The Australian bee bulletin. Vol. 14, no. 12 March 28, 1906

West Maitland, N.S.W.: E. Tipper, March 28, 1906

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

THE AUSTRALIAN Bee Bulletin.

A MONTHLY JOURNAL, DEVOTED TO BEE-KEEPING.
Edited and Published by E. TIPPER, West Maitland; Apiary, Willow Tree, N.S.W
Circulated in all the Australian Colonies, New Zealand, & Cape of Good Hope.

VOL. 14. No. 12. MARCH 28, 1906. PER COPY, 6D
Per Annum 5s, booked 6s 6d, in Australasia, outside N.S.W., add 6d. postage

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MAITLAND, N.S.W.—MARCH 28, 1906.

The following is the 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.

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Honey Tins.

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

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Prescott, Limited, 336 & 338 Sussex-st. Sydney.

EDITORIALS.

Lavender is recommended as a good honey plant.

Witty, isn't it? Spring dwindling, get new springs.

Question at a Convention :—How many bees can a man keep? One answer :—As many as will pay him.

An American writer reckons he can manage out-apiaries, also keep down swarming, by five visits a year.

A. I. Root says water from a spray pump, thrown on bees while in the air, is vastly more effective than any noise that may be made.

In 1903, 488,576 lbs. of wax was imported into the United States, a good portion from Mexico and the West Indies, and that importation is increasing.

Professor Cook says: I do not believe it will ever pay to use good land to produce plants that are only valuable for honey.

We acknowledge receipt of Dadant & Son's Catalog of Beekeepers' Supplies, Hamilton, Illinois, U.S.A. The title states 'superior goods, reasonable prices, prompt shipment.'

Prices of Honey in Dublin :—Sections, 1sts 6½d; 2nds 6d; 3rds 5½d; inferior, by weight, as run honey. Extracted honey, 5d per lb., in bulk; skep honey, 3d per lb. in bulk.

Some German writers are strongly advocating top entrances for hives, maintaining and giving experiences when far larger returns of honey have been secured by such.

For several years following the honey exhibits at the Royal Dublin Society's shows have been failures, notwithstanding good prizes offered. On the last occasion in six classes, in which there were offered ten prizes, value £7 10s. and a medal, nine exhibitors competed with sixteen entries. Just think of it.

We acknowlepge receipt of the "Victorian Year Book of Agriculture," by the Staff of the Department. It is a splendidly compiled work, giving very minute and up-to-date information in all the following subjects: — Agricultural High Schools, Soils of Victoria, Closer Settlement, St. John's Wort, Irrigation, Farm Homestead Artificial Fertilizers, Increasing the average yield of Wheat, Potato, Maize, Tobacco, Fining of Wines, Tilage, the Horse, Dairy Farming, Cheese Making, Poultry, etc. It consists of 500 pages, and is beautifully illustrated.

The "Magistrate," (March number) publishes correspondence from Mr. J. T. Keating, Chairman of the Wagga Wagga Land Board, advocating full treatment of Land Cases in this journal. Messrs. Poate (Chairman Moree and Tamworth Land Boards), Crouch (Chairman Orange Land Board), and Freeman (Chairman Grafton Land Board), support this view. Certainly there is much to recommend any authoritative reports of Land Cases. If the work is well done, it cannot fail to benefit Land Agents, Solicitors, Selectors, and, in short, all connected in Land matters in any shape or form. The subscription to the journal is 10s. a year, and the publishers are H. J. Herbert and Co., 9 Hamilton Street, Sydney.

In Switzerland grape leaves are used for tea, but, it is said, they require more sweetening than genuine tea.

N.S.W. BEE FARMERS' ASSOCIATION.

It is not my intention to call a meeting of the above at Easter this year, as, judging from the experience of last, no good can result. On that occasion, though I received so many proxy votes, I only had one present to back me up. There was a conspiracy of four or five from Sydney district determined to upset the Association. There were three others who had been well talked over as to the 'monstrosity' of the proxy system. Of the above conspirators, one was a honey retailer of Sydney not possessing a hive; his aim is to purchase honey as cheap as possible. No. 2 was a very insulting individual, who went specially for the purpose of displaying his animosity to your Secretary, and believes still there is a great English honey market, and the industry is not overdone. Another, the largest beekeeper present, after I had told them I would submit the new rules to a referendum, in a quiet voice said to his fellow conspirators, "There is no rule against it, so we will declare it passed." * I thank the beekeepers for the almost unanimous vote against the iniquitous rules they proposed, and the *Australian Bee Bulletin*, while the present editor holds the helm, will still do its duty in exposing the evils and wrongs to which beekeepers are subjected. I cannot conclude without thanking Mr. Rien for the stand he has always taken against the lies and falsehoods that have been propagated. E. TIPPER, Hon. Sec.

*The three tailors of Tooley Street, who meant to rule the British Empire.

SHOWS.

During the past month we have attended various shows. The first was that at at Newcastle, at a suburb of that town called Broadmeadow. We remember the spot some few years since, when it was a well watered swamp, affected by tidal waters. At the first show some six years ago, a wit suggested asking the admiral of the fleet to send a gun boat as an ex-

hibit, floating on the water. All this has been changed. Thousands and thousands of cartloads of soil has changed the spot into what the Newcastle people proudly anticipate will be about the best show ground in N. S. Wales. On this occasion there were 2700 exhibits being 410 more than at the previous show. There was a fine collection of horses, blood, hackney, draught, also dairy cattle. In the matter of honey, although there was a prize offered of £4, there was only one entry, and that not too good; the honey in some of the jars was very thin, and two small samples of wax were anything but of the best. Whether this was a result of the recent bad honey season or otherwise we could not say. We attended the banquet at night, at which the Bishop of Newcastle and several members of Parliament were present. Some of the speeches complained bitterly of the manner Newcastle was neglected through Sydney influence. The Association have an excellent secretary in the person of Mr. Owen Gilbert, formerly M. P., and who is a most indefatigable worker.

At Armidale, there was as usual a first class show. The attendance was as usual a gain on former shows, and the exhibits from such a splendid farming and agricultural district was also fully up to the mark. In accordance with the up-to-date idea of making shows educational to the rising generation, a gathering of the elder classes of the children of the public schools around were addressed by

Mr. Tipper being present, was also called on, and gave a short address on the bee industry. As usual there was a very nice collection of honey, wax, &c.

At the Quirindi Show, doubtless owing to the past bad season, there was not a single honey exhibit.

CRITICISMS.

By R. Helms.

It would help general education a great deal if people who feel the impulse to write were a little more careful, and avoid letting this impulse get rampant. They would probably write less, likely, however, much better, and, what is more important, give more accurate information. Often a false impression is much easier to disseminate than to establish the correct inwardness of the subject discussed. To set all existing errors right is an Augean task that no human energy could possibly accomplish, as there is evidently no finality in the creation of errors. Luckily, the greater number do not vitally affect the material welfare of the universe. Regarding the subject that induced me to let ink flow on paper in this verbrose manner, I feel quite convinced that the bee industry will not be affected in the least whether the writer I shall allude to knows less than he pretends to. The article, "Apicultural Terminology," will not in the least affect practical beekeeping, but since your journal so frequently deviates from the strict path of the absolutely practical, its principal aim, and often gives us interesting notes which touch the ethical turn of mind, you will admit that the cultural object of these are lost if they become the means of leading to false impressions. Whilst I wish neither to pose as an philologist nor an etymologist, I am presumptive enough to find fault with the article mentioned. It looks on the face as if the writer had made deep researches; but in reality it is not so. It is merely a copy of other writers without scarcely a vestige of originality. I do not deny the correctness of the greater part stated, but at the same time it lacks much accuracy and the proofs of the fundamental origin of the roots of words. It would lead too far were I to criticise the article at length, and probably draw me into a controversy which time might not permit me to follow through. I can, however, not refrain from remarking that when the writer is evidently original his suggestions show him weakest. He wishes to derive the word "hive" from the islandic skin disease called "hives." At the same time he denotes the right relationship of the word to the Scotch term for Have, etc. Now, hive has the

meaning of an enclosure. The modern German for it is Hof. Heft means a guard, and Haft incarceration. Hives, the skin disease, on the other hand is derived from 'haban, to lift up,' to heave up, therefore eruption, etc. I might dilate considerably on this difference of origin, but *cuum bono.*

A CURIOSITY.

