Gleanings in Bee Culture

VOL. XXXIX OCTOBER 1, 1911 NO. 19

Clover-Patch Philosophy

An angry wasp and a busy bee
Met once on a clover-head.
The bee at his work hummed merrily,
While the wasp with anger said:
"Why is it that mortals, one and all,
Act kindlier far by you?
I use my sting if they're in my way,
But that is my rightful due.
You do the same, yet they use you well,
But askance at me they look."
Then the wasp waxed wroth and waved his wings,
Till the head of clover shook.
The bee worked on. When for flight prepared,
It hovered aloft on wing,
Then paused a moment, and archly said:
"I give more honey than sting."

—Jean S. Walker, in the *Canada Monthly*

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THE A. I. ROOT COMPANY

ST. PAUL, MINN.

PILCHER & PALMER, Northwestern Managers . . . 1024 Mississippi Street

Gleanings in Bee Culture

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VOL. XXXIX — OCTOBER 1, 1911 — NO. 19

Editorial

THE SHARP ADVANCE IN THE PRICE OF GRANULATED SUGAR.

THE sharp advance in the price of sugar, unfortunately for the bee-keeper, came just at a time when he needed to do his fall feeding for winter. According to the sugar trust (and apparently it ought to know), the price will soon drop.

IS HONEY A STAPLE OR A LUXURY?

IN this issue, under head of Stray Straws, the question is raised why honey has not taken a sharp advance the same as sugar has done of late. Most of our readers will be interested in the reply. This same question was thrashed out years ago, and James Heddon, then one of the leading bee-keepers and correspondents, took the position that honey was not a staple article like butter, eggs, and flour, but a luxury. The price of a staple is controlled by the law of supply and demand; and while a luxury is subject somewhat to the same influence it is not to the same degree.

THE POOREST SEASON IN MANY YEARS.

THE year 1911, from the very best information we are able to gather, appears to be doomed to go down in history as the poorest one for honey that has been known for many years back. The crop east was very scanty. The western part of the country fared somewhat better. But there is no great loss without some small gain, for we rest in the hope and conviction that honey, having advanced in price by reason of its scarcity, will maintain its level, even when the crop is more abundant. All food stuffs, including luxuries, are advancing in price; but honey hitherto has not kept pace with other luxuries.

MR. AND MRS. A. I. ROOT CELEBRATE THEIR 50TH WEDDING ANNIVERSARY.

IN reproducing the photographs, pages 594–5, we are responding to frequent and urgent requests on the part of many of our readers for a large picture, not only of A. I. Root, but of Mrs. Root. It seemed an appropriate time to gratify these requests in view of the anniversary of their wedding, 50 years ago, the 29th of September. Strenuous opposition was made by both "sides of the house," but as they knew nothing of it until the last minute, their protests were in vain.

A quiet anniversary dinner was held at the home of Mr. and Mrs. J. T. Calvert, the whole family, including the five children and nine grandchildren, being present. It is hardly necessary to state that A. I. Root does not believe in divorce. See Our Homes, this issue.

DOES THE SPRAYING OF THE COTTON-PLANT IN THE SOUTH KILL BEES?

A SHORT time ago several of our correspondents asked the question whether the spraying of the cotton-plant in the South would not do serious damage to the bee-keepers near by. As we were unable to answer, we handed the matter over to Dr. E. F. Phillips, of the Bureau of Entomology, Washington, D. C. He in turn referred the matter to W. D. Hunter, in the employ of the Bureau, located at Dallas, Texas. Mr. Hunter, in charge of the southern field-crop work of the Bureau, replies as follows:

> In my opinion there is only an exceedingly remote possibility that honey-bees will be poisoned by the proper application of Paris green or arsenate of lead to cotton for the leaf-worm. It is seldom necessary to apply the arsenical in cotton-fields at the rate of more than three pounds per acre. The object of the application is to place the poison on the leaves. It is not only unnecessary, but entirely impracticable, to force the poison into the blooms. Moreover, the method followed, which consists of sifting the poison from a sack, would not result in appreciable amounts of poison finding a way into the blooms. Of course, a very small amount might be blown in by the winds, but I believe this is absolutely inconsiderable.
>
> Poisoning cotton is often practiced in the South, and many plantations have apiaries on them. I have never heard of a case of injury to bees resulting in poisoning the cotton; and, in fact, so far as I know it has never been suspected that such might be the case.
>
> Dallas, Texas, Aug. 25. W. D. HUNTER.

Mr. G. W. Hood, also of the Bureau, at the request of Dr. Phillips, also furnished an opinion, which we here reproduce:

> This, in all probability, occurs rarely, due to the position of the flower on the plant, as well as the methods of application of the poison.
>
> As you, no doubt, are aware, the flower has a short petiole, and is located close to the main branches of the plant. In this way they are protected by the large leaves, and the poison is applied in practically all cases by a dust-gun operated by negro help. The poison is forced out through a long tube by a small fan operated by hand. This gives very little force to the poison, which, in my

opinion, is insufficient to find its way into the flower, but lodges on the leaves of the plant.

G. W. Hood.

CAUTION IN REGARD TO OUTDOOR FEEDING.

In recent editorials on this subject it will be remembered we spoke of the liability of wearing out the old bees, and also of the danger of having a sweetened syrup sour in the combs. With regard to this, Mr. J. E. Hand writes:

Mr. E. R. Root:—I note with pleasure that you people at Medina are favorably impressed with the new system of feeding sweetened water to imitate nature's honey-flow. While a judicious system of open-air feeding is undoubtedly an indispensable adjunct to the queen-rearing yard, it is doubtful if it will prove of much benefit to the honey-producer except as a means of preventing robbing during a dearth of nectar when extracting late in the season, or when practicing any necessary manipulations with bees at a time when robbers would be troublesome. For this purpose there is no doubt that it will pay every bee-keeper to install a system of open-air feeding. On the other hand, it exhausts the vitality of the old bees, causing them to disappear at an alarming rate, and, in spite of the increased brood-rearing, it is a noticeable fact that at this date there are fewer bees in the hives than usual where stimulative feeding was not practiced. It is true there is plenty of capped brood which may more than make up for the loss of the old bees that would, perhaps, have died of old age long before spring. If there is any advantage in having all young bees to go into winter quarters, it is certain that open-air feeding will accomplish the purpose. Care should be exercised not to feed nuclei and weak colonies too rapidly, otherwise it will be likely to sour in the combs. Practically all our nuclei have got their living from the open-air feeders, and have stored a little in advance of present needs, while the strong cell-building colonies have shown a gradual gain, and the honey as a rule seems to be well ripened. I would not advocate open-air feeding to furnish winter stores where it is necessary to feed half and half, sugar and water, as it causes too much excitement among the bees, with the result already mentioned. I shall carefully note the effect of open-air feeding upon the wintering of bees, and will report the result.

Birmingham, O. J. E. Hand.

OUR QUESTION AND ANSWER DEPARTMENT.

Our readers will notice that we have an extra grist of Heads of Grain, or answers to questions, in this issue. By the way, we are putting more time on Heads of Grain than we ever did before. We believe that, if there is any department in our journal that is important and valuable to beginner and veteran alike, it is our Question and Answer department, or what we call Heads of Grain. While the editor does not arrogate to himself any superior knowledge on bees he occupies a position for gathering facts that most readers do not.

In this connection, it should be clearly understood that the Heads of Grain department contains matter for the professional bee-keepers as well as special matter for those just taking up bee-keeping. What does not interest the former he can skip.

If there is any answer that we give at any time that is not strictly orthodox or correct we shall regard it as a favor if our readers will put us right. It somerimes happens that a five-hive bee-keeper knows more on some particular phase of our wonderful industry on "how doth the busy little bee" than some of the veterans who count their colonies by the hundreds, and experience by the decade. For that reason every one is welcome to offer an opinion providing it is *backed by actual observation.*

ARE BEE STINGS EVER FATAL?

Occasionally we receive a newspaper clipping from a subscriber telling of some one who died shortly after being stung by a bee. The papers, eager for sensational items, generally put in these accounts in more or less exaggerated form. After investigating two or three cases, and finding that the unfortunate person either had a very weak heart or else was physically unsound in some other way, we have come to the conclusion that the sting itself is rarely, if ever, fatal—at least, any one in normal health need have very little fear. It is true that some persons are so constituted as to be unable to stand more than one sting without severe swelling of the throat, so that breathing is made difficult. We have advised all such to protect themselves carefully with a good veil and gloves so that it will be impossible to be stung more than once, and then not severely. As is well known, the effect of the sting depends upon the location of the wound and also upon the length of time the sting is allowed to remain in the flesh. If not scratched out very soon the muscles of the sting itself, by reflex action, keep up a pumping motion forcing all of the poison in the poison-sac down into the wound. With good protection there is no danger of receiving much more than a mere prick from a sting. Furthermore, as we have explained before, after one has been stung a few times, all swelling, even in these extremely bad instances, practically disappear, for the system becomes immune to the poison. The sharp pain at the moment the sting is received is, of course, felt by the veteran as well as the novice in the business.

It is a strange fact, and yet not so strange either, but to the laymen the stings loom up as an almost impassable barrier to all thoughts of keeping bees, while to the professional bee-keeper they are the least of all his troubles.

In England, lately, a man died of lockjaw following the sting of a bee. We believe there have been one or two other cases on record that are similar. Our correspondent, Mr. G. W. Bullamore, suggests that since the tetanus bacilli exist in practically every sample of cultivated earth, there is some danger, perhaps, although of course very remote, of lockjaw following the practice of applying damp earth or mud to the wound inflicted by the sting of an insect. There is just one remedy any way that is worth following, and that is to "grin and bear it." A great many amateurs have remedies that give relief in their own cases, but in ninety-nine times out of a hundred these have no effect on other people. The best way is to forget it as quickly as possible, for the less fuss one makes about a bee-sting, the better off he is.

Stray Straws

Dr. C. C. Miller, Marengo, Ill.

J. E. Crane, p. 551, has a vision of pollen in sections when he thinks of their being used over a single story of shallow frames. I have a distinct *remembrance* of the same thing in this locality.

Arthur C. Miller, you stir us all up with the idea that you've found out the cause of swarming, 560, and then, just as we think you're coming to the secret, say, "Find out for yourself." You're a fraud.

A thick top-bar is generally ⅞ inch. Louis Roehl has top-bars $1\frac{9}{16}$ inches thick. That thickness, with some drone comb in the brood-chamber, he thinks keeps the queen out of extracting-supers. — *Leipz. Bztg.*, 116.

Mr. Editor, on page 548 you approve nine parts water to one of sugar, and on page 550 say, "We can't use any thing thinner than two of water to one of sugar." Which time were you in earnest? [On page 548, if you will glance at the small-cap heading above, you will see that we were talking about *open-air* feeding. On page 550 we had in mind *in-hive* feeding; for in your Straw just above you speak of one-hole feeders.—Ed.]

O. B. Metcalfe, *Review*, 212, tells us, when cross bees annoy, to take from your smoker a piece of burning burlap gummed up with propolis, or else saturate new burlap with kerosene, tie it to the end of a small stick, wave it about, and the bees will fly at the dark object and promptly fall to the ground with singed wings. [This looks like a good suggestion. A dozen or so cross bees will sometimes follow the apiarist for an hour at a time. They had better be killed.—Ed.]

Adrian Getaz' estimate of 200 lbs. annual consumption of honey for a colony is given, p. 537, for regions "where the winters are cold." Where they are warm would it be a little more? [Yes, the warmer the climate the more honey will be consumed. For the Southern States the amount that a colony would actually eat in a year's time, exclusive of surplus, might be nearly 300 or even 400 lbs. We should be glad to have some of our Southern readers give us an estimate.—Ed.]

Geo. H. Coulson, *American Bee Journal*, 247, says bees may be moved a short distance at any time, and need not be confined to the hive to prevent returning to the old home if they are kept busy carrying syrup from the super to the brood-chamber. [We have no difficulty when we take the precaution to smoke the bees thoroughly, and then bump them on a springless wheelbarrow to a new location. The work should be done on a cool morning. It is quite useless to attempt it in the middle of the day when the bees are flying.—Ed.]

Dr. Walter Hein, in a paper prepared for the big German convention, says that what is now named *Nosema apis* was known as far back as 1857 by Doenhoff. Dr. Hein takes about the same view of *Nosema a.* as Dr. Phillips. It is to be found in most colonies, is not the originator of dangerous diarrhea, and in spite of its presence a colony may remain in good health. Let us breathe easier. [We have been breathing easier for some time back.—Ed.]

