The Australian bee bulletin. Vol. 12, no. 7 October 29, 1903

West Maitland, N.S.W.: E. Tipper, October 29, 1903

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

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. 12. No 7. OCTOBER 29, 1903. PER COPY, 6D

Per Annum 5s, booked 6s 6d, in Australasia, outside N.S.W., add 6d. postage

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RULES & OBJECTS.

1. The careful watching of the interests of the industry.
2. To arrange for combined action in exporting honey to relieve local glut when necessary.
3. To advise members as to suitable localities for establishing apiaries.
4. Any beekeeper can become a member on approval of committee, subscription 2/6 per annum.
5. That every member with more than 50 hives shall be allowed an extra vote for every additional 50 effective hives.
6. No member be eligible for office who has less than 50 effective hives, or his subscription is in arrear.
7. The Association to consist of a central body and district branches affiliated with it.
8. The principal officers be such as will undertake to meet each other in committee at least once in twelve months.
9. The officers shall consist of President, Vice-President, Treasurer and Secretary, and Executive Committee.
10. After the first election of officers, arrangements to be made by the Secretary to call for nominations for office-bearers, and issue ballot papers prior to the next annual meeting.
11. Supply dealers or commission agents cannot become members.
12. Members unable to attend meetings or conventions can authorise or nominate any member they know will be present to vote for them on any subject brought forward. Such vote or votes to be in addition to the member's present own vote.

Printed and Published by E. TIPPER, proprietor, High Street, West Maitland, N.S.W.

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E. TIPPER.

EDITOR & PUBLISHER. WEST MAITLAND & WILLOW TREE.

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MAITLAND, N.S.W.—OCTOBER 29, 1903.

AMONG THE HIVES.

Our principal work in the apiary during the past month has been getting everything ready for the coming (big or little) honey flow. Extractors overhauled, two new buckets put in—the old ones had been use for over ten years; new wire screen for uncapping tin; examining every hive, to cut out drone comb or drone larvae. They will build drone comb some where or other. Where queen cells are started with intention of swarming, removing hive to new location, and an empty hive with one good queen cell on old location. Keeping account when young queen is likely to go out, and give frame with larvae. In hive itself, either destroy all queen cells, or put them in West cell protectors, if good ones or a good queen mother, to be used in place of inferior queens. With our three apiaries this all takes up much time. And from our back door we sniff each evening for the welcome scent that tells honey is coming in, and the yellow box trees are opening out their buds and disclosing and developing the honey ourselves and our bees are so anxious for.

SWARMING.

Give plenty of room—Simmons' plan was to place an empty hive under. Some queens progeny are much more addicted to swarming than others, the chief

offenders being black and Carniolan queens. That has been our experience. All such should be superseded. Keep down drones, by cutting out drone comb, and putting worker comb in such places. Our heaviest swarming time was the Autumn following our best record honey season. Have good sized entrances. Give plenty of ventilation in hot weather, but—if flat covers—raising them slightly.

Dwarf Essex rape is said to be a good honey plant.

Young bees do not swarm the first year as a rule.

Sleeplessness yields to internal honey treatment.

Pickled brood is neither ropy nor contagious.

A spray pump is a useful tool in an apiary to assist in securing swarms.

New way of introducing queens, said to be very successful. Half drown her.

Apply a plaster or poultice of honey and flour on severe burns, also on boils.

Honey and unsalted butter made into a salve is excellent in case of scalds and burns.

The rainfall in Great Britain during the past year has been the heaviest since 1879.

What was at one time America's great honey yielder, basswood, is rapidly disappearing.

"Queen right," a new expression from the Germans, meaning there is a good laying queen.

Simmons' non-swarming plan consists in having empty combs between the brood-nest and entrance.

A big thunderstorm with hail will knock all the brightest prospects of a honey crop into nothing.

Honeywater flavoured with fruit juice, lemon or berry, make a good drink for fever patients.

Honey dissolved in hot water is good for hoarseness and coughs, beneficial in diptheria, influenza, and lagrippe.

Of all the suggary matters, honey is the only one containing iron; and, strangely enough, almost exactly in the same quantity as found in white bread.—*Exchange.*

Some American soldiers in the civil war are said to have taken a fancy to honey on fried bacon—Funny, isn't it!

As many as 97 stings are said to have been taken out of the gizzard of one queen oriole or bee-eater. It may be true.

One roaring-big colony with a young, prolific queen, and plenty of room, will store more surplus honey than ten small colonies.

A purchased queen may not be up to much, probably caused by shaking in the transit, but her daughters will be the proof: Note this.

Sir John Lubbock has figured out that if a man should eat as much in proportion to his weight as does the spider he would consume inside of 24 hours as much as two whole beeves, thirteen sheep, ten hogs and four tons of fish.

East Africa is well supplied with honey bees. The natives use wooden tubes for hives, also tube-shaped hives braided from grasses, coated with clay and closed at both ends with wooden disks. Many of the honey-loving negroes obtain the honey by hunting bees in the woods.

F. W. Penberthy writes—Licenses for Out Apiaries is a thing that could be abused by using it for retaining gold, mineral, or prospective township lands, unless there were provisions to prevent it, I think it would have to be attached to a Land Bill. A special lease will cover all is wanted, but rather expensive to start with.

The following plan for adding room seems to be the most general: "An empty super is put next the brood-nest; next above this the super nearest completion, then the next nearest completion, and so on, the one least advanced being on top. If it seems possible that more room may be need, an additional empty super is put above all.

A swarm on a high tree. Tie a stone to a string, the string attached to a rope.

The stone thrown over the place where the swarm is, perhaps with the aid of a long rod. The stone falling draws string and rope. When rope, which should be sufficiently long, is well over the bough with swarm, take ends in both hands and shake the swarm well. The bees will fall into a hive prepared with combs and young larvæ, which should be placed underneath.

The Solar and Steam Extractor.—In the sketch of above in our last issue we have had to improve on. Instead of the Escape tap E, two holes at top of rear of tank ⅛in. is sufficient to let all steam escape. The steam condenses to water in the tank. The steam in the tank causes the water to boil, and those two holes allow the steam from that again to get away. We are satisfied we are giving the beekeepers of Australia the most advanced method of rendering wax yet given to the world, whether European or American. Wax will require to be put through a couple of times. The sun will do the bleaching.

MOUNTAIN FORESTS AND IRRIGATION.

[by J. BLACKBOURNE.]

(Continued.)

In Italy the decay of the mountain forests has become a matter of grave national apprehension, and has been caused by the occupation and clearance by the peasants of steep hill-sides formerly covered with vegetation. They disregarded a law of Nature, and by tearing the robes of green from the breast of mother earth unduly in such places, produced landslips, torrents, and devastating floods ; and the lodgment of great quantities of debris in the valleys caused widespread damage to gardens and vineyards, and arable and pasture lands. The Government and private individuals are now spending money largely in tree-planting on the denuded mountain ranges.

A notable example of the evil effects of mountain forest destruction is seen in the Karst, an extensive region of elevated slope and tableland stretching along the Northern Adriatic, in Austria. This tract of country was originally covered with immense forests of the finest oak, and was resorted to by the Romans for timber for ship-building and other purposes. During subsequent centuries it continued to supply the maritime nations of the Mediterranean with material for naval architecture until during the long period that the Republic of Venice controlled the Adriatic coast, the work of forest destruction was completed. With the removal of the arboreal cover erosion by wind and weather quickly started. The soil was first swept away, then the limestone rock by the action of the weather broke up and pulverised, great fissures appeared into which the waters of the winter rains and melting snows poured and wore larger and deeper. So gradually what was once a fertile region became an arid waste. This denuded tract is remarkable for gales of extraordinary violence that swept over it. No elastic forest vegetation exists to break the force of and mitigate the severity of these furious wind storms. The Austrian Government has with praiseworthy energy entered upon the work of reafforesting selected portions of it. An undertaking of this kind must, however, be always slow and costly. It is hard to repair, even if possible, the damage caused by centuries of mismanagement and neglect.

In the United States, according to an eminent authority, N. Jarcrow, LL.D., the undue felling of timber in the Adirondack Mountains has lowered by five feet the average depth of the noble Hudson River, which has its sources in that region.

