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GLEANINGS IN BEE CULTURE

FEBRUARY, 1919

EDITORIAL

FROM TIME TO TIME, there have come suggestions to Gleanings that the beekeepers of America



**If We Can
Do It Well.**

might well set about raising a fund to relieve the

sufferings and losses of the beekeepers in the devastated war regions of Europe. These suggestions have come of kind hearts and broad sympathies. Very many beekeepers in America doubtless would be glad to contribute, for as much as has already been given by America to relieve the awful suffering of Europe, more needs to be given, and many of our beekeeping brothers across the Atlantic are sorely in need of help.

May we observe that if a beekeepers' fund is to be raised in America for the relief of beekeeping sufferers in Europe, it should be a generous sum. The beekeepers who have met with war disaster in Belgium, France, and the Balkans must number many thousands. An American beekeepers' war-relief fund should accordingly foot up to many thousands, if any substantial relief is to be afforded. To accomplish this requires organization and large effort. The appeal will have to be wide and thoro. A considerable executive force will need to be organized in America. On the other side of the Atlantic a trustworthy distributing agency must be found or provided. It is a big work and needs to be done quickly. Yet, so far as any suggestion has reached us, it has consisted only of suggestion and enthusiastic approval of the idea, without offering any practical plan of procedure on which the big work may be got under way. Merely approving and asking what is to be done about it, doesn't get anything done nor does it give evidence of comprehending the size of the job.

Gleanings does approve of any practical plan to aid our brother beekeepers in Europe. But, if it is to be done, it should be well done, for otherwise it would prove a discredit to us as American beekeepers. Therefore we suggest that the National Beekeepers' Association consider the whole subject at the annual meeting to be held within a few days. If, after considering all factors in the case and all other relief agencies now at work, it is thought best to make a distinct nation-wide appeal to the beekeepers to give to this beekeepers' cause, it

seems to us the appeal could come from no other source so appropriately as from the National organization.

From a letter just received from Dr. E. F. Phillips of Washington, we learn that Mr. Graham-Burt, Mission Anglo-Americaine de la Societe des Amis, 53 Rue de Rivoli, Paris, France, is interested in this work. We suggested to the officers of the National Beekeepers' Association to get in touch with Mr. Graham-Burt in advance of the meeting to be held Feb. 18 to 20 in Chicago, learn what aid is needed by our suffering beekeeper brothers "over there," how it can best be given, and how it can be most economically and surely distributed.

We are for helping our beekeeper brothers in Europe and doing it as a body of beekeeping brothers in America—if it can best be done this way and can be well and creditably done. Otherwise, we are not. Our sincere hope is that it can be creditably done.



THE ARTICLES on bees and fire blight by Prof. Troop and John H. Lovell printed in



**Combat This
Hurtful
Fallacy.**

this and the January issues should be carefully read by beekeepers in order that the

facts and reasoning submitted in defense of the bees may be clearly kept in mind. Altho the bees are among the best and most valuable friends of the fruit-growers, yet many of them don't know it—in fact, are hostile to bees and beekeepers. Beekeepers should be able to dispel this hostility.



THE CALIFORNIA Honey Producers' Co-operative Exchange, with headquarters at



**The California
Honey
Exchange.**

Los Angeles, of which mention has already been made in Gleanings, now has 700 members

comprising an aggregate of over 100,000 colonies. Each member pays in at the rate of 50 cents per colony, a part of which is turned in as actual cash and the balance in the form of a note to be liquidated at a future time. Every member is pledged to sell his honey thru the Exchange, thus in-

sureing a uniform and a fair price; he is also entitled to purchase his supplies at a reduced rate made to members only, and of any make or standard that he may select. The policy of the Exchange is to treat all makers of supplies with an equal consideration—price and quality considered.

In brief, the California Honey Producers' Co-operative Exchange is a purely business organization designed to get for its members the very best possible prices for their honey and the lowest figures (quality considered) for their supplies. In consideration of the low price the members are expected to pay cash.

The various California fruit exchanges have been a great success, and there is no reason why the new honey exchange should not be equally so under the advice and direction of General Manager Justice, who has had a large experience in a business way before he became manager of the present organization.

There is still another co-operative organization among beekeepers, known as the Southern California Beekeepers' Association, also with headquarters at Los Angeles, with E. B. Shaffner as president. While its name would indicate that it is confined to the southern part of the State, it probably has a wider scope. Both organizations, we are informed, have the same objects in view—better prices for the honey sold and lower prices for beekeepers' supplies.



DURING THE past year we have had a number of complaints against some of our



**Complaints
Against
Certain
Advertisers.**

advertisers because of their failure to deliver bees or queens or both. In most cases the matters at issue have been adjusted. Two of our advertisers, however, were unable to return either the money or the bees in all cases. We have had numerous complaints against one of these bee dealers for failure to deliver bees or queens, and especially his failure to answer letters. We took the matter up with him last summer, and told him there was no excuse for not answering a letter, and asked why he did not fill his orders. He replied by saying that he was literally swamped with orders, was oversold on bees, and with the money he had received he had bought more bees and queens. He admitted he was behind in his correspondence, but was working overtime to catch up. In the meantime some of his customers canceled their orders, and asked for a return of their money. This he was unable to do, as he had spent it for bees, but said he would furnish bees next spring or this fall.

Another of our advertisers was likewise swamped with orders, had bought more bees with the money that had been sent him, and, as the season was too far advanced, his cus-

tomers either canceled their orders, demanding return of their money, or refused to accept the shipment of bees. As the money was tied up in his business this man was unable to return it; but he wrote us that he would take care of all his customers who did not receive their stock, and that he would not receive any new orders until all the old ones had been filled. He said he regretted very much that he was unable to return the money or take care of his customers promptly last season. Like the other one, he says that not one of his customers will lose a penny, if they will give him a chance to make good next spring.

Both men filled large numbers of orders; and one of them in particular made some large shipments of bees; but owing to the delays on the part of the express companies, on account of war conditions, a number of shipments covering several hundred pounds of bees went thru in very bad order. In some cases all the bees were dead on arrival. The failure of the express companies, said this man, put him in bad shape to fill his orders. In a large number of cases he had to make duplicate shipments, and sometimes even these arrived dead. This, while showing good faith on his part, only left him deeper in the hole.

Advice is cheap; but it is very plain that no queen-breeder nor bee-breeder should accept orders beyond his capacity to fill. He should in all cases make his prices high enough to cover a percentage for replacement. When the whole South could not fill half its orders for bees there was no reason why any one should make his prices too low.

The late W. Z. Hutchinson, when he was raising queens extensively some 30 years ago, said he had made it a rule never to cash a postal order nor a check until the queens had been sent, and a reasonable time had elapsed so that he could determine whether it would be necessary to make a replacement. Said he, "I do not believe the money is mine until I am absolutely sure that my customer has received his money's worth." That is a pretty good rule.

Incidentally we might mention that there are others against whom complaints have been made, and, so far as we know, adjustments have been made or are pending in every case.

As in the past so we will in the future refuse to accept advertising from those dealers in bees and queens who neglectfully or fraudulently refuse to carry on a strictly honest business. We shall also require all new advertisers to give us a report of the number of colonies they have, whether they have bee disease, and whether there are black bees in their vicinity; and, if so, how near. New advertisers will also be required to give the names of several bankers or other reliable business men in their vicinity who will certify to the fact that the parties in question are not only honest, but are capable of doing business in a business way and will do so.

NOTES FROM CALIFORNIA

Great Bee Ranges Still Unoccupied. Big Attendance at Beekeepers' Courses. Farmerettes in the Apiary

By E. R. Root

CALIFORNIA, the greatest bee and honey State in the Union, with prospects of further developments beyond that of any other commonwealth, is where I shall be making my home for the next two months. The beautiful climate, the scenery that is the equal of any in the world, and last, but not least, the wonderful beekeeping possibilities, all hold out an alluring hand of welcome to an Ohio editor who, they say, is needing rest and a change.

Some Vast Bee Ranges.

When I first came here I intended to stay only a month; but when I heard of the vast bee-ranges up in the mountains where there are no bees, and of other ranges from which carloads of honey are coming, I felt that I must stay long enough to investigate the first-mentioned ranges. It should be stated in all fairness that many and most of them are out of reach, for the reason that there are no roads to them as yet. These ranges of sage and wild buckwheat will never be good for anything but bees; and as soon as they are made available by roads there will be an enormous increase in the production of honey. There is too, so I am told, territory now available that is not occupied.

California's Great Beekeeping Possibilities.

Right here let me say that there is terri-

tory here that is overstocked. There is not a particle of need of this, and there should be a law to stop the encroachments of poachers. I shall stay here long enough to find where there is room for everybody who would like to come out here for his health and the fun of keeping bees. But it is only fair to say that a tenderfoot may get only expensive experience (of the kind that Josh Billings tells about) without even the fun or funds, for it is not all gold out here. But so great are the possibilities for bees that the Governments of the United States and of the State of California jointly arranged last November and December for a series of short courses in beekeeping in the State, taking in a series of localities. In spite of the influenza, which was bad, the courses, with one exception, were well attended. Beekeepers everywhere have declared that they were of great value; and so strong has been the request that they be repeated this coming winter that they will undoubtedly be given again, beginning at Riverside, which, unfortunately, had a rigid influenza ban when the courses were held there this year.

Successful Beekeepers' Study Courses.

The remarkable thing is that the beekeepers—not amateurs but pioneers—sat thru the long sessions night and day for a

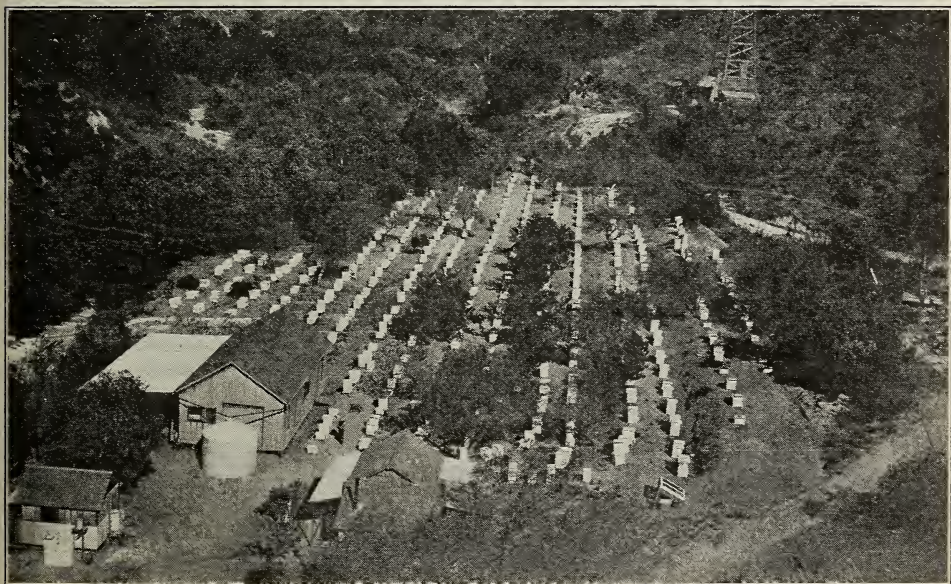


Fig. 1.—The celebrated Mendleson apiary at Piru, Calif. This is acknowledged to be the prettiest and most orderly kept apiary in all California. Its owner is very methodical and orderly in his habits. Everything must be neat and clean. This is one other reason why he prefers farmerette beekeepers.

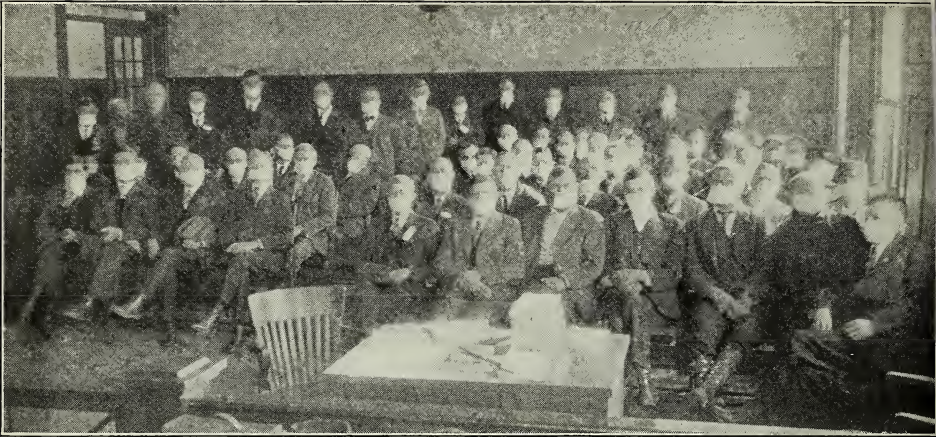


Fig. 2.—This is not a gang of highway robbers but a meeting of beekeepers wearing "flu" masks. At Visalia, Calif., where there was held a short course in beekeeping, the influenza was so bad that masks were required to be worn indoors where there was any crowd. In one respect this was one of the most remarkable gatherings of beekeepers ever held in the history of beekeeping. The attendance at this meeting would have been much larger had it not been for the "flu."

whole week at each of the places, giving the closest of attention. Dr. Phillips and his staff of assistants gave particular consideration to bee diseases—how to distinguish one brood disease from another; the potency of education rather than police powers to hold them in control; the need of strong colonies; what might be done in se-

curing crops of orange honey at the approach of the flow; the value of protection in a climate where during nights and mornings in the winter the temperature drops almost and sometimes quite to the freezing-point, and then runs up to 70 degrees during the middle hours of the day.

On this last point, M. H. Mendleson, a



Fig. 3.—Farmerette beekeepers who worked for M. H. Mendleson of Ventura, Calif., last season, rearing queens and extracting. Mr. Mendleson—who ought to know because he is a bachelor—says this kind of help is the best he ever had. They are better for queen work and cleaner in uncapping and extracting than any men that he ever had. Their dress is sane and safe.

pioneer beekeeper of the State, said that he had proved to his own satisfaction that it paid, and paid well, to give bees protection. It saves brood and saves stores, which, at 25 cents per pound, is no small item.

A Big Beekeeper and His Work.

Speaking of Mendleson, he is one of the beekeepers whom I helped in his extracting in 1901, and who proved to me that the big extractors should be run with an engine and not by hand power. After he had "worked" me all day in turning the crank he gave the boys the tip to flood me with combs—and they did.

Let me now introduce you to his farmerette beekeepers, who, he says, are better than boys or men for all beework except taking combs from the hives and lifting and toting supers to the extracting-house. These farmerettes include one dressmaker, one schoolteacher, a nurse, and the mother of a boy in France. The suit without a blouse, says one of the "ettes," is a Peggy Jane. The other suits with a blouse are one-piece overalls gathered at the shoe-tops. Farmerettes are so common in the West that they do not attract attention. The girls go in these suits from yard to yard.

Mr. Mendleson has some 800 colonies, and one year produced over 100 tons of honey.



Fig. 4.—The beekeepers who took the beekeeping short course at San Diego, Cal., for the week of Nov. 23 to 30. At the close of one of the sessions they came out in front of the building where the picture was taken.

In addition to producing honey he is now raising queens; and beekeepers out here tell me that the farmerette brand are of the very best—both the kind that the beekeeper wants to cook his meals and the kind that he puts in his hives. Of the former, Mendleson says he positively has none to spare. He may need more, as some have swarmed out already.



Fig. 5.—This picture shows the staff of speakers (excepting Prof. Coleman of the University of California) at the short beekeeping courses given at various places in California. Beginning on the left, the speakers are Geo. S. Demuth and Dr. E. F. Phillips of the Bureau of Entomology; Frank C. Pellett of the American Bee Journal; Jay Smith, special Government field agent in beekeeping for California; E. R. Root of this journal; and M. H. Mendleson of Ventura, Calif. Just as the camera was clicking Jay Smith made a remark causing a smile that wouldn't come off from the face of Mr. Root. The Jay, as he was called, had a habit of bubbling over now and then.

A BOUT a score of years ago bees were accused of being a serious factor in the spread of fire blight. Altho this charge was based on

wholly insufficient observation and experiment, it was generally accepted, doubtless, as Merrill observes, because bees are so abundant in orchards at blooming time. By tending to check the growth of bee culture this belief has been injurious to both beekeepers and fruit-growers. But during the last half-dozen years evidence has rapidly accumulated, which shows that blight is spread by other agencies and fully exonerates the honeybee.

The Nature of Fire Blight.

Fire blight is a bacterial disease, which attacks the twigs and ends of the branches of apple and pear trees and blights the leaves and flowers. If not checked it may extend to the entire branch, or may finally even kill the tree. Usually the infections die out in a few weeks; but, here and there, at the point where the dead limb joins the living wood, a few survive the winter. In the spring they resume their activity and exude a gummy substance filled with germs. They are called "hold-over cankers." From these cankers the germs are widely disseminated thru the orchard, and a new outbreak of blight follows. The question at once arises, what agencies act as carriers of the germs. It is certain that the honeybee is not one of them, for it restricts its visits entirely to the bloom of the trees. There is not a single instance on record of a bee visiting the exuding cankers. Nor is it claimed that they do. During three years' close observation at blooming time W. A. Ruth did not observe a single case of an insect visiting the exuding cankers. It has been suggested that ants, which roam everywhere, may carry the blight bacteria to plant lice feeding on the leaves; but this supposition does not appear to be based on direct observation. It is probable that the wind, not insects, as will be shown later, is the chief agent in their distribution.

When Outbreaks Occur.

There may be repeated outbreaks of fire blight in April, May, June, July, and August; but the chief months for blight are May, June, and July. Thus this disease is by no means confined to the blooming time of the apple and pear. Clearly the appearance of fire blight, when there is no bloom on the trees, can not be attributed to the honeybee, for it can prove an alibi; it is busy elsewhere. Yet these outbreaks are as severe as, or more so than those which occur in blooming time.

Leaf Hoppers Important Carriers.

In a paper on the control of fire blight

THE BEES ARE NOT GUILTY

Discovery of the True Agencies of Spreading Fire Blight and the Exoneration of the Honeybee

By John H. Lovell

hoppers carried the infection from blighted leaves to perfectly healthy shoots of the wild crab apple. After five years' experience Burrill believes that in the orchards and nurseries of Wisconsin leaf hoppers (*Empoasca mali*) are the most important carriers of blight during July and August.

Plant Lice Chief Distributors.

In Kansas, according to J. H. Merrill, (Bee Inspector's Report, Iowa, 1916, page 33) plant lice, which are the most common and widespread sucking insects in Kansas orchards, have been found to be the chief distributors of blight bacteria. Aphids, which had been permitted to crawl thru pure cultures of fire blight, were then placed on terminal twigs and enclosed in cheesecloth to exclude all other insects. These twigs blighted and were the only ones that did. Furthermore, it has been observed that in seasons during which plant lice are most abundant, fire blight is also most prevalent. In 1913 in Kansas orchards they were very common and so was fire blight; but in orchards in which they were controlled there was little blight. In 1914 there were few aphids and little blight, and this reciprocal relation was again noticeable in 1915 and 1916. Merrill says that the amount of blight can be decreased by controlling the aphids. Stewart also observed that in apple nurseries fire-blight epidemics follow rapidly in the wake of aphid epidemics.

Sucking Insects Important Distributors.

In New York orchards in July, according to Stewart, the tarnished plant bug and several other sucking insects are important distributors of blight. Finally D. H. Jones has added to the list a beetle of the genus *Scolytus*, and on further observation many other insect carriers will doubtless be discovered. There is no lack of puncturing and biting insects in immense numbers, which, it is certain, are active in spreading fire blight.

Bees Never Puncture Leaves.

It will be noticed that all the insects mentioned in the two preceding paragraphs have mouth-parts, which can puncture or bite thru the epidermis of the leaf. In this way the germs are placed in the tender tissues, multiply rapidly and produce infection. "Insects," says Merrill, "with sucking mouth-parts are admirably suited to this purpose." Stewart and Leonard state that except for blossom blight the bacteria can not gain an entrance in the host tissue and produce infection except thru a wound or the punctures made by insects. Honey-

by A. C. Burrill, published in Phytopathology, Dec., 1915, there was described a series of experiments, which shows that aphids, or plant lice, and leaf

bees never puncture the leaves; indeed, under normal conditions they never visit them; nor do they puncture the flowers of the apple or pear, for the nectar is easily accessible on a flat disc. If, however, blight is chiefly distributed by the wind, the pricking in of the germs, altho a great advantage, is not an actual necessity.

An Alibi for Bees.

