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The Australian bee bulletin. Vol. 7, no. 78 September 28, 1898

West Maitland, N.S.W.: E. Tipper, September 28, 1898

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Entered at the General Post Office Sydney for transmission by post as a Newspaper

THE AUSTRALIAN BEE BULLETIN,

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

VOL. 7. No 78.

SEPTEMBER 28, 1898.

PER COPY, 6D

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turn out purely mated. Anyone buying untested queens can have them warranted purely mated
if difference in price is paid within 14 days after delivery.

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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.

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

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9lb.	"	33/-	"
14lb.	"	6/-	PER DOZEN.
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- 1 FRAME SLINGERS, 5/- EACH.
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- 2 FRAME COWAN'S (with 130lbs capacity) 45/- EACH.

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500lb. capacity under basket, wire gauze dish shaped strainers,
1½ honey gates and covers. Price, 26/-

NOTE - When Extractors or Tanks are sent by rail or steamer they are crated at an extra charge of 2/- each.

Mr. A. AYLING, Dubbo, writes: "Have very much pleasure in telling you that I have given the Cowan's Reversible 2-frame Extractor supplied by you a fair trial and am delighted with it. It runs very easily and smoothly and does its work perfectly, throwing out the honey to the last drop and breaking no combs."

:0:

WILLIAM HOGAN,
TINSMITH, &C.,
HIGH-ST., WEST MAITLAND.

The Australian Bee Bulletin.

A JOURNAL DEVOTED TO BEEKEEPING.

MAITLAND, N.S.W.—SEP. 28, 1898.

WORK FOR THE MONTH.

As the warm weather draws nearer and stocks are increasing in size, the work of equalising should still be carried on. Some hives are becoming very strong, and if not given room in the shape of supers will start swarming. Others, for various reasons, will remain weak, and consequently not honey gatherers. A queen to breed requires plenty of attendant bees. She may be ever so good, but without these she will not lay much, and the colony remains weak. A frame of hatching brood from a strong colony will give a wonderful impetus to a weak colony. By hatching brood we mean a frame in which a lot of the young bees are seen working their way out of their cells. During the past month we adopted the plan of changing places in two instances of weak colonies with strong ones. Honey was coming in or we would not have done it, as fighting and destruction of the weaker swarm would have been the result. But honey coming in, the laden bees were welcome in any hive. Well, in one instance, the weak colony, that was so weak that it was apparently dying out, by the addition of the field bees from the strong one, two days after, the queen had two frames nearly filled with eggs, and the colony now looks healthy indeed, while the removed strong colony, having plenty of brood coming out, was in a short time as strong as ever, seemingly not having missed its field force. In the other case the queen of the weak colony was evidently old or no good, as very few more eggs were laid, and in a week or so, as the added field bees died off, was in no better condition than before. We pinched her head off.

Look out for queen cells; these are often times small dummy ones, without an egg in them. The ones with eggs or larvæ at the bottom are the ones to look after. Usually swarming takes place when the first queen cell is capped.

Capped cells from a good queen may be well utilised by placing in West cell protectors, and giving to colonies with poor or old queens, first killing the latter. Some year or so ago Mr. Crawford, of Wingello, sent us a couple of double cages for placing queen cells in, giving room for the young queen when emerging to get about. We find them very useful. We also lately saw some wire spiral cages with a little vessel at bottom. They are fitted on to the West cell protectors, so that if a young queen is not wanted in the hive she can get food in the little vessel and be safe till removed. When the hive is strong and swarming is meant, quite a number of queen cells will be started. As a queen gets old she will be at times superseded, in which case our experience has been only two or three queen cells will be started, and when we see such we never destroy these cells, as queens from such are said to be of a superior kind. A queen to be so superseded will live generally a week or two after her daughter has been laying, the two going on peacefully together, when the mother will disappear. It is well to have everything ready for swarming; have your queen's wings clipped—the two wings on one side only. Sometimes, however, if the queen is thus prevented from flying, and perhaps more than one virgin queen comes out one of them will go out with the swarm. Different modes of arresting the flight of a swarm have been adopted—ringing of bells, or tin-kettling, supposed to prevent the bees hearing the noise of the queen's wings; sprinkling with water; firing of guns. As a rule swarms will settle on some near spot before taking their second and final flight. With an empty hive, a frame of uncapped brood and some starters placed under where the swarm is settled, a good jerky blow with an axe or something

heavy on the branch will cause them to drop quite listlessly into the said box. If in a spot where such a blow cannot be given, brush them off with an upward stroke; they will be less savage than when rushed downward. Leave them till settled in their new home, when remove to their intended permanent location. Should honey be coming in, have your honey house in readiness—your extractor, uncapping can, tins, &c., ready. If possible, have your honey house both ant and bee proof. A good floor, kept clean, will keep the ants well in check. Some tartar emetic, mixed with honey, will soon get rid of them. A reversible window, or a wire screen, going several inches above the top of the window, with opening at top, will let bees out without shewing them the way in again. Those who go in for sections can take away full ones, replacing with empty ones with starters. Drones are now appearing. They are great consumers of the honey, without being gatherers, and should be moderately restricted, allowing only those of the best swarms. In ordering your tins or cans be sure to instruct your tinsmith to be careful and solder them well. A leaking 60lb. tin is a great nuisance. A handle not properly soldered on is another nuisance. Lifting a 60lb. tin, the handle breaking off is sometimes awkward, especially if taking it out of boiling water, where it has been uncandying.

A lot of good correspondence unavoidably held over till our next.

Bees object to black or woolly clothing. Use light coloured material, not fluffy.

In removing hives distances always carry a supply of some kind of soft rag to stop up any chinks where bees may escape.

When a colony gets very strong in bees, and fills two boxes, the upper one may be taken away and section supers put in its place.

We have to hand No. 7 of the English beekeeping journal *The Bee Master*. It is very interesting reading. The first

page has an advertisement of the "Bee-master hives and roofs," the cost of the complete hive being 30/-. A large apiary would run into money for hives. The editor is very warm in his editorials against Mr. Cowan of the *British Bee Journal*. He raises and sells Punic bees, which he says are proof against foul brood, and foul brood will disappear in two weeks after introducing a Punic queen. Gives an interesting account of the bee parasite (*Braula Coeca*.) Says the 4½ square sections, were patented in 1858. He advertises the prices of his Punic bees, which range from—virgins 2/6 to pure selected 80/-, the same to America being 40 dollars.

RULES OF THE N. B. K. A.

[Adopted at the Goulburn Conference.]

1. This organisation of beekeepers is named The National Beekeepers' Association of New South Wales.
2. Its objects are the encouragement and advancement of bee-culture, the regulation of the price of honey and the disposal of same on co-operative principles, the holding of Conventions and exhibitions, the obtaining of legislative remedial enactments respecting bee diseases, the prevention of the importation, manufacture, and sale of adulterated honey, the preservation of our natural forests, and to guard and secure the best interests in all apicultural matters.
3. The Association shall consist of a president, vice-presidents, secretary, treasurer and committee, ordinary associate and honorary members.
4. Honorary membership shall be conferred only upon such persons as in the opinion of the council have rendered special service to the Association.
5. Ordinary members are those who have paid their annual subscription.
6. Associate members must be members of affiliated associations.
7. This Association shall be managed by a council consisting of a president, vice-presidents, secretary, treasurer, and a committee of twelve, to be elected by ballot or otherwise annually.
8. At any council meeting five shall form a quorum. The chairman shall have a casting vote in addition to his own vote.
9. The council undertakes to carry into effect the objects as per rule 2, and it shall fix the dates for all meetings.
10. The council may make and alter by-laws for the guidance of their proceedings, provided that such shall not contravene any rule made by the Association.

11. At the annual meeting the business shall be as follows: (a.) The presentation and consideration of the report for the previous year and financial statements certified by two auditors. (b.) The alteration of rules, of which alteration notice shall be given to the council. (c.) The election of officers as per rule 3 & 7. (d.) Such other matter or business as may be brought forward.

12. Any vacancy in the council may be filled at the next council meeting by the appointment of any member, who shall continue to act subject to these rules.

13. It shall be the duty of the secretary to promptly attend to all correspondence and other matters of the association, to receive subscriptions and acknowledge same, and to keep a list of members of the association.

14. The treasurer shall submit all accounts to the council for approval before payment, to initial the butts in the secretaries' receipt book, and to submit a statement of accounts when requested.

15. Any person may become a member with the consent of the committee upon the payment of 5/- annual subscription to the secretary. Membership dates from the date of payment of subscription to the end of the financial year.

16. The financial year of the association commences from the 1st of January in each year.

17. All business at any meetings shall be disposed of by a show of hands, but a ballot of the members present may be demanded by any three members present.

18. Votes may be given personally, or by proxy, but the holder of a proxy must be a member or delegate.

19. These rules shall not be altered except at an annual or special general meeting.

AFFILIATION RULES.

1. COUNTRY BRANCHES.—Branches can be created in any country, town or district.

2. REPRESENTATIVE.—Each branch shall elect one delegate for every twenty members or portion of twenty, to serve as its representative at the annual or special general meeting of the N.B.A., such representatives to have equal voting powers to any member of the N.B.A. in the transaction of any business at such meeting, and it shall be the duty of the Hon. Sec. of every branch to notify the General Secretary of the N.S.W.B.A. of such election three months prior to the annual meeting.

