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THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W

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No. 3.

JUNE 29, 1908.

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"The Australian Bee Bulletin."

A Monthly Journal devoted to Beekeeping.

Circulated throughout the Commonwealth of Australia,—New Zealand & Cape of Good Hope.

Editor & Publisher: E. TIPPER, West Maitland, N.S.W. Aus.

MAITLAND, N.S.W.—JUNE 29, 1908.

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Australia.

DURING the past month the need of heavy stones on top of hive covers to prevent them blowing off, and a consequent loss and chilling of bees is much felt in many cases, and every care should be seen to such.

Now, during the winter months with cold weather, and the liability to catch colds, by many people there should be an increasing demand for honey, and consequent rise in price.

GOLDEN QUEENS.

In reply to Mr. Green's inquiry, re American Golden Bees, perhaps a few lines from experience would meet the approval of some of the readers of the "A.B.B." I kept this race of bees for some twelve years, at a height of three thousand feet above sea level, which means a cool climate. These bees were free from paralysis, were the best of honey gatherers. I sent queens to various districts and states. Wherever I sent them to cold localities they were spoken very highly of; but not so in the warmer districts they complained of the goldens taking paralysis badly.

The Golden Italians can honestly be claimed as truly non-swarmer. I do not think that more than one in a thousand would swarm in a season; they are a little restless when first opening their hive, a few puffs of smoke and they

are under command. They will store honey in bottom of hive in autumn, until there is no room for brood, if left to themselves, and go into winter with great abundance of stores, but come out late in spring. When much time has been lost, instead of having their hives full of young bees ready for the harvest, they wait until the trees commence to bloom freely before the queens start to lay. In a few years the goldens can be classed and bred up, so that workers, also queens are so much alike, that a difference is not noticeable. Before I gave up keeping this race it was hard to make a choice, they were all good. The most drawback was, they would run down before requeening themselves, and the queens are short lived. I bought a queen from a certain breeder some years ago of this race. They were beauties, no doubt, and as harmless as flies, and could not collect honey enough to feed themselves. I am satisfied there are two kinds of golden Italians. No doubt this is why so many condemn the Golden Italians.

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W. REID SEN.,

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ROBBING AND ITS CAUSES.

An interesting article on this subject by "W." appears in the "*Bulletin de la Societe Romande d'Apiculture*," in which the writer says every beekeeper will have noticed either attempts at robbing, or this organised in a more or less brutal form, the remembrance of which leaves a painful and lasting impression. The experienced beekeeper does not need to see the bees in the act of robbing; he can hear from a distance, the menacing noise the bees make at such times being

quite distinct from the joyful hum of those that are working contentedly. Robbing is theft by violence which in bees is started under certain circumstances. The writer lays stress on the fact of the robbing instinct being aroused, for bees at normal times attend to their occupations and quietly collect food for the benefit of the community, while nothing seems to turn them aside from so doing, and woe to any would-be intruder that shows itself at the door of their home. Sometimes, however, without any apparent cause, and at a given signal, the bee is ready to give up her peaceful labor and take her share of a marauding feast that is being prepared for. The agitation is communicated to the whole colony, and soon hundreds of bees have joined the pioneer in her pillage. The question arises—What has happened to change the quiet laborious worker into a murderous thief? It is manifest that a dormant instinct has been awakened, and it is well to ascertain if possible the cause of the tumult. There are three methods of robbing:—(1) Robbing by agreement among the bees themselves; (2) external robbing, *i.e.*, taking the robbed bees by surprise; and (3) direct robbing with violence.

1. The first is practised on a colony which offers no resistance whatever to the attack; indeed, one could well suppose there was some mutual agreement on the part of the bees themselves to transfer peaceably and without noise the stores from the robbed hive to that of the marauders. The robbed colony is, however, generally weak and without energy, or is lodged under unsuitable conditions. Instead of offering any resistance, the bees of the hive attacked appear to fraternise with, and even aid, the intruders in their robbery. Yet all this goes on quietly and without any uproar.

2. External robbery is also accomplished noiselessly, and only takes place at certain times during the year. It is known that, in addition to the principal

honey-flow of the year, there are small gatherings either before or after. At such times robber-bees may be seen stationed on the alighting-board near the entrance awaiting their victims. As soon as a well-laden worker arrives home with her load, two or three of the awaiting robbers fall on her, quietly seize the incomer, and compel her to disgorge the contents of her honey-sac. It is curious to notice the quiet way they set about this task; there is no violence, no noise, only just sufficient coercion as will attain the desired result. This achieved, the poor worker is released and allowed to return to her work in the fields, or perhaps make what appears to be a sort of complaint to the guards at the hive-entrance; but so long as the attention of the latter is not aroused, this sort of robbing continues. When this deliberate method of looting is realised one sees a scramble on the alighting-board, and the intruders are driven off without ceremony, and for some days afterwards special care is taken to prevent any repetition of this kind of robbery.

3. Direct robbing with violence is by far the most dangerous of all the forms of plundering under consideration. It is always caused by a colony being weak and incapable of repelling an attack. Queenless colonies provoke the robbers to the most daring and malicious onslaughts. Knowing the stock to be demoralised through loss of the mother-bee and the consequent failure of brood-rearing, they attack it in companies, with such determination that obstacles placed in their way only appear to make them still more aggressive in overcoming them. The ordinary means used to stop the aggressors, such as water and smoke, &c, may prevent the trouble for a brief space, but the robbers persist in returning in greater numbers and with increased violence. If the entrance be closed entirely they surround the hive, endeavouring to find some crack or fissure by which they can enter, so that when once the siege

has commenced they will not raise it until the hive is emptied of its stores or is removed entirely out of the way. It is strange that contiguous colonies often remain perfectly quiet while this pillage is going on, and this can only be explained by the fact that the robbers appear to know for certain that their victims are unable to defend themselves, and this condition prevents them for the moment from seeking a refuge elsewhere. It does sometimes happen that the bees of the whole apiary become excited at the commotion, and this brings about a general attack all round, ending in the most painful experience that a beekeeper can possibly have.

The writer then proceeds to consider the various causes that induce robbing. Among these are a temptation to rob, caused by the fact of there being honey or sweets in a hive; the introduction into the hive during the day of a comb containing, or wet with honey; and feeding during the day while bees are flying freely. In such cases the fault rests with the beekeeper, for all bee-books and bee-papers caution him against such proceedings. Another and more important reason—though frequently ignored—is queenlessness, or a feeble and discouraged colony with little brood and a decrepit queen. Knowing the cause, some are led to ask—Is it possible to stop the evil without much trouble? Not always; but the first thing is to try to check it at the beginning by narrowing the entrance and placing a piece of glass in front. In some cases this succeeds, but if the colony is queenless or too weak, it is more difficult, and the beekeeper is loth to see his colony robbed out without trying every expedient to arrest the evil. The different means employed have already been mentioned, although at times they prove ineffectual. The only effective way is at once to remove the hive attacked into a cellar or other place where bees cannot get at it. The colony (probably too weak to defend itself) can then be united in

the evening when peace has been re-established with a strong colony capable of resisting attack. There will be one less colony, but the beekeeper will avoid the frightful spectacle of general robbing and massacre in the apiary. — "British Bee Journal."

This letter is the sentiment of all the beekeepers in my locality. I wish you would print it in the "American Bee Journal."

EDWARD CORWIN.

MAKING MORE BEEKEEPERS.

The following is from the "Am. Bee Journal," who replies they are interested only in the spread of bee literature:— We have received the following letter from one of our Michigan subscribers:

EDITOR YORK:—I am a beekeeper and a subscriber to the American Bee Journal. Believing that you have no ax to grind by selling supplies, I would like to ask a few questions.

I see so much in another bee-paper about Prof. "Bugaboo" teaching people how to keep bees. Knowing that he isn't paid by the producers of honey, I would like to know who "feathers his nest" for him. It must be some bee-supply dealers. Of course, he is a curse to the beekeeping industry. If people believe one-half that he tells them, he would turn out about ten thousand new beekeepers every year, and in 5 years honey wouldn't bring over 5 cents a pound. The supply influences the price. We have that illustrated every few years. It doesn't make any difference whether it is potatoes, sheep, cattle, or some other produce, if everybody goes into the business the price flunks.