It is clear that all infection of the leaves and twigs must be due to other agencies than the honeybee, since the latter confines its visit strictly to the flowers. Furthermore, since bees visit the trees only during blooming time, it is only during about two weeks out of 14 or 15 that it can be accused of being a carrier of blossom blight. Let us now inquire if honeybees are responsible for the spread of blossom blight. As they do not visit the foliage they can not be the agency, which, in the first place, brings the blight to the bloom. In Kansas orchards, Merrill states, this is done by plant lice, which in large numbers enter the apple buds and suck their juices before they open, at the same time inoculating them with blight bacteria. Thus the flowers blight in the bud before bees begin their visits. Once the bloom is blighted it is no longer attractive to honeybees; for, if we remove the petals of a healthy pear blossom, bees will at once cease to visit it, altho they will continue to visit other flowers near by. Twenty-three pear blossoms received 24 visits from honeybees in half an hour; the writer then removed all the petals and in the half hour following there was not a single visit, altho the denuded blossoms contained nectar and the bees often visited other flowers near them. Thus bees might fly indefinitely between the uncontaminated blossoms without disseminating the blight. But it must be remembered that the bloom is visited by many insects besides bees, especially by flies and beetles which do not exhibit flower fidelity. As they alight on the leaves both in search of food and by chance, and will freely visit the blighted blossoms, they can not fail to spread the blight among the flowers. Incidentally it may be remarked that not all blighted pear blossoms are the result of fire blight. In the Hudson Valley, according to Dr. E. Porter Felt, the injury is caused by pear thrips. These little insects, which are about 1-20 of an inch long, appear on the trees as the buds start and seek shelter in the expanding flower buds, blasting the bloom, which presents a brown seared appearance.

Summary of Above Observations.

A brief summary of the above statements is as follows:

1. Fire blight appears both before and after pear and apple trees bloom, and in nursery plantations which have never bloomed. With such outbreaks the honeybee has no connection. 2. It has been shown experimentally that fire blight is spread by hosts of sucking and biting insects, such as plant lice, leaf hoppers, the

tarnished plant bug, and probably many flies and beetles which puncture or feed on leaves and flowers. 3. Since honeybees restrict their visits to flowers they do not carry blight from the foliage to the bloom. This is done in many instances by plant lice, which creep in and infest the buds before they expand; and also doubtless by many flies and beetles which fly freely back and forth between the leaves and the bloom. Honeybees will not visit blighted inconspicuous bloom, but flies will often do so. While honeybees may occasionally carry the germs, they are of so little importance compared with other distributors that their absence from orchards would probably not affect the prevalence of blight.

Pear Blight Wind Borne.

At this point the defense of the honeybee against the accusation of carrying fire blight rested up to Nov. 1, 1918. On this date there appeared in Science a paper by F. L. Stevens, W. A. Ruth, and C. S. Spooner of the University of Illinois, entitled "Pear Blight Wind Borne," which advanced new and revolutionary evidence in favor of bees. A brief abstract of this paper given largely in the words of the authors is as follows: Twelve-mesh wire-screen cylinders, 15 cm. in diameter and 30 cm. long were constructed to enclose parts of single branches. Some of the cylinders were slipped into closely fitting sleeves of fine bolting cloth. The ends of both kinds of cylinders were covered with canvas extending past the wire far enough to permit secure tying. The exposed wire of the first type of cylinder was painted with a mixture of tanglefoot and benzine. No insects were found in any of the cylinders except one which was accidentally permitted to dry, and in which two insects were found, but the shoot did not blight. The purpose of the following experiments was to discover whether infection was as common in the cylinders as in the open. Ten cylinders enclosed flowering wood. Flowers in two of the cages blighted. Forty cylinders, 20 of the bolting cloth and 20 of the tanglefoot type, enclosed terminal growth. Thirty per cent blighted, which was practically the same proportion as prevailed among the unenclosed terminal shoots, as was shown by a count of a thousand terminal shoots on these and adjacent trees of the same variety and age. Since insects did not obtain access to the shoots the blight bacteria must have been carried by the wind; and "insects were not even of primary importance as carriers." This conclusion was further supported by two facts: (1) there was a lack of insects in the orchard in sufficient numbers to account for the large amount of twig blight—aphids and leaf hoppers were entirely absent during the period of infection; (2) insects were entirely absent from the exuding cankers, where they might receive their initial contamination. During three years of close observation during blooming time not a single insect was seen to visit the cankers.



ANNE LESTER AND DADDY LOWE, BEEKEEPERS



By Grace Allen—Chapter I

THE Second Officers' Training Camp had bestowed its commissions, and the young men were leaving for home. Robert Lester, wearing his new captain's bars, and young Jack Lowe, proud and enthusiastic in his first lieutenant's uniform, sat together on the northbound train and talked over their plans. A fine friendship had sprung up between the two, and now Jack was urging the other to drop off at Springville to spend a day or two with him at the farm, before going on to his own city home.

"Can't do it, Jack," Robert replied, thanking him. "I'm not going to do a thing till Anne gets settled. You see when a girl hasn't anybody but her brother, and he's likely to get orders for France any day —"

"Of course," Jack agreed.

"I don't know what she'll do," Robert continued. "She's not the kind to do nothing. Mother died five years ago, when Anne was fifteen, but she kept the old servant and stepped right into being housekeeper for Father and me. Then when Father died, nearly two years ago, we just kept right on, we two, the same way, with old Maggie to do the work and Anne to boss things and keep them running smooth—and by Jove, she does make a home homey. But now — Well, she's talked about getting a job. But you know you couldn't imagine Anne in a regular job. Women do such things, of course, and Anne's as smart as a whip—but she's not that kind, somehow. She's different."

"Of course," Jack said again, vaguely. Then presently, "What does your sister seem to care most for, Bob?"

"Outdoors and books—says she wishes her family'd been farmers instead of bankers."

"Outdoors and books? Well, if that's not my Daddy!" Then suddenly Jack turned, with his face shining. "I've got it, Bob! Send her to live with my folks while we're both gone!"

Bob smiled. "Anne's not the kind you 'send,' Jack."

"Well, I bet she and Dad'd be regular pals. And she'd just love my Mother. And Mother'd love her, too. You see"—looking very young and embarrassed — "I'm all they've got, and it's going to be hard for them, too."

"But they're complete strangers, Jack," Bob protested.

"Well, they wouldn't be long. Nobody is, with Dad. I tell you, Bob, it's an inspiration! You can see, yourself, how fine it would be for my folks; and as for your sister, there she'd be, right on a farm, with plenty of outdoors and books. Books and Dad and long winter evenings! Bob,

you don't know my Daddy! He's a bee-keeper!"

"Would that make Anne especially keen about him?" inquired Captain Bob politely.

"Would it? Well, I guess yes! 'Outdoors and books'! Sounds as if Dad had said it. If there's anything he likes better than a book, it's another book. Philosophy, religion, poetry, science, and of course everything about bees. Then in the spring and summer when the bees themselves get to humming round in the orchard and clover—well, I've got a hunch he and Miss Anne are a pair. That is, if she's not scary. Bees do sting—even Dad's sometimes."

"Hm! You said I didn't know your father," Bob remarked scornfully; "Well, you don't know my sister. Anne's not the scary kind. But, look here, Jack, she won't want to go live with strangers."

The young lieutenant solemnly rose. "Captain Robert Lester," he began, saluting pompously, "I have invited you to visit me at my home. You're crazy to come, because you're awfully fond of me, naturally. But you won't leave your sister. So I hereby formally invite your sister, too. So does Mother. Sure she does. She always does. All my friends and their families have a standing invitation from Mother. You've only to tell your sister that if you stay there in town, you'll be so eternally lionized, with those two new silver bars of yours, that you'll never get a minute alone with her; while out there on that farm, you two can take endless tramps together, uninterrupted, and plan things all out—because your dear friend promised you so. And your dear friend is a gentleman and—get it right, Bob—and an officer."

"Jack, you're too modest. But you're a brick at that, and I'm much obliged. I'll just try that on Anne now, sure enough. But suppose she should decline? Maybe she wouldn't care for the country in winter."

"You may know reveille from taps, Cap'n Bob, but you're none too smart at that. Folks that love outdoors love it for itself, not for its trimmings—it doesn't have to be appleblossomtime forever. Why, my old Daddy can discover colors all over a winter landscape, when the earth's as bare and brown as dirty khaki!"

"So can Anne," grinned Captain Bob. "We'll likely come."

"And if Dad doesn't do the rest, my name's not Jack Lowe."

About ten days later Dad did the rest—or he and Anne together did it, to the great delight of the two young men. They were standing, the four of them, at the far end of the woods lot; the sun had slipped down behind the hill, and the sky behind the bare maple was aflame. For a minute they were

so still they heard a woodpecker tapping on an old oak near by.

"It's beautiful here," Anne said softly at last, "beautiful. I hate cities. And I've loved our week here. Mr. Lowe, if brother Jack hadn't gone and got captainized, I'd be wheedling him to buy your farm for me, this minute."

"I'm afraid I wouldn't be selling, tho," the old man replied. "I love it myself. But Miss Anne, what makes you go back to the city? We wish you'd stay here, Mother and I. We talked about it last night. You see—with our boy—and your brother—both gone—we'd be so alone here, and you'd be so alone there—and —"

"Do you mean for us to be alone all together, here—while they're away?" Anne asked slowly.

"Yes," he said, "that's what I mean."

"It would be lovely," she said softly.

"I'd read you Marcus Aurelius and Virgil and Isaiah," he tempted.

The girl fairly crowded. "I'd read you Whitman and Rupert Brooke and Tagore," she retaliated.

"And Maeterlinck," insisted the man.

"And Henley," gloated the girl.

"Then you'll come?"

She turned to her brother. "It's for you to decide, Anne," he smiled.

"I have already decided," she answered, and laid her hand in Daddy Lowe's.

"Poor misguided young thing," murmured Jack teasingly, "she'll grow up to be a beekeeper, sure!"

Within a month both young men had gone, and Anne had settled down on the Lowe farm for an indefinite stay with the two old people. "It's hard to say which I love more," she wrote her brother, "the sweet-faced, frail little mother, with her spirited sense of fun, or this strong, fine old man, who lives so simply and thinks such big thoughts. But I do seem to chum more with him—he takes in all outdoors, somehow, and gives me a jolly feeling of down-right farmery, and we have such grand reading sprees nights and stormy days, with the mother knitting or sewing. Anyway nobody could feel exactly chummy with Mrs. Lowe; it would seem too familiar, like trying to chum with the Madonna. I do believe she is really a saint, a saint with a sense of humor."

Meantime Mother Lowe was writing Jack: "Your friend's sister brings a very sweet young breath into our old lives, and she is lovable indeed. Her devotion to your father makes me most happy, but—will she love him later, when the bees begin to sting?"

Being keenly alive, especially to things out of doors, Anne was interested in every phase of the farm. But from the first, the quiet beeyard attracted her. One cold day she walked over to it with Daddy Lowe. The sky was that dead gray that drops great snows on the earth. But the sun was just breaking thru, and everything was white

and glistening. The trees hung their heavy branches low, while row on row, the bee-hives were nearly hidden beneath the heaps of drifted snow.

"It's beautiful, but won't they all smother, with the snow over their doors that way?" Anne asked anxiously.

"The snow is so porous they get all the air they need," he answered, "and it helps to keep them warm."

Then he showed her some big packing cases. "There are four hives in each of these, for the winter," he explained, "with chaff over them and under them and all around. Most of my bees have chaff only on top, but —"

"Well, I should think they'd need it all around, thick and warm," Anne interrupted, pulling her furry cap lower. "I don't see how they can live thru winter weather anyhow. They don't indulge in furs or blankets—and they're so little."

Then he told her about the cluster, "In winter," he said, "the bees leave the sides and bottoms and corners of the hive and gather together in a ball, some of them in the cells of the comb and the rest all bunched up together so that the whole thing's like a ball, a live ball. There they take exercises, as it were, to help keep warm. It always gives me a queer feeling to come and stand near them this way, and try to imagine what's going on inside there. There there are, thousands of tiny bits of life, not sleeping, yet all grouped together in that wonderful and mysterious cluster. The warm inner ones gradually come out while the chilled ones on the outside slip slowly in towards the warm center. And somewhere at the heart of each cluster is the queen."

"The queen?" queried Anne, big-eyed, "the queen?"

"The mother, more correctly. But she's called queen, and she's a beauty. Long and slim and really royal looking."

"Divinely tall and most divinely fair?" quoted Anne interrogatively.

"Exactly. And likewise 'imperially slim.' Miss Anne, you'll love them. Wait till spring when the apples bloom, and we'll open the hives. Then you shall see them all, and learn their ways and a little of their mystery. But come, you're getting chilled. Let's go in. I've got some supers to put together."

"And I'm to help?—whatever supers may be?"

"Well, how much of a carpenter are you?"

Anne meditated. "I've pulled tacks," she ventured, "I've driven nails to hold pictures and stewpans. And I don't stick my front finger straight out on the handle of the hammer, either. Can any man require greater skill than this, even for supers?"

(To Be Continued.)



G. A.



SOME REMARKABLE RESULTS

Accomplished by Members of the Oklahoma Boys and Girls' Bee Club

To increase the beekeeping industry of the State and to train up young beekeepers is the object of the Oklahoma Boys and Girls' Bee Club, in which 97 members have just completed their first year's work. This club is organized and directed by C. F. Stiles, Field Agent in Beekeeping of the U. S. Department of Agriculture, and the Oklahoma Agricultural and Mechanical College, under the supervision of John E. Swaim, State Boys' Club Agent.

The rules for the bee club were made out with the idea of developing good, practical beekeepers. Any boy or girl between the ages of 10 and 18 years, inclusive, may join, if he will agree to follow instructions and keep a yearly record of his work. Members are required to have or purchase at least one colony of Italian bees in a modern 10-frame hive. If Italian bees can not be purchased, any kind may be purchased, but an Italian queen must be introduced early in the season. The 10-frame hive is specified, because it has been found by experience to be best adapted to Oklahoma conditions. Timely instructions are prepared and sent to the members about every two months. These written instructions are supplemented by personal visits by Mr. Stiles. Practically all the hives are run for chunk honey, altho a few of the boys and girls use an extractor. The use of the

section super is discouraged, as the average season is not adapted to the production of fancy section honey.

Each club member is required to keep a complete expense-and-production record. It includes such items as number and value of



One of the Oklahoma girls busy in her study of bees.

colonies at beginning and end of season, number of hours member worked each month, cost of supplies, value of surplus honey and wax, and yearly profit. Other data, such as number and dates of honey flows, date of swarming, etc., are kept. The record book, together with a story of the year's work, is handed in to be graded. Prizes are given for the best records, great-

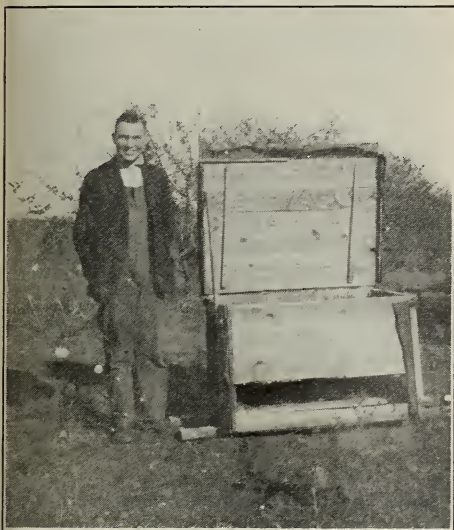


C. F. Stiles, Stillwater, Okla., director of the Oklahoma Boys and Girls' Bee Club, on the scene of his successful labors.

FROM THE FIELD OF EXPERIENCE

est profits, highest yields, and best exhibits at county and state fairs.

Altho 1918 was one of the poorest honey seasons in the history of the State, a number of young beekeepers produced over 100 pounds of surplus per hive. The first prize in production went to Roy Smith, an orphan boy of Darlington, whose colony of three-banded Italians stored 125 pounds of surplus honey. A little girl, Edith Couch of Choctaw, Okla., came second with 122½ pounds. Her sister Edna, who was also a



A member of the Oklahoma Boys and Girls' Bee Club who uses homemade packing cases for wintering.

club member, had a colony that stored 112 pounds in the supers. These two girls have a brother who also aspired to be a real beekeeper. Altho he made a good record, he was beaten by both his sisters. His bees produced 68 pounds.

One of the most progressive and enterprising bee-club members is Neil Woodward, who lives on a farm near Oklahoma City. He started the season last year with five colonies. He had two swarms, sold one colony, and secured 200 pounds surplus, which was sold at a good price in the city. He winters his colonies in wooden packing cases with two hives to the case. He has never had a loss with this method.

At the Masonic Home at Darlington, Okla., 10 boys and girls became interested in beekeeping and joined the club. The Trustees of the Home bought each of them a hive of bees. None of these youngsters had ever worked with bees, and some of them had never seen a real honeybee at close range, yet under the instructions of

Mr. Stiles they were able to secure a combined surplus of 1,100 pounds, and increase their colonies to 25. Two of these were transferred from boxes and the remainder were swarms. A yield of 125 pounds, the state record, was made by Roy Smith, one of the youngest members.

The bee club is a comparatively new thing in Oklahoma, but its effects are already beginning to be seen. Its membership of 97, which will be doubled in 1919, is scattered over the greater part of the State. Boys and girls who knew absolutely nothing about bee culture, are becoming experienced apiarists. The old folks, seeing what their children or their neighbor's children are doing, are beginning to realize the possibilities of keeping a few bees for pleasure and profit. It is expected by the men who are back of the movement that the boys and girls' bee club will make a great change in the beekeeping map of Oklahoma within the next few years.

W. J. Green.

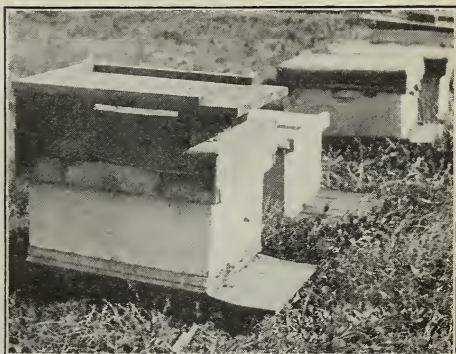
Stillwater, Okla.

HOMEMADE HIVES

Are They Always a Nuisance? A Beekeeper Who Thinks They Are Not

When the bees from that two-frame nucleus you received and placed in the back lot with so much pleasure begin to increase, and there is need of new hives, do not be discouraged because you have no money to buy them. I will tell a little of my experience, hoping it may be of some help to those situated as I was.

From local merchants I purchased soft-pine drygoods boxes, and with only a hand-



A homemade hive with hive-stand and bottom-board combined.

saw, square, plane, and hammer, I made them into hives which have been in use since 1912. The intention was to let the bees earn money enough to buy themselves a new house; but I see no reason why I

FROM THE FIELD OF EXPERIENCE

should discard these old ones, even tho the bees have made enough each year to buy a new one. Boxes with boards tongued and grooved should be secured, so in case there are no boards wide enough for the bodies they can be spliced. I made the ends double. This keeps them from gaping at the corners; and by taking out the two outside combs, putting in division-boards, and packing, they make a good hive for winter in a moderate climate. I have bought boxes for 15 cents, each of which would make a complete hive except the frames, which I always bought factory-made.

When the bees began to increase faster than I had time from my main business to make hives for, complete hive bodies were bought, making at home only the bottom-boards and covers. The illustration will show how these were made. Notice the hive-stand and bottom-board combined. They are very convenient, even tho they are somewhat heavier. When the pieces of the stand rot from resting on the ground, others can soon be nailed on. A cheap grade of roofing helps to make a cover which does not leak. By making the covers deep, two blocks of wood or pieces of brick may be placed underneath on top of the inner cover, thus doing away with the shade-board. For winter I place newspapers over the inner cover, filling deep covers with leaves. With a little care one can turn them over the hive without spilling out the leaves.

If you have all the work you can do at

good wages, perhaps this plan will not appeal to you; but with an hour or two a day of spare time, and a love for the bees, it is regarded only as a pleasure. My apiary has increased from the two-frame nucleus bought in the spring of 1912 to more than 100 colonies, and they are nearly all in hives made as described. The bees have paid all expenses for hives and supers, built a workshop and honey-house, bought an extractor, besides some Liberty bonds, and all the work was done aside from my regular business. This is not so wonderful from a business standpoint, but with the pleasure added it is worth while.

Wm. Bair.

Odon, Ind.

[There is no reason why homemade hives may not be made by those who have time, if such hives are made standard, and if the beekeeper is a good enough carpenter to make them exactly true. Otherwise homemade hives are a long-drawn-out nuisance.—Editor.]



HOW HE WINTERS HIS BEES

A Homemade Hive-cover that Lasts for Many Years

As you can see by the accompanying pictures of my beeyard, I believe in protection, both as to windbreaks and packing. The tight board fence is but six feet high, but the yards are narrow and short, being divided off in sections. I have about 200 colonies of bees at present, all in first-class con-



Olsen's beeyards are narrow and short, divided by wind-protection fences.

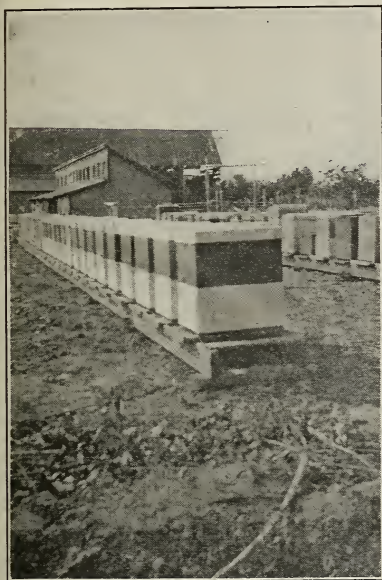
FROM THE FIELD OF EXPERIENCE

dition both as to stores and bees. This season they are packed in the brood-chamber with an eight-inch chaff tray on top,

rim 2 inches deep was made, and then taking boards 6 inches wide I beveled them on the outer edges and nailed these boards so beveled on to the rim. This left 4 inches between the two boards of the cover. This four-inch space I filled at each end with a block 4 inches long, and covered the lengthwise open space with a board 5½ inches wide, double-beveled on top. This plan gives the top of the cover a slanting-roof effect that sheds rain well and quickly. The covers so made 25 years ago, out of good lumber, are nearly as good as when first made, while all other kinds (except a few metal covers) went to pieces and were gone years ago.