3. CAPITATION FEE.—In order to cover the cost of postage and other expenses each branch shall contribute a capitation fee of one shilling per member annually, to be paid on receipt of the names and addresses of the delegates nominated to the N. B. A., who shall have power to refuse such nominations until the affiliation fees are paid.

4. REVENUE.—Each branch shall receive and expend its own revenue, and a copy of its yearly report and balance sheet shall be sent to the general secretary together with a list of paid up members. The N. B. A. shall if it deem necessary, order extracts from annual reports from branches, &c., it to be printed as an appendix.

5. ANNUAL MEETING.—The annual meeting of all branches shall be held at least three months prior to the annual meeting of the N. B. A.'s, so that the whole of the N.B.A.'s operations throughout the year may be published for the benefit of the members.

6. LOCAL OFFICERS.—Each branch shall elect its own local officers and committee, and shall be designated the branch of the N.B.A.

7. SUBSCRIPTION.—Each branch shall fix its own rate of subscription.

8. REPORTS.—Any branch shall report on any matter when requested to do so by the committee of the N.B.A.

9. BY-LAWS & RESOLUTIONS.—Each branch may make by-laws and pass resolutions so long as they are not in contravention to the rules of the N.B.A.

10. LIST OF MEMBERS.—Nothing herein contained shall prevent any member of any local association from joining the National B. K. A. in conformity with the rules of said association. Every member of every affiliated association shall be an associate member of the N. B. A., but no such associate member shall be eligible for office in or vote at meetings of the N. B. A. All delegates are eligible for any office in the N.B.A.

THAT "RIVER" HONEY.

Macleay River,
7th Sept., 1898.

Dear Mr. Editor,—I must take exception to a remark made by Mr. James to the effect that "honey from the rivers was not worth 1½d per lb." Now, Mr. James either does not know what he is talking about, or else he has made the statement for a purpose. If the former he should hold his tongue; if the latter it is very *brotherly* and *christianlike*, and if all beekeepers were to help each other in like manner, the industry would become quite a lively one. As good honey as is got anywhere else in the colony can be gathered on the coast (or rivers). This is not only my opinion but the opinion of many that I have heard give it expression; not only that, but it is also the opinion of the wholesale market,

which must be taken as a guide. I remember a shipment from the Manning River selling day of arrival at 4d. per lb. The Clarence and Richmond River honey generally sells freely at market rates, and I once saw a letter from (I think) the largest salesmen of honey in Sydney re a shipment from the Macleay River, which said, "It is a splendid sample, sold readily; if you can send us honey like it you can always depend on immediate sale at top market rate." Mr James' remark therefore is wrong and must be taken as a flight of imagination, but if such is really his opinion, I of course do not blame him for having an opinion, but I do most decidedly blame him for voicing an unproven statement like the above, which might do great injury to scores of (perhaps) worthy men who are trying to earn an honest livelihood by gathering coastal or "river" honey.

Your's Truly,
SMOKER.

WHIFFS OF SMOKE.

BY SMOKER.

1. Re absorbent quilts. When wet is absorbed is it to remain on the hive like a wet sponge all winter? I think with weather proof hives, bees in proper condition, said bees will attend to any surplus moisture within.

2. The best timber for hives (my opinion) is first, Californian redwood; it is easy to work, holds the nails, light when dry, and lasts equal to if not longer any other either painted or bare. Have known architects to select it in preference to all other soft woods (even cedar) for outside decoration, on account of its lasting in the weather quality. Second, Cedar, I would place it first but cost prohibits. Third, Colonial pine, good, but hard to work and heavy. Fourth, Beech, but not good as it won't hold nails.

3. When making hives drive all nails at an angle, so that the points of each pair of nails come together when driven

home. They thus form, as it were, a dovetail and hold.

4. Pause before using oregon or baltic pine in constructing honey house; have known white ants to go through a 16x14 ceiling of baltic inside six months.

5. My experience with long idea hives is that while 50 per cent. of brood combs are sufficient for ordinary two story hives, 70 per cent. are needed to work long ideas. In hives with supers I get brood to top bar, but in long ideas bees will fill with honey from one to three inches from bar, thus queen must lay in more frames as compared with super hives. Does Loyalstone not find it so?

6. I wish you all a bumper season. If you think any of the above incorrect, I invite criticism.

VICTORIAN NOTES.

R. BEUHNE.

LINOLEUM.

It does not matter which side of the linoleum is placed next the bees as far as absorbing goes, the absorbent side is like the straight side of a circle, it is not there. Mr. J. Gale wants enamel on both sides, I want something of the nature of blotting paper, and as durable as tarpaulin. In the meantime I am using the material grain bags are made of. Sugar bags or hessian are gnawed through too soon. Three to four inches of fine sawdust on top of porous quilt will absorb all the moisture in winter and retain heat.

HIVE STANDS.

There are three or four different sorts recommended in answers to questions and each may be suitable under certain conditions, but none suitable for a fair sized apiary. With pegs six inches high, I should have young rabbits underneath, spiders nest and ant hills. Stands with legs in water; just fancy what an amount of furniture, and tinware or crockery, and a water-cart to keep them filled, and a boy to fish out bees, and those legs would get foot rot unless they were sheeted with tin. Now Mr. W. P., just dump your hives down on the ground, and if they don't die of something else they'll be there in ten years, and if they did they weren't fit to live, if they themselves together with their owner destroying the ants camps couldn't manage. If the Spaniards surrounded the *Bulletin* Office, the New South Wales Cavalry would soon see that the *A. B. B.* appeared as usual.

Then there is another apiarist who evidently holds shares in a brick company. Twelve bricks and some cement to each hive, and the water-cart of course. Bricks aren't plentiful about an apiary, the nearest I can get are forty miles away. This is what is called putting bees on foundation I suppose. I am not going to do it, too much freight and cartage, and I generally shift my bees about a bit to get them on fresh ground, or to unite and divide, and neither like tearing up of foundation, nor "pegging out."

I make my hives out of 12 inch boards, then saw off at $\frac{9}{16}$ inches, the shallow piece I paint all over with boiling tar, and when dry nail the hive bottom on to it. The tar preserves the wood from rot, wet, and white ants. By rotating this stand for a few seconds on the smoothed ground, it fits down all round, then run your finger tips round to bring a little soil up to it, press it down with a piece of wood, or let it set by the first rain. There are no spiders' nests to rake out because they can't get there. It keeps the hive warmer in winter, and cooler in summer, and perfectly dry. I don't think there are more ants, and a greater number of varieties anywhere than here. They made the bees very cross the first season, since then I have tracked, and dosed with boiling water (after night fall) all the nests for a hundred yards round. They have not troubled for several seasons since.

THE HEDDON VERSUS LONG IDEAL HIVE.

The bulk of beekeepers are I believe attentive but neutral onlookers of this controversy. I am not interested in the merits of either. I use something half way between, like most others. I have tried both and neither suited me, although they may each be the very thing for their advocates, their conditions, and localities. We have been given all the advantages, so I will mention what I consider drawbacks. Leaving aside the greater first cost of the Heddon, there is a current expense of labour in extracting the half frames, for although the bees may possibly be shaken out of a whole set of frames, they have to be handled separately in uncapping and extracting. There are also too many bee spaces to crowd with bees, and in the system of working there is a tendency to run the bees short of stores at a critical juncture. When using the frames without wire, the combs have a habit of leaning over on to one another when reversing them the first time, even when the hive stands perfectly level.

As to the Long Ideal hive, my first objection is the name, its too long, could not we drop that ideal and say the "long hive." Even then the hive is too long, it takes a cover like a barn door, and yet it isn't long enough, for I cannot see how strong colonies can be worked their best in a good flow with twenty frames for brood and surplus. You want to be at all the hives all the time when extracting, and unless you extract the honey raw they have not sufficient storage accomodation. Colonies will often fill a second

super before the first is one third capped. I am sure I should put a skillion on the long hive. My experience with it was that without excluder I had brood in nearly all the combs in the beginning, and could extract very little; later it was nearly all honey and very little, too little brood to keep up the strength, for a protracted flow. After extracting the queen would lay in too many of them again at once, as she had been blocked out before. As for getting a great quantity of brood at the start, you can do exactly the same thing with super hives. Let the queen have the run of two sets of frames. When the flow comes on put the queen and all the best brood below, and a queen excluder between: if there is brood in all the frames left over the honey board, put on another set of combs on top, putting two or three brood frames in the centre of this third storey, and the empty ones thus replaced on the outside in the second storey. The presence of brood in the supers will induce good work there at once, and empty combs above and alongside this brood the queen will not be restricted in the lower chamber. When extracting one set should be extracted and returned for the bees to clean up, mend, and commence storing before taking the other. Extracting all surplus frames at one time greatly disturbs the work of the hive, causes the bees to loaf, sulk, or glut the brood chamber. This is now recognised by many beekeepers, and practiced even when only one super is used.

RE MR. PENDER'S PAPER.

F. W. PENBERTHY.

I admit the importance of good drones, and if we breed queens from the best honey gathering hives, good desirable drones must follow. As for hand picked drones we are no judges, except in color, as we have no experience in results.

Then again, he says he would collect his drones from the queen that produced the best honey gatherers. In that case his drones would be the same blood as the queen, whereas the good traits of the workers may have been transmitted to them by the drone the queen mated with, which his drones would not possess. In other words those drones would be only half brothers to the workers from the same queen.

He says that 95 per cent of his queens mate within a mile. When my home yard was where my out yard is now, it was rarely that a bee tree was felled with-

in a mile, and there is always a good lookout for them. I had about 140 hives of Italians with plenty of drones as I allowed them about 40 inches of drone comb per hive.

