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West Maitland, N.S.W.: E. Tipper, October 29, 1906

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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.
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

Vol. 15. No 7. OCTOBER 29, 1906. PER COPY, 6d.
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Devoted to Beekeeping —
*Circulated throughout the Commonwealth of
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MAITLAND, N.S.W.—OCT. 29, 1906.

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An excess of drones may be the result of a queen too old.

"Now, Willie, why do bees swarm—what is the cause of it?" "O, simply bee cause, guess."

Gleanings says:—A Mr. Church is erecting a mammoth mating tent to mate bees in confinement.

It is said honey will graduate more rapidly when exposed to full light than when kept in a dark place.

Out of six samples of guaranteed pure foundation supplied by an Austrian Manufacturer only two were unadulterated.

Introducing queens by means of tobacco smoke seems to have been fairly successful by some persons. Those beekeepers who do not smoke would rather adopt some other method.

Early raised spring queens are not generally so good as those raised later on, deficiency in quantity and quality in drones at that time being generally attributed as the cause.

SALT IN BEESWAX.—The *American Beekeeper* advises the use of salt freely in rendering beeswax. "The resulting product will be of much better colour than where no salt is used in the process."

Mr Simpson, a Moree beekeeper, has taken his apiary to Lake Macquarie. Mrs. Simpson having leased Anderson's

boarding house, where they will be glad to welcome any beekeepers. We wish them every success.

A Missouri washer woman complained that her neighbour's bees "walk on the clean clothes on each wash-day with dirty feet, and asks the court to restrain the bees from wandering on her wash-days."

An extra hive with a dry comb or even an enlighting board on the old stand, will catch all returning bees when a hive is shifted to a new stand, they will cluster on it and can then be carried to the new stand.

FINDING A QUEEN.—If a black one, have patience. A yellow or striped one is an easier matter. If you are determined to find a dark one put a newspaper or piece of white linen on the ground in front of hive then shake all bees off each frame on to same, and watch them as they run into the hive.

A new uncapping machine which is said to have proved a success. In principle it is two rollers about 7 or 8 inches in diameter, which turn at a rate of 1,000 to 1,500 revolutions per minute. Thousands of fine points on these rollers pick the cappings off the combs as it passes down between the rollers.

When one swarm comes out examine the combs of other queen-cells. If no more swarms are wanted destroy such, or you can utilise them by giving them to a frame of larvae of bees, put in a new colony on the stand of a colony liked to swarming the latter being removed to a new place.

Recently at one of our apiaries we found laying workers. Evidently the queen had been lost, perhaps old age, perhaps she had swarmed out. From want of larvae they did not raise a new queen, but a number of the workers developed to become laying workers, the same being known by the drone shaped caps or worker cells. We adopted the following plan: Turned the hive right round, and moved it a few feet to the

rear, got another hive and put in its place, putting in it a frame with larvae and bees from another hive, also a good ripe queen cell.

If it is necessary to feed you may do it in two ways. 1.—Give a frame of honey from a hive that can spare it. 2.—Make a warm syrup of sugar or honey with a little water. Take an empty comb, lay it on a dish or tub, and pour the syrup on to it from a height of a foot or more. We have fed a lot this way. In the day time go round the hives, leave an empty frame space in those which needed feeding. Then in night time one would go round, lifting covers up, while another would slip the filled frame in the vacant space. To do so in the day time when no flow is on causes robbing.

We read much of different ways of introducing queens. We introduced five lately. Picked out five hives with strong swarms, placed them away, in their place put five empty hives with combs with starters, and a frame with larvae. Put the queens to be introduced on top of frame with cork out of candy so they would be eat out. It was a fortnight before we could get to look at them again. When we did so each of the queens were laying away in the combs. When the original hive is removed all the bees as they go out from it return to the old place, and so populate the new hive. If this is done with a hive preparing to swarm it stays the swarming impulse.

SCOTLAND.

Our old friend Mr. J. F. Meiklejohn writes:—It is a wet day with us, and as I am somewhat of a prisoner on that account I will just write a line or two to you, as I have made a start to fill up some gaps in my correspondence.

August was a somewhat wet month, but September came in with real Colonial weather. On two days here we had the thermometer verging on 90 deg. in the

shade, just rather high for a humid atmosphere, such as we have in Britain. However, we escaped liquifying and have it cool again. The farmers are busy harvesting, and they could do very well with a couple of weeks good drying weather to enable them to get their crops secured. I fear that the heather honey harvest will not be very heavy, the recent rains we have had spoils the heather, but I have not heard of heather results yet. The white clover in the spring gave fair results. I had one hive which produced about 40lbs., very nice honey it was. I sold some of the crop at 11d for 1lb sections and I have been offered 1/- for as much as I can produce, but unfortunately I had none left to dispose of. I have had too much swarming this season and consequently my honey produce has not been so good all round as I would have wished. Instead of going to the West for our holiday we went East, and spent a couple of weeks in St. Andrews, a fine old historic town, and enjoyed our holiday very much. Yesterday, along with a pretty large company of anglers from Dollar, I went to visit Howietoun Trout Hatchery. This is by far the largest thing of the kind in Scotland. We saw the fish in all stages, from the ova to fish 3 or 4 lbs. weight. The manager very kindly explained to us the different processes of handling the fish, to the dispatch, of fry to all parts of Britain and some continental countries, for the stocking of rivers and lakes. He informed us that he had sent some to New Zealand, Tasmania and Australia, which had arrived in fine order, so no doubt you may have descendants of Howietoun trout in Wallabadah Creek at no distant date. In our drive we passed through the Battlefield of Bannockburn, where it is said a host of Englishmen squatted for good. We did not meet any people that we could distinguish as being descendants of these ancient squatters. Probably, what was left of the southerners adopted the scotch tongue, dress and manners, and their descendants thus lost their identity. Ster-

ling and vicinity is very thickly sprinkled with spots where doughty deeds were done in olden times, and as we had some living encyclopaedias from the famous seat of learning, viz. Dollar, in our party we were very amply entertained and interested in our drive through Scottish battlefields, and had a thoroughly enjoyable outing.

Well, we are in real good health and have little to complain of. We trust you are all well and doing well in your new place.

CHEAP TELEPHONE.

A Mr. Dapton uses a cheaply constructed telephone, using home-made amplifying horns which increases the ordinary hum of the apiary to the roar of a railway train at a distance of 40 yards. Of it he says in *Beekeepers Review*:—As to those horns and telephones, would say that I have only a few make-shift in that line. Yet they seem to answer the purpose. One horn is an old retort I got at a eucalyptus oil factory that was destroyed by fire. It is about eight feet long and four feet across at the large end and eight inches at the small end. With the small end extending into the extracting house I can readily distinguish a swarm that is too far away to be seen with the eyes, simply by listening before it. The swarm is detected from that of the other flying bees by their peculiar roar. When a swarm has been clustered on a bush, and begins to rise up to go to the woods I know what their intentions are just as soon as the first few bees begin to leave the cluster, and I suppose many apiarists do. Then I have a small horn. Between every two combs I uncapped I turned an ear to a horn.

In order to make sound travel over a wire it is necessary to solder in a sounding board or what would correspond to the drum of the human ear. Plainly described in a common school physiology. The wire is attached to the drum and travels to another drum to which it is

attached and the horn at the receiving end prevents the sound from scattering in all directions except to proceed out at the open end. The horn I used on this receiving end was a tomato can with one end open. If I couldn't get anything better I should use an ordinary funnel. Even that would increase the sound several times. But then, if a person has not an ear for music and has had some practice, a cart load of horns may be of no account where there is 200 or 300 colonies. Learn to tune a violin. "How far from the apiary?" Well now, how far away do you place your camera when you take a picture and want the hives to show as plainly as possible? That is about it. A horn can take in about as much horizon as a camera—hear about as much as a camera can see.

LUCERNE.