Hooper, Utah.

Sophus Olsen.



Another view of the Olsen hives.

covered with tarred paper. I like that way better than the double tier as shown in the picture. Prepared that way I hardly ever lose a colony. This fall I am trying a few packed by the Demuth plan, as that appeals to me as being the ideal way of fixing them for winter.

I make my own hives and frames, and can say that no factory-made hives excel them for durability, neatness, and fit. They are interchangeable in every part. I believe I have the best cover that can be made, except the metal cover, for this trying climate. It was only after several attempts that I succeeded in making these good covers. A



Olsen's workshop and high board fence in background.

WINTER-ENTRANCE QUESTION

Small Entrance Good, but Should be Level with Bottom-board

In reading November Gleanings I was very much impressed with the perforated-entrance-block plan. No doubt the fewer holes you have the better; but that part of it depends largely upon the locality. In my section, which is along the eastern shore of Virginia, I should not like to use a very small entrance, on account of such damp atmosphere prevailing here. I have lost colonies in the winter because of too small entrances, these not allowing enough room for the damp air to get out.

Speaking of the holes, I am bound to acknowledge the fact that they are all right; but why consider only the escape of warm air, and not also the poor working force of bees that is detailed to drag out the dead bees. It looks like a man's jumping on a fence and then reaching down and grasping hold of whatever he can get on the other side. Why not cut pieces out of the block $\frac{3}{8} \times \frac{3}{8}$ and then allow the block to rest on the bottom-board? By doing so you still have the holes, and all the bees have to do is to drag the dead ones right out without having to raise them up while standing on their heads? M. L. Jones.

U. S. S. Delaware.

[If the entrances were too small to allow damp air to get out, they would doubtless be small enough to prevent damp air from entering; and Dr. Phillips claims that if bees are wintered in the way he advises there will be no necessity for planning a way to get damp air out of the hive, for there will be none in.

Dead bees that collect on the bottom-board would be more apt to clog the entrance if the entrance were on a level with the floor. If it is true that with these small entrances the colony will not allow dead bees to accumulate, of course this objection would not hold. We are trying some both ways here at Medina.—Editor.]

H. H. ROOT, I'm delighted to see you putting in use a talent for juggling with figures as shown on page 14, January Gleanings. Those who have never tried anything of the kind will hardly appreciate the labor involved in that table of cost of honey packages. Please juggle some more.

This comparison of prices is especially interesting at this time when so much thought is given to the matter of conservation and of waste. Suppose 375 pounds of honey are to be furnished to consumers. It may be furnished in 3-oz. jars. It would take 2,000 jars, at a cost of \$121.14. It may also be furnished in 5-lb. cans. It would take 75 cans, at a cost of \$78.60. The difference between \$121.14 and \$78.60 is \$42.54. Doesn't it look a good deal like a dead waste of \$42.54 to have the honey put up in 3-oz. jars rather than in 5-lb. cans? But that is figuring everything at cost. Suppose we figure on actual sales to consumers. In this market the consumer has been paying \$1.60 for a 5-lb. can, so he would pay \$120 for 75 cans. A 3-oz. jar would hardly be sold for less than 10 cents, so he would pay \$200 for 2000 jars. The difference between \$120 and \$200 is \$80. Very likely the consumer would think himself \$80 out of pocket to buy in the little jars, if he could get the 5-lb. cans.

There may be markets in which the consumer prefers the very small package, but it lies a good deal in the power of the producer to influence sales in larger packages, and, if he is a lover of his kind, that's exactly the thing he will do.

* * *

J. E. Crane says, page 25, "I suppose I have fed more than 50,000 pounds of sugar during the past 10 years without the addition of a pound of honey or an ounce of acid to prevent granulation, and I do not see that the syrup granulates any more than when I used honey or acid." Grace Allen says, page 29, "We have often fed sugar syrup, one part water to two generous parts sugar, several times $2\frac{1}{4}$, and occasionally $2\frac{1}{2}$, with neither honey nor acid added, and have never experienced the slightest granulation." Same thing with The A. I. Root Co., and probably hundreds of others. Doesn't that warrant us in saying that acid is never needed in sugar syrup and can do no good? And if it isn't needed and does no good, I'm afraid it may do at least a little harm. Now arises one who says, "But it does granulate with me; granulates badly." What are you going to do with him? You might say to him: "Well, adding acid doesn't do any good anyhow. Mr. Crane says there is a little granulation without the acid, but no more than with it." But



it would be a hard job to make a candy-maker believe that acid does not prevent granulation. The candy-books make acid a first requisite in

making fondant. I asked an experienced maker of home candy, "Can you make fondant without acid?" "No; it'll grain every time." I think we shall have to admit that acid lessens the danger of granulation in those cases where it is likely to occur, and to recommend the use of acid in such cases.

But who can tell us in what cases granulation is likely to occur, and why it occurs in one case and not another? As Mr. Crane says, the bees have a trick of changing the syrup so as to lessen granulation. I think it is generally agreed that to give the bees the best chance to do this the syrup should be fed thin and early. Possibly it doesn't matter so much about the thickness if fed early enough. But if fed late it will hardly do to feed thin, for if fed late enough the bees cannot evaporate it, and then there will be trouble. The whole thing is in something of a muddle.

* * *

J. F. Dunn is enthusiastic over double-walled hives that he has been using for a good many years. They are made of cypress boards $\frac{1}{4}$ inch thick, or of pine $\frac{3}{8}$ inch thick. Neponset paper is glued on the outside of the inner wall and the inside of the outer wall. Between the walls is an inch of packing of cork "ground up, regranulated until about like flour." Thus packed, the hive is no heavier than the ordinary single-walled hive of seven-eighths lumber, but greatly superior. "Bees seldom swarm in these hives or cluster outside on a hot day. They are so perfectly insulated the bees have no trouble in keeping their hives at any temperature they choose even in the coldest weather, and are very quiet at all times." He used four-colony cases for years, and bees wintered well in them. "But," he says, "four of my cork-packed hives cost less than four single-walled ones plus cost of a winter case; and the time consumed in preparing for winter is almost negligible."—Canadian Horticulturist.

* * *

As to that new metal comb, mentioned on page 9, January Gleanings, it would not be a very reckless thing to predict that not many years from now it will be forgotten. This is on the general principle that the great majority of the new things that have been discovered and invented in the last half century have been relegated to the junk heap. Yet so long as one out of 10 may prove to be a success, it is well to foster the other nine until their failure is proved.

Of course, there is the chance that aluminum comb, even after having made a brilliant showing, may develop some unexpected objection that will throw it out of the running. But let us look kindly and hopefully toward its future. If it should succeed, it will be especially valuable in regions where American foul brood is found—and it is becoming difficult to locate regions where it is not found. To the man who has had experience with American foul brood, probably the thing that he dreads most about it is the melting up of his nice brood-combs. Indeed, if taken in time—even if not in time for the Kight treatment—it may be so managed that the set-back from it is hardly worth considering, were it not for the remorseless destruction of brood-combs. And unless there is something I don't understand about it, with aluminum combs the disease may be destroyed and the combs saved. That will be worth thousands of dollars.

* * *

Iona Fowls, you've done a rather daring thing, page 42, January Gleanings, in trying to tell what is "a strong, a weak, and a medium colony." I don't know that any one else has ever done it, and I don't know that any one can do it better. It surely is important that we have a more definite understanding about some of the terms used in beekeeping. For instance, when we speak of a bad case or a mild case of foul brood, do you and I have the same idea in mind? If a beginner were to ask me what I meant by a bad case of foul brood, I'm afraid he wouldn't get a very satisfactory answer. Possibly I might say, "Oh, a case in which a lot of the larvæ are diseased." And the conversation might continue like this: "But what do you mean by a 'lot'?" "Why, a considerable proportion." "But what proportion is a considerable proportion?" Thus driven into a corner, "Well, I don't really know, but I think I should call it a bad case if 50 per cent of the larvæ were diseased." And I don't at all know whether that would be right or not. Do you? What we need is some sort of authoritative answer that shall be definite and specific, something after this fashion: If less than one per cent of the larvæ are diseased, it is a very mild case; if one to 10 per cent, mild; 10 to 35, medium; 35 to 50, bad; and beyond 50, very bad." Those figures may not be at all correct, but I'm trying to give the idea. Now who will help us out on these things? I am tempted to say to you, Miss Fowls, in the words of Mordecai to Esther, "Who knoweth whether thou art not come to the kingdom for such a time as this?"

* * *

You wouldn't think to look at C. E. Fowler that he was a man of such vicious disposition, but see how he goes for me with a flatiron and a Swedish girl on page 38, January Gleanings. Well, if his bees are

stupid enough to start in with cold honey, same as the girl did, then it may turn out the same way. Anyway, I'm not so set on having honey a balance-wheel but that I can forgive the attack, but I cannot forgive the insidious attack on page 18. It's a put-up job between him and the editor. Knowing I'm still sore from the tumble I got from my high horse about skyscrapers, they rub it in by giving that skyscraper pile of Harry Edsall. Well, it's a long lane that has no turn. [I will guess it is, and that you will be in ambush right at the "turn" with a big shillalah.—Mng. Editor.]

* * *

You say, Mr. Editor, page 13, "The time will never come when one can afford to extract all the honey from his bees, brimstone them, and buy more bees." That, of course, refers to buying bees from the South in spring. Like enough you're right, and yet a pretty good case can be made out from David Running's statement. A package, when fed up, cost him \$4.37. If he had a colony in the fall from which he could extract 26 pounds of honey, brimstoning the bees, and should sell that honey at 17 cents, it would bring him \$4.42. He could then kill his bees, spend 4.37 for the package, and be 5 cents to the good. I am, however, just a bit skeptical as to the package always giving as good a return as the home-wintered colony.

* * *

A. I. Root says a good word for sunflowers, page 47, January Gleanings. I planted quite a patch one year, but saw no striking evidence that it was of much value to the bees. A good deal is said about the Mammoth Russian variety, but I have some doubt about its being better than the common. It has much larger seed, but it's the shell that's large without any corresponding enlargement of the kernel. I suspect more meat and oil would be found in a pint or a pound of the common sunflower than in the Mammoth Russian. Still, I don't know very much about it, and I don't know which kind would yield the most oil per acre.

* * *

Here's a rather striking ad of a commission house in a Chicago daily:

STOP THE "FLU"
Eat
Honey
Oranges
Grapefruit

* * *

Mr. Doolittle advised, page 597, October Gleanings, that sections should be taken from the hive as soon as sealed over. That's right; only once in a great while the sections will be filled and sealed so rapidly that under ordinary conditions they will become watery when stored in the honey-room. So it is well to be on the lookout for such very white sections, and give them an extra chance for ripening, either on or off the hive.

THAT account of aluminum combs by E. R. Root, page 10, is fine. Now, it may be true that bees will breed and store honey in such combs; but one thing is certain, when such combs get clogged with old hard pollen and other refuse we cannot scrap them into beeswax, which we find very convenient to do in the case of all-wax combs.



Perhaps a word or two about bees flying late in the season will be in order. I do not think brood has anything to do with it; as the brood is usually all hatched in this section by Sept. 25 and so could not in any way influence the flight of bees two months later. If the temperature is low all thru November as a year ago, bees will fly sparingly on some of the warmest days, as was the case in the fall of 1917. But if the weather is cool thru late October and till the latter part of November, and then there comes a warm, sunny day, with the thermometer up to 60 degrees in the shade, bees will fly a great deal, as was the case this year of 1918.

That article by J. F. Kight is of much scientific interest, as showing the possibility of curing American foul brood in the early stages of this disease. However, its practical value does not seem large, as probably not one beekeeper in a hundred would discover this disease until past cure. I tried curing a few colonies of this disease more than 40 years ago by cutting out the very few cells I found, but without success. It was a rule of Moses Quinby years ago to destroy any colony in which even one cell of diseased brood was found.

I have received from O. F. Fuller of Blackstone, Mass., a beautiful sample of clethra honey. It is of fine color and quality. He informs me that some beekeepers have received from this source as much as 300 pounds from a single colony. This plant thrives from Maine to Florida near the seacoast. Another species that grows into a tree is found in the Central States and still another on the Pacific coast.

The possibilities of pound packages, as given on pages 12 and 13, certainly seem great. The prophecy of yesterday becomes the reality of today. A dozen years ago flying machines were little more than a dream; today they are a reality as truly as automobiles. We anticipate great things from this source, in the near future.

That hive illustrated on page 18 is a skyscraper, sure, for we can see where the up-

per story touches the sky at the top of the picture. Well, if beekeepers do not produce more honey this year than ever before, it will not be the fault

of Gleanings in Bee Culture in trying to induce them to do so. Such pictures are a healthy stimulus.

I was reading in an old book some time ago of a wonderful remedy for many kinds of the troubles from which mankind suffers. It might almost be called a panacea. It should be in every family and neighborhood. It is especially valuable where two or more beekeepers are trying to cover the same territory. It is easily remembered: "Thou shalt love thy neighbor as thyself." [You have quoted the best authority on earth. But out in California and Australia they are looking about for some law-made assistance in "such cases thereto pertaining." You may recall also something about trusting the Lord but at the same time keeping one's powder dry. Isn't it time for a little powder, possibly?—Editor.]

"Can Bees Hear? Who Knows?" page 23, January Gleanings. Yes, sir, bees can hear; else why do they use different sounds, one for anger, one for joy, another for a call, and, perhaps, many we do not understand? If honey is coming in freely, we do not need to open a hive to find it out, for we can tell by the sounds that come to us from the apiary.

Dr. Miller, I believe, is the first to give the correct temperature for the cellar wintering of bees (see page 24). He says: "Find out at what temperature bees are quietest by your thermometer in your cellar, and then try to hold it there, keeping in mind that Mrs. Demuth says a lower temperature is needed towards spring."

My experience has been that for bees wintered outdoors there is much less danger of starvation when on seven or eight combs than when wintered on ten combs. They need much more honey in the larger hive to make them safe. If wintered in the cellar, the same rule will hardly apply (see page 24).

December, 1918, was much milder than a year ago, the thermometer scarcely getting down to 10 degrees, while in December, 1917, there were several mornings when it registered from 12 to 25 degrees below zero.

"It has always been my father's rule," says C. O'Donnell, page 19, "never to mind how much honey he gets, but how well the bees are supplied with it for their long winter rest." A good rule.

THIS February Food Page is not for you, Mr. Beekeeper, nor is it even for Mrs. Beekeeper this time. It was written for the ladies and gentlemen of twelve years old and under. I hope there are some in your family.

Children, I am going to tell you a true story about a little girl just eleven years old. When she was six she began going to school—just like you did, or will, if you are not yet six, and she went to school every day and studied her lessons and had lots of fun, just like you. But this fall, when she was in the seventh A grade and everything was going fine, a great, big, terrible giant came to the town where she lived, and he scared the fathers and mothers and health officers and school board so badly that they closed the picture shows, the churches and Sunday schools and even the public schools, and kept all the children at home. The reason they did this was because wise people found that the wicked old giant went where there were crowds, and he liked crowds shut up in close rooms where the air grew bad. The strongest locks on doors could not keep that old giant out, yet no one ever saw him, for he was invisible. You know what invisible means, don't you? It means he was just like the air around us, and you could not see him at all.

But he slipped into crowds and softly touched many people, and nearly everyone he touched became very sick in a few days, and had dreadful pains, and many of them died. There, you can guess that giant's name, can't you. It is "Influenza" and we call him "Flu" for short. He came to our town, and he went to your town, and I believe he visited every town in our whole country and nearly every place in the whole world, and everywhere he went he took sickness and sorrow and death.

Now, this small girl (we may as well call her Helen) is used to studying and learning many interesting things all thru the school year, and when old giant Flu scared the people so badly that there were no schools she hardly knew what to do with her time. She played and played, and she read all the stories she could find. Just about that time the girl who had been helping her mother

OUR FOOD PAGE

Stancy Puerden

with the house-work went to a city to work in a factory. As Helen's mother is not very strong, she would have had a hard time if some good fair-

ies had not helped her. You did not know that there were fairies outside of story books, did you? Well there are, wonderful ones; and I suspect I could find some right in your own home if I should visit you. Helen's mother named three of the most helpful fairies in their home Jane and Sally and Sukey. These fairies are the best workers you ever saw, but they all need some human being, like you or me, to watch them and work with them. Good Jane is the fairy who cleans rugs and curtains and mattresses; but, altho she does just dandy work, she needs someone to lead her around by the hand to see that she gets over every bit of the rug. As is often said of her, she fairly eats dirt.

Helen and Jane can work beautifully together, but to tell the truth, Helen would far rather work with Sally. It's Sally's business to wash all the soiled clothing, sheets and pillow cases, table linen, towels, etc. You have often heard your mother talk about how hard it is to find a good washerwoman, haven't you? Helen's mother feels just that way about it, too, and she does not like to send the washing out of the house to be done in some kitchen which may not be clean and where old giant Flu or some other bad old



giant would sprinkle the clothes with disease germs. Also, she does not fancy the light-gray complexion of clothes which visit steam laundries. That is just the way your mother talks, isn't it?

Sally is big and strong and willing and does very interesting things. She can wash a large tubful of clothing in 15 minutes, and when they are clean she can lift all those clothes right out of the water at once and then whirl them around, like a merry-go-round or honey-extractor, until they are as dry as if they had been run thru a wringer. That is the part of the work where Helen likes to boss Sally, for, wonderful as she is, Sally hasn't much head on her and has to be directed when to do the different things. After the clothes have been boiled and thoroly rinsed, Helen and her mother give them back to Sally to let her whirl

them again until they are dry enough to hang on the line, and good Sally never smashes buttons nor presses creases into the cloth, and yet she can whirl those clothes much drier than a wringer makes them.

Helen also likes to push Sukey around, altho Sukey is hot-tempered and has to be handled with care. She and Sukey together can iron one of her best gingham dresses until it looks like new.

Now don't you honestly think the fairies in Helen's home are just as nice as the story book fairies? The queen of these fairies is called Electricity.

But altho the fairies help so much with the hardest part of the housework there are many things they cannot do. They cannot make bread and cake and pies and get dinners and suppers and breakfasts, and that is, very important work, for people must eat to live. You know small girls always like to do just what they see their mothers do, and so Helen very much wished to try to cook. When she was a tiny girl she used to make cakes of cornmeal and water, and then, when she had gone off to play with her dolls and forgotten them, her mother sent them to the chickens or pig.

But a young lady of eleven is too old for play-cooking so her mother let her try some real baking that the family could eat. One of the first things she made was cornbread or johnnycake. Her mother gave her the recipe and worked at something else in the kitchen, so she could watch the mixing, but she did not touch it at all. Helen did everything from beating the egg thru measuring out the sour milk, the cornmeal, flour, soda, salt, and shortening. And what do you think her father said when he tasted that johnnycake? He said, "It is very strange Helen can make a better johnnycake than you can, mother, when you made up the recipe." My, but that made Helen's eyes sparkle and her cheeks grow red.

I think the next thing she made was a pumpkin pie—the filling, not the crust. You see her mother was too busy to teach her cooking in the order that a cooking-school teacher would, so Helen made things just as they were needed for the family. Now Helen has an older brother that is just the worst tease you ever saw. He always makes believe he does not think Helen can do things well, and he never thinks of giving her a compliment. You know brothers are sometimes like that. But let me tell you how he gave her a compliment for her pie without meaning to. He ate every crumb of a large piece every time she made a pie, so she knew he liked it, even if he did not say so in words.

Well, Helen went right on learning to cook nice things for the family until she knew how to scramble eggs, make tea and coffee, bake, fry and oven-fry potatoes, make graham muffins and baking-powder biscuits, piecrust, boiled salad dressing and fruit salad, tomatoes on toast, chocolate pudding and buckwheat griddle cakes. She has cook-

ed a meal all alone several times and served it on the table. Her dad is so proud of her griddlecakes that one Sunday evening he invited in several of the neighbors to eat buckwheat cakes which she had mixed and baked all alone, and she often makes them for breakfast.

When she learns to cook something new she copies the recipe down in a nice little blank book, so pretty soon she will have a cook book all her own.