I raised about 40 queens from one breeding queen, and only got three purely mated, and those were the smallest and weakest of the lot, and in breeding from either of those three queens it was a rare thing to get one mated with a black drone, and most of those were greatly wanting in energy. Another one that produced the best honey gatherers ever I had, I could only get about 30 per cent purely mated.

I also found I got better results in the latter part of the season when there was only a few drones flying. My opinion is that I lost the strongest and best queens through mating with black drones.

It is not natural for queens to mate near their nest, as it would cause inbreeding; considering the number of drones they breed, distance apart their nests are, under natural conditions, in fact her mating on the wing is sufficient proof that nature provides against inbreeding when possible. I believe a virgin queen can fly about as much as she likes without a drone following her, until she omits an odor which is followed by the drones. Success would be in favour of the drone with the best smell, wing power, and sight, which is so important in the workers.

MATING OF QUEENS.

AUSTRALIAN YANKEE.

I fully concur with Mr. Pender's paper read at the Convention. But Mr. Penberthy knocks me all of a heap, when he says that, "a queen will please herself whether she will be mated or no by throwing out a smell." Now what I want to know is how in thunder Mr. Penberthy knows that a queen does such a thing. Has he ever soared in mid air and had his olfactory organs tickled by the perfume. But joking aside, I think it is a matter that needs comment, as in

the face of it, it seems foolish for anyone to give credence to such a belief. I have seen a drone trying to mate with a young worker when out for its play spell. Did this worker throw out any particular smell? I say, no! neither does the queen; it is the nature of the drone to mate with the virgin queen, and as long as he is a drone he will do so. Of course the queen has power to prevent the drone accomplishing the act, by closing the vulva, but I very much doubt if a queen, when out on her wedding flight ever does so. I am inclined to the belief that the drone that out strips his fellows and reaches her first, is by her allowed to perform the act of copulation. Hence I believe in ninety-nine times out of every hundred the mating is accomplished within one mile of the apiary, and that three miles is the exception and not the rule.

We should certainly select our drones, as I believe they play as important a part as the queen. Re Mr. Gale's question, "Will the drones reared from a drone-laying queen from the beginning be fertile?" I have proved beyond a doubt that they are. It happened thus. When I first adopted the frame hive in 1887, and of course wanted to have the Italian bee as well, a person that had Italians and sold queens, advised me to take a frame of brood instead of a queen, saying that I would thus be able to rear a number of queens, (at this time I had never introduced a queen or reared one either.) So I bought a frame of brood and took it home (20 miles,) and followed his instructions, with the result that I reared one queen, and it was so late in the fall that she never mated, or at any rate she never laid an egg that produced a worker, but she produced hundreds of drones. I kept the colony she was in fairly strong by adding brood, thinking in my ignorance that she would start to lay worker eggs after a time. The following spring I suppose there were thousands of her drones scattered through the hives in the apiary. Well, that season there was quite a percentage of the young black queens mated with

these Italian drones, as many of their progeny were marked with yellow bands, some of them showing a large percentage of two banded bees. I know that there is no mistake about them being the drones from the drone-laying queen as I had no other Italian or hybrid queen in my yard, and to my knowledge there was not another Italian queen within 20 miles. I think this instance should be enough to convince the most sceptical, it is proof enough for me. Perhaps Mr. Abram will tell us where and when it has been tried over and over again. I think those who conducted the trials must have erred in some point. Anyway, tell us all about it, friend Abram.

IMPORTATION OF BEES.

WILLIAM GEE.

I have been reading with much interest in the *A. B. Bulletin*, introducing the black bee into N. S. Wales. I possess interesting news to beekeepers. In 1820 there was two hives of black bees sent from England to Sydney. Mr. A. B. Sparks, and Mr. Ruben Hannam, got one hive of black bees each, and took them to Cook's river.

It is Mr. Hannam I will speak about now. Cook's river being a good place at that time, with plenty of bush, the bees did well; they increased rapidly, and some of them got into the bush. All beekeepers know it is quite natural for them to take to the bush.

In three years afterwards he had a nice apiary of box hives. Being a man that looked after them and liked the bees, he shifted with the bees to a farm between Appin and Campbelltown in the year 1828. There was plenty of bush about; he got a good lot of honey and the bees increased rapidly.

In the year 1835 there were plenty of bees nests to be found in the bush. His son, David Hannam, in 1840 went up to the Murrumbidgee with a team, and took a box of bees with him. The way he fixed them he made a wire frame and put the box in it. In the day time they could fly about. Being a long journey he fed them on sugar and water.

QUESTIONS.

A. C. FRASER.

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

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

CHAPMAN BROS.

172.—Could you inform us the best methods of squeezing wax out of melted combs; we find it difficult to get the refuse thoroughly dry or free from wax?

J. J. PARRY.

173.—What is meant by the term "ripened honey?"

G. KELLY.

171.—My bees use brackish water, and they do well.

AUSTRALIAN YANKEE.

170.—White pine shelving, but good soft redwood makes good hives, and splits but little.

171.—I believe brackish water would be better for bees than fresh water.

172.—Use a good screw press, one that allows the refuse to be under hot water whilst pressing.

173.—Honey which by evaporation has become sufficiently thick to be sealed in the cell.

R. H. JERVIS.

172.—The best way I find is to put the combs in a kerosene tin with the top cut off, put two or three quarts of water in and put on stove and boil slowly about one hour; then pour all together when hot into a Jones wax extractor and you will find very little left in the old cocoons.

173.—Honey that has been left long enough in the hive to have a good percentage of the watery matter evaporated from it so it will be thick and dense.

QUESTIONS NEXT MONTH.

G. W. HALL.

174.—Can any of your readers supply me with the best idea for sealing bottles? I mean the quantity of ingredients, &c.

A. E. SHAW.

175.—Has brass wire cloth any bad effect on honey, when used for straining?

176.—Are queen excluding honey boards better with or without wood slats?

H. E. BIGG.

177.—What is glucose? How is it made? Where does it come from? What is it used for?

W. G. HUGHES.

178.—Has anyone ever had a full sheet of heavy brood foundation converted into a complete drone comb? I had one this season; never saw the like before.

J. P., MORPETH.

179.—I shall be glad to know if any of your contributors have had any experience with white ants, as I am to some extent a sufferer from the ravages committed by this destructive insect. I may be excused for introducing an outside subject so intensely interesting to dwellers of wooden houses, especially if this question should receive some attention from those that have battled successfully with the pest.

BITES AND STINGS OF INSECTS.

The most frequent wounds of this kind are those made by bees or wasps. These are not, of course dangerous, unless many be inflicted at the same time or unless the sufferer be a young child. Single stings are, however, quite painful and occasion much swelling if inflicted around the eyes or in the mouth.

When a large number of bees attack an animal, they inflict injuries which are usually fatal. Men, as well as horses, have been repeatedly stung to death by an infuriated swarm of bees.

In some parts of the country there are found certain other small animals which inflict painful and severe wounds. In the southern and western parts of our country, individuals frequently suffer from the bite of a large spider, called the Tarantula. In the northern part of the country there is a small black spider, which is often found in the neighbourhood of old logs and trunks of trees, and which inflict a painful wound. In the southern states, and more especially in tropical countries, the inhabitants are troubled with two pests, which inflict serious and even fatal injury. These are the centipede and scorpion.

They are found only in a small portion of the United States, where they attain but comparatively small size. In other parts of the world these animals are much larger and inflict more serious wounds. The bite inflicted by the centipede may be serious, and even fatal.

TREATMENT.—The bites of spiders and the stings of bees and wasps usually require no other treatment than measures to allay the pain. There are various popular remedies employed for this purpose. Sometimes hartshorn is applied to the skin in the vicinity of the wound; some people consider a cabbage leaf the best possible application. The fact is, that anything which serves to cool the surface diminishes the irritation and pain. Cloths wet with cold water, or a mixture of equal parts of water and hartshorn, are usually very grateful to the sufferer; or a solution of ordinary baking soda, a teaspoonful of which is stirred up in a glass of water, will make a cooling and pleasant application.

If a person be stung in the mouth or throat, the swelling which results is apt to be so great as to embarrass the breathing. In such a case the patient should even before the parts are much swollen, employ faithfully gargles of hot water containing a little borax. A popular remedy is a mixture of vinegar and water, which is heated and used as gargle. The swelling is sometimes so great as to render surgical interference necessary in order to prevent suffocation. The tongue may be punctured with a sharp pen-knife in several places, and the use of the gargles should be continued.

In many of these cases the pain is so great that opium must be given to alleviate it. For this purpose twenty drops of laudanum may be taken every two hours until three or four doses have been administered.—ROBERT GALLIMORE.

Cultivate a taste for honey among your neighbours and the trade will come.

THE NEW MANAGEMENT.

No. 4.—SWARMING TIME.