These are a few facts, taken from the records of other countries Do they not teach us a lesson worth adopting in the management of our own forest areas ? You have all heard of

THE FUMINA COUNTRY

that the Forest League have lately endeavoured to save from the axe and fire of the selector. The land is generally unfit for settlement, and contains the sources of the numerous streams that constitute the head waters of the Latrobe River which, you may remember, flows into the Gippsland Lakes near Sale. Denude thirty or forty thousand acres of these ranges, as proposed, of forest cover, produce the "slate roof" conditions, and disaster will overtake the people occupying the fertile flats lower down the river as surely as night follows day. I am pleased to state, however, that in answer to a large deputation that waited upon him last week, Mr. Taverner has promised to stay his hand with regard to the Fumina country, pending a report from the Forests Commission.

I fully understand and sympathise with Mr. Taverner's difficulties. We are losing the flower of our population, and people are clamouring for land in all directions, but the department is working on wrong lines. They should resume the fertile areas (privately held) for settlement like they are doing in progressive New Zealand, and leave intact for the benefit of all the mountain forests of the State.

The red colouring denotes the most important and largest of the areas now classed as State forests, and making up, as I have already informed you, an area of about 5,000,000 acres. You will notice also that in the Mallee country, comprising a large portion of the State, there are no reserves of any kind. Well, to tell the truth, not much timber of value exists there, but when I was in the Victorian Forest branch we tried to induce the Lands people to leave protective belts of mallee, and where possible Murray pine, at intervals, at right angles to the prevailing winds. Our project was vetoed as being both "impracticable and inadvisable," but the wholesale "blowing away" of the surface of the Mallee country last year amply proved the wisdow of our advice.

The blue colouring on the map roughly indicates the 6,000,000 acres that the Lands department propose to have occupied in small homestead areas and "cleaned up"; that is, the tenants will be encouraged to destroy the forest cover. A start has been made to arrange for the allotment of over 300,000 acres to them. You will notice that the blue area embraces the Great Dividing Range, from whence the Goulbourn, Broken, Ovens, King, and Mitta Mitta Rivers rise, and flow north into the Murray; while from it to the south originate the Latrobe, Macallister, Thompson, Mitchell, Nicholson, Tambo, and some tributaries of the Snowy River. This territory is, I maintain, of infinite value to us, and you must admit that it should be permanently retained.

(*To be continued.*)

PARALYSIS.

Mr. A. C. Miller says in *American Beekeeper*:—Several years ago nearly or quite one-third of my apiary was diseased, and the prospect was that I might have to abandon bee-keeping because of it, after nearly half of the diseased colonies had died. Experimenting with all the methods of cure I could hear of, the use of sulphur proved the only method of any value. This I applied to three or four colonies at a time, then in a few days to a few more. Then, after an interval, to more, and so on, until all had been treated. The result was the entire cure of each colony treated in the order of their treatment, while not a colony in the yard recovered until a certain time after treatment, showing conclusively that it was the treatment which affected the cure. I have used the same method more or less since then, but not to so great an extent. Out of some 40 or 50 altogether which I have treated, all were cured by one treatment except three,

which required a second one each. As many have reported failures in treating diseased colonies with sulphur, it looks as if they must have misapplied the sulphur some way, and I think it will be best to give in detail the way I have used it.

I always go to the colony I am to treat during the day, and take away all the combs that contain brood; or, at least, unsealed brood or eggs, and give to some other colony; then in the evening, as soon as the bees have quit work and are all home, I proceed to dust sulphur over every comb in the hive, and, if possible, on every bee in the hive. I never measure the exact amount of sulphur used, but suppose about a teaspoonful to every three or four combs in the hive.

I do the work by taking what sulphur I can hold between my thumb and first two fingers and dusting same over first one side and then the other of each comb, bees and all; also over any collection of bees there may be off the combs in any part of the hive. My aim is to have a thin dusting of the sulphur over every bee and every comb in the hive. The thinner the dusting the better, so it reaches everything in the hive. I tried using an insect power gun, but couldn't do as good work as I could with my fingers. The next day, after doing this dusting, I carry back to the hives the same number of combs and brood as I had taken away.

The reason for taking away brood before dusting the combs, and returning again afterward, is because the dusting of combs not only kills all the unsealed brood in the combs, but ruins these same combs for brood-rearing. If such combs are left in the hive, all eggs deposited in them will hatch out all right, but the larvæ will die as soon as hatched. By giving these same combs to strong colonies, they will clean them out and use them all right, and no loss of combs or brood will result.

For a week after dusting a diseased colony with sulphur, fully as many or more bees will be dying as before the dusting; and this fact may lead some to think the "cure" is not a cure. It will take a couple of weeks before one can tell whether the treated colony is cured or not.

Diseased colonies are usually very weak in numbers after being cured, and are of very little, if any more, value than a good nucleus. I have doubts whether it really pays to cure them except such as can be treated very early in the season, before nuclei can be profitably made. For the last year I have adopted the plan of curing such colonies as needed it as early as the middle of February, or even earlier; after that I make as many nuclei as is needed for the purpose, and as soon as they have a young laying queen I take away the combs from the diseased colonies, giving the brood to these nuclei, thus building them up into good colonies and destroy all the diseased bees with sulphur fumes.

In changing combs from diseased to other colonies I am very particular to know that each comb is absolutely free from bees, especially of dead ones that may be in some empty cells. Diseased bess quite often crawl into empty cells to die.

QUEEN-REARING.

UNIQUE PLAN ORIGINATED AND PRACTICED IN TEXAS.

Here is what I claim for this new plan: Safe introduction of virgin queens at the very moment a laying queen is removed from nuclei of any age. Prevention of laying workers, and greatly avoiding the destruction of cells. Absolute control of the mating of queens. Reducing to the minimum desertion of nucleus colony. Employment of common labor in nuclei yards—or, in fact, the ability to run your yards without the necessity of having to see them. In enables one to rear more queens in a month than is possible in six

months by either of the old systems; and I believe this method will be in general use in the near future.

Last spring while employed by a southern queen-rearing concern, I found myself on one occasion with several hundred cells near the hatching point. As there were scarcely any bees from which to build nuclei to accommodate these, I constructed a lot of simple and cheap nursery cages, as follows:

Take a piece like the bottom-bar of a brood frame. In this three-fourths of an inch apart, cut saw-kerfs one-eighth of an inch deep. Cut from old sections a number of pieces the same width as bar, and three fourthe of an inch long. Drive these into the saw-kerfs. Now cut a strip of wire-cloth the length of bar and long enough to cover the cages. Now procure a piece of comb and shave the cells from one side down to the septum. Fit pieces of this snugly between the partitions, with base resting upon the bar. One side of the cage should have had the wire cloth nailed on before inserting the comb. You are now ready to place the other side in position also and tack it on. Now fill the little combs with extracted honey; then fit little square plugs in the open top, and the cages are complete. These plugs should first be dipped in melted wax, however.

To introduce the cells it is but necessary to touch them to the hot smoker, press them gently against the waxed plugs and they will readily adhere. When the cells are all in, the nursery should be placed between two combs of brood in a strong colony, which has a laying queen. Two of the nurseries—22 cages to the nursery—to each brood frame, hang between the combs of brood.

Build your nucleus hive as follows: Take two shallow frames (simplicity) and nail a wide board on each side of them. This comprises the hive bottom and top. Bore a one-fourth-inch hole in one of the upper corners of the board, and so fasten a piece of perforated zinc that it can be turned to stop the entrance, or make it queen-excluding at will. Now take another frame of same size and place it between the other two, holding them firmly together while you fasten a piece of leather, for a hinge, across the bottom-bars, so as to clamp snug and tight. Two little staples and a wire hook will serve to fasten the tops together, and if the hook has the right crook, it will bind them securely. Now you have a complete one-frame nucleus hive—one that you can handle as roughly as you like, and one that will stay stopped up when you want it stopped.