One day when Helen's mother had been baking some bread her father held up a slice and said, "Helen, if you will bake a loaf of bread as good as that I will give you a War Savings Stamp for your book." Your mother can tell you that a good loaf of bread is one of the hardest things for a cook to make; that is, it takes more care and skill than most fancy desserts. But Helen started right out after that War Savings stamp, armed with her mother's bread recipe, cut in two, to make it easier for small girls to handle. I shall have to admit that a fairy helped her, not one of queen Electricity's fairies, but just a plain fairy, called Lizzie. You see Helen's mother had been helped the past five years by two Hungarian Lizzies, one after the other, just she often said she had never had a tin Lizzie yet. But when her last Hungarian Lizzie had gone she decided to name the bread-making fairy "Lizzie." You see that is a very good name for her, for she is made of tin and has to be cranked just like the tin Lizzies that are made in Detroit. But it is very easy to crank that kind of a tin Lizzie, and she is so helpful in making bread. Helen first measured the flour which the recipe called for and sifted it and the salt into the Lizzie and covered it and put it into a warm place. Then she took the rest of the flour and mixed it with potato water and yeast and sugar and beat it well and put that in a warm place too. You see bread in the making is just like a new baby sister in one respect:—it must be kept cuddled up in a warm place. This work she did just before supper time, about 5:30. At bedtime (she had to stay up a little later that evening, but you see there was no school) she turned the sponge into the Lizzie, added the rest of the warm water, and turned the crank about three minutes. By that time it was a dough, smooth and easy to handle. Now Helen's mother thinks white bread is finer and lighter, if the dough is taken out and kneaded by hand a few minutes, so Helen turned hers out on the kitchen cabinet, on which some flour had been sifted so the dough would not stick, and kneaded it carefully about two minutes longer. The kitchen had to be warm or the bread would have been chilled, and then it would have been sullen and refused to rise. When the dough was smooth and elastic it was put back into the Lizzie, carefully covered and cuddled under a clean old blanket, kept for that purpose, and put in a small room over the furnace. In making bread by

(Continued on page 118.)

HOW fast shall side liners increase? Well, it's this way. If you're keeping bees for fun, and you can get more fun out of 50 hives than

out of 5, keep 50. But if 50 will worry and crowd you, changing your fun into hard work, stick to 5, or some happy number between. If, in addition to the pleasure of caring for them, you are likewise interested, as you should be, in seeing how much surplus honey you can coax out of each colony, and how much profit each colony may be made to yield, then do notice what C. E. Fowler says on page 18, January Gleanings. "I am, therefore, sending a photo showing what a happy combination of locality, good season, good queen, good hive, and good beekeeper can accomplish when only a few colonies are kept." And then please notice the photo. There is a law, so I have heard, operating in the business world, known as the law of diminishing profits. Because five hens (fed perhaps on table scraps) net their owner five dollars, it is unwise to assume that 5,000 hens will net 5,000 dollars. Because a side liner, working five colonies intensely, thoroly, enthusiastically, glean an average of 100 pounds each, he is not in a position to assume that he could get the same average from 100 colonies.

I know at least one side liner who has increased too fast, and is, moreover, in danger of continuing to do so. Every year, since that particular little back yard has had more than eight or ten colonies, there has been a large per cent (a much too large per cent) of non-producing hives. That certainly cuts the average badly. Better one hive yielding surplus than a score that give you naught.

Of course, that's a side-line view. There are necessarily other angles of vision and judgment. When it comes to doing it all on a large scale, only the great totals to be considered, there is an intensive method, and there is an extensive method. Without doubt, it is largely a matter of temperament which is better suited to individual beekeepers. But if it is a few hundred pounds of honey you want, with the chance of perhaps making a record, and plenty of good fun doing it, with as small an investment as practicable, then the odds are that your greatest satisfaction lies within the limits of a few hives, very carefully kept. And along this safe route lies good beekeeping.

* * *

A Tennessee Side Liner.

I want to tell you about Wm. Morris of Hendersonville, Tenn., and his method of wintering. One Sunday last month we went to visit him. The interurban took us a delightful run from our county into his, giving

Beekkeeping as a Side Line

Grace Allen

us a glimpse of the shacks and stacks of the largest powder plant in the world, rolling us thru attractive country and past prosperous farms. Then we

walked to Mr. Morris' place, dropped down into a hollow just over the brow of a small hill. Part of the residence is old, old, old—no one knows, Mr. Morris says, just how old, but it was built while that section was part of North Carolina. We went into the shop, a sturdy old log structure, with an immense fireplace across one end. In contrast to the delightfully quaint flavor of all this was the modern outfitting of the shop—a gasoline engine, rotary saws, sliding tables, and various impressive things I hesitate to describe or even mention lest I advertise my own ignorance. You see Mr. Morris is a practical woodworker, and he has made almost everything on the place except those old buildings. My constant questioning, "Well, did you make that too?" became quite superfluous. He had apparently made nearly everything around.

It was in California, where he lived for several years, that Mr. Morris got his first experience in beekeeping. Being very enthusiastic about the work, which he studied thoroly, he resolved, upon returning to Tennessee, to try his hand at it here. When we met him about five years ago, he had thirty-odd colonies, amazingly tiered, in a small city back yard. They were then strictly a side line, to which he was utterly devoted. Now that he is in the country, he is approaching the one-hundred-colony mark, in spite of the loss of last winter that made him turn his attention so seriously to the problem of wintering. He has recently moved about 80 colonies a few miles away to a sweet-clover area, and will set about building up another home apiary in the spring.

Now about this Morris plan of wintering. His colonies are in standard 10-frame hives. In winter they are placed this way: at the bottom a body of empty combs, with a well-contracted entrance; over this, a rimmed cover like an escape-board without the escape, but with a round hole bored in each forward corner; over this the brood-chamber; then a little rack placed crosswise of the frames to allow a runway under burlap; then a tray of chaff, with burlap tacked across the bottom; and last of all the jacket. This jacket is made of 1-inch material, dressed to $\frac{7}{8}$, of a size to allow a $\frac{3}{8}$ -inch dead air space all around the hive. It slips down over the chaff tray, over the precious brood-chamber and about two inches down on the body of empties, where it comes to rest on a cleat (1 inch by 2, I think), that goes all the way around this body, thus effectually closing the air space. All pos-

sible cracks between the different bodies are thus covered and protected from draft. Tiny $\frac{3}{8}$ -inch blocks, properly placed at each corner of this roundabout cleat, will hold the jacket in position, equally spaced.

Cold winds, blowing thru the contracted entrance into the center of the body of empty combs, can not strike the bees, up there above the escape-board. Neither can bright light shine in to rouse them. Raised well away from the entrance, anyway, they are further protected from the exposures by this board, with its only opening at the two forward corners. These holes provide the bees, of course, with air and exit. This board is the only feature that is new to me, but the combination is new. Moreover, it is convincing. Perhaps the majority of bees in this section will always winter unprotected. Yet a growing number of progressive beekeepers are looking for some method of protection that will be efficient, but less cumbersome and troublesome than the big packing cases recommended by the Department of Agriculture. The Morris method may come very near solving the problem. At any rate, some of us are very much interested and are watching the Morris bees with great hopes.

* * *

There is a certain grocer in this "Athens of the South" who is having a hard time conquering the intricacies of the honey business. First, his display of section honey bore the sign, "50c a pound." Then some one must have enlightened him as to the error of that each-little-box-weighs-a-pound idea, and now his display is bravely heralded to the passerby as selling for "50c a Cone." It was night, and the store was closed, when I saw it, or I might have ventured in to undertake a diplomatic correction. Yet it is almost too good to change. "50c a Cone"!

* * *

Beekeepers expect all sorts of questions, but this one was unexpected enough to be refreshing. It was when I was opening a few hives on the campus of Peabody College. I was alone, which was fortunate, as the bees were decidedly temperamental that day. One young lady hovered near. "Do you reckon they'll sting me?" she called out. "Better not come any nearer," I told her, as they were particularly unpolite at that moment. Then I forgot her. But after a few minutes a voice came floating over the breeze, asking with evident interest and baffled curiosity, "Just what's the idea of the veil?" I have always known that bee-veils were not especially becoming, but had supposed they had the virtue of being self-explanatory.

* * *

A WARM DAY IN EARLY JANUARY

Sometimes a year arises in his winsome youth
And fells grim Winter, unaware, and stands
All warm and radiant for a few swift days,
Before the tight-lipped Winter gathers back
His strength to claim his rightful length of life.
And in those few swift days

We drink the promise of the beauty
Of the wonder days to be.

Today is such a time, and here I sit,
Bathed in warm sun, in this my quiet spot,
Sitting on a beehive, where a score
Of hives are pouring out the bees to meet the sun.

They hum around,
And lull me to a strange content,
That, mingling with old longings and the call
Of things I know not if I dream of or remember,

Stirs within my heart an ancient mood
That hearts, I think, have always known.
For even as I thrill to sudden rapture,
A sense of sadness almost brings the tears.
Even while I surge towards heights of aspiration,

A quiet peace is bidding me, Be still.
Even while I would be swift in great achievement,
The lotus mood is drowsy in my blood.

There is a sense around of Beauty soon to come,
Beauty, that some swift and perfect day,
Shall come and walk beside me,
Yes, beside me and within,
Until I too shall be a part of very Beauty's self.

Against the sky's blue wideness
The bare treetops are swelled with mystery;
The grass is brown in patches, green in spots;
Dry vines, and ugly, rattle in the breeze,
While roses thru their thorns show hints of discontent

That shall unfold in time to living leaves.
My cock crows challenge to my neighbor's,
And a cat, awaking from her sunny nap,
Goes stretching lazily along the fence.
The sparrows twitter; a gray and black woodpecker

Bores and pecks and taps, up and down a tree—
And I—
O Poet-Heart that hath no Poet-Speech,
How shall we tell to other hearts
These things we feel?

These things that strike so deep thru eye and ear,

They are not all. There is a Spirit here,
And in this Presence I sit quiet,
Here among my hives. The bees hum on.
The winter sun is warm.

Old, old questions drift across to vex and tease,
Then slowly slip away, till lost at last.
As in a quiet pool of wonder.
Shall I not sit and listen here to life
And touch perhaps the very garment's hem.
The young year standing forth like a flushed god,
While the hours pass by and by?

One dreaming hour ago I read a holy book
Of One who walked with men
Among warm groves and gardens,
Talked with them by twos or threes or crowds,
Along the seas and lakes,
And prayed alone on hillsides
In the quiet hours and places.
He has much to do with these my thoughts,
My wonders,
Much to do, I think, with Beauty and with Life.

What is Life, O Beauty yet to be?
And what, O Life, is Beauty?

No answer. Yet, somehow,
The very asking brings the Spirit near.
Is this, then, prayer?
Is this, then, answered prayer?



FROM NORTH, EAST, WEST AND SOUTH



In Northern California.—November and December were excellent wintering months. The weather was cold and afforded little opportunity for flight, which resulted in but a small consumption of stores. The rainfall to date for the valleys is normal, but the foothill slopes of the mountain ranges will require two or more inches of rain during January in order to secure a good spring flow from such localities. There is a very active demand for bees and in some instances single-story colonies have sold as high as \$10 per colony. Scattered colonies including box hives and the like are being purchased rapidly by extensive beekeepers. This fact will minimize the danger of contamination thru disease in commercial apiaries, such small lots of mixed bees having often been a source of trouble.

Mr. Andrews, correspondent of southern California, in January Gleanings, mentioned the fact that many of us in California are unable to satisfy ourselves that American and European foul brood are two distinct diseases. In our part of the State this question is likewise debated among our leading beekeepers. Some of us contend that the two diseases are not distinct, reasoning that their symptoms in some instances are so similar that differentiation is made impossible. Nor has this been our only difficulty; for there have been cases where symptoms pointed toward American, and, strangely enough, the treatment for European in such cases proved efficacious during the latter part of last season. In such cases foul brood may reappear the coming spring. The writer will confess that he has marked colonies for American treatment, and, to his surprise, before such treatment could be carried out, the bees had cleaned out all infected material, not having left a single cell with a diseased larva.

Several reports have come to hand recently that colonies have been stolen from out-yards, and it would be well for beekeepers to visit their bees at intervals during the winter. Not only is this wise on account of theft, but also because cattle may knock over hives, and the wind may blow off covers or even supers (a super containing no honey may easily be blown off). The California Honey Producers' Co-operative Exchange will soon issue to the members of the local exchanges warning signs, which will call for a reward for the arrest and conviction of anyone damaging or stealing any apiary property of a member.

It will not be out of place at the present time to give a short review of our industry during the past year. The honey crop was from 20 to 50 per cent below normal and from 10 to 40 per cent below the average for the year 1917. The cost of production has increased by about 40 per cent over last

year. However, the increased value of honey has more than made up for both the smaller crop and the greater cost of producing it. Twenty-five years ago and at frequent intervals thereafter, California beekeepers have striven to market their crops by means of a marketing organization. Last year thru the united efforts of the California State Beekeepers' Association and prominent beekeepers not within the Association, a permanent co-operative marketing organization finally was established. The California Honey Producers' Co-operative Exchange not only has undertaken to market the products of its members, but likewise to purchase their supplies, aid them in matters pertaining to legislation, and help them thru educational channels. With us, honey production is now an established industry. The very fact that the beekeepers of the State have organized so quickly and successfully, has boosted the price of honey on the California markets several cents. Henceforth the Exchange never will permit the price of California honey to drop anywhere near the low levels to which it has fallen in the past. Whether or not there will be an export demand for honey, it will be but a short time before the Exchange will bottle the greater part of its sweets, and by means of judicious advertising will maintain a price equitable for both the producer and consumer.

Modesto, Calif.

M. C. Richter.

* * *

In Southern California.—Weather conditions at the present writing are much different from what they were last year at this time. We have had more rain than at this date one year ago, but we have also had considerable dry north wind. If January proves to be as wet a month as the average for the past 20 years, we shall start the season with good prospects. We have just had several nights of frost, the most severe for six years. Just what effect this will have upon the eucalyptus and other winter-blooming flora, I am unable to say as yet. Last winter being a very mild one, this bloom was of much value to many beekeepers. It is too early for the frost to do any damage to the citrus bloom, or to most of our surplus honey-producing plants.

The writer recently visited the "Region-below-sea-level," around the north end of the Salton Sea in Riverside County. This great basin is supposed to have been at one time a part of the Gulf of California. The Imperial Valley lies to the south of the Salton Sea and the Indio-Coachella Valley to the north. In these two valleys are found the great early-vegetable sections of California. The Indio-Coachella Valley is the only section in this country where dates are grown successfully for commercial use. Ar-



FROM NORTH, EAST, WEST AND SOUTH



tesian wells furnish the water for irrigation purposes, and many fine ranches are being developed. Mesquite grows plentifully over most of the country and is a good honey-yielder. This, together with alfalfa, furnishes most of the honey produced. Altho the cultivated territory is limited, the few hundreds of colonies of bees located there have done very well and have never failed to give a good honey crop.

The annual meeting of the California State Beekeepers' Association has been called for Jan. 29, at 2 p. m., at Exposition Park, Los Angeles. The sessions will continue thru the next day. A fine program has been arranged, and many prominent beekeepers will give their views on subjects pertaining to the industry and of special interest to beekeepers of the Great West. Queen-rearing, honey-production, organization, increase, selling the crop, and buying supplies are some of the topics up for discussion. This is the 30th annual meeting and it seems like a home-coming for the beekeepers to get together once a year. It has always been the practical rather than the theoretical side of the industry that drew the crowd.

Riverside County has an ordinance pertaining to the moving of bees and also to the giving of notice to the county bee inspector of the arrival of the bees. A carload of bees was recently shipped into Riverside County from out of the State, and the colonies were located near the orange groves. No notice was given to the proper authorities. The owner was arrested and fined \$50, of which \$10 was paid, and the balance remitted upon confession of guilt on the part of the beekeeper and his pleading ignorance of the law. It will be well for any person shipping bees into California to inform himself of the laws on the subject, thereby making unnecessary the repetition of this unfortunate occurrence. Altho some counties have ordinances so strict that they practically prohibit the bringing of bees into the county, it is hoped that it will never be necessary to frame such for the orange-growing sections. At the same time, the beeman who perhaps has a small orange grove, with a comfortable home on it, and who pays taxes and makes his living here in southern California, does not particularly enjoy the idea of having a carload of 300 or 400 colonies of bees set beside him—especially by some one who is only here for a few months to get all he can out of our early honey flow, and then beats it for his northern home, to make a crop up there. When the inspector looks over these imported bees and finds disease a-plenty—well, how would you like it? If you are coming to southern California with a car of bees, please try to bring clean bees—colonies free from disease—and then go to some of the leading beekeepers in the neighborhood and

ask them to help you secure locations. You will not find them such bad fellows and may avoid ill feelings in the future.

It was very unfortunate for the beekeepers of this part of the State that they missed the fine course of lectures advertised to be given at Riverside by Phillips, Coleman, and other prominent beemen. Riverside was under such strict ban for the "flu" at that time, that the meetings could not be held on the dates set.

One of the most needed additions to our business, in southern California in particular, is a thoroly reliable queen-breeder, who will have facilities and equipment enough to supply queens in numbers at the time the beekeepers want them. We have several apiarists, who raise some queens for sale, but there seems always to be a time in the spring when there is a big demand for queens that cannot be met.

A pleasant surprise to beekeepers is the news that they have good prospects of getting supplies much cheaper than they got them last year. The Orange Belt Co-operative Exchange has already made a contract whereby its members are to get foundation made for two cents a pound less than they were able to contract for last year. While they have no contract for cans and cases as yet, there is confidence that they can get a better price than they obtained last season. Other supplies will, it is thought, not be any higher than last year, and many expect much lower prices. My local lumber merchant asked me the other day if I wanted any material for hives as he was ordering a car of soft pine, such as all of our hives are made of. Last year he could not get this material at all, which shows that the war is over and that the Government is releasing materials which were hard to get last year.

The date of the annual meeting of the Orange Belt Co-operative Honey Producers' Exchange has again been set—this time for Monday, Jan. 13, at 10 a. m. Riverside is the meeting place. There will probably be nothing to interfere with the meeting this time, as the "flu" conditions are much improved in these sections of the State.

Corona, Calif. * * * L. L. Andrews.

In Michigan.—The State Beekeepers' Association is now prepared to furnish a list of its members to advertisers or others interested. Apply to the undersigned, inclosing a stamped envelope.

The writer is trying to get together a list which will contain the name of every beekeeper in the State who is sincerely interested in the production of honey and suppression of disease. It is expected that within a short time a letter will be mailed monthly or as frequently as expedient to each name on this list. The letter will con-



FROM NORTH, EAST, WEST AND SOUTH



tain data, information, and suggestions of particular importance to Michigan beekeepers. If you are not already on the list of persons who receive the circular letters from the State Beekeepers' Association, then please send in your name.

The Legislature is now in session. Many of the members are in favor of increasing the appropriation for inspection work. There are many who are "neutral" and some who are against it. Now is the time to get right after the representatives and let them know your sentiments if it is to do any good at this session. One letter to one representative might save the day. One "kicker" in the Legislature frequently upsets the program of a dozen others. Be sure that YOUR representative is informed of the need of a further appropriation.

A short course for beginners and amateurs in beekeeping will be given at the Agricultural College beginning Feb. 24 and continuing till noon of March 1. Eight hours a day will be devoted to lectures and laboratory exercises in beekeeping. The course will deal chiefly with the particular information of which the beginner feels in need. The instructors at the College will be assisted by a well-known honey producer who will lecture chiefly on methods of production. This course is in no way intended for professionals. The object is to get the beginners started along the right path. For further particulars, write to A. M. Berridge, Director of Short Courses, East Lansing, Mich.

On Dec. 17, a joint meeting of the Lambton County Beekeepers' Association of Ontario and the St. Clair County Beekeepers' Association of Michigan was held at Port Huron. This meeting was one of unusual interest and enthusiasm. Mr. Armstrong from the Ontario Agricultural College and Mr. Rumford, Deputy Provincial Inspector, both gave very helpful addresses. One of the best features of the meeting was the banquet which was held in the evening. The toastmaster, John Farrell of Ontario, was a master in his position and so conducted the program of toasts that every person present felt fortunate in being there. We need more of such meetings as this one. The very energetic County Agent, C. L. Brody of Port Huron, was largely responsible for the success of the meeting. Meetings were also held during the month in Lapeer, Genesee, and Jackson Counties. The continued epidemic of "flu" compelled the abandoning of most of the program of meetings.

B. F. Kindig.

East Lansing, Mich.

* * *

In Ontario.—The month of December here in Ontario has been much milder than usual for this time of the season. About 10 above zero was the coldest—quite a contrast to the December of

1917 when we had several days away below zero. Generally speaking, milder weather earlier in season, with the extreme cold later on, is better for the outdoor bees than with conditions reversed; but too long a spell of very mild weather late in January is often harmful, as brood-rearing is apt to start. As a rule, we have our coldest weather here in February; and, with much brood in hives in January, an extremely cold spell lasting for weeks, following the mild weather of the previous month, often causes colonies to go to pieces badly. January to date (8th) has been moderately cold with two days below zero. On the whole, I should say that the winter season so far has been fine for the bees, altho they did not have so late a flight as we would have liked. After all is said and done, the main factor in good wintering for our locality isn't so much a question of weather conditions as one of stores, because an abundant provision of stores of good quality will generally bring the bees thru all right even if weather is bad; while, on the other hand, if stores are light or poor in quality, all the good weather conditions and good preparations in the way of packing, etc., are all for naught.