There is no other business in which men are hired to run all over the country to boom. I think the National Beekeepers' Association would better wring Prof. "Bugaboo's" neck, if they want to keep up the price of honey. If it is the bee-supply dealers who are booming the business we want to know it.

Honey and the Pure Food Law.

BY DR. G. BOHRER, IN "AMERICAN BEE JOURNAL."

For years the ready sale of honey, at remunerative prices, has been a question, among actual producers of actual honey, of more than ordinary importance. The blenders of glucose and honey have placed such an immense amount of their adulterated goods upon the market in attractive packages, and under the label of pure honey, of which the public became aware, so that many people who would gladly have been purchasers and consumers of pure honey would not buy anything called honey, through fear of purchasing adulterated goods. Especially was this the case regarding extracted honey. Yet comb honey was held in the background to an extent, the belief being entertained by a considerable number of people that honey-comb was manufactured by machinery, filled with counterfeit honey, and sealed artificially; all of which, it was said, was such a perfect imitation of the work of honey-bees that the difference couldn't be detected. In fact, this adulteration was carried on to such an extent that almost all, if not all, manufacturers of all the different syrups and candies became extensive users of glucose in their factories, the result being that scarcely a syrup free from this vile stuff could be found in the market. I have called glucose "vile," for the reason that both my experience and observation have led to me to believe that the less of it there is used as a human food, the better off mankind will be in health.

To offset all this, beekeepers sought relief through advertising pure extracted honey by reliable parties, the labels on the packages bearing the name of the producer. And the production of artificial honey-comb was also denied the reply to which usually was "You're another." Pure honey could be sold by producers to those who knew them to be reliable, quite readily. But beyond the limit of their acquaintance slow sale was the rule.

POETRY.

The Angel of Discontent.

When the world was formed and the morning stars

Upon their paths were sent,
The loftiest-browed of the angels was named

The Angel of Discontent.

And he dwelt with man in the caves of the hills,

Where the crested serpent stings,
And the tiger tears and the she-wolf howls,

And he told of better things.

And he led man forth to the towered town,

And forth to the field of corn,
And he told of the ampler work ahead
For which the race was born.

And he whispers to men of those hills he sees—

In the blush of the golden west;
And they look to the light of his lifted eye

And they hate the name of rest.

In the light of that eye doth the slave behold

A hope that is high and brave,
And the madness of war comes into his blood,
For he knows himself a slave.

The serfs of wrong in the light of that eye

March on with victorious songs;
For the strength of their right comes into their hearts

When they behold their wrongs.

'Tis by the light of that lifted eye
That error's mists are rent—

A guide to the table-land of Truth
Is the Angel of Discontent.

And still he looks with his lifted eye,

And his glance is far away,
On a light that shines on the glimmering hills

Of a diviner day.

—SAM WALTER FOSS.

Beekeepers and Neighbours.

HIGH COURT OF JUSTICE.

Chancery Division.—Mr. Justice Parker.

An amusing dispute between neighbours at Purley with respect to bees came before his lordship on February 13. It was an action by Mr. Johann Sparenborg, of Dinsome, Peaks Hill Road, Purley, and Mr. Henry Cubitt Heath, of Dunstan, in the same road, for an injunction to restrain Mr. John Nathaniel Barnes, of Braeside, Foxley Lane, Purley, from keeping bees in such a way as to cause nuisance and injury to the plaintiffs.

It was complained that Mr. Barnes's son, John Ernest, kept ten hives of bees in his garden at a spot abutting on the gardens of the plaintiffs, that a large number of the bees in the summer months frequented the plaintiffs' gardens and attacked and stung the plaintiffs and their servants.

The bees, it was contended, were a "nuisance, annoyance, and danger;" they prevented the servants working in the gardens, and deprived the plaintiffs and their families of the reasonable and comfortable enjoyment of fresh air, and their flowers, &c.

Mr. Romer, K.C., in opening the case, observed that bees were certainly useful, and they might be interesting creatures, but, as he understood, a well-stocked hive contained anything between 30,000 and 60,000 bees, so that if you had ten hives and all were full the plaintiffs had immediately on the other side of their garden boundary no fewer than about half a million of these insects. The result could be readily imagined. They were an intolerable nuisance.

Mr. Sparenborg (counsel continued) had been stung on three occasions; and the occasions when he had been attacked by swarms of these insects buzzing round, but not stung, were numerous. His gardener had been stung twice in one day.

Mr. Heath had been fortunate enough not to be stung; he had found prevention better than cure, and, having regard to what had happened to his neighbour, had kept as far as possible from the end of his garden. He grew vegetables there, and his lordship would hear from Mr. Heath's servant what had happened to her when she went down to collect the cabbages.

In April last year a complaint was sent to Mr. Barnes, who replied that he was sorry for the trouble occasioned by the bees, but it was strange that his family was not troubled by them. "You people must be too sweet," he added, "and they cannot keep away from you." Mr. Barnes also suggested erecting a 15-ft. fence, "as if," commented counsel, "he was talking about cats and dogs."

Mr. Buckmaster, K.C., (for defendant): They were nice, sweet, gentle, docile bees.

His Lordship: I know what bees do. I kept them as a boy. They always hang about in clusters in the neighbourhood of the hive. They are continually going and coming.

Mr. Romer said he would admit that the bees did not drive the plaintiffs out of their houses.

Mr. Buckmaster (sarcastically): I am surprised to hear that.

His Lordship: Bees are curious things. Bees take fancies and dislikes. If they take a fancy to you you can go about among them and put your hand in the hive.

Mr. Buckmaster: If you treat them nicely and kindly, they are nice and gentle. When Mr. Sparenborg went down his garden you do not know what he said to them. (Laughter.)

Mr. Romer: Perhaps as they have taken a dislike to him you will have the bees removed.

Mr. Buckmaster (smilingly): We will put a notice up on the hives if that will do any good. (Laughter.)

Mr. Romer: It is all very well for you to sit there and laugh. It might be very dangerous. Very serious blood-poisoning might be set up. It is not a case for laughter. If you had been stung—

Mr. Buckmaster: I have been stung many times. These people do not seem to like to have their flowers fertilised by the bees. We have brought no counter-claim for that.

The baby, Mr. Romer complained, could not be put to sleep in the garden owing to the bees.

Mr. Buckmaster: Why don't you put the baby in the rose-garden instead of in the cabbage plot?

Mr. Justice Parker suggested as a solution that the 15-ft. fence should be put up and the case adjourned over the coming summer months to see the effect.

Mr. Buckmaster: And let sleeping bees lie.

A short consultation was held, after which Mr. Buckmaster stated that a settlement had been arrived at, which he hoped would lead to the resumption of amicable relations between the parties. Mr. Barnes would undertake to remove the hives from their present position, and not to increase the number of hives—which was six, and not ten—or the number of working bees. Each side had agreed to pay its own costs.—"British Bee Journal."

CORRESPONDENCE.

H.W.S., Meladies Creek.—My bees are not at all doing well; they are decreasing year by year despite my willing hand to increase them. Every one has the same complaint to record about here. I hope you have been more successful with your bees.

G.C., Eden Forest, Marulan.—Your little journal is always bright and interesting with a semblance of friendship and good feeling towards all, and deserves generous patronage. This (goulburn) district is not famous for its honey products, but seldom, what would be called a total failure, honey good extracted is going at 12/6 for 60lb tins. Could you pass me along what you would recommend as a reliable wipe out for road gangers. I trust you have had a good and prosperous season, and if so that there are many more in store for you.

[Beside road gangers there are lots of railway men that want well looking after for their honesty as well as their eyesight.—Ed.]