By R. Helms.

Mr. Jervis, of Moss Vale, recently sent me a live queen bee, and in the accompanying letter stated that none of the eggs laid by her ever hatched, even after changing her into another hive. He further stated that she oviposited freely. The appearance of the insect was all in favour of this last statement. She was a fine specimen, even might be called a large type of the pale leather coloured variety; vigorous, and lively enough that she nearly escaped me when liberating her.

On dissection, I found her ovaries well developed and full of miniature eggs; fully developed eggs were absent Probably those laid by her in captivity were eaten by the retinue, as I found no loose ones in the cage. And during her captivity the development of the eggs had ceased. Her spermatheca was well filled with sparmatozoa, a proof that she had been fertilized. Whether the nervous or muscular attachments of the spermatheca had been paralysed so that she was unable to fertilize the eggs is quite impossible to determine, owing to their delicate structure. This, however, would have no bearing on this case, as there are a number of cases on record where accidently bush queens became involuntary drone-breeders. Baron Berlepsch mentions a case where he accidently squeezed a queen in shutting a box, and another where one had been numbed, which afterwards became drone-breeders. The recovery from a sting after balling has been recorded of producing the same effect.

From some remarks in Mr. Jervis' letter, I gather that he must not have been certain whether the queen was fertilized, because he remarks if the theory generally accepted were correct that eggs without fertilization had life in them these eggs should have hatched, and by this he seems to throw some doubt upon the parthogenetic production of the drones.

Normally, there is no doubt all bee eggs have life in them, and, as far as I am aware, only one writer of eminence has thrown some doubt upon the generally accepted aphorism that all drones are produced parthenogenetically.

The case here stated is a very abnormal one. At least, I have not previously heard of a similar case, nor could I find one recorded in the bee literature at my command. There may, however, have been similar cases previously recorded. Perhaps you can tell.

CYPRIAN QUEENS.

By Mr. W. Read.

I note in your January A. B. B. you say: - "At one time we had a hive of Cyprian bees. We saw no difference between them than other bees." It is quite clear your bees so called Cyprians were not nothing like pure. Pure Cyprians are very noticeable. They are very like golden Italians, but have only three yellow bands, these are narrower than the yellow bands on the goldens; and the yellow is more a lemon color. I would call the workers lemon colored bees three lemon bands, and the black rings are blacker than those on the golden Italian bees, something smaller than the goldens, breed up fast, will swarm in spring. I have had the Cyprians two summers, about 20 hives, they were exceptionally strong, great for honey, did not attempt to swarm after the spring; they raise fifty per cent more drones than the Goldens, I find them the easiest of all bees to work in fine warm weather, but prefer to leave them alone at early morning and

late in the day, the queens appear very strong and long lived. I have worked Ligurians, Goldens, Blacks and Cyprians, and my experience is that the Cyprians are the best all round bee. I have about 30 Golden Italian Queens mated to Cyprian Drones; they are very pretty bees and about half look like pure Cyprians. I would prefer pure Cyprians as I think Cyprian bees are stronger in every way and longer lived. If you are interested I shall be glad to give you the benefit of my experience, good and bad points of The Blacks, Ligurians, Goldens, and Cyprians. My apiaries are situated in the proposed Federal City.

Land in the United States.

Six million acres of public school lands were placed on the market by the State of Texas, Sept. 1, 1905. Other lands will come to the market from time to time as the leases under which they are held expire. Prices generally range from 1 dollar to 3 dollars per acre, and in some cases more. The terms are one fortieth cash, the remainder in 40 years with interest at 3 per cent. The lands may be held forty years by making the original payment of one-fortieth down, and paying the interest annually. -*Gleanings.*

THE BEE AND LITERATURE.

Over two thousand books are extant devoted to the bee. This insect has been utilized in heraldry, as well as by sages, poets, preachers and romancists. Plato was known as the "Athenian Bee," from the sweetness of his style, according to the historian. It cannot be forgotten that Plato held extreme views, and suggested that human social relation should be conducted on the communistic principle of the beehive. As Lord Neaves paraphrases his views, he proposed to :—

"Make the man and the woman
Like property common."

. . . .

"All must go to the wars
And be servants of Mars."

Another extract shows that the beehive idea was present to his lordship's mind, for he writes :—

"But the makers of money,
The horders of honey,
Won't be pleased with these projects of Plato."

More than three hundred "golden bees" were found in the tomb of Childeric when opened in 1653. As a consequence Louis adopted the insect as an emblem, and the Royal Mantle of France has ever since been dusted with bees made from gold. The last occasion on which these appeared publicly was at the funeral of Napoleon III. at Chiselhurst. Trench was drawn attention to, and pointed morals from the alterations which occur in the meanings of words, his most striking example being "sacrifice"—originally something offered to the gods, now anything of value thrown away. "Gift" now means poison in German. A man with "a bee in his bonnet" was originally one who carried a jewel an ornament in his cap. Herrick, in "The Mad Maid's Song," says :—

"For pity, sir, find out that bee
That bore my love away.
I'll seek him in your bonnet brave."

Shakespeare, in his "Complaint of a Lover," wrote :—

"Upon her head a platted hive of straw."

Evidently joining in or suggesting ridicule of some primeval straw hat. The same author, in 2 Henry VI., wrote—

"The commons like an angry hive of bees."

The idea would have been more clearly expressed by :—

"The commons like a hive of angry bees."

In Henry VIII. occurs—

"The honey of his language."

In Julius Cæsar—

"Enjoy the honey-dew of slumber."

In Winter's Tale—

"If I prove honey-mouthed let my tongue blister."

In Henry V.—

"Pr'ythee, honey sweet husband, let me
Bring thee to Staines."

Macaulay is responsible for—

"He then entreats his dear honey
for Christ's sake to perjure herself."

The sacred writers, together with Aristotle, Xenophon, Virgil, Deodorus, Siculus, and many other ancient authors refer to the wonders of the hive. Xenophon mentions loss of men running into three figures by honey-madness caused by eating nectar collected from flowers which have been identified as those of the Azelia Pontica, a shrub which still grows and yields poisonous honey in the neighbourhood of Trebizond, the region in which the mishap occured over 2,200 years ago.

Roman armies suffered similarly subsequently in Asia Minor.

The term honeymoon is believed to have had its origin in an old custom of drinking mead for thirty days after marriage. Attila the Hun took so much on the occasion of his wedding feast as to produce fatal results.

Tennyson draws a bee-simile when he says in "The Princess"—

"Less from Indian craft
Than bee-like instinct."

And again in "Boadecia"—

"There the hive of Roman liars worship."

Goldsmith, before treating of the bee in his "Animated Nature," had not even read up his subject. There were books extant in his time which would have kept him out of the many errors he falls into.

Recent literature has been enriched by a work, which, whatever poetic liberties it takes with facts, cannot be read but with pleasure. Maeterlinck's work on the honey bee filled a gap. It presented in delightful language the picturesque side of beekeeping.—*American Beekeeper.*

THE GROCERS AND KINDRED TRADES' EXHIBITION.

HONEY SHOW AT THE AGRICULTURAL HALL.

The thirteenth annual Exhibition and Market of the Grocery and Allied Trades, held at the Agricultural Hall, London, was opened on Saturday, 16th Sept. Favoured with fine weather, as it has been so far, we doubt if any of its predecessors has equalled this exhibition for extent or for all-round excellence, while the section in which beekeepers will feel most interest greatly surpasses anything previously seen at the "Grocers."

The display of bee produce is settled in the centre of the left hand gallery when looking towards the clock in the great hall, where first are seen six handsome honey trophies, followed by a single line of staging, the length of which may be judged when we say that of extracted honey alone something like 1,800 jars were seen. The eleven classes into which the competition is divided were open to all British beekeepers, and the amount offered in cash prizes for honey far exceeded that of any honey show in the kingdom, while the entry fees are merely nominal. In view of this it was highly satisfactory.—*British Bee Journal.*

Lightning Bug and Honey Bee.