This is an old acquaintance of ours. Large areas of it are sown on the flats of the Hunter River. If sown after floods or wet seasons it does splendidly. We have seen on the river banks after a flood, the roots as long as 15 or 16 feet into the earth. In the United States, where it is known as alfalfa the evidence as to its usefulness is very varied. In years past it used to be sown with barley the latter supporting it in its early stages. Now farmers say it is better sown thickly by its self, as the stalks grow thinner and are more marketable than when sown with other seed. Spring and Autumn is the best time to sow it, in wet seasons. Should it show weakness in production a good harrowing is very beneficial. Farmers consider it should be cut just as coming into bloom, as it is richer for hay then, than later on, and the leaves did not drop off as much than later on. To the beekeeper this is very annoying, and beautiful harvest of honey is on, when oh! the mowing machine sweeps it all away! Lucerne honey is light in color, perhaps the lightest we know of. It is also very thin, and candies very quickly. When

living in Maitland we had worked up a trade for box honey, procured inland. On one occasion we run out of such, and to a regular customer sent some lucerne honey. Strange, for several weeks that customer did not call again. So we made it our business to give a call at the house to enquire why. The reply came quickly: "That honey you sent last the boys don't like it at all. It goes on and off the table, and no one touches it. Lucerne honey has its uses however at show times where light honey is an advantage, its thinness is its fault. We found there were interested people crowing they had got prizes with such, and were indeed, mystified about it till some one explained it was easy to make it dense, by spreading a tray under glass, and let the sun evaporate it. Till then we thought there was no roguery in beekeeping."

HONEY RECIPES.

HONEY SHOE BLACKING.—Add lamp black to inferior honey to such an extent as will allow the mass to be well stirred. Warm until softened and put in boxes. This preserves its gloss for a long time, prevents cracking, and preserves and softens the shoe leather.

INSOMNIA.—When troubled with sleeplessness, rise and take a spoonful or two of honey, and sleep soon comes. For one troubled with this trying affliction, a light supper of bread, honey, and milk will be found soothing.

HONEY SOAP.—Take one pound common soap and add rain water. Place the mixture in a pan and boil till soap is dissolved. Then add an ounce or two of honey, and continue stirring until the water is evaporated. Such a soap is excellent for the complexion.

HONEY VINEGAR.—Take one part of honey to four parts of water. Expose to heat by sun in open vessel, protected from insects for about six weeks. The product will be of great strength and of a particularly fine flavour.

MEAD. -Put two pounds of honey to a gallon of water, boil it for half an hour, add the peels of two lemons; work this with yeast. Let it stand in a vessel for six months and then bottle.

Br. Colomban's Honey-Cakes.

INGREDIENTS.—Three pounds of honey 3 pounds of flour, 1 ounce of powdered ammonia, a small teaspoonful of ground cinnamon, $\frac{1}{2}$ teaspoonful of ground cloves 6 ounces of orange-peel cut very small, and 4 ounces of sweet almonds cut small.

DIRECTIONS.—Pour the honey in a copper or enameled pan, and set on a stove or quick fire. When it boils draw it aside and remove the scum (as honey boils up very quickly, great care must be taken not to let it boil over). Then pour the honey into the vessel in which the paste is to be made; leave it to cool, then add flour and other ingredients except the ammonia, which latter must not be added until the flour and honey has been mixed up, and the paste has become quite cold.

In preparing for use, place the ammonia in a cup, pour a few drops of cold water, and stir it well, so as to form a thick paste, then mix it up with the rest. Then take a piece of the paste, roll it out into a cake not over $\frac{1}{4}$ -inch thick and cut up into convenient sizes as desired. This done put the cakes on a flat tin (which must be greased before hand) and bake from 12 to 15 minutes in a hot oven.—*British Bee Journal*.

WHAT OF THE HARVEST?

In England we have had a poor season in every respect for the bee keeper. A cold, cheerless spring, in which it was impossible to get stocks up to the "boiling-over" point, even with the greatest care and attention, along with constant feeding. Then we had a few days of warm weather, followed by a chilly, dull, and unsettled week. Then came a few

days of sunshine and warmth which started swarming, followed by a cool, sunless, rainy week, in which the bees scarcely gathered enough for their daily wants. Indeed, stocks began killing off the drones in my apiary, and thus completely shattered our hopes of any further swarms in 1906. After a sunny day or two the limes—our last hope—came into bloom, and from present appearances this hope seems destined to be spoilt (as the early crop was) by want of warmth and sunshine. It appears that in widely-divided parts of England similar conditions prevail, but this shortage of crop will not, I suppose, influence prices. I notice one advertiser in your paper offering new English honey cheap (evidently to catch the market) before he had honey to supply customers with. I was, therefore, glad to see others called attention in your columns to the injury done to the craft by these rush-at-any-price bee-keepers, who perhaps have a good income from other sources, simply keeping a few hives as a "hobby," or may be, for the good of the missionary cause.—*British Bee Journal*.

APIARIAN EXPERIMENTS IN CANADA.

Prof. H. R. Rowsome, Lecturer in Apiculture, Ontario Agricultural College, in his reports gives an account of three experiments, none of which was a howling success:

SIMMONS' PLAN FOR PREVENTION OF SWARMING,

which consists in keeping constantly unfinished combs between the brood nest and the entrance, was tried with five colonies. All five swarmed, although there was a partial excuse in the fact that it was a bad season for swarming. In speaking of the plan, Prof. Rowsome says: "The inference is that a colony (the queen being young) will not swarm when the parent colony can not be easily protected against robbing, and a colony can not be easily defended when there is

a large empty space at the entrance to a hive, as is the case when the first four or five frames contain starters merely and not combs."

THE TOWNSEND SUPER-PLAN, having both sections and extracting-combs in the same super, was tried with separators over three hives, and without separators over three others: "The honey-flow was extremely good. Where there was no separators some sections were not touched at all, the sections and combs on either side of them being built out into these sections. Those sections that were built out unduly were apparently nearly $2\frac{1}{2}$ inches thick in the middle and were badly filled at the edges. The bees were very slow in working on the sections, doing so only when they had filled the extracting-combs."—*"American Bee Journal."*

A LITTLE OF ANCIENT HISTORY.

"In the latter half of the 11th and the first part of the 12th century, there lived a master of word and deed, whose sanctity science and eloquence gave him, over England and France, an unbounded prestige, of which he made use for protecting the poor and restraining the tyranny of the great. At his death, those two countries mourned him as their Apostle and Doctor, as the master of kings and the defender of the oppressed. His name was Vital de Mortain. He and his companions had a great love for bees and honey, the latter being to him a symbolical food, as he spent a part of his life in preaching a religious fellowship of warriors called the Crusades, for the rescue of the Holy Land (the Scriptural land where floweth milk and honey) from the hands of the Turks. His ordinary simple diet, which he did not change during his apostolic labours, is thus described by his biographer:—

'Culcitra stramen erat; vinum, fons; herba, legumen;

Pisces, lac et mel; panis, avena rudis.'

Which means:—'He slept on straw; his wine was drawn from the fountain;

crude herbs were his only vegetables milk and honey served him instead of fishes; and his bread was made of oat-meal.'" "In 1096, at a general meeting of the monks over whom he presided, their modest refectory was composed only of apples, blackberries, hazelnuts and some honey-comb. Bread would have fitted in very well, adds the chronicler, but there was none to be had in their forests."

"Having founded a congregation of monks, Vital established more than thirty monasteries throughout England, Scotland and Ireland, and his disciples, carrying with them the predilection for bees and honey which characterised their master, came in the year 1134 to Buckfast Abbey, not to find it, as it already existed long before, but to infuse into it a new life. The bust of Vital may still be seen here in an old tower, thus encouraging the bee-keepers of to-day to love the busy bee as he did of yore."—*Irish Bee Journal.*

A Pony Killed by Bees.