J.C. Jun., Bulli.—We had a good honey flow on the coast this year. First we had the Blackbutt bloom and then we had the bloodwood, which flowered very heavy up to March. Of course we don't get the quality of honey you people get up there; our honey is very dark; but I find no difficulty in getting 4d a lb. for it, and 3½d for big lots, which I think is only a fair price, and on no condition do I sell cheaper, although sometimes people will come and say Mr. so and so sells it for 3d a lb. Well I tell them to go there and get it, and I generally find that these people that are so anxious to get rid of it have very little to get rid of, and therefore don't do much harm. I trust you had a good year up your way and I will conclude wishing you and your paper every success.

J. E. P., Guildford, Victoria.—We have had a bad season here again with the bees, and most of us around this part have lost nearly all of our stock, and I am not going to trouble with them very much as I have no one to look after them when I am away from home.

How some people dislike to hear the truth! How distressed it makes "A Victorian Chump" for instance. But facts are facts, and neither he nor others can alter them. It shows, however, how great the friendship is towards me. I, for one could not call anyone friend and liar or ignoramus at the same time; but tastes differ. Whether "Chump" takes my writing serious or not is a matter that concerns him much more than me—he, not being many years at the game, whilst I am at it for over forty years; there is no compulsion to even read what I write. "Chump" undertook to correct me, Has he done so? He describes what he calls the pollen famine. In reality it was an exceptionally heavy, continuous honey yield, and his remarks show how much he knows about bees and their habits. It is quite usual that after a lengthy flow the stocks are almost denuded of bees, unless the beekeeper knows how to treat them in such a case. The bees revel in the gathering of the sweet and practically neglect all other work. After another thirty years practical experience and careful observation "Chump" will agree with me. Bees do visit strange places at times, such as rubbish heaps. They also like to frequent the works of newly laid on varnish. Do they gather from those anything for their brood? Sawdust contains resin or gum, which the bees use to make their home secure. If sawdust replaces pollen, then the problem of a famine is solved. If, on the other hand, "Chump," would only have written to me of his distress how nicely I would have helped him,—I to send him half of my pollen crop, which would have been ample for his bees, and he to send me half of his honey crop in return for

pollen. It would have been "friendly," as I had plenty of spare pollen and no honey, while he had honey and no pollen. I hope he will let me know next time he is in such a bad fix again. I have repeatedly offered to supply pollen, but not an order have I got yet. What does it indicate?

"A V. Chump" must feel rather proud of the Victorian expert who is going to find markets for at least 200 tons of honey, the only difficulty in the way is that for the present Victoria has not got it, as Victorian honey buyers are now operating in New South Wales to supply their home market. How is that, Umpire? Simply because every season is not a honey season. Under such circumstances the experts position is not an enjoyable one, and I ten times sooner remain what I am, even although "Chump" barks as loud as he can. Next man, please! Thanks to better health; I am quite prepared to defend myself.

W. ABRAM.

FOR SALE.

A BOUT 70 HIVES GOOD ITALIAN BEES.
E. TIPPER, Wallabadah.



Direct from Italy !

If you are keeping bees for pleasure or profit, you want the best breeding stock that is possible to get.

I have been importing from the leading Queen Specialists in Italy for the last 15 years, and have proved the superiority of their bees.

Can I book you an order for a choice Queen Mother from Italy to arrive in Sept. or Oct.

Write for particulars now.

J. DRAGE,
EAST ADELAIDE, S.A.

PRICES OF HONEY.

Australasian.—Honey.—Retail, 4d. to 6d. per lb.

Leader.—Honey.—A small inquiry exists in this department; prime clear garden samples are on offer at up to 3d., but from 2½d. upwards would be accepted for medium and congealed. Beeswax.—Prime clear wax is in short supply, and is quoted at up to 1/2; lines of irregular color are to be had at from 1/- upwards

S. M. Herald.—Honey.—60 lb. tins choice western, 3d, prime honey 2½d to 2¾d, inferior and candied 1½ to 2½. Beeswax.—Bright, 1/ to 1/3, odd 1/4, dark 1/-.

HONEY.—

The demand remains only fair, and with supplies arriving freely, we do not anticipate any advance in values. Choicest western, 3d.; good 2½d. to 2¾d, per lb.

BEESWAX.—

Demand dull. Best bright, 1/1½ to 1/2 per lb.; dark. 1/- to 1/1 per lb.

Highest market prices obtained for
Honey and Beeswax by

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COMMISSION AGENTS

336 & 338 SUSSEX STREET

—SYDNEY—

WANTED Experienced Beekeeper to take charge of 200 colonies. Send references.
O. LUDLOW,
Sutton Grange, Vic.

Volition of Queens; Shaking Bees, etc.

"1. Does the queen lay more drone eggs as she grows older?

"2. Can the queen lay eggs at will?

"3. What is a worker doing when she shakes her abdomen over the comb with a grating movement, doing this on brood-combs over eggs, larvæ and sealed brood? Some bees following after, seem to be doing something with their heads. I see that a worker that comes from the fields with pollen on her legs does this as well as the other bees, and there must be some reason for it.

To the first question I would say that during the time between the fertilization of the young queen and when the spermatozoa begin to fail, the number of drone eggs she may lay depends almost wholly upon the wants of the bees in the colony of which she is considered "mother." I know that this may be considered as heresy among those who have been telling us, during the past, that a young queen never lays eggs in drone-cells for the rearing of drone brood during her first season of laying; but hundreds of cases, if not thousands, which have come under my observation, prove to me that a queen which has been laying for two weeks or two months will lay just as many eggs under the same circumstances as will the queen which is from three to five years old, unless the spermatozoa she has been carrying have partially or wholly failed. With such failure, any queen will lay eggs which will produce only drones, just the same as will the eggs laid before she has mated. I said "under the same circumstances and by that I mean any circumstances under which the colony wants drones. Such circumstances are generally when a colony is strong enough in bees, to begin to think of swarming, with

exceptional cases where the bees take it into their heads that they should supersede a queen of the same year's rearing. Where I have had early swarms or made colonies early by the shaken-swarm plan I have scores of times, found all the drone comb in the hive full of drone brood within a month of the time the young queen (which the colony had reared, or which had come from the cell I had given) had begun to lay where colonies containing them became populous from the amount of brood the combs contained after swarming. I have thought many times of writing this matter up, when I have seen it stated that a queen of the first season rarely, if ever, lays any eggs for drones that season, but never got around to it.

Twenty to thirty years ago, when I used natural swarming for my increase, I saw many times much drone comb built and filled with drone brood by second swarms; but, as a rule, all after-swarms are not strong enough as to number of bees to wish any drone brood. Then I have many times gotten a young queen at the head of colonies a week or so before the time I expected the honey harvest to commence; and, in order to get a "great big yield" of section honey, I have taken out all the combs not well filled with brood, and those having mostly eggs and larvae in, filling up the hive with combs from which the brood was just emerging, saying to myself, "Now I have you, for colonies do not swarm with queens which have been laying only a week or so, enough so that they have gotten fully settled down to business," only to have such colonies fill every drone-cell the hive contained with drone brood, and swarm inside of two weeks just when the honey harvest had nicely begun. From this experience, covering the period of nearly forty years, I am led to say that any and all queens lay drone eggs just in accord with the wants of their colonies, and that the age of the queen has nothing to do with the matter so long as she is capable of laying eggs which will produce worker bees. After

she has passed the stage of laying eggs which are fertilized, she becomes what is termed a "drone layer," and can lay no other kind, no matter how much the bees may desire it otherwise.

Regarding the second question, I can see no other answer than yes; as so far as laying is concerned, the queen is obliged to will to do just as the bees will. In other words, she *wills* just as the colony wills, every time, when it comes to the egg-laying part. she lays only when the bees feed her prepared food in sufficient amount, and, quite often, after the bees have fed her so that she has laid a large number of eggs, if the weather turns bad they will not allow these eggs to hatch, removing many of those which would hatch at once, and keeping others for an indefinite period, than allowing them to hatch, or destroying them, just as the weather seems to justify. These things have come under my observation quite a few times during May and June in very fickle weather.