To stock this hive with bees you have only to place a comb of honey (no brood), between these two boards, take a tin cup and dip up about 200 bees, open one side of the hive and pour them in; close the hive and run in the virgin at the entrance. Rember that queenless bees must be used. Bees which have cells ready to hatch are the best to stock with. To introduce old virgins, turn the zinc over the entrance and carry the fertilizing hive not less than 300 yards from any large colony and place in the shade. If the comb is built well into the frame you can drive along in your buggy and pitch it ont into the brush on either side of the road. In a few days the queens will be laying. Drive along and gather them up and carry them back to the apiary. Cage your queens and shake the bees out in front of a queenless colony, or unite the bees from several of them, give them a queen and a frame of brood, and build up a colony. Remember, we do not have any bees in the queen-rearing business, excepting cell-builders. One strong colony will stock 100 nuclei, and will not swarm out, if directions are carefully observed.

Having caged your laying queens, go to the cell-building colony, restock your nuclei, introduce the virgins or cells and start your boy for the woods. We haul about 100 of those miniature hives in an ordinary buggy.—C. B. Bankston, in *American Beekeeper*.

PRESERVATION OF FORESTS.

(*Melbourne Argus.*)

Among the Victorian public bodies that deserve hearty support is the National Forests Protection League, a conference convened by which was held at Maryborough last week. There is no subject that so vitally affects the welfare of Victoria as forest conservation, and none to which the saying that "what is everybody's business is nobody's business" so fitly applies. Hence the years go by, and our forests are steadily dwindling, with what results to mining and other industries, and to agriculture through diminished rainfall, the near future will too surely show. If there is one lesson taught by history, it is that when once a country is denuded of its trees its agricultural ruin is accomplished. As is well known, the effects of forests in conserving the rainfall is very great. Much attention is rightly being paid to irrigation, but nothing is being done to stop the destruction of the forests on which our natural water supplies largely depend. Spain is an instance of a country large tracts of which have been ruined by the destruction of the trees. There is good reason to believe, too, that the violent weather changes in the United States are in a great measure due to the enormous destruction of timber in connection with the clearing of the country.

The conference at Maryborough shows that the mining community is thoroughly alive to the danger that threatens its interests by the continued destruction of state forests and timber reserves. Resolutions were carried deploring and protesting against the persistent and continuous action of the Minister of Lands in making these reserves and other valuable areas of forest country available for selection; and specially protesting against the action of the Minister in connection with the Gunbower state forest, the Horsham Blue Blocks, and the Fulmina country. Such a protest by an important industry was urgently required. Ministers are far too ready to comply with requests to throw open state forest reserves for the purposes of settlement or timber-cutting, to the serious detriment of the permanent interests of the country. What is wanted is the establishment of a Forestry department, as there is in India and the United States, the duties of which would be to preserve the existing state forests and to carry out a systematic policy of replanting. Such a department would at least be a check on the wasteful and spendthrift conduct of a popularity-hunting Minister. As we pointed out a few days age, matters are in a most unsatisfactory state in connection with the Forestry Branch. The country is being denuded of timber, and no steps are being taken in the way of forest conservation. Mr. Taverner has replied to the resolutions passed by the conference, his answer being that the bulk of the forest country dealt with by him was in areas deliberately excised by the Royal Commission on Forestry. The Minister's statement is entitled to consideration in connection with the resolutions. It is satisfactory to know that Mr. Taverner hopes to be able to announce in a few days that he has secured a good man for the position of head of the Forestry branch.

FOUL-BROOD.

Bacillus alvei, or foul-brood, is, as all know, no new disease; it goes back to days when there were probably no cures such as we employ; and seeing that the race of bees has not been wiped out, it therefore follows there must have been some natural cause for their survival. Now, if we could find out why some stocks and districts escape while others succumb, we would, I think, be nearer to the stamping out of the disease. I admit this to be no easy quest; it is surrounded with obscurity; but it is surely a matter worth following up?

All diseases, we know, are caused by germs, but germs only live where the soil is suitable; medicine or drugs may

make the soil bad for certain evil germs, but it frequently has a bad effect on germs that are useful, as many germs are even to us men. It therefore seems to me much more preferable to avoid drugs if we can, and seek to secure those conditions that will keep an animal healthy by natural means only. I am merely throwing out these suggestions as ideas, not dogmas, but I fully believe that no *lasting* or *radical* benefit can be secured unless by strictly natural means in accordance with natural laws.

All animals are pretty well in the same boat in this matter, and an inquiry into the cause and power of disease covers a wide field. It may be that by natural constitution certain families of bees are more liable to disease than others; if so, we should bend our energies to their gradual elimination, and secure that wise law of nature we call the survival of the fittest; otherwise no bees would now be in existence. Anyway, it is always a safe plan to attend strictly to the hygienic needs of the bees, and to avoid all conditions that tend to lower their vitality.

Bee-keepers who have foul-brood in their apiaries should obtain fresh, healthy blood from a distance, and keep an unceasing watch over their colonies till not a particle of disease remains. One way of combating foul-brood is to eliminate the careless, ignorant bee-keeper, in order that the industry may be carried on by intelligent, humane persons as far as possible. No bee-keeper should knowingly sell or dispose of bees or appliances which are tainted with the disease in the smallest degree; to do so is a cruel act of dishonest trading, and most dishonourable.—W. J. Farmer, *Truro*. (*British Beekeepers' Record.*)

Important Ringbarking Case.

The Land Board at Wagga on Thursday, October 8, decided an important ringbarking case. An annual lessee holding a travelling stock reserve and part of Wallacetown village reserve applied for a ringbarking permit, and forthwith ringbarked every green tree professing to believe that permission would follow as a matter of course. The board has now refused the permit, and has recommended that the lessee be proceeded against under section 93 of the Land Act of 1884. The penalty is not less than 1s or more than 10s per tree.

PUBLICATIONS RECEIVED.

From and with the compliments of the Premier of Western Australia, a Pamphlet in reference to the proposed Transcontinental Railway from Kalgoorlie to Port Augusta, showing the necessity and immense advantages of such railway.

Circular, "Dairy Industry Bill." Influential opposition to State grading, being report of a Conference with the Hon. John Kidd, New South Wales Minister of Agriculture. The deputation consisted mostly of members of the Wholesale Butter Sellers' Association, who control about 95 per cent. of the butter that comes to Sydney. The deputation urged that grading was simply a stamp of a man's own opinion here, and did not influence buyers in the home markets in any way.

"Success" for August contains a graphic account of how a boy in Nova Scotia, in early days, assisted by his mother, some guns, and an apiary, drove away a murdering band of Indians. He saw the Indians in the distance in time to slip out and bring several bee hives near the house, setting them in a circle about the house, about 25 feet distant, and then cutting up clothes lines and ropes, tied them to the hives, bringing the free ends into the house. The reader can imagine the rest.—*Beekeeper's Review.*

Another remedy for stings. Rub vinegar on the hands before going to the bees.

See that your neighbouring beekeeper takes the "A.B.B."

HER ROYAL HIGHNESS QUEEN BEE.

[BY MR. H. BYRON MOORE.]

(Continued.)

The sweet briar could have scratched the apple to pieces if it had liked, but it would not be bothered.

As the flower of the wild apple is very much like the briar, a young bee went to get some honey, but it was so uppish it turned its back to the bee, and shut up its honey box, and would not give the bee any, although the poor thing had flown several miles in search of food. Flowers were not so plentiful or so good in the long, long ago, but the wild apple was very selfish, and the bee, tired as she was, had to travel much further in search of food, and it was getting very late.

The gentle summer breeze had been rippling the wheat field like swelling wavelets by the shore. It was studded with corn-flowers, as if set with torquoise. The sinking sun gilded the heavy ears, and the scarlet poppy spread her soothing incense, sending the field to sleep as the zephyrs lulled to rest. Then the moon silently floated up over the edge of the world flooding the atmosphere with silvery coolness. A shimmering light fell upon the lake till it glistened like a shoreless sea. All nature seemed so hushed, the silence was intense, then far, far up into the moonlight the nightingale carolled forth his evening hymn.

The dragon flies, with their sparkling wings, were flying home very fast. They went by with a whizz like an express train, one nearly knocking the poor little belated bee over. The crickets were all singing, so that it quite dazed her, and the frogs croaked kur-ruc-a-ruc-cruk till she felt horribly nervous.

