The Australian bee bulletin. Vol. 13, no. 10 January 31, 1905

West Maitland, N.S.W.: E. Tipper, January 31, 1905

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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.

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N. S. W. BEE-FARMERS' ASSOCIATION.

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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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THE AUSTRALIAN BEE BULLETIN.

A Monthly Journal
Devoted to Beekeeping
Circulated throughout the Commonwealth of Australia — New Zealand & Cape of Good Hope

MAITLAND, N.S.W.—JANUARY 31, 1905.

The following is a list of advertisers in our present issue, all of whom we would recommend our readers to patronise :—

Supply Dealers.

C. J. Manning, Chuter-st., North Sydney.

A. Hordern & Sons, Haymarket, Sydney.

John Rush, Mentone, Victoria.

Queen Raisers.

W. Abram, Beecroft.

H. L. Jones, Goodna, Queensland.

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R. H. Jervis, Moss Vale.

J. W. Miner, Ronda, N.C., U.S.A.

W. J. & F. Barnes, 174 & 180 Albert-street, East Melbourne.

Honey Tins.

Chown Bros. and Mullholland, Ltd., Thomas St., Ultimo, Sydney.

Miscellaneous.

A. Hordern & Sons, Haymarket only, Sydney.

P. J. Moy & Co., 161 Sussex St, Sydney.

H. Prescott & Co., 336 & 338 Sussex-St, Sydney.

W. L. Davey, Station-St., Fairfield, Vic.

IS IT THE POST OFFICE TO BLAME?

WE were, to say the least of it, very much taken aback recently on receiving our regular weekly batch of correspondence from West Maitland, to receive a letter from Mr. W. L. Davey asking why we had not inserted his reply to "*Open Letter*" in our last issue. *The reply had never reached us, either at West Maitland or Willow Tree.* But—a copy of the *Australasian Beekeeper* contained it! We make no comments. We do know things have on many occasions gone wrong in the post offices of New South Wales. We will ask our correspondents in the future to send to WILLOW TREE, not West Maitland.

Since writing the above the following telegram has been received by us from Mr. Davey :—

Fairfield, Victoria.

Reprint letters from Pender's paper this issue never sent to him.

W. L. DAVEY.

[The above letter, judging by Mr. Davey's telegram, was never sent to Pender's, and was evidently delivered to them instead of us, by the post office officials in error, and also made use of by them.—ED.]

And now, as our readers may be expecting some reply from us to the many

attacks being made on us, we will keep our pen in our fingers.

The English Market! How long is it since the New South Wales Farmers' Co-operative Co. made a big attempt, sending many tons of very best honey to England (with a big loss to every one of the consignors). Have not any amount of private people done the same, and have not every one done it at a loss? Let us look abroad. Is not every country in the world, by supply dealers, pushing the honey business? Australia sends its wool, its wheat, its mutton to the great centres of population. Why not its honey? Honey is produced the world over—in England, on the Continent, the isles of the sea, any amount of places where wool and wheat cannot be produced—and those tropical islands of the West Indies and elsewhere produce immense quantities of honey, which they ship away at low prices, being produced by cheap labour. Even Japan had a honey exhibit at the late St. Louis Exhibition. Let us look at what has been going on lately and is now going on.

A millionaire supply dealer in the United States, who writes beautifully about "*Our Homes*" noticed the close of the Cuban troubles, goes there on his motor, sees it is a grand place for beekeeping, sells thousands and thousands of dollars worth of bee goods, and gets apiaries started all over the place. Result: the American markets are glutted with honey, and the poor American beekeeper may content himself with reading "Our Homes," or go to some other occupation.

Instead of meditating on "Our Homes" let it be "Our Impoverished Homes, our unsold honey, and the low prices." Also pray for their enemies, and let Australian beekeepers take warning from it.

Why was it such a desire was expressed a year or two since the Western Australian Government should send out bee lecturers over the colony? Was it for the good of beekeepers, or to enable certain supply dealers to make money.

Why was the desire for those Victorian blocks of land last year to be specially set out for beekeepers? Was it for the benefit of the existing beekeepers, or to make trade for certain supply dealers and their confederates?

And why is it we are attacked so savagely by a couple of writers, who we believe never raised a ton of honey? "It is the voice of Jacob but the hands of Esau."

In conclusion, let beekeepers who have spent money and time on their apiaries, study who are their friends and their foes. Commercialism and business are cruel, wolfish monsters. Their motto is, "Make Money" no matter what homes are ruined and destroyed, and they try their best to do it with kid gloves on. Beekeepers beware of them.

Turpentine and beeswax makes the best floor polish.

The past honey season in Ireland is said to have been bad.

Mr. Davey speaks out like a man in his reply to "Open Letter."

£1,462 worth of honey was imported into Great Britain in September.

Southern California has just had a bad season – starvation and feeding.

In sending orders for labels for tins give length required so as the ends will lap over.

Quite a number of new subscribers with this issue from all parts of the colonies.

Any hive, if the bees are allowed to fill all their honey space, will make burr combs.

A failure of the fruit crop might make it all the better for the honey market as the winter comes on.

Our reports of the glutted state of the Australian honey market has been copied into the English papers. May it lead to good.

Honey in bulk need not necessarily be strained. In 24 hours all impurities go to the top, and the bottom can be drawn off clear.

Clip queens the first time you happen to see them after they begin to lay. Then each spring, after bees begin gathering, look through all colonies for queens that need clipping.

If you let your honey go for a low price you not only wrong yourself, but also others, who perhaps, wanting money more than you do, can ill afford to sell at the lower price you have induced.

A German paper reports of an uncapping machine exhibited at a beekeepers' meeting in Alsass-Lovian. The machine was operated and uncapped a comb in a minute on both sides. The inventor, was urged to have his invention patented.

Mr. G. Colbourne, jun., says in the *Poultry Journal*:—From this on I intend to devote the journal solely to poultry; as there are already enough beekeepers in Australia without me inducing more to embark in an already over-crowded business.

Put in a cup the white of an egg, add a large spoonful of extracted honey, perfume to your taste, and mix thoroughly. Before going to bed, cover the face and hands with this cosmetic, which will whiten the skin, making it smooth and clean.

The "Beekeepers' Record" says:—Those who object to compulsory powers for inspection of apiaries are amongst the largest and most experienced beekeepers in Great Britain—men presumably supposed to know something of the subject being dealt with.

A supply of dainty biscuit or crackers is very useful in hot weather. Saltines, or even milk-crackers, spread lightly with butter and crisped in the oven, and served with a comb of honey, a plate of candied ginger, or a jar of marmalade, make an acceptable finish to an unpretending midday meal.

The "Dundee Advertiser," Scotland, reports the following apicultural whopper: While D. Cooper was driving from Collisston to his farm a swarm of bees followed them. Suddenly the queen bee of the swarm entered the mouth of the horse and the whole swarm followed taking possession of the horses stomach. The horse died in agony.

The British Bee Journal, says: During a good honey flow, ten thousand bees can carry into the hive one pound of honey at one time. During a moderate flow it may take 40,000, and where the flow is extra good perhaps some less than 10,000 may do it. We calculate 20,000 to be the average.

If one thing more than another should induce foreign honey markets to all parts of the world, it is the present glut and low price. Hundreds of ships constantly leave Melbourne, Sydney, Adelaide, Brisbane, and hundreds of smart commission agents are doing their best to do trade through them. We know of one firm that has sent away many tons per ship to foreign parts.

Our box honey flow closed within a week after Christmas day. Then followed a small apple tree flow, which was soon over. For various reasons we could not get the honey off while the flows were on, and in consequence of the excitement of the bees when honey is about, decided to leave in what we could not get off. It will not be lost, but will help to winter the bees well,. as we anticipate no other flow this season.

A Furniture Polish.—To make a cheap and excellent furniture polish, take one ounce of white wax, one ounce of castille soap, half a pint of turpentine, two ounces of beeswax, half a pint of soft water. Dissolve the white wax and soap (which must both previously be cut in fine shavings) in the water on the stove, and dissolve the beeswax in the turpentine. When nearly cold mix these ingredients together and the polish will be ready for use.

