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THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.

Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W.
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 12. No 12

MARCH 29, 1904

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TON.

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.

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E. TIPPER,


"A. BEE BULLETIN."

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SHOULD any beekeeper have a doubt of the genuineness of any honey sold in his neighbourhood, send a sample to the Chairman Board of Health, Sydney, who will cause it to be analysed, and take proceedings if necessary.



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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.—MARCH 29, 1904.

The following is a list of advertisers
in our present issue:—

Supply Dealers.

- R. K. Allport, 4 O'Connell St., Sydney.
A. Hordern & Sons, Haymarket, Sydney.
The W. T. Falconer Manufacturing Co.,
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- W. Abram, Beecroft.
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land, Victoria.

Honey Tins.

- Chown Bros. and Mullholland, Ltd.,
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Miscellaneous.

- A. Hordern & Sons, Haymarket only,
Sydney.
P. J. Moy & Co., 161 Sussex St, Sydney.

A honey failure in Cuba this year.

Will our many readers patronise our
advertisers for their wants.

Editor Root says a 9lb. swarm was the
largest they ever paid for.

Sulphur is the undoubted cure for
paralysis, but don't put it on the brood.

The honey flow in Western Australia
has been the worst this season for a
number of years.

Slow liquefying will keep honey in a
liquid condition longer than if it be lique-
fied quickly.

J. P., Inverell.—I have had a fair
season for honey, and my swarms have
increased to 150 hives.

Lumber for hive-making has increased
40 per cent in five years in consequence of
the destruction of American forests.

A plain board bottom or cover is now
going out of use in America on
account of the scarcity of suitable sized
timber.

We have experimented with long idea
hives, and don't care for them. They
require a person with a long back and
arm reach.

Mr. F. W. Penberthy has sent a cheque
for £1 3s in order that the N.B.K.A.
shall be again affiliated with the Agri-
culture Chamber of Commerce.

A German writer maintains, from ex-
amining the fecundating fluid of drones
that only those drones that come from a
fertile queen are of any value.

One large beekeeper in the United States took over 55 tons during the past year. If that had been in N.S. Wales prices would have gone down to about 1d per lb.

A dummy or wooden frame in centre of brood nest is claimed to cause bees to equalise the filling of the sections instead of all in centre as is too generally the case.

NOTE.—Every beekeeper can become a member of the N.S.W. Bee Farmers' Association, but those only who have 50 hives and over can become office-bearers.

Incompetent help is a spectre which threatens many a man's business interests, and none more than the beekeeper. A prominent beekeeper recently said, "he would hire the help if he could work with it."

It is particularly requested that members attending the B. F. A. Annual Meeting should be there a little before Two o'clock, so as to make the utmost of the time at the disposal of the meeting.

We recently saw a ventilated cover—*i.e.* a cover with an air space between the outside boards and the boards on the bottom. It was a mass of spiders and webs. Some years ago we bought some hives with gables over the entrance. We had to knock them all off, they were such harbours for spiders.

TO PREVENT AFTER SWARMS.—In the season watch hives carefully for queen-cells. Destroy all but one before being capped. Then remove hive, and put fresh hive on old stand, having queen-cell in one and queen in the other. Or, if no increase is wanted, kill both queen and all queen-cells except one or perhaps two. The queen being killed, and no brood being reared—the first out will destroy the others.

We would remind members of the N.S.W. Beekeepers' Association several are behind with their subscriptions. There are expenses of stationery, postage, advertising, and affiliation with the Agri-

cultural Chamber of Commerce. There was a deficit last year, and the amalgamation with the Chamber of Commerce was accomplished through the generous liberality of one member. Let us hope it will not be so again. The subscription is only 2/6 per annum.

The honey season in most places being practically now over, it is well to see there is sufficient honey left in the hives to take them over to the next flow. If some hives have a quantity don't take it away, but keep it so as to be able to give a frame when needed to hives that may run short during the winter. Weak hives it may be as well to unite. The united hives will go through the cold weather in better condition than singly. See that you have good cover, proof against rain. A rubberoid blanket underneath cover, top of frames is most useful.

A Circular sent out by Mr. Lalor, secretary of the Chamber of Agriculture, speaks of 10/- being required to enable a person to vote. As this may lead to misunderstanding we will explain: The payment of 10/- makes a person a full member of the Chamber of Agriculture. The N.S.W. Bee-Farmers' Association, being an affiliated society, has only the votes of the two delegates they may appoint, those delegates voting in accordance with the wishes of the association by whom they are appointed, and need not necessarily pay more than the 2/6 membership of the B.F.A.

The following were the apicultural awards at the late Newcastle Show—
Best display of Extracted Honey, in any form, not less than 60lb: J. Anderson, 1.
Best 12lb Section Comb Honey: Abraham Wile, 1; J. Anderson, 2.
Extracted Liquid Honey, six 2lb screw top jars: Abraham Wile, 1; Miss E. Bragg, 2.
Extracted Honey, granulated, six 2lb screw top jars: J. Anderson, 1; Abraham Wile, 2.
Beeswax, yellow, not less than 5lb: J. Anderson, 1.
Beeswax, white, not less than 5lb: J. Anderson, 1.
Best three frames of Comb Honey: Abraham Wile, 1; J. Anderson, 2.

PRICES OF HONEY.

Garden & Field, S. A.—Prime, clear, in good demand from 3d to 3½d; off lots lower. Beeswax from 1/- to 1/0½.

Irish Beekeepers' Federation, L d., 44 Temple Bar, Dublin.—Sections, 1st quality, 8s.; 2nd, 7s.; 3rd, 5s. per doz. Run Honey, 5d. to 5½d per lb. Wax, 1s to 1s 3d per lb. —*Irish Bee Journal*.

Tamworth News.—Honey, 7lb tins, 2/3.

Maitland Mercury.—Honey, 2d to 3d lb.; small tins 2/3 to 2/6.

Melbourne Leader.—3d per lb.

Melbourne Australasian.—Honey, prime clear, in good demand, 3½d to 3d.

S. M. Herald.—60lb. tins of prime extracted, 2½d; medium quality, from 1½d to 2d per lb. Beeswax.—Prime clear 1s 1d; dark, to 1s per lb.

VICTORIAN APIARISTS' ASSOCIATION.

R. BEUHNE, CORRESPONDENT

The quarterly meeting of the Chamber of Agriculture and Rural Producers' Association, was held at Equitable Buildings, Melbourne, March 16. I attended and brought the question of destruction of timber on roads, reserves and commons, before the Council, and after explaining the matter in its various bearings, moved a resolution, "That the Council communicate with the affiliated societies asking them to use their influence with municipal councils and other public bodies, to preserve the material flora on roads and reserves under their control, and to take into account the interests of Apiculture when planting trees, shrubs, etc., for shade, shelter, or ornament." Several members expressed themselves as in sympathy, but as there appeared to be some doubt as to the control over the timber on some of the lands, it was decided to postpone the matter till next meeting, the executive committee to interview the Government in reference to the matter in the meantime.

Being in Melbourne I availed myself of the opportunity of inquiring how the several investigations were progressing which the Department of Agriculture undertook at the request of this Association, and I had an interview with Dr. Wallace, the Director of Agriculture. The analysis of pollen showed a considerable variation in pollen from different sources. Mr. Wallace had not yet received a report of the investigations of diseased bees sent in by various apiarists, but promised to send it to this Association as soon as to hand. In the matter of the reduction of color and flavor of dark or strong honies the results are negative. But Dr. Howell, the Chemist for Agriculture, to whom I was referred by Mr. Wallace, thinks it is possible that something may be done by means of aeration. In conclusion I must state that I found the gentlemen I interviewed, very courteous and sympathetic.