But the queerest friendship of this sort that ever to my knowledge was 'tween a lightnin' bug an' a honey-bee. The fust I noticed of it was one June arternoon, 'long to'rds dusk, when I see a black bug, 'bout half 'n inch long on one of my beehives, which, on lookin' closer, I found to be a lightnin' bug or firefly, as some folks calls 'em.

"Pretty soon a bee lit close by an' crawled to'rds the bug, as I thought to drive it off; for, you know, bees will pitch into an' kill any intruder that gits into their hives, even a strange bee. Wall, sir, the bee, instid of tryin' to drive it off, atcherly rubbed up against the bug, kinder caressin' like, an' finally dropped a small drop o' honey, which the bug went to eatin', and when he's et all he wanted they both flew away together.

"Wall, of course, I was surprised, an' I was curious to see what would happen next; an' in a little while back they both come, the bee goin' into the hive an' the bug lightin' on the inside. Bimeby the bee come out, an' off they went agin; an' when they come back this time it was dark an' I'm dumbed if the lightnin' bug warn't on ahead an' lightin' the bee to the hive!

"Wall, they kep, this up for several nights; but I noticed that the bee was losing flesh, an' in about a week he was nothin' but skin an' bone. So much overtime was tellin' on him. One evenin' he fell to the ground exhausted, an' in a few minit he expired.

"The lightnin' bug took on awfully, an' crawled 'round and 'round his dead comrade an' acted almost frantic. He flew on to the hive an' jest sot there an' moped, refusin' to eat a mouthful, an' in a few days he follered his friend.

"I thought some at the time of tryin' to cross the two insects an 'raise a bee that could work night an' day; but I didn't. An' I s'pose if anybody tried it now the unions would raise a rumpus, so I guess I won't bother."—New York Press.

There have been a great many remedies offered for the cure of bee-paralysis, but none has seemed to prove successful in different cases unless it be the sulphur cure, or changing the queen. Some sprinkle the sulphur over the bees, after removing the brood, and some say they have succeeded by merely keeping plenty of sulphur at the entrance for the bees to crawl through. If sprinkled on the combs it kills the larvæ.

Honey-Vinegar.--Two pounds of honey dissolved in one gallon of soft water. Set in a warm place until thoroughly fermented. It makes the purest, the healthiest, and the best vinegar on earth.

Honey for Dyspepsia.—Take a good glass of boiling hot water and stir in it four tablespoonfuls of honey, and drink while hot before retiring. It will promote sound sleep, good digestion, free action of the liver and kidneys, and cure nervousness.

A Honey Salve that never fails to cure boils and carbuncles is made by mixing together pure honey and wheat flour. Make a stiff paste, spread on a piece of muslin, and press tightly on the sore. Remove and apply a new one every 12 hours.

Honey in Cough Remedies.—Always use honey in *all* cough remedies instead of sugar.

Sawdust for Smoker-Fuel.—"Grab a handful of green grass and stuff it down on the grate to keep the sawdust from sifting through, fill the fire-cup to within an inch of the top with sawdust, then drop about a teaspoonful of kerosene on top of the sawdust and light it with a match. Let it burn this way and do not close the top for several minutes, or until it has a good start. Then place another handful of grass on top of the sawdust to act as a spark arrester, and close the smoker, and it is ready for business. The grass in the bottom keeps the sawdust from sifting down through the grate, and that on top keeps the sparks from flying out. The grass on top will not burn for quite a while, and when it does and the smoker begins to throw sparks, put on a fresh supply of grass. As it burns from the top downward instead of the reverse, it will burn a long time before being exausted.—*Progressive Beekeeper.*

In no case should honey be extracted during the honey-flow unless three-quarters capped. It should, as soon as possible, be put into the packages in which it is to be sold, and sealed up. For honey exposed to the air not only absorbs moisture and becomes thin and watery on top, but it loses a certain amount of the delicate flavor and aroma which it has from its native flowers.

Wax-Worms for Fish-Bait.—Drone-larvæ have been commended as bait; but now comes a writer in *Gleanings* and says that the larvæ of the bee-moth is away ahead; "so tough that they can not be nibbled off, and one larva will catch several fish." Easy to start a hatchery for wax-worms, but they require rather expensive food.

Prevention of Granulation of Honey—Praktischer Wegweiser says honey will remain liquid if put in tin or glass vessels and then allowed to stand five or six days in the sun in a solar wax extractor.

PRICES OF HONEY.

Melbourne Leader.—Honey.—There is a fair amount of inquiry, but the market shows no signs of fluctuation. For prime, 2¾d to 3d is quoted; for medium to good, 2d to 2½d. Beeswax.—Buyers are obtaining prime clear beeswax up to 1/2, while medium to good wax, discoloured, is in demand at from 1/- to 1/1½d.

Melbourne Australasian.—Honey. — For prime honey 3d to 3½d is quoted, and nominally 2½d for cloudy and dark lots. Beeswax is worth from 1/1 to 1/2.

S. M. Herald.—Honey, 60lb tins, choice extracted 2¾d to 3d, good 2½d, inferior 2d per lb. Beeswax—Dark 1/1½, prime 1/2.

Maitland Mercury.—Honey, 1½d to 2d. per lb. Small tins 1/9 to 2/-.

HONEY.—

With shorter supplies the market has improved, and 3d per lb. is now obtainable for really choice quality. Medium and inferior lots are still dull of sale from 1¾d to 2¼d per lb.

BEESWAX.—

In good demand, selling freely at 1/1 to 1/2 per lb.

OPINIONS DIFFER.

By Hobbs Bros.

We are always glad to read the A.B.B. and always look forward to its arrival. At the same time we are sorry to see occasionally unkind remarks about the A. I. Root Co. We feel sure that you are only doing your journal an injury by allowing such things to be published in it.

The A. I. Root Co. have done great things in the advancement of bee culture. They not only push the supply business, but they teach the beekeeper how to put up his honey in an attractive and marketable form, and also how to put it on the market. We think that the charges against them about pushing the supply-business to the disadvantage of the professional beekeeper are uncalled for.

If all beekeepers would set to work and produce a good quality of honey. put it up in suitable and attractive packages and place it on the market in a proper manner, they would have no cause to blame any one but themselves for the unsatisfactory condition of the markets.

To get honey sold there is nothing like the house to house work. In a small town of 2,500 inhabitants we retail two tons of honey a year by going once a year in the autumn winter, and spring months to take the honey round. A novice extractor can (we had to brace the bottom of can to enable it to stand the weight of honey) with a large tap fitted in it, stood upon a stout box placed on its side at the back of the trap. Inside the box we place 10-lb. tins of honey; on the floor of the trap is placed a platform scales. These are secured from slipping about by two metal pins or bolts which are slipped into two holes bored in the floor of the trap to receive them. The can is secured to the back of the seat by means of a strap, and is covered with a piece of oil-cloth strapped round the top edge of the can. A tin lid with rim to go clear over the edge of the can is better still. If the honey is candied we melt the 60-lb. tins on the side of the range and back, as we have plenty of room there. The evening before we go out we put the honey in the can; unless we know the honey to be absolutely free of specks we strain it through a four-fold butter cloth strainer strapped securely round the top of can. The honey has to be nice and warm, or it won't run through the strainer freely. Care must be taken not to overheat honey while melting. The rule we go by is this:—The can must not get hotter than the hand can be borne on it. If part of the can is directly on the range we put strips of wood underneath. If any of the tins leak we turn them on their sides or upside down and solder them as quickly as possible. Bad tins are a great inconvenience while melting on the side of stove. We also have a box of comb honey in full sized frames; the box has a tin bottom and hinged lid. Inside the box a large table knife is stuck between the tin and the wood, always ready and clean to cut the honey out into the customers dishes or plates.

We sell candied honey by cutting the top off a 60-lb. tin, hammering down the edges, and putting a secure wooden lid on it with a two-inch rim round it to keep out dust, flies, bees, etc. This honey is dug out with a strong knife into customer's vessels.