A very mild January when, as intimated, bees are inclined to start brood-rearing heavily, is the kind of a season when the brood-nest is about solid with honey. Such a condition proves a real bonanza, as the brood-rearing space is so restricted that the queen has little space to deposit eggs. That was the theory that the late Mr. McEvoy worked on, and the longer I keep bees the more I am convinced of the soundness of the plan in practice as well as in theory. To all who say that colonies can have too much honey and too little "winter nest" for good outdoor wintering in a climate similar to ours, I respectfully suggest that they try the matter out. Restrict the brood-nest in the fall and then feed these colonies so that combs are literally solid, and let that condition remain as long as it is possible to get the bees to take the feed (this for an extreme test), and if the colonies are reasonably strong in bees and reasonably protected, I feel almost like saying that I will stand the loss in wintering if loss occurs. As to this question of freezing the bees by reason of too much honey in the brood-nest, claims have been made that **cannot be verified by experiment**. No, we do not prepare all our colonies in that way, not even the majority of them. Reasons are obvious, for with so many bees it would take too much work. But one thing I am sure of is this, that all colonies thus prepared have always wintered in good shape, while many others, in the same winters, not thus prepared have not done so.

Owing to the influenza epidemic and other contributing circumstances, the date of the



FROM NORTH, EAST, WEST AND SOUTH



annual Ontario Convention is the latest on record. I have no program as yet, but have received notice that the convention will be held in Toronto on Feb. 3, 4, and 5. The meeting will be, I presume, at the usual place—the Carlsrite Hotel, near the Union station. With a fairly good season just past in the way of a honey crop and good prices, enthusiasm is high among the fraternity, and naturally we expect a good attendance at the convention. However, we always expect that much and are never disappointed in that line, as an attendance of from two to three hundred is a common occurrence.

I have just learned with regret of the sudden death from influenza of a young beekeeper engaged extensively in the business—Mr. Brunne of Arnstein, Ont. Mr. Brunne, with his father, operated a number of apiaries in the Parry Sound district of Ontario, a poor farming section in a general way, but a fairly good beekeeping district. The surplus obtained is from clover, raspberry, basswood, and fireweed, the sources being in value in order named, if I remember correctly. Mr. Brunne was a young man full of energy, just on the threshold of a useful life.

As to what Mr. Andrews says on page 30, January issue, in respect to European foul brood and American foul brood being distinct diseases, I ask if it is not locality, then what is it that would cause Mr. Andrews to make such a statement? Here in Ontario, at least, the two diseases, while having some things in common, have on the other hand so many things different that the veriest novice, seeing and studying them side by side for a season, would know positively that the diseases are entirely different. A comb filled with scales of dried-down larvæ from American foul brood **cannot be used again**, under any circumstances that I ever heard of, without transmitting the disease to any colony to which said comb is given. A comb filled with dried-down larvæ, half-dried larvæ, or **rotten** larvæ from European foul brood can be given to bees and not transmit the disease to bees that seemingly are immune to it. Do these conditions hold good in California or do they not? While I am not sure about it myself, yet I certainly believe the same results would be obtained with this test as we get here in Ontario. If wrong in this surmise, I will gladly be corrected; but, if right, then Mr. Andrews should not advance such views.

Markham, Ont. J. L. Byer.

* * *

In Texas.—The second annual meeting of the county apiary inspectors was held at College Station on January 24 and 25. This meeting was a school of instruction at which time plans for the coming year's work were discussed with the inspectors. Particular attention was given this year to the new regulations, which are

to be rigidly enforced, that will prohibit the shipment of any honey at any place in the State without a certificate of inspection. Beekeepers of the State are warned to be prepared to meet the new regulations by having their yards inspected during the season. It is too early to discuss at this time the details of the program.

On Dec. 30, 31, and Jan. 1, there were held in San Antonio, Tex., the widwinter meeting of the educational section and the annual meeting of the business section of the Texas Honey Producers' Association. These meetings were very well attended by representatives of several of the beekeeping sections of the State, the average attendance at the sessions being about 45. A very enjoyable part of the three days' program was the banquet given by the Bexar County Beekeepers' Association to the visitors. The field meet which was planned for New Year's day could not be held on account of the severe weather. The program of the educational section was devoted to matters concerning the general uplift of the industry in the State. These sessions were presided over by E. G. LeSturgeon of San Antonio, who is president of the section. A talk by Prof. H. B. Parks, Apicultural Expert of the Extension Service of the A. & M. College, outlined the work which is being done with the beekeepers. The results shown certainly prove the value of the work. Plans for more extension work were outlined. In a talk by F. B. Paddock the more important results of the foul-brood eradication were mentioned. The chief plans for the coming year include more drastic regulations pertaining to the shipment of honey in the State. In the new regulations the shipper of honey will be responsible for the inspection certificates. The president brought before the meeting the outline for the legislative action of the section. This is to include a request for a bill which will create experimental apiaries to study the problems of beekeeping. Resolutions were adopted expressing confidence in the present efforts of foul-brood eradication and asking that no change should be made in the present management. A committee was appointed to prepare for the beekeepers of the State a list of terms properly defined. The meetings of the business section were presided over by Louis Scholl of New Braunfels, the president. Matters discussed at these sessions pertained to the advancement of the association. A report of the manager showed the wonderful results that have been attained, especially in the two worst years in the history of Texas beekeeping. The directors of the association in their meeting declared the guaranteed dividend of 8 per cent to be retroactive to the time when the money of each stockholder was placed with the association. The manager was given a vote



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of confidence by the directors and elected for another year. Appreciation was expressed to Louis H. Scholl as editor of the Beekeepers' Item for his efforts for the beekeeping industry of the State. Considerable additional stock in the association was subscribed by those at the meeting. The entire three days of meetings were filled with profitable exchanges of ideas and construction plans. Those who attended were convinced that the programs were the best that have ever been held.

Several of the large beekeepers in west Texas who lost so heavily last year are now trying to buy bees to fill their empty fixtures. Some of the parties are interested in the purchase of box hives. It is to be regretted that a large number of the box-hive bees can not be transferred to modern hives, but the owners of the box hives are always very reluctant to dispose of their holdings.

The mild treatment of American foul brood is certainly not safe in Texas. The most drastic measures are not more than equal to the task. Every effort is being made to discourage treatment, as the experience of the best beekeepers has shown positively that utter destruction is the real saving.

There will be considerable competition this year between the Texas beekeepers and the northern buyers of package bees. The losses in the State are going to be made up as soon as possible thru the purchase of bees in any shape from package to colony.

F. B. Paddock.

College Station, Tex.

* * *

In Florida.—During the last two months reports have been coming from all parts of Florida indicating that paralysis is more prevalent than usual. This is the only disease to which our bees are subject. There appears to be no remedy; nor is any needed, as the malady disappears of its own accord as soon as nectar begins to come in freely. Unfortunately, it appears at a time when every bee lost counts against a successful honey crop, because it is the bees that live thru the winter that gather the bulk of our orange honey, and a colony badly affected by paralysis seldom amounts to anything for the spring flow. Some years ago I used to have many paralytic colonies every spring. In some cases a strong colony would dwindle to a point where there was only a pint of bees, and then they would build up again in a remarkably short time; but since 1914 I have seen nothing of this disease except, perhaps, an occasional bee. The most extensive beekeeper in this part of Florida once told me that he had the same trouble every year until he placed his hives in sheds where the sun would never strike them. It is significant that paralysis has not appeared in my yards since the ma-

ajority of the hives have been well shaded, tho in my opinion dampness is the cause of the trouble.

Also we cannot tell at this time what the prospects are for a crop of orange honey, we can assume, provided there is no freeze, that it will be the biggest there has been for many years. The fall flow, lasting as it did well into November, has given us such strong colonies that we cannot fail to make the crop if we get the bloom. The experienced beemen will be prepared to care for the flow as they have never been prepared before, since no expense is being considered. Buzz saws all over the State are busily cutting out hive material, and big increase is being planned by all.

Now, Mr. Beginner, and you who own a few colonies of bees and work them on the "let alone and get all I can" principle, let me talk straight at you, for I can say here what I cannot say in person. This is the beginning of February, the bee-year has just commenced, and in four or five weeks swarms will be hanging in your yard. Have you ordered your supplies, your hives, supers, and foundation, or are you relying, as usual, on the generosity of your neighbor to accommodate you out of his own stock? I am speaking not only for myself but for everyone who is engaged extensively in beekeeping, when I say we do not want that class of beekeepers around us. You are a nuisance when you come expecting us to furnish the supplies you should have bought long before; and, if we charge a little more than catalog price, it does not begin to pay for the valuable time your request requires us to expend. It is difficult for us to refuse to sell a hive or some foundation when we know that your bees are not provided for, and when you see that we have big stocks of just what you want. You should remember that these abundant supplies have all been paid for months before we expect to use them, and, tho we may have more than we shall use immediately, we do not want to sell and then have to replace at a higher price. We are not in the bee business to accommodate you and make good your failure in your care of your own property. Most of us will willingly get what supplies you need if you will tell us well in advance; but we do not anticipate your need when ordering our supplies. You come to us for advice, and it is freely given, tho it has been dearly bought by hard experience; but you should not expect us to furnish the capital to carry on your business. If you have not ordered your supplies you have not a day to spare, as freight shipments are subject to much delay. For those of you in Florida the nearest agent carrying a full stock of goods is L. W. Crovatt, Savannah, Ga. I may speak plainly, but I wish you every success in the coming season.

Apopka, Fla.

Harry Hewitt.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Can Bees Hear? Possibly, Yes.

A. I. Root, page 739,
asks this question.

This is something that

I have often thought of myself, because a few years ago I had a little experience that almost convinced me that bees can hear, but yet I do not know. One evening after sundown in the midst of the honey flow I had ground my scythe, and in walking along in front of a row of hives there was a post about 10 feet from the entrances of a few hives. When I got to the post I hit it a light blow with the blade, which gave a bell-like sound, when out shot a few dozen bees from several hives close by. I repeated the act several times, and it always had the same effect on the bees. Did the bees hear it or feel it? They surely did not see it. It seems to me that some of our old-time beekeepers like A. I. R. himself, and Dr. Miller, who have, perhaps, worn out several of their wives' dishpans in their early days of beekeeping in calling back runaway swarms that were nearly out of sight, should surely be able to give us some light on the subject. If bees could hear 40 years ago, they surely can do so yet. Who knows? I believe bees can and do hear.

Dakota, Ill.

A. A. Augenstein.

I should like to relate an experience we had two summers ago. There were a few half-grown pigs in a pen a few rods from an apiary of 200 colonies. Occasionally a pig would get out; and in catching and lifting him back over the fence there would be some good sharp squealing. Whenever this happened when the bees were flying well overhead, scores of them would come at us so furiously that we were obliged to hurry operations or take a severe stinging before we could get away. The bees would come for rods, fast and mad, directly for us. It was not the motions we made that caused it, for we tried it. It happened fully half a dozen times before we fixed the fence. Do not the bees hear the piping of young queens.

East Syracuse, N. Y.

F. W. Lesser.

A. I. Root revives the old question: "Can Bees Hear?" It seems to me that such a question could be easily answered by any apiculturist who has at one time or another noticed what happens when by accident a bee is pinched on top of the frames and in the vicinity of other bees. The injured bee gives a "war whoop," followed by an immediate rushing of bees to that spot. Could the bees have seen such an accident? No; nor could they have felt it. What then called them to the assistance of the injured member? Simply the sound of distress. There are numerous other bee behaviors that can be accounted for only by sound. For instance, how would the guards

at the entrance obtain help, if they could not make others hear and understand the vibrations of their wings? There is no more conclusive proof of the presence of a sense of hearing in bees than the fact that they can distinguish and will follow different sounds, unless it be the positive discovery of the ears themselves.

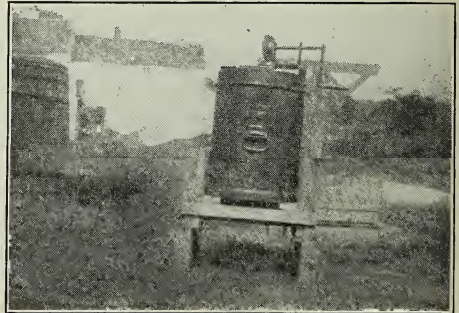
Lawrence F. Bellman.

Ft. Atkinson, Wis.

A Homemade Extractor.

In an old-fashioned
milk-can cut a six-inch
hole in the bottom.

To the edges of this attach with solder about an inch of the top part of the funnel. Then punch four holes in the lower edge of the funnel and attach a cheesecloth strainer. If the can is not deep enough to take the frames, attach a band of iron to the top. Next make a frame of wood and wire attached to the shaft and held in place at the bottom with a strip of iron with a hole in the center. In this frame the extracting-supers as well as section boxes slide in and



A homemade honey-extractor.

out easily. A couple of old gears will complete the outfit as shown in the picture. The old can was given to me. I had on hand the old pieces of iron, solder, etc., so the whole affair, including paint, cost but \$1.69.

The standard is simply but solidly built. Any size of dish may be used underneath by sliding a board thru the different cleats at the sides of the legs.

My honey crop totaled 226 pounds this season, about half of which was extracted.

Center Rutland, Vt.

R. L. Palmer.

Objects Strongly to That Treatment.

The article by J. F.
Kight, appearing in
the January issue,

raises a question that should be ventilated. There are altogether too many beekeepers who now try to cure American foul brood in that way. At the beginning of my bee-

HEADS OF GRAIN FROM DIFFERENT FIELDS

keeping career I spent two years with a man of world-wide reputation. His system of curing American foul brood was to move the colony with diseased cells to an out-apiary, called a hospital, and there cut out the cells as Mr. Kight advises. He never was free from disease during my stay with him. In some cases this treatment might be the means of curing the disease, in others it might not.

In another instance, I knew of 100 colonies of bees gaining access to a tank of diseased honey in the autumn after breeding had ceased. Following my advice, the owner examined the colonies frequently in the spring, and, whenever he found a cell of American foul brood, he cut it out and kept on watching to prevent the disease getting a start. Yet under even such favorable conditions as these, the beekeeper did not succeed in eradicating the disease by this method.

The trouble is, one rarely knows when and how the germs have been brought in. My practice has been to destroy every source of infection, and, whenever I have found the disease in one or two colonies in a large apiary of 100 or more, the bees have been brimstoned, the combs burned, and the hives disinfected. R. F. Holtermann. Brantford, Ont.

cient stores; but dandelions, followed by fruit bloom, saved them. They swarmed once, but I did not lose either the queen or the bees; and after I had cut out queen-cells and given ventilation they gave up swarming. They gathered about 140 pounds of surplus honey, mostly from white clover. In August, from sweet clover and wild flowers, they brought in enough for winter. I packed the hive in a box, surrounding it with newspapers and furniture packing, and placed it near a corner brick wall which serves as a windbreak.

Detroit, Mich. Scott Mizenes.



A colony of Italian bees that built their home in the open in Posey County, Ind. It was suspended among grapevines and horseweeds, and was half as large as a full-sized barrel. On Dec. 22, 1918, when this colony was put in winter quarters, it was very strong and had 50 lbs. of honey.



On a Roof in Detroit.

This snap-shot shows one colony of bees on the roof above my home near the large Liberty (air-plane) Motor Co. I saw this was a good location, since the flight of the bees would be clear above the street traffic, and there is an abundance of flora in the adjacent fields. So I sent away for a colony. The hive arrived all right except for a couple of



Beekeeping on a roof in Detroit.

broken end-bars and a slight tear in the screen which let a few bees out. With the assistance of the neighbors I hoisted the colony to the roof by means of the clothes-line. At first I feared for the bees on account of the wet and cold, and also insuffi-

Big Results from Three Colonies.

This spring I started with three colonies.

Six queens were ordered from the South to be shipped May 10. Before arrival one colony swarmed. Upon receipt of the queens the parent colony, as well as the two other colonies, was divided into three parts each. This gave me "the makings" of 10 colonies. Later another queen (not ordered) was received. So I robbed nuclei to start a nucleus. This gave me eleven "makings." All colonies are in ten-frame hives. I had no combs excepting those in the three original brood-chambers, they having been run for comb honey; but I used full sheets of foundation upstairs and

HEADS OF GRAIN

FROM

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down—rather hard on the nuclei, but it was the best I could do.

The crop was 564 pounds surplus, all taken from supers. The brood-chambers are packed solid with honey, and I have used no sugar whatever. By using sugar for wintering I could have taken another 100 pounds of honey from the brood-chamber; but instead I have saved 16 pounds of honey for possible spring use. (These are included in the 564 pounds.) I expect to make further increase in the spring, and find I have to "dig down" and get a honey-tank, uncapping-can, etc. Don't you think I did well with three colonies?

Edward M. Barteau.

Brookhaven, N. Y.



Combs, full of holes and rough, but taken from one of the record-producing colonies of E. S. Kinzie at Arlington, Calif.



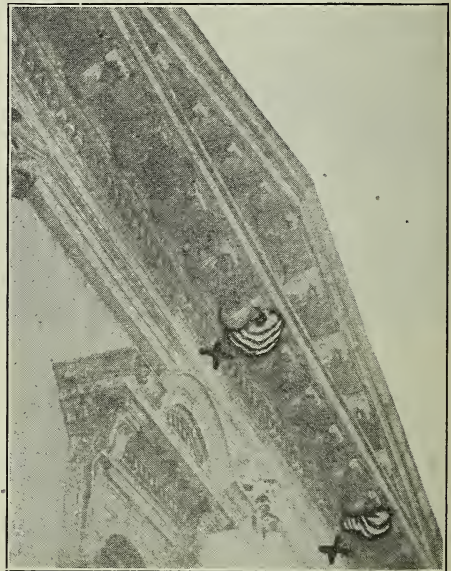
For Watering Bees In answer to the inquiry of W. E. Woodruff of Cottonwood, Ariz., as to a dependable contrivance for watering bees on the desert, I hereby wish to describe a device that will answer the requirements as stated and will be unailing in its operation.

Take a barrel that is tight, place a faucet in the lower hole near the bottom. In the top of the barrel bore a hole large enough to take a fair-sized funnel. Make a bung that will fit this hole so as to be

perfectly tight. The spout of the faucet is to extend into a shallow pan of any dimensions to answer the respective requirements. A rack of lath or other material can be placed in the tray to prevent the drowning of bees. If lath are used, the spout of the faucet should be placed about one-quarter inch above the bottom of the pan. Turn off the faucet and fill the barrel with water to the top. Drive the bung in the top tight, open the faucet, and the water will run out until it is even with the opening of the faucet. As the water is used or falls below the spout, a small amount of air will pass into the barrel, allowing the corresponding amount of water to pass into the pan. A piece of pipe with an elbow on the end will answer as a faucet; but when the barrel is being filled the opening on the pipe will have to be plugged to prevent the water from running out as fast as poured in. If a barrel is not large enough, a tank of any size could be made and used in the same manner.

Albert G. Hoffman.

Buffalo, N. Y.



The Government extension men, while giving a course of instructions to beekeepers at Visalia, Calif, recently had their attention called to the two large colonies of bees that had built combs under the cornice of the court house about 60 feet from the ground. The combs are exposed the year round, and yet the colonies seem to prosper. One colony is a swarm of the other. The getting of the pictures, of which this is one, drew a large crowd, including the fire department and the sheriff, who had come not to arrest the trespassers but to assist in getting the pictures. The combs are shown above the crosses marked on the picture.

THE annual meeting of the Minnesota Beekeepers' Association, to have been held Jan. 29 and 30 at the West Hotel, Minneapolis, was postponed a second time on account of the flu epidemic. The regular Minnesota beekeepers' short course will not be held this winter, but the annual meeting of the association will still be held at a later date.

* * *

The beekeepers of Franklin Co., O., organized a county association on Jan. 10 at the Chamber of Commerce, Columbus. There are about a hundred live beekeepers in the capital county of Ohio.

* * *

The annual meeting of the Missouri Apicultural Society was held at Columbia, Jan. 21 to 24, during the State farmers' week. An excellent program was prepared; and the advance announcement spoke most hopefully of the beekeeping prospects in the State.

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The Chicago-Northwestern Beekeepers' Association will hold its annual meeting jointly with the National Beekeepers' Association. Accordingly, the Northwestern's meet will consist of a morning and afternoon session, on Feb. 18, the National's first session coming on the evening of the 18th. The place of meeting is the LaSalle Hotel, Chicago. Speakers on the program are Dr. E. F. Phillips, Editor C. P. Dadant, Edward Heflinger, Jr., and Miss Iona Fowls.

* * *

At the annual convention of the Western New York Beekeepers' Association held at the Genesee Hotel, Buffalo, N. Y., Jan. 10, 11, James H. Strout, Lockport, was re-elected president, and Howard M. Myers, Ransomville, was re-elected secretary. There was an excellent attendance, and unusual interest was taken in the proceedings. An interesting and significant fact is that the Western New York Honey Producers' Association is now incorporated under the laws of New York.

* * *

The New York State College of Agriculture, in co-operation with the Bureau of Entomology of the U. S. Department of Agriculture, will conduct a six-day school for commercial beekeepers at Ithaca, N. Y., the week of Feb. 24. This course is practically the same as that which was given recently for three weeks in California by Dr. E. F. Phillips and his assistants. This school is in no sense a beekeepers' convention such as beekeepers ordinarily attend in winter time, but will be a systematic course in beekeeping, with emphasis placed on the fact that the primary part of this course will be to

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JUST NEWS

Editors

train commercial beekeepers and not to make mere beekeepers. The tuition in the course is free to all residents of New York State. The course has been

carefully organized along the lines of the teaching given at the California courses during November and December that proved so highly successful. The school will be held in room 392, Robert Hall, Cornell University, the first session beginning Feb. 24 at 10 a. m. The names of instructors appearing on the program are Dr. E. F. Phillips, E. R. Root, Geo. H. Rea, Geo. S. Demuth, A. Gerdon Dye, O. L. Hershiser, C. P. Dadant, J. G. Needham, and S. D. House.