Smart Produce Agents.

The other day, according to a Grafton contemporary, a Clarence farmer advised a Sussex-street firm that he was despatching 20 bags of maize by same day's Kyogle. On the following Wednesday he received a cheque, also statement showing that his consignment had been sold for 2/5 per bushel, the firm appending a note that "owing to so much green stuff from the Clarence, and prime grain offering from Brisbane, we had a hard fight to get you this price, but nevertheless we secured you top rates." The farmer winked the other eye as he pocketed the cheque. The maize had not left his wharf, it having missed the boat and market in question.

QUESTION NEXT MONTH.

S. T. MAIN.

1. The longest possible time strong colonies can be closed up with safety for travelling in winter, with plenty of ventilation?

Winter or early spring is the best time for removing colonies.

ECHOES FROM CONTINENTAL JOURNALS.

Specially translated for A.B.B. by J.R.G.

STINGLESS BEES.

A consignment, as original as interesting, has just been made from Brazil (South America) to the Vienna School of Apiculture. It consists of a colony of stingless bees of the species *Melipona Anthidioides Lep.* These bees are intrepid travellers, for, sheltered in an old case, they have successfully endured the long sea voyage across the Atlantic, as well as the trip of six days between England and Vienna. This consignment was despatched by the Consul-General for Austria at Bombeira, Rio de Janeiro. While en route the "Melipones" used to receive every second day a ration of thin sugar syrup, and from time to time a little flour was also offered them, to replace the natural pollen of which the force of circumstances had deprived them. — *Revue Eclectique.*

HONEY FOR A SORE THROAT.

Little Yvonne presents herself at the grocer's shop:

"Please, Sir, I want a jar of honey for the sore throat."

"Is it for yourself, missey?"

"The honey, oh yes. The sore throat, it's grandma has got that!" — *Revue d'apiculture.*

PRODUCTION AND COMMERCIAL VALUE OF HONEY IN FRANCE.

Under above heading the *Moniteur d'Horticulture* furnishes some interesting information. Below are appended some of the statistics given which go to show what a very important industry apiculture is amongst the thrifty inhabitants of rural France. (The weights and money values are converted to equivalent English terms.)

In 1898 (since when the census had not apparently been taken) France had 1,586,715 hives of bees in active strength. Their total production for the year equalled in—

Honey 16,693,864lbs. of a value of	£414,213
Beeswax 4,856,902lbs. „ „	189,208

Total value of wax and honey crop	£603,421
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So the bee industry added over £600,000 to the country's earnings.

Average price of honey at same time was 5.9 lb. beeswax 9.3 lb.

On glancing at above figures one is struck by the low average production of honey and the relatively huge output of beeswax, both of which facts may be partially explained by the, as yet, great preponderance in France of the old straw beehive—from which (as from the gin case when used in Australia) the combs must be cut out—over modern frame hives.

By the way, the French have two happily descriptive terms for the two classes of beekeepers. The old straw-hive cut-and-come-again, or smother-everything men they call 'fixistes'—the mothorn apiculturists employing frame-hives, 'mobilistes.'

A RABBIT (AUTHENTIC).

Two boys, a pair of waggish customers, were accustomed to go every day to a certain piece of forest, there to collect firewood. As they did not work very hard one can imagine that their task did not progress very fast and very little was enough to divert their attention from it. One fine morning they discovered at the end of their wood-yard a nest of wild bees lodged in the trunk of an old oak-tree nearly on a level with the ground.

"Ah, what a lucky windfall! . . . Enough to make one smile for a whole week! And then we'll get the honey! Let's find out if there is any in it." "Stop where you are, my fine lads," hissed the Queen-bee, "people don't break into one's home in that fashion with any good intentions." In fine the citadel was so well guarded that our enterprising youths were scarcely able to steal as much honey as to make it worth while to lick their fingers clean. Thenceforth, to revenge themselves, not a day was let pass but they would play off some malicious trick on the unfortunate little

insects who, thus tormented, soon became really spiteful, indeed quite ferocious.

The mornings continued keen and frosty, and even as late as towards 11 o'clock when the sun with its wintry beams caressed the opening of this woodland hive, scarcely a bee would dare to venture herself without. Our two scamps were well acquainted with this fact, and when one day towards ten o'clock they perceived their acquaintance Jean steering his steps in their directions, an infernal idea shot through their brains. 'Lood out' said one, you are going to laugh just now; we must play him a trick." "I'm with you alright," said the other, "there he is. We must be quick. What is it? What are you going to do?" "Don't say a thing! See how we'll laugh! Let's pretend to be hunting down a rabbit and to drive him towards the oak with the bees' nest. Off you go—hurrah!"

And now behold our two sly rogues skirmishing round amongst the healthy undergrowth, and rivalling each other in shouting such exclamations as the following: "There! this way, I see him! Block him ahead! . . . Get a stick! I have him! Go around him behind! Look out! Mind! This way!"

Jean, keenly puzzled by all their shoutings and excited movements, approaches the scene at a great rate, but before he could open his mouth to ask the cause of all the uproar he is greeted: Come here and help us Jeannot! We've got him! Look out your side! Watch, watch! He has escaped from me! . . . That way!"

Jean came up to them. "Why, what is it? What's the matter? I don't see nothing." "Look then! There, at last! He is there! We're sure of him now—it's all the same as if we had him. The only thing we've got to do now is to grab him by the neck, give it a good screw and we'll have a regular feast off him. Ah! the animal! what a time we've been chasing him!" But tell us what is it at all? I haven't seen nothing," says Jean. "How's that? You haven't seen nothing? Well, at all events he passed close enough to your great goggles. . . . He's inside

there. The only trouble now is to get him out." "But do tell us what is inside there—a squirrel, a hare, a rabbit?" "Yes, a rabbit. Ah, how we had to run!"

"I don't see," says Jean, "how one can pull him out from inside there. He'll only slip between our legs and scuttle off to his friends." "You're not a bit knowing, Jeannot, listen! You've got such a jolly long arm, so you'll go and run your hand inside there. We'll close up the hole all round with our caps and handkerchiefs and then our cat is bagged. Now do you see the dodge?"

"Hold on, it's capital! Wait old chap we're going to feel if you've got a broad back!" And without hesitation Jean boldly plunges his bare arm, sleeves well tucked up, into this cavern full of mysteries and surprises. "I feel him, I feel the fur, he's quite warm." Not astonishing that—if he made us run he has also raced himself, the animal. Mind you don't let him slip from you!" "Wait till I get a fresh grip and shove my arm in a bit far her. He laughs best who laughs last old chap! I'm getting him now with that last push. I feel him there, it's his back. He ought to be a handsome fellow, I can't feel his ears." "So much the worse then. You've a big hand and a tough wrist, grab hold of his back and don't let him slip."

Expanding his chest so as to allow himself the maximum of effort, Jean opens his huge hand, and violently clutches . . . can you guess what?

A howl of anguish, oaths, uncouth gesticulations, wild leaps in the air as if a band of hellish harpies were harrassing him from all sides, such was the spectacle presented by poor Jean the guileless one who wasn't "a bit knowing."

Meanwhile our two nimble scapegraces had slipped off out of range, and, prudently keeping their distance, as much from fear of Jean's fury as of that of the bees, yelled at the top of their voice: "And the rabbit, have you got him Jean? Have you got the rabbit?"

"There's a warm time coming when I catch you two! I'll make you pay me for this!" Alas! it was a trifle late.—E. Lagraine in *Revue Eccl-ctique d'Agriculture*.

COUNTRY SHOWS.