T. BULTON.

An interval of eight days having passed, on the ninth day, weather being favourable, the apiary should be again visited and the second round made of its hives. We left them last time all on an equal footing as regards queen cells, that is without any cells in any hives. But on this second visit we shall find cells in all stages during the inspection of the day, some colonies being as we last left them, others with eggs in queen cups, others again having larvae just about to be sealed, in fact as the evening approaches the first sealing of a few cells may be found to have been accomplished in some of the hives examined latest in the day. Our aim is once more to bring every colony to the same level as regards swarming cells, and to do it so as at the same time to help forward our general and total apiary strength and production of bees for the harvest, still ahead some weeks. Individual hive population and results are lost sight of, and uniformity and greater aggregate population are what we aim at, gradually levelling up of the weak (as about to be described) to that end. Rapidly taking each hive in rotation as on our former visit and similarly opening up between two cases of brood, we notice readily the presence or absence of queen cells of an advanced type. Should none be seen or should those seen be of an age under the eighth day apparently, the cases are again inverted and the colony left for a further nine days. They will within an hour or two probably have started to fashion a new lot of cups to be duly occupied as were those just abandoned because now turned upside down. If, however, the cells visible are just close to sealing stage or just sealing, then instead of inverting again the spare floor board and case of starters with a queen excluder are brought alongside and any super that may be on the colony with their bees are put on top of the excluder, and the bees and queen shaken out of the brood cases to run in at the door, and these brood cases are then placed on one story or weaker colonies near by. Thus the hive is swarmed artificially on its own stand and with its own supers, and with all its own previous force of bees. After this manner, setting some back nine days, artificially swarming others and with the brood helping on weaker hives the whole apiary is run through and again left for another nine day interval, when the same process is repeated, this time probably on a larger number ready to be swarmed. Soon the colonies to which brood was distributed in the earlier rounds will themselves be ready to be swarmed and to have their brood passed on to yet more dilatory lots, and when all have thus been helped sufficiently any further cases of brood may be utilised either to make increase or on top of any hive being a swarmed colony.

I think it will now be sufficiently clear that my method does not involve the idea as it has been stated by some that inversion stops swarming, and that what I do is to postpone it to certain dates and then to turn this propensity of my bees to some useful account, instead of to a state of conflict with my own aims and manipulations by efforts to suppress it. It will be easily understood too how completely the after-swarm business is done away with, its wild vagaries and often troublesome fever. To provide young queens for replacing purposes I rely mostly on my home apiary, as the nine day interval following after the sealing of a batch of cells makes the visit too late to secure the queens from any sealed cells saved instead of inverted. But this can be easily arranged to fall in correctly should some extra choice colony have cells which it is desired to save. When swarmed artificially, instead of inverting the distributed cells, place them right side up over an excluder on some fair colony, being careful to leave only cells of at most six days age on the comb or combs. These will be ready to cut out on next visit. In view of the fact that many times I have to send inexperienced helpers, or cannot for business reasons, or sometimes for weather causes, get to my out apiary on the day fixed, I generally clip all my queens in spring, and though I may then have a swarm come out and perhaps lose a queen, yet I save the bees, which to me is the crop. Inexperience of helpers however, is the chief reason, and it is not so much of any extra skill being required to carry out the inversion, but because of a possible mistake in the following simple point:—A lad say takes off the supers, then the upper case of brood, and puts it down in order to lift up the other brood box to be inverted. In replacing the top brood box he may through lack of attention at the moment put it back as it came off *not* inverted. Presto! a swarm leaves perhaps within a week or so, and next time the mistake and its bad consequences of a swarmed and depleted hive with cells nearly hatching is at once discovered. But clipping the queen would have confined the loss to her at most. I may say too that no frame handling is necessary in any way to the carrying out of the work described, but it is advisable to examine combs because of foul brood, and though I've not had this disease here for several years, yet it taxes me in time and pocket by making this otherwise needless work advisable, and I venture to say more frames have been handled for this reason in my out apiaries than for all other purposes put together. But even with this tax on our time I can drive out and home, eight to twelve miles and manipulate alone 100 hives per diem, requeening a few, making nucleus, distributing batches of cells, as well as other work with hammer and nails here and there. I have driven out and home, six miles in four hours, inverting an apiary of 60 hives and making a few divisions and artificial

swarms where needed, say equal to $\frac{1}{2}$ hour per day for nine days expended time. Mr. Loyalstone says he can *with an assistant* help equalise 100 colonies in long idea hive per day. That day's work a Heddon expert can do *alone* on his hives and do it easily and without lifting a frame to look for a queen as Mr. L. supposes, (page 268 Feb.) is necessary. But equalising is only an incidental part of my day's work as I have sufficiently shown.

In concluding this series of articles I wish to say that whilst I have got rid of swarming difficulties as far as my own apiaries are concerned, yet there is I find another matter that can't be cured by inversion, and I should like to see from the pen of some abler friend how to control *thieves*. They have been inverting my hives *for me*, and I am under the necessity of paying a man all winter to sit down and watch my distant apiary (35 miles of road) for thieves, and no doubt all summer too, so my position will in some respect be no better than if my apiaries were stocked with the "must be watched" L hive in common use.

CHARACTERISTICS OF FOUL BROOD.

EXACTLY HOW TO DETECT IT; AND ALSO
EXACTLY HOW TO GET RID OF THE
DISEASE.

By Hon. R. L. Taylor, late Superintendent
of Michigan Experiment Apiary, in Bee-
keepers' Review

Where foul brood exists or where its existence is suspected it is of prime importance that one have the ability to distinguish it with certainty from every other disease or injury. Some degree of practical experience with the disease will alone make one adept in discovering and identifying it, yet its peculiarities are so pronounced that no one having good eyes and nose, and giving attention, need be in any doubt in regard to its presence.

The one crucial test is the colour and consistency of the dead larvæ affected with the disease before it dries up. At this stage the matter of the dead larvæ is always viscid or ropy like mucus. There is no foul brood without this characteristic, and I may safely say that with this characteristic there is always foul brood. This last statement, however, requires explanation.

In my experience of ten years with the disease I conclude that in a few years it spends its force and loses its vitality in a given locality, while it continues to retain in the matter of the larvæ in a considerable degree the viscid character. In such case there is likely to be found but few affected larvæ in any colony, and with a

little experience and care the two conditions are readily distinguished, and in this way: In the weakened stage the dead matter is slightly less viscid, but a better test is that it is *paler in color*. The dead matter in the larvæ affected with this disease in its vigour is of the colour of coffee when prepared for drinking by the addition of a moderate amount of milk. In the weakened stage of the disease the color is perceptibly lighter. To determine the consistency of the dead matter of larvæ, insert a sliver or a straw into it and then withdraw it. If the matter pulls out in a string, adhering to the sliver, and is of the coffee colour described, it may be set down that foul brood is certainly present; but if it does not show this decided ropiness it is just as certain that there is no foul brood in that cell.

I just said there is no foul brood without ropiness, but this must not be taken *too* literally. That was said with reference to the stage during which the matter remains *soft*. After a few weeks the matter of each dead larvæ dries down and lies spread on the lower side—not the bottom—of the cell, a brownish-black scale of the thickness of a man's thumb nail. This peculiarity is of great use in making a diagnosis of the disease at some seasons of the year, as in the fall or in the spring, in the combs of a colony which has perished during the winter, as colonies affected with foul brood are very liable to do. Soon after the breeding season is over these scales are about the only evidence of the disease that remains in a strong colony, as the cappings of the diseased cells are apt to be cleared away, but in a weak colony the discoloured, defective cappings largely remain. It seems to be beyond the power of the bees to remove these scales, so if foul brood has been present they remain to reveal it if one will take the proper course to discover them. This is best done in this way:

Take the comb by the top-bar and hold it so that a good light falls into the cells at an angle of about 70 or 80 degrees from the top of the comb, while the sight falls upon the cells at an angle of about 45 degrees. The scales if present will be readily discovered lying as already described reaching almost to the margin of the lower side of the cell. I consider this a very sure method of diagnosis, though in one or two cases I have seen similar scales where the death of the brood resulted from other causes.

Other characteristics of the disease which are useful in aiding in its discovery are the peculiar odour and the appearance of the cappings of diseased cells; such cappings, while they vary in colour, are generally darker than those of healthy cells, almost always sunken or flattened, often having irregular perforations of varying sizes, and the comb containing much of the disease presents altogether an unprosperous, sickly appearance. The odour is very unpleasant, and may be described as an "old smell," and is well said to be like that of a poor quality of glue when heated. If a colony is badly diseased the

odour is sometimes felt on raising the cover of the hive, and generally on applying the nose to the top of the brood combs.

If one handles the combs of his bees frequently, and keeps the subject of foul brood on his mind, what I have already said will enable him to discover the disease very soon after its appearance in his apiary, but if brood-combs are handled but little it is quite important, if one would insure himself in some degree against losses from the disease, that a strict watch be kept on the condition, in respect to disease, of all colonies that appear from external indications to be lacking in prosperity, and especially of colonies to which robbers seem to be attracted, for the odour of foul brood has an attraction to bees, seeming to indicate to them that the colony emitting it is about in a condition to permit of its being robbed with impunity. And this not because colonies wanting in prosperity are more likely to contract the disease, but because this condition may be the result of disease. If the disease is once discovered to be present, then it would be the part of wisdom to examine each colony carefully under strict regulation against robbing.

The cure of foul brood is difficult only because it is difficult to discover the disease in its incipient stages in every colony, and to determine every colony in which are germs of disease lying dormant ready to develop when favourable conditions are present, it may be after many months. And when the disease is disseminated among the bees in the neighbourhood, especially among wild bees, a final cure may be the work of years, but with care, even under the worst circumstances, it may be kept in such subjection that the injury therefrom will not be great, and under favourable circumstances it may be quickly exterminated.