A rather alarming incident occurred at Colton Hall near Rugeley, resulting in the death of a valuable pony and the serious illness of a young lady name Bloer. Miss Bloer, who is keenly interested in bee-keeping, was conveying a hive containing bees from her fathers' residence Colton Hall, to Rugeley, and in crossing a field near to the Bull and Spectacles close to home, the wheel got into a rut and upset the hive. The bees immediately excited, began to fly out and Miss Bloer with heroic courage, jumped out of the trap and unfastened the harness as well as she could. Meanwhile, the bees were swarming over the animal, and the lady herself was severely stung on the hands neck, and face, so much so that she had to leave the last trace and run away. The poor beast made frantic efforts to release itself, and eventually succeeded and maddened to a degree rushed across the field. Its sagacity was demonstrated by the fact that it jumped into a pit to rid itself of the pests. On the arrival of

the veterinary surgeon, the pony was frantic with pain. There was hardly room to put the point of the finger on a spot which was not stung. Ammoniated water was brought, the animal secured and bathed, but it was in such a state that it went mad, and finally succumbed from shock and stings. Miss Bloer is seriously ill, but it is expected that she will be better in the course of a few days.—"Sheffield Daily Telegraph.

JAPAN.

An English beekeeper reports in the "British Bee Journal" as follows about the beekeeping pursuit:—Honey is in Japan as medicine. The most common hive used is a square box of a cubic foot with a hinged door at the back. When honey is wanted, the combs are cut out, mashed (brood and all) and squeezed out. Little wax is produced, though much vegetable wax is used in the arts and mechanics. The native bees in Japan are smaller than the European bees, and do not readily take to our comb foundation.

After two years of experience the writer has concluded that it is cheaper to buy his honey than to raise it, as the bees do not store honey to the extent they do in western countries.

BEEKEEPING IN CUBA.

Black bees were introduced into Cuba from Florida in 1774; Italians only recently. The latest available statistics (1902) give over 82,000 colonies of bees on the island; this number has probably been largely increased in the last three years. The exports of honey and wax in 1904 were valued at more than \$1,100,000.

More than 80 per cent of the bees in Cuba are in log-gums or in corchas. Corchas are simply rough boxes about a foot square and 4 feet long, without ends. The honey is gathered by cutting it out in chunks from the open ends of the boxes. Sometimes the comb is built out so that it protrudes from the box and is completely in the open air.

We take the following from the *British Bee Journal*.—We hope Mr. Cooper, local hon. sec. of the Hants and Isle of Wight B. K. A., will forgive us for saying that he will have something to answer for if correctly reported as having "estimated that quite half the bees kept in the Isle of Wight are now dead"! Also that the disease "had not yet appeared on the mainland," or that "if it got a footing there it would probably mean the ruin of the bee-industry so far as England is concerned."

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SECTION HONEY AND NO INCREASE.

"What are bait sections?" They are sections partly or nearly filled with comb, left over from the season previous—such as did not have the honey in them sufficiently completed so that they were salable. Practical beekeepers use from two to twelve of these sections in the first super put on the hive at the commencement of the honey season, as they entice the bees in the super at once, with the first honey, as there is now in such prepared supers a place for the immediate storage of honey, and the bees will take advantage of these open cells and fill them with honey before they would draw out any comb foundation, and much sooner than they would build comb; and in this early entering of the sections comes the desire to draw the foundation in the other sections, so that the bees are fully at work in the whole super almost before they know it, and from this desire to fill the whole super the swarming fever does not come on nearly so quickly as it otherwise would; while if more super room is added as fast as required the colony may not think of swarming during the whole season."

But these baits will not prevent swarming entirely. "The main object of the baits is to coax the bees early into the sections, thereby delaying preparations for swarming for a week or two, this giving you a better chance for profit from your bees, and working for no increase at a time when it will be more surely successful, and the least damage to your crop of surplus honey." About seven days before you expect your honey harvest to commence in good earnest you will go to each hive, taking with you a queen-cage made of wire cloth; hunt out the queen and put her in this cage, after which you will look over the combs in the hives for queen-cells; and if you find any with larvæ in them, or any which are sealed, you will cut them off, so that no young queen shall emerge from her cell in that hive while the old queen is in the cage.

She is to be left in the cage ten days, or till all the larvæ and eggs which are in the hive when the queen is caged shall have become sealed over; for I find that when any colony goes without a laying queen long enough so that all the brood is sealed over, such a colony loses its desire for swarming, with the cutting of all queen-cells and the liberating of the queen. And where any queen cells with larvæ in them, or any such cells which are sealed over are in the hive at the time of the caging of the queen, they are liable to emerge from their cells before we are ready to let the queen out, and thus our work is thwarted. We keep the cage while the queen is in it. By looking the frames of comb over which are in the hive you will be likely to find one or more which do not have the comb built down the bottom-bar of the frame the whole length. Taking advantage of such places I slip the cage with the queen between the comb and the bottom-bar, where it is held securely till I wish to let out the queen." What about food for the queen? "The bees will take care of that unless you allow young queens to emerge from their cells, in which case they might neglect her and leave her to starve." "At the end of ten days from the time of the caging of the queen the hive is opened and all queen-cells are cut off the combs. That you may not miss any, it is always best to shake the bees off the combs; for unless you do, one or more cells are usually so covered by the bees that they are not seen; and the leaving of one or more cells would work the spoiling of the plan by the bees swarming." Of late years I have found it better both as to freedom from stings and in preventing the bees from piling up on the unshaken frames still in the hive, to take an empty hive with me, or, what is still better, an empty box made of half-inch stuff, so as to be very light, the same being made to hold one frame more than the hive will, so that there need be no crowding in putting the frames in. I have three or four of these boxes, and find them very handy indeed in all work

when handling frames, setting the combs in such a box instead of standing them about the hive with one end resting on the ground, as I have seen many beekeepers do, and as I used to do myself. Having the box with me I take the frames out of the hive, and place them in regular order in this box till I come to the last one, when it is shaken in front of the entrance to the hive and carefully looked over for queen-cells, which are cut off if any are found, and the frame put back in place in its hive. The one which went next to it is now taken from the box, the bees shaken from it as with the other, cells cut off, and so on until all are back in the hive. In this way the bees are all practically out of your way; you do not have them piling up on top of the frames, and, still better, there is not a lot of them all over the rabbits where the frames rest, to kill in replacing the frames, or in closing the hive, as in the old ways of shaking; and as no bees are killed, the colony is not specially irritated, and few or no stings received." "When you come to the frame the queen is caged in, shake it the same as the others, for she will not be hurt now that she is not laying; and as soon as you have the queen-cells which may be on that frame cut off, remove the cage and set the frame in the hive. Now remove the cork from the cage and hold the open end of the cage near the entrance where the bees are running in with fanning wings, when the queen will leave the cage and run into the hive with the bees the same as does any queen when a swarm is being hived." You will see those bees go to work with a will, carrying into the sections all honey which may have accumulated in the cells from which the bees have emerged during the last ten days, so that the queen may have room to lay without any further idea of swarming, unless the season should be long drawn out."

"But I shall lose ten days in bees, shall I not, as no eggs were laid while the queen was caged?"

"Yes; and this might be against the

plan where the honey harvest is one which continues without interruption throughout the whole season; but in any section where only one or two or three sets of bloom, like clover, basswood, and buckwheat give the surplus honey, then the stopping of the queen from laying during this period of ten days is a blessing rather than a curse, as the bees from such eggs would come after the harvest was past, hence would become consumers instead of producers."—*Doolittle in Gleanings.*

BEE-HUNTING.

*How to get Bees and Honey out of Bee-trees without Cutting or Mutilating the Tree;
How to get Bees out of Dwellings.*

BY RALPH P. FISHER, in *Gleanings*.

Bees are found in various places, in various ways, in swamps or mountains alike, being either high or low as circumstances compel, the conditions causing the amount of trouble forthcoming in their extractions and capture. Then, again, they may be in rocks, or lodged in a chimney, but invariably they will be found in a tree; and if it is a large swarm, with evidences of a large quantity of honey, the hunter's foremost desire is how to secure them with the least work and loss of time. Therefore, consider the case of five bee-trees having been located the fall before, and in the following spring upon examination each one is found to be worth the taking. Granted the hunter has bees at home in some kind of movable-frame hive, and that he is entirely familiar with every condition surrounding each location he is ready to prepare the hives.

From a hive previously worked for the purpose, take all the frames and divide bees and brood in five parts as nearly equal as possible, placing each part in a hive and filling the vacant space with full sheets of foundation or combs ready built, and then after introducing an Italian queen to each nucleus so made you may proceed to the trees. It is best to arrange the work so that it can be done in one

day, which is generally possible.