Each country centre has been active of late in the preparation and accomplishment of its local show. It is to each district the great day of the year. For once a year friends from distant parts meet, and family parties gather and see each other face to face. The careful breeder or strenuous cultivator can see the results of his care or experience; the housekeeper or school girl become proud of their prizes; and the general public enjoy a grand day's outing. Among such shows this season we visited that at Armidale. Situated on the tablelands of New England, at an elevation of over 3000 feet, it enjoys a glorious climate; beautiful clear, dry air; frost and snow in winter, and Australian suns in summer, the results being shown in the stalwart forms of its sons, and the rosy cheeks of its daughters. This was considered the best Show ever held there, not only for the excellence of the exhibits, but the money receipts, results not only of the energy and enterprise of the officials, but of the beautiful season we have just experienced.

And speaking of the officials, to us they seemed a really fine captain and crew. The president, Mr. F. J. White, is a most popular gentleman; his genial and happy manner, and his courtesy to all, make him almost a model head of such an organisation. All the other officials seemed full of work and enthusiasm. Of course, being most interested in honey we will say a word or two on it. Prizes were given for best light and best dark honey, two to each. Though some dark honeys are superior to some light, as a rule the dark is inferior. The best honey there of all was not the lightest. It would be well, at this as at many other shows, if the exhibitors could be induced to use the same size vessels. It would be easier for

the judges, both in the matter of density and color, and also look better to the general public. Jams were in great display. A native of the celestial empire was a large exhibitor of vegetables. Some very fine horses were exhibited, and dairy cattle had some good Jersey exemplars. Altogether it was a good all round show, the day being beautifully fine. We should mention here Armidale possesses three excellent up-to-date newspapers, well edited and well advertised.

A SWARM.

Get the smoker! Where's a spare hive? The queen is clipped, as the clipping mark is on the hive. Here she is. Where's a cage? She's all right. Shall we make another hive, or put the swarm back. We'll do the first. Then remove this hive aside, and put the empty hive in its place, putting in it the queen, a frame with larvae, and some empty frames. Of the removed hive cut out all queen cells but one. Or, we'll not make another hive; so cut out all queen cells, place queen in cage between frames, if much brood take some of it away, and cut out all drone comb.

MODERN QUEEN REARING.

The Swarthmore plan is in brief, as follows: A few young bees are practically "borrowed" from the strong colony, and confined in a screen covered box for a few hours in order that they may become aware of their queenless condition. In their confinement away from the main colony they mourn their separation from their mother queen and brood to such an extent that a surplus of chyle, which otherwise would have been fed to the larvae of the main hive, is secreted. During a certain critical hour of their mourning, larva, in artificial compressed wax cups, on little blocks of wood, are put in the several holes at the top of the screen-covered box, which larva are at once accepted by the queenless bees and are fed as naturally as though given in combs from the hive. These bees, being with-

out a queen, feed the larva more rapidly and nourish them with more care than usual, thus the life of the grubs given is changed from the state of "ordinary workers" to that of "queen." Therefore queen cells are constructed about each one, and an unusually large number of royal subjects in embryo, conveniently attached to removable wooden spoons is the result. So few bees cannot, however, maintain this liberal feeding of royal food very long, therefore the cells must be divided, after a few hours, among several strong colonies in normal condition, for completion. For this a special cage is used, having perforated zinc on either side, which excludes the mother queens of the several hives in which they may be placed. The nursing worker bees, being smaller in the thorax, readily enter the perforations and carry on the work of queen cell construction, building upon the cups that were started by the confined bees during the preceding night. Directly they are capped these queen cells are again drawn like corks and are placed in cages having division tins between each cell space, and wire on either side in place of zinc or incubation, in which cage the several queens hatch in due time, each to find herself in a separate compartment, unable to engage any of her sisters in royal combat. Food sufficient to last several days is placed in each compartment, but the bees of the main hive will feed the confined princesses at certain seasons through the meshes of the wire netting. By a special device the bees which have been confined in the screen covered boxes over night are automatically divided among the several small mating boxes, containing two combs each, after which each box is given a young queen; then the next day all are set out in the open field, and in due time the virgins will fly in the open air to meet the drones or the male bees, returning after copulating, each to her own little colony, never to fly again for the same purpose, they being fertile for life. In a few days the mated queens will begin to lay, at which time each is placed in a mailing cage and

forthwith posted to the customer, far or near. The mating boxes are then supplied with other virgins in perfect cycle. For foreign the mailing cages are made somewhat larger than for domestic delivery. Food sufficient to carry a queen and her train of worker attendants to any part of the world is furnished inside the cage. When received by the customer he introduces the queen to a queenless colony he may have, or some old and inferior queen is killed and the new one substituted. A new colony is often formed for the reception of the queen received by mail.—E. Pratt, in "Pacific States B. J."

CAPPINGS

The followers of Mohammed have singular customs as to beekeeping. It is a great sin to buy or sell bees. They may be given away and one may accept a gift in return. Decoy hives are placed about in bushes and trees to catch absconding swarms; said hives are rubbed over with certain herbs, the names of which are kept secret. Allah causes the swarms to take possession of such hives and they may be taken to the yard of the owner of the hives as soon as they are populated with bees. Clean hives is one of the essentials in keeping an apiary. In the absence of the owner only a good upright man must represent him, not a woman, for she would cause the ruination of the whole enterprise. When bees are owned in partnership these partners must live in perfect harmony. The least discord among them would cause a worm to take possession of the hive and after a while one would find instead of combs only webs therein. It is believed that a large part of the occupants of the hive sleep outside on flowers and trees. When one wishes to move a hive it should be done Thursday evening, for this is said to be the only time when all the bees are found at home. Sometimes and by special order of the Almighty all bees gather in their hives Friday evening.—"American Beekeeper."

About two years ago we sold about 1000 cases of honey to a wholesale house, and

the late shipments candied in the comb. After a year the house notified us that about forty cases of the honey was candied, and we wrote them that if they would send the honey to us we would put it in shape again by liquefying it, but on arrival of the honey we found that about 800 pounds or more had been used, as the inexperienced retail dealers, in order to make it run, had poured water, molasses, settlings from molasses barrels, etc, and the honey had passed through a hot summer in this shape, and some of it was as sour as vinegar and all ruined. We found spoons, dippers, butcher knives, and vessels of different kinds in the honey cans, buried up in the mess. Now this honey had been tampered with by somebody, but who we do not know, but whoever it was, they lacked about 800 pounds putting in water and molasses enough to make the original weight, and in some cases the solid candied honey was yet good under the water, never having been mixed. When this honey was returned to us it was reported by some that a carload of adulterated honey had been returned to us, etc., and the whole truth of the matter lies either with the wholesale house or the retailers that the honey was shipped to, but we suspect it was the wholesale house, in as much as we could not induce them to tell us to whom this honey was originally shipped, that we might take the matter up direct.—*Southland Queen*.

When visiting Mr. F. H. Farmer, a manufacturer of high grade candies, of Boston, he showed me a row of hives in the rear of his manufacturing establishment. In warm weather, during a dearth of honey, the candy fumes may be detected several rods away from the building, especially if the windows are open. While, ordinarily, they are screened, sometimes they are not, and the bees could, if they would, go right through the windows and help themselves to delicious candy; but Mr. Farmer assured me that they never nosed around nor offered to rob. Indeed, during a dearth of honey he has had nicely filled sections on top of the hives, and he has left them there right

where the bees could help themselves if they would. Why don't they rob, then? Simply because the fumes of the candy are, as they pass through the windows, so strong and abundant that the bees have become accustomed to this peculiar aroma—so much accustomed to it, in fact, that they think nothing of *ordinary* sweet odors; indeed, I doubt if they can distinguish them any more than we could distinguish the sweet tones of a lullaby song when the band is playing—the one drowns out the other. They take it for granted that they *must* go to the commons or to the fields if they would earn their living, and to the fields they go when there is any honey to be had. When there is none, the same fume of candy, being so abundant and so common in their every-day experience, they never think it would be *possible* to help themselves, and they don't.—Correspondent of "Gleanings."