Wesley Foster asks, p. 517, if I ever saw a double-tier case with 3-in. glass. Come over to the shop, Wesley, and I'll show you one 8¾ inches deep inside, and another 9 inches deep. The front strips are not 1 in. wide, as you say, but 1¼. That leaves exposure of glass 2½ inches in one and 2⅝ in the other. You say they are not strong enough. As you never saw one, aren't you guessing at that? I used them several years; shipped tons of honey in them hundreds of miles; and they were strong enough to stand the racket. Would your longer haul need greater strength?

F. E. Matzke, the inventor of that excellent bee-glue scraper, is told, page 572, "There should be anywhere from 10 to 15 square feet of feeding surface, depending on the number of bees." That leaves it pretty loose. Can't you give us something definite? How would 20 square inches per colony do? Then, too, instead of corn-cobs for floaters, why not use cork chips? [It is impossible to say just how many square inches would be necessary for a colony. An apiary of strong colonies would need more feeding surface than an apiary of light ones. Then, again, something depends on whether there is a light natural honey-flow or considerable natural pollen. We notice that on some days the bees will scarcely go near the outdoor feeder. On other days they will be busy on them. The point we meant to make was that there should be enough feeding surface so that the bees would not be crowded. When they struggle against each other they wear each other out. For that reason no hard-and-fast rule based on the number of colonies would be practicable.—Ed.]

Who has been mixing the types to make them say, p. 537, "The young queens usually hatch from the cells about the day that the swarm is cast"? Shouldn't it be a week later? [No mistake, doctor, so far as the types are concerned. We have been under the impression that the hatching of swarming-cells was often and generally the signal for the swarm to come out if other conditions were favorable. We do not know how this is in your locality, but in most localities that we have visited we have found that this is the rule. A few minutes ago we asked our Mr. Marchant, who has

had years of experience with his father, A. B. Marchant, in the production of hundreds of barrels of honey in Florida, whether their swarms went out a week after the first hatching cells or simultaneously with them. His answer came back instantly, that he and his father figured that a swarm would come forth just about the time the first cells hatch. They might come out a day ahead of time or a day later, as something depended on the weather. We should be glad to get reports from others as to what they have found the prevailing rule is in their locality.—Ed.]

The guess is made, page 547, that moths might lay eggs in S. D. House's sections after they are taken from the hive. He may have had eggs laid in them while they were on the hive; but I'll venture the guess he never had an egg laid in them after they were taken off—at least that, I think, is the case here. [Possibly you are right, doctor; but on referring this to A. I. R., who has had much experience with black bees and moth-millers, he said he thought you must be wrong. It is generally supposed that freezing or fumigating with sulphur will kill the eggs that may have been laid in combs before they are stored away in a building. Is it not true that, when these combs have been frozen, after a long severe winter, they will develop the moth-worm without ever going back into the hives again if left exposed in a building? One thing we have noticed at Medina is that, when combs have passed through a severe winter, if they are thereafter kept away from the bees—in tight hives, so the moth-miller can not get to them, they will remain clean and safe. We also observe that, if these same combs are exposed in a building during summer, the moth-worm develops.

Why should not the moth-miller visit combs that are away from the bees, and deposit her eggs as freely as she would in combs covered with bees? If the wax-worm will eat comb not among bees, why should not the instincts of the moth-miller prompt her to put her brood where they can get their natural food, bees or no bees? If your inference is correct, all we need to do is to store combs in a building where they will have a good freeze, then we can from that time on, or until they go into a hive containing bees, leave them anywhere. We would like to hear from others.—Ed.]

Sugar 8 cents a pound, and still climbing. One of the reasons always given for the low price of honey is that sugar is so cheap. If there's any thing in that, honey ought now to be on the up grade. Indeed, quotations show that it is, although the short crop has something to say in the matter. What we ought to work for is not so much a high price for honey as to get every one to using it. That would be a great public good, and, incidentally, it would not hurt the price. [Honey seems to be a law almost unto itself. We do not share the feeling that a low-priced inferior glucose or a fine article of cane sugar influences the price of honey very much, because honey is bought for its flavor, and because it is easily assimilated. For the reason that people will pay 20, 30, 50 cts., and even $1.00 per lb. for candies, when good cane sugar, more wholesome, can be bought for 5 and 6 cts., those same dear people will buy honey and pay three or four times as much for it as they will for raw cane sugar or karo. Note this fact: The advance in honey this year over last year took place *before* sugar went up; also notice that when the price of sugar began to soar the price of honey remained practically stationary. Sugar at 8 cents is cheaper than any good table honey. If the reverse were true, the housewife might buy honey to sweeten her coffee and can her fruit, and it would make an excellent substitute if it were cheap enough. No, honey occupies a field all its own. We do not fear the competition of karo that sells for half or a fourth the price, nor of candies that sell for four times as much, any more than we fear the competition of whisky or wheat.—Ed.]

I can understand how one can think a case with 2-in. glass stronger than with 3-in., as it surely is; but how Messrs. Taylor and Foster can think the narrow glass looks better is beyond me. Mr. Foster says he would prefer the appearance of 2-inch glass to 3-inch, without saying why. If it is merely because it is narrower, so as to show less honey, does that not logically lead to the conclusion that 1-inch glass would be still better, and no glass best of all? Mr. Taylor gives a hint of his reason by saying, "There may be honey that looks better behind a 3-inch glass, but I have never seen it." That *may* mean, "To give a case of honey the best appearance, the upper and lower part, where it joins the wood, with its unsealed cells and possibly other deficiencies, must be hidden, and the part to be hidden is so great that any thing wider than 2-inch glass will not hide it. There may be shipments of honey so perfect that all the imperfections will be hidden with 3-inch glass, but I have never seen them." Pardon me, Bro. Taylor, if I misinterpret you. I'm doing the best I can. In reply I may say, "There may be honey that looks better behind 2-inch glass, but I have never seen it, unless it was so poor as not to be sold as first-class honey." I'd like to ask you this question: "Did you ever see a pile of first-class honey behind 3-inch glass that you thought would look better behind 2-inch?" I've seen honey in both kinds, and to me the wider glass looks better. The 1¼-inch strips have proved strong enough for me; but it may be that glass narrower than three inches might be used—say 2¾. That would leave the surface exposed still the same. Finally, brethren, will either of you answer this question? "If 2-in. glass looks better than 3-in., why does any one prefer the wider glass in single-tier cases?" [We arise to ask, "Does any one prefer wider glass in single-tier cases?"—Ed.]

NOTES FROM CANADA

J. L. BYER, Mt. Joy, Ont.

To-day I have received word from the crop committee of the O. B. K. A. relative to the prices for buckwheat honey. The committee report that there seems to be about the same quantity of this honey as last season, and about the same prices are recommended. If the crop is as reported, certainly some other section is making up the average, as around here the crop is much smaller than for a number of years.

Another month has passed since the copy for these Notes was sent the last time, and still the weather is "very dry." While we have had two light showers, yet the surface of the earth is but slightly moistened, and the ground below the surface is as dry as chalk. Districts not far from us have had copious showers, but our section has been most unfortunate in that respect, and as a result many wells that have never failed us before are now on the "dry" list. [We presume that the recent general rains have since given relief.—ED.]

A tumbler of syrup at the entrance, with cork chips for floats, kick the hive, and run —page 516, Sept. 1. I have often used this principle in allowing colonies to clean out a comb, even in September, and it always works well. Lean the comb close to the entrance late in the evening, stir up the bees a bit, so that they come out, and in the morning the comb will be empty of honey. Of course, this would not be safe with a weak colony, and the practice is not to be commended under ordinary conditions. Really I hadn't the nerve to tell of this rough-and-tumble method of having an odd comb cleaned out until I read that Dr. Miller did something almost as bad.

A few days ago while walking through one of my apiaries with a friend my attention was called to a small bunch of bees on the front of the hive. As the day was cool and cloudy my curiosity was aroused, and on examination I found about a dozen bees clustered around an old clipped queen. I surmise that she had been superseded and driven from the hive, although I have not looked into that hive since seeing the old queen on the front. It was a colony that I had marked for requeening, and I judge the bees have saved me the trouble, This is the first time, however, that I have found the old queen driven out, although quite often I have found one on the further side of the combs with the young queen in charge of the brood-nest. It would be interesting to know how bees as a *rule* dispose of their superseded queens.

As predicted last month, buckwheat has done little, and in three yards hardly enough for winter stores was secured. At the Altona yard, for some reason the buckwheat yielded better than usual, although the acreage was much less than around the yards nearer home. However, what little buckwheat there was around the yard in question was earlier than around home, and it always turns out here that the earlier buckwheat yields the honey. Another factor in the case is the fact that at the Altona yard the bees are mostly Carniolan, and much more populous than are the bees at the other yards where more Italianizing has been done. After the clover flow was over we had about five weeks of very dry weather with scarcely a drop of nectar coming in. In a time like that, the Carniolans keep up their strength much better than other races, and, as a result, were boiling over with bees when the buckwheat was ready. Any way, let the reasons be what they may, while the three yards nearer home have stored hardly any thing in the supers, the Altona yard has put up an average of about 40 lbs. a colony—enough to buy all the sugar that will be needed for the other yards, and then they will be very heavy for winter after having shared up with the other apiaries.

I wish to endorse most emphatically the closing paragraph of Holtermann's article, page 360, June 15, where he says, "Another desirable feature in any honey-knife is that, when laid down on a straight surface, the shank and point shall not touch the surface. In other words, the blade should be on a general curve instead of being straight." We have seven or eight knives, all except one of the Bingham type. I say, "of the Bingham type," but possibly the one that all prefer and use, whenever it is to be had, and is stamped "B & H," may not be, strictly speaking, a Bingham knife. Any way, that particular knife has a curved blade; and as to its superiority—well, I know friend Bingham would own up to it himself if I had him testing the different knives in our possession. We have knives bought direct from Mr. Bingham and others bought from dealers, and all of them are simply "not in it" when compared with the old "Bingham & Hetherington," purchased by my grandfather many years ago. Why the change, I wonder, as the former type of knife should be made just as well as the awkward ones that are sold at present? And as to material, that old knife will take an edge that would shave one if his razor happened to be on a "wire-edge." While we now use mainly the heated uncapping-knife, yet when any work is to be done in a hurry, and we have not the heating arrangement with us, the old knife is always hunted up, even if the others are on hand. Why can not Mr. Bingham and other manufacturers make us some of the old-patterned knives such as our grandfathers used to use?

Bee-keeping Among the Rockies

WESLEY FOSTER, Boulder, Colo.

Mr. O. V. Coulter, of Rifle, tells me of one more serious crime charged up against the English sparrow. Cleome, or Rocky Mountain bee-plant, was very thick, and lined the roadsides of Garfield County with its beautiful purple blossoms until the English sparrows came in thick, dusky flocks, picking up the seed on the ground, then attacking the pods of unripened seeds, thrashing them out, and devouring every one. As a consequence, cleome is becoming less plentiful year after year, and the time is not distant when none can be found at all unless the English sparrows are destroyed.

THE PRICE OF HONEY.

Colorado comb honey, graded closely and according to the rules, and packed in double-tier glass-front cases, has brought above $2.50 per case for several years. Where selling conditions were most favorable, $3.00 and more has been secured for car lots. The outlook is good for a fair price again this year. Early comb honey has easily brought $3.75 to $4.00 per case. Customers are becoming accustomed to paying 20 cts. per section for honey.

Extracted honey, sold locally in pint Mason jars, brings $2.60 per dozen. It is no longer necessary to sell honey at $2.40 a dozen, as has been the practice in the past.

THE HONEY CROP IN COLORADO.

Most of the reports I have received about crop conditions are fairly accurate; however, there are times when one which is misleading slips in. The honey crop on the western slope, which includes Garfield, Mesa, Delta, Montrose, La Platte, and Montezuma Counties, is but barely half a crop. Delta Co., which last year shipped seven or eight cars of honey, will not ship more than three or four this year; and Delta Co. conditions prevail on the whole western slope. The Arkansas Valley has had a fair crop, as has the Platte Valley, considering the number of bees to gather the crop. Northern Colorado would have had quite a considerable amount of honey to ship if so many bees had not been lost last winter, and if fewer had been moved to other States. There is one thing gratifying—the price of honey is very good, and those who have a crop are smiling.

BEE-KEEPING AND HOMESTEADING.

