show, a good many times, a few excited bees about the most mature cells, and the inmate beginning to exercise herself and gather strength. I have cut out cells from a great number—probably several hundred—the tenth to twelfth days, and very few were found emerging as early as the tenth day, and but a small per cent the eleventh day. I should say that probably half the colonies would have a queen emerge from the cell by the end of the twelfth day, and taper from that to the fifteenth day.

My opinion is that fifteen days for maturing a queen is a little bit short—I still count sixteen. I should say that, since the majority of colonies mature their first queens the twelfth and thirteenth days, they started with them not over four days from the laying of the egg. Then remembering that some few had probably started (or selected) the egg to be used, before unqueening, and still another per cent would not mature a queen before the fourteenth to fifteenth days, and it would seem that by far the larger per cent were reared from selections made inside of five days from the laying of the egg.

This is not proof, however, that such queens are the equal of those reared regularly under the swarming impulse or by supersedure. There is a great difference between cells built for swarming or for supersedure, as compared with those built when a queen *suddenly* disappears. If I remember correctly, Dr. Miller has said, in substance, that he would like to see the man or woman who could tell whether cells were built for supersedure or for swarming. I do not profess to be able to tell certainly, yet I generally feel pretty confident that I can, and I should not miss the truth very far should I assert that I can tell cells built when the queen is suddenly removed as compared with swarming or supersedure cells.

Many swarms issue on supersedure cells—a fact overlooked by very many apiarists. Quite a considerable per cent of the swarming that comes out of the regular season—early and late—is of this class, is well as some that comes right in the height of the swarming season, and will be far more noticeable in apiaries where the replacing of aged or feeble queens is left to the bees themselves. Let none but the most vigorous queens reach three years—the majority be removed by the end of two full years, and superseding will be reduced to a minimum.

Now as to how to tell the various kinds of cells. Supersedure and swarming cells are very much alike—so much so that individual cells of either can not, as a rule, be distinguished one from the other. Collectively, however, they can usually be discerned. In either case they are built large and roomy—thick, corrugated, or rough walls, and almost invariably on the edge of a comb or in some place where the cell can hang perpendicularly and have plenty of room. If built for supersedure usually only from one to three are constructed. Sometimes there will be four, five, or six, though not often so many. For swarming, the rule is not less than five or six, and up to twenty or thirty—usually from six to twelve.

If from any cause the queen is abruptly removed when no swarming or supersedure work has been begun cells will be built in all sorts of places or shapes. You may expect to find them right on the face of a solid sheet of brood, often two to four in a cluster, and so joined to each other that they can not be separated without mutilation. The wall will be thin, the cell short, and many times no residue of feed is left when the queen matures. The number constructed will range from ten to fifty, usually twelve to twenty-five in strong colonies. Sometimes the cells will be quite large and thick-walled, and few in number, though in the great majority of cases more or less of them will be found on the face of a comb and at an angle, while swarming or supersedure cells are almost invariably on some edge, and plump or very nearly so.

These are my observations and conclusions after many years of handling cells under the various conditions and by the many thousands.

I think that many of the forced queens are as good as any, and that many are not. Almost any swarming or supersedure cell will bring a good queen, but many of the forced ones are of a very poor order. Many and many a time have I destroyed *every* cell built by unqueened colonies, not because the colony did not seem good enough, but because of the scrawny, stubby little cells. In such cases, if no swarming or supersedure cells are to be had I select from those colonies that have large and well built cells. To unqueen and not use any judgment in the selection of cells would degenerate the stock by getting short lived and weak queens, in my opinion. I feel confident that the average cell under forced circumstances is not equal to the average of either swarming or supersedure ones.

When a colony is building cells for swarming or superseding, they first make a queen-cup, cell-stump, or base; glaze or varnish the bottom (in reality it is the roof, for they open downward, and have

no bottom), and then deposit the egg in the cell. I do not know whether the queen or the workers put the egg there, but I do know that it is put there, and the cell developed as the egg hatches and larva grows. The whole process is of a regular and methodical order, the larva usually well fed and cared for.

Forced cell-building is much as when one has been burned out of house and home. When fire, flood or wind has destroyed our home we put up a "temporary shack" for present accommodation. Suddenly deprive a colony of its queen when no cell-building was *anticipated*, and a very large per cent of the cells constructed will be of the temporary kind—thin-walled, small, built at almost any angle between the horizontal and perpendicular, larvæ more sparingly fed—a general irregular and conglomerate lot. Occasionally a colony will be more methodical and regular; but I suspect that this is mainly caused by such colonies being ready for or having anticipated the work, and had cell-cups already started, and may be eggs or small larvæ in the cups in a suitable place for development.