Then a death's head hawk moth whose throat looked like a skull, came along, and his eyes were bright blood red, like hundreds of rubies. He can see behind and before and all around without moving his head, so that if his mother wanted to spank him and his big brother wanted to pull his nose at the same time, he could see them both without turning a hair. Then came a tiger moth, very beautiful indeed, all cream and scarlet and black, but looking very fierce. It made the poor little bee feel quite creepy, and as it was just beginning to get dark, she really got frightened. Then an owl came out to look for its supper, and a blind bat hit up against her before she could get out of the way. If it had not been for some glow-worms that showed her a light, she would never have found her way home. As it was, it was dark, when she arrived, and as the Queen does not approve of late hours, the poor frightened little bee went at once and told her Majesty how it was she was late, and that it really was not her fault.

The Queen said: "We will think this matter over, and to-morrow we will decide what shall be done." So on the morrow she sent for her heralds, and they blew a fanfare, as they did before, and the Queen said, "Hear, oh, my people," and the bees all stood on their hind legs and listened. She first commanded the young bee to tell them all about the wild apple, and when she had finished, the Queen said, "Inasmuch" (Kings and Queens generally use that word)—"Inasmuch as the wild apple has been so selfish, we now do command that our subjects (that meant all the forty thousand bees) shall no more go near him. Let him keep his honey to himself." And a little boy bee said, "I don't believe he's got no honey, m'm. I just think he was only making pretend to show off. I'd have smacked him on his honey-pot if he'd showed off to me;" and the grown-up bees said, "Sh, sh," for it was very rude to interrupt a Queen, but Her Majesty said that he did not mean to be rude; that he was too young to know any better, so she only smiled and went on: "Let him keep his honey to himself if he has any, but he shall have none of our pollen to improve himself with. He is a very crabby old thing, so let him be like he is, and for ever and ever and ever."

So he has been called a crab apple ever since, and has never got any better even unto this day.

Then the Queen said, "We will make some of our wild roses into real good apples, and let them laugh at the crab apple." So she told her subjects to get pollen seed that would improve the fruit and the bees helped the trees, and the trees helped the bees, till after many seasons they were able to grow those beautiful apples that you now have to eat. And if you look at an apple blossom you will see it is very like a wild rose still, but the bees have sown it with fruit pollen, so that it bears a lovely apple instead of a haw as it did when it was only a wild rose in the long, long ago.

The bees then took a lot of trouble with the fuchsias and made them very handsome. One was heard saying to another, "What a beautiful white underskirt you have," and the fuchsia said, "My favourite bee got that for me. She went such a long way for it. I believe she got it from a Columbine. She thought it would suit my figure. She also got a beautiful dark blue one for my sister." And another said, "Just look at the graceful fall of my skirt. Did you ever see such a lovely colour? It will wash, too. I have been out in two such heavy showers, and the colours don't run a bit. That's the best of getting good material. My bee said he went to the very best garden a long way off for the colors for me." Another one said, "I have been in the sun for hours, and my dress hasn't faded in the slightest."

So they all felt very much obliged to the bees, and they made up their minds to go to the next flower show.

A tall weed that, because it was in the same bed with the fuchsias, rather fancied itself, chipped in, and said, "There was a very gentlemanly bee came purring round me this morning." And the fuchsias smiled, and said, "That was a drone; he just goes loafing about, and never does any work. Besides, bees don't purr; they hum." But the weed was too conceited to admit he was not right, so he said, "Anyway, this bee just purred, and if he doesn't like to work that's his look out. He has the more time to purr round me." He still used the word purr, though he knew it was wrong. So the flowers turned up their tip-tilted noses, and just then, as the weed was going to say something very rude, the gardener came by, pulled him up by the roots, and wheeled him off in his barrow.

Then there is the little Alpine violet that struggled up through the snow on the Alps and had but a very short life, having soon to hide away again under the snow till the glorious sunshine of the next summer coaxed its lovely green leaves and purple blossoms to peep out and deck the dazzling expanse of glistening snow. The bees carried the pollen of this violet lower down the Alpine slopes into more genial climes and made it into the pansy and painted it with those rich velvety colours that look so beautiful. Sometimes it is called the "Heart's Ease," and "Three faces under a hood." Pansy comes from the French word Pensee – a thought, and possibly the kind thoughts that come with the flower gave comfort to the weary and suggested the name of Heart's Ease. Louis the XV., of France, chose it as the crest of his favourite physician, Quesny, who was noted for his kind thoughtfulness.

Now the plum and the cherry blossom in Japan wanted to be very beautiful, and some of them asked the bees to make them better than any other blossom. So the bees did all they could to oblige them, but they paid so much attention to their blossoms that they had no time to attend to their fruit, so they never bore fruit afterwards. It very often happens that those people who think so much of their clothes, and like to look very beautiful, have no time for anything else, so although some of the plum and cherry blossoms in Japan are very lovely, the

trees bear no fruit and no honey, and are only good for ornament.

There was one flower the Queen told the bees not to alter, and that was the white lily; for she said, "It is the emblem of purity and innocence, and that must remain until the end of the world." And if you carefully watch you will see the bees are very particular to obey their Queen, and they never go near the white lily if they have been to another flower, so the lily retains her virgin purity, and will be the emblem of innocence for ever and ever.

(*To be continued.*)

BEE-STINGS.

Let us consider for a moment the "anatomy and physiology," if I may so call it, of a bee-sting. The poison is injected under the skin, among the fine network of nerves, blood-vessels, and lymphatics, which lie in that position. Now, the pain due to a sting may be divided into three separate kinds or portions. First, the sharp lance-like stab as the sting penetrates the flesh. Then after a brief interval begins the pain due to the action of the poison on the contiguous nerves. The duration of this, the severest pain, is variable from a few seconds to half an hour, or even more. Then after a still longer period, swelling, with its attendant uncomfortable feelings, supervenes. This third stage is frequently absent, especially with those who have been frequently stung.

The first of this series we do not expect to be able to avoid unless we escape the sting altogether; and it is to the second and third that we direct our remedies.

Now, what, if any thing, can we do to prevent or alleviate the effects of the poison? Let us examine a little more carefully what takes place. The material injected beneath the skin consists largely of an acid substance that is a violent irritant to nervous filaments. As soon as it is placed in contact with those filaments pain is felt, and the blood-vessels and lymphatics begin to absorb it, spread it into the surrounding tissue, and carry it away. If the entire contents of the poison sac were to be thrown into a vein of considerable size, and carried directly to the heart, I can very well understand how a single sting, by causing a clot of blood to form in the vein, might produce a very serious and possibly fatal result.

But the pain produced by the poison in contact with the nerves is of only brief duration *if left entirely alone*.. Why? Probably because the acid of the poison has become neutralized by the fluids and substances it has come in contact with. Now if, as soon as a dose of the poison is received under the skin, the small area involved could be cut off from the surrounding tissue and all spread of the poison prevented until it had lost its virulence, no other effects would follow. Now, this is exactly what I propose to do as far as can be done with the means at hand, by my method of treating bee-stings, and that I have followed for a number of years with very gratifying results.

When I receive a *severe* sting (and there are grades of severity as you all know), with my finger-nail I scrape out the sting if it is still adherent, and immediately grasp with the thumb and finger the portion of skin where the puncture is, squeezing it very firmly between them—in fact, pinching it quite violently. This has the effect of numbing, to a great extent, the sensibility of the nerves in the portion pinched, so that the effect of the poison is not felt on them. It also has the effect of preventing the spread of the poison into the surrounding tissue. After holding in this manner for a few seconds I ease up on the pinching. If the pain begins to return I tighten the "pinch" again, and hold it until, on letting loose, the pain no longer returns, and I know the poison has lost its power to produce irritation of the nerves, and, consequently, pain;

and that is generally the end of the trouble with that sting. Occasionally, and especially if you have forgotten during the first hurt of the sting, and rubbed the spot a little, you will have swelling later, with the discomfort attending it; but the severe pain caused by the poison has been avoided.

This may be considered a good deal of trouble and loss of time, and, if resorted to every time a sting is received, it might be so; but that is scarcely necessary.

Of the stings I receive while in the yard, probably four-fifths of them could not be located by me in five minutes after receiving them; but, there is the *other fifth*. As every bee-keeper knows, he occasionally receives a sting that is painful beyond all sense or reason, and makes him feel as though he wanted to say or do things. These are the stings that the pinching treatment will relieve, and enable him to keep his temper, and after a few minutes, go on with his work; and I consider it well worth the time and trouble required.