Thos. Chantry says, in *American Bee Journal*:—"I saw 7 worker-bees backed in a comb as far as their wings would let them at one time; and after killing these 7 I soon killed 23 more that were backed into the same comb. So I came to the conclusion that laying workers are unlimited in number when they get started." That corroborates what a transatlantic scientist proved in an entirely different way: he dissected the bees of a laying-worker colony, and found the most of them contained eggs. I never caught more than one worker in the act of laying, and that was in a worker cell. It looked so very uncomfortable, with its wings pushed up about its neck, that I don't wonder laying workers prefer larger cells in which to lay.—*Gleanings*.

I believe the day not far distant when the selfspacing feature in the Langstroth frames will not be so generally advocated as now. In fact I do not believe they ever would have been so generally adopted by bee-keepers had it not been for a few of the prominent supply dealers pushing them so forcibly to the front, not questioning their good motives in the least for so doing, but I have always felt and still feel that it was only a step backward in apiculture.—L. B. Smith, in *Southland Queen*.

COMB BUILDING.

Nature has decreed that every colony of bees shall have a constituency of (1) a queen; (2) worker-bees; (3) drones bees. She has ordained each of a kind to a particular mission in life: the queen to populate the hive; the worker to gather honey and build the honey comb; and the drone to beautify the young queen. To insure this order of insect life it is necessary for the bees to build comb suitable for all propagating purposes. That there are certain agencies which preclude the building of worker-comb and intensify interest in the production of drone comb, is beyond conjecture. A knowledge of those influences and the ability to avoid them, practically makes a master of bees.

The building of worker-comb signifies contentment, but drone-comb implies that there is a feeling of insecurity or one of dissatisfaction; and, therefore, it often stands a monument to the caprices of a romantic queen. The mere presence of the queen on combs under process of construction does not necessarily mean that she is in full sympathy with home interests. The coachings of instinct make the workers alert in this matter, and as soon as they anticipate the probable loss of their queen, preparations for the rearing of drones are at once begun.

A queenless colony will invariably build drone comb and nothing short of a good laying queen would ever make it think of building worker-comb.

The same teachings are to be met with in a nucleus where the queen can easily keep pace with the comb-builders. Just as long as there is contentment within the hive, the little colony will build worker-comb. But when the leaven of discontent begins to work, and they contemplate swarming, the wax-workers switch-off on to drone comb, with the queen-following in close pursuit.

We have heard it said that a swarm builds drone-comb for store purposes, the reason assigned being that it is more economical of time and wax to do so.

But bees do not build comb simply for store purposes; that is a secondary matter with them. Drone comb will not be used in the fall of the year for honey when there is worker-comb at hand; thus showing they do not have a preference for it at any time. If the production of drone-comb were true economy, why don't the bees of a swarm practice it right from the start? At no subsequent time is the demand for store-comb so urgent, nor could that doctrine of economics be more clearly demonstrated. But do the bees build drone-comb at that time? No. It is only when the hive has been partly filled with worker-comb that local conditions arise to divert, or the desire to swarm again, causing a ferment among them, do they build drone-comb.

However, for the sake of science in bee-culture, we will grant that by a concentration of forces at a given point, so easily effected at time of hiving, places such a great amount of wax at the disposal of the little company of comb-builders, they feel justified in the expenditure of it for the more costly (?) worker comb. As the work advances and the colony breaks up into groups of various sizes, some of these groups may be embarrassed by a shortage of wax. Or, that on account of the desertions in the ranks of the builders as they attain the age for foraging, it becomes necessary for them to use a shorter cut so to speak, to keep abreast of the field-gatherers. Now, upon a superficial view, that might be taken conclusively; but please note that drone-comb is first started by those bees remote from the centre of the cluster, where brood does not restrict storage room. These little companies of workers, being too busily engaged to explore the combs of the hive, come to feel their isolation and deprivation of the companionship of the queen; then they build drone-comb. Look at it in this way: Bees will build queen-cells in any part of the hive where brood, in any manner, is separated from the main brood-nest. Now, if bees on old combs contain-

ing brood, in all stages of development, and these combs adjoining those where the queen holds forth, feel the isolation and loss of the queen to such an extent that they seek to repair her loss, why doesn't the same hold true in the other case? The fact that the queen of a swarm often seeks drone-comb and occupies it with brood when there is unoccupied worker-comb awaiting her is significant, and, unquestionably, it points back to the primitive purpose of drone-comb.

There is a two-fold purpose, nevertheless, in the laying of drone-eggs when the queen has calculations of her own. The nurse bees are clamouring for brood, and were the queen to attempt to gratify their wishes by laying none but worker-eggs she would be, consequently, in no fit condition to accompany the swarm when it is issued from its newly-furnished home. By laying drone-eggs she can reduce her avoidupois while maintaining a given demand for the food secretions of the nurse bees. One drone larvæ requires for its development food sufficient to mature several worker larvæ. In this manner the queen meets the exigencies of the case without any serious inconvenience to herself. When the time arrives for the departure of the swarm, there is then every necessary means for those left behind, to renew their joys in another queen mother.

How beautifully perfect are the combs built under the guidance of a home loving queen in the bloom and vigour of youth! Her contented way sheds an influence through every part of the hive; and, no matter how pressing are the needs of store comb, the bees do not consider it an advantage to them to build anything but worker-comb. When their wax-secreting machinery is running full blast they do not care for comb with fewer partitions in it. Their queen is willing to plod along with the use of the smaller cells, and why shouldn't they continue to make them? Their mathematicians fail to figure that there will be any gain in

time by making the larger and thicker combs.

There can be only so many bees working on the knife-like edge of the comb at the same time, whether it be drone or worker-comb. The cell-walls are brought up later by a different force of bees who must wait, patiently or otherwise, till the foundation of the comb has been laid by a limited few. Why should those industrious toilers further retard labour on the comb, in like manner, by framing it with fewer side walls—walls to fit those born idlers, the drones?

Evidence one more example of this kind. In the crowded brood-chamber of an established colony, having no super combs for the storage of honey, the bees will fill an empty frame given them, with drone-comb and drone-brood though thousands of comb-builders are idle and storage room is sorely needed. Ah, there is no mistaking the motive in such action at any time. Drone-comb is the expression of a love of the assuring presence of those big gentlemen whenever a spirit of adventure pervades the ranks of the comb builders. Natural drone-comb is probably just as expensive to make as worker-comb. The cells are necessarily deeper and the greater distance between cell-walls make it more difficult for the bees to steady themselves while working on them. Taking all this in connection with the greater amount of wax they would drop to the floor of the hive, may offset the apparent gain to the bees by the more open construction of drone-comb.

The more we come to know those things that are grievous to bees and tend to provoke them to acts of swarming; in short, when we learn how to win them from their wayward propensities, will we be able to systematize the production of worker-comb without the aid of comb foundation.—W. McNeill, in *American Beekeeper*.

Honey heated to 125 per cent. and then kept in a warm room will not candy.

THOMAS WILDMAN.