In several boxes we have 2-lb. glass jars for the shop trade, also a tin containing blocks of beeswax. We often sell the bright wax from cappings, as the darker from the brood combs is quite as good for foundation.

How we sell the honey:—The seller goes neatly, cleanly and tidily dressed, with his boots well polished, and his hands clean (it is hard to make a beekeepers hands look clean sometimes, we know), a nice button-hole: it all helps. Go to the back door, knock, and when the lady or help comes look pleasant, aye, smile, raise the hat, and inform her that you have some very fine extracted honey for sale, also comb and candied honey.

It is generally plain sailing after that. If the lady has doubts about the quality of the honey ask her for a small plate or saucer and give her a small sample of liquid, candied and comb honey, and if the honey is as it ought to be you will never fail to effect a sale. We live eight miles from the town we work, and I am sure there are many beekeepers who are tied down by low prices who are just as near a town as we are. By this method we get fully 2d per pound above the wholesale price. Beekeepers can, by working this plan, "keep the pot boiling" while looking out for, or waiting for, a rising market. It is little or no use for beekeepers to combine to keep up the price of honey and then wait for the market to rise. While they are doing this jams, jellies, syrup, etc., are pushing honey aside.

When selling honey, if a customer is doubtful we drop little remarks, such as, 'honey is good for colds,' more wholesome than jam,' 'goes further,' 'is highly recommended by doctors,' etc.

We believe that every beekeeper can raise good honey of the kind produced in his locality. The bulk of it should be ripened in the hive before extracted; we proved this in the first few years of our experience in beekeeping. We do not believe it will ripen in ripening tanks in our humid New Zealand climate. We know that it draws moisture from the air and deteriorates rather than otherwise, so we shut it up from the air as soon as possible after extracting, but every beekeeper must observe for himself and be guarded by the conditions that surround him. We have often found everything dripping in the extracting house a few days after extracting, which shows that exposure to air was not ripening our honey, but rather watering it.

After working the private houses from about 8 a.m. to 1.30 p.m. we have our lunch, then go round to the boarding houses and shops. We like to get the shop keepers to place the jars of honey on the counters so customers can see it. We have found that going round to the houses increases the shop sales, as it gets the honey known. After supplying boarding houses and shops we do our business in town and go home.

The first day we worked on this plan we made 17/6 on the honey we sold above the wholesale price, one of us working from 9 a.m. till 5 p.m. Not bad for a start, we thought.

We have found the country and very small towns not so good as fair sized and large ones, still we have sold quite a lot in the country. On wet days it is alright to sell honey all day, as the ladies don't go out much.

We are so satisfied with selling honey from door to door that we would strongly urge upon beekeepers to take it up. We were prejudiced against it till after we tried it, but now we know it is alright. It means plenty of hard work, however. The beekeepers that were so situated that they could not take it up themselves could arrange with suitable men to do it for them.

One man in Wellington N.Z., used to sell about 20 tons a year wholesale and retail. Instead of having the advantages of a horse and trap he used to carry it round to the doors in two buckets attached to a yolk. He is now in England, perhaps dealing in honey there.

Why should not beekeepers go from door to door with their products as well as milkmen, butchers, fishmen, bakers, etc. They will have to, it seems to us, or the industry will go to the wall. Beekeepers could arrange to divide up the town between them, and not run over each other's territory. That is how we have arranged to work here.

Two or three remarks more about selling honey before we close. Sell for cash only as much as possible. If a customer is out of money and would like some honey take her order to be delivered next week, fortnight or month, when she is able to pay you. In the country we sometimes buy apples to sell in town; we have plenty of room in our light spring

waggon to take 12 bushels of apples, besides all the honey we want. Beekeepers need give little or no credit and the less the better.

We will close this by saying that one of our firm had 9 years experience in one of the leading grocery establishments in New Zealand before entering into the bee business, so perhaps we had an experience which enabled us to pack and sell honey to advantage.

THE INSTINCT OF SELF-SACRIFICE IN APIS MELLIFICA.

Recently, in the journal of the Alsace-Lorraine Beekeepers' Association, there was an account of an experiment made by Dr. Buttel-Reepen, a well-known German scientific writer on bee matters, which was designed to test the often reported devotion to their queen displayed, under circumstances of sore trial, by the workers of the hive. The queen, with about a hundred attendants, were confined in a box suitable for observation and containing but little food. In forty-eight hours signs of feebleness were apparent. Two days later all but four of the workers had died, the queen being still vigorous. Soon only one worker was left alive, and she, though no longer able to stand up, was seen trying to bestow a last droplet of honey on the queen, who came to her begging to be fed. An hour later the worker had perished, and the mother bee was still walking briskly to and fro. A piteous tale; let us hope that the doctor's scientific curiosity is satisfied.

Few of Nature's mysteries can be more interesting than the evolution of the honey-bee. Wonderful that a solitary insect content with one or two round honey-pots should became master of an architecture at once symmetrical and adapted to any situation. Marvellous that the simple instinct of self-preservation common to all creation should, in the interest of the community, receive so varied a development, and that, curiously intensified in the person of the queen, in the worker it should have been so far diverted into another channel as to present in certain cases the appearance of self-sacrifice.

The least observant of beekeepers must have noticed how careful of her own safety is the mother bee, and how unwillingly she leaves the shelter of the combs. Gifted with efficient stinging powers she cannot be induced to run the risk of using them except for urgent domestic reasons. Nay, more, Huber reported several instances of rival queens struggling for advantage in combat having hastily separated when their position appeared to involve mutual destruction. On the other hand, although not only species, but, on close observation, individuals will be found to vary in disposition, or what one is tempted to term mental and moral characteristics, the worker bee can never be accused of wanting courage. Apart from such instances of devotion as that recorded above, she readily risks her life for the public benefit. Yet we should err if, with our forefathers, we were to attribute to her a sentiment of filial devotion, seeing that throughout the animal world, even where in early days the progeny has been dependent upon the parent for sustenance, there is no reason to believe that such a feeling, if indeed it ever existed, outlasts the period of dependency. The desire to preserve the mother must be purely instinctive.

Let us look a little further into the question of self-sacrifice. How does the worker's life end? Obviously the mortality of the hive is very great, though little noticed by the beekeeper, who knows that however many may die, the population will not fail. He can only tell you, that of the vast number who disappear very few die inside the hive, and that sooner than remain as an offence the maimed and decrepid will struggle forth and fall helpless to the ground. What becomes of all the others that

vanish? In the year 1880, a letter from Mr J. A. Luby, C.E., was published in the Proceedings of the Royal Dublin Society, in which he sought to show that not only does "self-expatriation and (self) casting forth to die when they become aware that their days are numbered" obtain at all times amongst workers, but that the act is "shared in by the young and able as well as the old and decrepid." I will try to explain how Mr. Luby arrived at this conclusion, with which, after having long borne the matter in mind, I agree.

He had noticed from time to time, ragged, old-looking workers, laden with pollen, who, after once or twice missing the alighting board, rose up, and without more ado sailed straight away on a heavy winged flight, and in these instances he convinced himself that the bee did not return. This led him to make experiments in winter In the autumn of 1876 he had thirteen strong colonies in straw hives. Of these he brought eight into a room which had no fireplace, but was otherwise kept at a moderate even temperature, and placed each of them over an empty wine case, provided with shuttered observation panes at the ends, and a door with perforated zinc slide, the hive itself standing on a loose board, in which a hole had been made to match its interior diameter. In various ways all but two hives were kept in complete darkness; the latter stood opposite to a window in a N-W light. In the darkened hives complete quiet obtained throughout the winter, except when "an occasional hollow tap" was heard on the floor of the box, caused by the fall of a dead bee from the combs. In the other two a bee occasionally left the cluster and flew round and round the case, trying every cranny for exit, and although in its gyrations it would sometimes strike the bottom of the cluster, it never rejoined it, but in the end died on the floor. To test the intentions of these bees the room window was opened and the zinc slides of the case removed, when, in every case, although in a strange locality, the bees flew straight away over the housetops and never returned, nor did it seek the old stand where, so as to test this point, hives had been placed. The smallest streak of light was found sufficient to keep up this occasional departure; on the other hand, when hives were aroused by extra light or by tapping several bees would issue, and these did betake themselves to the old stand.