To sum up the treatment, *do not* rub the place when a sting is received; *do not* resort to medicines applied over the spot, as they can do little or no good; *do not* lose your temper. Do at once, if the sting appears to be a severe one, *and you* have time, scrape out the sting with the finger-nail; grasp, with the thumb and finger, the skin where the puncture is located, and raise from the flesh underneath, and *pinch it hard*, holding it firmly until, on letting loose, the pain no longer returns. Resume your work with the charitable thought toward the bees that they do not sting you in a spirit of malice, but in the legitimate defense of their home and property.—D. A. McLean in *Gleanings*.

A GIPPSLAND BEE FARM.

[BY A VISITOR.]

The Narrang and Hetherfield Apiaries are situated on the low lands at the foot of the Australian Alps, and are 10 miles from the Gippsland Lakes, three miles from Fernbank where the main Gippsland line runs to Bairnside. It is about 10 years since the Penglase family settled here as beekeepers. The first four seasons being very poor, far different to the reports circulated in the papers and some of the bee journals at that time. Having great faith in the business, they never thought of giving it up, but always told their neighbours, some of whom laughed at the idea of getting anything out of bees, that it would be all right bye and bye. About five years ago the poor seasons gave way to better times and the honey started to come in, and both the bees and the bee-keepers looked more pleased, and improvements were soon noticed; new substantial buildings went up to take the place of the temporary ones that were erected to test the district. At the present time the buildings consist of a good substantial house of 10 rooms, bath room, and a good water service laid on from an elevated tank 150 feet away at the creek. The water is pumped by hand at present, but it is the intention of the proprietors to put up a windmill this summer. The bee yard is about 150 yards away from the main building. Here the honey house and a large shed stands, and I notice everything is up-to-date. There being a Cowan extractor, a large uncapping can, comb can to hold 20 frames, and three large tanks to settle the honey in after extracting. Thousands of Root Hoffman frames, bee boxes, queen cages, queen cell protectors, etc., are stacked here.

Mr. E. T. Penglase does the management, and is assisted by his two sons and other members of his family. A very large local trade is done in two and seven pound tins to the storekeepers, and a great amount is sent out in 60lb. tins to private customers. The balance being sent to commission houses and a reserve put on it. When the site was chosen for bee farming, the land on the east and north was a timber reserve, and it was

thought that it would be permanently reserved for timber purposes. But about three years ago it was opened for selection, and a considerable amount of the honey trees are destroyed. Every year some more are rung, and it is only a question of time when there will be no timber left, except that held by members of the family. About three years ago an out apiary was started four miles away, but as the last two seasons were failures it did not pay expenses, but a good yield is expected this season out there. Mr. Penglase is a great enthusiast with bees, and is very careful what kind of queen he uses for breeding from. Every year fresh blood is introduced and every queen is kept for one season to see if there is any disease in the few young queens bred from her. If there is none show up the queen is used the second season as a queen mother, and bred from extensively. Last season the new American strain was tried (Root's long tongues). A few young queens were bred from this strain to test their qualities, but it being a poor season they were not given a good chance, being introduced when the honey flow was almost over. These bees are of the dark leather colour, and Mr. Penglase expects a good yield from them this season, as they appear to be far stronger in numbers than the old stocks, and have already started to breed up well. All the different races of bees have been tried here, and the Cyprians comes out best as honey gatherers; the one fault in them being so much harder to handle. Carniolians were tried with good results but their combs were built badly. At present the leather colour Italians are used, they being better to handle than the others and the best all round bee for business, when crossed with the black bee.

LANGUAGE OF THE BEE HIVE.

Come, let us go to the hives and study the language of our bees. 'Tis true they do not talk in English tongue; yet they speak as plainly as humans, and if we would but listen we could understand.

Let us approach this hive. See, there stand the guards, ever alert. I will place my hand close down by the entrance. Do they not plainly say, by their movement and sudden stand, "take care now!" They certainly do. Bees are fair, they never attack without first giving warning—but we must understand the words. What is this warning? It is a sharp, quick snap of the wings and a sudden stand about, face to the enemy. If we insist upon further intrusion, what then? A bee or two will perhaps dive at us but really not with the deliberate intention of stinging but more to investigate—man is usually the first to declare war, not the bee. She will perhaps light upon the clothing, and, if we are quiet, will find nothing to be particularly alarmed at. She will crawl about a bit and at last return to her place by the guards with the message, quite plainly spoken, "no danger." Now let us fight those same bees; what say they now when returning to the entrance? As quick as a flash they return, hug close to the opening and shriek their note of "alarm" which instantly brings to view a phalanx of fully aroused and well-armed men ready for any attack. They seldom attack at once, however. We must make further advances. Bees are never offensive, on the contrary they are entirely defensive; and defend they will to the very last of their mature members, heroically—at the expense of life itself.

A puff of smoke will change the tone of "warning" very quickly to one of "fright." We all know the sudden "s-h-r-r-r" of a colony smoked unawares; and then the quiet tone of "submission" and later the combined movement upon the stores of the hive. All this is so well-known by those who have ever opened a bee-hive that further interpretation of the language employed by the bees at this time is hardly necessary. But there is a point I wish to speak of here, if you will allow the digression. Some have

said bees so gorge themselves when being driven, that it is a physical impossibility for them to sting. This I cannot credit. I believe it to be a misinterpretation. They can sting and would if it was to their advantage to do so. They have no need to sting for they have nothing now to defend but person, and that we know they will never defend. What they had they have surrendered--they are practically possessionless, or believe they are soon to be. All they would own they must needs sacrifice. They have been overpowered and they know it. Resentment to personal destruction would be madness —at least I have credited my bees with this bit of common sense. Returning to our language lesson—

Now let us remove a comb. What say they, those first to discover their separation from the mass? In the plainest of language ever tongued by men they hum their note of "assembly." Now if we observe closely we can quite readily understand the meaning of all this commotion by fanning. It is to transmit that wonderful odour-of-direction; which fluid, by the way, plays a very important part in the language of honey-bees. It is the most beautiful feature in all bee communication. This odor and its many, many uses by the bees in conversation, should be as thoroughly understood by the apiarist, as the weight of honey in super, which, naturally, interests the most of us in this day of competition, more than on exhaustive study into the private habits of the bee.

Just to see how many of crude English words it has taken already to define but a few of the most common phrases in the bee language! There are hundreds more of these phrases you may be assured. Those employed at swarming time, at the loss and gain of queen in the finding of sweets, during robbing time, etc., etc.,— even elections, in which there is no human-devised jobbery, are actually conducted, systematically, in the bee-hive; say naught of the thousands of little economies apparent to the close student. — Swarthmore, in *American Beekeeper.*

Investigation of Forest Flora and Beekeeper's Right.

[W. Ager.]

At the Beekeeper's meeting, April, 1902, when Mr. Niven brought up the subject of the destruction of our forest timber, I was opposed to action because I was of the opinion that the land cleared and grassed would return a greater income from stock, and therefore the beekeeper must make way for an industry which would wring more revenue out of the land. This is quite right in many cases, but from the recent facts which have come to light we find that we have forests which are far more remunerative as bee pastures than stock pastures. Mr. Brogan, of Attunga, in the "Agricultural Gazette" of July asserts that from seventy acres of yellow box on his place he has in a good season obtained more value in honey than if the area had been cropped with good wheat at a fair price. Such places should be reserved for their timber and honey, but they are fast disappearing and are likely to do so if some action is not taken. At the present the honey producing value of our forests or of the different kinds of trees is comparatively unknown. In my opinion it would be a great benefit to the industry if the Agricultural Department would appoint a qualified expert to make practical investigations of the forest and other flora of the State and publish same for the benefit of beekeepers. With regards a beekeeper's license, we have in this State thousands of square miles of forest land laying idle, from which a large revenue could be drawn if Beekeepers were granted the right of occupying same. What is wanted to enable Beekeepers to make use of these forests is a "Beekeepers right," something after the style of a miner's right, and procurable at any lands office, which would entitle a beekeeper on the payment of a small sum, to say one acre of land on crown and, reserves, or leasehold. It would be advisable that the use of these rights

be prohibited within three miles of each other. With such a facility, if a Beekeeper wanted to start an apiary on crown land, the only formality required would be to obtain a right from the nearest lands office, peg out his claim as the saying goes, and dump down his bees without any unnecessary delay, or humbug and expense of waiting for surveyors. As one of the representatives of the Beekeepers' Association, to the Chamber of Agriculture I brought these matters before the Chamber on July 8th.