Mention was made of two worthy beekeepers in the neighbourhood of Exeter one hundred and thirteen years ago. They may have owed their success to the teaching of a far more notable handler of bees who had arisen in Devon before their day, Thomas Wildman, of Plymouth. Whether that was his native town, or where he was born, I have not yet been able to ascertain. In August, 1766, he went up thence to London, attracted as it would seem by the rewards offered by the Society of Arts for the encouragement of beekeeping, especially "for collecting wax and preserving the lives of the bees, or it may have been to gain renown by the public performance of feats which had already astonished his fellow townsmen. Wildman's interview with the secretary of the society, Dr. Templeman, is thus described in a magazine of the period: "About five o'clock Mr. Wildman came, brought through the city in a chair, his head and face almost covered with bees, and a most venerable beard of them hanging down from his chin, which rendered his appearance truly reverend. The gentlemen and ladies were soon fully convinced that they need not be afraid of the bees, and therefore went up familiarly to Mr. Wildman, and conversed with him. After having stayed a considerable time he gave orders to the bees to return to their hive that was brought for them, which they immediately obeyed with greatest precipitation." In all probability this visit was followed by an interview with the Council of the Society, for an award of 100 guineas was offered to Wildman if he would make public his method of dealing with bees. The offer was declined.

By this time our Devonian had become a public character. On the 30th August he appeared in his bee-dress at Norfolk House before the Duke and Duchess of Norfolk and others of the nobility. The following month he gave an exhibition of his skill in managing bees at Lord Spencer's house at Wimbledon, when three to cks of bees were provided by the

Countess. To prove that he could take honey without destroying the bees he appeared carrying in one hand the colony clustered on his hat, and in the other the hive from which he had drawn them. Leaving the room for a few minutes, he returned with the bees hanging to his chin. His Lordship being unwell, could not leave his room; so Wildman paid him a special visit with the three swarms of bees on head, breast, and arm, and shortly afterwards mounted a horse and rode past the window whip in hand, and bearing the same embellishments.

These feats were repeated in London and elsewhere during the next two months, and to fill an interval Wildman took a nest of hornets from the barn of a gentleman at Staines. While going up a ladder he was attacked and received a sting or two, but he soon put the hornets into a hive and afterwards drowned them.

A most remarkable, and I fear, as related, apocryphal feat attributed to Wildman was how at Salisbury he pitted himself against three watch-dogs one after the other, armed only with a swarm of bees. The enemy was successfully routed by two bees detached for the purpose, who stung the dogs, "one on the nose and the other on the flank," when the dogs retired "very much daunted."

My readers need hardly be told that Wildman's mastery over the bees was effected by driving them from their skep and securing the queen. This was done in private, and the queen being deftly seized and fastened to a silken thread he was enabled to attract the bees to any given spot and keep them there. According to Wildman's own statement, the queen bee runs up to see what is amiss on the skep being inverted, and by dint of practice and dexterity he could secure her at once. There were not wanting, even in those days, beekeepers who could drive a skep and secure the queen, and some of these pressed Wildman rather hard at an entertainment he gave at Islington, but for the time he kept his secret.

Two years later, in 1768, he published his "Treatise on the management of bees, wherein is contained the Natural History of these Insects, with the various methods of cultivating them, both Ancient and Modern, and the Improved Treatment of them. To which are added, the Natural History of Wasps and Hornets, and the means of destroying them." It was a handsome book, embellished with copper plates, and contains a long list of subscribers, headed by the King (George III.), to whose queen it was dedicated. The treatise was founded on the discoveries of Maraldi, Réaumur, and others, and was far in advance of anything hitherto published in England. It received favourable notice on the Continent, and was translated into German and Italian. A description of Wildman's square wooden boxes "with sliding frames on which the bees make their combs" is to be found there, with a plate, but the explanation is somewhat unintelligible and puzzled his contemporaries.

Having thus enlightened the public, Thomas Wildman seems to have made no further attempt to construct or amuse them, beyond issuing two more editions of his work in 1770 and 1778. As a public entertainer he was followed by his nephew Daniel who kept a shop in London and also published a bee-book. It was a small one, something in the nature of a trade advertisement, and was issued at intervals from 1773 to 1819. Mistaken observations and false but specious conclusions as to the breeding of bees gave it some notoriety, and led to two editions being published in French and Italian. Daniel Wildman was in no way equal to his uncle, and it is unfortunate that similar occupation should have led to confusion of identity both at home and abroad.—*Irish Bee Journal*.

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 net-

work 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 anything, 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 only of 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 beekeeper knows he occasionally receives a sting that is painful beyond all sense of 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 where the sting is received; do not resort to medicines applied over the spot, as they 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 off 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 defence of their home and property.—D. A. McLean in *Gleanings*.

JAMAICA.

From the *Jamaica Times* we learn the Jamaica Beekeeper's Association has 210 members. From it we also read: One day in 1902 the Association despatched a shipment of 8 cwt. of wax from 7 different members consigned to Messrs. Brandon & Co. for London, without opening the two large cases. It happened that at the time of its arrival there was so great a demand for wax that a firm of blacking manufacturers, named Brown and Co., asked Brandon & Co. to sell them the shipment immediately it arrived without waiting for sampling. Brandon & Co., gave them a sampling order and purchased it at once. Apparently they at once melted it down and used it. Some months afterwards they received complaint from several parts of the world that their blacking was fermenting, and becoming useless. The lots complained of were traced to the mixture containing the wax purchased from Brandon and Co.; the reserve sample was analysed, and found to be heavily adulterated in a manner to produce fermentation in blacking. So they complained to Brandon & Co., and said they intended to demand compensation.

Messrs. Brandon & Co., replied that they had bought after examining a

sample, and informed the Directors here of the complaint, saying that Brown & Co. 'had not a leg to stand on.' Months passed by with no further complaint, so that we thought the matter was given up. Suddenly on the 19th June, we heard that Brown & Co. had brought an action for £1,250 damages. Messrs. Brandon and Co. wrote at the same time to say under these circumstances they must hold back the proceeds of all the goods of the Association in case they should be called on to pay damages and costs on account of the wax shipped by us.'

PROMPT ACTION.

After Messrs. Brandon and Co. had detained the goods counsel's opinion in England and Jamaica was secured, and found that the last mentioned firm were justified in keeping the goods of the Association. He then made arrangements with Messrs. Brandon & Co. that they should not detain any goods of the Association after the 24th June of this year.

The lawsuit was commenced. The matter was referred to arbitration. The arbitrator gave against the Association with £77 damages and costs. This was not all, for damages and costs have made up £530.

Messrs. Brandon & Co. have paid this sum and will deduct it from the remittance they will shortly make to the Association. Mr. Wigan's generosity is further proved by the fact, that he has paid from his own purse Counsel's opinion. He moved the following resolution.

"That the Association acknowledges that the deficit, that is to say the proportion still remaining unpaid to each shipper is a debt to those shippers due in the first instance by the Association, and that the Association must endeavour to repay it from time to time."

The resolution was carried.

Mr Heron moved the following, "That the Directors are at liberty to levy a half-penny on all honey shipped in the coming season to pay back those members who have been short, in consequence of the

damages and costs." The resolution was carried.

Other resolutions were carried by the meeting, the most important being this; "Resolved that to prevent any future occurrence of such a danger to the Association it shall for the future be the duty of the Manager to apply at the expense of the shippers, not exceeding 2s per 100, proper tests to all wax offered to the Association for shipment, and that the Directors see that the Manager does this."

Resolution carried.

Tree Planting In America and Sweden.