These western bee-men are well worth knowing. A more hopeful, hard-working, and conscientious lot it would be hard to find. The qualities that win here in this alternating desert and Eden are well brought out in the bee-men on the western slope in Colorado. A large percentage are on homesteads, waiting for the irrigation projects to be finished, when the water will raise the value of their land from $100 an acre upward. You will find small cabins and cottages, most of them quite small, a little garden, and lots of dry yellow or reddish soil, covered more or less with chico, shad scale, and greasewood. There is considerable waste land on most of the tracts, and the roads are not kept up as they will be in a few years; but most of my bee-keeping friends have several children, and I think everybody is far happier than if living in some great city.

The bee-men have honey-houses on their homesteads, and run for both comb and extracted honey, though comb honey predominates. Out-apiaries are operated as are the homesteads, as a rule, and are too far from good alfalfa and sweet-clover pasturage. The bees are now making the living for many a homesteader, and it will not be many years until these men will be quite well-to-do. Most of them now rank high as bee-keepers.

FALL TREATMENT FOR AMERICAN FOUL BROOD.

The usual shaking-out method practiced during the honey-flow for the cure of foul brood is too severe a treatment in the fall after the honey-flow has ceased, as there is then no chance for the bees to build comb and store enough honey for wintering. It is hardly to be advised to winter colonies which show even the slightest trace of disease, as breeding goes on within the hive here in Colorado practically all winter. This practice works well in the Eastern States; but conditions are very different here. A better plan is to select combs of fully sealed honey and shake the diseased colony on these frames after breeding has largely ceased, in which case the disease will very rarely reappear. If there is but little disease in the apiary, there are probably as many queenless colonies as there are diseased, in which case the queen should be caged to the diseased colony, and the queenless colony and the diseased one shaken in together into a clean hive having starters. The queen is left caged with the bees in this clean colony for three days, when the combs of honey from the queenless hive may be put in, in place of the starters, and the queen released. This is the most economical treatment for diseased colonies in the fall.

Using Eight-frame Supers on Ten-frame Hives.

On p. 342, June 1, G. W. Joice gives a plan for converting an eight-frame into a ten-frame hive. After using both eight and ten frame hives side by side for comb honey, I changed to ten-frame. I use my eight-frame supers on my ten-frame hives by nailing a 1¼ x 1½ x 20-inch cleat on each bottom edge of the super with the top edge beveled to shed rain. Supers arranged in this manner have given satisfaction.

Buena Vista, Texas, June 11. J. W. LOWRY.

Conversations with Doolittle

At Borodino, New York

BEE-STINGS.

"Can you tell me what becomes of a bee after it has stung some one? I never stopped to think about it until the other day, when an old bee-keeper told me that every bee which inflicts a sting is of no use afterward, for stinging causes it to die soon afterward. Then I thought of having seen the poison-sac, and apparently part of the vital parts of the bee, adhering to a sting which was left in some mittens I wear when working with the bees, and how the sac was working, contracting, etc., to pump all the poison possible into the wound made by the sting."

"Until a few years ago most persons had this idea, arguing that, in leaving the sting, as a bee nearly always does when attacking an animal or person, and with it part of the intestines, poison-sac, etc., the result would surely be the death of the bee. This seemed so reasonable that for many years I felt that the prevailing idea was true, until one day, after a bee had stung me, leaving its sting, it came to the attack again and again, with all the fury and vengeance possible, getting in my hair and angrily singing in such a way as to make the cold chills run up and down the back of any but the most hardened individual."

"Yes, I know something of this. One day toward night I was working with my bees, with my veil and mittens on, when the hired man approached to ask a question. An angry bee, which had been hovering about, flew into his hair just behind his ear. He began to jump into the air, and then started to run around the house. I thought that, as soon as he reappeared, I would kill the bee before it reached the skin and had a chance to sting. I had hardly gotten to where I knew he would come, before he was there, shouting frantically, 'Kill him!' I had my hand raised to find the bee, but he could not wait to listen to that singing any longer, and he jumped into the air again, yelling more frantically, if possible, 'Kill him! Kill him!' going around the house with a more accelerated speed than before. When he came in sight again he halted barely long enough to hear that sweet song once more, when he was off on another circuit around the house, yelling with every bound, 'Kill him! Kill him!' The next time he halted, and I heard an agonizing groan or two, and then, 'Oh! I'm stung!' when he allowed me to capture the bee and take out the sting. I do not know that I ever had any thing amuse me as that did, even in spite of my sympathy for him. I knew something of how he felt; but the fact that he did not stop for me to get the bee out of his hair, and that he was, for the time, so utterly bereft of any reason, just from the siren song of one little bee, was too much for me."

"Yes, these experiences have an amusing as well as a pathetic side; but I want to tell you more about the bee losing its life from parting with its sting, and what pulls away with it. As the bee to which I referred, which was singing in my hair, apparently had no thought of dying, I carefully disengaged it and caged it with four or five others, just as bees are caged with a queen for shipment. At the end of a week there were no dead bees in the cage, and, so far as I could see, there was no difference in any of them, as the white thread-like substance generally left at the point of the abdomen after a bee parts with its sting had all become dried up or absorbed by this time.

"At another time, when putting up queens to send to Southern Texas (a journey which often takes a week or more), a bee stung me on the end of the finger, and immediately ran into the cage. It occurred to me that here would be a chance to test the theory of the death of a bee from the loss of its sting. Accordingly I marked this cage, and wrote the person, to whom the queens were going, about its contents, asking him to take particular notice of this cage to see if there were any dead bees in it. In due time the reply came that the shipment reached him in perfect order, without a single dead bee in that particular cage nor in any other.

"Several times since then I have tried similar experiments to see if such bees as had lost their stings were in any way inconvenienced thereby; and, so far as I can tell by means of confining them so as to know that I had the same bee, I can see no difference in longevity between such bees and those which have their stings. Whether they are of any use as honey-gatherers, or whether they are allowed to live in the hive without their weapon of defense, is not known.

"But before we part I want to say a word about getting the sting out of the flesh as soon as possible, so that all the poison in the sac may not be pumped into the system, thereby making ten times the pain and trouble necessary. My way of extracting the sting is to rub it out by a drawing motion against the clothing, if on the hands; and by a sliding motion of the hand, against and under the poison-sac, when on the face or any other part of the body. These motions will soon become automatic if adhered to, and the sting may be rubbed or pushed out so quickly that very little pain will be felt."

Filed Pin For a Grafting-tool.

On p. 738, Nov. 15, 1910, I described my pin transferring-needle. Since then I have devised a better one. The improvement consists in filing the pinhead sidewise, and on the end, leaving two small points. The trouble with the old one was in getting the larva on the pinhead and also in getting it off. There is no trouble with the new one. Set the pin in the end of a stick at a slant, with the points standing crosswise, and then you can catch them either way.

Salem, N. J. HENRY BASSETT.

General Correspondence

EIGHT AND TEN FRAME HIVES COMPARED.

Are all the Arguments in Favor of the Ten-frame Well Grounded?

BY O. B. METCALFE.

The cry is, "See the eight-frame hive go out and the ten-frame come in." It will go, too, if everybody joins in the cry, and no one says what can be said in favor of the eight-frame. Even a thoroughly good thing may lose its popularity and become almost entirely discarded if no one continues to champion it; and something which is not as good may become very popular if the crowd advocates it. No doubt when the eight-frame hive was coming in, its advocates were as enthusiastic about it as the present advocates of the ten-frame hive are now for their particular size of hive. I do not intend now to start out to champion the eight-frame hive, but I think that this is a good time to do some actual investigating. Some actual tests should be made in the locality where one intends to keep bees, and of the methods used.

Among the bees we bought, there were about one hundred small hives which measure 7¾ inches deep, 12¼ wide, and 17 long, inside measurement. The frames were 6¾ inches deep, 15¾ long, inside measurement, with a scant one-inch top-bar. The man who sold them to us said that they were among the best make of hives he had. I supposed that this was to sell them; but since then I have noted from time to time that they are the best comb-honey hives, and that the bees raise more brood in them than in the eight and ten frame hives of the standard size. These little squatty hives were designed for this locality by a man named Gathright, who was, before so much alfalfa was planted, the only successful bee-man here in the Mesilla Valley. What about the bees doing so well in these little hives, you ten-frame advocates? Is it possible that location has any thing to do with which hive is the best? I think it does.

In the matter of weight, the eight frame has an advantage over the ten which is of great importance to the man of ordinary strength only. This point alone is worth considering; but perhaps the most important points are that swarming can be more easily controlled in the eight frame than in the ten, and a small honey-flow can be forced into the supers, where, with a ten-frame hive, a good part of it would stay in the brood-nest in the form of a ring of honey around the brood, with the final result that, in the fall, when it is hard to go into the brood-nests, there will be too much honey there, which will candy long before spring, and have to be melted, comb and all. This may make some of my Northern brothers scoff; but even the eight-frame hive here in New Mexico, when it is run for comb honey the entire season, nearly always has altogether too much honey left in it when the new honey comes in the spring. The ten-frame hive costs more, takes more store room, and it takes more loads to move an apiary of them. It is too big for the brood-nest of an average queen after her spring egg-laying rampage is over, and not big enough during that time.

If you have a lot of eight-frame hives, keep them until you have done some fair testing for yourself. Do not buy a lot of ten-frame hives and mix in with them. We have some ten-frame hives among our bees, and they are a nuisance. Nor have I been able to see that they produce any more surplus. Give queens two stories (sixteen frames) to lay in during their spring laying-spell; and when they have quieted down, put on queen-excluders and make good use of the extra super of frames which you used as brood-nest at the critical moment. Then if you do not conclude that the eight-frame hive is about good enough, your location must be different from mine.

But what about those little hives of ours being better here than the eight-frame? Well, I do not think it is because the eight-frame is too big, but, rather, that the frames are not made as well in regard to economy of space. The frames in these little Gathright hives are not quite as wide as the standard frame of to-day, and nine of them fit nicely in each hive. Since the hive is only ⅛ inch wider than the regular eight-frame, this allows a lesser distance between the sheets of foundation, or the midribs of the combs, and this is the only reason I can see that the bees will fill these little frames with brood right to the last cells against the top-bars. Now, I suppose that this matter of width of top-bars was thrashed out before my time; but if some one will be kind enough to repeat some of the evidence I shall be glad to hear it. There are among our standard frames many odd frames with little narrow top-bars—some of them not more than ¼ inch wide. I wonder if it is because these frames are old and long in the service that they are filled with cocoons clear to the wood of the top-bars, or is it because they are so narrow that the bees could not use them to good advantage for storing honey, and had, therefore, to leave them in shape for brood. I rather think it is more the latter, for it seems to me that, whenever I take them out, they are well filled with brood. This is no new idea which I have drummed up for argument's sake. I have had my eye on it for the past two or three years, and now I want some one to squelch me with an overwhelming argument or an avalanche of data lest I begin trying to prove that nine frames in an eight-frame hive body is what we want instead of ten frames in a larger and more bunglesome hive.

Mesilla Park, N. M.

DO BEES REASON?

Some Interesting Incidents that Apparently Support the View that they do.

BY D. M. MACDONALD.

We talk glibly of the *instinct* of insects, and ascribe many of the marvels of the hive to a series of unknown faculties implanted in the bee from the beginning of time. It is an instinct in the bee to gather honey, to feed the larvæ, to cluster closely in cool weather, and, more closely still, in seasons of excessive cold. But there are many enigmas about the hive which dig down deeper than such superficial instincts; for bees frequently seem to reason out a point, and appear, after due deliberation, to come to some clearly defined resolution.

It should not be asserted that, because bees in general follow a species of blind instinct, they can not, when necessity arises, call reason to their aid, for the latter faculty can coexist with the former. They can act at times independently of any past experience, and progress step by step without having the ultimate end in view. Certain actions out of the usual routine, and which, so far as we know, were never before performed in the long course of the ages, arise tending to the well-being of the community, and perhaps the existence of the colony; and the workers rise to the occasion, and not only outline a plan but carry it out by regular gradations to a successful consummation. Here is surely something a step ahead of mere instinct.

A friend last season sent me a hive of bees; but the combs were insecurely wired, and so some of them broke down. On the journey, one of the combs, too recently built to travel safely, fell in a heap on the floor. The bees, even in their excited state, proceeded to stay the partly broken combs, and to buttress the parts leaning to one side, while they constructed supports from the masses on the floor. Every stay, support, pillar, column, and buttress differed from every other in length, breadth, thickness, and general shape, but each one seemed to me to be admirably adapted as a means to the end in view. The whole appeared to be constructed on a systematic *plan;* and the lesson taught me was that there was something more in the wise little heads than simple instinct.