But from a portion of our questioner's letter which was not for print I judge that he wishes to ask if the queen can lay either drone or worker eggs at will, as he speaks of the pitch of the cells having much to do with the queen laying eggs in drone comb. Believing that is what he wishes me to express myself about I will again answer yes. I have every reason to believe that the queen knows whether she is laying eggs which are to produce drones or those which are to produce workers. I allow in most of my hives drone comb in only one frame, and keep this frame at the side of the hive so that it may be kept unoccupied by drone brood as long as possible. Well, I have often had colonies start brood-rearing in spring on the side of the hive furthest from this comb, and as the season advanced, and the bees desired drones, and before worker brood had come within three combs of this outside comb with drone-cells, the queen would

travel clear around those three unoccupied combs and lay in all of the drone-cells, without putting a single egg in any worker-cells all about the margin of this drone comb. Further, in some cases, all along the edges of the drone comb there may be drone and worker cells mixed, when every drone-cell would be picked out and eggs deposited, without a single egg in *even one* worker-cell. As soon as all the drone-cells were occupied with eggs the queen would return to the brood-nest and go to laying worker eggs as she was doing before. I know that there is now and then a case where a queen will deposit eggs in drone comb, a part of which will produce workers, and the other part drones; but in this case I am inclined to the supposition that the "queen wills it," rather than that the size, depth, or pitch of the cell has anything to do with it. Of one thing I am certain from many observations; and that is, where the bees desire drones *every* cell of this drone comb will contain only drones, no matter whether the cells are a shade smaller, a little deeper or a little shallower, or whether the pitch is different. The only thing which confronts us, then, is, whether there may be times when the bees and queen want worker brood but are prevented because of the size of the cell. To this I should say no, for I have often confined a nucleus, which had a queen just commencing to lay, to cells wholly of the drone size, and had nothing produced from these cells but worker bees. From these observations, I conclude that, where both drone and worker brood are found in drone comb at certain times, the bees and queen are willing to have some drones as well as workers in the hive.

Regarding the third question, I will frankly say that I do know; nor have I ever found anybody who does. I have asked a great many beekeepers about this, and the most of them seem willing to acknowledge that they do not know why this shaking process is gone through with by certain bees in certain colonies any

more than they know why certain bees from certain colonies will arrange themselves in rows all up and down on the outside of the front of the hive, and stand there and scrape away, up and down, with a swinging notion of the body for hours and days at a time. Some have claimed that, when this scraping act was begun, the bees intended to swarm soon; but scores of colonies, keeping it up, off and on, for month without swarming have shown the falsity of any such conclusion; and, so far as I know, *all* are alike ignorant as to what the bees are thus exercising for. I have been told many times that this shaking motion of the bees is to loosen the pollen from the pollen-baskets, so that it would slip off easily into the cells when the bee wished to leave the loads; but this will not account for the matter, for, as our questioner tells us, the majority of the bees which go through this gyrating exercise do not have pollen in their pollen-baskets. Then this "gyrathing" is confined, as is the scraping, to certain colonies, so that it can not be of universal necessity in the economy of the hive, and for this reason it will be more difficult to come to any direct conclusion in the matter, even if it were possible to do otherwise. I have stood, sat and lain beside a single-comb observation hive for hours that have lengthened into days and weeks, but I never saw a bee so gyrating in a one-comb observation hive; and until I do find one the "marked-off squares" will not be needed. Like our questioner, I believe that all are interested in these things, even though it may be of no money value to us; and, like him, I "should like to know what the bees are doing it for," and what the scraping motions are for; but so far I do not know, nor have I found any one able to tell me—"Gleanings."

Giving flour candy is said to have been the cause of the Isle of Wight's Bee Disease, giving it in early winter.

Hive Entrances—Robbing.

ALLEN LATHAM.

It is the universal advice to close down entrance to single bee space when a case of robbing starts up. Is this good advice? I say no. No, if that is to be the only thing done. Too many times I have seen the robbing go right on.

How does a bee rob? How does a new bee find the loot? Surely she does it by following her sense of smell. Where do robber-bees pile up? Often-times at cracks and crannies through which they cannot possibly crawl—yet through those crannies there is issuing a current of air laden with the odor of the coveted spoils. In the same way a current is issuing from the entrance and led by this the robbers soon find an opening through which they can crawl.

Suppose it is a warm day when robbing takes place, and that is when most robbing does take place. The bees find their entrances too small and the whole entrance is occupied by ventilating bees, and through the entrance issues a strong odor. The robber darts about and follows this trail. As there is little room for guards and ventilators also it is ten to one that the bee gets by the entrance. Inside she *may* meet with a warm reception, but at the entrance she is frequently unassailed.

Robbing begins if the bee gets back to a hungry colony with her stolen load. It may be only robbing in the shape of sneak-thieving, or it may develop into a bad case. If it develops and the beginner finds it, he closes the already too small entrance till only a bee can pass. At either side of this entrance, there is soon an angry mob, one trying to get in, the other trying to get out. Soon one side prevails, and in go a rushing horde of home-bees and of robber-bees with no distinction of persons. The momentum of the stream keeps the current one way till a break occurs in the stream, then

the movement is the other way. Field-bees and laden robber-bees are out with a hurry and push that carries all before it. The unnatural condition so takes possession of the colony that robbers work on unmolested.

If there it anyone who differs with me in what I have outlined above, then let us lay it to "Locality."

If you follow the advice to close the entrance to the exit of one bee at a time, then do this way. Cover the whole entrance with wire cloth and punch a small opening through the cloth by working a pencil through. Though this is not an infallible kink, it is nearly always successful.

My summer entrances are all large, 13 by 1 inch. I have never yet had a colony in one of those hives robbed out. I have seen a handful of queenless bees defend 40 pounds of honey till the faithful things had dwindled in number to scarcely a dozen.

How shall we account for this? Possibly in this way. When the entrance is small, only a few bees act as guards, and such are stationed near the entrance. When the entrance is very large, then all the bees of the hive are guards. Many a time have I seen a bee sneak into one of those large entrances, only to be brought out dead in one minute. Unmolested at the entrance, simply because there was not a bee near the entrance except those coming and going, she met no resistance till she reached the clustered bees about the comb, or met a bee which was not either coming or going.

But let me close one of these large entrances down to a space of four inches by 3-8, then there will be constant squabbling of bees about that entrance, that is if any robbing is in progress, or has occurred lately.

One of the best remedies I have known for robbing is to throw a cluster of asparagus sprays over the entrance of the robbed colony. I have never known this to fail, provided the robbed bees were showing any fight. The robbers get entangled in the multitudinous branching of the asparagus and are pretty sure to be collared before reaching the entrance. When trying this remedy, never contract the entrance, rather enlarge it so there will be ample supply of air. If robbing persists at all, spray the asparagus with water once.

I suppose that someone, probably many, will say that I am maltreating the truth when they read my next statement. But here goes. Last summer I stepped out to my apiary to find one of my colonies fighting robbing, and fighting it unsuccessfully. This colony had had its 13 by 1 entrance cut down to 4 by 3-8 because it was not over strong. It was a hot day. I studied the situation a moment and decided upon a bold move. I pulled out the entrance block leaving thus the full entrance. "Goodness!" I hear someone exclaim, the mildness of the word signifying that that person is of the sister's department in the Old Reliable. But I did it. I watched a moment, and noted that the home-bees seemed relieved. Also noted that the robbers seemed confused. Apparently the robbers had lost the trail, for they no longer darted into the hive as they were doing a minute before. I went away and did not return for about half an hour. Upon my return I could not see any robbing in progress. Robber-bees still came about the hive, which essay to enter was severely and warmly received.

Now, I do not say that the best remedy for robbing is to pull the bottom of of the hive off and expose the colony in a wholesale way. I do not say that the best way is to enlarge the entrance. In this case it did work to a charm, but possibly conditions were just right for the charm to act.