I do believe that, by using cell-cups, and proper conditions being present, very good queens can be reared under our manipulation, but not by haphazard methods.

CAPPINGS.

From American and other Bee Journals.

J. P. Israel, alias "Skylark", a well known writer in the *American Bee Journal* died on January 1st.

The "Drone" in *Australasian*, suggests "Bung-go Bung-go," as the name for the Federal capital, being the native name for the honey bees nest, as per Dr. Roth.

An exceptionally nice section being broken, a correspondent in *Gleanings* picked up a case knife, held it over the stove until it was quite hot, then smeared it over the hole, which was immediately closed good and tight.

Mr. F. Crane, in *Gleanings* says the discolouration of comb honey is not travel stains. Bees tear and make holes in any cloths or coverings in the hives, and the material from these causes the discolouration in the comb honey.

W. Whitney, in *American Bee Journal* says:—"I believe bees possess the sense of smell extremely developed, and that they recognise their master by it as completely as a dog does his. I know mine do. I can put my hand on the alighting board, and they will run out and smell my fingers, and go back perfectly satisfied, and the more I handle them, if it is done gently, the more familiar and quiet they become."

"Drone" in the *Australasian* says:—Honey is coming in freely, but bees are commencing to kill off drones. This looks as though the supply of nectar were giving out. When killing drones the workers appear to cling with a motion of the body as though desirous of stinging between the thorax and abdomen. As often as not the drone is able to throw the worker off, for the time being, and fly away. When he returns again he finds the executioner is still waiting to carry out the death sentence, and he dies accordingly. It is not a good thing to be a drone just now. This difference in the happy despatch from the one adopted when fighting robbers is very marked. When robbers invade a hive their object is to steal honey, not to fight. Being themselves worker bees, they are, unlike the drones armed with stings. The invaders, however, only use their stings as a last resort, preferring that they should be denuded of their feathers, so long as they are able to retire with their booty, rather than resent being attacked. The defenders of the hive on the contrary, attack, but avoid stinging where possible. The defending bee seizes the robber above the wing, the main object being to force the wing out of the body. This leaves the vital part exposed, and a bite results in death. Strange to say the death is instantaneous, and the survivor

immediately returns to eject another of the robbing tribes.

Last summer I had a chance to keep in touch with about 1000 colonies, and to notice which ones were doing the work. Of course, I did not see all of them every time they were worked, but I did see them often enough to make some comparisons. One or two things were so evident that one seemed to run against them forcibly every time an apiary was extracted. One was, that the young queens were the ones that gave the results. On an average, the queens that were raised after the honey-flow was over last season were the best. There were some exceptions to this, due to other causes. For instance, the best honey-producing colony in my Danby apiary had a queen that was two years old; but she swarmed early, and the hive was set on the end of a row where it had an extra chance, which was further helped by a part of another swarm going in with them. The queens raised in the spring do not have a good chance, for they are usually in nuclei which do not get in good order until along in the season. Another thing that stood out prominently was this: For years I have bred my queens from the best honey-producing, yet this year the colonies that gave the best crop had Southern queens or their daughters. That is, my strain of blacks bred for honey did not do as well as some other person's strain of Italians or Carniolans bred for points, I suppose. This seemed to be due to the difference in races. The Carniolans seemed, if any thing, rather ahead of the Italians. The pure bloods of either were ahead of the mixed races.—H. S. Howe in *Gleanings*.

At least two-thirds or more of all the honey we shall get from Cuba comes from a single species of flower, the so-called bell-flower. This honey is almost exactly like white-clover honey, both in colour and body, but is a trifle milder in flavour. I am inclined to think that, as a marketable honey, it will be a little below white-clover honey,

but above that from basswood. While I was in Cuba we sent Mr. Muth about 40,000 lbs., a good deal more than half of it being this kind of honey. He has told me that his customers took it readily in place of white clover—much better than they would have taken basswood honey. I have seen but little California honey; but if what I have seen are fair samples of honey from that State, then the bellflower honey from Cuba will equal if not excel it as a marketable honey. Those who are so favourably situated that they can find a home market for their honey in the country and small towns will hardly feel any rivalry from Cuban honey; but those of us not so situated, but who have to sell in the general markets, can not help finding such rivalry a serious matter. The rest of the honey from Cuba is of an entirely different character, being dark and with very strong flavour—not as good a honey either in body or flavour as is buckwheat honey, but will probably be just as acceptable to the bakers, who seem to be the principal consumers of all kinds of dark strong honey.—O. O. Poppleton, in *Gleanings*.