The cure of any particular colony is very simple and certain, the cautions to be observed having to do with preventing the access of bees from healthy colonies to the diseased combs, since such access would almost certainly spread the disease to other colonies. To preclude this danger all the necessary operations must be performed when no bees are flying, or when the pasturage offers so much nectar that there is no disposition to rob. These conditions being secured, take a hive externally as nearly like the one containing the diseased colony as possible, and having moved the hive with the colony to one side, place the new hive furnished with foundation or starters on the old stand, then run the bees into the new hive by shaking or driving. This is all that is necessary for the cure of the colony if nectar is coming in somewhat freely. If nectar is scarce or absent, absconding must be guarded against and feeding resorted to. Without being certain that it is necessary, I advise feeding scantily for four or five days, and after that as plentifully as desired. From this it will be seen that it is preferable to attend to the cure during a season of plenty.

(To be continued.)

SPREADING FOUL BROOD AMONG BEES.

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

Bees do not carry the disease germs to flowers, watering-troughs, etc., or that if they do the germs are impotent to develop seems obvious from the fact that the disease spreads so slowly from apiary to apiary, and from colony to colony in the same apiary. With a little care on the part of the apiarist, foul brood may be kept in certain colonies for days and weeks, and yet no signs of it appear in other colonies close alongside. If the bees of the affected colonies carried the germs as they went out to flower or pool, surely the disease would be sown broadcast, and all the bees in the region would very soon show the malady, and become doomed.

That the germs are in the honey is a generally accepted theory, as no other seems to explain the spread of the disease, as it very often occurs. I think Mr. A. I. Root, if my memory serves me, thinks his bees were inoculated through honey that leaked out at the depôt.

It is now known that many microbes are speedily killed by exposure to sunlight, while sunshine is almost immediate death to these minute germs. The germs of consumption or tuberculosis are said to be quickly killed by sunlight, while the full blaze of the sun is immediate death to these terrible microbes. Thus a flood of sunlight, and better, sunshine, is the best disinfectant of a house that harbors a consumptive. Even then if Cheshire was correct in the belief that the germs were carried by the bees, we may have in the sunshine such an effective fungicide or germicide that the germs are killed before they are conducted to the hive and placed in a nidus suitable for their growth, development and multiplication.

There is little if any danger of foul brood being communicated from a watering-trough visited by bees from a diseased colony. I believe the same would be true regarding transmission of the disease to flowers. I think it is generally a no-

ceded that foul brood germs are not transmitted in wax, and so foundation from comb that has harbored the disease germs is entirely safe to use.

If the sunlight theory of destruction is true, then probably honey from a foul-broody colony would not be likely to bear the fatal germs. It may be possible that the immersion in the honey would protect against the sunlight, or tend to do so. It is presumable that the visits of robber-bees to diseased colonies, which are from their very depletion through the effect of the microbes specially liable to attack, are generally responsible for the spread of the malady.

CAPPINGS.

From American and other Bee Journals.

The Atchleys, of Beeville, Texas, have 900 colonies, and are busy harvesting a crop that they expect will reach 100,000 lbs.—80,000 lbs. sold.

HONEY VINEGAR.—Boil 25 quarts of rain-water with two quarts of honey, skimming frequently for about an hour. When cool put into a 30-quart vessel, and fill full with strong vinegar. Put it in a warm place with the bung open, to ferment for 9 or 10 weeks. If too weak, add strong vinegar. Draw off half to bottle, then fill afresh with honey-water.
—*American Bee Journal.*

C. C. Aldrich, says in *Gleanings*:—At Elsinore, Riverside Co., Cal., are thirty bee-keepers who get their mail at that office. Of that thirty, not more than ten take any pains to keep posted in bee-literature, the markets, or the management of their bees. The twenty who do not advance the interests of bee-keeping fix the market price of those who produce the best and the most of the honey, to the detriment of themselves and the business of bee-keeping.

R. C. Aikin, says in *Gleanings*:—I can pick up one 60 pound can and put it where I want it, and do it with comparative ease; but the two cans in a box make a package that is a back-breaker. I can and sometimes do, pick up a box

of two 60 pound cans, and carry or load and unload it, but usually at the cost of a back-ache. I have seen the time when I would have gloried in handling a package of 100 to 200 weight; but now that I know the folly of such things I want to save my own and others' weak backs, and also make it easy for those whose backs are yet good to do their work without the necessity of breaking them. He recommends for comb honey a crate containing 50lb. to 60lb.

J. A. Golden, says in *A.B.J.*:—When bees were dropping by the hundreds upon the alighting board, I would sift flour over them, see them pass in, then carefully lift the frame and would find floured bees passing here and there. Keeping a close watch, I would see one enter a cell, deposit her load, then withdraw therefrom, brush herself, and fly from the comb in search of another load. Others as I also observed, would pass here and there over the combs, seeming somewhat bothered. I supposed from this that they were depositing their day's gathering in some other comb, and were hunting for it. But other bees could be seen giving up to those which we designated as house or nurse bees. Continuing my observation, I fitted up supers, glassing the sides, thus showing the sections, and continuing the dusting process, I found the same convincing evidence, that the marked bees were seen depositing nectar in the section-combs.

Dr. Mott, writes in *The Southland Queen*:—I am living in the great piner-ies of S. E. Texas, where are located many sawmills, cutting hundreds of trees into lumber daily, requiring 14 to 16 men to saw them down and cut them into suitable lengths to suit the lumber trade. About the first of June of this year a gang of sawyers were at this work when one of the men said that the tree that he and his partner were about to cut down was a bee tree. The rest of the men gathered around, and one of them, who lived near where they were working, offered the finder \$1.00 for the bees, that being the customary price of a bee

tree here. He rejected the bid, because he thought the bidder wanted to save the swarm and honey for himself, while he proposed to divide the prize with his fellow workmen. The tree was sawn down, and upon being cut into was found to contain neither bees nor honey, nor yet a trace of comb, but was nicely cleaned and made smooth, evidently for the reception of the remainder of the colony to which the house cleaners belonged.

The *Australasian* says:—Mr. L. T. Chambers, secretary of the Victorian Beekeepers' Association, delivered an interesting lecture on "Bees and Honey" at Brighton on August 11. In his remarks on honey he stated that the annual consumption of that article by Victorians amounted to 7,000 lbs., and during the past year the local demand had exceeded the supply. He had received an order from an English firm for all the honey Victoria could produce, but owing to the drought, the export was nil. From the same cause an order from England for £1,000 worth could not be entertained.* From his observations during a recent trip up country, he noticed signs of the eucalyptus trees flowering abundantly, and as this was the source of supply whence bees obtained the nectar from which honey was produced, he predicted very heavy honey yields during the coming season. The scare in England about our honey having an eucalyptus flavour has been lived down, and there was scope throughout the colony for skilled apiarists, who would succeed if they went to work in a proper manner.

*[Mr. Chambers might have sent this order on to N. S. Wales. It could easily have been filled there.]

F. Greiner, said at the Ontario County Bee-keepers' Convention:—It is now an undisputed fact that bees were in existence long before man. Petrified (or fossil) bees, *Apis adamitica*, have been found in numerous instances, here in a stone quarry, there in the amber deposits, showing that bees are not a late production of nature. We have also

evidence that, in pre-historic times, among a people that must have been in existence then (judging from the remains of their work, tools, etc., found, honey-strainers among other things), bee-keeping was a branch of their industry. What kind of bees these people kept has, however, not been determined. The writers of later ages, and of times long past have not made quite the distinctions between different races that we do to-day, although Virgil, Aristotle and others mention bees of a dark and of a light or yellow colour. It seems to have been the principal aim of the ancient Germans, and, in fact, of the people in general, inhabiting North Europe, to produce honey for the purpose of converting it into a drink, evidently intoxicating. This tendency may be followed, like a red stripe in a carpet, from remote times. In the German mythology this drink, *met*, is mentioned a thousand times in the poetry of that time, although nothing is said about bees and bee-keeping.—*Gleanings*.

COMB HONEY.—R. C. Aiken, says in *Gleanings*:—If the comb be attached firmly to two sides of the section, it requires a hard rap to loosen it from the wood. Two causes—possibly three—give poor attachment to the sections. The two principal causes are slow flows and weak colonies. Even strong colonies will do poor work in slow flows. Then, too, if the partly filled super be raised and the empty put beneath, one may give too much room, and so have none of the sections properly filled. If the colony starts a super, and the flow stops before it is finished, the attachment will be weak. One of the most important points to be guarded in producing section honey is to have no more sections on than can be properly worked. A close watch should be kept on the strength of the flow; and, if weak, add room at the top by putting the fresh super over, not under, the full one. Full sheets of foundation are apt to induce the colony to start more comb than they can properly fill, and, if so, will not build prop-

perly to the wood. Could I judge accurately, and know just how many sections would be needed, I should want the last ones on to have narrow starters only. The bee is loath to start new comb when there seems little prospect of its being filled; so if the flow is "tapering off" they prefer to edge in around combs already built and filled; so in such a case, with starters only to work on, they were led to fill out plump to the wood of the section. Full sheets in the sections act on the same principle as ready-made comb, though in a less degree. One of the very best things to insure attachment at the bottom is a bottom starter. I notice occasionally some one condemns them; but I have not seen anything in print yet that I counted as a reasonable argument or anything like conclusive evidence against them. I think I saw in a bee journal some one objecting to them because the bees built upward from them instead of going to the top to begin. One or both of two things are wrong in such a case; the colony is too weak to occupy the super, or the flow is too light. Usually the former is the true cause of the upward building. Some object because the starter falls over or is gnawed out. I have very little trouble with either. The starter should not be over $\frac{3}{4}$ high. I sometimes cut them about $\frac{3}{8}$, then in putting on with a hot plate a part is melted off, so that about $\frac{1}{4}$ inch is all that is left. A quarter-inch is better than $\frac{1}{2}$, because less liable to lie down; yet it is almost as sure to cause attachment or building down to the comb. From $\frac{1}{8}$ to $\frac{1}{4}$ is high enough when the starter is on, though the wider one is much more easy to handle in putting on. I make no pretence to having the top starter or sheet come close down to the bottom one. The line of wax on the bottom, even though but $\frac{1}{8}$ high, seems all that is necessary to induce the bees to join the comb down to it. A starter will seldom be cut out entirely unless it falls over, and even then the waxy line serves the purpose. If supers be left on long, and no honey coming in, they will trim

down the starters quite frequently; but the fact that they will cut out more or less top starters under such conditions proves the weakness of the argument. I would not think of leaving out bottom starters if the honey were to be shipped. For one's own table, and to some extent for home trade, the bottom starter is useless; but since it does not cost much to put it on, a good plan is to put it there and get a better-finished section. I know it will do it.