Mr James Moore, the well-known timber merchant and contractor, who has just returned to Melbourne after ten months' absence, during which he visited America and various countries of Europe, including Norway, Sweden, and Great Britain, has gathered much useful information, not only in relation to his own business, but also to the timber industry of Australia. In an interview with a representative of "The Age," Mr. Moore stated that what struck him most in America was the gigantic scale on which everything was done. In the Humboldt County mill it was nothing unusual to cut 500,000 feet of redwood per day, while at Puget Sound, Oregon, 400,000 feet was a common day's work. The band saws by which the work was done worked like lightning. Nothing like them had been seen in Australia, though, for the matter of that, they would be of no use, as in this country we could not provide logs enough to keep them going for long. Logs of 10 and 12 tons each were their daily food. From one tree alone, cut by the Humboldt Company, 240,000 feet of timber were turned out, and it was an everyday occurrence from a tree 16 feet long to get 10,000 to 12,000 feet. There is little necessity in that district for the present to think of forest conservation, as the forests are practically unlimited, and it is estimated that there is 100 years' supply in sight.

In other parts of America, however, the denudation of the forests has attracted keen attention, and a bureau of forestry has been formed, one of whose most important duties is the study of economic tree planting. During the year 1901 no less than 46,145 acres were examined as to their adaptability for planting, and plans were prepared for 5785 acres. Tree planting has been principally confined to the treeless and comparatively sterile plains, with a view to co-operating with the farmers in making forest plantations.

The work of the Bureau of Forestry is conducted on three principal lines:—1, Forest management. 2. Forest investigation, which includes the study of commercial trees, of economic tree planting, etc. 3. The making and maintenance of records. There has been such great destruction among the white pine forests and such serious inroads made on other valuable timber, that in accordance with the act of 3rd March, 1891, the President made 17 national forest reservations, comprising 17,968,440 acres, situated in Colorado, California, New Mexico, Arizona, Wyoming, Oregon, and Washington, and in 1897 President Cleveland proclaimed thirteen additional reservations, comprising 25,683,840 acres. New York, Kansas, Michigan, Minnesota, Maine, New Hampshire, Pennsylvania and Wisconsin all have State forest commissions. In Norway and Sweden there is no necessity for planting except in rare cases, as the trees reproduce themselves. A judicious system of thinning out has resulted in the survival of these trees which are of the most serviceable size. The Norwegians have no sympathy with the efforts to grow trees of abnormal size, as they recognise that the smaller trees in the vicinity must thereby suffer. Their policy is not to let any trees in the forest attain great dimensions. Nearly all the property is freehold, but in outlying districts where forests do not thrive, the Government steps in, buys up the land and replants it. Or if a forest has been depleted, then replanting on judicious lines takes place. So deeply has the importance of the forests as a

national asset taken hold of the people that a few years back a very strong and enthusiastic society was formed, which has done good work in educating the people to their interests in forest conservation, and the value of their red and white pine. France and Germany too, are in the van of nations who are learning the value of their forest lands. Every effort is made to preserve the timber, and Mr. Moore's travels have convinced him that the attention devoted to forestry in other countries is well worthy of emulation in Australia. — *Queensland Country Life*.

DUNGOG.

Mr. S. T. Main writes:—The season opened very late in this district, on account of much wet weather. Did not get a start with the extracting till two days before Christmas, having to wait for fine weather. So I made the best of the time while the bright sunny days lasted, taking two tons of honey from grey iron-bark, up to the end of January. This was from 55 hives (48 spring count); having no assistant, also being my own cook and bottle-washer, I was kept going, being quite ready to avail myself of the Sunday's rest. Having set in much hotter during February, with drying winds, did not do much, but brought the total honey taken up to 2½ tons with an increase to 60 colonies. I am now waiting for fine weather to extract again as for a week past it has been too wet to interfere with the hives. At the end of December I wrote to a Sussex-street firm, to know price ruling for prime honey. In the meantime I sold to a local storekeeper 16 tins at 12s: a few days after I got word from Sydney that 2d lb. was top price for best honey. I referred to the Sydney papers, and found honey quoted from 2½ to 3½d. This was confusing, either the papers or the agent were a long way out. So of course I held on as far as Sydney was concerned, but sold several more tins privately at 12s 6d—free from commission and freight!

The local storekeepers now only offering 7s 6d tin for honey, but not a tin of

mine will they get at that figure, not because I don't need the money, but believe in sticking out for a fair price. I sent four tins recently to Sydney to a private order, in answer to my advertisement at 14s tin. I think the general public are willing to pay a fair figure for good honey, guaranteed pure. The question is how to get it direct to the consumer for a quantity the same as one can for a few tins? I think Mr. Ager has come very near the mark in his suggestions in the February "A.B.B." in reference to a "Central Receiving Store" for honey, with an Association label. A central depot in the city, with a business manager well-up in the honey trade, has been my idea for some time, but I fail to see how it will work successfully unless the beekeepersthrout-out the State combine together. One of your correspondents suggests a beekeeper's license of 10s, yearly I suppose, for the purpose of crushing out the small beekeeper, or man with a few hives. I would certainly vote against that. It is time enough when the Government come down upon us with a special tax. But, sir, if Mr. Ager's proposals could be carried out under the auspices of the N.S.W. Beekeepers' Association, I would be willing to contribute 5s a year towards a standing advertisement in the two morning daily papers, providing beekeepers generally did the same *pro rata*, as to the value of honey, keeping it ever before the public, who do not yet fully realise its value. This is only a suggestion of mine should a central Association depot become established. But I do think beekeepers need to arouse themselves and create a demand for their product—a pure God-given sweet, that should be an article of daily consumption in the homes of the people. Were it so, I think there would be less demand for the patent medicines advertised in every paper. I trust you will have a large attendance at the annual meeting, and that the question of "Marketing of Honey" will be thoroughly gone into.

Bees here now working on spotted gum, and a few box trees loaded with

blossoms. If we only get settled fine weather I hope to take another ton before closing down for winter, but believe in leaving the bees sufficient stores to carry them over the winter. Feeling in need of a change I had an idea of selling out, failing that, would like to shift bees to a permanent place where I could have sufficient ground to occupy my time in winter.

It is advised in "Neue Bztg." to use only rain-water in rendering or clarifying beeswax. Well, or spring water is said to often contain iron, especially where there is red clay soil or subsoil. The iron discolours the wax, no matter how careful one is in conducting the work.—*American Beekeeper*.

S. J. Richard reports in *Revue Internationale* that for three consecutive years a colony with its entrance at the top of the hive did not swarm, while a colony beside it with entrance below swarmed. He then changed the lower entrance to the top, and since then, six years, neither colony has swarmed.—*Gleanings*.

Germany contains 2,000,000 hives of the movable frame type, so that Germany's apicultural condition is the most important in Europe. In spite of its cold and forbidding climate, it produces annually 18,000 tons of honey, the quality of which is very fine and white. As it is produced from cultivated plants it has no pronounced flavor. Germany is the country that has the largest number of apicultural societies and, likewise, has the largest number of bee-journals, as every society has its own mouthpiece. These societies have the support of corporations and of the government, and they have continual conventions for the development and spread of apicultural knowledge.—*Exchange*.

The more simple, less complicated, and fewest arrangements one can have around bees, the more bees a man can handle, the more money he can make, and the better satisfied will he be with the bee business.—*Beekeepers' Review*.

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

N. S. W.

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— ON —

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CO-OPERATION WITH CHAMBER OF AGRICULTURE.

ALL BEEKEEPERS TO PAY LICENSES.

MARKETING OF HONEY.

SPRING DWINDLING.

PROXY PAPERS will be forwarded to all Members unable to attend, but all who are earnestly requested to do so. Also particulars of REDUCED RAILWAY FARES to Members.

✻ CORRESPONDENCE. ✻

N. M., Wartook, March 1.—This season has been a rather bad one about this part. My bees are doing fairly well lately. I extracted six 60lb. tins of honey from 15 colonies. My apiary consists of 42 colonies so far.