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The 16th annual convention of the Kansas State Beekeepers' Association was held Jan. 7 and 8 at the Chamber of Commerce, Topeka. An excellent program was sent out in handsomely printed form.

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The annual meeting of the Pennsylvania State Beekeepers' Association was held at Harrisburg Jan. 23-24. An interesting program had been prepared, with Dr. H. A. Surface in charge as president.

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W. A. Pryal, long a resident of Oakland, Cal., a widely known beekeeper, and one whom many readers of Gleanings will recall as a contributor to this journal, died Dec. 29 last. He was a man and beekeeper of exceptional ability and of the highest standing.

* * *

The first annual meeting of the Chenango Co., N. Y., Beekeepers' Society was held on Dec. 14 at the county court house, Norwich. There was a large attendance of beekeepers from Chenango and adjacent counties, and an excellent program was carried out. The officers for the coming year are: O. W. Bedell, Earlville, President, and L. R. Gorton, Norwich, Secretary-treasurer.

* * *

The 49th annual convention of the National Beekeepers' Association will be held at Hotel LaSalle, Chicago, Feb. 18-20. Among the names appearing on the program are those of Prof. Francis Jager, Collin C. Campbell, E. D. Townsend, Dr. E. F. Phillips, Prof. F. Eric Millan, Charles B. Justice, Kenneth Hawkins, Prof. H. F. Wilson, C. P. Dadant, Prof. E. G. Baldwin, and E. R. Root (if not detained in California). Every wide-awake, forward-looking beekeeper in the United States is urged to attend.

QUESTIONS.—
(1) What has become of the famous Alexander plan for a plurality of queens in one hive? Was Mr. Alexander the only one who ever made a success of it, and is it entirely abandoned?

(2) Ten queens in 10 hives each with one or two pounds of bees will develop very slowly, owing to a lack of bees to take care of the brood. These same 10 queens in one colony of 10 to 20 pounds of bees will each have plenty of bees and heat enough to cause them to commence laying eggs at 100 per cent rate. Such a colony after three weeks ought to produce frames of hatching brood every two days, thus giving one full-colony increase every other day. In other words, one strong colony on May 1, provided with 10 good queens, ought to produce 15 good colonies in each of the months of June, July, and August, and each of these colonies would have enough time to grow into excellent colonies for wintering, the cost of these 45 colonies being only the price of 10 queens in May and some feed. Will this theory come true? (3) If several queens in the same hive (without excluders) are tolerated only during the honey flow, will they be tolerated if the colony is fed daily with a thin sugar syrup? Emil Wyldert.

New Jersey.

Answers.—(1 and 2) By a little calculation it will readily be seen that theoretically 15 good colonies could be built up in 30 days, as you suggest, using only 10 queens and a large quantity of feed. However, in actual practice we find queens and bees refuse to behave with mathematical exactness. Moreover, a plurality of queens in one hive is not successful. At the time Alexander brought this plan before the beekeepers, many tried it, but the method was dropped in a very short time. At the present date, we believe the only way it is being tried is simply to use two queens in the same hive during the summer, usually having two queen-excluders intervening between the chambers containing the different queens, it generally being found, if only one excluder intervenes, that sooner or later one of the queens will disappear. (3) We see no reason why this might not be done immediately following the honey flow, and yet we have never tried the plan; in fact, except in cases of supersedure, we have never been successful in having more than one queen in the same compartment.

Question.—An old box-hive beekeeper told me to wash the inside of the hive with salt and water, and the bees would not swarm out, but stay every time. Do you know if this is true? Ernest Peterson.

Illinois.

Answer.—No. We wish it were.

Questions.—(1) How many colonies would it be best to keep for about 50 acres of alsike clover, provided there is a good stand of clover, no other honey plants in the vicinity, and the weather and moisture are suitable? (2) Why is alsike cut for seed the first cutting? Isn't there as much seed in the second cutting? (3) Is alsike clover the best yielder of all the clovers? If not the best, what is better?

Illinois.

Walter R. Suhre.

Answers.—(1) In a good locality, during



a good season, 50 acres of alsike clover would probably supply considerable surplus for 20 colonies of bees. This would, of course, vary from year to

year, and it is therefore difficult to give a definite answer. (2) Red clover is fertilized to a great extent by bumblebees since the corolla tubes are so long that honeybees are generally unable to reach the nectar. Since only the queen bumblebee lives over, there is no chance for fertilization of the first cutting. Alsike, being fertilized by bees, bears seed for the first cutting and accordingly is probably exhausted by the second growth so that it does not mature properly. (3) Altho white sweet clover and alfalfa are very good yielders, we know of none more reliable than alsike.

Question.—Will it be safe to feed bees with comb honey which has been treated with carbon bisulphide to kill moth larvae and eggs, after such combs have been exposed 10 days or two weeks?

Nebraska.

C. W. Farrington.

Answer.—The combs of honey will be perfectly all right to feed the bees; in fact, the honey may be eaten by human beings without any danger of poisoning.

Question.—A beekeeper in Minnesota told me that if a hot uncapping knife is used, the ends of the cells are so singed or melted that bees do not like to lengthen or build them up again. Is there anything to this? J. W. Beckley.

Oregon.

Answer.—No, not in our experience.

Question.—Will you please tell me what preservative to put in honey to prevent it from fermenting? British Honduras. Donald A. Spratt.

Answer.—In order to prevent honey from fermenting it should be left on the hive until it is thoroughly ripened. As the bees ripen the honey it becomes thicker and thicker, and is thus less liable to fermentation. Honey should be kept in a warm dry place. The best temperature is 70 to 90 degrees Fahr. No preservative should be put in honey in order to keep it. Even if such a chemical could be found which would not injure the flavor of the honey, the beekeeper would still be prevented from its use by the pure food law. Well-ripened honey in a place such as we have indicated ought to keep for years.

Question.—I had been planning a winter case that would hold four hives, giving one entrance on each side, when I found in Gleanings, page 598, almost the identical thing I had been planning. The vacant space at the center I do not like, but see no way to prevent it and still have one entrance on each side. Mr. Foster gives the measurement as 48 inches by 49½. It seems to me this would cause a great waste of lumber, but by cutting half pieces 48 inches and nailing up one end in, and the other out, as you would in putting in inside forms for concrete work, you would have a box 47¾ inches square, provided your lumber was

$\frac{3}{8}$ inch. This would give $5\frac{1}{2}$ inches of packing on all sides.

A. W. Lindsay.

Michigan.

Answer.—Apparently you have misunderstood the description of Wesley Foster's case. We believe he uses all 48-inch lumber $\frac{3}{4}$ inch in thickness. The dimensions of $49\frac{1}{2}$ by 48 are the outside dimensions, and the reason that the two sides are $1\frac{1}{2}$ inches longer than the ends, is because the end-pieces are nailed on to the ends of the side-pieces. The thickness of the $\frac{3}{4}$ -inch lumber at each end of the side boards, would therefore make the sides $1\frac{1}{2}$ inches longer than the ends. If the corners were lapped serially, as we understand you to suggest, the outside dimensions of the case would be $48\frac{3}{4} \times 48\frac{3}{4}$, if this same $\frac{3}{4}$ -inch lumber were used. However, if $\frac{3}{4}$ -inch lumber were used and half the boards cut $1\frac{1}{2}$ inches shorter than the other, it would be possible to have a perfectly square case if the corners were lapped as in Wesley Foster's case. There would, therefore, be no material difference in the price of these three cases, and the manner of matching the corners would simply be a question of personal preference.

Question.—What do you think of the following plan of wintering, which I am now trying out? Take ordinary 10-frame Langstroth hives, fasten the bottom-board and roof securely, close the summer entrance, and turn the hive on end, the bottom being to the front, then bore a 1-inch hole at the bottom of the bottom-board for a winter entrance. Secure the hives with props, so that they cannot blow over, and then leave without any other protection.

Washington D. Keyes.

Pennsylvania.

Answer.—This plan has been suggested by several other beekeepers, who intend trying this method of wintering with double-walled hives. The part of the hive that is the top during the summer would need some extra packing, and in some cases the bottom also would need more protection. This could, perhaps, be arranged by means of a large telescope cover, but it is possible that the cost of such a cover might make the regular Demuth style of wintering preferable. We shall be glad to receive a report from you next spring.

Question.—How can I fasten foundation into extracting frames?

Martin Seipp.

Minnesota.

Answer.—To fasten foundation into extracting frames, the frame should be held with the bottom-bar up, and leaning out a little way from the operator. The triangular piece may be removed from the top-bar and the sheet of foundation then laid against the shoulder in the bar and resting against the wire. The piece of wood removed is then laid against the edge of the foundation where it comes in contact with the top-bar, and is nailed in place with two or three small nails. After this the frame should be placed over a block just the right size to fit into the frame, the foundation being next the block and the wires on top. The wires may then be imbedded with a spur wire imbedder, using only just enough pres-

sure to imbed the wire in the foundation, without cutting thru the foundation. If the wires cut the foundation at any place, the bees will probably remove a part of the foundation there and replace with drone comb.

Question.—Do you consider the $\frac{3}{8}$ -inch space under the brood-frames too much? I find them building burr-combs from the bottom-bars to the hive bottom.

A. W. Lindsay.

Michigan.

Answer.—We do not think $\frac{3}{8}$ -inch space any too much under the brood-frame, and as far as their building burr-combs from the bottom-bars to the hive bottom is concerned, this would not trouble us. Of course, if such burr-combs became so high that there was danger of crushing bees when returning the combs to the hives, it would be necessary in those rare cases to scrape the bottom-board. However, we do not think you will have any trouble from this cause.

Question.—Please tell the surest and quickest way to requeen a colony of bees having laying workers.

E. D. Howell.

New York.

Answer.—In the September issue of Gleanings, under the department "Gleaned by Asking," you will find a method given for introducing a queen to a laying-worker colony. In addition to this we might say that some good beekeepers simply exchange places of the laying-worker colony and some other good strong colony, and then requeen in the usual way.

Question.—We are just beginning in beekeeping, but plan to branch out until we reach a full 50-hive apiary. We are in a very fine country for bee pasture. It could hardly be better. Would you advise us to go in for extracted honey or for comb honey?

Montana.

W. A. Petzoldt.

Answer.—Your locality is more suitable for extracted honey than for comb on account of the cool nights. During the night the bees build a great deal of their comb; and unless the supers are quite warm the bees will not go into them to carry on this work.

ANSWER BY MEL PRITCHARD.

Question.—I am a beginner, and it is my object to locate near Fort Myers, Fla., and build up an apiary. I understand that is a good location, but would like your opinion concerning it.

Oregon.

A. P. Applegate.

Answer.—Three years ago I spent several days with the beekeepers at Ft. Myers, and was not very favorably impressed with that region as a location for honey production. I found most of the beekeepers were rather discouraged. The cattlemen burn over a great deal of the land during the winter in order to improve the spring pasture, and this destroys the bloom of the saw palmetto, which is one of the main honey plants of that locality. If you are able to locate where there is plenty of tupelo, you can be reasonably sure of a honey flow from it. This, together with orange and bloom that is general over the State, would enable you to get a good honey crop.

BEES, MEN AND THINGS

(You may find it here)

ONE of California's daily newspapers reports the following conversation as having taken place between Charles Foss, a beekeeper with

8,000 pounds of honey to sell, and a honey buyer who came to his door to purchase his crop: "You are buying honey to sell it at an exorbitant price. I am going to sell mine at six cents a pound to persons who need it and can not pay your price. God gave us the bee and He charges us no tax on it. He gave us the flowers from which the bee draws its honey and they cost us nothing. Why, when the world is overwhelmed with suffering, should some men profiteer at the expense of those who suffer most? Some day I hope to look in the face of Him who gave us the bee and the flowers, but I could never look Him squarely in the eye if I had made a single penny out of a fellow creature's stress." The newspaper adds that Foss sold his entire crop at the price of six cents when he could have got 22 cents, selling it to people near his own home who consumed it themselves.

"We are reading with great interest on this side your revelations about large hives. Somewhere about 1860 a certain Mr. Woodbury made a 10-frame hive, 14½ inches square and 9 inches deep, and we have never got away from that hive. The result of confining brood to such a small space for generations has been to develop such poor queens that many now teach that the 10-frame British hive can not be bettered. Those who import prolific foreign queens and try to keep them laying on 10 British combs find that those bees (Italians, Americans, etc.) do nothing but swarm. So back we go to our degenerate British bee. Fortunately, Isle of Wight disease is doing something to exterminate the unfit—both bees and beekeepers."—John Anderson, Lecturer in Beekeeping, The North of Scotland College of Agriculture, Aberdeen, Scotland.

"I have been troubled with bronchitis for some years, and last winter I had the grip which left me in bad shape. So last spring I began taking a teaspoonful of extracted honey every night just before going to bed, and I do not have any more trouble from these ills."—H. Galloway, Multnomah County, Ore.

"The season I have just finished has been the best I have ever experienced in my 30 years of beekeeping. My honey season started about the last of September, 1917, and finished about the last of April, 1918. The drones were flying and swarms were flying all thru this period—in fact, drones were flying as late as midwinter, which with us is June 21. This was two months later than

in a normal season. I started last September with 73 colonies and finished with 141 and produced 33,420 pounds of extracted honey, all of good qual-

ity, an average of 237 pounds per colony. The price here ranges from 8 to 12 cents per pound, packed ready for export. Beeswax sold from 36 to 48 cents a pound and for a short time was up to 60 cents a pound."—A. P. Haberecht, Henty, N. S. W., July 17, 1918.

"I before stated some of the advantages of large cubical ('square') hives. I will take 10 hives of 2,250 square inches of comb capacity and go to any man's locality and produce more honey with less expense than he can with any hive smaller than that size."—T. K. Massie, Mercer County, W. Va.

"I moved my bees to winter quarters after Dec. 1, but did not cover the front of the hive as the weather was mild, and the next day and for several days thereafter saw drones flying in and out. Never heard of drones so late in the season before."—C. A. Kinsey, Gallatin County, Mont.

"We had a dandy year and I had several of those 'skyscrapers.' I allow no swarming, but use the double brood-chamber of 10 frames each, raising the first way above the second. It is a great system."—C. L. Rion, King County, Wash.

"There are now in this province of Ontario over 8,000 beekeepers. Tho the precise figures are not available, it is estimated that the product this year amounted to about 5,000,000 pounds."—The Toronto Globe.

"I will be 81 years old Jan. 6 and had concluded to quit the bee business and had about sold out; but I think now I shall stock up some in the spring."—G. T. Willis, Vermilion County, Ills.

"In 1916 I sold about \$300 worth of honey from 12 colonies by spring count. I am a farmer way up in 'that blustery Nebraska,' too."—G. L. Mills, Merrick County, Nebr.

"Very mild winter here on the Kansas-Nebraska line, and bees are wintering well with some outside protection."—Ralph Livers, Nuckolls County, Nebr.

"Today, Dec. 19, bees are gathering some pollen off the dandelion. Did you ever hear of the like at this time of the year?"—Wm. Kemp, Shelby County, Ind.

"An open winter here. Prospects are good for honey crop next year."—D. F. Rankin, Jackson County, Ind.

"The prospects for clover for 1919 look good."—G. W. Haines, Fulton County, N. Y.

U N D E R
 "Minor
 Tools and
 Appliances of
 the Modern Api-
 ary," by D. M.
 Macdonald, in
 the December
 British Bee
 Journal, we
 find the following: "A small rake, called a
 'queen-persuader,' is periodically run over
 the surface of sealed comb every time the
 hives are examined in the spring and early
 summer. In this way the bees are given the
 smell and taste of honey. The bees, trans-
 ferring this to the neighborhood of the
 brood, feed the queen, and thus induce her
 not only to start laying, but to keep it up
 even when nothing is coming in from the
 fields." [In our basswood apiary we have
 used such a tool for getting combs in the
 right condition for shipping one-frame nu-
 clei.]



* * *

INHERITANCE THRU DRONE.

Certain traits are more readily transmitted by drones than queens, claims C. P. Dantant, in the January American Bee Journal. He recalls that at the International Congress of Beekeepers held at Paris in 1900 the assertion was made that gentleness or irritability is transmitted thru the drones; that a black queen mated to an Italian drone will have progeny of a gentle disposition, while an Italian queen mated with a black drone will produce bees with the characteristic temper of the blacks. Mr. Dantant says he has since that time proved the theory true, having corroborated it in his own experience.

* * *

WRESTING SUCCESS FROM FAILURE.

Stick-to-it-iveness is necessary for success with bees, claims D. Anguish Lambeth in the December Canadian Horticulturist and Beekeeper. He believes one should have the staying qualities of a Jack Johnson, so that when he gets a hard blow in the first or fifth round he comes up smiling, refusing to "take the count." Among the many successful beekeepers Mr. Lambeth has known, he says there is not one who has not received at some time or other bad blows and reverses sufficient to put him out of business, but each time he came back "wresting success from grim failure just because they knew how to hang on."

A good illustration of this is found in an article by G. C. Greiner, appearing in the January American Bee Journal. In the spring he found himself practically destitute of bees, from the ravages of foul brood. He straightway purchased and built up in preparation for the coming flow. The result was an average of 280 pounds of surplus per colony, one-third of the honey being comb. One colony made a most remarkable record. Early in the spring it was of medium size, but was large enough to divide

on May 10, and again on June 2; also on July 12 the first division cast a swarm, so that the one colony increased to four and also produced 610 pounds of honey.

Mr. Greiner says the secret of his heavy yields is leaving the brood-chambers undisturbed during the honey flow. Unless absolutely necessary he never opens the brood-chamber from the time spring management is over until the following spring. [In the phrase "Unless absolutely necessary," Mr. Griener doubtless has in mind the need of occasional inspection for disease. We are certain he would consider this essential.]

* * *

INSPECTION WORK IN TEXAS.

Organization for bee control in Texas excels that of any other State, says Frank C. Pellett, in the January American Bee Journal. The work of disease-eradication has been placed in the hands of the State Entomologist, Prof. F. B. Paddock, who has appointed a chief inspector and 40 local inspectors. In this work Mr. Paddock has unlimited authority in making and enforcing all necessary regulations. In any locality where inspection is to be undertaken, he believes co-operation and organization imperative, and therefore requires county organizations to name two or more men who would be acceptable to the county. From these the selection is made. When cleaning up a locality the inspectors begin at the center of infection and work outward. They are required to examine every comb in every apiary inspected, and in case of a queen-rearing yard, every colony within a radius of a mile is also examined before a certificate is granted. [Let us hope this good work will spread to other States also. The present inspection work in many places is deplorable.]

* * *

LICENSING BEEKEEPERS.

European foul brood has become so prevalent in British Columbia that a demand has arisen that beekeepers be licensed. In the December Canadian Horticulturist and Beekeeper is a proposed amendment to the Foul-brood Act, which, it is hoped, will be passed at the next session of the Provincial legislature. It would require all beekeepers to register annually and pay according to the number of colonies, with \$5.00 for the maximum. The Minister would have power to refuse registration to any beekeeper whose methods he had grounds for believing a menace to good beekeeping.

* * *

HAVE BEES A SENSE OF DIRECTION!

The sense of direction is discussed in the January American Bee Journal by Prof. Emile Jung in a clipping taken originally

from the "Echo des Alpes." He has been trying out Fabre's experiments along this line, but has drawn a somewhat different inference. A few bees were marked, put in paper bags, and liberated at different distances from their hives. At about half a mile distant the bees all returned; at two miles a small number were lost; at four miles 17 out of 20 returned; and at eight miles none returned. Professor Jung believes this indicates no sixth sense of direction, but that the bees return only when they are able to find landmarks which they recognize. This seems borne out by the fact that of bees liberated two miles out in the lake none returned.

* * *

VALUE OF DOUBLE-WALLED HIVES.

Double-walled hives have been quite neglected in recent discussions on wintering, asserts W. A. Chrysler in the December Canadian Horticulturist and Beekeeper. The main argument against these hives, he says, is their cost, weight in handling, and greater liability to cause poor wintering. The first point rather fades away when we consider the cost of a winter case. In regard to weight, he says the double-walled hive does not need to be lifted; but he estimates that packing and unpacking the single-walled hives in an apiary of 100 colonies would require 14,000 pounds of lifting. In refutation of the third point he says that, after an experience of 30 years with various kinds of wintering (except cellar wintering), he has found the double-walled hives much the safest and most practical. He also adds that 28 years ago he visited an apiary of 200 colonies, all in double-walled hives. This fall he again visited the same yard and found the owner still as well pleased as ever with this kind of wintering. [In even as severe a winter as last, one can winter several hundred colonies in double-walled hives with less than one per cent loss if he knows how.]

* * *

CHAMPION OF SMALL HIVE.

Large hives are commented on by Miss Emma M. Wilson in the January American Bee Journal. She says that, tho Dr. Miller, if he were beginning again, would have a larger hive than the eight-frame, his helper does not agree with him on this point, since the eight-frame is much easier to handle; and, as for the danger of starving in winter, she says those women not willing to give the necessary attention in the fall should either use larger hives or let bees alone.