Of the hives left outside two were provided with boxes, and the others had zinc slides to their usual entrances, which were closed except in fine weather. The general result was precisely as indoors. It was also noticed that the bees that died, unable to get out, were old and had filled themselves with honey. "I did not find," writes Mr. Luby, "that cold weather, so long as it was dry, restrained the bees from coming forth, or trying to, in the manner I have described. Now, it is well known that bees, when they come out of their hive in winter time for amusement or sanitary purposes, never go far from the hive; they content themselves with wheeling about and darting hither and thither in the immediate vicinity. But what did these bees mean by darting away high in the air at top speed, straight as an arrow's flight, with perchance the thermometer standing at about zero?"

"I need not detail how I now closed all these four hives simultaneously on a bee issuing or being let forth, now opened and closed the rest, etc., etc. The result was the same in all cases—these bees never returned. I may say that I always chose a day for observation that was not fine enough to tempt bees out, but that yet was dry.

"I will end by detailing the different mode in which the bee that gets out freely (doors being open) acts, from one that is detained inside for some minutes ere it is let forth. The latter, on being liberated, behaves like the bees I have mentioned in the case of the hives exposed to the light inside the house—

simply darting off without one look behind; the former, on the other hand, runs down the flight board, starts quietly off it, gives one turn round the front of the hive as if to take a last look, the next wheel begins a drawn out spiral, taking a half-turn, of which it attains a tolerably high elevation over the hive. With the commencement of this turn upwards the bee begins a peculiar moaning sort of hum, quite unlike any ordinary sound; it increases to a roar, and as the bee, now having attained sufficient elevation, sails away in a straight, steady, laden-looking flight, it can be heard for a considerable distance.

"Over the tree-tops it has vanished. Shut the doors! Does it come back? No. It has gone to seek 'the happy hunting grounds.'"

So far Mr. Luby of the worker. What of the drone? Sauntering through the little span that Nature has made so smooth for him, he lives well, keeps himself strong and lusty, and if fate so decree dies in brief matrimonial ecstacy. No hero he; yet on occasion you shall find him cut the thread of life as resolutely as his Amazonian sister.

It was the close of September. The nights had grown cool; serious bee-work was at an end, and in my observatory hive for the last two days the merry game of drone-baiting had been at full swing. Towards evening I went to the library to have a last look round. The bees had drawn within; all but one outcast drone who stood in the glass covered passage leading to the window, chilled and motionless. In sorrow for my sex, I came to his rescue, and, having warmed him into full vigour between my hands, put him back and watched, wondering what he would do. On one hand the cosy, well-stored combs; on the other, chilly autumn night. Would he creep in?

A moment's hesitation. Then the drone, mindful, as I like to think, of intolerable indignities, turned to the window, and bustling forth with manly hum was lost in the darkening sky.—H. J. O. Walker, (Lt.-Col.)—*British Bee Journal.*

HONEY THIEVES.

AND THE PENALTY ADMINISTERED IN HAITI.

By J. R. McKenzie.

My friend, E. M., tells the following story:—

He had just overcome the difficulties incident to starting an apiary by an inexperienced hand, and was congratulating himself on being able at last to say "My 25 colonies of Italians are now in good form," when he discovered one bright and early morning that some one had been into the apiary during the night and played mischief with it.

Hives were found open and frames were lying about on the ground with the combs cut out. E. M. scratched his head, thought a bit, straightened out things, and reported to the police. A week after and the same thing occurred again. Another report to the police, the thieves remaining, of course, undiscovered.

E. M. now resolved to set a watch, for he reasoned that if the thieves were never caught he would have to go out of the bee business. A watch was accordingly set, two men living near the apiary being selected for the task. For a whole week the watch had nothing to report, and E. M. was beginning to fear that the nightly visitors had in some way got to know of what he was up to; but one morning soon after, at 4.30, there was a hue and cry that some one was wanted by the police. The watch reported as follows:—

They had remained at their post until 4 o'clock, when the first streaks of daylight were seen in the east, then retired for an hour's sleep. One of the men no sooner reached his house than he heard the sharp cracking noise usually made by an excelsior cover well fastened with propolis to a 10-frame hive. He mentioned the fact to his friend, and they two returned to the apiary in time to find the thieves at work. The plunderers took to their heels, but not before they had been recognised by the watch. The police were at once informed of what had hap-

pened, and they proceeded to arrest the guilty parties, who were taken to the apiary, followed by all the rag, tag and bob tail of the village.

It was now broad daylight, and the delicious smell of new honey was being wafted on the morning breeze from the open colony. This proved too great a temptation for the neighbouring colonies, and soon there was a free fight going on. The plundered colony was up in arms and determined at all costs to repel invaders. E. M. wondered why the police had brought the thieves to the apiary, and suddenly a thought occured to him. Going up to the sergeant he suggested that as the culprits had themselves uncovered the colony they should now be made to cover it again. The sergeant agreed, and the thieves were ordered at once to go and put on the cover. Now came the awful moment for the poor wretches. Most gingerly they approached the infuriated colony, and right royally were they received by the angry Italians. The bees flew at them from all sides, the men threw themselves on the ground and rolled over and over again, screaming for mercy. There were bees everywhere—bees up their pants, under their shirts, in their mouth, ears, nose, and eyes. Bees to the right of them, bees to the left of them, bees, bees everywhere, stinging as only angry bees can.

To save the lives of the poor devils, E. M. suggested that they be allowed to leave the apiary while he attended to the covering of the hive himself. Scores of other people got stung also, and E. M. says that it is now his opinion that after the object lesson they have had no one will again attempt to rob his apiary.

Cape Haitien, Haiti, Sept. 5, 1905.

—*American Beekeeper.*

A SAFE MODE OF INCREASE.

I think I have before described the method of increase, but I will go over it again briefly. As soon as some of the colonies were full of bees, brood and honey, and could easily spare two combs of bees and brood from each, that many were removed from each colony until enough were secured to fill a hive, which was placed upon a new stand and given a laying queen bought from a southern feeder. By the way, most of the queens were not released until a day or two after the formation of the colony, when most of the old bees had returned to their old homes, leaving mostly young bees, and I believe I lost only three queens out of about ninety that were introduced. Of course, the old queens had to be hunted up before removing the combs of brood and adhering bees, and this is about the only objection that I have found to this method of making increase. With pure Italians of a peaceable strain, this is not a serious objection in a small apiary. It consumes time, however, and, when doing things on a large scale, a man would probably wish for some quicker method. Another year I think I shall try the plan of shaking off the bees from the combs of bees removed (then there would be no time wasted in looking for queens) and when I had a hive full of combs of brood I would set it over a populous colony, with a queen excluder between it and the lower hive. In a few hours the combs of brood would be covered with young bees, when it could be given a queen and a new stand. When combs of brood were removed their places were filled with full sheets of wired foundation.

I think nearly as good results might have been secured if the queens had been reared instead of being purchased, but I had too many irons in the fire to attempt that. A man who was simply running an apiary and trying to build up another apiary, could easily rear the queens for increase. Bees that started in to swarm would easily furnish the cells. When nearly ready to hatch they could be given to newly made colonies, or they might be first given to nuclei, and, when the queens are laying, the nuclei built up into full colonies.

In the height of the season, sometimes as many as four combs of bees and brood were taken from one colony. Of course, judgment must be used in this matter. The principle is to take combs of bees and brood from full colonies that are abundantly able to spare them, and make up full colonies with these combs of bees and brood, giving them a queen. In a very few days such a colony is the equal of any in the yard.

I did no feeding, except a little between fruit bloom and the opening of white clover—perhaps 50 pounds of sugar was fed. No surplus was secured but the colonies are abundantly supplied with winter stores of clover honey.—*Beekeepers' Review.*

THE HONEY FLOW.

Important questions are: What are the atmospheric conditions which produce a honey-flow? What may be the influence of the nature of the ground on the honey-plants? or what other cause may exist.

There is no doubt that the richer the ground, and the better adapted to the honey-producing plants, the more nectar will be produced. The European writers say that more nectar is produced on lime stone ground than on others, excepting a few plants that do not prosper on lime-stone land.