Take with you all the necessary tools, etc., so that progress may not be hindered in substituting articles accidentally left at home. Some necessities are the nucleus, lumber for platforms, porter bee-escapes for each hole; nails, hatchet, saw, hand-lines, a good smoker—in fact, any little thing the mind of the hunter can imagine. The helper is needed, either sex; and after getting a position near the entrance to the wild-bee hive, adjust the escape so that all bees inside must pass out not to return. Then construct the platform so that, when the nucleus hive is set thereon the entrance of it will face and be next to the exit of the escape. Now blow a blast or two of smoke in both entrances, and go on to the next tree, the whole operation not taking half an hour.

Having finished up the five trees and returned home, nothing remains to be done but to wait and consider, noting the progress at each tree. Imagine two queens laying for the building-up of one strong colony. Can anybody expect less than a very strong working force? After five or six weeks have elapsed it is time to be up and doing, for the queen in the tree has been through laying for twelve or fifteen days, there being an insufficient number of bees to care for the larvæ, as all the young bees have joined the colony on the outside.

Therefore, fire up the smoker, throw in a small handful of sulphur, pull off the escape, and apply the fumes vigorously through the hole, changing the air inside leaving a dainty harvest for your swarm on the outside to rob out, which they will surely do in less than ten days. In fumigating, possibly it would be well to puncture the tree a time or two, near the top of the cavity, with an inch auger, and to add a super of sections or extracting combs if the same hasn't been done previously.

After the robbing has ceased it is time to take them home, which is more or less hard work. However, every thing is accomplished in a short time; and when

fall comes around again one can hardly comprehend the little labor and time these trifling operations cost him.

But circumstances alter cases, and in the beginning one should become assured each colony so found fully warrants the undertaking, as it is known that some bee trees never are strong in either bees or honey. Therefore consider well; and if it is decided the contents of the trees are worth the gathering, use this method and I'm sure pleasure and profit will crown your efforts.

To conclude, I will state that one swarm so taken and placed on a stand at home on the 10th of last July stored up almost forty Danzenbaker frames of honey new and old, there being some frames not perfectly filled, although the results as a whole were perfectly satisfactory.—Great Meadows, N. J.

How to close Hive Entrances.

A unique way of closing hive entrances has been invented by Mr. E. R. Jones, of Texas. It is the cheapest and quickest that I have ever seen or heard of. Ordinary wire cloth is cut twice the width of the entrance to be closed, and exactly the inside width of the same. For the standard $\frac{3}{8}$ entrance the strip would be $\frac{3}{4}$ inch wide, and for the $\frac{1}{4}$ inch entrance $1\frac{1}{2}$ inches. The strips are bent into shallow troughs by placing them lengthwise between two straight-edged boards, and letting half their width extend out, to be bent down by the use of another board.

On closing the entrance simply lay one of these strips down on the bottom board with its curved "back" in the entrance, and by means of a piece of section box push it into place about half-way under the end of the hive. This finishes the job. The strips are easily pushed in but not out. The sharp projection of the cross wires of the strips will "stick" into the wood above and below, and form a "truss" in such a way that the more pressure is put behind it the firmer the grip will be in the wood, it taking quite

a pull to remove them when releasing the bees. The point of a pocket knife is inserted at one end, and then prized out, and the screen is caught by the thumb and fingers, and pulled out by a hard, quick jerk. There is no danger of these entrance closers being pushed in or torn out en route, as they are completely hidden out of the way. Mr. Jones has shipped bees closed in this way in a car several hundred of miles, without any trouble. Care should be taken not to get the strips too wide, or the "teeth" will not stick into the wood. They are simple and inexpensive, requiring but little wire cloth, and no strips of lath and nails; besides, the time required in the preparation of many of the entrance closers now in use.—*Extract.*

INTERNAL TEMPERATURE OF HIVES.

Doolittle says in *American Bee Journal*: The question is, "How many degrees of temperature is there in a bee-hive, in the brood nest, or above the brood-nest?" I found that, with my self-registering spirit thermometer, it was very easy to get the highest temperature ever obtained in the brood-nest; but not so easy to ascertain the very lowest. From repeated trials during several years, I find that 98 degrees is the greatest heat that is ever allowed by the bees while rearing brood unless the outside temperature is so hot that the bees are all driven out from the hive, which is never the case in this locality. And this was proven by an experiment conducted on a day in which the mercury rose to 97 degrees in the shade, and 130 degrees in the sun, with the hives all standing in the sun. Just how it was possible for the bees to keep the temperature down to the brood-rearing point is something I can only guess at; but I know that they did it. My guess is, that it was done through their ventilating the hive from the entrance, with fanning wings, and the evaporation or making of moisture through "boiling

down" thin nectar or water or both, which was brought in. I hardly think it could have been done by ventilation alone for on a day when the air outside is within one degree of the limit of heat inside, with the sun pouring right down on the hive, it seems hardly possible that such a thing could be done.

A Simple and Reliable Plan for Making Increase.

Having put the horse in the farmer's barn I now proceed to place nine of the reserved bottom-boards, and as many covers on as many unoccupied stands, when I go to the hive having the brood from the best breeding queen that had the queen-cells with the little larvæ in them at the last visit, and, upon examination, I very luckily find that six of the ten combs have one or more fine, nearly ripe, cells on them. From one frame having four cells on, and two others having five, I cut two cells from each, and "graft" them into three of the frames having none, putting the frames back in place again. I now take one of the frames having queen cells on it, together with the bees on the same, and carry it to one of the hives having the tiered-up brood, taking from this a frame (bees and all) and putting the one with the cells in its place. In all this work with tiered up brood, when changing the same from one hive to another I do not disturb the bees on them, as bees above a queen-excluder are, to all intents and purposes, queenless, so make no trouble by putting them in different hives. It is best generally to put the frame having queen-cells on it near the center of the hive, as this seems to give the better results.

Having the frame with queen-cells in the hive, I next take the frame of brood and go back to the hive having the cells when it is put in the place left vacant there. In this way I keep on until the five colonies having upper stories of brood have a frame with queen-cells on it from the best breeder.

I now take off these five prepared upper stories, setting each on one of the bottom-boards previously placed where they are to stand, putting on the covers and adjusting the entrance to about three inches in length. The setting-off of these hives paves the way for using the other four frames having queen-cells on them in four more hives of brood, following the same plan in treating them which was used with the five now fixed on new stands, for the making of that many new colonies, so I have nine more colonies than I did when I entered the apiary an hour or so before. As the brood in these combs is all sealed now, and the bees on them are nearly all young bees, with more emerging every minute, there will be no setback to this colony from the bees returning to the colony they came from, as is generally the case with the most of the ways used in making colonies by the "set off" plan. And this is the best, quickest, and easiest way of making colonies with which I am familiar; and this I say after using it for more than ten years, and after having tried nearly all the plans given by others.

If for any reason I wish a greater number of colonies that can be made as here given, and wish them for the purpose of taking care of beeless brood, I make as many as I think I shall need, during my third visit to the apiary, in the following manner: I take two frames of emerging brood from the colonies having eight frames, and, instead of giving them to the colonies having the six combs of brood, I put them in a hive, after having brushed the bees off, together with two or three of the reserved combs—one, at least, of which should contain honey. The space left vacant where the brood was taken from, in the strong colony, is filled with two combs from the reserve pile, thus giving the queen in this colony room for more eggs. I now go to another of the stronger colonies and put a queen-excluder on it for the time being when this prepared hive, having the two combs of emerging brood, is set thereon,

where it is allowed to remain two or three hours, during which time the young bees come up from below sufficient to care for the combs and brood, after which it is placed on the stand I wish it to occupy. A queen-cell *will answer*, but the laying queen is much better.

By the way, full colonies can be made in this way at almost any time of the year when there is plenty of emerging brood by taking two combs of such brood from three or four strong colonies and adding to these frames of honey. I have made such with perfect success using six combs of brood and four of honey. It is so easy—no hunting of queen nor any thing of the kind; and the best part of the whole is, enough of the young bees *always* stay to make it a success. No need of natural swarming for increase when we can make as many colonies as we desire in such a simple, easy way. --Doolittle in *Gleanings*.