On arrival I proceeded to make the best I could of the catastrophe, and demolished a good part of their edifice—I confess I did so with some regret. Then I *taped* all the best combs in the frame. Instinct taught the bees that it was advisable to join on the semi-detached parts of the combs to the fixed parts, and this they performed with wonderful precision and no little skill. The work went on for about two days, during which the tapes were left in position; but after, when the workers had *reasoned* it out that the fabric would bear the strain without extraneous aid, they cut them asunder and laboriously carried them outside the hive, reason apparently teaching them that they were unnecessary *now*.

A comb in an observatory hive gave way partially, and part of the top leaned outward. Instinct taught the bees to fix it to the nearest stable support, which they accordingly proceeded to do; but gradually it seemed to dawn on the intellect of a few of the workers that no secure hold could be obtained on the glass, and some prospectors proceeded to investigate the surroundings. Not for some time did the others desist in their attempt to carry out the original plan, but at last they did. The whole assemblage then had what looked like a good long "bee talk," during which some scouts visited the point from which the comb had broken away, and it looked as if they even came back and reported. At last a large body of workers started to construct pillars rising from the comb to the roof. Dissatisfied with this, after expending a considerable amount of labor on the scheme, the bulk of the workers started from the top and worked downward until they completed a firm stay. The whole proceedings from first to last appeared to be carried on along reasoned lines thus far. But there was still a further instance of reasoning powers shown. The part of the comb leaning over seemed to be an inconvenience or obstruction to traffic, and the bees set patiently to nibbling it away.

If bees send out scouts at swarming time to spy out the land and investigate as to the best and most favorable spot for the swarm to settle, they must have some amount, at least, of reasoning powers to enable them to search out the adjoining country, to decide on a suitable spot, to return to their companions and report the results of their investigation. Some information must be supplied on their return, acquainting the bees of the swarm as to which of several places examined is considered the best for the proposed dwelling, and this decision must be arrived at by comparative estimates. Here we have the fruits of reason producing certain results. Then when the throng rises almost instantaneously, some reason must guide them direct to the point agreed upon, which may be miles away from the old home.

These points are all most interesting, and a somewhat analagous case is the return of laden bees to a hive with stolen or newly discovered sweets. By speech, or some sense not gifted to man, other bees are informed where this source of supply lies, and many members of the sisterhood are led straight to the point of attraction, where they load up, return to the hive, and acquaint other members of the fraternity with the existence of the little eldorado which has been opened up for their benefit.

Huber, I think it is, describes how he placed an insecurely fixed piece of a comb containing about a dozen cells, tenanted by living larvæ, along with a number of workers. These bumble-bees instinctively, no doubt, tried to mount the comb to nourish their

young; but, finding its instability a bar to brooding, they tried to prop it up. Not being provided with wax they had nothing to serve as supports. What did they do? Mere instinct was at fault, for here was a dilemma which possibly no bumble-bee had ever hitherto experienced. They had to find a way or make it. This they did as a result of deductive reasoning, I take it. Two of the bees mounted the comb, stood on their heads, with their fore feet on the table, while their hind feet propped it up. The posture was so painful a one that fresh bees had to relieve their comrades, and this they did for about three days, when the experimenter relieved them by propping up the comb securely. "How could mere machines thus provide for a case which never occurred to bumble-bees before?" asks a philosopher commenting on this, and he concludes naturally that this was not a case of mere instinct, but of sound reasoning. Man would act in the same way, and would endeavor to prop up any falling fabric until some one brought beams to support it.

I can imagine mere instinct guiding bees to prepare natal cradles for their future queens, but what guides these same workers when the time is not yet ripe for the issue of the imago to imprison her in her cell until weather conditions admit the bees to trak? When the drones are slaughtered annually, a colony whose queen is yet unfertilized is preserved. Do the bees reason it out that this is their only chance of being saved from annihilation? Mere instinct would enable bees to build even the beautiful hexagonal cell; but what mystic power induces them to depart from the uniform procedure, break into transitional cells, and then gradually adopt drone-cell formation? Mere instinct induces bees to leave the hive for nectar when flowers secrete this sweet, and weather favors; but what teaches only a proportion of them to do so, while others remain to attend to the duties of the hive? When drones are bred in worker combs, necessity compels the workers to elongate the cell walls, as we see them when a drone-breeder, a fertile worker, or an unfertilized queen has done the egg-laying; but does mere instinct teach them to revert to the normal, and pare the cell walls down to the former depth? To me each and all of these operations look like the fruits of reasoning.

Banff, Scotland.

["Are Bees Reflex Machines?" is the title of a work issued by the publishers of this journal, that goes into the whole question very minutely. It is one of the most valuable and interesting works that have come from the GLEANINGS press. Price 50 cts.—ED.]

A RECORD OF THE LOSS IN WEIGHT OF 14 COLONIES IN A CELLAR.

BY J. M. WALKER.

I hand you herewith the table of weights of my colonies in the cellar last year. These colonies were all of uniform strength when put in the cellar on Nov. 24. They were in eight-frame hives *without* cover, having a ⅝ piece of pine board screwed on top of the brood-chamber. They came through with abundance of stores for spring use—plenty of them not having used any of their sealed stores. They had a short flight only, on Feb. 18, it being a warm misty afternoon.

	1910 Nov. 24	1911 Feb. 18	1911 April 4		1910 Nov. 24	1911 Feb. 18	1911 April 4
1	48	44	39	8	46	41	36
2	44	39	34	9	43	40	33
3	49	44	35	10	43	40	34
4	48	43	38	11	46	42	38
5	46	42	38	12	48	44	38
6	47	42	38	13	45	38	34
7	47	41	36	14	44	40	35

When my bees are fed with syrup, and ready for winter, I put a ⅝ pine board, as mentioned above, with three circular saw-cuts lengthwise through it on top. I put the regular cover over this; but then when bees are put away I lay the covers aside until spring. The three cuts in the board keep it from warping; and as the cuts are turned down they give a very slight passage of fresh air over the bees.

Another little scheme I have is to use a small strip to close the entrance in handling bees. The alighting-board is removed and the strip inserted. When bees are in place, a cork is first pulled from a ⅝-inch hole in the center of the strip, and a little later the strip is removed. In this way the bees do not fly out and make trouble. I leave the entrances entirely open in the cellar.

Owing to lack of space and good ventilation, these 14 colonies lost 1½ gallons of bees, by actual measure; but I expect to improve my cellar conditions very much the coming winter.

New Bethlehem, Pa.

THE BOISE VALLEY, IDAHO.

The Situation as it Exists there To-day.

BY R. D. BRADSHAW.

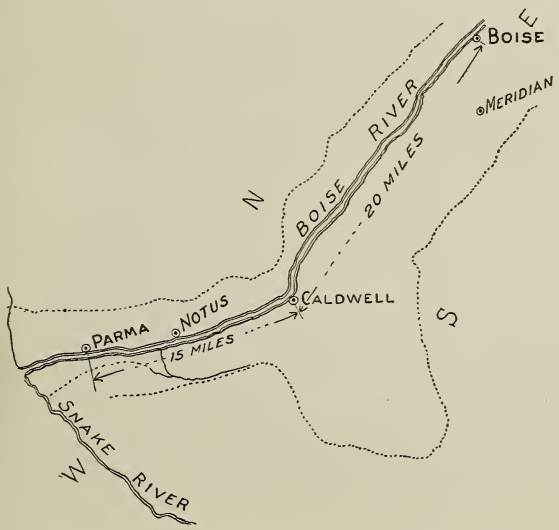
In response to an article by J. E. Miller, page 408, July 1, I wish to place before the readers of GLEANINGS the conditions in the Boise Valley as they are. To begin with, Mr. Miller states that there is lots of room here for more bees. In answer to this I have prepared the sketch shown herewith, showing the only section where bee-keeping at the present writing has been found at all profitable, and bee-keepers may judge for themselves.

Within dotted lines, a strip averaging two to three miles wide, is irrigated land, mostly bee-ranges; outside dotted lines, sage-brush deserts, now under reclamation; however, as yet there is but little or no range for bees, and will not be for some time.

Between Caldwell and Boise, a distance of 20 miles, as shown on the map, Messrs. Lyon, Atwater, Yoder, Dudley, Stark, Bixby, have a total of 2775 colonies, strung out

in a series of yards, about 150 to 200 in a yard; apiaries about two miles apart, and in some places less than one mile, according to the range.

At Caldwell, and to the south, Mr. McCarty, late of Colorado, has the range occupied with 1000 colonies, starting from Caldwell; and going on down the river two miles we have the yard of Mr. Sprague, another Colorado man, with 75 to 100 colonies; below this, about one mile, Mr. McCarty has another, 150. Going on down less than two miles, Messrs. Crowther & Powers have 250. Just across the river, and exactly 1¾ miles below, I own and run an apiary of 550 colonies.



This brings us to Notus, as shown on the map. Between Notus and Parma, 8 miles, we have the following yards: Messrs. Johnson, 40; Konke, 40; Coffin, 160; Powers, 300; Crowther, 250; Schultz, 250; Wendt Bros., 300; Paine, 300; Atwater, 250; Andrews, 50; Hall Bros., 150—a total of over 2000 colonies on a strip 8 miles long by 1½ wide. My own yard is a little below Notus, and could really be included in this district also. I ask any fair-minded apiarist, "Is it any wonder that Parma bee-keepers do not want any more additions to their number?"

He further states that we have no appropriation to fight foul brood. Here again he shows his knowledge to be limited. We have $1000 a year appropriated for this very purpose, and I, as deputy inspector, get $5.00 a day for my labor. Reference is also made that my apiary of 550 colonies is badly diseased. I am no exception to other bee-keepers in this vicinity, for we all have foul brood to contend with; but I am free to say that, at the present date, I have a clean yard.

No doubt it is the small farmer bee-keepers who aid in the spreading of foul brood, and Mr. Miller is no exception to this class. He is not progressive enough even to join our local association. He has never visited my apiary, and his knowledge of the conditions there are about on a par with his knowledge of the valley as a whole.

Notus, Ida.

THE SITUATION IN CALIFORNIA.

A Bountiful Honey-flow Surprised Many Who were Not Prepared for it.

BY C. W. DAYTON.

I ascribe the failure of honey last season, 1910, to a freeze we had in February of that year that destroyed the fungoid plants. It showed its effect not only on the sage but garden and farm crops also. Bees in this locality gathered plenty of honey to live on and for breeding purposes, but they seemed to be unable to use it. I have about 20 colonies that have gathered very little honey this season—not more than 10 to 20 lbs., while many other colonies have stored from 300 to 500 lbs. each.

The honey-flow, in this vicinity at least, was wonderful. We had very poor rains last winter, but there was a very heavy crop of bloom from all the honey-yielding flora. There was such peculiar weather that both the moisture and bloom were held back until settled warm weather arrived. The honey-flow was short but very abundant. It came spasmodically; and where the colonies were not ready with plenty of supers on the hives, and the bees already at work in them, most of the opportunities for storing were lost.

No colonies were kept on scales; but my supers average from 27 to 30 lbs. each, and I took from six to ten supers from single colonies within one week. I kept count of most of the colonies. The weather also continued unusually favorable. After black sage had yielded moderately for a few days, there came four or five days when honey seemed to be as plentiful as water. This slow yield developed the ripening ferment in the bees; and when the heavy flow came on, a colony of 5 to 12 lbs. of bees was able to "put away" honey very rapidly, so that there were from 10 to 30 lbs. stored during each of those days, just as I have seen them store honey from basswood in Iowa.

Black sage, balled sage, and mountain sumac all came separately, and had their heavy yielding days, and the hives were filled as if by magic. I never knew sumac to do as well unless it was in 1897. That season the yield was longer, but not as heavy as this year. What was lacking this year was bees and alert bee-keepers who could see ahead and prognosticate as to what might happen.

As I look backward over the past season I realize that there is nothing else in bee cul-

ture that is as important as plenty of bees and plenty of super room so arranged that the bees can or will use it quickly, and then await developments of the honey-flow. California yielded the honey this year, but the atmosphere harvested it.

With the very best of intensive management the colonies could have been built up so as to harvest 200 lbs. to the colony. But there was lack of faith all around. Bee-men were looking for something better than bees; but now many of them see that there was nothing as good as bees. What they lost would pay for two failures and disappointments. When there is such dwindling as there was last winter, the big bee-man is not in it. It requires skill and love for bees, and attention to little details, to nurse small and dwindling colonies. And the most abundant honey-flows often follow directly after such conditions of weather as produce weakened colonies.

Chatsworth, Cal.

GETTING THE BEES AS WELL AS THE HONEY FROM BEE-TREES.

BY W. C. MOLLETT.