* * *

LOCATIONS IN CALIFORNIA.

Forest-reserve locations in California have been investigated, and range for thousands of colonies found, according to the December Western Honeybee. This work has been done by the United States Bureau of Entomology and Forest Reserve. The best of the localities that are at all accessible are already occupied; but there will be many

other good ones available as soon as facilities can be provided for reaching them. These ranges are to be classified according to their value as bee-pasturage, and the licenses will be so granted that beekeepers will be able to locate no closer to each other than three miles. In some other parts of California that are already overcrowded there has also been some talk of requesting the legislature to place a limit to the number of apiaries that may be established within a certain space.

* * *

LIMITING BOUNDARIES.

Among resolutions lately passed by the Auckland branch of the National Beekeepers' Association may be found in the November New Zealand Beekeepers' Journal one recommending that the Government limit boundaries so as to prevent overlapping of beekeepers' territory, and that the law forbid the removal of bees from one locality to another unless the proposed location be certified by the Government inspector to be suitable for the purpose.

* * *

STEEL DRUMS FOR CONTAINERS.

An effort to secure more dependable containers for shipping extracted honey is mentioned in the December Western Honeybee. Fifteen-gallon steel drums are proposed, and a rate of \$1.12½ per 100 pounds suggested as a carload minimum of 50,000 pounds. These drums are practically indestructible and may be handled with ease and safety.

* * *

PROPHECY ON PRICES.

"We do not see how prices can drop very much before the next crop comes on, as there is such a small amount left in the hands of the producer. Our idea now is that the market will stiffen just as soon as shipping space becomes a little more easily available."—M. G. Dadant, January American Bee Journal.

* * *

GIVING BEES TO SOLDIERS.

Maimed soldiers and sailors are each offered a colony of bees and hive complete by W. Ion in the British Bee Journal for Nov. 21. He says, if thruout the United Kingdom 999 other beekeepers would do the same, that the returning soldier beekeepers could immediately restart in beekeeping.

* * *

ANOTHER PROPHECY ON PRICES.

Honey, being a luxury, may be one of the first food products to drop in price, says the editor of the Domestic Beekeeper in the December issue, yet he does not look for much of any reduction from present prices for a year or two at least.

* * *

BEES ON SHARES.

Keeping bees on shares, J. B. Lundie, in the Australian Beekeeper, considers to be worth more than is usually paid. He thinks such work should command as much as two-thirds of the honey and wax.

WITH this number, we again start a series of talks explaining just how any one may begin beekeeping, how he may purchase his bees, what supplies he will need, and exactly what he should do each month in order to obtain the best results from his colonies.

In beekeeping literature one will find quite a confusing conflict of opinion concerning almost every method of beekeeping. We do not purpose leading the beginner thru any such bewildering maze, but shall attempt to tell him one good way of doing each thing necessary to success.

Why Begin?

That there will be a large army of beginners this year is certain. Never before has beekeeping been so popular as now. We could hardly expect honey to continue at high war prices, but the greatly increased use of honey convinces many that the price will not fall back to its old level.

Still, tho many are turning to beekeeping, the beginner need not fear insufficient nectar for the increased number of colonies, as a recent Government bulletin claims the bees are now gathering less than 3 per cent of the amount of nectar available. Nor is there any danger of overproduction, since people are fast learning that honey is a more healthful sweet than sugar and are accordingly using more honey. At present we use only 3 per cent as much honey as sugar, so it is evident that a much greater amount could easily be used if available. There is, therefore, no doubt that it will pay to join the ranks of the producers.

Those Who Will Succeed.

Years ago, those who would keep bees were obliged to grope about in the dark, and many found experience so dear that no profits remained. Today, with our modern apparatus, and our books and magazines explaining the best practices of the best beekeepers for years past, any intelligent, wide-awake person in a suitable locality could hardly do otherwise than succeed. The beginners who will develop into the best beekeepers are those who are enthusiastic enough to study the subject well, to take one or more current bee journals, and visit apiaries of up-to-date beekeepers. They should not have so exalted an opinion of their own skill that they are unable to accept suggestions from those of wider experience. Yet at the same time they should not follow others blindly but should think for themselves. Above all else the beekeeper should have a real love for his work, a determined perseverance in the face of obstacles, and a firm conviction that beekeeping in the long run pays and pays well.

Profit from Others' Experience.

As we mentally view this large class of

TALKS TO BEGINNERS

By Iona Fowls

beginners, we find ourselves wondering how the end of the year will find them, how many bad mistakes will have been made, what per cent will have

been successful, and what per cent failures. From our correspondence, we have kept a pretty close tab on the beginners. Perhaps this year's class might be saved certain mistakes by learning wherein some of last year's class failed.

One person started with vim and vigor but with too little protection from stings, and, therefore, after getting a few stings, was content to leave the colonies entirely to their own devices. At the end of the season, he wrote us a tale of woe because his bees had stored nothing.

Another read volumes and volumes on beekeeping, but thruout the summer never opened a beehive, nor cut out a queen-cell, nor added a super, nor hived a swarm without first discussing it with his beekeeper friend. (We shall have to admit that this beginner made money on his bees this year, but we doubt if he will continue to do so.)

In another instance the owner did not purchase suitable supplies, and her make-shifts caused such crooked combs that she found it impossible to remove them and, therefore allowed swarms, after-swarms, and more after-swarms. And she couldn't see what under the sun was the matter with her bees, for they were nice Italians, and she had tried the let-alone-plan on them and it simply didn't work at all.

One unusually bright man learned so much in one short month that he felt impelled to visit the neighboring beekeepers all around, not for advice, no, bless you! but to point out wherein all their methods were entirely wrong. Many and varied were the methods he practiced and taught, but few were the pounds he garnered.

It seems hardly fair to tell of failures and not of successes, but really our mails were full of the successes of beginners, and in a number of instances those with a great enthusiasm but practically no experience for outstripped, in average crop per colony, their more experienced neighbors who counted their colonies by the hundreds.

Our Information Bureau.

In order to prevent avoidable mistakes, we ask all our beginners to write directly to us concerning any questions on beekeeping that may chance to arise. We hope our readers will take advantage of this opportunity as we have an information department designed especially for their needs. Sometimes we run across such questions as the following:

"I took my boxes of honey and left them standing on end to get the bees out. They

got out all right, but so did the honey. What was the matter?"

"I have a good colony of bees, but it's all wormy—hundreds of little white worms curled up in the bottoms of the cells. How can I kill them?"

"There is something about supplies as listed in bee-supply catalogs that I cannot, as yet, make out. It is 1 NP¹, 1 KD, and 5 KD. As 1 KD is always cheaper than 1 NP, I guess that it is of inferior quality. Am I in the right?"

"Could I winter my bees in a beehive my father made? It is big enough to hold eleven bees."

"Gleanings says, to prevent swarming, empty supers should be kept above the brood-chamber. I tried this, but the bees put honey in them every time. What shall I do? I am trying burlap between supers and brood-chambers now. Maybe this will work better."

Now we hope to be forgiven for smiling over a few of these, when we frankly admit that if we were to change occupations with the writers of these same letters, we know our questions would be quite as unusual as these mentioned. We will go further than this and say that in the same letter that rouses our mirth and from the same beginner who claims to know nothing about bees, we sometimes learn something decidedly worth while. His brand-new, unusual way of looking at an old truth sometimes throws an entirely new light upon it. Because of the assistance we are able to give, and also because of the help we ourselves receive, we sincerely welcome all letters of inquiry.

Arrange for Purchase of Bees.

After fully deciding on entering beekeeping, about the first step should be to make some definite arrangement for purchasing bees, to be delivered at the coming of settled warm weather, for one would hardly care to invest in beekeeping supplies before making certain the bees would be available at the desired time.

The very best way to get bees is to purchase them from a reliable bee-breeder or from some beekeeper near home, and to buy entire colonies in good standard hives.

If such are not obtainable, good colonies in dilapidated or poorly constructed hives may sometimes be purchased at a very low price from farmers in the vicinity. This would be a good proposition for an experienced beekeeper, but might prove rather troublesome for a beginner, since the bees would have to be transferred, that is, taken out of the old hive and placed in a new one some time during fruit bloom, which process will be described in a later issue.

Again, one may oftentimes secure the very best of colonies at a low price by leaving hives containing necessary fixtures with some farmer-beekeeper, with the understanding that whenever the bees swarm, the farmer will have such swarms in these hives and keep them for the beginner until

he finds time to take them home. Yet in this case the farmer's colonies might not swarm early enough, and the beginner, therefore, not obtain his bees soon enough to start beekeeping at the first of the season.

However the bees are purchased, it is well to have them first inspected by a good beekeeper, in order to be certain the colonies are strong, in good condition, and not diseased.

Besides buying entire colonies it is also possible to purchase nuclei (small colonies) on combs, but, on account of the danger of such combs being infected with disease germs, we consider it a safer investment to buy bees in combless packages, which may now be sent by express or parcel post. When buying nuclei a queen should be purchased with each and introduced (that is, put with the bees) according to the directions which accompany her. Directions also accompany each nucleus, explaining just how the bees may be moved from the box to their new hive, and how fed until they build up into a good colony, which a two- or three-pound package would probably do in six or eight weeks. If a nucleus is purchased after the first main honey flow, they may, by feeding, be built up into good colonies by fall; but, unless there should be an unusually good fall flow, they would not be apt to store much surplus honey (honey in excess of their winter needs).

Unless one could obtain one entire colony having a number of frames of brood (unhatched bees), so that one frame of brood could be given each nucleus, we would hardly advise buying nuclei, since it would take them so long to build up. The full colonies are much more desirable even at the higher price.

Discussion of Next Issue.

After one has investigated the matter and made certain he can obtain the bees when he gets ready to buy, the next step is the purchasing of supplies, which will be discussed in the next issue.

Supplementing These Articles.

Since the procedure to be followed each month differs in the West, North, and South, it is quite obvious that, unless these talks are so general as to rob them of much of their value, they could not possibly apply each month to conditions in all parts of the United States the following month. As far as possible, however, we shall speak of seasons rather than actual months, and shall also supplement these talks by referring the beginner to other articles in the same issue. Some of these references will point out the need of different treatment in different parts of the country, while some will give the experiences and successes of other beginners. This month we refer the beginner to the Oklahoma Boys and Girls' Club (page 82), how fast to increase (page 91), beginners in Florida (page 97), beekeeping on a roof (page 99), "Big Results from Three Colonies" (page 99), and "Wresting Success from Failure" (page 105).



OUR HOMES

A. I. ROOT

Soul, thou hast much goods laid up for many years; take thine ease; eat, drink, and be merry.—LUKE 12:19.

Seek ye first the kingdom of God, and his righteousness; and all these things shall be added unto you.—MATT. 6:33.

Love ye your enemies and do good, and lend, hoping for nothing again.—LUKE 6:35.

THE parable that contains our first text has sometimes been called "the parable of the rich fool." As a general rule all mankind agree that it is a good thing to make provision for a rainy day. Every man should make it his business to provide for himself, his

wife, and for his household. In fact, we are in the habit of thinking this is the first and highest obligation that rests upon our shoulders; but evidently the dear Savior did not consider it as the most important thing. Humanity would naturally inquire, "Well, what is a fellow to do if he is not to provide first for the needs of his household for the coming winter?" Our second text answers the question. "Seek ye first the kingdom of God, and his righteousness, and all these things shall be added unto you." Well do I remember the time when I first discovered this precious text. I had, perhaps, seen it in my childhood, and very likely repeated it in Sunday-school; but I did not think or consider what it meant until I had grown up to manhood. May God forgive me for those selfish years when I had little in mind but to make money and more money.

The question naturally arises, "What did our Savior mean by the expression, 'the kingdom of God, and his righteousness'?" Where is God's kingdom? On this 11th day of October, 1918, the whole wide world is getting a better glimpse of man's kingdom, or a man-made kingdom, than ever the world had before. God forbid that there should ever be again, in the history of the world, another kingdom like that of Germany at the present day. Man's kingdom is a selfish one—all selfish. The kaiser is held up before us every day just now as an instance of the most awful kingdom the world has ever seen, and it is fast being set aside. God's kingdom, or something like it, and his righteousness, are to take the place of such a kingdom as Germany represents. When the United States first entered the war Germany tried to persuade us that this nation was just after "more territory," like Germany and all the rest of the world. In vain did our good President and the heads of our nation

declare we did not want more territory — especially more territory gained by bloodshed. If our nation could gain more territory by fair and satisfactory purchase, as in the case of Alaska from Russia and the Danish West Indies from Denmark, it would be all

right, but not right otherwise; and the world has been watching our nation to see if we act as we talk.

Our third text reads, "Do good, and lend, hoping for nothing again." I think that, when I first got hold of that precious promise or command, I gave a shout. I read it to my mother; and the readers of GLEANINGS of 45 years ago will recall some of the experiments I made to test its truthfulness. I sent GLEANINGS to missionaries free of charge, and many copies of it are still going to them. I know what the postal administration says just now about cutting off complimentary copies. But the copies that go to missionaries are at present paid for just the same as all others; but the missionaries did not pay it. You will remember I told our clerks years ago, when even postage stamps were scarce in our little printing-office, that the great Father above would furnish the stamps to pay the postage on our journals to the remotest missionaries on the face of the earth; and the stamps have been forthcoming during these past forty years and more.

It just begins to be plain to me that this little text, "do good and lend, hoping for nothing again," may apply to nations as well as to individuals. There has been quite a little criticism from certain quarters because the United States did not keep out of the war; and I suppose that every one of you knows that our nation had no selfish motive in becoming involved as she is now. It was really to "do good and lend," that prompted America to do good to other nations, not only to France and England, but the whole wide world. How much do you suppose the United States has "lent"? My stenographer and lifelong friend, W. P. Root, says the amount lent to the allies up to Oct. 21, 1918, was \$7,520,476,666—an amount of money more

than double our entire national indebtedness at the close of our own four years of war. How is that for lending? And the amount loaned by *individual* Americans is reckoned by the hundreds of millions. Did the world before ever hear of such a thing? And the glorious part of it is that our nation did it exactly in the spirit of that wonderful text, collecting it all from our own people, "hoping for nothing again."

One of the conditions just *now* imposed on Germany is that the great seas—God's great national highways—shall be open to all the nations of the world. It is the most gigantic undertaking the world ever saw or heard of. Nothing has ever transpired that can compare with it, even in the smallest degree. Our second text will come in right here also. America has been truly seeking the kingdom of God and his righteousness; and God's coming kingdom begins to be visible here and there all over the world. And one of the greatest glimpses comes with the abolishment of the liquor-traffic. While I write, the saloons are going out of business by the hundreds and thousands; and they are giving it up good-naturedly, without any hostile feelings toward the new ordinances or toward "us fanatics" as we were called a short time ago. A new heaven and a new earth seem ready to be ushered in. Of course the cost was awful; but the great God above seems to have decided that nothing short of such a chastisement would bring about this great reform.

On the heels of the abolishment of the liquor-traffic comes the investigation in regard to houses of ill-fame. Our great cities, one after another, are instituting a crusade or housecleaning; and this terrible tramping under foot of God's holy command, "Thou shalt not commit adultery," seems to be yielding its awful punishment. Men who are afflicted with these unmentionable diseases can not fight; and I might almost say they can not be cured. They and their companions in crime are to be either done away with or made over: and, finally, in this new kingdom of God that is being ushered in, we are to have better babies. Their mothers are to be better cared for before and after the babies are born. See what is said about the babies in our November issue.

Well, ever since GLEANINGS was started I have had some rare enjoyment in following out that injunction, "Do good, and lend." When I got hold of that new annual, white sweet clover, I felt it would do lots of good to send the seed free of charge to the readers of GLEANINGS. Just as soon as the seed was mature enough to be gath-

ered, I so announced it in our October issue; and before I had reason to suppose the journal had reached our readers calls came for a little pinch of the seed, and I really felt happy in filling the orders. *An unexpected thing made me feel still happier. Almost every letter asking for seed had a kind word in it; and some of them mentioned the enjoyment they had received from the seeds I had sent them free of charge in past years; and while these good friends were writing me they told me some of their troubles or asked my advice in regard to some way they had planned for investing their money. As they sent a directed stamped envelope for reply I could easily offer a little word of counsel, and especially with the aid of the efficient stenographers here in my Medina home.

Now, it is not always money that we may do good with, and lend. Every one of us has opportunities every day of our life to lend a helping hand. We can lend our tools—yes, let us keep on lending, even if it does sometimes make us trouble. Lend to your poor unfortunate neighbor. If he is young and inexperienced, you can, perhaps, show him a better way of doing his work. When you happen to have more fruit or vegetables than you really need, "do good and lend, hoping for nothing again."

For fear you may find fault for my frequent repetition of this beautiful text, I want to tell you that in the years that are past these precious texts have become music to my ears. I like to say them over and over again to myself when alone; and I like, also, to thank God for that precious Bible that contains these wonderful truths that, if practiced, will bring about God's kingdom and his righteousness *here on this earth* of ours.

*After we had been sending out quite a lot of packages of seeds Mrs. Root interposed that perhaps the seed would not grow—that it might not be sufficiently mature. But I wanted to have all orders as much as possible filled before I went back to Florida. So I planted some seed in a box of rich soil; but as it did not seem to germinate after several days I was a good deal worried. Just this morning, however, I found quite a number of seeds coming up. The trouble was, I did not keep my boxes where it was warm enough; and so I am happy again in the consciousness that the seeds we are sending out will grow and produce white sweet clover the first summer. Some of the plants are now higher than my head, and covered with bees, when the weather permits, even during this middle of October.

AVIATION AND STIMULANTS.

In the *Sunday School Times* for October 3 was an item that brought to mind a coup-

le of incidents of years ago. Below is the clipping:

ALCOHOL NOT GOOD FOR AVIATORS.

When the Wright brothers visited France with their perfected flying machine a number of years ago, they surprised those who sought to do them honors with their total abstinence habits. An opinion against the use of alcohol in flying expressed by one of the brothers was widely circulated. But since then there have been flyers who have thought they could combine alcohol with the dangers in the air.

If you want to know how it turned out with the young man who thought a drink might help him handle flying machines, you had better get that number of the *Times* and read the whole of it. When I first had an intimation that the Wright brothers were experimenting with a flying machine, I told our people here that I felt as if I could not rest unless I went down to Dayton to see the brothers work. I had just succeeded in getting one of the first automobiles, and with this I started on my trip. I found them on the very same aviation grounds that are now occupied, a few miles east of the city of Dayton. In order to be on hand, I obtained board and lodging at a farmhouse near by. At first I was somewhat worried for fear the brothers would not care to have a spectator hanging around, and maybe meddling while they experimented with an apparatus that might mean death instead of success in navigating the air like a bird. As the neighbors seemed to take no particular interest in the experiments, we three were, most of the time, a good deal alone, and we soon became fairly well acquainted with each other; and it was one of the happiest of my "happy surprises" when the brothers insisted that I should go home with them and get acquainted with their bright sister, Katharine, who was at the time the housekeeper for the two young men. Perhaps I might mention incidentally that this good sister, who was at the time a school-teacher, had helped more or less in financing the boys in their novel undertaking. Next morning at breakfast Katharine passed me a cup of very fragrant coffee. I took it as a matter of course; but when both of the young men shook their heads, declining the coffee, I ventured the question, "Why, look here, friends, I wonder if you have been making coffee just for myself when I never drink either tea or coffee unless it is on an occasion like this, to be like other folks."

Now, friends, listen to the reply. I can not remember now whether it was Wilbur or Orville who spoke; but it was something like this:

"We do use coffee to some extent ordinarily; but today we expect to make one

or more flights; and when we are going to handle that flying machine we want every bit of strength of mind and body to enable us to do just the right thing at just the right time; and we have learned by experience that a cup of coffee is a detriment and a hindrance; therefore no coffee in the morning when we expect to make flights during the day."

Well, here is the moral to rising young men, especially those who are doing their best to rise. Cut out or cut off, whichever you choose to put it, everything in the way of stimulants. Use milk as a beverage, not only in the place of booze, but in place of tea and coffee.

SALOONS AND THE "CHICKEN BUSINESS."

Just one more incident that occurred during that eventful summer. The farmhouse where I had board and lodging was kept by a renter by the name of Beard. Mrs. Beard was an invalid suffering from lung trouble. The doctors declared that her only hope was to get outdoors and keep outdoors. They recommended gardening or raising poultry, or something that would keep her in the open air. Nights and mornings, before the Wright brothers got around, I became quite well acquainted with Mrs. Beard. I think she had girls who did most of the housework, and she spent a great part of her time outdoors in raising chickens. Of course I could sympathize with her, as I had been more or less of a "chicken man" all my life, and was able to give her some advice. She succeeded in growing a beautiful flock of chickens—I think something like a hundred, and she got to be quite enthusiastic in the work and was evidently fast getting the better of her lung trouble. What do you suppose happened? When the chickens were of the very best size to be sold as broilers in the big city of Dayton, some chicken-thieves came in the night and took every last one—not a chick was left. Mrs. Beard was heart-broken. As the family was short in finances the blow seemed all the harder. Her hard work for weeks and months was all swept away in a single night; and before the winter's snow came on, Orville Wright wrote me that my good friend Mrs. Beard had died of "quick consumption." The loss of her chickens and the discouragement had spoiled her enthusiasm, and so her old trouble came back. The loss of that beautiful lot of chickens, the outcome of a summer's hard work, had certainly much to do with hastening her death, even if not the real cause of it.