A RATTLER AMONG THE BEE-HIVES.

Yesterday, while doing some work with the bees, I suddenly came upon a rattlesnake at close quarters. I had just finished looking over a hive and started for the next in the row when I caught sight of him coming out between two hives. He evidently saw me at the same time, and doubled back, and crawled under a hive. My hives were on stands raised a little from the ground by little stones, and there was room for him to crawl under. With a pair of pliers I fixed a stout hook to the end of a lath, and with a "big stick" close at hand commenced fishing for my visitor. I could get the hook over him, but he managed to squirm away so that I could not pull him out. After working about half an hour I gave him up and concluded I would have to move the hive to get at him.

The bees were very much stirred up by the racket and poured out and covered me all over and followed the stick under

the hive, and evidently were making it as hot for the snake as they were for me for he would leave the corner where he was coiled up, and run around as though it was a very uncomfortable place. My hives are 2-story and quite heavy, and I had to go to the honey-house to get a tool to pry them apart, and when I did get them off of the bottom-board and turned over—there was no snake there—I was about as much surprised as when I first saw him.

The apiary is at the foot of a hill and the sage-brush comes down to within a few feet of the hives, and I hunted the round over thoroughly, but no snake could I find, and I had about concluded that I had lost him. Still, I was not satisfied, and didn't like the thought that I might come upon him at any time when he was coiled, and might strike me in an instant. So I went to probing under the other hives with the hook, and after feeling under 3 or 4, I had the pleasure of getting hold of him again; and worrying him a little more he crawled out at the opposite side, and I got in my work with the "big stick." He measured 3 feet and 4 inches, and had 9 rattles. I kill one or more every summer, and have killed larger ones, but this was the first one I ever found among the bee-hives.

American Bee Journal.

ABOUT SECTIONS.

From British Bee Journal.

In scraping sections I prefer an ordinary table knife, fairly sharp. Run this smartly over each successive side, handling as little as possible. Be sure you remove every particle of brace-comb and propolis, and be careful not to leave any thumb-marks on the wood. I don't like sand-papering, as some of the powdery dust generated is almost certain to taint the honey. Have a basin of clean cold water and towel near at hand, and use them frequently. In grading sections as they are being scraped, the eye—aided by the hand—is gradually educated to

consign only those weighing 16 oz., and with good finish and even sealing, to the pile where first-grade honey is placed. As a rule only these should be offered on the market.

Unfinished sections should be returned to the hives early in the season for completion, and it is best to return them when they make up an entire rack, to the strongest colonies. At the end of the season all of this class should be cleared of honey, either by the extractor or the bees, then carefully wrapped up and well preserved for bait sections the following year. All racks used early in the season have one or two of these placed in the centre to tempt bees up into supers.

Light-weight sections weighing under 15½ oz. should be placed aside as second class, and to them should be added any with broken sealing, from whatever cause any with rough irregular surface, or any otherwise defective. All these should be used at home, given as presents to friends, or sold locally at a reduced figure. Second grade sections placed in that category, either from want of finish or weight, should never be mixed with first grade.

The art of packing sections is easily acquired. As orders come in, secure grocers' empties, and select according to size of order. Place five or six sections side by side, first covering them with waxed paper. Pack in brown paper parcel, tying it lengthwise very tightly with fairly strong twine, so that it assumes the form of a solid brick. Thus packed, they come out on the grocer's counter fresh as when they came off the hive—an utter necessity if we are to make a full success of comb-honey. After sections have stood in the storing crates for some time, place them in a warm, dry cupboard protected from dust and damp. A press near the kitchen fire suits best, as it will be warm and dry there.

Too many sections should not be given to a colony at one time. A strong colony makes the best finish and yields the finest sections, every one full weight. A good flow aids, also a high temperature, and

rapid storing. A swarm makes the finest finish, and, as a rule, the finest grade of sections. Black bees finish off comb honey most perfectly, and their capping especially is the finest. Glazing sections is a costly and tedious job, but for those with the time and patience it may pay where there is a demand for a gilt-edged article. For the large grocer who handles extensively, the trouble is, however, thrown away. Something neat, cheap, and effective is all he desires, and this is found in the sheets of waxed paper cut to size required.

CAPPINGS.

To destroy ants, a French bee-keeper says—Take a common flower-pot, holding perhaps half a gallon. Plug the bottom and smear the inside with any sweet substance that ants are known to like. Invert the pot on the ant-hill; when the ants have swarmed up the sides of the pot, dip it in hot water.

A writer in a French journal suggested a few months ago, that in handling queens or cages containing queens the hands should be rubbed over thoroughly with beeswax, as that will prevent any odor from the hand adhering to the cage. He says there is something about beeswax that attracts a bee's attention very strongly, and seems to deprive the bee of its bad temper.

In regard to how I would have beekeepers keep more bees. I would not do it by increasing the number of beekeepers but by increasing the number of colonies now kept by those already in the business. I am working to increase the prosperity of the existing bee keepers, instead of adding to their numbers. If a man feels that bee keeping is his calling, he will be welcomed into our ranks, but I never believed in hurrahing in every Tom Dick and Harry. By so doing we often do a wrong to all concerned. — *Garden & Field*.

An English writer says:—"In reality bees clean their antennæ on the special apparatus of the nearest fore leg. But as to the tongue, it is generally cleaned I think, by the feet and the portion of the fore leg which is below the comb-joint. The attitude of the bee as she rests on her hind legs during the operation is very comical, and gives her the appearance of laying on the trombone.

The first symptom of the swarming impulse is the production of drone-brood. The second is the starting of cell-cups. The factors which induce swarming are a crowded condition of the hive, high temperature, bad air in the supers due to lack of ventilation. To prevent swarming, put wedges between the bottom-board and the hive, giving a large entrance; use a Longstroth hive, and a good queen will fill it just as well as she will an 8-frame brood-chamber. Use at least two supers on each hive, so as to get a hive capacity in proportion to the production of bees and honey.

In the *Progressive Beekeeper* a certain writer is strongly criticised. It says:—"His articles also contain a vague intimation that there is still left back some weighty matter that is too deep for the average beekeeper to comprehend, and therefore the more important part is left unsaid and unwritten. He has a way of soaring high above us, of the laity, breathing a more knowledge-giving and brain-invigorating atmosphere, and looking down on us with a feeling of pity, mingled with contempt. I believe it is well for such men to be called down occasionally and made to see and understand that the rest of humanity is not so ignorant that they cannot see the egotism of a high-flyer."

It was futile to compare America with England in the matter of apiculture. In England they worked on entirely different lines. The B. B. K. A. was started with the object of improving the cottager class; there was no suggestion that they should become large bee-keepers, but only that they should take advantage of the pursuit

as an adjunct to their ordinary occupation. In America the sole object was a commercial one, namely, the sale of honey. The size of frames there was to a certain extent immaterial, because the bee-master ordered his frames in thousands at a time so that the maker could supply him at a cheap rate. But in this country the manufacturer could not alter his machinery to suit an order for 20 or 30 hives; it would not be worth his while. Without a standard frame beekeeping in England would be more expensive than it was at present. In Switzerland and France the disadvantage of being without some such agreement had been largely felt, and efforts were now being made to secure uniformity in hives.

The shade around an apiary is low down, and very dense, so that the rays of the early summer sun are entirely intercepted, there may be a short delay in the awakening of the bees, and they may lose a little time in the early morning hours by the existence of this thick shade which delays the arrival of daylight. But if the shade is overhead, and the morning sun's rays are not altogether intercepted, there is no loss in the existence of that shade. I do not know but that even a slight delay to the bees may be beneficial, for it will prevent them from starting out when the weather is still cool. With a very early start some of the bees may find themselves chilled, and may perish or become so numbed that they are compelled to alight and remain inactive until the sun warms them. So, after all, even a little delay may be beneficial. There are some advantages to shade which certainly help make up for the possible disadvantage. There is less suffering from the heat of the sun during the hot part of the day, the bees are less likely to hang out, and the hive is less likely to become warped or to check under the sun's rays.