A large part of this region is covered with timber, mostly beech, oak, and hickory; and it is very easy to find trees which contain swarms of bees which have gone to the woods. It is considered great sport to find the trees containing bees, and cut them to secure the honey and sometimes the bees; but a great many bee-hunters take the honey and leave the bees to perish of cold and starvation. I have always considered this as very cruel, and will not cut a bee-tree unless I expect to save the bees.

Last autumn I found a tree which had been cut about three days, and the bees left without any honey; and as the tree had been split open in order to secure the honey, the bees were in the open air without any shelter from the cold, and it was frosty every night, as it was the 20th of November. I took the bees to my home, about three miles distant, and put them in a hive with some empty comb, and fed them syrup made from common brown sugar. They came through the winter in fine shape, and in the spring they soon became as strong as the other colonies. Of course the trouble and expense amounted to more than they were worth; but I would never let bees die when it is possible to save them.

Once I had a very large swarm go to the woods, and I succeeded in finding them the same day; and as the weather was somewhat showery I did not cut the tree for about five days. By that time they had sheets of comb nearly three feet long, which were partly filled with honey and eggs. I put them into a hive with full sheets of foundation, and they worked surprisingly well, and gave a surplus of nearly 100 lbs., as the season was a very good one. As a rule it is easier and cheaper to start colonies when one has hives with movable frames than it is to secure those found in hollow trees, and I do not often take any trouble to find bee-trees. I am of the opinion that not more than one out of four swarms that go to the woods survive the first winter; and as a rule none of them live very long in the woods.

Stonecoal, W. Va.

BREEDING TO PREVENT SWARMING.

BY J. F. MUNDAY.

Twenty years ago I had great trouble with the swarming of my bees; but conceived the idea that, if I reared my queens artificially by Alley's method, and not during the swarming season, and from eggs produced by queens whose bees did not or were not much given to swarming, I might lessen that propensity. By continuing that practice I have succeeded beyond my expectations, as a swarm rarely issues from my hives. I keep the bees at work and contented by taking their surplus honey from them when it is fit, and by seeing that they have sufficient ventilation at the mouth of their hive (about ½ inch by the width of the hive), also that each hive is provided with a shade-board on its cover. Of course each hive has on it as many supers as are necessary—seldom more than two, usually only one.

METHOD OF PASTING LABELS ON HONEY TINS AND BOTTLES.

Possibly my method of sticking labels on my round honey-tins, bottles, and jars, may be interesting. I had a paste-pad just the size of my labels, 4x5½ inches. It is made of a piece of ⅜ board. On to the surface of the sides is nailed a strip of wood ¾ wide, ⅜ thick, and on it is tacked a piece of doubled cloth. On the other side (the back of the pad) is nailed across a piece of wood (edge upward) 2x½ inch, for a handle.

I have a piece of tin about two inches larger than the label, on which I spread thinly a little paste (which has in it a teaspoonful of honey to a cupful, rendering the sticking quality greater. The labels are in an even pile, face down. In my left hand I have a table-knife. I place the tip of the blade (flat way) on about the center of the left edge of the top label. I then take the paste-pad with my right hand, dab it on the paste, which is on the tin, and then dab the pad evenly on the top label, which I am holding down with the knife. After lifting the pad, which has left a thin layer of paste around the label, I again place the pad on the tin, which is spread with paste, and the knife on the table. I then take a bottle or jar and roll it over the pasted label. I rub it slightly with a cloth to be sure that it sticks properly. The operation is expeditious, and worth practicing. The pad is much quicker and better than a brush.

Woodville, N. S. W., Aus.

Fred W. Muth, of Cincinnati, demonstrating that bee-stings cure rheumatism.

STINGS AND RHEUMATISM.

A Rheumatic Man so Helped by Bee-stings as to be Able to Walk Without a Cane.

BY J. R. SCHMIDT.

One of the most interesting experiments ever to be performed anywhere is that now taking place in Cincinnati, where a colony of bees is being used to cure a case of chronic rheumatism. That the sting of the honey-bee is a sure cure for rheumatism is being proven in the presence of many prominent physicians and representatives of the press.

This unusual treatment for rheumatism is being performed upon John Renner, of Cincinnati, who has been afflicted with the dread rheumatism for years, but now for the first time in years can walk about most sprightly without the aid of his cane. This wonderful improvement, the physicians say, is due to the formic acid, injected into the patient's system by the stinging bees, acting as a counter-irritant, and nullifying the rheumatic pains.

John Renner is a most willing patient to the unique treatment, though he has never before been stung by a bee. In spite of all this he takes the stings unflinchingly; and, sharp and acute as the pain is, he declares it is a pain of relief compared to the dull and incessant pains of his rheumatism. Twice each week the patient visits the apiary of Fred W. Muth, and is stung by the bees from three to five times at each of these treatments. The stings are applied by Muth to Renner's rheumatic arms and body where the rheumatism is most noticeable. The experiment with the bee-sting cure has been going on for two weeks, and the patient has just received 17 stings to date, which have transformed him from hobbling about on a cane to one who can walk almost as sprightly as any one.

Physicians who are watching the case declare that the formic acid will soon inoculate his entire system, and the rheumatic pains, due entirely to a poison in the system, will give way entirely to the poison of the bee-stings.

Cincinnati, O.

Bee-sting applied to the arm for curing rheumatism.

EDUCATING THE GROCER.

Some of his Objections to Handling Honey.

BY WESLEY FOSTER.

In the course of a little experience in selling honey to dealers, various objections were offered, some of them by hundreds of dealers, showing that there was and is ground for the objections. The writer has had all these to overcome in many cases, and will try to give the objections in the order of their importance as shown by the persistence of their repetition.

1. Honey does not sell here at all. I never have a call for comb or strained honey.

2. It is too expensive. My customers can not afford it. They buy corn syrup and New Orleans molasses instead.

3. There is no profit in handling honey. The jobber and producer want it all.

4. All honey is adulterated. The "strained" honey is sugar syrup flavored with honey "extract," and comb honey is artificial, made from paraffin and glucose.

5. Honey sells so slowly with me that it sugars or spoils, gets dusty, or the flies make a sticky mess of it on the shelves, and I finally have to throw it away.

6. Tiny red ants swarm after it; and as the candy-case is the only one which will keep out the ants, there is no place to keep the honey from them.

7. Comb honey dries up, evaporates, and the cells become empty.

8. It "combs," or all goes to wax in the glass jars (this is the explanation of "candying").

9. Honey is used only as a medicine for colds, sore throat, etc.

10. The honey raised here is not as good as that in the East. Buckwheat is the finest-flavored honey grown, and the color varies from clear white to a rich dark brown.

As I have gone over these objections given by grocers, and have analyzed them, I have found that they arise from three causes.

First, ignorance of the consumer concerning honey; second, ignorance on the part of the retailer; and, third, ignorance (or at least failure to prepare honey for the market properly) on the part of the bee-keeper.

Objections one, two, four, nine, and ten explain why customers do not order honey with other groceries, and all these objections can be overcome by education "honeyward." If we bee-keeepers had been as zealous as other "sweet-goods people," we should have a hard time supplying the

demand. There are very good reasons for this lack of advertising education on honey too: The profit will not permit as large an advertising fund as other lines afford.

The objections numbered one, three, four, five, seven, and eight, explain why the retailer does not sell more honey, if any at all. Some of these are mere notions, and others may have arisen from ideas gathered from newspaper stories of adulterated and manufactured comb honey. Most of them would never be expressed if the retailer had a better understanding of honey and its nature.

The objections numbered five and six are raised when the bee-keeper or dealer sells the retailer honey that has begun to candy or that is not put up in cases that will keep it away from dust and dirt. The writer has never seen a display-case for honey that would exclude ants. He has seen candy-cases made so that ants could not enter. This is an item too unimportant to call for a specially made case, as most of the honey is sold in the winter, when the ants are not abundant.

From these oft-repeated objections it can be seen where the trouble lies; where more emphasis must be placed in education for honey consumption, and where greater care must be taken to put up honey in a way that will preserve its qualities until all of it is sold. The bee-keeper can learn more about the sale of honey from grocers than by any amount of thought and theory. Ask the man who sells it, and then go further and ask the folks who eat it. In this way reliable pointers may be gained first hand, and they will prove profitable if followed.

Boulder, Col.

ANNUAL FIELD DAY OF THE MASSACHUSETTS SOCIETY OF BEE-KEEPERS.

BY J. M. LEWIS.

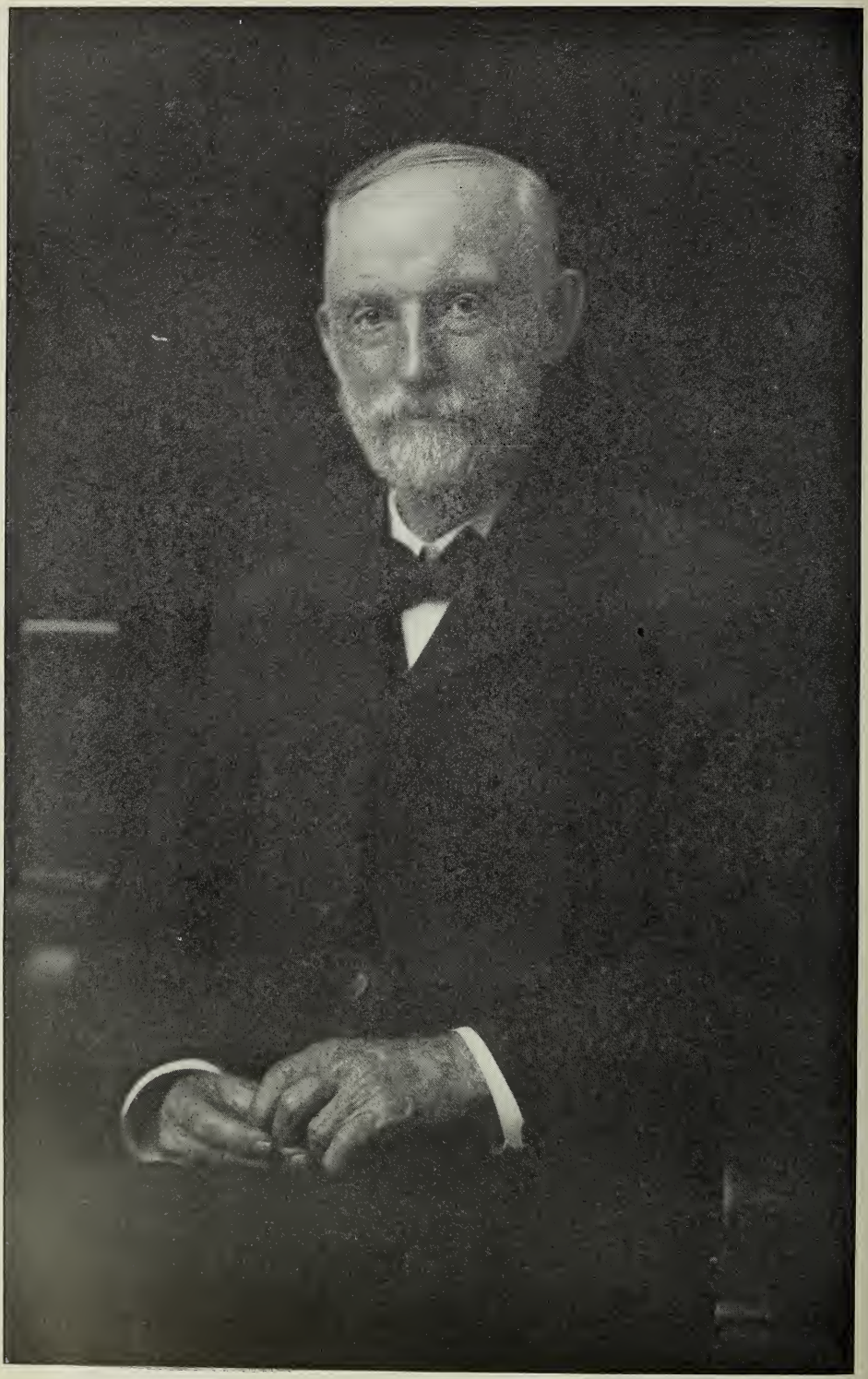
The annual field-day meeting of the Massachusetts Society of Bee-keepers was held July 15, on the grounds of Henry W. Britton, at Stoughton. The day was perfect, and a large number were present. The social hour was highly enjoyed. The company gathered in groups while eating their basket lunch and partaking bountifully of the coffee and ice cream furnished by Mr. Britton, who gave all present a cordial welcome.