P. S., Sandon, via Newstead, Victoria, March 3.—In response to your query blue martins make their appearance in this district (County of Talbot, Victoria) in September, they build their nests in October and the beginning of November, after that when the young are able to fly, they migrate to some other part. One year when the locusts were bad they stayed till the end of February.

[Thanks. This is interesting. In Central Victoria the blue martins appear in September to November. In Northern New South Wales, February.]

A. A. B., Te Aroha, N.Z.—The Bulletin comes along very regular and contains a lot of useful information.

P. P., East Beverley, W.A.—My bees have nearly all died out. Out of 160 hives there is only 25 left, and they are very weak, I am afraid I will lose them. The timber is all being destroyed and there is nothing for them to live on. I have had very little honey.

W. B., Tunnack, Tasmania.—The present season has been a long and tedious one with the bees. The bad weather which prevailed all through prevented them from gathering the honey they otherwise would have done.

D. B., Larpent, Victoria.—A good season about here, white clover, gums, and thistles, 105lb. for 15 days gathering is not too bad for a 4-storey hive. I think they will pan out well next month when the grey gum is in flower.

A. P., Bobadah, February 27.—A very bad time I have passed through during the last three years. No doubt you are aware what things have been like in the west during the drought, With

me it has been all out and nothing coming in until the last few months, and things have looked up very much again. I lost more than half my bees, but since October I have made an increase of 80 and taken up-to-date, 6 tons of honey, and by the look of the hives and the country I shall have another 6 tons to extract this side of winter.

Mr. G. W. Easton, Tasmania, writes: I notice in the last copy of your paper a query as to beekeeping in Tasmania. Warn your questioner off beefarming here. A good many bought frame hives and appliances last year, but could not get a paying price for their honey. South Australian honey is sold in the stores here at 8d or 9d the 2lb. tin, and can be landed here in bulk at about 3d a lb. This, (the N.W. Coast is a good dairying district, perhaps the best in Tasmania, and anyone wishing to make a good living can do so, if they have sufficient capital to stock a farm. For fruit growing they should go to the South of the Island as there is direct communication between Hobart and London, whereas at this end we suffer from having to tranship at Melbourne. Anyone on a farm of any sort cannot do better than keep a few bees, and perhaps the price of honey may be better in the South. But here the price is governed by Melbourne and Adelaide, as the freight is inconsiderable when shipped in bulk. Most of our local honey is of excellent flavour, and free from the peculiar tallowy taste noticeable in a good deal of the imported. I shall be glad to give anyone information about this district at any time. There is plenty of room for settlers here.

R. L., Manning River, Feb. 22.—Honey has been coming in well since the new year, and altogether I have taken about 200 tins this season.

E. J. B., Dubbo, Feb. 25.—Honey has been coming in constant since the season opened up here, being earlier than usual, but swarming has been excessive and has reduced the crop accordingly, but it is finished for the present and unless we have an early autumn flow the late

summer swarms will require a lot of assistance to help them through the winter. The timber is showing well for a good honey flow, but we want rain.

R. T., Fremantle, W.A., Feb. 16.—We are having a very bad season in my locality. No honey coming in, but hope for better luck next year.

G. C. H. Palmerston, N.Z., Feb. 23.—Last season was very much of an off season with us here. Continual rain and unsettled weather all through the summer and autumn. Any amount of clover bloom, but there must be addition to this fine weather for the bees to work and sunshine and heat to cause the flowers to secrete nectar. My bees gathered little more than enough to take them through winter and spring. In my heart I preferred not to extract, but I must have honey for my customers, so I took 2½ tons and fed the bees with candy in the winter and syrup in spring. I make the candy in batches of 60 frames at a time, 6lb. or 7lb. to the frame. I cleared one side of my honey house, covered the floor with newspaper, laid 60 frames over it, then a few short boards to step on, 7 56lb. bags No. 2 sugar and 30lbs. water. The sugar added gradually and well stirred while it is melting. About five minutes after it has come to boil I rake the fire out from under the pot which holds about 50 gallons. I then ladle it into a bucket and pour it out in the middle of the frames by giving all the frames a little at a time. The candy sets nicely and the frames don't float as they are liable to do if they are filled up at once. If the candy is getting too thick toward the finish add a cup full of water occasionally and stir well. It is sometimes necessary to put back some of the fire under the pot. After cooling an hour or two it is ready for the hives. I lift it off the floor with a spade. By this plan of working I can make 60 frames candy and feed them to the bees the same day. It is best to put candy over the cluster, this is important. It should be fed to them as soon as possible after the honey flow, and given to strong hives as these dissolve and store it more readily.

When brood-rearing is well on the way bees cannot do much with the candy, as it is then necessary to cluster on the brood instead of under the candy. Nearly all my lids are flat, with only a bee space above the frames, so I put an extra large mat over the candy to keep the bees as warm as possible and to keep out robbers. My brother-in-law who also keeps bees and has gable lids takes the candy out of frames to allow the lids to fit on properly. When September comes I feed syrup in the open air much the same way as Mrs. Atchley described some years ago in *Gleanings*. This plan saves me a lot of work, as I can prepare and feed 150lbs. of syrup in 15 minutes. The present season is turning out much better than the last. I have written about making candy in large quantities as I thought it would be of interest to some of your readers.

M. C. Y., Coraki, Feb. 28.—I intend taking a trip to England about the end of March, and I would be pleased to have your advice *re* taking some honey with me, say one ton. What would be the best size tins to ship it in? I have about 5 tons ready for shipment, but will try and hold till I get 3d for it. I will try and get over to America and see how they manage their bees.

[I fancy the best way would be to take it in 60lb. tins—2 in a case. When in England get it done up in 2lb or 4lb. tins with label on, and canvas the large stores yourself. Could you get your member to give a letter to the Agent-General in England. It might help you. By getting it done up in small tins in England it might save freight. *Again*, should it be likely to candy on the voyage perhaps it would be better to tin and label here. Use your judgment. It might be awkward to get off the candy in England. It would not matter if it did candy in small tins.

W. G., Aberdeen.—I have been well pleased with your journal, and wish you every success.

L. A. W., Tomago.—We are getting lovely bright honey just now.

H. D., Mulgoa.—I should be very glad if you would inform me, through the "A.B.B.," the reason of the queen-cells not hatching; and, also, if you should

leave any sealed honey in the second or third storey for winter feed?

[Queen-cells will not hatch if reared in drone cells or out of drone comb. Also, carelessness, or damaging queen cells when cutting them out to put in protectors. Sufficient honey should be left in the hive to keep the bees through the winter—it does not matter where it is. The bees will generally put it where they want it most, for warmth or otherwise.]

BEESWAX.

While looking at a beautiful piece of honey-comb and admiring the wonderful work of the bees, I began wondering if the average beekeeper knew what uses beeswax was put to, after he had disposed of it to the dealer. The apiarist is familiar with the manner in which his wife uses it to rub on her flat iron or to draw her thread through, when engaged in heavy sewing, while he receives part of it back in the shape of foundation.

Among the ancients it was an extensive article of commerce. They used it largely in all their religious ceremonies, embalming their dead, and as an ingredient in precious ointments and salves. The Roman used it for coating his writing tablets, on which he indicted his thoughts with the stylus, an instrument the prototype of our lead pencil. Combined with other resins the ancients caulked the seams of their galleys to render them water-tight. The Roman bronze workers and silversmiths used beeswax extensively in their art. First making the model in beeswax and forming a mould over it of moulding sand. Then applying heat and melting out the wax, leaving the impression of the original in the mould on which they poured the molten bronze. The Chinese also use this process in their bronze castings, it being applicable to the most complicated forms of the original model; such as the foliage of trees, the whole casting being made in one piece; whereas, in modern bronze founding the original is covered with a mould which may consist of many pieces fitting together. In large castings necessitating the cutting of the model into

several pieces to be cast separately and afterward brazed together in the finished product.