G. K. Hubbard's way of selling Comb Honey:—Start with a load of 10 to 20 cases, according to the size of the place you are going to visit. Put on the best suit you have; collar and necktie; if you ever wear cuffs, do not leave them off this time; give your shoes an extra good shine, and look just as neat as possible. You are not a farmer or beekeeper now; you are a business man, and are going out to do business in a business-like way. Take along your horse-feed if you wish; but go to a modest hotel where you can get a meal for 25 cents, and have the almost as desirable point of being able to wash, and to brush the dust thoroughly from you, from hat to shoe-sole. I do not think I overestimate the value of your personal appearance. While others do not make the man, they do, very largely, make the estimate that people place upon you, especially among strangers. You will walk with a firmer tread, and feel more like business, if your appearance is not being criticised, but, instead, is helping you to appear as though you meant business.—*Gleanings*.

Some years ago I was rearing a lot of queens, and making nuclei for them, and it nearly always happened that, when I was doing any thing with the nuclei, the young queens would pipe. This would frequently happen while I had the frame with the queen on in my hand, and time after time I have watched the queen during the process. The queen was generally moving quickly about, as young queens are apt to do when disturbed; but when about to pipe she would always stop, press her thorax

and abdomen against the comb, and bend her head back till the part which usually faces directly forward was looking directly upward. This bending back of the head was the most decided movement made. It would occur as the sound was emitted, and between the notes the head would return to its normal position. The wings gave slight tremors, but not sufficient to account in any way for the sound. I never saw a queen "running about and piping." They always stopped still during the process. H. Lindsay Miller, in *Gleanings*.

In regard to hauling bees, unless you upset a hive or jostle slowly over a rough road, there is very little danger of stinging unless the bees have a large place of exit—that is, where several can get out at once. After you have hauled them two or three miles they cease to be angry; and if then they should find a place where only one bee can get out at a time, and you have no cover on your waggon, the bee will circle round the hive, and may remain some little time with the waggon; but eventually it flies away and is lost; but if your waggon is covered so the hives are in a darkish place the escaping bees will nearly all cluster on the hive, and remain for quite a while. I have hauled bees with a pint or more on the outside of the hive, and I have never had any stinging after getting started a little way unless I stopped and disturbed the bees. Therefore, if you are hauling bees, and many of them begin to escape, keep your team going at a lively gait, even in a trot, unless the road is very rough. In that case, stop, unhitch, and drive your team away very quickly; but I have never had to do this. If a single bee escapes before the bees have been hauled any distance, it is liable to make trouble. But several times on the road I have had the bees get out all over the hives. But they were so disconcerted by the jolting that the fight seemed to have been all taken out of them, and their sole desire seemed to be to keep close to their own entrance. The condition is somewhat the

same in the case of taking a bee-tree. The moment it is chopped down the bees are ready to attack everything in sight; but after the log has been hammered by repeated blows of the axe to open up the cavity they are so disconcerted that they are as peaceable as flies. Continuous jarring will make a colony reasonably peaceable.—E. S. Arwine in *Gleanings*.

CORRESPONDENCE.

J. S., Eugowra, August 23:—I have been shifting apiary about 14 miles from here. Hoping to have a good season and wishing you every success.

W. J. M., Parawai, N.Z., August 10: Bees have wintered well, working strongly now on osier willow, Chinese honey-suckle, fruit blossom just showing.

J. E. O., Mt. Morgan, Q. August 21: We have had a little better time here of late, bees have been bringing in more honey the last three months, than they have for some time. Wishing you and *Bulletin* every success.

J. T., South Lillimur, Victoria, 27th August:—We have taken only 180lbs of honey this year and lost most of our bees, and as we are depending on them, we find it pretty hard. Thanking you and wishing the A. B. B. the success which it deserves.

H. D., Orange:—Will you kindly tell me what is the best thing to mix with sugar to prevent foul brood and enable them to recover from it. We cleared out all bad comb some months ago. Please reply without delay and oblige.

Try Phenol.—Ed.

W. A. H., Molong, August 24:—I shall be removing my bees by train early next year. Will some of your correspondents please tell me how to prepare hives, load in trucks, etc., to secure most favourable conditions for transit?

[See page 75 July issue.—Ed.]

J. W. B. G., Kars Springs, Sept. 3rd: I like your little paper very much, and there is a lot of good information to be got from it, as all seem inclined to learn.

I am a new chum in bees, so don't know much about them. It has been a very bad winter up here for bees. I have got 40 hives, and I think they will pull through all right.

F. T., Kruis River, Cape Colony, South Africa:—I've bought my bees, or to speak correctly some of them (having sold some) down here, and I hope to do better with them now, at the same time I cannot complain of the last two seasons, in which I have done very well with them. I meant to have written a few lines on our honey bird, which I saw referred to in one of the B. B., but as I tell you I have really had no time to devote to writing.

W. F., Bungowannah, 1st September: This has not been a good season for honey in this district, I extracted about 2000lbs from 50 hives. The bees have wintered very well, and are now breeding up rapidly. I expect them to start swarming early this season. White box and some of the yellow box are now in bloom, and there is a fine show of buds on the yellow box and gum trees. Wishing you a prosperous season with the bees, and also with your valuable paper.

B. S., Coolac, August 30:—The A. B. B. comes very regular to hand, and is very welcome. Now then a little about the bees. The last eight months have been very hard on the bees in this district, mostly everything in the shape of a tree has been rung, so there is very little prospect ahead for bee men in this particular place. Owing to the great drought, not yet broken in this district, the flowers are not plentiful at present, the peach and other fruit trees are in bloom, so the bees are making things hum while the sun shines.

A. E. S., Parkes:—The A. B. B. seems to be improving, and I find it both enjoyable and profitable. I notice that W. S. Pender, in July issue says, that bee-keeping is not over-done, one reason being that the honey produced does not reach 4 oz. per head of population for N. S. Wales. Well, production may not have reached that quantity, but it appears to have over reached either the

requirements or the purchasing power of the population, if we may judge by the low price of honey, and the difficulty in disposing of it. My bees are in splendid condition, two colonies swarmed, Aug. 22nd and 24th, and I have had some difficulty in keeping the fever down.

T. H., Morrisett, August 27:—Just a few lines to let you know how I am getting on. Bees doing well with a light honey-flow and plenty of pollen. I started the winter with 16 colonies they have pulled through so far, strong and healthy, and there are hopes of a good spring honey flow. When is the best time to breed queens, and what is the average weight of honey one bee carries. Wishing you every success with your A. B. B.

The best time to raise queens is when drones are flying plentifully. We have seen the quantity of honey a bee will carry in one load, but cannot put our hand on it just now. Perhaps some of our readers will supply the information.

T. L. I., Home Wood, Quirindi, August 22:—Will you please send me your price list of bee hives, suitable for beginner. I have bought some bees but they are in old cases, and I would be very thankful if you would advise me how to rob them and put them in the proper hives. I have to carry them home about ten miles.

[Per this post I am sending this month's copy of A. B. B., in which you will see advertisements of different people who sell hives, and bee appliances. Re transferring swarms from box to frame hives. Take top of frame hive and place say three or four strings about two feet long across. Then place on them a bar frame. Remove the box hive, and place on same spot the bar frame hive. Turn box hive upside down, and smoke the bees out of one corner, at which commence cutting out the comb and fixing same in the bar frames, tying the aforesaid strings tightly over the same, and as each bar frame is so filled place in bar frame hive on the old stand. Be careful to put all the brood together. When all is removed shake bees out of box hive in front of bar frame hive into which they will all run in. Re robbing in box hives, cut comb out and press honey out.—Bar frame hive get extractor.

In our April No. we stated "Mr. H. E. Hill is now the editor of the *American Bee Journal*." It should have been the *American Beekeeper*.

PRICES OF HONEY.

Francis H. Leggett & Co., New York, U.S.A. New York quotations.—Trade in honey fairly active. Fancy white and buckwheat comb, quite ready sale with us. Trade in Southern California, extracted has been very good the past few weeks. Beeswax in demand. We quote our market as follows: Comb honey, fancy white, 11 to 12 c. per lb.; Fair white, 9 to 10 c. per lb.; Buckwheat $6\frac{1}{2}$ to 7 c. per lb.; Extracted honey, Cal. water white, $6\frac{1}{2}$ c.; California white, 6 c.; California light amber, $5\frac{1}{2}$ c.; Southern extracted, $52\frac{1}{2}$ to 55 c. per gal.; N. Y. State extracted not in demand; Beeswax, $27\frac{1}{2}$ to $28\frac{1}{2}$ c. per lb.