At 1:30 the meeting was called to order by the President, E. C. Britton. After the usual business was disposed of, Prof. Burton N. Gates, of Amherst, State Inspector of Apiaries, was introduced and spoke on apicultural advancement. He earnestly discouraged the use of the old-style hives, and strongly urged the use of the Langstroth hive with Hoffman frames. He advised the keeping of Italian bees, as he thought they are less liable to become affected with foul brood. He spoke of the Alexander method of building up weak colonies, and the spring handling of bees. His address was interesting throughout, and very instructive.

After the address the President showed a three-queen colony of bees in a large hive, with queen-excluders placed between the frames to prevent the queens from coming together, yet allowing the workers to pass throughout the hive. Honey and bees and observation hives were on exhibition, and the day was enjoyed by all present.

North Westport, Mass.

Field meeting of the Massachusetts Society of bee-keepers, held on the grounds of Henry W. Britton, Stoughton, Mass.



A. I. ROOT.

HIS WIFE AND HELPMEET FOR FIFTY YEARS.

TUPELO GUM AS A HONEY-PLANT.

Black Tupelo.

BY J. J. WILDER.

Three species of this great honey-plant have come under my observation, and they are all sources of honey from which my bees store a surplus. The first that usually comes in bloom is the black tupelo, which is prevalent along almost all of the water-courses of any consequence in the Southeast, and it grows thinly over the low forest lands that the streams cover when they overflow. Along the edges of the lake and small streams it grows more dense, as also in the low flat marshy places. These latter are very common, and large bodies of this plant can be found all along.

In the fall, after the berries have dropped, I have seen the overflow of water drift them up against logs, etc., until a carload or more could be gathered from one pile. This shows how thickly it is scattered over these parts.

This plant does not grow to any great size, but is usually slender and tall, and decays first about the tops; but when this happens, other limbs grow out below them and continue to bloom. The limbs are like stubble, even at their extremities, and the blossoms form about the new parts of the tender shoots. The berries, when ripened, are dark and about the color, size, and shape of a dried prune, although, perhaps, a little smaller.

Fig. 1.—The scrub tupelo of Georgia.

The time for the honey-flow from this source is governed somewhat by the length of time that the swamps or lowlands are covered by water. If there has been no overflow in the early spring, the bloom will commence in March and last from twenty to twenty-five days. If there has been much rain, and the overflow has lasted for a considerable length of time, the flow is greatly delayed. The honey usually has a very good body, and is very light in color when first capped over, but begins to redden, whether still in the comb or extracted, and before long can be sold only for dark honey. When first gathered, the flavor is fine and mild; but it gets stronger until, when five or six months old, it is hardly fit for table use.

THE SCRUB TUPELO.

The above name is one that I have been using because I did not know its true name nor a better one. It is a very scrubby gum tree, almost never growing over twenty-five or thirty feet high. It resembles the white tupelo very much; the bark is smoother, and lighter in color than that of black tupelo, but not as light nor as smooth as the white tupelo.

This species of tupelo is also very prevalent in many sections of the Southeast, and is a honey-plant of considerable consequence. It does not grow in the same surroundings as the black variety, but is found along creeks, around ponds (as shown in Fig. 1), and along rivers which rarely overflow, and whose swamps are quickly dried. It will not grow under water nor on land that is constantly covered with water. It thrives best, however, where the water is not far below the earth's surface, and where the land is low, level, and drained by branches, creeks, and rivers.

The scrub tupelo begins blooming near the first of March, lasts about twenty-five days, and is a sure yielder. For about fifteen days the flow is heavy. The honey is light in color, having a bright green hue which makes it an attractive article indeed; but it appears smoky in glass jars, which impairs its value as a fancy article when thus packed. The body is very heavy, and the flavor can not be excelled by any honey produced in the Southeast, being so mild that consumers never tire of it.

Fig. 2 shows a twig of this tree in bloom, the blossoms being similar to those of the other species. Each ball of blossoms contains both buds and flowers, all of which do not open at once, several days being required until they are out. Of course there are other balls of buds in all stages of development on each twig, so that the time of bloom is prolonged. In the open flowers shown, the nectar collects in such great quantities that one or more bees may gather a load on just one ball. The stamens, or pollen-producers, of the ball of blossoms protrude around the open buds.

This twig does not represent the bearing tree, but is very similar to it, although the latter forms its fruit or berries without bloom, save a small thin shuck about the end of the berry, with occasionally a pistil protruding. The flowering tree sheds its bloom, and continues its growth without bearing fruit.

Fig. 2.—A sprig of scrub tupelo, showing the shape of the leaves and blossoms.

THE WHITE TUPELO.

E. G. Baldwin, p. 175, March 15, gives a short description of this plant or tree, but says that it is confined to the swamps lying along the Apalachicola and Chipola rivers. I think that it really is more general in the Southeast than is usually supposed, because it grows in remote places along large streams where swamps either are not so dense, are covered with other forest trees, or are dried up and free from mud.

The bark of this tree is smoother and lighter is color, and the wood is much softer than the other varieties of tupelo. The tree also grows larger, and contains more branches, so that it is a greater honey-plant. The blossoms are similar to that of the scrub tupelo, but the honey has a yellow hue, and is more highly flavored.

I have never known or heard of tupelo honey granulating; but it gets very thick during cold weather. The nectar from these flowers is so plentiful that bees can harvest a vast amount of it in a short time; but the high dry winds may carry off a great portion of it as fast as it collects, which fact accounts for failures in the tupelo region. A. B. Marchant, who is an extensive producer of this honey, has said that this is the most delicate honey-plant in the South.

Cordele, Ga.

SMOKING BY RULE IMPRACTICAL.

BY J. A. BEARDEN.

S. D. Chapman, page 435, July 15, offers some new ideas. For instance, he suggests that the bees should be placed in such a position that they will face the smoke as it issues from the smoker; but as they do not

SOY BEANS AND EARTH-ALMONDS.

This row of soy beans was planted about the first week in June. The chufas, or earth-almonds, were planted about July 1. The picture was taken the last week in August.—See A. I. Root's department.

breathe as human beings do, through the mouth or nostrils, I don't see any advantage in this. As bees' eyes are immovable, and of a like substance with their bodies, I still fail to see why they should be smoked in this particular way, for I think that it would affect their respiration only when cool smoke is used; and if there was any considerable amount of heat to the smoke they would move away from it, to avoid the pain which comes to animate creatures by contact with fire or highly heated substances.

While I think Mr. Chapman is correct in his idea as to a sudden change of temperature having much to do with the handling of bees in a general way, there are many more causes, just as pertinent as this, which he could have applied equally well to his case.

To my mind it seems he could have said that, on a cool windy day, it is hard to get a sufficiently dense smoke from a smoker down to and into the cluster of bees; and if you do succeed, how quickly it is wafted away by the wind! or how rare a thing it is to find two colonies that are so much alike that you can't tell "which from the other" in behavior. I have yet to see the first colony that does not resent jarring, provided it has a good healthy queen therein.

As to smoking at the entrance of a hive, I think this is a matter of difficult solution, for I have found that, on certain occasions, and when one has to deal with bees whose hives are placed close together, the use of a very small quantity at the entrance is of decided benefit provided one follows up this entrance smoking by immediately removing the hive-cover and right away commencing to use more smoke beneath; for if one waits but a very short while, the entrance smoking loses the effect that is to be the most desired—viz., that of preventing the bees from alighting and clinging to one's clothing. If I am looking at a queenless colony, or one in which I desire to find the queen quickly, I seldom use any smoke at the entrance, nor do I like to use much smoke at all in such cases.

As to formulating any rule to use in smoking bees it is something that I for one do not believe will be accomplished by any one as long as a queen-bee dies and a new one takes the place of the old queen; for when this occurs it is very likely that a hitherto gentle colony will be transformed into a veritable hornet's nest.

Then, too, there is a tendency on the part of most beginners to overdo this smoking of bees at any time, partly from their lack of knowledge and sometimes from pure cowardice; but if one has fair common sense, and gets some black bees or Carniolans, and overdoes the smoking act once, he will be

apt to recollect that there is such a thing as overdoing a good thing, for either of these varieties is more easily excited than the sullen and stubborn Italians. Do not draw the inference that I dislike Carniolans, for I think they are good bees to use for the purpose of building up quickly in early spring, and when the early summer honey-flow is over they do not as nearly stop raising brood as do most Italians.

In the South we need young bees to come on in late summer as well as early spring, for then is the time when the moth-worm gets in its fatal work on the weak or queenless colony.

I am a user of the hot-blast smoker, but I believe most of us are too rash in our use of this very necessary tool, and are not as quiet and careful as we might be in handling our bees properly.

Harms, Tenn.

DRONES WITH RED EYES.

BY ALEXANDER TOMAN.

Red-eyed drones—what might this mean? A passing natural freak or evidence of a constant and lasting progress in the development of the Carniolan gray-banded Alpine bee which is accompanied by an increase in all the good qualities possessed by the above-named strain of bees.

A young Carniolan bee-keeper last year noticed a colony of bees in his apiary, which produced drones with red eyes. These eyes shine like rubies in a dark setting, the effect of the whole being quite strange and almost weird. The colony in which the red-eyed drones appeared was the strongest and the most productive in honey-gathering, in every respect the champion of all the many hundred colonies the young man possesses. This year the same colony again produced red-eyed drones, and it seems that the good qualities of the colony experienced even a greater development than in the past year. In the month of July this year another colony in the same apiary showed red-eyed drones, and this, too, is in respect to strength and honey production far above the average colonies of the apiary.

In one of its numbers of the past year the *Slovenski Cebelar* (*Slovenish Apiculturist*) contained a note which mentioned a very fine colony of Carniolan Alpine bees that was sold to some place in Germany, which had drones with red eyes. Nothing further was heard of the development of the breed which ensued from this colony, whether the offspring of the red-eyed drones showed constancy in their appearance and excellency which distinguished its mother-colony.

As the young Carniolan who is the possessor of the two colonies with red-eyed drones mentioned in this writing is an intelligent breeder of Carniolan gray-banded Alpine bees, who with the greatest zeal and enduring patience follows his calling, he will pursue with the utmost care and the eagerness of an expert the further development of the case, and all the accompanying circumstances which may, perhaps, result in an improved strain of Carniolans.

The name of the young man is Ivan Strgar, Wittnach, Carniola. He is connected with the Imperial-Royal Agricultural Association of Carniola in matters of an apicultural nature. He is now twenty-eight years old, has attended only the common schools, but by means of an iron will and undaunted perseverance has risen to the first place among the apiculturists of Carniola. For his achievements in the field of apiculture he has been granted at numerous apicultural expositions forty-four honors, some of which were of the first order, gold and silver medals, diplomas, etc. In activity, energy, and enterprise he is like an American "live wire," spending almost all his earnings in exhibiting his bees and apicultural products at expositions in Austria-Hungary and Germany, and in building an apiary which is the finest in Carniola. It cost 5000 krons ($1000) in cash for material, and was planned and built by himself. In the latter work he was assisted by his father and brother.

Not long ago the Carniolan Bee-keepers' Association had its annual excursion meeting in Wittnach (Slovenish, Bitnje), which was held in the apiary building of Mr. Strgar. Behind the rows of Carniolan original and American movable-frame hives that form tne front wall of the apiary building is a room in which over a hundred men can follow the instructions delivered by the apicultural experts. In the second story of the building is a large well-lighted space for the extracting and storing of honey, wax, bee-keepers' utensils, etc. Every thing is clean and neat, and artistically arranged. The foundation, floor, and walks of the bee-house are of concrete, the woodwork of oak and pine tinted a reddish-brown shade. But the most ingenious feature of the whole is the arrangement by which the bees are provided with fresh flowing water. The rain water is collected by means of gutters and pipes in a concrete-lined basin which is located under the floor of the large room that is of the same material. The basin is four feet deep and five feet square. The water which flows from the roof of the building is clean, cool, and sweet, and is conducted by a small pipe from the bottom of the basin to a fountain in front of the front wall of hives. A minute spray of water falls on the moss which is arranged in the center of the fountain, and there the bees satisfy their wants for water.

The young apiarist constructs all the hives, frames—in short, every thing necessary for the successful keeping of bees and preparing their products for shipping and trading. For this purpose he has built, not far from the apiary, a little work-shop. Besides all this he is of an inventive spirit. Among other things he has invented a very effective honey-extractor. All the parts that in general are cast in iron (as wheels,

etc.) he made of hard wood. It works to perfection. He is extremely modest and reserved, and in a great country would achieve the greatest acknowledgment—a national fame in the world of bee-keepers; and last, but not least, money to "burn," which would occur only if he had no other fuel for the smoker; but the use of the latter is a very rare event, because he handles the bees in all his manipulations with bare hands and face. He is a busy bee among bees, and between him and the latter there seems to exist a silent sympathy.