EXPORT OF HONEY.

In June last, Dr. Hamlyn Harris, an ex-president of the British Bee Association, made some very encouraging remarks about the prospects of Australian honey of good quality in the English market. He said the honey he had sampled in Sydney was of splendid quality, and would readily realise 10d per lb in London, whilst it was sold here for 3d and 4d. After all charges were paid, he believed that the honey sold here at 4d a lb would give a net profit of 7d per lb in Lendon.

Mr. H. Pentecost writes to us from London to say that Dr. Harris is mistaken :—"To my own knowledge (he writes) honey that would realise 3d wholesale in Sydney (equal to 4d to 5d retail), when sent to London, brought only 30s per cwt, or a trifle over 3d per lb." Mr. Pentecost goes on to give the result of some inquiries he made on the subject :—"Messrs. Green and Smith, of 82 Turnbull-street, say that good English honey can be bought at from 45s to 55s per cwt, and showed me two advertisements of local beekeepers offering best quality honey at these prices. The firm repack this honey, chiefly in attractive 1lb glass jars, at a cost for jar and packing of about 1½d ; these are then sold to the retail trade at 7s 6d per dozen, the shopkeepers' price to the consumer being from 9d upwards. I next called on the British Honey Company, at 6 Aldgate-avenue. The manager said good Australian honey free from eucalyptus flavour would realise 20s to 25s per cwt in London ; best English he quoted up to 56s. My informant had personal experience of the Australian article, and said its low price in the English market was owing to the flavour, which was disliked by the consumer. On consulting the price-list of the Army and Navy Co-operative Stores I find best English honey quoted at 10½d per 1lb jar."—Sydney paper.

PHACELIA—HOW IT LOOKS.

Wild heliotrope, vervenia—Phacelia tanacetifolia, Benth. Baby-eyes, or waterleaf family.

Stems.—One to three feet high ; rough and hairy. *Leaves.*—Much divided. *Flowers.*—Bright violet to blue ; in clustered, scorpioid racemes. *Calyx-lobes.*—Linear or linear-spatulate. *Corolla.*—Six lines long ; style, two-cleft. *Habit.*—Throughout the western part of the State (California).

The wild heliotrope is one of the most abundant flowers of mid-spring, especially in the South. It affects the gravelly bnnk of streams or the sandy soil of mesas, or grows all along the railroad embankments, making great mounds of foliage, thickly sown with the bright violet-blue blossoms ; or it may very often be seen clambering up through small shrubs, seeming to seek the support of their stiff branches. It is needless to say that this is not a true heliotrope, but belongs to the closely allied genus *Phacelia*. The specific name, "tanacetifolia." meaning "with tansy-like leaves," is more applicable to the variety *tenuifolia*, Thurber. Among the Spanish Californians it is known as *vervenia*. It is a very important honey-plant.

P. Douglassii, Torr., is a species with lavender corolla, with much the aspect of the baby blue-eyes. This is common in the western part of the State, south of Monterey, and is found sparingly north of that point.—E. F. Zahler, in *Gleanings*.

WORKING FOR SECTION HONEY.

The way in which I find it necessary to work to get the best out of a colony is to work for section honey in a shallow hive (7½-inch frames). First, we will consider that our colonies are in good condition for the main flow, about June 12. Now, if all of my bees would swarm about 15 days days before, I would be pleased ! I should consider lack of nectar the only drawback. I hive the swarm on the old stand with one-inch space under the frames, and in three days put on sections. The object in having a deep and large entrance is, that it is a great step in having all worker-comb built. It is a well-known fact to bee-keepers that bees wish to store this treasure away from the entrance and light. Therefore, the deep entrance forces the honey to the sections above, and the bees have a desire to build only worker-comb below.

Now, the parent colony : I shake and brush all of the bees it has on the frames, 14 days after the first swarm issues, into a new hive on 7 or 8 frames, with one-inch starters, the same as I did the first swarm, putting the frames in the same hive I take them from. In seven days more I again complete the last brush from the frames to the parent colony, and now the old stock is as strong as the first swarm, and will take a super and a few more frames of starters in the brood-chamber. If you prefer (I do) to feed honey in the frames in place of sugar syrup, just place the frames, which now have no bees on them, over the parent colony, and as it is just in the height of the honey-flow, and with drawn comb the parent colony will store more honey than the first swarm will in sections. The comb of honey may be given to the colony that needs feeding in the fall, or it may be extracted. This practice has never failed to give good results.

In regard to keeping down increase, a swarm may be divided and a part given to the parent colony, and as it is in the height of the flow you will receive benefit from the bees you added, and it gives a fine crop of honey from both the swarm and parent colony ; or, in other words, the parent colony is furnishing honey to feed such colonies that may need it. With an improved strain of bees I, in my locality, challenge the world in like condition and locality.—Writer in *A. Bee Journal.*

A very fine cow of the author's became very difficult to milk after calving, and was for this reason operated on by a veterinary surgeon. Whether insufficient care was taken during the operation, or from other causes, the cow was taken with a severe inflammation of the udders, during which she gave. instead of twenty liters of milk daily, only seven to eight. Movable hard bodies formed inside the udders, which defied every treatment employed. The owner then remembered that he had read somewhere that, in the case of swellings and inflammations, pure honey often brings about very satisfactory results. Therefore, after milking, he rubbed warm honey into the cow's udders until the honey had thoroughly soaked into the skin. Even after the first trial an improvement was noted ; the cartilaginous formations grew smaller, and disappeared entirely after ten days, and the quantity of milk increased to sixteen liters daily.—Writer in *Queensland Country Life.*

I assert, in the strongest terms, that neither Mr. Doolittle, nor any other bee-keeper in the world, can rear good queens in a colony that has a queen. I have tried this experiment the last 40 years in one hundred different ways. I had success only when the bees were gathering honey, or in cases where an old queen was about to be superseded. But in none of the cases I have tested could I get queens equal to those reared by bees just made queenless. Bees that have been queenless a long time will not rear good queens. Such bees come under the head of *old* bees.—Henry Alley in *American Bee Journal*

CORRESPONDENCE.

W.M., Bathurst, October 1.—My bees have all come through the winter in good condition, all seem strong with every prospect of a good season. Hoping you will have a good season and wishing success to "A.B.B." I always read every line of it, ads. included.

H. C. W., Mudgee, 29th September.—My bees are coming on well, and there is every appearance of a good season. My twenty (20) colonies are mostly hybrids and blacks. Would you advise me to Italianize them, and when would be the most profitable time to do it?

[Yes. Now is not a bad time to change. Look over our list of queen-raisers.]

C. G., Newry, Victoria, September 28th.—This is a very poor locality where I am for bees, and it is only every second year that I can depend on getting any honey when the red gum blooms, and they are not too plentiful. I got a little honey this last year, but the year before out of 45 hives I did not take a single frame and then half of them died. I expect that I did not give them the attention that is necessary, but had not the time to do so as I depend on dairying for a living, and milking 80 cows at the present time. I know that you will think that I should leave bees alone when I cannot give them all the attention that is necessary. Well I keep them because I have a love for them, being used to them from childhood, and besides if I can make a pound or two out of them it all helps to pay the rent.

P.R., Stuart's Point, Macley River, 3rd Oct.—Bees in fine order. Good rains. Hope to send news another time.

Mr. L. T. Chambers writes us :—In a book recently published by the Rev. T. S. Hassall, entitled "In Old Australia," and which contains some of the earliest reminencences of settlement in New South Wales, I find a statement at page 149 that the grandfather of the author, the Revd. Saml. Marsdent who first introduced the merino sheep, also brought with him from Rio, two hives of bees, and they were evidently landed safely for they are again referred to on the next page as being placed in the Governor's garden. This was in 1810 and would no doubt be the first introduction of bees to this country. This record is interesting and it is well to bring it forward for future reference. I may say that the book is deeply interesting throughout.