Old English ryhme:

A swarm of bees in July
Isn't worth a fly,
A swarm of bees in August
Is worth a pint of sawdust.
A swarm of bees in September
Is something to remember.
A swarm of bees in October
Is rare when one is sober.
A swarm of bees in November
Resembles one in December.

VICTORIAN APIARISTS' ASSOCIATION.

I beg to draw the attention of beekeepers to the letters in this issue, and to say that any suggestions in reference to either will be gratefully received.

Wishing all members and beekeepers a Happy New Year and bountiful harvest.

W. L. DAVEY,
Secretary.

Melbourne,
Dec. 21st, 1904.

The Right Honorable the Prime Minister of Australia,
Parliament House,
Melbourne.

Sir,—This Association, representiug the principal beekeepers of Victoria, desires, in the interest of the honey producing and other primary industries, to urge upon you the desirability of the speedy establishment of a Federal Department of Agriculture.

We would respectfully point out the national importance of apiculture in the United States of America, and nearly every country in Europe, where it has long since received the encouragement and special attention of the Governments of those countries.

The natural resources of agriculture in Australia are superior to those of most other countries, but cannot at present be fully availed of, owing on the one hand to our small population, and on the other to the absence of an outside market, due to prejudice against the Australian product.

Several attempts have been made by State Governments to open an export trade, but these have not been persevered in since the establishment of Federation. As the expenditure incurred by one State would benefit also all the other States, no further efforts are likely to be made by State Government Departments. Our industry being essentially a primary and rural one, we confidentially look to the Federal Government for assistance in our efforts to raise apiculture to the position it occupies in other countries, and to which as a natural asset it is fully entitled.

At the last meeting of the Executive Council of this Association, the following resolution was carried unanimously:—

Resolution.

"That in the opinion of this Association the time is now opportune for the formation of a Federal Department of Agriculture, and that the Federal Government be requested to give the matter its early consideration."

We have the honor to be, Sir,
Yours faithfully,
R. BEUHNE, President,
W. L. DAVEY, Secretary.

Department of Lands and Survey,
Melbourne,
27th Nov., 1904.

Sir,—I have the honor by direction of the Honorable Minister of Lands, to acknowledge the receipt of yours of 21st ultimo in regard to allowing beekeepers to pay a royalty for the use of the blossoms on green timber within a certain radius of their bee licenses, and to state that due consideration will be given to your request when new legislation is being prepared.

Yours faithfully,
JOHN MacGIBBS,
Sec. for Lands.

To W. Davey, Esq.,
Sec. Vic. Apiarists' Assn.

OPEN LETTER.

By W. L. Davey.

I am very sorry Mr. Bolton did not give me the opportunity of being the first to open the request as to when the names would be published; I could have given him the information as to "why not," which would have satisfied him. As it stands now, the Executive Council will have to be approached for a reason, as I cannot see my way clear to discuss the reason publicly. At the same time I am not afraid to say that if the time at my disposal is to degenerate into helping

supply dealers to make gain out of our members, then I for one will not have more to do with an Association that may become a "pestering sore" to those beekeepers who in sincerity have the welfare of this State and our beloved industry at heart. As Secretary I claim that I know the needs of the beekeeping industry, and they are of such a nature that nothing in this world but combined action, energy, consistency, unity and integrity of purpose will see those needs supplied, and if this Association is not going to represent these qualities, then there never will be in our time any possible chance of placing the honey industry on a proper commercial basis.

Now, we all know that Mr. Bolton, as he says, is almost, (but not quite), the largest subscriber, but we do know that he leads the way in the matter of getting a big honey crop for which he deserves great credit, but is there not in Mr. Bolton's open letter an apparent feeling of indifference as to the Association's prospects? To me it seems so, and to the belief that the writer's prosperity makes him in so strong a position that in his mind it would make no difference to him if the Association ceased to exist, as he says "it is a matter of indifference to me where the Conference is held." This phrase may be an unlucky one, but it leads one to put a finish to it mentally by saying "or if it is held at all."

My opinion may be wrong, if so I apologise to Mr. Bolton, but I take it that the man who is desirous of getting the Conference held as near to his home as possible, shows a live interest in our meetings, and wants to be there, which is much more preferable to a "m tter of indifference."

I say now to Mr. Bolton and to all, I am quite prepared to lay down my ever willing pen and make room for a new Secretary. The Association to me as a beekeeper will never be any use, my business in Melb urne is better than a bee farm in the back blocks. At the same time I trust my bee farm will last as long as myself, but there is no need of an Association for me any more than there is for Mr. Bolton, Mr. Beuhne and many others. The small yearly payment for my services is no material tie to me. In working for the beekeepers I regard myself as one of them and I repeat, though not needing the help of an Association, I at all times have endeavoured to place myself mentally in the place of our members, and to bring about results which would be a lasting benefit to them all, and my best energies are devoted to secure a strong and live organisation, even at the expense of a non-supply of beekeepers' names and addresses, etc., etc. If the Conference is not satisfied they should certainly know what to do.

The Hon. the Minister,
Lands Department, Melbourne,
11th January, 1905.

Dear Sir—I enclose herewith, documents from one of our members, Mr. E. T. Penglase, which relate to a permit to ringbark being made by an Assyrian named Ragee Fakrey, Block 46, Parish of Nindoo, County of Tangil.

I can vouch for the bonafides of the beekeeper opposing the application, and beg to say that he has built dwelling houses, buildings, and honey plant worth a large amount of money. He is the class of man that should receive every encouragement to stay on the land, and in our own State of Victoria. In addition, he is one of those who are willing to pay a fair rental or royalty to the Government to have the timber untouched by the ringbarker. I think the ringbarker is not prepared to pay the Government for destroying the timber, whereas the beekeepers are prepared to do so, and this without in any way debarring other people from obtaining the usual grazing etc., licenses. Thanking you in anticipation of doing an act of British justice to a family of our own race.

Yours faithfully,

W. L. DAVEY, Sec.

Commonwealth of Australia,
Prime Minister,
Melbourne, 5th January, 1905.

Sir,—I have the honor, by the direction of the Prime Minister, to acknowledge the receipt of your letter of the 21st ultimo, embodying a resolution carried at a meeting of your Executive Council, with reference to the formation of a Federal Department of Agriculture, and to inform you that the matter will receive consideration.

I have the honor to be, Sir
Yours, etc.,
ATLEE HUNT.

W. L. DAVEY, ESQ.,
Sec. Vic. Apiarists' Assn.
Station St., Fairfield.

[R. BEUHNE.]

The quarterly meeting of Council of the Chamber of Agriculture took place on Jan. 19th. A motion which I brought forward: "That this Chamber appoint a deputation to interview the Chief Secretary, and ask for more stringent enforcement of the regulations relating to the prevention of bush fires and more searching inquiries into their origin, with a view of punishment of offenders," was carried unanimously, and a deputation waited on the Chief Secretary the following day. Report of same from *Herald* herewith.

I had an interview with Dr. Howell, Chemist for Agriculture, who informed me that so far but a small number of samples of honey had been sent in. I would again remind members that this subject is of great importance, not only for fixing a standard analysis of the various honies, but in several other respects, affecting the health and prosperity of apiaries.

Beeswax and salt rubbed on flat-irons will make them as smooth as glass. Tie a lump of wax in a bit of cloth and keep it for the purpose. When the irons are hot rub them with the wax rag and then on paper well sprinkled with salt.

BUSH FIRES.

PREVENTION MEASURES.

WORK OF THE POLICE.

CHIEF SECRETARY INTERVIEWED.

More stringent enforcement by the police of the regulations relating to the prevention of bush fires was asked for by a deputation from the Chamber of Agriculture, which waited on the Chief Secretary to-day. Mr. Thomson, M.L.A., introduced the deputation.