The writer of this has asked him to mail some drones with red eyes to Dr. E. F. Phillips, of the Bureau of Entomology, Washington, D. C., for the purpose of investigating the entomological aspect of the case. As the Agricultural Department of the United States is the leading and foremost factor in all matters of an agricultural nature, I am satisfied that he will try to solve the strange puzzle—if such it may be—that nature has presented by producing drones with red eyes.

Carniola, Austria.

[This article was sent originally to Dr. Phillips, who prepared the following reply: —Ed.]

The finding of drones with red eyes is not usual; but, at the same time, such cases have been frequently seen and recorded. Drones with white eyes, and also with the two compound eyes united at the top of the head, are also recorded.

Queens without pigment in the eyes have also been reported. It is a well-known fact that drones and queens are much more variable in color and size than are the workers, and many more abnormalities are seen in their structure.

In the development of the eye during the pupæ stage, the eye is first white. Red pigment then appears, and finally the eye becomes practically black. This is due to the fact that there are two kinds of pigment-cells in the eye, and the ones forming red pigment seem to develop more rapidly than the cells producing black pigment.

In the case of drones with white eyes, no pigment is formed, and "albino" eyes are the result. Drones with red eyes are, therefore, in a sense, "half albinos," in that only one set of pigment-cells has developed color. Whether the various races of bees differ in the production of such variations is not known.

It is difficult to see how a variation of this kind could be of value to the practical breeder. If, accompanying the variation of red eyes, there appeared to be an increase in productiveness, the red eyes might be used for the purpose of determining whether the queens had mated purely. However, it is to be expected that such a character would be "recessive"—that is, if such a strain were crossed with normal individuals, in the first generation no red-eyed drones would appear.

Whether or not colonies with red-eyed drones are better than others, it would be most interesting to have queens reared from this colony and mated to red-eyed drones to see whether this character is inherited. If Mr. Strgar can find an isolated locality in the Alps where such matings can be made it will be an interesting experiment. In view of the fact that the colony is a valuable one as a breeder, he may be able to establish a better strain of Carniolans, even though the red eyes may be lost.

EVERY ONE HIS OWN INSPECTOR.

Get "Beesy."

BY D. E. LHOMMEDIEU.

Let me encourage you a little on the hit you make in editorial, page 448—"Every One an Inspector." You are right. Let me illustrate. Several years ago our folks had a steer worth $45 (now $90), that broke its neck, caused by the neighbors' dogs getting into the feeding-yard and chasing the cattle around. There was snow at the time, so we could tell by their different tracks. We went before the auditor and stated our case, in order that we might recover damage money caused by dogs. We stated that we and all of our neighbors had been paying a dog tax for years (and are still paying). Sequel: Our claim was the only one that was not allowed.

What has this to do with bees and honey? We saw that, in order to protect our stock, we must get out the old shotgun, which we did, and we found it the only safe way to go on with our business.

Moral.—To succeed with bee diseases, get out your old shotgun (smoker), and get "beesy" with the bees, and not wait too long for the inspector to do your work.

Colo, Iowa.

Leather-colored Italians vs. Common Black Bees as Honey-gatherers.

Here is the result of a test made late in the season with Italian and black bees as honey-gatherers. By August 1 I had taken off all my surplus-honey arrangements; but on the 10th I noticed that bees were bringing in honey from Spanish needle, so I put back on the hives supers with sections, and let them stay until this flow was over, which was the first part of September; then I took off all sections from both Italians and blacks (having about an equal number of each kind, or 45 colonies in all, in the same location). I weighed the honey separately, and found by actual weight that the Italians had averaged 11 lbs. to the colony, and the blacks only 10 *ounces* to the colony. Of course this was a small surplus for either kind; but considering the source, it was good for the Italians, as the Spanish needle was very limited in that locality, Grenada, Miss., 100 miles south of Memphis, Tenn. The Italians had done better than the blacks in the earlier part of the season; but I did not weigh the surplus of either, and can not give the difference in pounds.

This test put me decidedly in favor of the Italians, as the difference was great in their favor, and shows their superiority over the blacks in that part of the South, even in the latter part of the season.

Buena Vista, Texas. J. W. Lowry.

Heads of Grain from Different Fields

Cyprians and Their Characteristics; Why they were Discarded; Why Brood-rearing at Certain Seasons of the Year is Undesirable.

Are there any pamphlets about Cyprian bees that came out when they were introduced in the early 80's, or any other literature about them that does not simply dismiss them as being too cross? I have the old bulletin, No. 1, new series, but the information given about the actual management of these bees is meager. It must necessarily be so in such a short general treatise.

I seem to have much more trouble keeping them from swarming than with their tempers. The one colony that never got the fever gave me about 110 pounds of chunk honey, drawing the foundation, and at least seven out of the ten others would have done as well if they had never swarmed. I was much astonished when a bee-keeper a mile and a half north of me said he had no honey and no swarms so far as he knew. His bees were probably not quite ready for the dandelion flow, and in the drouth following did not build up for what there was of the clover flow.

I have some very wide L-depth hives with the frames broadside. Cyprians kept in these are prone to fill the central combs chock full of brood, wholly neglecting a couple of combs at each end. But most of my brood-chambers are regular ten-frame width, with standard-length frame so deep that it nearly goes through a shallow super rim butted below the body. The capacity is about 15¾ L. In the latter type of hive they make a nicely rounded brood-nest such as ordinary bees might form in a ten-frame L. depth. This makes a far better winter nest, according to the ideas which have been advanced; and as the hive is more within the limits of possibility in handling, and is nearly standard in every thing but the length of the end-bar and the division-board, so far as I can see it is much to be preferred. I believe, too, that there is a slightly greater total amount of brood reared when the deep frames are used and the Cyprians allowed to gratify their desire to extend their brood-nest vertically.

I am much impressed with the idea that this race is overwhelmingly superior as honey-gatherers, under certain conditions—that is, on a long slow flow, or when drouth intervenes so as to stop other bees from brood-rearing. The clover and basswood are receding in most places, while from all I hear melilot and vetch are coming. This will finally make a slow flow from dandelion to asters in most places. The gentleman with whom I compared notes cellars his bees instead of leaving them unprotected on their summer stands, as so many do here, so there ought not to be a great difference on account of wintering.

Hicksville, O. BEN. P. EDGERTON.

[There are no pamphlets or bulletins, that we know any thing about, having to do particularly with Cyprian bees; but along in the early 80's, especially after D. A. Jones returned from the Orient, in 1881, there were many articles in all of the bee-journals concerning the merits and demerits of Cyprians and Holy Land bees. The Holy Lands seem to have been further differentiated into Palestine and Syrian. The only literature you will find relating to these strains was that published in the bee-journals during the time mentioned. In most of the text-books, a brief description of them will be found.

It was generally acknowledged at the time, that Cyprians were excellent honey-gatherers; but their bad temper, that showed itself considerably more at some times than others, put them out of favor with bee-keepers generally. We kept Cyprian and Holy Land bees at our outyards for years. We did not have much difficulty in handling them if we worked very slowly and not using too much smoke; but as both races ran excessively to brood-rearing, in season and out of season, whether they were stimulated or not, and as both of them were much crosser and took more time to handle than Italians, and did not very greatly excel them, if at all, in honey-gathering qualities, the demand for them grew less and less, until it ceased almost entirely. While it is very desirable to have a strain at times that will rear brood, and lots of it during the off seasons, at certain other times of the year it is better to have the queen let up. Generally speaking, in most of the Northern States it is not desirable to have brood-rearing continue in full force during the month of August; but it is well to have an infusion of fresh blood during September and October. By putting in young queens, and practicing stimulative feeding in September, and where the climate permits in October, Italians or Carniolans will rear all the brood that is usually required.

If you will try the Cyprians and Italians side by side year in and year out in the same yard, we doubt if you will find very much difference in honey-gathering. If the Cyprians do gather any honey in excess of Italians they are quite likely to use it up in *useless* brood-rearing, yes, worse than useless, at the *wrong time* of the year.* Italians, on the other hand, will conserve their stores by letting up on brood-rearing when they ought to do so; for it is wasteful to raise a lot of bees that will consume a lot of stores and then die before winter comes on.

To show you how easily you might be mistaken as to the working qualities of your bees and those of your neighbors a mile and a half away, we may say that of two of our outyards, only a mile and a half apart, and with exactly the same strain of bees in both, one lot crammed their hives full of honey, and the other had to be fed. Your Cyprian bees, you will see, might have been more favorably situated than the bees of your neighbors, for a difference of a mile and a half sometimes makes a big difference in the amount of honey gathered. This fact has been observed over and over again. Hence the importance of scattering bees in outyards.—ED.]

Baby Nuclei and their Care; Pollen Candy.

How many of your double mating-boxes is a man of some experience supposed to be competent to attend to? How many queens can be mated in a short season like ours?

Please give a recipe for pollen candy for late breeding.

How can we keep breeding going in September the same as in May? How can we protect drones? I want more stocks and queens.

Cranbrook, B. C. SUBSCRIBER.

[Our Mr. Mel Pritchard, with the help of one assistant, runs 250 twin nuclei; that is to say, 500 nuclei in all. He raises between 2000 and 3000 queens every year. If the season is early enough so that he can get queen-rearing operations under way by the last of May he can raise 3000 queens. Mr. Pritchard, however, is an expert in handling twin nuclei, and we doubt if the average person could do as well, at least without his experience.

In a small way we would not advise you to fuss with baby or twin nuclei. If you want to raise only queens for your own use, better by all means use regular Langstroth-size frames, or the frames you are using in the apiary about two frames to the nucleus. The baby nuclei require very close attention. They must be fed often; and the very act of feeding makes them subject to the attacks of robbers, which, by reason of their lack of strength, they may not be able to repel.

Recipe for making candy containing flour is as follows:

Into a porcelain, granite, or copper kettle (don't use iron) pour a quantity of granulated sugar and a very little water, and place it on the stove. Stir just enough to make a very thick syrup, and keep stirring until the sugar is all dissolved, but cease stirring after it is all dissolved. Heat it gradually until it boils, and keep a good fire until ready to take off. Care will have to be taken that the mixture be not overcooked. To determine when it has boiled enough, dip the finger into cold water, then into the boiling syrup, then *immedia ely* back into the water. When cooked enough, the film of syrup will crack on the finger when the joint is bent. If one hesitates to dip his wetted finger into the boiling syrup, let him dip out a little with a spoon and drop the contents into cold water. If the residue hardens so that it is brittle, and breaks between the fingers, the kettle should be lifted off; but the finger test is the more accurate. This is what is called "cooking to a hard crack." At this stage remove the syrup from the stove. It can now be poured into greased shallow tin pans, and when cooled hard it will have a crystalline rock-candy appearance if the work has been done right.

To make it into a pollen candy, add one-fourth part of wheat flour, stirring it into the hot syrup while it is cooling.

* In some of the warm countries this habit of almost continuous brood-rearing is a good thing. Where the honey-flow lasts for months it needs fresh infusions of bees to fill in the ranks of old bees dying off.

We would not advise putting in flour if the candy is to be left in the hives all winter. If we remember correctly, pollen candy is liable to cause dysentery; but such candy is excellent for starting brood-rearing in early spring, before bees can get pollen from natural sources.

Queen-rearing and brood-rearing can be kept up in September by feeding 15 parts of water and one part of sugar by measure in outdoor feeders. Feeders will need to be filled two or three times a day, depending on the number of colonies in the apiary. In the fall or late spring, no artificial pollen need be given.

In order to preserve drones, colonies, where they are, should be kept queenless.—ED.]

Forming Nuclei by the Somerford Plan; the Kind of Buckwheat to Sow.

I was expecting to divide by the Somerford method. I opened one of the hives, and there was some brood and lots of bees. I closed the hive up, but did not catch the queen, as I thought it would be better to have more brood before dividing. The problem of preventing swarming is what concerns most bee-keepers; but I wish to make as rapid increase as possible. By the Somerford method it will be possible to make four new swarms from each of the old or original stands. I suppose it will be necessary to feed to accomplish this. Would you advise feeding before dividing when they are well filled with honey above?

If I can divide three stands and make four new swarms from each, that would make 15 in all, and next year the same. That would make 75 in all. I am thinking of keeping 100 stands as soon as I can increase them to that. Of course I can not get much honey from them while making increase at that rate, and I suppose it will be necessary to feed some to obtain such an increase. What would be your advice in regard to keeping 100 stands of bees in one place? This is a rich prairie soil. There is much clover most years. In the fall we have goldenrod, smartweed, Spanish needle, and other fall flowers. There is no buckwheat raised in these parts.