I will say that any condition which cramps the entrance of the hive or cuts down the ventilation, will tempt robbers. A hot hive will throw out odors through all crannies, and unless there be a strong colony to resist, the colony will be hard put. But if the hive is fairly well ventilated, so that no small current of strongly odorous air leave the hive, then robbers will pass such a hive by, for it offers no temptation.—“American Beekeeper.”

The Yellow Box Tree.

A correspondent writes to the “Leader” as follows:—“This is a very bad season for stock of all kinds, cows and sheep especially, and a great many will starve when the cold wet nights come on. As a very old colonist, I would like to call attention to the fact that when a pig is let out of his sty for a run in the bush he goes at once to the yellow box, and begins to tear up the ground around the tree to find the roots, stripping the bark and eating it, together with small roots he can find. If there is nourishment in the roots, I believe there is good feed in the bark of the tree also. If it was stripped off and put through a chaff-cutter with a little straw or hay, it would keep stock from starving, I have also noticed young horses strip yellow box sapplings at a certain time of the year, and this hint is given in the hope that some may see their way to try it.”

Are Bees Intelligent beings.

Mr. Gaston Bonnier thinks the bees have not only mere instinct, but also fairly good intelligence. To support that opinion, he gives the following in “La Revue Electrique”: His bees were gathering nectar on some bushes in his garden. He prepared a sugar syrup quite diluted, about in the same proportion as in natural nectar, and dropped a few drops on the leaves of a bush. No bee

paid any attention to it. He then spread some from the next flowers along the leaves and twig to the selected place. After about ten minutes one bee discovered the syrup, and followed it from the flowers to the big drops deposited on the leaves. While she was helping herself he painted her back white. It took her two minutes to “fill up,” and three minutes to go back, unload and come again. This time she brought with her two other bees. These did not alight at once, but flew around a few times before alighting on the leaves having the syrup. They were painted red. Some more came at the next trip and were also painted. Mr. Bonnier merely replaced the syrup consumed, but did not set more on other leaves. The outcome was that during the rest of the day, seven bees, always the same, kept going and coming. He thinks that with more syrup put out and replaced, the colony would have sent a larger number of bees, enough to carry away all that he would have replaced,

The next day, he tried with honey. The first bee that came brought back a larger number of helpers than when only syrup was given. After twenty minutes, the number of bees increased suddenly and soon developed a regular case of robbing, and finally Mr. B. had to retreat.

Beekeeping in New Zealand.

A HONEY-PLANT THAT IS SUPPOSED TO
BE POISONOUS FOR CATTLE.

BY STEPHEN ANTHONY.

It is not exactly a tree, although our government calls it that, and includes it in the family of *Corneaceae*. It grows in the bush or anywhere wild, on any kind of soil; has a profusion of creamy flowers lasting pretty well through the season according to situation (gulleys first), and the bees are on it all the time. I think it gives

an especially fine flavor to honey. It grows easily, but can be easily handled so as not to become a nuisance. It is supposed to be poisonous to cattle (it certainly is narcotic), but this statement is modified in that it is so only when in bloom, and only when taken on an empty stomach. I have seen my cattle eat it many times, and as a rule I never stop them. None ever suffered from its effects. Cattle do not eat much of it; i.e., they do not make a meal of it, but take it only as if it were a tonic. If they were compelled to eat it altogether, or got into a habit of it, then of course there might be trouble.

Some one (usually a native) gets poisoned every year about here through eating bush honey (usually not capped), and puka-puka usually gets the blame. Mr. Hopkins had a look at a case of Maori honey-poisoning last year, and I think puka puka got the blame; but the fact is significant, nevertheless, that it is the Maoris only, or principally they, that get poisoned, and in that case the honey eaten is never capped.

A Woman's Dairy Farm.

USEFUL GIRLS.

At 5 a.m. the woman dairy farmer raps at her guest's bedroom door and says, "Time to get up!" Twelve-year-old Jean has already lit the fire and boiled the kettle, while her sisters drive up the cows. Thus writes "Sheba" in the *Argus*.

Children are valuable on a dairy farm. My hostess's active daughters are, in her opinion, worth twice the same number of boys, for boys are apt to absent themselves at evening milking-time. Says the mother, "I couldn't get on without my girls. Apart from milking, they're splendid hands at rearing young stock. They coddle the calves as if they were babies, and, unlike their brother, would

never let one go without a meal because it failed to come when called. If, notwithstanding all their coaxing, a weakling refuses its milk, Siss tempts it with beaten egg, and pampers it up till gradually the puny thing develops into a saleable beast. My girls have the same knack with all animals. The little ones pet the foal and ride on his back as soon as he's big enough. They coax him to let them slip a halter over his head, and later you'll see two of them driving off, with the colt as quiet as a lamb between the shafts, for a load of wood or a sheep for killing.

Till half-past six all hands are busy milking. When the separating process begins the novice grows interested, and is forced to confess that modern dairy methods, if unpicturesque, are cleaner, more hygienic, and far more economical of time, labour, and material than of old. The separated milk, gushing from its outlet, rapidly fills numerous pails, each topped with piled-up froth. This fleecy scum, too gaseous to suit the digestion of the calves, is removed, and is reserved for the poultry. The milk must be warmed to a certain heat before it is regarded as wholesome food for the cow-babies; but at last their breakfast is ready; and, leaving a copperful of water to boil for washing up, we seize one bucket, or two, as the case may be, and trudge to the calf paddock, shouting "Sandy!" as we go. Sandy, being the youngest calf is fed first. He drinks his half-bucket, but then, with his face all a-slobber with milk, he begins to show off, like the spoilt beastie he is. His fellows, likewise full of breakfast and tricks, follow suit, and the visitor, surrounded by "chewers," all kicking up dust and dribbling facetiously, understands why the sprigged dimity, snowy apron, and buckled shoes of the traditional milkmaid are never seen off the stage.

When we return to the shed all the appliances connected with the separator are submitted to a drastic cleansing.

First they are rinsed in cold water, next soaked in a borax solution, then thoroughly scalded, and lastly the nozzle of the steam-pipe is introduced into every chink and cranny.

"The separator is ready for to-night," says the mother; who adds, "two of the children have brushed out the milking stalls, and two others have got the cows' evening feed ready, so we'll sit down comfortably to breakfast. Then the girls will drive the cream to the station on their way to school, and won't be back till milking-time."

Do you think dairy farming is very hard work?

"Not too hard. If my girls had to turn out and work for strangers, I'd far rather see them milking, washing the separator, and attending to calves, pigs, and poultry than let them go into factories, where they'd lose their health and learn nothing useful."—"Journal of Agriculture," Western Australia,

CAPPINGS.

HONEY IMPORTS.—The value of honey imported into the United Kingdom in the month of February, 1908, was £1,434. The summary for 1907 was £31,929; total for seven years, £230,028; average £32,861,

Oh the folly of working from early morn till late at night, day in and day out, only to throw the larger part of it away because the whole mind is bent on a big crop, instead of how much we can secure from the crop after it is obtained! Such a course is only on a par with several of the farmers I used to know when a boy, who would go into the woods in a late fall and early winter and pick up all of the fallen wood about their

woods, cut it into stove length, and carefully pile it, so as to *save all that was going to waste*, and then leave those piles of wood, many of them to rot down, rarely using it afterward. I used to ask myself the question, "Would it not have been better to allow the wood to rot without such great expenditure of human energy rotting with it?" Then many would make butter at a great expense of feed, milking cows, skimming milk, making cream into butter, and carefully packing the same into tubs and firkins, only to have it stand in some poor cellar or other place, before selling it, till it was nearly spoiled, when the whole had to be sold for a song. Of course, under our present-day state of affairs, with the timber nearly all cut off, and our butter being made almost wholly in creameries, this lack of ability in the farmer has been largely overcome, but scores and scores of beekeepers keep right on dumping their honey on the town and city markets for "what it will fetch," with no thought regarding a better market or the great injury they are doing others through their paying no attention to this part of the bee business. Far better, produce only half as much, with only half the cost in expense and labor, while being alert in the selling of the same, thus securing equal results without the wear and tear of producing a big crop.