Mr. Beuhne said that the origin of a number of the bush fires could, in his opinion, have been traced if a little more pains had been taken, and prosecutions could, as a result, have been initiated. Instead of that, the police seemed, in many cases, to be indifferent. Private landowners were left to prosecute, but they did not care to do so on their own account, because they might suffer in the following season. The Chamber of Agriculture had also discussed the question of the present legislation being inadequate, but much could be done to prevent bush fires if the regulations were more strictly enforced, and if more trouble were taken to trace the origin of such fires.

Mr. A. M'Naughton said that it was quite certain that a number of the bush fires were due to sheer negligence, perhaps, on the part of swagmen, or perhaps on the part of landowners themselves. If stringently enforced, the present regulations would largely meet the case.

CHIEF SECRETARY'S REPLY.

Sir Samuel Gillott said that in 1892 (twelve years ago) instructions to the police were gazetted, respecting precautions against bush fires. Attention was particularly directed to Regulation 179 bearing on the subject. The police were strictly empowered to use their best efforts to check the careless use of fire. The field officers of the Lands Department were also instructed to co-operate. Notices were posted cautioning people against carelessness, and it was notified

that copies of these posters could be obtained on requisition. Again, in 1903, the police were, in a "Gazette" notice, called upon to exert all possible vigilance; in fact it was a standing instruction to be borne well in mind.

"Having regard to the exceptional character of the season," continued the Minister, "we cannot say that we are out of the wood yet. Everybody must regret the damage and disaster that have taken place. We can only be thankful that it is no worse. I will call the attention of the police to the necessity of their doing all they can to prevent bush fires, and of trying to find out and prosecute offenders against the regulations. I quite understand the difficulties of landowners in prosecuting neighbours, because the landowner who is the informant may get a taste of the malice of the person prosecuted next season. The Acting Chief Commissioner of Police (Mr. Mahony) is here, and I will confer with him, and see whether it is advisable, as I think it is, to publish a fresh "Gazette" notice, sufficient prominence. The objects of the deputation have my heartiest sympathy.

N.S.W. BEE-FARMERS' ASSOCIATION.

January, 1905.

Dear Sir,

As the time for the Annual Meeting of the above now draws on, it is well members should think over the present state of the industry and its prospects; the great glut of honey and its causes, as well as the low price. Both are in effect over all the civilised world. Over production, and influences at work to cause such, are the primary troubles.

At the time of the annual meeting in April, there are cheap railway excursions all over the colony. Or, if sufficient numbers of any association will give in their names the Railway Commissioners will give special rates. I will, therefore, ask you, will you kindly forward your name if you wish to avail yourself of such facilities. They include the bee-keeper and his wife.

I would especially ask you to endeavour to be present at the annual meeting, the date and place of which I will forward you later on. Owing to the small attendance at last annual meeting the choice for representatives at the Chamber of Agriculture was very limited, the result being one was chosen who has views utterly at variance with those of the objects of this Association. Not only so, but has done his best to influence the members of the Chamber. He has also done his best, by writing and otherwise, to stullify both your Secretary and the Association. For these reasons I would respectfully urge upon you that unless representatives to that Association are those who hold views in accordance with those of this Association are appointed, it were better not to affiliate. Of course such delegate should be paid his travelling expenses to the different meetings. Urging on you an early reply,

I am, dear sir,

Yours sincerely,

E. Tipper,

Hon. Sec. N.S.W. B.F.A.

N.B.—Will you kindly send me nominations for the following offices: President, Secretary and Treasurer, Committee. If you should not be able to attend will you let me know and I will forward you proxy paper for you to fill up.

To move bees a short distance in the warm time of the year, shut them up in the hive, take them down cellar or to any cool place, and keep them for four or five days; but in doing so make very sure they do not smother. The entrance should be covered with wire cloth. At the end of the period of confinement, put the bees upon permanent location. A very few of them may go back; such as do may be collected on a frame of brood and carried to the new location, when they will probably stay for good.—Exchange.

PRICES OF HONEY.

Maitland Mercury.—Honey, 1d per lb. Small tins 1s 6d to 1s 9d each.

Melbourne Australasian.—Honey—Demand rather dull. Prime clear garden from 2¾d. to 3d.; medium quality, from 2½d.; congealed and inferior lower. Beeswax, from 1/2 to 1/3.

Melbourne Leader.—Honey.—Trade continues dull. Prime clear garden lots are offered at from 2½d to 2¾d; extra prime, 3d.; cloudy samples, 2d. Beeswax.—For prime clear wax buyers are offering up to 1/3; discoloured and medium qualities are worth from 1/1 to 1/2.

Garden & Field, S. A.—Lovett & Co., report: Honey, 2½d to 3d; inferior down to 1½d.

S. M. Herald.—Choice liquid 2½d per lb., candied and good liquid 2d to 2¼d., inferior 1d to 1¾d.

Tamworth News.—Honey—Choice liquid 1¾d to 2d per lb.; good, 1½d.

Experiments with Sainfoin Clover.

Sainfoin Clover has again attracted a great many farmers and beekeepers who visited the Experimental Farm, Ottawa, Canada, during the past year. The number of bees working on the sainfoin plots, against those working on white clover, alsike and bokhara clovers were quite noticeable in favour of the sainfoin. For fodder and as a fertilizer. it appears to be equal to alfalfa, and its habits and growth are very similar. The sainfoin being slightly finer in the stems, and having more of a stooling habit, will therefore make a much better pasture, especially for sheep.

Soil: The soil best suited for the growth of sainfoin seems to be a deep loam, containing a fair proportion of lime, with good, deep, natural drainage. It will, however, do well upon almost any soil that is well drained, providing it once becomes well rooted. It should never be sown on land in which the water level stands near the surface, or on land likely to be covered with water at any season of the year.

Seeding: The amount of seed usually sown is, to the acre, 30 or 40 pounds, that is with the hulls on. I would advise sowing the seed hulled, the same as you sow alfalfa. It is much easier sown and will germinate more quickly. With hulled seed, about 20 pounds per acre would be sufficient. If sown with oats, barley or wheat, not more than one half the ordinary amount of grain should be sown per acre, even then the young plants are apt to be killed by exposure to the sun when the nurse crop is removed, especially if hot, dry weather follows the cutting of the grain crop Better results are usually obtained by sowing the seed alone. The best time to sow it is as soon as the ground can be got into good condition in the spring and danger of heavy frosts is passed. On the Experimental Farm sainfoin sown alone came into bloom in August, and gave a yield of one ton, 1,700 lbs. of dried fodder per acre. In the second year it came into bloom on June 1st, and lasted to the 24th of June. The second cutting bloomed July 27th to August 17th. Total cut of the two crops, four tons, 1,600 lbs. Those dates could be extended for honey gathering, but as the plants were in the best condition for fodder, it was thought best to cut on the latter dates. A third crop is usually allowed to grow for pasture, or in favorable seasons even the third crop might be cut for hay. The present sainfoin clover plots on the Experimental Farm has been grown: One plot seven years, one plot three years, and a third plot sown in the spring of 1903. The plot that has been growing seven years is getting very thin, and should be ploughed under. I would advise restoring every two or three years, as clovers are known to be one of the most valuable fertilizing plants grown.

Cultivation: Following are hints on preparation of the soil for growing clover, killing weeds of all kinds: Hay lands take a firm footed cultivator; put on narrow points, say 2 1-2 inches wide. Three horses will be required to draw this machine. Pass over your field first with the cultivator. In the second operation cross the cultivating with the harrow. This will tear the sod into very small pieces, and they will dry out in the sun very quickly. The third time over the field should be with the cultivator in the opposite direction from the first, and next the harrow. By going over the field with your cultivator four times, you should have every particle of sod cut and dried out on the surface. All this working should be done on warm sunny days. Later in the autumn this valuable mat of material should be ploughed under to decay for a future crop. Stubble lands may be worked the same way. A second plan is, after the crop is taken off to plough very shallow with a gang plough in a dry time, the land being then rolled and harrowed: It is left untouched until the grass and weeds start to grow. It is then harrowed and cultivated thoroughly at intervals to keep down all growth, and later in the autumn ployed or ribbed up with a double-mold board plough, into drills about 22 inches apart,

and 8 to 10 inches high. This is found to be a most satisfactory preparation of the soil for clover corn, roots or grain. Where grain is grown the soil is ready for seeding at a considerably earlier period than where fall ploughing is practised.