The temperature has a marked effect. Buckwheat, for instance, will not yield nectar unless the nights are cool. On the other hand, the tropical plants require a very high temperature. Each plant seems to do the best at a certain temperature.

The most import condition for a heavy honey-flow is an abundant moisture in the ground. The plants are constantly pumping water from the ground, most of it having been absorbed through the leaves, some helping to form the leaves, branches, fruits, etc., and the nectar. When the supply of water begins to run short the growth of the plant is retarded, and soon the flow of nectar ceases. Later the leaves begin to wilt during the day, but recover during the night. If the drouth continues they fail to recover, and finally the plant may die entirely, or at least the portion above the ground.

When the effects of the drouth begin, the flow of nectar occurs in the morning only, sometime before ceasing entirely. During the night no absorption of water takes place, but the water contained in the ground continues to ascend. This, helped by what the dews furnish, enables the plants to produce nectar for a few hours in the morning. I have often seen the hives almost empty of bees in the early part of the day, and then at perhaps 9 or 10 o'clock, or later, all the bees come back and hang at the entrances in big bunches until night.

Some of the plants blossom only in the morning, and their blossoms last in some cases only a few hours. Such, of course, necessarily yield only in the morning.

A cause of mistake is that the bees work in preference on the flowers or other sources of sweet substances that yield the most. Very often we read that such or such plant yields nectar in a certain locality but not in another. The probability is, at least in most cases, that there was some other plant in one of the localities that yielded more than the one considered.

Some plants require much less moisture than some others to grow and produce nectar. Those with long roots will resist the drouth much longer than those with short roots, being able to reach whatever moisture may remain deep in the ground after the surface has already dried up completely. The trees will, of course, resist the longest, and depend chiefly on the amount of water stored up deep in the ground during the winter, while the plants, especially those with short roots, depend on the summer rainfall.—*American Bee Journal.*

COLOR SENSE IN BEES.

M. Gaston Bonnier, in a paper read before the Paris Academy of Sciences, treated of the habits of bees in connection with the colors of flowers. According to the author, says "Nature," the contradictory experiments of various observers on the relations between bees and color are due to a lack of knowledge of the habits of bees. There is a division of labor among the honey-fetching bees, the duty of those first issuing from the hive being to seek out honey and not to fetch it. After a certain hour all the bees are engaged in fetching and carrying, and none in hunting for fresh sources of honey, and hence, in selective experiments of this sort, quite different results may be obtained according to the hour of the day fixed for the experiment. The author's own experiments lead to the conclusion that the bees are not influenced by color in their search for honey.

A CANDY FOR FEEDING.

Secure a high grade of granulated sugar. Dissolve the sugar in boiling water, put in as little water as possible, but enough to dissolve the sugar thoroughly and make a thick syrup. This syrup should be boiled, being very careful not to let it burn, as burnt sugar is injurious to bees. Boil the syrup until it will harden and mould into a small cake. By dropping a little of the hot syrup in cold water one can easily tell when it has boiled enough. When the syrup solidifies quickly in the cold water, then proceed to mould it into cakes weighing from 5 to 8 pounds each. This can be done by pouring the syrup into a bread-pan or something of that kind. A cake of sugar that is 5 inches wide and 7 or 8 inches long is about the proper shape for use for winter. The cake should be at least 1½ inches thick; 2 inches would probably be better.

As soon as the weather turns cold and the bees have clustered, carefully remove the honey-board or hive-cover, and lay this cake of sugar directly over the cluster of bees. It is better to put a few short sticks, say ½ inch square, on the frames crosswise before the sugar is put on, and then lay the sugar on the sticks directly over the cluster. Now spread a piece of cloth over the top of the hive and sugar, so that it will fit down snugly all around the sides—a piece of old gunny-sac is very good for this purpose. After the cloth is on this may be covered with several thicknesses of newspaper, or, if thought best, the super can be left on and this filled up with dry leaves or the chaff from oat-straw. After the hive is prepared in this way shut it up and cover it if possible with a store-box or otherwise.—*American Bee Journal.*

A SIMPLE, YET DESIRABLE, ENTRANCE STOPPER.

The apiary was located some four or five blocks from my home, as there was not room near the latter, hence the bees had to be brought home in order to put them in the seller under the house. In bringing them home the covers and bottom boards were fastened on with what are called crate-staples—double pointed tacks in which the points are about an inch and a half apart. One point is driven into the bottom-board, at one corner of the hive, and the other point into the side of the hive. Each corner of the hive, or bottom-board, is served the same. The staples at the front end of the hive are made to slant in one direction, and those at the back end in the opposite direction, hence they act as braces, acting one against the other, and prevent the bottom board from slipping in either direction. Before the cover was fastened down, a piece of rag carpet was spread over the frames. The entrance was closed with wire cloth, and that was all of the ventilation that was given. By the way, it may be worth while to describe how this wire cloth entrance-stopper was made and used, as it was very easily and quickly put in place, or removed. Cut a

piece of wire cloth two inches wide, and as long as the entrance is wide. Fold or bend it along the middle of the long way until, in looking at the end, it has the shape of the letter "V," or possibly the letter "U." Introduce the folded edge into the entrance, and crowd the wire cloth back into the entrance until the outer edges are nearly or quite even, or "flush" with the front of the hive. The elasticity or "spring" of the wire keeps it in place, yet it can be very easily and quickly pulled out with the points of the finger and thumb. This method of closing the entrance might not be sufficiently secure for shipping bees long distances by express, but for short distances, where under the supervision of the owner, it is all right.—*Beekeeper's Review.*

PLINY ON ALFALFA.

(From Wallace's Farmer.)

Governor Hoard, of Hoard's Dairyman, has of late been brushing up his Latin and came across some instructions given by Pliny, written about the middle of the first century before Christ, which our readers, whether they grow Alfalfa or not, will find rather interesting.

"Lucerne is by nature an exotic to Greece even, it having been first introduced into that country from Media, at the time of the Persion wars with King Darius; still it deserves to be mentioned among the very first of these productions.

"So superior are its qualites, that a single sowing will last more than thirty years.

"It resembles, trefoil in appearance, but the stalks and leaves are articulated.

"The longer it grows in the stalk, the narrower is the leaf. Amphilochus devoted a whole book to this subject and the Cytisus.

"The ground in which it is sown being first cleaned and cleared of stones, is turned up in the autumn after which it is ploughed and harrowed. Itis then harrowed a second and third time, at intervals of five days; after which manure is laid upon it. This seed requires a soil that is dry but full of nutriment, or else a well watered one. After the ground as been thus prepared, the seed is put in in the month of May, for if sown earlier, it is in danger from the frosts. It is necessary to sow the seeds very thick, so that all the ground may be occupied, and no room left for weeds to shoot up in the intervals; a result which may be secured by sowing twenty modii (nearly forty English gallons) to the jugerum (0.622 acres.)

"The seed must be stirred at once with a rake, to prevent the sun from scorching it, and should be covered over with earth as speedily as possible.

"If the soil is naturally damp or weedy the Lucerne will be over-powered, and the spot degenerate into an ordinary pasture; it is necessary therefore, directly the crop is an inch in height, to disengage it from all weeds by hand, in preference to the weeding hook.

"It is cut when it is just beginning to flower, and this is repeated as often as it throws out new blossoms, which happens mostly six times in the year, and four at the very least. Care should be taken to prevent it from running to seed, as it is much more valuable as fodder up to the third year. It should be hoed in the spring and cleared of all other plants; and in the third year the surface should be well worked with the weeding hook. By adopting the method this weeds will be effectually destroyed, though without detriment to the Lucerne, in consequence of the depth of its roots.

"If the weeds should happen to get ahead of it, the only remedy is to turn it up repeatedly with the plough until the roots of the weeds are thoroughly destroyed.

"The fodder should never be given to cattle to satiety, otherwise it may be necessary to let blood; it is best, too, used while green. When dry it becomes tough and ligneous, and falls away at last into thin, useless dust."