H. A. G., Mountain View Apairy, 15th Sept.—It is with pleasure that I acknowledge receipt of your most valuable issue, and as I understand that Mr. H. Russell kindly gave you my address, I desire to heartily thank that gentleman for his assistance in the matter, feeling sure that the unlimited knowledge contained therein, will be the means of furthering my observations and knowledge of the present day. If you find any matter worthy of space I will now have a chat with your readers interested in the bee-right grants, etc. As is already known, that here in Victoria, our Government has partly assisted the beekeeping industry, and at present is granting bee-right licences, and also permits to fell and top limbs to get bees. One is allowed one acre of land in any particular spot picked by the applicant at the price of 2s 6d per annum, for to put thereon as many hives as desired, and temporary buildings necessary for the management. But there is no law nor limit as to how far it is necessary to keep apart. Fifty can go on 50 acres if they like all on a bunch. Now friends this is a very vital point, and should be especially for our New South Wales brethren, where it is I understand, intended to ask the Government for the same grants. A man with a bit of common sense will not for his own benefit crouch down along side of another beekeeper, but after having a slight experience and witnessing on another occasion one finds that there are

really some beemen who are lacking considerably of this. How far apart it is necessary, depends I should say, greatly on the locality and how many hives it is desired to keep. In bee forest, such as there is in this (the Grampian Mountains) district, two miles apart for every 100 colonies would not be overdoing the thing. But one instance for name. A young man took up a site in a spot where there were about 200 acres of good bee-land surrounded by rocky hills, this suited nicely for, say, 50 colonies, when he finds he is getting a neighbour with another 80 hives, and who always has just a few cells of foul brood in a good number of his hives, who says to cure foul brood you should rear from your foul broody hives, the young ones will come out fine, will never get the disease, who denies that the honey carrys the gem, to try and cure it just cuts the cells out with a pocket knife, and when the cells are two numerous, just break the brood out, the bees may die out. Boxes may remain there till bees get what honey is left, and as honey does not carry the germ, any tin of honey may be fed to the bees when needed. How am I going to keep my bees away from all this? How can a man who is trying to make a living alone out of bees, do so under all such sorts of difficulties? I say it is worth 30 times 2s 6d to have a good bee-site, so there should be a limit in the distance, they should be let by board just as land is, the most deserving person out of any number of applicants, should get same. There should also be a law prohibiting any diseased hives or other diseased matter relative to foul brood to be carelessly dealt with, if we cannot afford an inspector to go into the matter we could on suspicion of disease and carelessness obtain a search warrant and compel, if any nuisance is found, its immediate destruction. I would be heartily pleased to place myself under strict rules regarding the above matter providing that my brother beeman would accompany me. The felling permit charge is 5s per quarter. On payment of same, I understand any person whether he is seeking after the bees, or whether he just goes out for honey in the middle of winter when the bees cannot fly so well, they can't sting near so well either. I might say in a State Forest along Grampians where hives had been left for years no falling had been done, there have been fully 400 hives or beetrees felled. I have yet to hear that many of the hives have been got by an experienced beekeeper. I don't think that one-eigth of that number are alive to-day. So although our Government has done so much for us it has to take further steps before the earnest striving beekeeper can enjoy much benefit. I wish your New South Wales readers every prospect in in their endeavours to obtain rights and permits, and I live in hopes that us Victorians will in the near future see the now tiny rosebud in full bloom. I am at present busy making hives as the swarming or time of increase is coming nigh. I would be greatly obliged if you, Mr. Editor, or some of your readers could describe a real good lid or cover for the hive. I use the 10 frame Langstroth. I am also giving calcitine (cold water paint) a trial, I give one coat of white lead and oil, and two coat of calcitine, it looks nice. Is it any good as a preservative? Do you advise it. Is stringy bark bloom good when very plentiful, have you heard of any good or bad results? I am greatly interested in this. Well, I could say and ask a great deal more, but fearing an over claim on your space I shall draw to a close, hoping that the above will be taken up by an abler pen than mine.

[Will some of our readers reply to these questions.]

H. L. Jones, Goodna, Queensland, writes:—We are having a wonderful season here, and certainly the best I have known in my 20 odd years experience. Under A. A. Roberts' supervision I am now running 500 colonies, and intend to increase to 1000 before long.

To get rid of ants. Place strong carbolic acid in hole in centre of nest.

Something about Average Yields Per Colony.

There is no question that there is such a thing as overstocking, and that in general the yield per colony will be increased by decreasing the number of colonies kept. In a place where white clover is the chief pasturage, there might be enough to keep a hundred colonies busy while the white clover bloom lasted. Suppose each colony should store 100 pounds from white clover. Under the supposition that each colony had all it could do, the yield of white clover honey would not be at all increased per colony if any smaller number than 100 colonies were kept. Whether 100 colonies be kept, or only a single colony, the number of pounds of clover honey gathered by each colony would be the same, although the total crop would be decreased in proportion to the decrease of colonies.

But on the supposition that 100 colonies could keep all the clover nectar licked up, then 101 colonies could not average as many pounds as 100. Not only that, but there would be an actual falling off of the total crop, by the amount of honey used by the additional colony for its own consumption. If, now, we keep increasing the number of colonies, we will keep decreasing both the total yield and the yield per colony, until we reach that point where there will not be a drop of surplus, the bees requiring all they gather for their own consumption.

But another factor comes in to be considered—the scattering honey-plants aside from the clover. Under some conditions these will make so little difference as to be scarcely worth considering, while under other conditions they may make such a notable difference as to mislead the novice greatly. Suppose these scattering plants give a continuous yield throughout the whole season—say five months—but suppose the yield so small that two colonies can take care of the whole of it. If these two colonies are all that are on the field, then instead of being limited to about five weeks on the clover, they will have five months in which to store, or four times as long. Each one ought then to store four times as much as if confined to the clover, or 400 pounds.

Right here is where the novice is misled, for he is pretty sure to figure that with ten times, or fifty times, as many colonies he will have ten or fifty times as much surplus. Whereas, as soon as his apiaries of two colonies is increased to six, he will find his average yield per colony just cut in two and constantly diminishing with further increase.—*American Bee Journal.*

Uniting Weak Colonies in Spring—Formalin.

I know very well that it is contrary to most of the teachings of the books, but experience has shown me that it is but very seldom anything is gained by uniting colonies early in the spring. Two weak colonies put together will usually, in a very short time, be no larger than either one would have been if they had been left alone. The reason of this is that a large proportion of each is old and nearly ready to die of old age. The excitement of uniting, and the sense of prosperity caused by the increased number of bees, induces the bees to fly more freely, and otherwise exert themselves unduly, so that not only these old veterans, but the young bees, are soon worn out and rapidly perish.

Now, if this is the case—and I can find plenty of company among practical apiarists in believing it to be true—it is still more certainly true when one of the colonies is queenless. The colony with a queen has been in a comparatively normal condition, which is not true of the queenless one in which a much larger proportion of the bees are old and nearly worn out.

Some may say that it would certainly have paid to have given a queen to the colony the bees of which lived so long. Perhaps it would. The unusual long-

evity of these bees might have enabled them to hold their own until they had reared successors to themselves. But this is by no means certain, and I feel morally certain that ordinarily if a queenless colony the size of this had been united early in the spring with an equally weak one having a queen, which would be the usual way of procedure, its bees, instead of living until September, would all have been dead before June, and perhaps much sooner.

Do not understand me as saying that it will never pay to unite a queenless colony with a weak one in the spring having a queen. If the colony has not been long queenless, or if it has still a large number of bees, it may work all right to give it a queen in any way.

What I want to make clear is, that it does not usually pay the man whose time is of much value to fuss with weak, queenless colonies early in the spring.—J. A. Green, in *American Bee Journal.*

A CLOTH-PAPER HIVE-COVER.

An improvement in hive-covers which can be applied to any style of cover, but is particularly adapted to flat ones.

On top of the cover lay four to six thicknesses of newspaper. Over this stretch one thickness of cotton cloth (cheese-cloth is too thin). To this apply a coat of thick flour paste, using a paste-brush for the purpose. This "sizes" and shrinks the cloth. When it is dry, apply two coats of thick paint. The newspaper serves the double purpose of a poor or "non-conductor," and prevents the cloth adhering to the cover, and wrinkling and cracking with the shrinking and swelling of the cover. In an attempt to get a simple flat cover which would not "twist" I have had some made of four strips, each four inches wide, and tongued and grooved together. The ends of these are held in grooved cleats after the well-known manner.