BEE RECOGNITION.

J. KERR.

After reading the remarks of Mr. Helms on my article of June on the above subject, I must conclude that they are both incorrect and misleading. In referring to an instance that I gave in support of my statements, he states in substance that I advanced nothing tangibly certain in support of them, and that bees fighting over honeycomb with *supposed* strangers proves nothing. Why does he leave out the convincing portion of the instance I gave, and why does he *substitute* the word *supposed* before strangers? The word was not used at all by me, and it is very misleading. I will repeat the instance again, and will endeavour to make it more plain to the readers of the *Bulletin*. I placed combs containing honey in a shed at some distance from my apiary. I then procured a few worker bees from a hive of golden Italians and placed them on the combs. It then occurred to me to introduce a portion of Holy Land bees, which I also placed in the combs with the golden Italians. I next introduced several leather coloured Italians. Soon afterwards I had sufficient bees on the combs to make almost a small swarm. They all seemed very intent on business in conveying the honey to their

hive. Perfect harmony reigned among them at this time and there was no attempt at fighting. But hold, a few black bees appear on the scene and try to effect a landing on the combs. They are instantly detected by my own bees and in several cases stung to death. In other instances my bees fly at the blacks as they hover over the combs in the air. Now in the first instance given, I must conclude that the bees of my apiary had a previous knowledge of each other owing to acquaintance or close location. In the latter instance, the black bees were entire strangers (and not as Mr. Helms states *supposed* strangers) for I have no black bees. Can there be any doubt that the bees used their eyes in the above instances, when distinguishing their acquaintances from the black strangers. I have at other times observed robber scouts trying to effect an entrance into hives. They worry the guards very much, who become greatly excited in consequence, and will often fly from off the entrance board and take the would be robber in the air, right on the wing as he poises in front of the hive. Do the guards in these cases detect the robbers by sight or by smell, can there be even one solitary doubt? Is there a beekeeper who has not observed the conduct of his bees when the approaching storm looms in the distance. See how they fly home at racing pace and stream into their hives as if chased by the furies. Do they sniff or smell the approaching storm or do they act as human beings would under similar conditions. We look at the dark clouds in the distance, which denote the coming storm; we hasten home or to shelter; we are guided by sight. Are the bees guided by smell in this instance, or by observation? I do not profess to be great in logic, but may I presume to point out to Mr. Helms that I believe there is a little analogy here. When bees can detect the approaching storm by sight, can they not also distinguish (aye and more readily too) individual differences in their own "kith and kin." I could offer other instances in support

of my statements, but my letter is already too long. When I stated in my previous letter, that I was the first to make the statement that bees recognised each other by sight or through acquaintance, my object was to show that my remarks were simply original, and not culled from books or otherwise. It was certainly not through any desire to take any credit to myself for simply stating my belief. I have, however, received several letters from beekeepers of importance, whose remarks on the subject treated of are quite in harmony with my own.

COMBINATION, BEESTINGS, ETC.

ROBERT GALLIMORE.

A line once more from here to let you know that life is not extinct in this quarter, as some perchance of your readers might be led to believe, by the long absence of anything appearing from these parts. Dreary winter is over and gone for a while, and genial spring is here, uninteresting itself in all directions, covering mother earth once more with a beautiful mantle of green, so pleasing to man and equally refreshing to the beasts of the field, and by the time I hear yonder the industrious little workers are once more in their glory, let us hope for a good and prosperous season, for our own, as well as the beekeepers of the sister colonies adjoining, let us also hope that the federating of these colonies will grow apace, and become an accomplished fact. This is all important, and must eventually mean a great deal, as at present the barrier existing forbids to a certain extent honey producers of this colony participating in their markets, while ours is thrown open to all, which means, to say the least, a very unjust state of affairs. While one policy may excel another, and one principle another, yet justice must be regarded, as above all, and should we get federation, we may then expect justice, but not likely before. My bees come out of winter in good form, and at date of writing are remarkable for numbers, one colony strength, judging the approaching season by present indications, it promises to be an exceptionally hopeful one. So if the quality maintains itself, it will be gratifying to our beemen as at present quotations quantity is necessary to expand the purse, to anything approaching what might be termed abnormality. I read your report of what took place at the convention; that body has evidently done some good work. Glad to note the interest manifested in the direction of finding out, if

possible, a better business basis, by which honey could be placed on the market. Now I believe there is a way of overcoming every difficulty, and I do not think that this one is an exception, for certain it is under present conditions, the way honey is placed on the market, beekeepers are actually cutting their own throats, in the way of maintaining prices. The consignment of honey sent to South Africa, to which I referred in my last, the result is not yet to hand, when it does come you shall know. One of your correspondents I notice has had a similar experience to what happened to one of my children last summer, a boy of two and a half years, from his face and head alone, over seventy stings were extracted. Call this a hopeless case if you like, still he recovered with very simple treatment as you will see. The child was in a semi-unconscious condition, at the time this treatment recommended, was applied with the result, that four hours afterwards he was completely out of danger. I have no hesitation in saying, that he presented a sight that very rarely falls to one's lot to see, such an object of pity, gasping for breath, with his tongue out as far as it was possible for him to put it. We striped him of his clothing, and wrapt a cold wet sheet five or six times around his body, applying cabbage leaves, to his face and head, he appeared to receive relief immediately, of course the swelling did not disappear for days afterwards. I am sending you the whole of the treatise on the various kinds of stinging insects, and the remedy as taken from the book, a very elaborate and able medical work, which you may send to those requiring the information, or publish as you may think fit, so that every beekeeper may be his own doctor, if need be, in such cases as referred to at least. Honey is coming in freely, and the air of an evening smells something delicious, and the bush round about presents a lovely appearance, principally red gum, wattle, and several other kinds with botanical names, of which I am unacquainted. I have not yet joined the Beekeepers' Association, but intend to before long, and would like to see every beekeeper do the same, as I am convinced while we remain as we are, so long are we neglecting our duty to ourselves and to those who are already initiated into the society. It is then only can we hope to improve our market.

I see some of the Convention members are adverse to suggestions, so maybe it is as well to keep silent. But there is an old adage that says "Two heads are better than one, if only sheep heads." How much truth there is in this it would be difficult to decide, but I do think the sooner the honey producer is put on a sound and solid foundation the better for all concerned, and any suggestions that would lead to that end should be made welcome and considered valuable property.

CORRESPONDENCE.

J. B., Palmers Island, September 6th, 1898:—Will you send me up the proper size of a Long Idea Hive, as I wish to make one, to give it a trial.

30 x 20 inches.

W. G. B., Anakus, Victoria, September 14th:—Last season was the worst for honey that I have known for ten years, but have had a mild winter and an early spring, and most of the hives have re-constructed and promise an early swarming.

F. W. Penberthy, Elsmore, 18th September:—Bees are very forward. I have had to level down strong hives to prevent swarming. Have extracted three tons, which was gathered since June. Will be full again in a week. The first swarm I heard of came out on 21st August.

W. J., Tamworth:—I just send you a few lines to let you know that the bees and myself are still alive. The last season was a very good one in this district. I started spring with 80 colonies and increased to 115 with a yield of 11 tons of honey. It has been a very mild winter here, yellow jacket in bloom all the winter. I am extracting now, hives all full; expect swarming shortly.

J. C. H., Waikato, N. Z., August 30th 1898:—Our season here last year was under the average owing to a very cold, dry and windy spring. Paralysis also was very bad. We have found Goldens peculiarly subject to bee diseases, so we have given up breeding them. Blacks with us are unsuitable for queen rearing and slower than Italians at storing. Italians stick to the combs too much while extracting. Am thinking of trying Cyprians.

G. K., Dungog, September 19th:—Bees doing well. Every prospect of a good season. Last week I extracted 1200 lbs of last season's honey from 70 colonies, but the price is coming down pretty low. I think our only chance is to try and get the Government to come to the rescue, in helping to place it on a foreign market. I intend hunting up

a few new subscribers to the N. B. K. A., as I think it deserves more help than it gets. Wishing A. B. B. success.

Many thanks for this. We wish there were more beekeepers like Mr. Kelly. It is by combination only the condition of things can be improved.

M. H., Bandon Grove, Sept. 12:—I am very sorry to write you not to send any more *Bee Bulletins* as my husband died last January, and the bees were all sold; and I am now leaving this part of the country. For a few years I must forego the pleasure the *Bee Bulletin* has always given me. Many an hour have I passed reading its pages, even since Addie's death. With every good wish for fellow bee-keepers from yours truly.

W. C. H., Molong, Sept. 13th:—My bees are hard at work, dividing their attention between fruit trees in blossom, clover, and box, much of which latter is now flowering. Two or three colonies, that were not very strong, though with abundance of old honey in possession, have dwindled considerably since the spring set in; and, in one or two strong colonies, there have been more dead bees around the mouth of the hive than one cares to see, when the honey flow is on, more especially. The sale for honey in this district is somewhat slow, and I have long had the idea, that, if skilled attention were directed to the making of honey jams, during the fruit season, eventually, the demand for honey for that purpose would be great.