I had a great deal of trouble getting this sainfoin to germinate. The seed is enclosed in a small husk, and I would advise every person asking for sainfoin seed to have it shelled, that is, with the husk off it.

I speak of this plant as a fertilising plant. The great value in all the clovers is that they are such deep rooters. With all those nodules that gather their food from the air, one cannot help but see that this would be a valuable fertilizing plant. Our friend, Professor Shutt, proposes next year, to take a spade and dig some of it up. and analyise the roots and find out what the value of it is as a fertilizer, and then he proposes to take a certain sized plot, find its value as a honey-producing plant. The dairymen do not allow their cows to run on the commons, and expect them to fill the pail with milk. We should not think of allowing our bees to do so and expect them to give us one hundred or two hundred pounds of honey. We must provide for them. We think that this plant is one of the best, that is grown so far. We all have faith in the small white clover, but if you had been at the Experimental Farm at the time the white clover was on, and sainfoin was on. you would have seen that the white clover was not to be compared with the value of this clover as a honey-producing-plant.—*Canadian Bee Journal.*

FOREIGN COMPETITION.

With the exception of Argentina and Chili most of these competitors (or, rather would-be competitors) are what would be known in the United States as *slow*, with a capital S. They make no claim to being "strenuous" countries, and hence it will be some little time before this competition becomes serious, not to say menacing. Argentina and Chili are, however, formidable rivals, and likely to develop very fast into exporters of honey. These countries are peopled by lively, energetic folks, thoroughly practical and scientific, with lands eminently suitable to apicultural pursuits. Chilian alfalfa honey has a regular market in London at fairly steady prices, higher (or at least as high) than New York rates, hence it is under no necessity of being shipped to the United States.

Argentina is a more dangerous antagonist, coming later into the field of apiculture. The vast areas of that country under alfalfa for grazing purposes form a sort of bee-keepers' elysium. No wonder average yields of 300 or even 500 lbs. per colony are reported. With fine weather for months at a time, and illimitable fields of purple alfalfa, Argentina certainly presents a very inviting field for our chosen pursuit or avocation, for there bee-keeping is subsidiary to cattle-breeding. Still, it is hardly likely that Argentina's honey will be sent to American ports, as higher prices can be uniformly obtained in London, Antwerp, and Hamburg. Nor is there any prospect of this situation being changed.

South Brazil has long been known as a honey country. Hannemann, the inventor of the queen-excluder, made some famous records down there many years ago. As a matter of fact, bee-keeping does not occupy the same place in Brazilian agriculture it did some years ago. Probably Salo Paulo City, with its 350,000 inhabitants, would consume the whole local product, and considerably more if the sale of honey were pushed with business like methods. Paraguay, that queer far away republic, has very few bee-keepers within her borders. Uruguay has more, but not to cut any figure. Taking Chili, Argentina, Paraguay, Uruguay, Rio Grande do Sul, and Sao Paulo together, we have a country as large as the United States, with a much milder climate, and eminently suitable for bee-keeping. Therefore, keep your eye on the Rio Plata

countries and the Banda Oriental. They are great rivals of the United States in all lines—cattle-raising, dairying, horse-breeding, fruit culture, sheep-herding, and wheat culture; then why not apiculture?

Further north the next serious competitor is British Guiana, just looming upon the horizon. It is twice the size of Cuba, and is about well adapted to bee-keeping; but that it will ever rival Cuba is to be doubted, for it hasn't a very good name as a health-resort, and the pale faces do not run there in droves. It much resembles Louisiana; and Georgetown, the capital, I regard as a much nicer place place to live in than New Orleans. If the climate were as nice as that of Jamaica the country would cut a great figure in the honey market.

Trinidad and the Windward Islands are too small and too populous ever to have much honey to export. Jamaica is a small island which the natives persist in regarding as the leading island in the West Indies, barring Barbados, the hub of the western seas. British Honduras is a very inviting field for bee-keeping—none better anywhere; and if one can put up with a very quiet existence, "far from the madding crowd," this is the country for him, for life can not be more devoid of human interest and excitement than it is there. British Honduras is a fine country for a naturalist; and with a good house to sell for him in England a bee-keeper need never want for cash, as crops are certain.

All around the Gulf of Honduras the country is a grand one for apiculture. The periodic revolutions are a serious drawback; otherwise their competition would soon be serious. Inland the country is extremely pleasant and salubrious. The most promising field of all, however, is in Mexico, all around the Bay of Campeche. The leading tree is the logwood, or "campeche," which flourishes on every hand. The mahogany is also a good source of nectar. The country is healthy, and easily reached from New York or New Orleans, particularly the latter. This part of the world offers many tempting opportunities for the enterprise of Americans, consequently there are many on the ground making fortunes out of sisal, sugar, mahogany, etc.; so the bee-keeper would have some one to swap stories of life in the home land, and eat flapjacks with him Sundays. The island of Haiti, one of the world's most beautiful countries, presents golden opportunities to bee-keepers—when it gets a good government, but not till then. Sometimes we read the interesting statement, "Uncle Sam is going to take care of it." When he does there will be a perfect scramble among bee-keepers for locations in that isle of beauty and—*honey*.—W. K. Morrison, in *Gleanings*.

A LIVELY TIME MOVING BEES.

In May, 1903, I started out to buy a few colonies of bees. Several miles from home I found a widow who had 8 colonies which she was willing to sell. The bees were all in 8-frame dovetailed hives except one, and that one was in an old hollow log set up on end, about 32 inches across the top, and larger at the bottom. It was arranged so that a super could be placed on top, and it had a hive-cover on it. I examined all the colonies, and agreed to give her $21 for the 8 colonies, 21 empty hives, 36 supers, and 500 new sections.

Upon examining the log hive I found it chock-full of bees—these little black smarties—and the log stood 3½ feet high with an auger-hole bored 7 inches from the bottom, also a few notches. But it seemed that the bees could creep out anywhere around the bottom of the log. I told the widow I would be after them the next evening.

The next day I looked around for a team. I found a man whom I will call John, with a two-horse team. We started in time to get over there at sundown, with a lumber wagon and a terrible rough road to travel. We fixed all the frame hives with wire-screen. We had no room

for the log hive, so we struck for home. I don't think bees ever got such a shaking up as they did. We got them unloaded just at daylight.

The next evening we went after the old log, reaching there just at sundown. As soon as it got a little dark we went to work. I had a wire screen for the top and one for the bottom We got the screen on the top all right, but when we went to put the screen on the bottom I found I had used the wrong screen for the top, and the other one would not cover the bottom. So I took the screen off to put on the right one, and the bees got mad, and still madder, and went for us in full force. I told John to stick to them, and if it got too hot to run. I soon found that run was the only thing to do; but we got the screen off the top while it was a hot time. We agreed to evacuate, and come another day, so we loaded up the old boxes and went home, feeling badly whipped.

In a few days I got a card from the widow, to come and take those bees away, as they were stinging the children and the chickens, and everything they could get at. I did not know what to do. Finally I made up my mind to take those bees, dead or alive. I took sulphur with me, to kill them if they showed fight.

We got there just at sunrise. They were out and ready for us. I put on my new veil, and went for them with volumes of smoke, but it had no effect on them. The more I smoked the more they came out. We had to retreat, just covered with bees. They were in my pockets, and everywhere. We let them settle, then I packed dirt around the bottom to keep them in. At last I got the top screen tacked on, but they kept working out through the dirt at the bottom.

I happened to think of my package of smoking tobacco. I filled the smoker, got it to going, and stuck the nozzle in the auger-hole. It was not long before they put up a terrible howl. I did punish them good. They quit howling, and everything was quiet. I told John I believed I had killed them all, but he said he didn't think so, that they had only surrendered.