It will be noticed in the above that even our most advanced alfalfa growers

at the experiment stations have not made very much improvement on the old method. Those who attempt to follow Pliny's directions will need to substitute the disk for the hoe and the mower for the weeding hook. There is after all not very much, at most, new under the sun.

CORRESPONDENCE.

C. A. C., The Bear, Moringa.—I have given up the beekeeping industry and taken up mining. Wishing you and your valuable paper every success, also the compliments of the season.

E. G., Violet Town, Vic.—Honey hard to produce and hard to sell. Had most of my bees washed away with a river flood, and some kind friends or neighbours rob what I have left as soon as they have anything to rob.

H. W., Rockhampton.—I am pleased to say we have had a fairly good season for honey, and things are looking well for the coming season as we have had splendid rains this last two months, which, of course, is almost a guarantee for a good honey flow. Kindly continue forwarding Bee Bulletin as I would not care to be without it. Wishing you every success.

G. F., Warwick, Queensland.--A report on the probable yield of honey this season would be of value to beekeepers. We hear conflicting accounts as to yield, and prices are still too low. Losses in this district were very severe, but building up has been successful, and my own yield will amount to at least half a crop as compared with two previous seasons.

J. W. R., Fremantle, W. A.—Thank you for sending the A.B.B. along each month; it is an interesting little book. I saw in your paper a long while ago the correct size a solar extractor (wax) should be. You mentioned it should not be less than a certain size (I forget now the size). I am going to buy or make one. Do you mind giving me any hints about one? Another question I want to worry you with is: Do you remember having written or read in any other paper an article on moving bees to another location. I am removing my private residence shortly, and I would like you to put me on any hints you may have written before (I have some back numbers of your paper) on the subject. I think the best time to remove bees would be in the winter months, when the bees would be clustered and no honey about. I had an experience in moving bees once and have not forgotten it, and do not want a similar experience. I bought thirty hives from a man some distance from where I lived. It was hot weather, month of January. I closed the entrance of each hive with gauze and fixed lids and bottom boards from shifting. I removed them during the night to my place, put them in position and left them. Now for the mistake. I was a beginner, he posed as a professional. This fellow told me not to take off the gauze until the following night. They (the bees) remained cooped up in the hot sun until about 12 o,clock, when I thought I would chance it and let them out. Well, to make it short, I lost 17 hives straight off, and the rest were wrecks of colonies. Combs melted and bees dead, it was a sight. I have my suspicions about that man's advice. Now all my bees are in grand condition and doing well, so I want advice from the best source obtainable. Hoping you are well, and doing alright.

[The date to which subscriptions are paid are on the wrappers. The length of my solar extractor is about 4 feet, the width about 2 ft. 6ins. Don't let it be too deep or the sun's heat will be lessened. If you have command of a steam pipe a chamber heated by such underneath the tray would be a great help on cold days or when the sun is not shining. *Re* shifting the bees, *don't do it in hot weather*, and have very little honey on when shifting. Your experience must certainly have given you a good lesson. If you have to shift in hot weather take combs of honey out if you put them back again; and by all

means let them loose as soon after they are at their destination as possible. I have had several shiftings myself. There were 14 colonies shifted 12 miles; 40 by train, 115 miles; and 200 2 and 4 miles, and not lost a single swarm on each occasion.—Ed.]

P. S., Sandon, Via Newstead, Vic.—P. F. C. asks a question re Cape Weed causing bee paralysis. I have never noticed any ill effects from bees gathering stores (honey and pollen) from Cape Weed. W. P. F. C. does not state if he has been introducing any fresh blood into his apiary; he states that his apiary has been clear of paralysis for eight years. I know that some strains of Italian bees are famous for paralysis (read A.B.B., Nov. number, 1903, page 180.) E. J. Atchley says: I have had hundreds of nuclei take paralysis when Italian bees were used. That is enough to close the port against the importation of that strain of Italian bees. I have never had nuclei troubled with paralysis though I have had much to do with paralysis affecting strong colonies, any colony under normal strength seemed to pass unaffected. Dr Dzierzon in his booklet the Dzcerzon Theory he noticed diseased bees which he called glossy soot backs he says they disappear during winter. No doubt that was a form of bee paralysis. My opinion is weed out all affected queens, breed from colonies not affected and try to work into a paralysis resisting strain of Italian bees. No doubt in time this trouble will be overcome. Only a few years ago foul brood was considered a terrible malady, most contageous. With the aid of Messrs. D. A. Jones and McEvoy treatments for the disease we have got under control. Some years ago the fruit growers thought that the apple tree was to pass away, the American wooly blight had such a hold on the apple tree; the northern spy apple was seen to be proof against the blight. The trouble was then under control of the orchadist. I feel certain that paralysis will e'er long pass away: we already know that it is bacilus depilus, and once the root of the trouble is discovered half the battle is won. The bacillus of foul brood conceals itself in the honey of the affected colonies once the bees are deprived of that, and made to use up the honey in their honey sacks, the trouble is over. But with bacillus depilis it is in the adult bee. Now comes the trouble. How are we to get it out of the bee? I dont think drugs will do it? Some apiarists think that queens from apiaries that have been ravaged with the pest would be the best, as they consider it a survival of the fittest! The survival of the fittest is natures way, but nature can be aided by man. Look to small pox! By vaccination it can be kept in check. The paralysis-resisting strain of Italian bees is what I am looking forward to for the best results, and hope that it will e'er long be a success.

J. F., Milton.—I am thinking of starting an apiary somewhere in the lucerne districts if I can get a suitable spot. Acreage need only be small. If you know of any place in your district I should be glad to hear.

[As a rule a lucerne district is not a good honey one, as the farmers cut it down directly it blooms. It is also a thin honey.—Ed.]

CAPPINGS.

Honey Drops.--Blend ⅓ cup of extracted honey or rich maple syrup, 1 teaspoon butter, 1 egg, well beaten, ⅔ cup of flour, sifted with ½ a teaspoon of baking powder and a pinch of salt. Drop by teaspoons on a tin, and bake in a quick oven. These proportions will make about 20 cakes. Icing may be of maple or fondant.—Good Housekeeping.

Gleanings says:—Wax, if present in in slumgum, can be detected in the following very simple manner: After the refuse has been treated, and is supposed to be clean, take a small handful of it and squeeze it while hot as it can be borne. If there is the least particle of wax left in the portion so pressed, it will show in the fine grooving of the skin of the palm and between the fingers

Bleaching of wax has been more successfully accomplished by Prof. Shutt of the Ontario Agricultural College at Ottawa Canada, by the use of one per cent. of nitric acid, than by any other chemical. One per cent. is sufficient, while too large a proportion of acid destroys or injures the wax.—*Exchange.*

I have combs that are 30 years old or more; and I can not see that the bees reared in them are any smaller than those reared in new combs. I remember that one of the patient foreign investigators took the trouble to measure the contents of cells in combs very old and new, by actually filling them with liquid, and he found that the old cells contained just as much liquid as the new. The idea that the cells become smaller with age has been taught faithfully for many years, and there are still some who advise that combs be renewed every four or five years, but I think the idea is based only upon theory. Without any careful examination one might easily conclude that as something more than was there before is left in the cell every time a young bee is reared in it, the cell must necessarily become smaller. But examine carefully and you'll find that the diameter of the cell at its mouth remains the same. You will probably find that the bees gnaw out some of the cocoons at the sides, leaving it at the bottom. That, of course, will make the cell shallower, but to make up for it the bees add fresh wax to the cell wall at the mouth of the cell. If they add to the cell-wall at the mouth that ought to increase the thickness of the comb, oughtn't it? Well, that's exactly what it does. Measure the thickness of a piece of worker-comb from which the first batch of brood has just emerged, and you will find it measures $\frac{7}{8}$ of an inch. Take one old enough and it will be fully an inch thick, and you will find the septum $\frac{1}{8}$ of an inch thick. The only practical danger is that if the combs get to be old enough the spacing from centre to centre may become too small; in other words, the space between two combs becomes smaller. Don't worry about good, straight combs being hurt with age.—Dr. Miller in *American Bee Journal.*