Mr. W. Abram, writes:—I am very sorry to say I cannot improve in health, rather the other way about, and I will have to take care of myself the doctor says, or else ———, still, I hope to go through such a season as we have in prospect this time; there was none like it for the last ten years. A little honey must have been coming in all the winter as I now find more in the few hives I have looked into than in the autumn, and the black butt is soon in full bloom. The stocks are in splendid condition, and the weather is all that can be desired. I would like to write something for B. B., but I find that such tires me too much at

present. I hope I shall get better again when I will make up for it. Hoping you are well,

Mr. H. L. Jones, Goodna, Queensland 30th August:—In regard to Brisbane exhibition I regret that I cannot furnish you with any particulars, as I did not exhibit and fortunately I was too busy to go near it. There were, however, only one or two small exhibits of honey and bees, and the exhibition altogether was not up to the usual mark. Next one will be a good one. The big show held last year ($3\frac{1}{2}$ months) was quite enough for most people for a couple of years. Bees are still doing splendidly here, and storing beautifully clear honey. I have sent a sample of it with Prof. Shelton to America and London. The Professor is delighted with it, and is going to try what he can do with it in London. My first colony swarmed on 28th July, and I have had several since, and fine rousing swarms they were too.

A. S. B., Molong, 5th September:—During the last few days I have been somewhat concerned about the appearance of a new beetle about the bee hives. I noticed one occasionally some time ago but did not think they troubled the bees. A few days ago I noticed quite a ball of them and on examining the lump, to my surprise it contained a bee in the middle. Since then I have seen several such clusters. The bees were always dead, but had not been carried off the alighting boards. They seem to multiply much in the same way as wood bugs, as there are all sorts in one cluster. They seem to be able to stab a bee with their long trunks. The bees do not seem to mind them at all. I have not seen them attack living bees, but still they may do so. I am sending you a few specimens to see if you know anything about them. I am waging war on them in the meantime. Bees are doing well here with prospects of a very good season.

This is interesting. The insects to hand. They are about $\frac{3}{8}$ of an inch long. A bright double red band immediately behind head. Another about centre of the abdomen. Rest black. White spots at junction of legs with body. Perhaps some of our readers can tell us more about them.

J. C. Woolbrook, September 17th:—Bees are doing well this spring, no disease of any kind being visible. Plenty of honey coming in, although I started the extractor going a fortnight ago. A swarm issued to-day being a month earlier than last spring. Bees are working on heather, wattle and yellow jacket, although we are still getting very heavy frost. No honey last season until the fall and then the bees gave us a picnic with their swarming, but I kept the number down by placing new hive on old stand with supers, hiving two or three swarms together, and distributing the brood to weak colonies, thus giving me a surplus of about two tons, including two or three hundred pounds of comb honey. I can get plenty of sale for the honey at $2\frac{1}{2}$ d per lb (without providing tins, for which I charge extra) wholesale. I retail it at 3d per lb making a slight reduction for quantities. Number of hives last spring 46, coming through this winter with same number. I have never lost any swarms during winter although most of my hives are made out of cases of any kind I can get, and like the old saying they are neither wind or water tight. Trusting you are doing pretty well with the bees and also the *A.B.B.*, and beekeepers in general.

W. G. H., Wallsend, August 31:—As regards your paper, I may say that I think it is improving wonderfully, the last few months, and I trust it will still go on doing so. You may still continue to forward it to me till I cry enough, which will not be for some time if it continues to improve as it has done. And now I should like to tell you a little bit about my apiary. At present I have 33 hives in splendid condition, from which I have extracted 1,300 lbs of honey since last March; of course you will see that we have had a splendid winter, and you may bet I took every advantage of it. I extracted all through winter, and when July set in I had queens laying in supers, drones all through the year, and also raised a good deal of comb honey. I am now expecting swarming quickly, in fact this week. We are expecting another

good season this time, which will be 'a blessing, but of course Mr. Editor you know what bee men are, always in hopes that the next season will be better than the last, though if I only get as good as last season I shall not grumble. I came through that winter with 15 boxes, the balance of 38 having gone the way of all things that perish. Well I ran eight of these for extracted, the seven for comb. From the eight, and the increase of the whole 15, I raised two tons of honey (loose,) and a good many hundred pounds of comb, increasing my stock to 36. Of these I have sold three boxes, leaving me as I stated at present with 33. My queens I raise on the Doolittle plan, but much prefer drone comb for raising them to the made queen cells. I find that the queens are larger and more prolific. I cannot say why, but I have an idea which I am going to work upon this season, and I shall tell you the result as it closes. I am not going to apologise for this rambling statement, Mr. Editor, for if you love the little insects as I do, you will never get tired of reading or hearing of their achievements.

G. W. H., Bega, August 29:—In my last note to you, I made certain statements regarding some shipments of honey; but first perhaps I had better say it was not my own shipment, but a brother of mine, who follows the business for profit, and he has the care of my small apiary besides his own. He happened to mention to me, speaking from memory, the circumstances I have mentioned to you. Since then I have obtained the exact figures, which are not exactly what I stated, but there is still sufficient margin between the two commissions to wonder why this is thus. On May 20 of this year, my brother despatched a case of honey to "A." On June 22 he received a cheque for 18/6, as nett proceeds; 1 tin of 59 at 2½d, and 1 tin at 2d, which totalled 22/-. The freight was put down at 1/6, and commission at 2/-. total 3/6; thus bringing a return of 18/6 as before stated. On June 23, when the quotations were the

same, he sent a case to "B," and on July 11, he received a cheque for £12/4. These two tins were put down at 118 lbs, and were sold at 2½d per lb., the gross proceeds thus being £14/7. Deducting a 1/- for freight, and commission, etc., 1/3; total 2/3; this shows a return of £12/4. You will thus see there is a difference of 6d in steamer freight, although they travelled by the same line of steamers, and 9d in commission, which would mean a very great difference in a large shipment. I agree with you that it would be advantageous to have the trade regulated in the city. Oftentimes, a beekeeper of small means has to send his produce down, and get what he can for it, so as to eke out an existence, but this could and should be averted by united action, thus keeping up a fair price. We keep up our prices here locally to 3d in bulk, the year round, and what is to prevent it being done in the metropolis. I hope the above is satisfactory as to your requirements, and wishing your journal a prosperous existence, whilst yourself may be endowed with the blessings this life can give.

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I CAN supply Italian Queens. Splendid stock at the following prices:

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Untested	5/-	13/-	20/-	39/-
Tested	8/-	22/-	35/-	65/-
Select Tested	15/-	42/-	65/-	

Comb Foundation at lowest rates. Your own wax made up at 6d per lb.

Give these a trial and prove for yourselves their quality.

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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.

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I keep no other kind.

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Tested	..	8/-	22/-	
Select Tested	..	12/6	35/-	

Note—I have exceptional opportunities for getting my Queens well mated as my own out apiary is situated 1½ miles to the south and another over which I have full control is situated about 1½ to the west of my home apiary where I rear my Queens. All are reared on the Doolittle principle. **G. H. ARKINSTALL,** Inverell Apiary, Inverell.

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I am breeding as fast as possible, but owing to so many booked orders for large lots, I am unable to supply any fresh orders, and must ask you not to expect queens by return just now. I cannot guarantee to supply fresh orders before middle of October.

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Goldens or Leathers, untested,	5/- each; 6 for 20/-
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Having purchased two apiaries of Hybrid and Black Bees, I am now Italianising them. When completed, and Queens are tested, I will sell about 50 of them, all 8-frame Langstroth Hives, Dovetailed or Rabitted, Redwood or American White Pine, Higginsville or Flat Covers, Straight Combs, 6 Frames Brood, 2 Honey. On train here, securely packed, at **21s** each.

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"	"	No 2	8/- 7/0 6/9
"	"	No 2A	8/- 7/0 6/9
"	"	No 3	9/- 8/- 7/6
Simplicity 10-frame	No 1	7/-	6/0
"	"	No 2	9/- 8/3 8/0
"	"	No 2A	9/- 8/3 8/0
"	"	No 3	10/- 8/6 8/3

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No. 1—A single-storey Hive, with bottom

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		For 8-Frame.		For 10-Frame.	
		Each	Dozen	Each	Dozen
Full Depth Bodies, Empty, ..		2/-	20/-	2/6	25/0
Half bodies or supers ..		1/-	10/6	1/3	12/6
Covers, Dovetailed, flat ..		1/-	9/-	1/0	10/0
" " Gable ..		1/0	10/6	1/3	12/6
" " Higginsville ..		1/0	10/6	1/0	10/6
" " Danzy ..		1/0	10/6	1/3	12/6
Bottom Boards, ..		1/-	9/-	1/0	9/0
Division ..		4d.	3/6	4d.	3/6
Bottom Boards, cleats, ..		2d.	1/9		
Followers and wedges ..		3d.	2/9	3d.	2/9
10-Frame. each. doz.					
Full depth bodies (Simplicity) empty	3/0	32/6			
Half bodies (Simplicity) empty	1/6	16/-			
Covers (Simplicity) Flat ..	1/0	10/6			
" " Portico ..	1/3	12/6			
	ea.	doz.			
Bee Veils, No1 Silk Tulle ..	4/6	48/0			
" No 2 Cotton Tulle & silk face	2/9	30/0			
" No 3 Cotton Tulle ..	2/3	24/0			
" No 4 Mosquitobar ..	1/6	16/0			
" No 5 Mosquito Net, Tulle face	1/6	16/0			
" English ..	1/-				
Bottom Board Scrapers ..	1/-				
Bee Brushes, Yacca ..	3d.	2/6			
" Davis ..	8d.	7/0			
Bottom Boards, Simplicity, ..	1/-	10/6			
T Super or Section Crates ..	9d.	8/-			
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