Where does temperance come in in this part of my story? you may ask. It comes

in right here: The neighbors all around the Beard home lost chickens in a like manner. One farmer got up and attempted to stop the thieves; but they raised a shotgun and told him to go back into the house or take the consequences. With a telephone, however, he raised the neighbors and they followed the load of chickens into the city of Dayton. The driver finally evaded them by going into a part of the city where almost every house was a saloon. Of course the police were notified; but they excused themselves in some way, and said nothing could be done about it.

My good friends, the above is a sample of the sort of policemen we *used to have* years ago when the liquor gang put in officers that were according to their liking. Even the city police were of a class that could be persuaded to look the other way when somebody called on them to interfere with the liquor-traffic.

Once more may the Lord be praised that we have a better class of city officers, and that the saloon business, like the slavery of olden times, is largely a thing of the past.

This is dictated the 19th day of October, so I can not tell now the outcome of the coming election.

HELP FOR DEAF PEOPLE.

Dear Sirs:—I am anxious to know if A. I. Root has found anything to benefit his hearing. I seem to be much the same as he is in regard to hearing. I can't hear at church nor at any public meeting, but can hear ordinary conversation, if near. I have had put into my hands a circular from the General Acoustic Co. (which A. I. R. mentions in back number of GLEANINGS, p. 818, Dec., 1913). There may be improvements since that; but I am sure A. I. R. will know of it if there is anything that will materially help. I have noticed remarks since the above, but nothing encouraging from A. I. R. I have tried Wilson's ear-drums, but with no benefit; auriphone, etc., no benefit. I shall deem it a great favor for any information on this subject. JOHN ALLAN.

Newboro, Oamaru, N. Z., Aug. 13, 1917.

My good friend, I am sorry to tell you I have not as yet succeeded in getting anything that helps my hearing equal to putting my hand over my ear. It is something I cannot quite understand. I have tried electrical appliances, some of them costing as much as 50 or even 75 dollars; but while they enlarged the sound there was so much confusion of other noises that it really gave me no help, and I have tried the thing long and patiently too. What I want most is something to enable me to hear a sermon or a public speaker. It has occurred to me several times that something that would take the place of my hand would be a relief to my arm when holding it up so much of

the time, and that, at the same time, ought to collect the sound *better* than my naked hand. Last winter I procured on trial what I believe is called an "autophone." As soon as I put it up to my ear, the tick of the clock rang out sharp and clear, and I fairly shouted at the result; but when I came to tell Mrs. Root from another room I was terribly disappointed to hear the same rattling noises to such an extent that I could hear better with my hand than with the instrument.

There is quite a difference in people's voices. Some speakers I hear without any trouble, while others, who speak sufficiently loud, I cannot "catch on" to at all. I should think that I am, perhaps, peculiar, or different from other people were it not for the fact that so many report an experience similar to mine. In Florida I saw a friend of mine using one of the electrical appliances. He used it two or three Sundays and then came to church without it. When asked, he replied that after investing quite a sum of money he found he could hear better without the device. Another friend, at our Chautauqua, said he had made a like investment, but finally laid it aside and had not used it for several months; and it was not because his batteries had run down either. In regard to the Wilson ear-drums, I have never met a person yet, face to face, who had received any benefit from them whatever; and yet these same "ear-drum" people send out a little book containing more than a hundred testimonials from all over the land.

Since the above was put in type I have purchased a little instrument called the Gem ear phone, 47 West 24th St., New York. It cost \$35, and is an actual help. When Mrs. Root sits opposite me at our dining-table, with the receiver placed near the sugar-bowl, pointing toward her, I can hear every word very distinctly when she speaks in just an ordinary tone of voice; but when I attempt to use it to hear a sermon, unless I am within a few yards of the speaker, it is little if any better than my hand up to my ear. They all assure me, however, that it will serve me better after I get used to it. The particular objection I have to it just now is that it is quite a little bother to lug it around, even if it does weigh only a few ounces. My right hand is always with me, and is, as a matter of course, "right at hand" without any bother, and without any batteries to be renewed once in five or six weeks.

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This shoe is built to meet the demand of an outdoor city workers' shoe as well as for the modern farmer. Send and see for yourself what they are. Built on stylish lace Blucher last. The special tanning process makes the leather proof against the acids in milk, manure, soil, gasoline, etc. They outwear three ordinary pairs of shoes.

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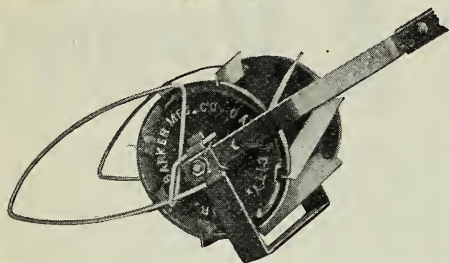


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Our Food Page—Continued from page 90.

this method the room should be kept just about as warm as a sitting room. In the morning Helen rose early and found her bread twice as big as it was the night before and nice and light and bubbly around the edges. She took it out and kneaded it again very lightly for about half a minute, cut in two, shaped it in loaves and put them in warm bread pans which had been oiled. These she put back in a warm place, closely covered, and in about an hour those loaves had grown to twice the size again and were ready to be baked. Before putting the bread in the oven she brushed the top of each loaf with melted butter to make a crisp, brown crust. When they had baked about an hour in a moderate oven Helen lifted them out of the pans with a clean towel, set them on the edges crosswise, to cool, wet the top crust of each loaf with water to prevent it from being too hard, and then went off to play.

And that evening a War Savings Stamp came out of Helen's father's pocket and was stuck in Helen's book.

Below I am giving you the recipe just as Helen used it. To make four large loaves of bread instead of two, change the word cup to pint, the word pint to quart and double all the other ingredients.

BREAD.

3 cups warm water	2 teaspoons sugar or
1 small potato, riced	honey
½ cake dry yeast	2 teaspoons salt
2 tablespoons shorten-	½ teaspoon soda
ing	about 4½ pints bread
	flour

At 1:30 p. m. sift 3½ pints of the flour, the soda, and the salt into the bread mixer and set aside in a warm place. Put the yeast to soak in ½ cup of the warm water and heat another cup to boiling and pour over the shortening, the sugar, and the riced potato. When the latter has cooled to lukewarm add the yeast and the water in which it was soaked and one pint of flour, beating it until it is a smooth batter. Cover and let rise in a warm place until 9:30 or 10 o'clock. It should then be light and full of bubbles. Pour over the flour in the mixer, add the rest of the warm water, 1½ cups, and turn the crank three minutes, or until a smooth dough is formed. As flour varies so much it may be necessary to add more to make a smooth dough. Fair bread may be made without any hand-kneading, but a little better texture is secured by removing the stirring rod and kneading by hand a couple of minutes either in the mixer or on a floured board. Then cover and let rise in a warm room over night. Early in the morning, knead lightly, divide into two large loaves, put in oiled pans, and let rise until doubled in bulk, about an hour. In cold weather it often takes longer. Bake in a moderate oven about one hour.

If preferred the sponge may be started late in the evening and the dough mixed in the morning.

AROUND THE OFFICE

M.-A.-O.



The above picter was taken as when the man as whats in the for ground didn't know it. He aint a bad lookin feller at that, behind a bee vale. He has somethin as seeminly is comfortin to him greatly in his mouth as what I and "Uncle Amos" don't approve but we woant to blame for that.

(Continued on page 125.)

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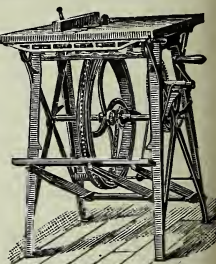
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HONEY MARKETS

The honey market is very quiet, with very little demand at the high prices at which honey is still quoted. The situation is practically as described by a well-known New York honey-buyer a few days ago when asked about the honey market, his reply being: "There isn't any honey market at present."

As will be seen from price quotations below, honey-dealers are still quoting the high prices, but they are not moving their stocks at these prices.

The hope in the situation is that there will soon come a readjustment of prices that will move honey stocks now on hand, and yet not reduce the price below a figure at which honey can be purchased in the future at a good profit price to the honey-producer. What that price will be must wait on the opening of the new honey season of 1919 and the trend of prices throught the whole food list during the next several months.

Below will be found the quotations as gathered by the Bureau of Markets and by dealers who regularly quote for Gleanings:

U. S. Government Market Reports.

HONEY ARRIVALS SINCE LAST REPORT.

No arrivals reported.

SHIPPING POINT INFORMATION.

San Francisco.—Supplies liberal. Practically no demand or movement, buyers holding off. Cash to producers at country loading points: extracted, per lb., water white, 18-19c; sage white 18c; light amber, 17c; dark amber 14-15c. Beeswax, 36-38c per lb.

Los Angeles.—No demand, practically no movement, no sales reported. Only few cars still in State. Beeswax: few sales. Cash to producer on farm, 38c per lb.

TELEGRAPHIC REPORTS FROM IMPORTANT MARKETS.

(The prices quoted in this report, unless otherwise stated, represent the prices at which the "Wholesale carlot receivers" sell to the "jobbers." Arrivals include receipts during preceding two weeks. Prices represent current quotations.)

Chicago.—No carlot arrivals. Supplies liberal. Demand light, movement limited, prices unsettled. Sales to jobbers; extracted, per lb., white 20-24c, amber 18-26c. Comb: 24-section cases, No. 1, mostly \$6.50 per case. Beeswax: refined 45-50c; unrefined, mostly 42c per lb.

Cincinnati.—1 California extracted arrived, no carlot arrivals comb, nearby receipts very light. Supplies liberal. Practically no demand, no sales reported. Beeswax: demand and movement moderate; average yellow 40c per lb.

Cleveland.—Demand slow, prices lower. Sales to bakers and confectioners: Western 60-lb. tins, sweet clover and orange blossom, 22-26c per lb.

Denver.—Approximately 4 000 pounds extracted arrived. Receipts light. Demand and movement slow. Sales to jobbers: extracted, white, 20-22½c per lb. Beeswax: cash to producer, 38c per lb.

Kansas City.—1 Colorado and approximately 60 cases by freight arrived, 1 broken car on track. Demand and movement moderate. Sales to jobbers: comb, Missouri, 24-section flat cases No. 1, \$7.50-8.00; Colorado No. 1, \$7.50. Beeswax: 35-40c per lb.

Minneapolis.—Homogrown receipts light. Supplies moderate. Demand and movement slow, little change in prices. Sales direct to retailers: comb, 24-section cases, Minnesota, quality and condition fair, dark color \$6.00-7.00; Colorado, fancy white, quality good, condition generally good, mostly \$7.50. Extracted: Western, quality and condition generally good, 60-lb. cans, mostly 25c per lb.

New York.—Arrivals: 100 barrels Mexico, 127 barrels West Indies. Exported: 2,245 cases, 127 barrels to England, 1,214 cases to Sweden. Demand

and movement very slow, very few sales. Sales to jobbers: extracted, Porto Rican, \$2.20-2.30 per gallon, few sales \$2.40; New York, buckwheat 18-21c per lb. Beeswax: 442 bags, 90 boxes West Indies arrived. Demand and movement moderate; light, 42-45c; dark 40-42c per lb.

Philadelphia.—1 Wyoming extracted arrived. Demand very slow, weak feeling. No sales reported.

Spokane.—No rail arrivals. Supplies not cleaned up. Demand and movement moderate. Quality and condition good. Sales direct to retailers: strained, Idaho, water white in tins 20-23c per lb. St. Louis.—Supplies light. Demand and movement slow. Sales to jobbers: extracted: Southern, light amber, per lb., in barrels 19-20c, in cans 21-22c. Comb: practically no supplies on market. Beeswax: prime, few sales 35c per lb.

St. Paul. Supplies liberal. Demand and movement slow. Sales direct to retailers: Colorado quality and condition good, fancy white, 24-section cases, mostly \$7.50. Extracted, Western, quality and condition generally good, mostly 25c per lb.

EXPORT DISTRIBUTION OF HONEY.

From data supplied by the Bureau of Foreign and Domestic Commerce, the following figures are compiled: total export of honey for 10-day period of Jan. 1 to 10, 1919, was 37,218 lbs.; export during corresponding 10-day period in 1918 was 560,808 lbs. Total export of honey for 10-day period of Jan. 10 to 20, 1919, was 87,860 lbs.; export during corresponding period in 1918 was 873,597 lbs.

Charles J. Brand,
Chief of Bureau.

Washington, D. C., Feb. 15, 1919.

General Quotations of Wholesalers.

[These firms are asked to quote the wholesale price they make to retailers. Accordingly their prices must be figured at least one profit higher than the price paid the producer. The large dealers do not quote prices in print that they will pay futrely to producers.]

NEW YORK.—We quote from several of the leading honey-dealers in New York, under date of Feb. 15, as follows:

"Demand for domestic and export, light. Considerable quantity is arriving from the West Indies. Market weak. Comb honey, fancy, per case, \$8.00; No. 1, per case, \$7.50; No. 2, \$7.00. Extracted honey, white, per lb., 23c; light amber in barrels, \$2.25. Clean average yellow beeswax, per lb. 40 to 42c."

"Market dead. Extracted honey, white alfalfa, 25c; light-amber sage in cans, 26c."

"Honey and beeswax are quiet and rather weak with plentiful stock on hand, and offerings for shipment. There is a fair demand, and export demand is expected, which should have a good effect on the market. Extracted honey, light amber, in barrels, \$2.25; amber, in barrels, \$2.10. Clean average yellow beeswax, per lb., 41 to 42c; dark, 37 to 38c."

"Our market is slower, undoubtedly on account of the plentiful supply of sugar everywhere. Extracted honey, white, 18c; light amber, in cans, 16c; amber, in cans, 15c; light amber, in barrels, 14c; amber in barrels, 12c."

BUFFALO.—Comb honey cleaned up. Demand for extracted honey very poor selling. Extracted honey, white, 18-20c; amber and light amber, in cans, 18c. Gleason & Lansing.

Buffalo, N. Y., Feb. 14.

CLEVELAND.—Comb honey is selling very slowly, with prospects of lower prices. Comb honey, fancy, per case, \$7.75-8.00; No. 1, \$7.25-7.50; No. 2, \$6.25-6.50. C. Chandler's Sons.

Cleveland, O., Feb. 13.

PHOENIX.—No sales or purchases of honey the past few months. Inquiries are coming in as to the price of honey for the coming season. Clean, average yellow beeswax, per lb., 37c.

Phoenix, Ariz., Feb. 14. L. M. Lossing.

KANSAS CITY.—The market on extracted honey is a little slow at the present time and is selling around 23 cents, which seems to be the top on the best white honey altho an occasional case brings more. The comb honey market is good, selling

around \$7.50 per case. Clean average yellow beeswax, per lb., 40c.

C. C. Clemons Produce Co.
Kansas City, Mo., Feb. 13.

DENVER.—Comb honey in fair demand. Supply very light. Extracted honey, trade slow, supply good. Comb honey, fancy, per case, \$7.50; No. 1, \$7.00; No. 2, \$6.50. Extracted, white, per lb., 25c; light amber, in cans, 23c; amber 20c. For clean, average yellow beeswax we pay 38c cash, 40c trade. The Colorado Honey Producers' Assn.
Denver, Colo., Feb. 14.

ST. LOUIS.—Receipts of comb honey very light. Extracted dull. Offers liberal. Price nominal. Comb honey, extra fancy, per case, \$7.25; fancy, \$7.00; No. 1, \$6.50. Extracted light amber, in cans, 22c; amber, in cans 21c, in barrels 20c. Clean, average yellow beeswax, per lb., 35c.
R. Hartman Produce Co.
St. Louis, Mo., Feb. 12.

PORTLAND.—Honey is weakening quite a good deal on account of sugar restriction being taken off. Consumer not using honey as freely as heretofore. Comb honey, extra fancy, per case, \$7.50; fancy, \$7.25; No. 1, \$7.00; No. 2, \$6.50. Extracted honey, white, per lb., 20c; light amber, in cans 18c; amber, 16c. Pacific Honey Co.
Portland, Ore., Feb. 12.

SABINAL.—There is a slackness in demand at this time, the very little honey in the hands of producers. Extracted, light amber, in cans, 20-22c; amber, 18-20c. Clean, average yellow beeswax, per lb., 38-40c. J. A. Simmons.
Sabinal, Tex., Feb. 10.

MONTREAL.—Supplies of honey quite large. Demand fairly active. Comb honey, extra fancy, per case, 30c; fancy, 28c; No. 1 27c; No. 2, 24c. Extracted honey, white, per lb., 27c; light amber, in cans 25c, in barrels 24c; amber, in cans 22c, in barrels 21c. Gunn, Langlois & Co., Ltd.
Montreal, Can., Feb. 13.

HAMILTON.—Honey is moving better this month. Extracted, white, in cans, 26c.
F. W. Fearman Co., Ltd.
Hamilton, Ont., Feb. 14.

TORONTO.—Prices have declined. The market is very stagnant. Strained white clover honey is selling slowly at 22-23c. Eby-Blain, Ltd.
Toronto, Ont., Feb. 12.

CUBA.—Extracted honey, light amber in barrels, \$1.60 per gal.; amber, \$1.60 per gal. Clean, average yellow beeswax, per lb., 38c.
Matanzas, Cuba, Feb. 14. Adolph Marzol.

Classified Advertisements—Received Late

FOR SALE.—30 stands of bees.
F. J. Rettig, Wabash, Ind.

FOR SALE.—Italian queens, hives, and supplies at low prices.
R. Kramske, 1104 Victor St., St. Louis, Mo.

FOR SALE.—100 dovetailed 10-frame metal-spaced beehives with frames. Cheap.
J. R. Marye, Bunceton, Mo.

BEEKEEPERS OF THE NORTHWEST! Order ROOT Supplies from George F. Webster, Sioux Falls, South Dakota.

FOR SALE.—New standard hives, bottom-boards, covers, and frames, at 33 per cent off usual price. Write for particulars.
O. L. Rothwell, Gillet, Pa.

FOR SALE.—Buckwheat honey in 60-pound cans, 2 cans in each case; 14 cases. Make me an offer f. o. b. here.
Robert Conn, Roaring Branch, Pa.

FOR SALE.—Second-hand 60-lb. cans, two to the case, 50c per case f. o. b. New York. Also second-hand maple-syrup cans at 10c each.
Hoffman & Hauck, Inc., Richmond Hill, N. Y.

FOR SALE.—Extractor, uncapping-can, honey-tanks, extracting outfit, hives in flat, all new. Bargain. Want bees, queens, or honey.
The Liberty Press, Box 224, Shenandoah, Iowa.

FOR SALE.—2,760 lbs. No. 1 white extracted clover honey and 1,920 lbs. buckwheat honey in 60-lb. cans; also No. 1 white extracted clover honey in 10-lb. pails for \$2.60 each.
Charles Sharp, Romulus, N. Y.

FOR SALE.—600 colonies Italian bees, 1,600 supers drawn combs, 500 lbs. foundation, 500 lbs. wax, covered motor truck, two six-comb friction-drive extractors, gas engine, 600 excluders, 150 four-colony winter cases. One of the best locations in Canada goes with the bees. Everything must be sold. Am retiring from business.
H. D. McIntyre, Woodbridge, Ont., Can.

EXCHANGE.—¼-H. P. motor with speed control, 110 volt, perfect condition, for automatic hand extractor.
C. C. Gray, Quincy, Ind.

WANTED.—Two-pound packages of bees and queens, \$2.50.
O. N. Baldwin, Baxter Springs, Kans.

Special Offer Everbearing PLANTS....
Strawberries POSTPAID
AMERICUS, PROGRESSIVE, SUPERB, FRANCIS, Peerless
Some of each while in supply. When sold out of one or more we will send the others. Don't delay.
100 Plants, \$1.75; 200 Plants, \$3.40; 300 for \$5.00
Catalog free
C. N. FLANSBURGH & SON . . JACKSON, MICHIGAN

ARE YOU READY

For Your Bees to Start Work?

It is good business for you to order early and use up-to-date supplies.

OUR SERVICE

is immediate and personal. Lewis supplies are best. The best is the cheapest. Let us send catalog and quote prices.

Western Honey Producers
DEPARTMENT C
Sioux City, Iowa

From Central NEW YORK

Shipments of Bee Supplies can be made promptly on time, and freight will be saved thereby. Beekeepers, as the years go by, are getting in the habit of ordering supplies earlier. This fall we had an exceptional increase of early orders. A few years ago, most, if not all, waited till May and June before ordering, with the result they were not prepared for the season. One of our largest beekeepers of the State made a practice of getting ready during the fall and winter and secured large returns during the season following. In fact, he cleaned up after the year's crop—all separators, supers, and everything piled away nicely. Now he is gone, but left everything in good shape. If every one would follow his example, what a large yield of honey would be secured. We are glad to say quite a large number do. Why not, if you have not already done so, estimate your requirements for next season? One of our beekeepers that secured a year ago \$10,000.00 worth of honey, this year secured \$14,000.00—a fortune. Why not get in line and get your share?

F. A. SALISBURY
1631 WEST GENESEE STREET
SYRACUSE, NEW YORK