I turned the log down to tack on the screen, and about a peck of bees dropped down. I tacked the wire partly on, scraped up the drunken bees, and dumped them in and closed it in a hurry. We put them into the waggon, and had not gone a mile before they were as lively as every. Poor John was swelled up like a toad. This spring the moth or wax-worm got into the hive, and did a better job than I did.—S. T. Crim, in *American Bee Journal.*

RELATING TO SWARMS.

Among the subjects of study of one of the French Agricultural and Apicultural Societies was the question of swarming. A series of questions was sent, in 1902, to the members, with request to observe and report. Here are some of the points ascertained:

1. The swarming season in so far as primary swarms are concerned, begins (average dates) May 28th and ends June 30th. The extreme dates for the beginning have been so far May 17th and June 13th; for the ending, June 6th and July 4th.

2. The relative number of swarms during the swarming season is about one-fifth in May, one-half between the 1st and 10th of June, one-fourth between June 11 and June 20, one-tenth after June 20th.

3. The earliest coming out of a swarm was 8.5 a m., and the latest 4 p.m. These are extreme limits. The average number was as follows: Five per cent. before 10 a.m., twenty-two per cent. between 10 and 12, fifty-six per cent. between 12 and 2 p.m., fifteen per cent. between 2 and 3 p.m., two per cent. after 3 p.m.

4. Among the points to be observed was the atmospheric pressure—that is, whether the barometer is high or low. The result was that 85 per cent. of the swarms came out on days when the barometer was at 760 mm. and above, and only fifteen per cent when below;

none at all when below 750 mm. It must be noted here that these observations were made in the northeast part of France where a fall of the barometer is always accompanied by damp and rainy weather. I think the state of the atmosphere ought to have been observed in connection, that is, whether the weather was clear or cloudy.

5. Eighty two per cent. of the swarms came out during light winds or calm weather, and eighteen per cent. during medium winds.

6. Eighty-nine per cent. of the swarms came out when the temperature (in the shade) was above 68 F., and eleven per cent. when below. The lowest temperature observed was 61 degrees, and the highest 77 degrees, that the summer temperature of northern France is much below that of nearly the whole United States, and if no swarm issued at a higher temperature it is because such temperature did not occur.

7. Eighty-six per cent of the swarms come out when the sun was shining on the hive entrances. That is nearly nine out of ten. This goes to show the importance of shading in hot weather, and of sufficient ventilation—in a word, to avoid having the colonies suffering from over-heatlng.—Exchange.

THE PUNIC BEE.

The Punic bee, a native of Northern Africa, was imported into America in 1886. It is of the genus Apis Nigra, and therefore all black, in fact blacker than any bees native to any part of Europe or America; it comes from ancient Poenia in North Africa, and was cultivated for its honey long before the Romans began to practice husbandry of any kind. We are indebted to the Poenians for the best features of horticulture and agriculture, whose success so incited the Romans they at last succeeded in crushing them; the bees, however, remained pure and uncontaminated till recently. Though they are a smaller bee, they require larger hives for a brood nest than the Italians. They will require either a 12-frame Langstroth hive or an eight-frame one with a half-story above and the frames in this half-story should be put the narrow way across the box. This one-and-a-half story stack hive will never need touching, and all one will need to do is to put on plenty of room above and take off the surplus honey—not feeding if there is any honey above. These small narrow frames should have no bottom bars; they will be found very handy in making up nuclei, as three division boards put in one of these shallow boxes will make four nuclei with an entrance on each side and by being put across the bottom frames there will always be the best kind of winter passage ways.

There is this other peculiarity, viz., the queens never attempt to mate till about 20 days old, but they will mate all right at over three months old, hence they will not be favourites with queen breeders who use a split one-pound section for a nucleus. It is here that the value of the short, shallow frame will come in.

There is another startling peculiarity. If you remove a queen and then on the 10th day cut out every queen cell, fertile workers will at once fill all the combs with eggs, and they will begin queen cells on these eggs and develop and hatch queens from them, which will duly mate and repopulate the hives. I do not place much value on this fact, except to prove that nature has a wise use for fertile workers, i.e., to be able to requeen a stock when a queen is lost in mating. How the bees do this, i.e., produce both males and females from unmated worker bees, I leave to others to find out. All who have these bees can verify the fact for themselves.—JOHN HEWITT, in *American Beekeeper.*

ANT'S TOILET.

The side lights they throw upon the habits of bees render the manner and customs of ants of considerable interest. The ant's body is covered more or less

closely with fine pubescence, corresponding somewhat with the fur of beasts. This is interspersed with bristles and spines, which are sometimes jointed, and are so arranged as to aid materially in keeping the body clean. Particles of soil cling to this hairy covering, but it is a protective medium, holding the dirt aloof and isolated from the skin surfaces, so that it can be readily shaken off or taken off. The brushing, washing, and combing of this hairy coat constitute the insect's toilet-making.

One of the efficient toilet articles is the tongue. Around the sides of this organ curves a series of ridges covered with hemispherical bosses. The ridges are chitinous, and thus by greater hardness are fitted for the uses of a brush. When eating this structure rasps off minute particles of solid foods, so fitting them for the stomach. For toilet uses it serves as both sponge and brush, and takes up bits of dirt not otherwise removed. In short ants use their tongues as dogs and cats do, for lapping up food and licking clean the body. One is continually reminded, as he watches the tiny creatures at their toilet, of the actions of his cat and dog at the fireside.

Often one may see an ant suddenly pause in the midst of the duties of field or formicary and comb herself. There is a mountain mound-maker driven by the passion of nest building to the utmost fervour of activity. Suddenly she drops out of the gang of fellow-workers, and mounting a near-by clod, poses upon her hind legs and plies teeth, tongue and comb. For a few minutes the aim of being is centred upon that act. Around her coign of vantage sweeps to and fro the bustling host of builders, with all their energies bent upon reconstructing their ruined city. She combs on unconcernedly.—Dr. Henry C. McCook, in *Harper's Monthly Magazine.*

When desiring to requeen, don't make the colony queenless before receiving the new queen. Wait until after the new queen has arrived.

"COUNTRIFIED."

[By James Buckham.]

Do they call you "countrified?"
Let it be your joy and pride.
You, who love the birds and bees,
And the whispers of the trees!
Trust me, friends of flowers and grass
Little brown-faced lad or lass,
Naught in all the world beside
Equals being "countrified."

Up, of mornings, when the light
Reddens on the mountain height;
Hearing how the bird-throats swell
With the joy they cannot tell:
Conscious that the morning sings,
Like a harp with unseen strings,
Over which the breezes glide—
This is being "countrified."

Roaming far, on summer days,
Or when autumn woodlands blaze;
Learning how to catch and tell
Nature's precious secret well;
Filled with sunshine, heart and face,
Or, where branches interlace,
Dappled like the shy trout's side—
This is being "countrified."

What though little fit to pose
In the city's ways and clothes?
There is vastly more to love
In the brawn of nature's glove,
Health and happiness and tan
Are best fashions for a man.
All who near to God abide
Are in some way "countrified."

—*American Beekeeper.*

Distance Bees Work Profitably.

I think it makes quite a difference, the distance bees will fly. If located in a valley where the bloom appears first they would naturally follow it farther up the mountains than if they were located at the mountain and had to go to the valley first, over where there were no flowers yet in bloom. Another thing, I think where there are 50 colonies of bees they go further for honey than 2 or 3 colonies would. When I had a few colonies of bees I did not notice them working on basswood 2 miles distant, but when the number was from 40 to 60 they kept up such a stream of bees going and coming that a young bee had no difficulty in circulating around and finding the stream of bees the long distance they were going. *Exchange.*

CAPPINGS.

There are some who believe it just as well that it be left till spring to have sections cleaned out that do not contain enough honey to be sold or used in the home. Perhaps the majority think it better that the work should be done in the fall, before the honey has had time to candy. Pile up the supers some distance from the apiary, six or eight in a pile, and cover up so that only one bee at a time can get in. The bees will make a clean job of it without tearing the sections to pieces, as they would if free access were given.—"American Bee Journal."