A queen that begins laying too late is just as detrimental to success as the one that exhausts herself too early. A colony with a hive full of brood to nurse when the heavy flow is on will not store the surplus that will be stored by the one that has its bees already reared, and of the right age, when the main flow opens. There must be a lot of bees of the right age, and the right proportion between the bees and the brood when the honey-flow comes, or there will be no harvest gathered. Study your location, your honey resources, and learn how to so manage as to bring upon the stage of action a large field force of workers at just the right time, then success will crown your efforts. —*Exchange.*

Identifying Robbers.—Agitation usually betrays the robbers, but it is easy to make certain whether the suspects are the culprits. A penny tin pepper box filled with pea-flower used upon all bees passing the flight board for 15 seconds, will, within one minute, settle the question. It is well to have a second pepper box filled with white flour, in case the verdict at the first trial should prove to be "not guilty."—*Exchange.*

New Bee Paper for Russia.—While the morning newspapers convey the impression that the bulk of the inhabitants of Revel are either weltering in their blood on the streets, or are being treated in hospital, it is refreshing to receive a letter from that place, notifying the starting of a new periodical to be issued monthly in the interests of beekeeping. The title selected is "Wsjeobschtsch, Ptschelowod und Sadowod." This is not the first beekeeping paper started in the —shall we say "Tartar"—empire. It has, among others, "Pchelovodniy Musey," "Obozrenie Pchelovodstva," and "Mezelane," the last being also published in Revel.—*Exchange.*

It is easy enough to show how a good living can be made out of bees on paper, but that does not always come out in practice, unless you are willing to work sixteen hours a day in the busy season, and keep on pegging away steadily the rest of the year. My experience is that in beekeeping, as in gardening, there is always a job wants doing; anyway, that is how I find it. The main thing to bear in mind should be forethought and looking ahead. He must also be methodical in all his work, and adopt the motto of 'A place for everything and everything in its place.'—*Exchange.*

We must here repeat the opinion, so often expressed in reply to similar queries, viz. that honey production alone can not be depended upon for a living in the country. Moreover it is almost cruelly misleading for anyone to give as an example to inexperienced persons the weight of honey secured from a well managed apairy in the best seasons, seeing we are not favoured with even "good" seasons every year, and not seldom the crop requires backing up by other branches of apicultural work to make it pay even fairly well.

In sending queens away it is recommended to avoid using young bees that have not yet taken flight, because they consume more honey than the old ones, and are therefore more likely to suffer from diarrhea in a long trip. Bees that have been to the fields are just right. They have become mature, and it takes little to sustain them.

Most old bee books devote pages to the subject of wax moths, and set the moth down as one of the bees' worst enemies. The scrupulous cleanliness enjoined by many of the writers was specially designed to clear off these pests. At times they burned lights near the hives to attract the insects to the glare, and moderns have imitated them by lighting lamps on a still, quiet evening in the centre of the bee garden, and attracting the moths to the flame, when great numbers will be found drowned if a vessel of oil surrounds the lamp. The fumes of carbolic acid in a confined space will kill both larvæ and eggs, but the odour clings to the combs, so that they cannot be returned to the hive for some time. Drowning is another method resorted to at times. Place the combs in water until every grub is certain to be killed. Of course, combs should be carefully dried after. A suspected empty body-box should be subjected to the powerful fumes of burning sulphur before using again. If tainted body-boxes are painted with carbolic, or a strong distemper, and left exposed until the odour evaporates, they may be again used safely.

In seeking a solution of the difficulty of honey distribution, the *Irish Bee Journal* says: —The character of the distributive agencies in Great Britain must be taken into account. Of late years the retail trade of the great centres of population has been more and more concentred in huge organisations, with a growing tendency to crush out the small man. Whiteley's, Harrod's, Lipton's, and Spiers and Pond's are typical examples. With their general social and economic effect the beekeeper, as a beekeeper, is not concerned. But he is very much concerned with the relation they bear to Irish beekeeping. Being enormous sellers, it follows they are also enormous buyers, and refuse to handle honey in small lots. In addition, they require continuity of supply, glazing, accurate grading and classification, and a reasonable promptitude in the execution of orders. Put plainly, they will rarely buy less than 500 sections; they want a supply in March as well as in September; they want them graded according to weight, classed as heather or light honey, glazed, and in ordering may stipulate for immediate delivery. There can be no question that these are conditions that few, if any, Irish beekeepers are able to meet.

C. P. Dadant, speaking in the *American Bee Journal* on wintering bees in solid combs of honey, says:—In a state of Nature no colony will have its brood-combs entirely filled—at least, this is my experience—unless the queen has failed in her laying during the latter part of the honey crop. Besides, the bees will always keep the space empty in the centre, if they keep any empty space at all. When we open a hive at the end of the last harvest we find the outside combs fuller than the others. If the bees enjoyed having the combs on which they cluster entirely filled, they would fill these from the outer ones as fast as the brood hatches. But if the old queen has ceased laying, and a young one has been reared, they will, if everything else is full, fill up the honey cells as fast as the brood hatches. A hive thus filled is not in a good condition for winter, as there is no room for brood. I have invariably found that such colonies will dwindle down and die out. A little space given to a young queen before the season is too far advanced will induce laying, and the colony will go into winter in better shape. I have never seen bees winter well with a hive entirely filled by them from the fields, though I am free to acknowledge that it may be mainly from their having failed to breed as late as they should have done; but I am yet of the opinion that full combs are not desirable. Whenever I have supplied a needy colony with combs full to the bottom, I have found that they avoided clustering upon them, and showed their preference for combs in which there was a fairly good space of dry comb under the honey on which to cluster. A very powerful colony will winter anyhow if it has enough food, but a very powerful colony will never have its combs entirely filled, for it breeds to the end of the honey crop. I saw one instance, years ago, where a colony filled every cell and then dwindled to nothing before the winter was fairly begun.

Although the bees must have honey in easy reach, a colony will not winter well on combs that are entirely filled. A colony in an ideal position has about half of each comb dry (the lower half), and the bees occupy this part. When you open a hive in the latter part of summer, and the bees come to the entrance at once, but do not show at the tops of the combs, you may be sure that they are in good shape for winter. Yet there are populous colonies that cover every comb from top to bottom, and have a plentiful supply of honey. These are in exceptional circumstances. But a colony that does not occupy at least five spaces between combs may usually be considered as in danger of suffering if the winter is severe.

It has been noticed by very many, and many times, that if the bees are allowed to get a start of the queen so as to make any general storing of honey in the brood chamber before entering the sections, during the first of the honey harvest, such a colony will not give the best results in section honey.

In France L'Abbe Butet tests for the presence of ceresin in wax by putting a little of the suspected wax, previously melted, in a boiling solution of soda. The wax will form a beautiful white soap with the soda, while the ceresin will remain intact. Mr. Hommell suggests that a test with benzine might often be useful. The wax will dissolve entirely in the benzine, and the dissolution would be perfectly clear, while a large number of the possible adulterants will either not dissolve or give a clouded solution.

HOW BEES OBTAINED WAX 100 YEARS AGO.—The following is from a newspaper of November 24th, 1805:—"Mr. W. Noble, paper-maker, at Garvall Mill, has a bee hive which swarmed in June, in which the bees were working busily carrying in wax so late as on the afternoon of the 16th inst."

During one twelve months in 1904-5 California exported:—To the Atlantic United States were shipped 544 cases; to Europe, 1464; to Mexico, 1; to Central America, 4; to South America, 21; to Hawaii, 56; to the Pacific Islands (such as Tahiti, Samoa, etc.), 5; to the Phillipines, 334: to Japan, 17; to China, 95; to the Far East, 32; to Australasia, 1; to the British Possessions, 166. In all a total of 2739 cases, against some 2932 cases during the same period of 1903-4. Of beeswax the statistics show that some 6644 pounds went to the Atlantic United States, and some 15,297 pounds to Europe; the balance of the 25,490 pounds (year's total report) being scattered between Central America and the Philipines.

It has been said of Cuba that the bee would receive all the attention there it does now, even if the honey were given away, as the wax is the thing sought for. It was so much used in the arts and sciences, to say nothing of its great use in religious ceremonies, that it will probably always command a high and still higher price.