When dividing or forming nuclei it is frequently quite difficult to keep the darker strains from returning to the old stand; but not so with the golden Italians. I find that, if they have some brood, or a queen of any kind, they will stay wherever we put them. This is a good point, and often saves much trouble; then they will defend their hives from robber bees the best of any I have ever had.

The objection that might be made to a hive so placed is that it would be more likely to be tipped over than one set closer to the ground. This is true,

but when solidly set up there is little likelihood of their being thrown over. When interspersed with a few low set hives, they make an apiary more picturesque. I have found that all hives I have set up on stilts seem to do better than the colonies that are near the ground. But what a pleasure it is to go to one of these hives and stand at the rear and manipulate it without any back-racking tortures. After all is said, the very best section honey of all can be introduced with only a wee small starter at the top.

For the principal winter food the colonies should have a syrup made of the best granulated sugar, one pound of water and two of sugar. This should be boiled well until the sugar is thoroughly dissolved. Some think it necessary to add a little extracted honey or tartaric acid, to prevent the syrup from crystallizing. We rather prefer this addition, but we have had good results without it.

It has been found that, while a vigorous queen will not tolerate a rival queen, the bees themselves will tolerate a plurality of queens or any number of queen-cells; therefore all that is necessary in order to keep two queens in one hive is to keep them from getting together. This is done by means of perforated metal, which keeps the queens apart, but allows the bees free access to both queens. Thus we have one large hive with two queens, each queen being sole mistress of her own brood apartment.

Bee-keeping as a pursuit is progressing, and beekeepers are fast realizing the necessity of employing short-cut, labor-saving methods. Twenty-five years ago rural electric lines, rural telephones, and rural mail delivery, were unknown. To-day the face of the country presents a network of electric and telephone lines, and every rural district has its free mail

delivery; likewise the beekeeper of to-day is compelled to meet greatly changed conditions. Good locations are scarce. Our one-time bee-pastures have given way to fields of waving grain, and the woodman's ax has laid low our forests of basswood. Our honey yield has been cut in two in the middle, which means that we must either adopt short-cut labor-saving methods that will enable us to keep twice as many bees as we kept before, or go out of business.

A word about heating cans of honey. After the honey has begun to warm loosen the screw cap with that corne, of the can uppermost. This will let out the expanded air and gases. The cap can then be replaced, and later the act repeated if occasion demands. There is no danger of a can bursting from the swelling of the honey, but the expanding of much enclosed air or gas is quite likely to bring disaster.

The ideal colony must not be over-populous. A hive is over-populous when its working force is too great in comparison to the dimension of the hive and to the number of wax-building bees. Such a condition is intolerable to the bees, and they try to help themselves by loafing. Their instinct teaches them to begin this loafing even before the hive is over-populous. The bees seem to see the combs are filled and capped, that the bees are daily hatching, and that they will soon be crowded. A colony in such a condition will never perform the wonders in gathering honey that we may expect from one less populous. Such a colony feels instinctively that its abode will soon be too small, and the swarming fever sets in; and we know that, when this is awakened, the bees will continue to loaf. At the most, only as much honey will be gathered as is needed for making the swarming preparations. A colony with the swarming fever is of little value as a honey-gatherer.

Mr. M. A. O'Callaghan, Government Dairy expert, speaking in Sydney at last week's Dairy Factory Managers' Conference, submitted two or three points of importance in the industry. He said that "heated butter" was due to delay between arrival in Sydney and freezing. On the subject of preservatives, he remarked that sometimes the farmer put boric acid in his cream. This made it impossible to export to France, Germany, and the United States, including Manila, places which prohibited preservatives. The time was not far distant when we would perhaps have to do without it altogether, and stand on the same footing as competitors nearer the market. He also dealt with short weight. Almost every factory had to purchase a proper scale when the commerce Act came into operation.

The best time for spring feeding is in the fall. Alsike clover is sown with wheat or rye, or is seeded alone, like medium red clover. The seeds are about half as large as those of red clover, and therefore half the quantity per acre is sufficient. However, I doubt whether you want to seed to alsike unmixed, as it inclines to lie close to the ground, having more of the creeping habit than the common red. Moreover, its roots do not penetrate the soil as deeply as is desirable in a fertilizing plant. These are its two weak points. On the other hand, it is surer to make a stand than the red; it lasts longer in pasture and meadow, and it ripens more nearly with timothy. For many years our paper has urged the mixing of alsike with medium red for all land inclined to be unkindly to clover. Alsike is pretty sure and dependable on any kind of land; and especially is it superior to the red on wet land. It makes a fine hay, but it yields less than the medium red. For pasture it is our most valuable clover.

The "Deutsche Bienenfreund," 1904, reports the following:—"A boy about ten years old was standing near a hive, bare-headed and shirtsleeved, when a

swarm issued. After flying here and there, the queen alighted on the boy's head, and thousands of bees quickly followed. The boy's father, recognizing immediately the state of affairs, called to him hastily, (he had often looked on during the catching of a swarm), 'do not move, Hans. Shut your mouth and eyes, and breathe through your nose. I will sprinkle and capture them!' The boy obeyed, the father poured water over his head, bent it forward, and with a feather stroked the whole swarm into a basket underneath. The boy had not a single sting." After my own experiences, I consider this tale entirely trustworthy.

In 1893, "Studers ill. Schweizer, Bienenfreund" showed the picture of a young beekeeper who had been photographed with a swarm which hung down from his hand. In the issue of the swarm he caught the queen with his fingers, thus causing the swarm to surround his hand. When the photograph was completed, three-quarters of an hour had elapsed, which was endured very quietly, the arm being supported with a stick. Head and hands were not stung. It is not in contradiction to the above to say that most disasters are caused by swarming bees, for nervous blows or accidental crushing irritates the swarming bees; and first one sting, and then hundreds follow, excited by the strong odor of the poison.

A fact that few have learned is, that by having large apiaries in good locations, a profitable and easy method of securing satisfactory crops, is just to allow natural swarming, keeping an attendant in the apiary until swarming is over. I do seriously doubt if much better results can be secured than by the intelligent use of this last method. It certainly relieves the owner of a vast amount of work.—"Beekeepers' Review."

Even the New York men are not asking enough for their honey. I know of a firm that asked for a quotation, but before it received it, had to buy, and paid 14 cents per pound. When the

quotation came the firm was sorry it bought, as the price asked was 8 1-4 cents.—Writer in "American Beekeeper,"

During the past month we have disposed of nearly all our honey crop of the past season, at fairly good prices; notwithstanding the ridiculously low prices asked and obtained by some beekeepers. In fact we could have sold double the quantity had we have had it.—Ed. "Australian Bee Bulletin."

"I took 2 queens and cut off their stings by folding the abdomen over my thumb-nail, and pressing; when their stings came out and were amputated. These stingless queens being taken from a double colony, one above the other, with excluder between, did not have to be introduced in the usual manner, so I turned them loose at once, each on an opposite side of the hive. In 2 hours I looked in, and on lifting out the third frame I saw the 2 queens come together, and right there I witnessed one of the fiercest battles I ever saw. The bees stood around like referees, forming a circle around a prize fight, and not one of them offered to interfere. But as a battle it was a bloodless one, so I left them until late in the evening, when, on looking, I found them still fighting. One of them seemed to be getting the best of the other, for she had gnawed off one wing completely. So I separated them by putting one of them below the excluder, and I may say that they are just as I left them, both of them having done good work the rest of the season, and seeming none the worse for the loss of their stings and their battle."—*"American Bee Journal."*