So many times there comes to the bee-journal editor the questions: "When is the best time to buy and introduce queens?" Many seem to have an idea that the spring is the best time to do this work. Unless there was some special reason for doing otherwise, I should always buy and introduce queens in the fall. In the first place, queens are scarce in the spring and prices are high. Next if there is a failure to introduce, and the bees get the brood-nest ove -loaded with honey, and there is a break in brood-rearing for a week or ten days, the colony is practically useless for the clover honey harvest. Again, early in the season, unless it is *very* early, the colony is populous, combs full of brood, and everything is booming. The beekeeper is busy, or ought to be, and it is not "good business" to be tearing up, and disturbing, and throwing out of equilibrium, a colony just on the eve of a honey harvest. Queens reared after the honey season is over are every whit as good as any queens, if the breeder understands his business, and attends to it. It is just possible that they may be less inclined to swarm. The hurry of the season is over, and the beekeeper has more time to attend to the business of introducing queens. If there is a failure to introduce, there will be no consequent loss of a honey crop. Still further, the queen that is introduced, being a young queen, will lay later in the season than will an old queen, and, as a result, the colony will go into winter with a larger proportion of young bees. And now for the last and best point: The queen will be young and vigorous the next spring, and will push her colony ahead in a way that is seldom seen with an old queen. If you have never tried it, do it this fall. Introduce some really good young queens that have just begun to lay, and see how the colonies will winter, come through the spring, and boom ahead of all others. —*Beekeepers' Review.*

The Russian Government, in the midst of "war's rude alarm," still finds time to pursue scientific researches. All summer, Professor A. Tethof, a distinguished scientist, has been travelling in the United States, investigating the American method of bee culture. He has made a particular specialty of the production of comb and extracted honey. He will probably remain in the United States another year, continuing his quest for information. This is embodied, from time to time, in reports to the Minister of Agriculture at St. Petersburg. The Government will avail itself of the results of these reports for the general benefit of the agricultural classes of the great Russian empire.

HANDLING SWARMS.—In casting about for something to hold back a swarm that has started to issue when a swarm is already in the air, I discovered that the only thing that would stop them from coming out was to dash a pail of water over the frames, so that the water will run down through the bees. This seems rather severe treatment, but it is a sure cure, and will effectually dampen their ardor for the time being and they will forget all about swarming for that day.—"Exchange."

TREATMENT OF ROBBER-BEES.—When I find that there is a case of robbing in my apiary I go to the besieged colonies and throw flour on the robbers as they pass in and out. In this way I can locate them at once. I then throw wet hay over the entrance to the hives of the robber colonies, thus preventing them

from going in with their load. They will worry around until they are tired out, and they will never return to rob. It would be advisable to close down the entrance to the hives of the besieged colonies to a small space, or see to it that the colonies have laying queens.—"Exchange."

"Most of the commission dealers handle fruit, vegetables, poultry, etc., as well as honey. Last fall, by request, I called on several such dealers in large cities to learn why certain beekeepers' honey was not sold. Each dealer said he could not sell honey so long as the big supply of perishable fruit was on his hand; the honey would keep, and he could sell that later. I found tons of once fancy comb honey, also extracted honey, in their cellars.—"Exchange."

It is impossible to do away entirely with the production of drones, but the man who takes pains can reduce it to a minimum; at the same time, by a contrary process, increasing it to the maximum in the colonies which he considers as the best for honey production.—"Exchange."

To bleach wax and make it white it is exposed to sunlight in moist atmosphere, and in very small particles. The process requires from five to six weeks, unless one and one-fourth to one and three-fourths per cent. of turpentine has been added to the wax, when the time may be shortened to six or eight days, so says Pr. Wegw.

H. Guehler estimated the value of the honey crop in Germany at 30,000,000 marks. He also says that Germany does not produce, and never has, its supply of honey, and that a large share is imported from Hungaria, Italy, California, Cuba, Brazil and Australia. Some Brazil honey ranks equal to German honey; other American honey does not. A large share of the table honey is mixed—using beet sugar as a basis and adding a little heath honey to colour and flavour. A great deal of money is made with this substitute. The city of Berlin is one of the heaviest consumers of extracted honey. What Guehler deplores most is the fact that there are a number of extensive beekeepers (having as many as three hundred colonies each) who use their bee business as a means of advertising their foreign and mixed product. At most he says, they can produce fifteen thousand pounds of honey in a year. Some years the three hundred skeps produce no more than three colonies, and yet they maintain a wholesale business, selling great quantities of honey, making it appear as though it was all the product of their own bee-yards, thus misleading the consumers.—Exchange.

If only the product of the United States were to be considered, it is safe to say that prices would be higher this fall than in years; but with the heavy foreign competition that is developing, it appears that prices are bound to rule even lower than at present, regardless of the extent of the domestic product. Conditions throughout the Union at present are such that the American markets could hardly be supplied this year, if we were obliged to rely upon our own resources; yet the indications are that the seaboard cities will have "dead loads" of choice honey to offer at prices lower than the American producer could meet with profit.—*American Beekeeper.*

Editor Adelsbach, of the "Western Bee Journal," summarizes the apicultural situation in California about as follows: 4,000 beekeepers, quite a number of which have from 1,000 to 1,500 colonies, while one man controls 8,000 colonies. It is estimated that there is within the State about 300,000 colonies, representing an investment of $1,500,000, and an annual expenditure of $250,000. The value of the annual product is about $1,250,000.

At Baden-Baden, some women were arrested for selling adulterated honey. The buyer, a hotel-keeper, was summoned as witness. On being asked whether he knew the honey was adulterated, he said he did. The judge then asked him why he had bought it. The man very coolly answered that when he bought genuine honey his guests ate too much of it!—Le Ruche Belge.

PUBLICATIONS RECEIVED.

The Victorian *Journal of Agriculture.* This *Journal*, which is issued every alternate month, was established in order to place before farmers, dairymen, fruit-growers and others interested in agricultural and horticultural pursuits the latest information available in connection with those industries. In addition, it forms a complete record of the experimental work carried out by the various branches of the Department. The subscription, which is payable in advance and includes postage, is as follows:—Victoria, 2/6 per annum: Interstate and New Zealand 3s 6d; United Kingdom and Foreign Countries, 4/6. Subscriptions may begin at any time. Persons wishing to subscribe should forward a postal note for the necessary amount to the Secretary for Agriculture, Melbourne. Of the excellence of this publication it is not necessary for us to speak.

We acknowledge copies of the "Bee-Keeper," "Egg Producer and Poultry News of Ireland," "Milk Products," and "Fruit and Flowers," all apparently portions of "The Weekly Techs." They all contain much valuable information.

Bush Fires—Honey Prospects.

How have you and the bees come through the extraordinary heat wave? It has about "cooked" what little prospect there was for honey on the Manning River. About a week's rain now might bring a partial flow from spotted gum next month, but the bush fires and hot winds have done much damage to the timber that did promise something this season. The bees are just about able to keep going, with nothing, to speak of, to spare for the beekeeper. There will be very little honey from the Manning River district put on the market this season, and probably in view of the extensive bush fires and continued dry weather it will be the same elsewhere. So it behoves beekeepers more favourably situated not to be in too great haste to put their honey crop on the Sydney market. The hot and continued dry weather we have had here the last three months, with no rain beside has been very disheartening. During the three days fiery blast that followed on a hot Christmas week, a few combs melted down, but a good coat of white paint and extra precautions taken, prevented much damage being done. Trusting you are having better prospects your way, and hope this may find you well.

Manning River,
Jan. 12, 1905.

[In our own case one apiary of 50 hives would have been entirely destroyed but for the hard efforts of neighbours. In another several hives the combs melted down drowning the bees.]

REQUEENING.