Wax Secretion.—Dr. O. Krancher has an interesting and instructive article on wax secretion in *Deutsche Illustrierte Bienenzeitung*, in which he explains the

way it is produced. The wax scales, as very bee-keeper knows, are produced on the four ventral plates of the bee. On these plates there are two transparent surfaces, irregular, pantagonal in shape, and these are covered by the segment immediately above them. The lower part of the ring, which overlaps the plates, is of hard chitine,* and the smooth surfaces are slightly sunk. It is on these sunk moulds that the wax scales are formed. If a longitudinal section is made through one of these plates a microscopical examination will show the secreting glands at the back of the transparent membrane. These consist of six-sided cells containing granules and a clearly apparent nucleus. It is of special interest to observe that it is during the summer when comb-building is at its height that these glands attain their greatest development. The more active the bees are in comb-building, the larger are the secreting glands and the more fully developed are the canals through which the secretion flows. When the bees cease comb-building, which generally happens when they are three or four weeks old, or are flying and gathering the secreting glands gradually shrink, and are no longer of any use. It is, therefore, evident that young bees, when their glands have their fullest development, are necessary for comb-production. The microscope also shows that the outer skin of the transparent surface has minute pores through which the secretion in the canals of the glands passes. The wax is produced in minute particles through these pores, the pressure of the upper plate causing the particles to unite and on exposure to the air the wax solidifies in the moulds, is then removed by the bee, and the process is repeated.

More than five years ago, Sir William Crookes uttered a warning note that the population of the world was increasing so rapidly that the supply of wheat would shortly not be sufficient to feed it, but said that before we were in grip of actual dearth the chemist would slip in and postpone the day of famine.

✻CORRESPONDENCE.✻

Rev. J. Digges, editor of the Irish Bee Journal, writes us:—Let me take this opportunity to thank you for your generous words in the Bulletin regarding this paper. I study your publication with avidity every month.

C. E. R., Baerami, Sept. 15th.—My bees wintered well. Breeding is going on apace at present. Some colonies occupying four stories. Prospects of a honey flow from narrow leaf ironbark (in a week or so) is good.

D. M., Deep Lead, Vic.—I can always speak well of your paper, and will continue to do so. The bees are very backward in this part. Fearfully wet winter.

T. J. B., Wallabadah.—I want to get to business, have had a very bad time for last year, only 18 hives left out of 56, have made up to 27 now in good form. I think the flow will last till Xmas.

S. H., Telangatuk East, Vic.—I have been very bad with Chronic Catarah and Bronchitis for a long time, last spring I had to go to Melbourne and go under an operation, and I have been very bad this last month, but am a little better now. Sorry to hear you have had such bad luck with the bees through the drought. We are just the opposite, it is the wettest season we have had for a number of years, having had about 25 inches from the beginning of the year. Our bees are not doing too bad, so far only lost 5 out of 150 hives, but if this wet cold weather continues the next month will be the most critical time. The prospects for honey look promising, but our Association has given such glowing accounts of the industry that this part is over-run with applications for bee sites, no less than 16 in the next parish to me, besides a number here on private lands. If we do have a good season honey will be at a

very low price. Kerosene tins are booming at 4/6 a dozen at Horsham, some very large orders going out. I hear as many as 2,000 to one man, and lots of 4 and 500. I could not go to our conference as I was too ill.

W. F., Bungowannah:—The past season was a good one for honey in this district. But the bees did not come through the winter too well, most of them being weak in the spring. There was very little swarming. There was a splendid honey flow during the spring and summer from yellow box and red gum, and a late autumn flow from white box. The spring flow was practically lost as the bees were too weak to take advantage of it. But they did very well in the summer and autumn yielding an average of 2 60lb. tins per hive. I see by your last paper that you have started dairying, and find that it is not what it is represented to be. I am truly sorry that you have lost so many of your bees, and I hope that during the coming season you will be able to at least double the number of your hives and get tons of honey and that your milk supply will also increase so that you will be literally in a land flowing with milk and honey. In this district the prospects are good the crops and the grass are flourishing and there is every appearance of a good honey flow.

J. E. D., "Woodlands," Maryborough Q., Sept. 8th, '06.—I may say that I have very little time for the beekeeping now, and I wish to discontinue taking the "Bulletin." I also am doing a little dairying, milking 70 cows twice daily and have pig keeping besides farming.

E. F., Woodstock, Sept. 12th —Bees are in splendid condition, and the prospects of a good season are better than I have known for the past twelve years. There is nothing to equal the superior qualities of carefully bred "pure" Italian strain of bees, and I cannot understand how some beekeepers still adhere to black bees or a slight cross of black-italian hybrids. The difference between

the two races is so obvious, that anyone can prove it to his satisfaction in a short time.

P. M., Gargar Apiary, Howlong.—I am glad to say that last season was not too bad with me. How is our Association going on, is it still alive. It would not do to let it die just because a few interested persons cannot get their own way, as long as the beekeepers are satisfied with the management I should think that is all that is required, and not what a few City men want. I hope there will be a meeting next year as all will. I would like to come, although it is a good few miles from here, but it shows that although the members are scattered all over the State, the B.F.A. brings them all in touch, which is good for the industry. I have shifted my bees as they were too confined in the town. I managed to get a lease of some land on the river a few miles away. I have taken a hundred colonies, and will take the balance after swarming. I have been so busy fixing up the new apiary that I have had no time to go through them, and lately it has been so wet I have been unable to do so. Am afraid I have lost a few by my neglect. I am glad to see that the A.B.B. is still holding its own, in my opinion it is the best paper of the lot, and I am always glad to see it come. I think your proposed new departure re dairying will be very acceptable to most of the beekeepers as I think many of them keep a few cows. Trusting you will have a good year and that you are all enjoying good health.

R. S., Parkes.—Bees working up very well, but the season will be much later than usual. Wishing you a good season and success to *A. B. B.*

H. M., Merimbula, writes—It is with much regret that I have to inform you that when my present term of subscription to the *A. B. Bulletin* has expired, I must ask you to strike my name off the list of subscribers to that useful little journal. During the number of years I have been

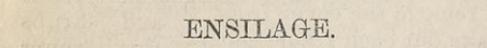
a member, the A.B.B. has been a help to me, and I have always looked forward with much pleasure to its arrival; but, bee-keeping is dead in this locality, the best honey bearing trees and shrubs have gone—bush fires and ringbarking have done the trick—so with deep regret the A.B.B. must go too. Wishing yourself, the A.B.B., and the Beekeeping Industry long life and prosperity.

J. G. C., Kangarilla, S. Australia.—Bee business is very dull about this part up to the present, a few swarms has been out but the weather is against swarming, there not being more than three or four fine days at a spell, then a weeks rain, which makes everybody smile but the bee-keeper. The winter has been very mild, being free from frost, also much wind. Bees have wintered very well, I have heard of very few dying around this neighbourhood. Wishing you every success.

[Our correspondent kindly enclosed a number of names of bee-keepers together with the number of swarms they work.]

We acknowledge receipt of the following from Mr. W. Abram, and are very sorry to hear of continued sickness in his family:—I meant to write a deal more on what I have just now written, but influenza sent me to bed till this morning and thus whilst the spirit was willing the flesh was weak. However I hope to be about again soon as the bees now want me. As far as I have observed they are in about the best condition I ever had them this time of year owing to the dry winter. And as they have heaps of pollen in the hives and fresh one is coming in from Wattle there will be no paralysis either, vide Beuhne.

For a number of years bee-yards in the neighbourhood of the big smelting-works in and about Denver U.S.A. have suffered considerable damage by reason of the sulphurous smoke killing the vegetation for miles around. Three of the big smelting companies have paid to the bee-keepers the sum of \$1500 apiece.

DAIRYING.

ENSILAGE.

The merits of ensilage are testified to by Mr. C. M'Kay, of Waroona, Western Australia. Last autumn he cut three acres of sorghum, yielding 15 tons of green-stuff, and stacked it under pressure. The stack was kept in shape by making a frame of hard wood to prevent the stuff from spreading. Early in May a first cutting was made from it and was found to be good, sweet ensilage, which, when chaffed, was eagerly eaten by the cows. The chaff was mixed with half its bulk of hay, a sprinkling of bran being added. I milk 13 cows," says Mr. M'Kay, "and I could not continue dairying through the winter if it were not for my ensilage stack."