Before the cleats are put on, the paper is laid on top, and extends only *to* where the cleats will come, but folds over the two edges of the cover. The cloth is next drawn tightly over the cover from end to end, and the cleats forced on and nailed through from top to bottom. This binds the boards in tight. Then the cloth is drawn over the edges and held down by a narrow strip of wood. If such a cover twists I shall try two-inch strips.

The paper-cloth-paste-paint combination produces a sun-and-water-proof cover which takes but little paint, is quickly made, is light, and exceedingly cheap. Mine cost me just 11 cents. each, without the paint and nails.

The only thing in the foregoing which is in any way experimental is the narrow strips to get rid of the "twist." All the rest has been well tried, and is all and more than I have claimed for it.—A. C. Miller in *Gleanings.*

CAPPINGS.

From American and other Bee Journals.

Now, while I am not very well acquainted with the anatomy of the bee, it is reasonable to suppose that there is not very much difference in the suffocating qualities of the queen and the drone, and the drone will not suffocate when completely immersed in water for 15 minutes, and I have not found out how much longer. The first trapful of drones I submerged until all were quiet, then I emptied them out. The next day the drones were as thick as ever. I recaptured them, kept them under water 15 minutes and set them aside to "dry." About nine out of ten revived and were as lively as ever.—Writer in *Exchange.*

"My best queens live to be four, five, and, in some instances, six years old; but the average life of queens is about three and a half years. The length of a queen's life, other things being equal, depends upon the tax that is put upon her egg-laying powers, and under our modern management queens do not

average so long-lived as they did in box-hive days."—Doolittle in *Gleanings.*

About the middle of last July a party here had a three-frame nucleus of black bees into which he put a self-introducing cage containing an Italian queen from the South. He gave it no more attention further than to turn back the quilt after three weeks to see if Italian bees had made an appearance, and, as he found none, he naturally concluded that the nucleus was queenless. On October 10th I came into possession of the nucleus, and, upon examination, found the queen still caged (without an escort) and that the bees had evidently built comb over the open end of the cage—had, in fact, imprisoned the queen instead of liberating her at the proper time. Thinking the queen had been confined long enough I liberated her. The bees at once balled her, and would have killed her had I not smoked them with tobacco smoke until they fell from the combs. On the following morning I found the bees and queen in a passive mood, and at once commenced stimulative feeding to see if the queen still retained her natural functions On the third day I found her laying. I increased the feeding and she proved to be a prolific queen. By Christmas she was the mother of a good colony. *Rocky Mountain Bee Journal.*

Ginger Beer.—Good white sugar 18 lb. to 24 lb. (according to strength required), lemon juice or lime juice, 1 quart; finest honey, 1 to 2 lbs.; bruised Jamaica Ginger, 1½ lb.; pure soft water (that has been boiled and allowed to settle), a sufficiency, about 19 gallons. Boil the ginger in 3 gallons of the water for half-an-hour, then add the sugar, the juice, and the honey, with sufficient of the boiled water to make the whole measure 18¼ gallons, and strain through a jelly bag or flannel. When the liquor has become almost cold add the white of one egg and half-an-ounce of essence of lemon, and stir up briskly for half-an-hour. After standing 3 to 6 days, according to heat of weather, bottle it and place the bottles on their sides (well corked and wired) in a cellar or other cool place, just as is done with wine or beer. It will be ready for use in about 3 weeks, and will keep good for several months. This quantity will fill 24 dozen half-pint bottles. If wanted for immediate use half-a-pint of yeast may be added, but the product will not be so nice, nor will it keep as well.—(Dr.) T. W. N. Greene, in *Irish Bee Journal.*

It is a mistake to have a queen-rearing yard laid out in straight rows, and have all the grass and weeds cut out. Hives should be located in groups of one, two, three, four, and five. Do not have any two groups of the same size and appearance near each other. If there is a group of five hives here, make the next group of two; another group of four. Make each group different from the adjoining one, and, if possible, put near some distinguishing object like a tree or a bush. One group can have a large tree, and another a small one. If tall weeds grow up near the entrance, all the better. While they obstruct the flight slightly, they help young queens in identifying their entrances. And, by the way, we made a mistake in Cuba in cutting away all the grass in front of the hives, and in putting them in neat straight rows. The native Cuban bee-keeper lets the grass grow. His hives are laid out very irregularly, with the result there is much less robbing than there would be if they were all laid out with perfect regularity in rows, and entrances pointing in one direction. In an apiary of the last-mentioned kind, it is no wonder the bees become confused and that robbers get a good start before the inmates of the hive realize what is going on. There is another point: It takes a great deal of time to keep the grass and weeds down. If I were running for honey and money only I would keep the entrances, the paths, and roadways clear, and that is all. You will ask why you would not find that condition of things at our home yard here in Medina. Simply because it would offend some of

our visitor friends. They expect to see something like a park. But take a trip up to the Harrington yard, and you will find things as they are at Cuba.—*Gleanings*

The *American Bee Journal* quotes Professor E. Dwight Sanderson, Texas, State Entomologist, as saying: "The average production of wax per colony for the United States was 43lbs.; for Texas, 41 lbs.; for Arizona, 69lbs.; and California, 89lbs. We doubt very much if between 2lb. and 3lb. is not the result in Australia. Afterwards he states, "The average value of honey and wax produced per colony for the United States was $1.62. Are not these statements funny?

The bee-keepers of Austria are in hot water because their government has seen fit to reduce the tariff on honey and all honey-substitutes. The Bienenvater, Vienna, is asking its subscribers and all Austrian beekeepers to use their influence that the old rate on adulterated honey will be maintained, that on "bee-honey" the tariff will be increased and that an import tax will be levied on hives with bees when such hives weigh over 15 kg. —*American Beekeeper.*

A good plan in handling bees is to smoke your hands with the smokes until they smell quite strong with smoke; if a bee alights on your hands it will not stay long. I never use gloves. I have gone through the season without being stung once upon the hands.—*Exchange.*

A Canadian beekeeper writes in the *American Bee Journal*:—My experience with keeping bees, on my own account, extends over more than thirty years, and during that time I have visited quite a a number of apiaries all about me for "several miles," and I do not remember that I ever had the pleasure (?) of seeing one case of foul brood. That Ontaria like other countries is subject to the disease no one wishes to deny.

Where strains were undoubtedly pure they lacked in vigor and thrift. They were good in their way, but required too much nursing, coddling, feeding, transposing of brood etc. to suit me at all; and they too readily succumbed to the cold storms, late in the spring.—*Exchange.*

Another thing I find practical in a large apiary for feeding, when the bees get short of stores in warm weather, is to thin the honey to the consistency of nectar by putting 20 quarts into a large-sized wash-tub, throw a scoop-shovel full of planer shavings on top for a float. Put three or four such tubs in the yard and just watch the "honey flow." After 10 or 15 minutes, should any of the colonies not be working in the feed, open *those* hives and pour about a spoonful of the feed right among them, and see how quickly it will give them a "send-off."—*Exchange.*

HONEY MARKET.

Queensland Country Life.—Honey 2d to 2¾d per lb.

Adelaide Garden & Field.—Honey 3d, beeswax 1½d.

Tamworth News.—Messrs. Searle and Davidson—Honey 2s 3d 7lb tin. Beeswax 8d lb.

Australasian, Melbourne.—Retail, 4d to 5d.

Melbourne Leader.—Honey—Trade was decidedly slack, heavy importations from adjacent States having a depressing effect upon values. Prime clear garden sold at 3d, cloudy and congealed being on offer at down to 2d. Beeswax was fairly brisk. Prime sold at from 1/1 to 1/2, discoloured going at from 1/-

Maitland Mercury.—Honey 2d to 2½d lb, small tins 2s 6d.

S. M. Herald—Honey—Choice 3½d, good 2¾d, inferior 2d to 2¼d for tins containing 60lb. Beeswax—Choice clear, 1/1, other sorts 1/- lb.