Now is the time to requeen your colonies. There is a chance for a difference of opinion as to whether it is profitable to requeen all your colonies each year, but this much is certain—that it will pay you well to replace every queen whose colony has been below the average in honey production. We may add to this every queen that is more than a year old, unless she is an extra good one. If a queen is much above the average it will be well to follow the good old rule of letting the bees supersede her themselves. If time is valuable, and there is no honey flow in prospect, simply remove the old queen and insert a ripe cell in a cell protector. Ordinarily it will pay better to raise queens in nuclei by some of the modern methods. If you cannot do anything more, you should at least give each colony whose queen should be replaced, a ripe cell in a cell-protector, this without paying any attention to the old queen. Many of these young queens will be allowed to supersede the old queens. If your queens' wings are clipped, as they should be, you can easily verify their replacement. This method requires little labor, and tends to improvement of stock.—*Leader.*

A poor honey flow for the past season in Ireland.

CORRESPONDENCE.

A. S., Jindera, Jan. 4.—We have had a very bad time with the bush fires on New Year's Day. A few months back we had such great floods and now this dreadful fire. It nearly swept the whole of the district, some of the poor people I don't think will ever recover. I don't expect any honey this season as none of the trees had any buds. Bees are healthy and strong.

J. McP., Conjola, Jan. 10th.—Last Saturday week was a bad day for us down this way. We lost our apiary, home, tools, everything, only the clothes we had on our back, and had to run to escape with that. The heat was terrific, and the fires travelled before the hot westerly at a pace too great for anyone to prevent it. I little thought this would be my first bee news. I will have to go at something else now in order to try and make some money to start again. The scene at the old apiary next day was one I don't like to dwell on too long. The study of beekeeping was one I took a great delight in from a boy, and to lose them now, together with all money, books etc., is very hard. I must get work at something else and make the best of a bad job until I can start all over again.

D. M. M., Deep Lead, Vic.—The honey harvest is heavy and the weather is hot and to make it hotter we have our old friend the bush fire to battle with. We had a narrow escape of losing our honey crop and everything else, but with plenty of willing hands we have so far stopped its wild flight. We intend to try and form a branch of V.A.A. in Stawell about March. At the present all are too busy to do anything except to battle with honey.

F. W. K., Stawell, Vic.—We are having the best season for honey that we have had for some years here, and are very busy extracting. I wish I could say sales were as brisk.

Mr. Herbert J. Rumsey, of the Chamber of Agriculture, writes:—The Railway Commissioners have sprung a surprise on us in reference to the certificates used for the joint meeting held on Oct. 7th last. It seems that only two delegates (one accompanied by his wife) used the certificates and as they require six to travel, they have billed us with £3 7s 9d, the difference between the fares paid and ordinary fares. We also have one for £2 9s for a more recent meeting. I hope you will be able to attend the next Council meeting on the 26th, when the matter will have to come up, as I shall not pay without the consent of the Council and Finance Committee. I understand that your association has no funds, we have very little at present, and I think it very unfair to come on to us after letting the matter go for so long.

[Yours to hand, had you asked my advice I should most certainly have told you not to send railway passes for that meeting, as it was a most inappropriate time for beekeepers in the country. I went, as it was your meeting, and asked other beekeepers to meet me, but there was no special business. See my notice. I did not avail myself of the railway facilities. You had better apply to those who did and tell them what the Commissioners say.—E Tipper, Hon. Sec. N.S.W. B.F.A.]

R. L., Taree, Manning River.—There is little or nothing new to report here, and the prospect of there being any in the immediate future does not now appear to be very great. Everything in our neighbourhood has a burned up appearance. What with bush fires, scorching winds, etc., it is astonishing we are not all dead. There will be none, or very little honey go from here this season. Bees have not increased, but they are free from disease as far as I know. The majority of the timber in the forests around here has been burned to that extent with fire that they will be of very little use to provender bees, for some years to come, if these conditions are general, and they are much that way, good honey ought to command a fair price next year. I think I shall part company with my bees next winter. I shall be unable to attend Annual Con-

ference, as usual, so I ask you to oblige me once more with proxy paper to be represented.

The Sense of Smell in the Bee.

THE OFFICE OF THE ANTENNÆ.

BY E. F. PHILLIPS, PH. D., OF THE UNIVERSITY OF PENNSYLVANIA.

Any one who has observed bees has seen that they are guided very largely in their movements by the sense of smell. Bees have been known to fly a mile or more over water to reach flowers on an opposite bank toward which they could be guided only by scent.

The celebrated naturalist Huber first discovered that the organs of smell in the bee are located in the antennæ, and he performed some interesting experiments by cutting off the antennæ and thus depriving the bees of their power of detecting odours. I have recently repeated some of his experiments on workers, drones, and queens, with some modifications, and all my results confirm his position.

Concerning the queen, Huber says, "When one of her antennæ is cut off, no change takes place in the behaviour of the queen. If you cut off both antennæ near the head, this mother, formerly held in such high consideration by her people, loses all her influence, and even the maternal instinct disappears. Instead of laying her eggs in the cells she drops them here and there." As is well-known, a young virgin queen is normally accepted without any difficulty by any colony which has been queenless long enough to know its queenless condition. In experimenting along this line I cut the antennæ from a virgin queen about three hours old, and put her on the comb of an observatory hive, and she was at once balled. This was repeated with another hive. She was rescued from the workers, and confined in the hive in an introducing cage containing candy, but in a short time died, probably of starvation, for I am sure she was not stung by the bees in the ball, for she was taken out at once and I never lost sight of her. Although there was candy in her cage she evidently did not recognise it as food, since she was not attracted to it by smell, and on account of the loss of her antennæ she was not fed through the meshes of the wire cloth.

When the workers are deprived of their antennæ they remain inactive in the hive, and soon desert it since they are attracted only by light. I cut the antennæ from several workers, and marked them on the thorax to make it more easy to follow their actions, and then put them in an observatory hive from which they had been taken. The other bees at once recognized that there was something wrong with them, and gathered round them much as they surround the queen, and repeatedly tried to feed them; but the injured workers could not guide their tongues, and consequently did not take food readily. One worker with its antennæ off was put on the alighting board of its own hive, but was at once repelled and carried away by one of its own hivemates.

Drones act in a very similar manner, but are frequently rejected by the workers as soon as they are put in the hive. Huber reports that, as soon as the light was excluded from his observatory hive, although it was late in the afternoon, and no drones were flying out, the drones from which the antennæ had been cut deserted the hive, since light was the only thing which attracted them.

From these observations it seems clear that bees recognise each other very largely by scent, but also by touch. The workers and drones operated on were returned to their own hive, and we would suppose that they retained the odor of that hive; but since they were not able to extend their antennæ to the other bees they were at once recognized as differing in some way, and received different attention. Langstroth says of these experiments, "The inference is obvious, that a bee deprived of her antennæ loses the use of

her intellect;" but this statement should be modified somewhat, for the intellect is in no way influenced by the operation. The bee continues to respond normally to all sensations which it has the organs to receive, for we see that light still attracts them as it did before; but on account of the one-sided reception of stimuli its actions become abnormal.

It yet remains to be seen which segments of the antennæ receive certain odors, for probably they are not all alike. It has been found in ants that the different segments of the antennæ perceive different kinds of odors, and the same is very probably true for bee—*Gleanings.*

HONEY IN ANCIENT ERIN.

There was no sugar and honey was greatly valued; bee-hives were kept everywhere; and the management of bees was considered such an important industry that a special section of the Brehon Laws is devoted to it. The people used honey in a great many different ways; they basted roasted meat with it; it was used with salmon while cooking, and as a seasoning with all sorts of dishes. Often at meals each person had a little dish, sometimes of silver, filled with honey, beside his plate, and each morsel, whether meat, fish, or bread, was dipped into it before being conveyed to the mouth. For drink, they had—besides plain water and milk—ale, mead, and frequently wine brought from the continent, for in those early days there was frequent communication, as well as considerable trade, with France and other continental countries. The people often mixed honey with milk, either sweet or sour, for drinking. From honey also was made a kind of liquor called mead, very sweet and slightly intoxicating. This was considered a delicacy; and a visitor was often treated to a drink of mead immediately on arrival. As bees were so abundant, beeswax, as might be expected was turned to account for lighting purposes. In some of our old records we find wax candles mentioned as being used in the houses of the richer classes (in Dinnree for instance) long before the fifth century.—Joyce's *Child's History of Ireland*, per *Irish Bee Journal.*

CAPPINGS.