At a recent Pennsylvania beekeepers' Convention, Prof. Surface gave a very interesting talk on the bee-sting cure for rheumatism, giving a method where by the use of a hypodermic syringe the formic acid could be injected under the skin, causing no pain, and the rheumatism or lumbago would disappear in 48

hours. This does not cure in every case but is a cure in the greatest majority of cases. Pond's extract of witch hazel will relieve the swelling and pain of a bee-sting. Mr. Reneker, who has had considerable experience with rheumatism and bee-stings as a cure, stated that he had received a severe stinging with the bees and had been completely cured of rheumatism ever since. He has also been immune to the sting of the bee as a result of the stinging fracas. Mr. France cautioned the people who were affected with scrofula to beware of bee-stings, for it is liable to prove fatal to them in a few minutes. Prof. Surface gave it as his personal opinion that a superabundance of bee-stings caused a bloodless condition; that is, a lack or insufficiency of red corpuscles with an excess of white corpuscles. Mr. Holtermann found it advisable to keep some strong stimulant at hand to be used in case of severe stinging, when the heart is affected. Spirits of ammonia was suggested to be used in such cases. Pres. Klinger cited an instant where his aged father had been rheumatic and was stung a number of times on the knee while hiving a swarm, and had had no rheumatism since. This was three years ago.—*"Am. Bee Journal"*

A DASTARDLY DEED.—On Friday night Mr. C. Giffin, bee farmer, of Wattle Flat, left a large tank containing three tons of honey, valued at £75, in the back yard, but on getting up on Saturday morning he found the place flooded. Previous to retiring he had secured the lever tap on the tank with a wire, but during the night this was removed and the lever turned, allowing the honey to run to waste. The loss is a serious and, and it is thought could not have been caused accidentally. The police are investigating the matter.—*"Western Post."*

Some rogues are pretty sharp. It rather jars us up to be told by authority from Washington that pure cerasin—not a particle of beeswax in it—has been en-

countered looking and smelling very much like beeswax, and with the correct melting point, also. Correct melting point would not necessarily mean the proper amount of toughness when at 100 degrees Fahr.—“New Zealand Farmer.”

The plural-queen system is pronounced a success, page 1555, with perforated zinc. What advantage has it over the Wells system? That allowed two queens separated by perforated wood, and was boomed in England a few years ago, but now nothing is said about it. I can see big advantages in several unseparated queens in one hive, but with excluder I don't believe there's anything in it. Why? In the Wells system there was no intermingling of the bees, and each lot of bees with their queens had a separate entrance. In fact, the Wells idea was little more than a tenement hive, having two colonies, each sharing the warmth of the other. In the perforated-zinc plan the queens only are separated; but the bees mingle all together. In this respect the colony principle is more perfectly developed. As one strong colony is better than several small ones, so the perforated zinc plan ought to be better than the Wells system.—“Gleanings.”

A BEE VEIL.—The top is made of a piece of muslin 10 inches wide by 2 feet 7 inches long. This is drawn together and tucked into the form of a circle, the tucks running toward a common centre, at which point there may be a small hole. The skirt consists of a piece of muslin $11\frac{1}{2}$ inches wide by the same length as the wire cloth—2 feet 7. This is sewed to the bottom edge of the wire-cloth cylinder, and hemmed at the bottom.—“Gleanings.”

The Americans believe the basswood to be the greatest honey producer in the world. The state of the atmosphere has much to do with the secretion of nectar in the basswood flowers. The most unfavorable weather is a cold, rainy, cloudy spell, with the air or wind in a northerly

direction. If basswood bloom came at a time of year when we were likely to have much such weather, there might be some doubt about moving to the basswood being profitable; but, as a rule, we have very little such weather while basswood is in bloom. We are more apt to have showery weather with the air charged with electricity, at which time the nectar will almost drop from the blossoms, providing no rain comes within two or three miles from the apiary. At such times as this I have seen honey sparkling in the bloom after it had fallen to the ground.—Doolittle in “Gleanings.”

The beekeeper has no bobcock machine, but he is less in need of one than is the dairyman; for if he has sharp eyes (and these are quite requisite to the successful beekeeper) he will know his queens from alpha to omega, and will know the one that fills his hives with industry, honey, and his pocketbook with dollars. But, even with this knowledge, how many practice the keeping of only the best, and breeding from only the very best? Here the apiarist has the advantage over even the dairyman, for the dairyman will, with a great show of reason, hesitate to kill any of his calves from selected mothers, while the beekeeper has no good reason for breeding from any one but the very best queen of the apiary. The dairyman can get but one offspring from each cow in a year, while the bee-man can get all his queens from his best queen—an unlimited number; and if he exercises the requisite care, he can get them nearly all mated with drones from his next-best queen.—“Gleanings.”

As a means of identifying queens, clipping is invaluable, and a beemaster who has once thoroughly tried it will continue it despite any disadvantages in connection with swarming and accompanying dropping of queens onto the ground. It is the writer's custom to requeen all colonies every August, the only exceptions being with breeding queens

or queens undergoing observations. At the time of introducing the new queens the wings are clipped. One year the left wings are clipped, next year all new queens have the right wings clipped and the following year both pairs of wings of the new queen are clipped. Consequently a glance at a queen always tells her age and if she is not clipped it is at once obvious that she is a newcomer. Such a system of clipping may seem unnecessary where queens are replaced regularly and so it would were it not for the queen kept for more than the regular time and which may be scattered at random through the apiary.—Extracted.

BEEKEEPING IN SIBERIA.—We are too apt to set down this country as one of snow and ice, forgetful of the fact that parts of it stretch down to a point further south than Scotland and several European countries. The summer over a very large area is tropical, lasting for more than five months. The country abounds with basswood or linden trees, as many as about twenty varieties being found, and as they bloom at different periods, this prolongs the flow. This is important, as almost all surplus honey is gathered from this bloom. Many carry on beekeeping as a specialty, some keeping as many as six hundred hives in one apiary. In winter the bees are placed in cellars or various repositories, somewhat on the blockhouse principle. As they are buried there under the snow for about seven months, very little honey is consumed during the winter, as the low uniform temperature keeps the cluster in a semi-somnolent condition without any disturbance. When swarms come off, two or three are joined up to make a strong colony, weighing, it may be, from 10lb. to 15lb. of bees. Such a powerful lot may collect anywhere between 100lb. and 200lb. of honey. Innumerable straw hives are dotted all over the country, but many of the more forward apiarists are adopting more modern frame-hives, and the industry is making rapid advances.

It is well known that in European Russia beekeeping is very extensively carried on. The late boom in Caucasians has still further helped to bring the industry into greater prominence in recent years.—“Gleanings.”

The N.S.W. railway authorities are getting very particular about the sight abilities of their employees. Perhaps there is another test that is wanted still more—that of honesty. We know one district where not only bee hives have been both stolen and robbed, but neighbouring farmers have seen their crops of potatoes diminished, and empty return cases sent to bring produce have been missing, evidently gone for firewood.

Mr. W. George, of Strathloddon, has lost several valuable cows from eating freshly-cut cabbage thistles. Cattle are very fond of this thistle, but it should not be given to them until it has been cut for several days.

Bohemia has 160,000 colonies of bees, or 865 to a radius of three miles.

The basswood rests every second year from bloom and fruit bearing.

G. M. Dolittle says:—I have travelled about considerably, visiting hundreds of beekeepers in their homes, and one of the things that I have noticed is worth pages of theory, and it is this:—“The most prosperous beekeepers are those who keep the most bees.”

Mr. Bingham, of uncapping knife fame, says in the “Beekeepers’ Review”: My opinion is, that, with a good knife, well sharpened, hot water is vastly worse than useless in uncapping sealed combs.

[That is our opinion. A knife must cut, not bruise.]

Under the Forest, Act passed during the last session of the state Parliament, provision was made for the creation of a new department of forests in connection with the initiation of a progressive policy for dealing with the forest reserves and plantations of the State. The new de-

partment was gazetted some months back, and applications were invited for the position of conservator. The public service commissioner (Mr. Topp) had now recommended Mr. H. R. Mackay for the position, and the State Cabinet has approved of the recommendation. The salary is £700 per annum.

The Chapman honey plant, a favourite in Great Britain, often attains a height of 8 or 9 feet.

Beware using celluloid in bee veils. It is very inflammable, and some day the user may inadvertently direct his smoker that way, and a chance spark will ignite it, then good bye eyes, and perhaps life. "American Beekeeper."