DEVELOPING HEIFER'S UDDERS.

Heifer calves should be handled very often to keep them gentle, and frequent manipulation of the udder during the first pregnancy will do much to stimulate development. This frequent handling of the udder is of no little importance, not only in securing better development, but also to make the heifer so familiar with the operation that when her calf is dropped she will take the milking as a matter of course, and will not require to be "broken."

The heifer should drop her first calf when she is about two years old, as this will make a more productive cow than when delayed until another year. When the first calf is not dropped until the third year, one calf and one year of milking are lost, and the heifer acquires a tendency to use her surplus feed in the laying on of fat instead of the secretion of milk—a tendency which will be retained through life, and which would have been avoided by earlier breeding.

ENSILAGE FROM MAISE STALKS.

Mr. Denham, Minister for Agriculture in Queensland, explained recently that the Department of Agriculture in that State was going to try some experiments in the making of ensilage. It is well known that green maize makes good ensilage. Mr. Denham however, has decided to utilise the stalks if maize from which the grain has been taken, and moisten them with a spray when putting them into the silo. He would also have another experiment with an infusion of molasses in the water. Trials of this kind have been made in the United States. A farmer grew a heavy crop of maize, intending it for the silo, but finding that it produced an enormous quantity of cobs, he allowed it to ripen, and then cut the stalks, which were 14 ft high. The maize, when pulled and husked, yielded 1200 bushells. The stover (the stalk on which the maize cob grows) was then chaffed, and put into the silo, a half-inch stream of water being played on it, the resulting ensilage turned out to be sweeter than the ensilage from green maize. His cows, after being fed on it, yielded from 8lbs to 10lbs of milk more per cow per day than before using it. "Now," remarked Mr. Denham, "the maize stover is not valued in our state—and invariably the cobs are allowed to remain on the stalk. If we can testify to the correctness of this statement that stover which is mixed with water, makes a good ensilage, then the farmer has a valuable fodder at no cost apart from labour. The ensilage might be improved further by adding a little molasses, and this experiment will be tried by the Department."

Blackberry hedges are a great nuisance on many farms, and to many it seems impossible to get rid of them. The following is said to be a certain remedy:—1 lb arsenic, 2 lbs washing soda, 5 gallons boiling water mixed while boiling, apply to roots after digging around.

FARMING.

Since our last issue our district has been visited by copious showers of rain, and herbage, and crops have grown beautifully. It all looks like a beautiful garden. Water is again plentiful, and creeks that had not been running for nearly twelve months are doing so now. Cows gave a great increase of cream, and farmers look forward hopefully to their cull cows and steers becoming "fat", and realizing good prices. Much anxiety is evinced by neighbouring farmers that if there is much more rain rust will develop in the wheat crops.

CAPPINGS.

Select only the finest queens for breeders. The principal points to look for are these: See that a queen puts but one egg in a cell, and that the eggs all cant the same way—point down. The eggs should be large and quite plump. Now this may seem to some bee-keepers rather fuss. I am able to see a great difference in the size of eggs laid by different queens. By close examination any one can see that some queens lay quite small eggs, while others deposit eggs nearly twice as large. When I find a queen whose eggs are small, and canted in all ways but the right way, her head comes off quickly, as such queens are worthless for any purpose.—Henry Alley.

When queenless bees are used for cell-building they should be supplied with eggs within 6 or 8 hours there-after. My method for rearing queens by queenless bees, or rather for having queen-cells built from cell-cups in this: I select the strongest colony in the yard one having a prolific queen and at least 8 frames of brood. (A colony having an old queen is preferred, as bees from such a queen build the finest cells.) This colony is taken in to the operating room and I then treat the bees to tobacco-smoke

in small doses, and drum on the hives to cause the bees to fill their honey-sacs, and when they have done so, and that the tobacco has completely subdued them, I remove the cover from the hive; then take out each frame separately, brushing the bees from the combs into a box having plenty of ventilation. The queen is found and caged, and the bees left queenless for 6 or 8 hours. The combs are replaced in the hive they were taken from and other bees (queenless ones, if at hand) are put into the hive and a fertile queen introduced. The colony just made queenless has from 60,000 to 75,000 bees, mostly young ones. Twelve days after the eggs are given the bees, I have as fine a batch of large, golden queens as anyone could desire to see. The eggs given the bees from which to construct cell cups had been deposited in drawn foundation three days, or 72 hours before the colony was made queenless. The one point I wish to emphasize is, that bees, long in a queenless condition, will not rear good queens.—HENRY ALLEY, in *American Bee Journal*.

Mr. Holtermann is opposed to exposing honey to the air. "The aroma is lost," he says. It may be; but here our best honey is that which lies in the tank exposed to the sun's rays for the longest time. Had I tanks enough I would leave it all out until the close of the extracting season, simply covering the tank with a white sheet. After a week or so of exposure a scum resembling the white of an egg covers the surface one-fourth inch thick. I want this out of the honey before I can it up.—F. Archibald in *Gleanings*.

Cotton is one of our very best honey-plants, especially is this true where it grows on black, waxy land. Cotton grown on sandy land does not yield nectar as plentifully as it does on black land. This, I think, accounts for some saying that the cotton-plant is not a honey-yielder with them. One of the heaviest honey-flows I ever witnessed was from the cotton-bloom. The honey is water

"clear," and of good body and flavor, and I consider it the equal of any honey I ever saw; but like alfalfa honey, it is quick to granulate. *American Bee Journal*.

F. M. Beamish, Pucklechurch, sued Thomas Nicholas for a swarm of bees or their value, 20s. Mr. Batson, solicitor, defended. Plaintiff said he kept over twenty stocks of bees, thirteen of which were the Italian variety which he imported direct. These were distinguished by the yellow bands on their bodies, and there were none but his in the district. He found the bees had swarmed, and two days after found that defendant had hived them in his garden. He offered him 5s. for his trouble if he gave them up, but he refused. Specimens of English and Italian bees were shown to his Honour. Mr. Batson was proceeding to cross-examine as to identity, when his Honour said the law was, you can follow the swarm and not be liable for trespass; but if anyone else follows and hives them they become his property. Bees must always remain wild, and there is no difference between English and Italian bees. He quoted Blackstone as to the law. The property in the bees became that of defendant directly he hived them. To defendant: Now, Mr. Nicholas, will you let him have these bees if he pays you 15s.? I cannot make you give them up, but you ought to. Defendant: I am not sure they are his bees. His Honour: Very well, I shall not give you costs. Judgment for defendant without costs.—*Western Daily Press*.—*England*

Grass-hoppers are at times great plagues. Gleanings gives a plan to get rid of them. Poisoning is expensive, and not very practicable. Some of the American ranchmen destroy great numbers of them by the use of what they call "hopper dosers." This is a large frame-work, three or four feet high, on runners, that is drawn across the field. The frame-work is covered with cloth, and at the base is a pan that is kept partially full of crude petroleum. The hoppers fly up, strike the

cloth, and many of them fall into the oil which kills them. One man tells me he killed fifty bushels last year.

Where wax is desired it is usual to space the frames wide apart so that only 7 or 8 frames are put in a 10-frame, and only 5 or 6 in an 8-frame hive. When uncapping these combs before extracting they are shaved down to the regular thickness, so that a great deal more wax is obtained than when the regular number of frames is put in the hive.

I am not very anxious to have bees that do not have life enough to sting when they think they should be on the defensive. Usually the bees that are ready to "bite" a fellow come from the strong and vigorous colonies. Don't be afraid of a few bee-stings. We all know at this age how to handle bees and get but a few stings. For my use I would not reject a queen as a breeder if her only fault was in the fact that her bees were a little cross. Nor would I use a queen to breed from if her colony were bound to sting every time one went into the beeyard. Such colonies spend their time in hunting up some one to sting. I have had a few black bees that seemed always on the wing, ready to "go for" the first person who entered the apiary. The yellow races of bees do not, as a rule, use their stings so freely and vigorously as black bees. But who cares for black bees? No one wants them, but the way back beeman—the fellow who doesn't read the bee-papers.—*Henry Alley in Gleanings*.