The beautiful vases and other objects of the silversmith's art, are all modelled in beeswax, to which has been added some fatty substance and powdered sulphur to keep it pliable. A great many of our public statues have been modelled in this material.

Langstroth says: "Wax candles were early introduced—with symbolical signification—into Christian worship, and are still so employed in the Roman Catholic Church." The Episcopal Church also uses wax candles to some extent. For this purpose the wax is bleached as white as snow.

Wax is used by engravers for covering copper plates with a thin coat, through which they scratch the design down to the copper; this is afterward submitted to an etching bath of weak acid which eats the exposed copper, leaving that part of the plate coated by the wax untouched.

Who has not heard of Mr. Jarley's wax works? life-size and realistic figures made famous by Mr. Dickens in one of his stories. In Mme. Taussand's celebrated wax figure show of London, and the equally good show in the Eden Musee, New York City, may be seen in wax, all the celebrated personages of history, in realistic attitudes, and besides all these may be mentioned the innumerable show figures used by tradesmen for the display of their goods.

It is also used by electricians as an insulator; by dentists to obtain an impression of the patient's jaws; by chemists for dipping glass stoppers to bottles containing strong acids and alkalies; medicinally as an ingredient in many preparations. It is used in a photographic process for the production of carbon prints; for polishing hardwood floors, and by decorative painters as a glaze.

As the cold weather is here and the bees are temporarily out of business, why not start a discussion as to the uses of the products of our little friends the bees?—*American Beekeeper.*

For Colds, Coughs, and Chapped Hands.

These are the days when a "hot toddy" at bed time, after exposure to the inclemency of prevailing storms is not only a pleasant beverage, but may forestall the advent of serious trouble.

This is how to do it: Take a big spoonful of extracted honey, put in a quart mug, add the juice of half a lemon (or a teaspoonful of good vinegar will do nearly as well), pour upon this boiling water, stir, and drink warm as possible just before jumping into bed. In ten minutes you feel as if in a Russian bath—exactly what you need to break up a bad cold or congested lungs. It is good, and of course, perfectly harmless to old and young.

Talk about "two-lip" salve for chapped lips! Two tablespoonfuls of honey, one of finely chipped camphor, a small piece of wax, all thoroughly heated together, and let cool, is the finest application for all sorts of chaps—hands, face, etc., and for burns. Well, you just try it.

You know how *we* ladies often get hurt, cut and scratched, especially about the kitchen. Well, a sticky salve made of equal parts of honey, camphor and resin heated in a pan of hot water—that is, the ingredients put in a tin cup, and the cup in a vessel of boiling water, well stirred and cooled ready for "business." Have that cup handy; it will be in frequent demand. A clean rag wrapped over it is an additional protection.

Let me tell it again: A pint (in that proportion) of honey and a tablespoonful of spruce-gum, pounded fine, dissolved in the honey, makes one of the very best cough balms to sore throats or lungs known. Dose, a teaspoonful every hour. It exactly fits grandma's case for that racking cough, and little Ethel won't have to be coaxed to take it—it is so good. My, what a blessing is honey, if the people did but understand its benefits.—Miss Miller, in *American Bee Journal*.

Send for Samples of Honey Labels.

CAPPINGS.

From American and other Bee Journals.

Good honey contains in the neighbourhood of 1-6 of its weight in water; in a moisture laden atmosphere it may attract to itself so much moisture as to be nearly half water.—*American Bee Journal*.

A man who had been dabbling in photography a year or two was once looking over some of my photographs, and praising them in a way that made my cheeks tingle. Mixed with the praises was the frequent exclamation of "My! you must have a fine lens." Before he left he was very particular to know what make of lens I used. I know some of the manufacturers of lenses head their advertisements with "It's all in the lens." Beg your pardon, Mr. Manufacturer, it *isn't*. It's all in the *man*. Of course, a lens appropriate for the work is very important, but to know how to *use* the lens properly is most important. This gentleman who was so enthusiastic in his praise did not know that for ten years I had been studying and practicing photography just as you and I have studied beekeeping—reading all of the journals and books on the subject. It is the "stayer" in any business who succeeds. Each year he learns better and better how to conduct his business—how to avoid the mistakes. What hope would I now have to become a successful physician? By the time that I had finished my course at college, and had sufficient practice to become really an expert, a man whose services were really valuable, my race of life would be nearly run. I began the study of beekeeping when only 18 years old—have always been in the beekeeping ranks, and hope I shall never be so foolish as to desert them.—W. Z. Hutchinson.

LITIGATION.—F. W. Lockwood, of New York State, has an auction against J. W. Pierson, Secretary of the State Association, for that the said J. W. Pierson "had knowledge of the ferocious nature of his bees; took no care or means to keep them

within the confines of his own premises; but allowed them to roam at will on the premises of his neighbour; to pillage therefrom, and carry away and injure and destroy the crops of said neighbour; to injure and kill his animals; and to intimidate his said neighbours, and to endanger their lives, and to render them unsafe and unavailable to them. Damages claimed, \$150 and costs. It was bad enough for Pierson's bees to carry away the neighbour's crops; but to have rendered the neighbour's lives unavailable to them, was surely beyond bearing.—"American Bee Journal." [It does not give the verdict.]

TREATMENT OF WEAK COLONIES IN SPRING.—Weak colonies are treated exactly the same as strong ones. Years ago, when I had a single apiary, I thought it necessary to unite the weak colonies, or put each on one or two combs, with a division board upon one side, but experience has proved that it is all useless work—they come through exactly as well when left to themselves. The reason is hard to explain, but it is true nevertheless. My spring management does away entirely with all stimulative feeding, spreading of the brood, or any disturbance of the brood or bees during April and May. Just leave the quilts sealed down, with a covering of four inches of nice, warm chaff, and the bees will do the rest.—E. D. Townsend, in *Beekeepers' Review*. [In most parts of Australia a ruberoid quilt answers for the latter purpose. It should be remembered bees are great propolisers.]

COGGSHALL'S SMOKER FUEL.—Some old phosphate sack ($\frac{1}{2}$ lb.) and a dime's worth of saltpeter is all the fuel I need in an apiary of 100 colonies in one season. First lay the sacks out till they get a little rotten (three months); then drive four wire nails through a one-inch strid about ten inches apart. Now nail that to the opposite side of a work-bench, four nails sticking up. Get a ball or two of cotton twine, not the best. Wind it on a half-inch board, 5 x 20. Wind the short way around, and the whole

length. Now nail another one on it, and nail it to the side of the bench. After cutting all those wound strings on the edge of the board you will have a quantity of short strings to tie around the sacking after it is rolled up. With an assistant, hook the sack over four nails lengthwise of the sack. Take a half-inch rod and roll up the sack, not too tight, but just right. Your experience will tell you better than I can. Unhook the sack, and with the strings all cut, tie every four inches. After all is tied up, take an axe and let one man hold the rolls while the other chops them off between the strings. Dissolve 2lbs. of saltpeter, just as strong as it can be. Put it in a pan one inch deep. Sprinkle in a little red lead. Now dip one end of those wads into the saltpeter water, then throw them in pile to dry. The red will tell you which end to light. You will have a smoke in *ten seconds* that will do business, and it is light in weight in the smoker—*no sparks*, and it will last three to eight hours with light work with bees, and never go out if the material is all right.

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 trap full 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.—Exchange.

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 twenty four hours as much as two whole beeves, thirteen sheep, ten hogs and four tons of fish.

What do the Americans do with their meat, fruits, and honey? They eat what they can, and they can what they can't.

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