We acknowledge receipt from Messrs. Dadant and Sons, of Hamilton, Illinois, U. S. A. of their catalogue of beekeepers' supplies, with instructions to beginners.

In the season of 1907, a populous colony swarmed; and, not wishing any more of their precious increase I pinched the queens. Next day I opened the hive to take off queen-cells, and my assistant said, "Please, won't you count how many cells there are?" We counted one hundred and seventy-nine perfect cells, besides numerous others started. This record puts the Caucasians to the blush in that line.

Bi-sulphate of carbon or gasoline put in ants' nests is a good remedy for them.

Ironfounders do not now use beeswax as formerly. Paraffin is much cheaper for their use.

For veils, the best bee veil is a French tulle, veiling cotton with a silk face, and a cord fastening the lower end.

A correspondent who has good opportunities of knowing how prices are ruling in the wholesaling of home-grown honey writes to say the present wholesale prices for extracted honey in bulk are from $\frac{1}{2}$ d. to $1\frac{1}{2}$ d. per lb. Sections of even medium quality are cleared out at 12s. per dozen.—"British Bee Journal."

CONFECTION OF TOMATOES AND HONEY.—Boil the tomatoes and pass them through a fine sieve. Add twice the weight of honey, skim well, and when the confection is almost done, add lemon.—"Exchange."

Mr T. Armour has taken over the honey producing part of the Narrang apiaries at Fernbank, and Mr Penglase intends to devote most of his time to the queen rearing department. Two new apiaries are to be put down, one of them close to the railway station, where most of the queen rearing and nuclei business will be carried on. It is the intention of the two gentlemen named above to extend the business so as to be able to meet the demand for small retail parcels. Within the past two seasons, the demand increased so rapidly that it was found necessary to get more assistance.

OBITUARY.—We regret to have to announce the sudden death of Mr. Henry Alley, of Wenham, Mass., U.S.A. He was the well-known breeder of queens, and his methods were widely adopted until they were superseded by improvements. In 1883 he brought out "The Bee-keepers' Handy Book; or Twenty Years' Experience in Queen-Rearing." In 1889 he compiled and published "The National Beekeeper's Directory," which contained a classified list of beekeepers in the United States and Canada, with "Practical Hints regarding the Successful Management of the Apiary," occupying sixty-three pages of the work. In 1891 he produced a work, entitled, "Thirty Years Among the Bees," which contained his latest improvements in queen-rearing and the practical, everyday work of the apiary. For several years he edited the *American Apiculturist*, and latterly used it as an advertisement to push his business. He claimed to have produced pure Golden Carniolan bees, and the way he was said to have done it was described on page 523 of "B.B.J." for 1891. Unfortunately, he could not stand

criticism of his methods, and resorted to abuse of those who differed with him. This did not commend itself to his subscribers, and, as is usual in such cases, the paper collapsed in 1893 and was given up. Lately little was heard of him, but he will always be remembered as one of the old-time beekeepers in America, who did his part towards improving queen-rearing.

In our next issue Mr. Taverner's report relative to the export of Victorian honey to the United Kingdom.

Take milk containing a large per centage of cream; add good cement slowly, stirring well until a good thick paint is made. Apply with a broad flat brush. Two or three coats put on will petrify the outside surface of the wood. I claim the following advantages for hives over oil paint: Cheapness, ease, and quickness of painting; cleanliness, no clothes or hands soiled; practically no swell; certainly not objectionable to bees; unaffected by damp or weather for years; fills up old cracks admirably; smooth surface; and last, but not least, a porous paint which does exclude air through the wood. The natural color is a yellowish slate; but any dry-powder paint may be added to give the desired color. I prefer the natural color, which always looks tidy and clean. One barrel of cement will or ought to do for hundreds of hives. It is necessary to paint occupied hives on a cool cloudy day, the idea being to keep the sun off for six hours, so that the paint will not set too quickly. The slower it sets, the harder the surface gets. Milk containing a good thick set of cream on top is much more preferable than skim or separator milk. It is also necessary to use up all paint mixed, within a few hours.

SUGAR AND HONEY AS PRODUCERS OF MUSCULAR ENERGY.—There is a well-nigh universal opinion that such foods as sugar and honey are almost valueless as producers of muscular energy. But read what the highest medical authority

in the world, the "London Lancet," has to say on the subject:—Sugar is one of the most powerful foods which we possess, as it is the cheapest, or at any rate, one of the cheapest. In muscular labor no food appears to be able to give the same powers of endurance as sugar; and comparative practical experiments have shown without the least doubt that the hard physical worker, the athlete, or the soldier on the march, is much more equal to the physical strain placed upon him when he has had included in his diet a liberal allowance of sugar than when sugar is denied him. Trophies, prizes, and cups have undoubtedly been won on a diet in which sugar was intentionably a notable constituent. It has even been said that sugar may decide a battle, and that jam after all is something more than a mere sweetmeat to the soldier. The fact that sugar is a powerful "muscle food" probably accounts for the disfavor into which it falls, for a comparatively small quantity amounts to an excess, and excess is always inimical to the easy working of the digestive processes. Sugar satiates: it is a concentrated food. Where sugar does harm, therefore, it is invariably due to excess. Taken in small quantities and distributed over the daily food intakes, sugar contributes most usefully in health to the supply of energy required by the body. And it is a curious fact that the man who practically abstains from sugar, or reduces his diet to one almost free from carbohydrates in favor of protein foods, such as meat, often shows feeble muscular energy and an indifferent capacity for physical endurance. Honey comes under the same category as sugar, with this difference: It is almost ready to pass into the blood without further change; and it is far more palatable than sugar, since it possesses an almost priceless aroma which stimulates the appetite and promotes digestion. If a person has the means he should, as far as possible, use honey where others use sugar. Some say honey is not a necessity; but such

people are using sugar, probably to excess. Sweets are an absolute necessity to the civilized man. No race can long exist without sugar in some form, and civilized men are the greatest consumers of it. The Secretary of Agriculture over in Ontario recently stated that one pound of honey is equal in dietetic value to five pounds of pork; and such a statement is well within the mark. Modern science abundantly confirms it.

HOW DO BEES RECOGNIZE THE MEMBERS OF THEIR COLONY.—Mr. John H. Johnson, of Bango, Penn., writes me that, he made a prime swarm of hybrids utterly queenless, and broodless, and left them four days, then shook them into a box together with a small colony of Italians having a queen. In a short time the whole mass of bees was shaken down in front of the hive that had been occupied by the hybrids, but devoid of bees at the time, and all entered the hive in a peaceable manner. In the night there was a falling out, as the hybrids killed every last Italian worker, but saved the queen alive. Query: How did the hybrids recognize the Italians from their own members? Was it by their odor, or by their behaviour, or what was it?—"Beekeepers' Review."

Queens are like hens and other animals or other insects, they are more or less prolific, and some prove much better than others. It is very probable that there are differences in the contents of the ovaries or of the spermatheca, as well as in their ability to mature eggs and lay them promptly. Every queen-breeder has noticed how quickly some young queens will fill every available space with eggs, keeping their workers on a constant strain to supply the brood with the necessary food, while other queens, reared at the same time, in the same manner, and even sometimes from the same mother, will drag along slowly and never fill as many cells with brood as their retinue would easily nourish. There is a very plain difference in fertility. It is

obvious that a queen whose fertility is below average will keep the colony under average for strength, and the probabilities are that there will be but little surplus harvested in the colony of which she is the mother. Such a queen should be superseded just as soon as we find out her inferiority. But we must be sure that she is below average, for what would be the use of superseding her, if we could not give the bees a better one?—"Beekeepers' Review."

Try Mazina flour paste for sticking on labels,—W. Reid sen.

Try finely ground maize (corn) as a substitute for pollen. If you feed your horse with cracked corn, sift out the dust and try the bees.—W. Reid sen.

A good wet fall in winter is a good preparation for a good honey flow to follow.

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