The following resolutions were recently passed at a meeting of the New Jersey (U.S.A.) State Beekeeper Association.—Whereas, provided such satisfactory arrangements cannot be made, the Committee on supplies are hereby authorized and instructed to take steps necessary for the formation of a stock company, composed of honey producers only, for the manufacture and sale of beekeepers' supplies. Whereas, an organi-

zation of honey producers should be composed of honey producers exclusively, and work for their interests? Whereas, we, the members of the New Jersey State Bee-keepers' Association believe that the National Beekeepers' Association is largely controlled by other interests, resolved that we, the members of the New Jersey State Association of Bee-keepers in annual convention assembled, recommend the formation of a honey producers' organization that will promote and protect our interests in a business like manner, free from all entangling alliances.

If you are wise, the first hard work you do when you find a colony queenless in spring is remorselessly to break up the colony and distribute its parts to the other colonies. The words "hard work" are used advisably, for it is hard work for the beginner to reduce by one the number of his colonies; but it is the profitable thing to do. He may have one less colony; but he will have more bees and at and at the end of the season more colonies.

The great bulk of superseding is done at or near the close of the honey harvest when one might naturally expect the queen to be worn out by the arduous task of providing so many thousands of eggs for the season.—Only occasionally does superseding take place in the spring; and then it behooves the bee-keeper to be on the lookout, for the great probability is that a queen reared so very early in the season will be worthless.

One of the Beekeepers' Association of Switzerland sent to its members cards asking which race of bees they liked best. 1865 preferred the black bees, 147 the Carniolian, 48 the Italian, and 393 the hybrids.—"American Beekeeper."

The harmless birds and beasts of other countries develop into pests with astonishing rapidity when acclimatised in Australia and New Zealand, and the bumble bee is the latest apparently harmless creature to develop objectionable characteristics. A writer in the "Wanganui Herald," in a recent budget of horticultural

notes, observes: My attention has been called to the damage that is being done in vegetable gardens by the bumble bee. It was noticed in several gardens last season that it was impossible to get any matured brood or french beans. Although the plants grew and bloomed healthily, still the flowers all dropped off and scarcely a bean matured. It was found on examination that the bumble bee, when trying to get the nectar from the top of the flower, and not being able to do so; immediately went to the bottom on the outside, just above the calyx, and made an incision in the flower shell. He got the nectar, but incidentally destroyed the life of the seed germ. The same treatment was meted out to the beautiful wisteria. We all know this bee was imported for the purpose of fertilising the red clover and cow grass, as it was considered the above clovers would not fertilise without some such means. But the gentleman who gave me the above information informed me that his people had found the red clover with thoroughly fertilised seed thirty years ago, long before ever the bumble bee was in the district."

Some American bee-keepers have taken a fancy to deep bottom boards, allowing a space of one inch or over below the frames in winter. It is claimed that bees winter better with hives allowing this space, that the air is kept fresher and sweeter, that combs are drier and healthier, and that all débris, dead bees and other waste matter, is kept at a respectable distance from the cluster.

The infinite superiority of Nature's handiwork over the finest work of man is clearly illustrated in the relative fineness of the point of a bee's sting and that of a delicate cambric needle. Under a powerful microscope the former is hardly discernible, while the latter appears to be about an inch in diameter and very coarse and rough in finish.—*Exchange*.

Gleanings says: 100 acres of buckwheat might be sufficient for 50 or 100 colonies in New York State.

How to Move Bees a Short Distance without Loss.

We are often asked how to move bees a short distance, say a rod or two. We generally advise against doing this in the height of a honey flow. One way is to carry the colony or colonies to an out-yard and leave them there for about two weeks, then bring them back and place them at any point desired; and another way—one that we have been using with very good results—is to move the hive in the direction of its new location a foot or more every three or four days until the hive is at the desired point. This summer we rearranged a whole bee-yard on this gradual moving plan, and soon had them where we wanted them, without any loss of bees. — *Gleanings*.

The following extract is from *Gleanings*: Wonderful accounts are appearing of great yields of alfalfa over a large acreage near Fayetteville, N.Y. You know, Mr. Editor, that bee-keepers are not scarce in that vicinity. Can you get one of them to tell about alfalfa as a honey plant there? The editor replies: Alfalfa honey from York State is unknown. I do not know of any place in the East where that plant has ever yielded any honey. I have never seen our bees go near our field.

Putting a weak colony over a strong one is not a regular success, though some say it can be done successfully, where both stocks are pure Italians.

As in humanity, or in cattle, crossing or introducing fresh blood makes the result better in bee surgery.

Bees live much longer when honey is abundant in flowers than when the yield is very light. In a season of scarcity, although there may be a large amount of brood in the hive, the colony will not become strong enough to cast a swarm; while if honey is plentiful they are soon running over with bees.

Will our Victorian friends please note that letters to N.S.W. must have a 2d. stamp affixed. For all Victorian letters with only 1d. stamp affixed, we have to pay 2d. fine before it will be delivered.

W. R., Monaro.—We are having a trying spring. Cold cutting winds. Bees are very late.

G.K., Dungog.—We have gone through a terrible time for bees and everything else, but things are looking brighter now, but more rain would be needed. I may say yours is the only bee paper I have taken, and one of us will always take it. Wishing you a prosperous season.

F.H., Glenorchy, Vic.—We are having a bad time of it here. Last season being the off season, we got very little honey. We have had one of the wettest and coldest winters this season that we have had for years. It is now the middle of October, and we have not had a good day of sunshine for the bees yet. The losses in this district have been very heavy. I have lost about 30 per cent., and what are left are very weak, and if the weather does not soon come warm the losses will be heavier, and this our good season for honey. Trusting that you are having a better time.

A Victorian wants the address of a bee-keeper. He only puts a 1d. stamp on his letter, so the N.S.W. postal authorities impose a fine of 2d. on us. It will take another 2d. to reply. As the A.B.B. does not rely on selling supplies for its support, such business as that is by no means profitable.

An American Journal says: The bee business is a scientific study, in fact, as fine a study as law or any other.

WANTED.

A BEEKEEPER who understands Bees and can milk a cow or two. £1 per week and found. Permanency to suitable man.

THOS. HALLORAN,

"Fernleigh," Wagga.

WEAK HIVES.—An American authority says some bee-keepers are so slack that a large per cent. of their colonies give them little or no surplus. The idea of having one hundred colonies, and getting surplus from only seventy-five, is all wrong, and this way is a slipshod method of caring for bees. My advise is, just as soon as you find a colony that is not doing well, attend to it at once. This is your business. Either put it such a shape that in a few days it will be all right, or unite it with another. If you do not want to unite, put it with your nuclei, and consider it one of them. Tinkering with weaklings is little good. We don't keep bees for the sake of merely counting a large number of hives.

26th Annual Price List of Best Italian Queens from the First Bee Farm in Australia, recognised as Absolutely the Best Bee Farm for the supply of Queens, Hives of Bees, &c. Always winner of most prizes.

QUEENS—Untested, 5/- each.

Tested, .. one 10/- ; three, 25/- ; six, 45/-
Select Tested, one 15/- ; three 40/- ; six, 70/-
Extra Choice, one 25/- ; three, 60/- ; six, 105/-

Untested from imported, 10/- each; tested from imported, 15/- each; breeders, 25/- each.

Also, Swarms Hives of Bees, Implements Foundation, &c.

W. ABRAM,

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Established 1881.

P.S.—My knowledge and experience of nearly 40 years practice enables me to breed and supply Queens Superior to Any, possessing the Most Desirable Qualities combined. Desiring to maintain that High Reputation, I again submit for your consideration the fact that I can supply to satisfaction, if you give me description of your requirements. Thanking you for past favours.—I remain, yours truly, W. ABRAM.

CYPRIAN QUEENS.

Tested, 7s. 6d. each.


Posted from 1st November to 1st April.

No disease in my apiaries.

W. REID, Sen.,
"Honeyvale," PAUPONG,
Via DALGETY, N.S.W.

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Untested, 5/- ; Tested, 7/6 ; Select, 15/-

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