G. M. Doolittle says he always uses the regular sized hive for his nuclei, because in this way we have nothing which will be a loss to us, and by using the regular hive we are ready to unite for winter on any stand we desire, without changing hives or anything of the kind, or can build up any nucleus into a full colony at any time. But the greatest advantage in the full regular size hive comes in not having our nuclei robbed out occasionally, as is almost sure to happen with some of the weaker ones, where small hives are used. Such robbing causes a general demoralization of the whole apiary, often to such an extent that the beekeeper almost wishes that he had never known such a thing as a bee. By using the regular size hive, and placing the nucleus on one side of it, while the entrance is at the other side no nucleus large enough to hold a queen to advantage will ever be robbed out, and smaller than these should not be used.

To help the reader to understand better we will suppose that the regular hive is 14 inches wide inside, and that the entrance used is cut from the front board at the bottom, the whole length of it, and that the hive fronts south. Form your nucleus on the east side of the hive, using two combs, one of honey and one of brood; and next to these combs draw up the division board or dummy, which should allow the bees to run under its bottom. Now close up all the entrance except one inch in length at the west side of the hive, and you will have it as I use them, and I have not had a single nucleus robbed since I found out this plan. Now, suppose I wish a nucleus in the next hive on the same row in the apiary. In this hive I place the two frames and dummy next to the west side of the hive, while the entrance is on the east side, the conditions being the same as relating to the prevention of robbing, while the doorway to each hive is not at all similar. The next hive is fixed like the first, and the next like the second, and so on to the end of the row. In this way the young bees do not mix; and in returning from their wedding flight no queens are lost by entering the wrong hive, as used to happen when I used an entrance in the same place with all the nuclei in the apiary. I consider this far preferable to painting the fronts of the hives containing nuclei, of different colours, or laying sticks of wood about the hives, &c., as has been recommended so many times in the past. If the nucleus becomes stronger than is profitable on the two frames, move out the division board, and give them an empty frame with a starter of comb foundation, and see how quickly they will fill it with beautiful worker comb. If too weak for the two combs, take away one and draw the division-board up so that it is suited to the wants of the little colony, thus always working to the best advantage, and making everything done by any or all count on the right side of the ledger page.—A.B.J.



A Prominent N. S. Wales Beekeeper in America.

Mr. W. S. Pender, of the firm of Pender Bros., of West Maitland, sailed for America per R.M. S. Moana, leaving Sydney on January 16th, and news is to hand of his safe arrival in San Francisco. Mr. Pender's business is to inquire into American methods of honey production, and general management of apiaries in the United States, so that he may be able to introduce into Australia such methods as will suit our climate, and also to introduce any improvements he sees into his firm's factory for the production of beekeepers' appliances.

We have no doubt, from time to time, we will be able to give articles from his pen that will benefit beekeepers generally.

Mr. Pender's writings on bee matter are so generally known, that whenever an article from him is published, it is read with interest, for his aim is always to instruct.

Through pressure of business, he has, of late, had no time for writing, but we hope to hear from him shortly, giving us some idea of the wintering and springing of bees in the Northern States. After he transacts all necessary business there, he will leave New York homeward along the East coast of America, passing through the biggest honey producing states, North and South Carolina, Alabama, Mississippi, Texas, Arizona, and Southern California, making the acquaintance of beekeepers en-route, and he will select a fine lot of Italian queens for breeders in the Drumfin Apiary.

It is needless to say Mr. Pender is a thoroughly practical beekeeper, for he is too well known among beekeepers throughout the colonies for us to comment on his ability.

Mr. Pender's visit to America will be very valuable to the Australian Honey Bee Industry, for he is very communicative, and it is certain the information he gleams will be widely distributed.—*Advertisement.*

Anthony Hordern and Sons, with their usual enterprise, are going "big licks" at the Royal Agricultural Society's forthcoming Show at Moore Park. Finding the tent in which they have been accustomed to make a show for years past not sufficiently commodious, the firm have erected a brick building 120ft. by 80ft., on the most prominent part of the Show ground, and there is little doubt but that Anthony Hordern's Exhibition Pavilion will be one of the principal attractions of the Easter Show. The products of the firm's numerous factories will have a full

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