"Le Ruche Belge," says that to gather 10lbs. of honey a day the bees will have to make 250,000 trips. If there are 10,000 field bees in the colony, each will have to make thirty or forty trips a day.

William Lawson, an English writer on bees in 1618, says:—Hives should hold three pecks at least. For too little hives procure few bees at casting time or they lie out and loiter, or else they cast before they are ripe, and so make weak swarms. Whereas if they have room sufficient they ripen timely, and casting seasonably, are strong, and fit for labour presently. Neither should the hive be too great, for then they loiter and waste meat and time. Your bees delight in wood for casting and feeding, therefore want not trees and bushes near, else they are in danger of flying away. A Maye's swarm is worth a mare's foal, but any time before midsummer is good for casting. Markham's device of hiving on built out comb is commended, but the less your spelkes are the better. A little honey is good for dressing the hives, but if you want it, fennel will serve to rub your hive withal. Many use smoke in handling bees, but I utterly dislike it, for bees love not to be thus molested. Ringing in time of casting is a mere fancy. Violent handling of them is simply evil. Bees of all creatures love cleanliness and peace; therefore handle them leisurely and quietly, and their keeper, whom they know, may do with them what he will without hurt —"Irish Bee Journal."

Generally there is more or less refuse that must be scraped from the bottom of a cake of beeswax, and it isn't the easiest thing to do Here's a kink from J. A. Green in "Gleanings in Bee Culture: "Lay your cake of wax upside down on the grass in the hot sun until the part exposed to the sun is thoroughly softened

while the rest is hard. You can then scrape it as deeply as you wish, and do it easily. Do not lay it on a board or the bare ground, or it will get hot where you do not want it to."

The same candy used in introducing queen-cages is also used for feeding bees. Take perhaps an eighth as much best extracted honey as the candy you want; heat, but don't burn; mix in all the powdered sugar you can; then knead in more sugar on a bake-board till you make a stiff dough; let stand two or three days, and, if it has softened any, knead in more sugar.

Thos. Broderick says in "American Bee Journal": Years ago, while clipping the wings of a large number of queens, I accidentally clipped a leg off of two or three queens, with the result that they were all superseded immediately afterward. When I learned what happened to those queens it occurred to me that I might do the same thing purposely, and get the same results, and I have succeeded. Later I will show a sample of the work I have had done with such a colony. [We had a queen with leg clipped off as above that lived for a very long time.--ED.]

REMOVING SECTIONS AND CRATES.—I took off six crates on August 20th in a very short time. First I got two pieces of linen and put them into a can containing carbolic solution. I first put a puff or two of smoke into the hive at the entrance and then spread the carbolic cloth over the crate, having removed the quilt. After a few seconds I begin and lift the sections out, separating them first with a large knife. When I have a row or two out I spread my second cloth over the opening. The bees adhering to the sections I generally shake into the open space, but if there is good sunshine I shake them in front of the hive. When I get the last section out I raise the crate gently with my knife and spread the cloth over the frames; then I quietly remove it, and put on the quilt. The whole operation requires only a few minutes. I have no waiting for the bees to make up their minds whether they will risk their lives and venture through the escape, or hold on to see the end, in a defiant or sulky mood. By my plan I get the honey at once, and the bees are very little disturbed. Only two or three of them felt angry enough to try to sting me.

Swarms have got such a bad repute for settling in awkward places, that the following account of the behaviour of one ought to be a novelty. A gentleman whom we will call A, promised to give a swarm to a friend, B. A, was watching for the swarm, which he expected every moment, but it issued and decamped during his absence. B (who lives about a quarter of a mile away from A) had a hive placed in his garden ready for the promised swarm. A. searched everywhere for his truant bees without success, and at length came to B and told him his mournful tale. "Oh, it's all right," said B, "the swarm has just gone in itself into my hive."—*Irish Bee Journal.*

FEEDING IN THE OPEN.—Last spring it was cold, very cold after the bees were set out and the bees were unable to do much out of the hives. The consequence was the strong swarms soon ate up their supply of honey and feeding became a necessity. I placed an empty super on some of those needing feed the worse, and in this placed a feeder and filled the same with thin sugar syrup; presto-change, out came the bees and pretty soon more were going in than came out, and I had on hand a desperate case of robbing. I filled the feeders again with the same results and continued this till I had about 20 colonies that were strong in the start, so weak that they would be no good to me during the honey flow. I became convinced if I continued this mode of feeding that I might have no bees at all to gather honey when it came. Thinks I, may be the text books were written for some other locality than this; so then I took off all supers and feeders and placed the feeders in the open, a little away from the bees, and filled them with very thin sugar syrup on pleasant days and let the bees help themselves. It worked

like a charm. No more robbing and bees building up fast. Of course some got feed that did not exactly need it, but it pushed them along so that by the first week in June swarming commenced. I might add that I had 180 colonies in three yards, two miles apart, and no other bees in the same locality; so I was not feeding my neighbors' bees.—*Rural Beekeepers.*

A Useful Cover.—It consists of a rim and a rounding top covered with galvanised iron crimped over the projecting edges of the top. This does away with the nailing, as the galvanised iron is held on by means of the crimping of the edges. The cover is also heavier, and is more firm. The boards under the galvanised iron may be of any grade, as they are not exposed to the weather. The only thing that I see against the covers is the first expense; in the long run they are cheaper.—Exchange.

What I do know to be a fact is, there is a spot about a bee's foot or leg that will reflect light equal to a diamond or crystals of sand or glass; but it cannot be seen at all times. The light has got to strike them just so to get the reflection. The first time I ever noticed this was a few summers ago. One bright evening just before sundown the hive was facing the west; and as the bees were walking and twisting about on the alighting board I saw those reflections of light, and it was a rather pretty sight to look at. I watched them for a while, although I have never noticed anything of the kind after night; but I am of the opinion that those sparkles of light, or reflections, could be seen from the light of a lantern or the stars if one were standing just right.—N. Young, in "Gleanings."

At nearly every National Convention this question of specialty versus mixed bee-keeping comes up, and there is always present a class that resents any attempt at showing the advantages of specialty. This class seems to think that the farmer beekeeper is the "whole thing." Then as a clincher, those are asked to stand up whose sole source of income is beekeeping. Three years ago, at the Buffalo meeting, I believe one man stood up. Dr. Miller was not allowed to stand up because he received pay for writing articles for the bee journals. A beekeeper who kept a cow, or a few hens, or had a garden was ruled out. At St. Louis four men stood up and said their sole source of income came from beekeeping and no amount of quizzing could down them. It seems to me that this sort of augument is not exactly fair. It is difficult to find many men in any business whose whole source of income (every cent.) is from that particular business. To be fair, the *specialists* ought to be compared in numbers with those who are following a mixed business. When it is self-evident that greater success comes from specialty in any line of business, I am at a loss to understand why any one should wish to combat the idea.—*Beekeeper's Review.*

The *Beekeepers' Review* says: The St. Louis Fair is of course the "greatest show on earth," but is surely deficient so far as exhibiting the progress of apiculture is concerned. There seems to have been a lack of perseverence, energy, push and unanimity of purpose on the part of beekeepers "What was everybody's business was nobody's business." As a result only a few of the States have any honey on exhibition.

In most of the small towns of Cuba there is a municipal law forbidding the keeping of bees nearer to the town than a distance of about one-fourth to one-half mile.

The *Western Bee Journal* (California), says:—Honey is ruling low in price just now, on account of so much fruit (as all of Colorado farming districts had a bountiful fruit crop, and jellies, jams and the many fruit cookies are taking the place of honey; but later honey ought to be more active, when fruits are gone.

Father Langstroth said years ago a good stock of empty combs was the sheet anchor of beekeeping. It pays in a big flow.