Will buckwheat yield much honey if sown in the corn? I suppose it would yield more honey if the corn were cut up; but it is not always desirable to cut the corn.

Does it pay to raise buckwheat for honey alone, without any consideration as to the seed? Which variety is best?

What kind of wax-press do you consider the best?

What kind of uncapping-can or device do you consider the best?

New Sharon, Ia., July 8. FRED BRIGGS.

[In forming nuclei by the Somerford plan, feed after making the division of the bees; but do not practice feeding until after the bees have made a hole through the grass and have become accustomed to the regular entrance. Before beginning the feeding, contract the entrances down to a space so that only two or three bees can pass at a time—not more than that at least. If you have the entrance too wide open, the bees may start robbing.

In following out this general plan we would go according to directions given by Mr. Somerford. In other words, make the colony queenless at least a week or ten days before forming the nuclei. This is very important.

Do not stuff the entrances of the hives too tight if the weather is too hot, notwithstanding Mr. Somerford's directions to the contrary. If the temperature does not go much higher than about 85° during the hottest part of the day it will be perfectly safe for you to follow out strictly the directions given by Mr. Somerford in regard to stuffing the entrances with grass or moss.

Another thing, when feeding give the bees about half a pint of syrup daily toward night. Do not give it to them during the day, as that will be likely to start robbing.

From the general description given of your locality we will say that you can very easily maintain a hundred colonies therein with profit. When a locality furnishes plenty of clover during the early or middle part of summer, and then furnishes a fall flow, we usually count it as exceptionally good. The fall flow simply saves a lot of expense for sugar in late feeding. Without a fall flow, one has to make an investment of hundreds of dollars for sugar.

With regard to buckwheat, we do not know what it would do when sown with corn, especially in your locality. You had better consult some practical farmer in your vicinity who has tried it. Buckwheat does not yield honey in all localities; and we would advise you to try it very sparingly at first, and determine whether the bees will visit it at all. Another thing, in some localities buckwheat will yield some years and not others.

With regard to the kind of buckwheat, Japanese is not quite as good for honey as the old-fashioned gray or silverhull.

With reference to uncapping-cans, we would recommend the German wax-press and uncapping-can. If you have very much uncapping to do, the Townsend is a most excellent machine. For a wax-press pure and simple, we know of nothing any better than the Hatch wax-press. Some bee-keepers like the Hershiser better.—ED.]

How Fast can Bees Fly? why Buckwheat Apparently Yields Only in the Morning.

On July 25 I sowed a patch of buckwheat. On August 1 it was just up, and on the 10th I was much pleased and surprised to see bees working on the new bloom just starting, as I was afraid I had been so late in sowing it that it was doubtful whether the bloom would develop before the frost. To-day (Aug. 16) it is a sight to behold, and a steady pleasure to listen to the hum of the bees. There are several questions I should like to ask you.

1. How long does it take a bee to fly a mile?
2. How long to discharge its load of nectar?
3. Do bees take a rest between times, or keep going all day?

I have four colonies a quarter of a mile from the buckwheat. My neighbor has twelve colonies 1½ miles away. Which will get the greater benefit from the honey-flow from this patch of buckwheat?

I have observed that very few bees work on buckwheat in the afternoon, while in the forenoon it is literally alive with bees. Does the nectar come faster at night with the dew? or does the hot sun dry up the honey-flow? In a cornfield adjoining they work all day on the tassels. Do they get nectar from the tassels or bloom of corn, or only beebread or honey-dew?

Kremlin, Wis. MERCIE R. WILLIAMS.

[1. Bees going to and from the field fly anywhere from twelve to twenty miles an hour. Perhaps fifteen miles will be a fair average if there is no strong head wind. This would be at the rate of a mile in four minutes.

2. We can not tell you just how long it takes a bee to discharge its load of nectar; but we suppose it might require a couple of minutes.

3. We do not know.

Buckwheat yields nectar just as fast at one time of the day as another. At night it continues secreting nectar, and continues till morning. The bees rush on it as soon as it is warm enough, clean up all the nectar, and, of course, as the buckwheat can not secrete fast enough to keep them going all day, there is usually nothing doing in the field from ten or eleven o'clock on until toward evening, and generally not until the next morning, when the buckwheat has had a chance to catch up. If, on the other hand, there is a very large acreage of buckwheat compared with the number of bees to gather the nectar from it, bees might be busy on it all day. No, the honey probably does not come any faster at night than in the day time; but it may be secreted faster when weather conditions are favorable than when they are not.

In all probability, bees gather only pollen from corn.—ED.]

The Glass-section Trade.

I have been asked by a New York firm to supply honey in glassed sections. As that method of putting up section honey is new to me please give me the *modus operandi*, probable cost per section, and the kind of shipping cases and crates needed.

Would it pay me to cater to that class of trade when I have averaged over 12 cts. per section, f. o. b. Allenville, on all grades shipped this year, and I can not nearly supply the demand? We have shipped about 10,000 sections so far, and are about half through.

Allenville, Ala. H. F. HART.

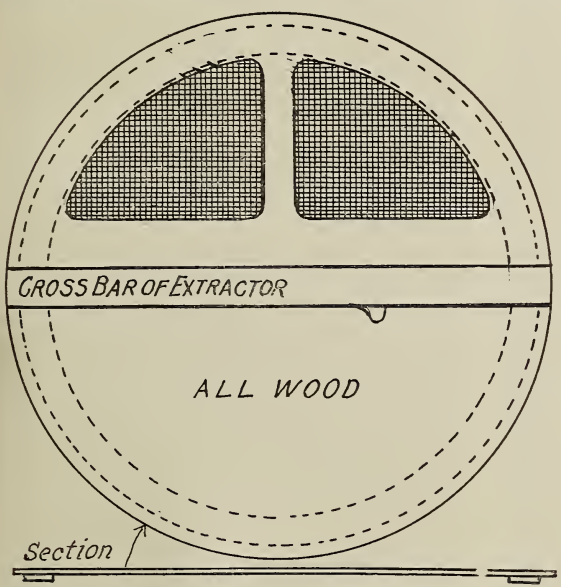
[At the price you will get for sections, we do not believe it would pay you to adopt glass sections, such as are used in some parts of the State of New

York. Sections for this purpose are made of four pieces of wood—top and bottom strips narrowed by one beeway. When the sections are taken off the hive, strips of glass cut the right size are slipped between the two projections of the side pieces of the sections. A fancy border of paper is sometimes pasted around the edge to hold the glass in place.

The glass-section business involves a lot of extra work, and we don't think you would be warranted in catering to that trade, as there is only a very limited call for it. You will find samples of English glass sections on page 120 of the A B C and X Y Z of Bee Culture, in the edition for 1908.—ED.]

A Substantial Extractor-cover.

I will tell you how I made a cover for my Root automatic extractor. I thought the cotton cover was the best thing out, and it worked well so long as there was no honey nor stickiness on the outside of the extractor; but it was not so easy to put on after it had been used a while, so it set me to thinking. I took the ⅜ basswood lumber from the



case that the extractor came in, and made a fine cover. At first I did not have wire screen in it; and every time I opened it, it did not smell nice and fresh. I leave the back half on all the time. Some cleats underneath, inside the can, keep the cover in place.

Arkona, Ont. I. LANGSTROTH.

Loss in Feeding Back to Produce Comb Honey.

What per cent of loss is there in feeding extracted honey to bees to make comb honey? I have some customers who will not use any thing but comb. I know where I can get some very finely colored and flavored honey. Please give me a definite answer with approximate estimate of loss. How late can this experiment be carried on? What is the best time of the year for it? Could choice clover extracted honey at 9 cents be fed to bees, and sold in the comb at 17 cents profitably?

Winchester, Ky., Aug. 24. J. M. WHEELER.

[The loss in converting good extracted honey into comb honey varies according to conditions. Sometimes there is no appreciable loss, and at other times it takes 5 lbs. of extracted to make 3 lbs. of comb honey. There is a great difference in bees. Some strains will do very well, while others are very poor at it.

Of course you understand the importance of thinning down the honey slightly with water before feeding back. For particulars, refer to "Feeding Back," under "Comb Honey," as given in the A B C and X Y Z of Bee Culture.

We doubt if it would pay you to feed back a nine-cent extracted honey when comb honey brings only 17 cts. The wear and tear on the bees, the expense of feeders, and time of the apiarist, would leave little or no profit. It is well, too, to take into consideration the fact that fed-back comb honey is usually not quite the equal of ordinary comb honey.—ED.]

Honey in Extracting-combs Candied while Still in the Hives.

Our bees have gathered a considerable quantity of honey which has granulated in the combs on the hives. The trouble seems to be general in this locality, for I have heard of the same thing from other bee-keepers. Some combs extract nicely, others not at all. In general, about one-third remains in the comb. I have not seen any thing like it in 20 years. Do you know of any way of getting the bees to clean out this granulated part without exposing the combs in the open? The reason I do not want to do this is because foul brood is very prevalent in the neighborhood; and although my bees are free from it, so far as I know, yet I do not feel safe in taking any chances.

The honey in the brood-nest is, most likely, in the same condition. How will that do to winter the bees on?

AUGUST F. KOCH.

Amana, Ia., Aug. 3.

[Dip the combs, after uncapping, in warm water; place them in a super on a hive, and feed back. It may be necessary to repeat the dipping several times. We would not advise trying to winter on honey candied in the combs.—ED.]

Smoking at the Entrance; the Hand Switch Bottom-board.

We are running several hundred colonies of bees as does Mr. Chapman, p. 435, July 15, and have not once this season insulted a single one by pouring a cloud of smoke into their front door. I am at a loss to understand why text-books and some writers advise smoke at the entrance.

I should like to ask for reports on the Hand switch bottom-boards. I would not give a cent for the opinion of one who has two or three powerful colonies in his back yard when it is probable he does not know what a powerful colony is; but if such men as Crane, Coggshall, Holtermann, Scholl, Gill, or any of *that* class think enough of the idea to try it, let's hear from them.

Birmingham, Mich. A. W. SMITH.

Why Queens were Slow about Laying.

I see by reports from different parts of the country that queens were slow this year in brood-rearing early, resulting, in this locality, in a small working force during our short clover flow.

Detroit, Mich. A. E. HASSELBACH.

[As to why queens were slow about rearing brood, we think it was largely due to the very hot weather bringing on a drouth early in the season. That early drouth stopped practically all sources of nectar. Queens will not lay, and bees will not rear very much brood unless there is either a big supply of stores in the hive or unless nectar is coming in little by little.—ED.]

Dead Brood Being Thrown Out in Front of the Entrance.

In the morning the alighting-board is covered with dead brood in all stages of growth, from the smallest to perfectly formed bees ready to step out and go to work. Please advise me what to do.

Kellettville, Pa. W. H. CARBAUGH.

[There are four (possibly five) conditions that might account for the dead larvæ in front of the hive. 1. The presence of the moth-miller, or, rather, moth-worm, if the bees are blacks or hybrids; 2. Brood that had been chilled some cool or cold night, and, consequently, died; 3. Brood affected by disease; or 4, brood that had been poisoned by something that the bees had gathered. Without

knowing more of the conditions, we could not indicate which is the probable one. If all the brood dies and continues to die when it reaches a certain stage, you would do well to send samples of it to Dr. E. F. Phillips, Bureau of Entomology, Washington, D. C., to determine whether disease is present. There is still a fifth condition that might be responsible for the trouble, namely, a weakness on the part of the queen. This is hardly probable. If the bees are blacks or hybrids, examine the combs carefully to discover whether there are any galleries of a moth-worm.

In view of the fact that at this time of year there are likely to be chilly or cold nights, and too few bees to hover the brood, we would favor the belief that the brood had been chilled. This seems more probable than any of the causes mentioned. If you had been examining the hive, and the brood had been exposed on a raw chilly day, you would need to look no further for your trouble.—ED.]

Will Queen-cells over an Excluder Induce Swarming?

On page 490, Aug. 15, this question is raised, and Dr. Miller is of opinion that, if the upper story is sufficiently removed from the bees to cause a feeling of queenlessness, it will be too remote to cause swarming below. In many cases cells above an excluder seem to do no harm, and are common enough when brood is raised into an extracting-super. As a general thing I think the bees tear down these cells before they hatch. If they do hatch, it occasionally causes trouble.

This summer I reared a stick of Doolittle cells in the super of a strong Italian colony, placing the cells between two frames of unsealed brood. A very light heney-flow was going on; in fact, the supers had just been put back after the first extracting, and they had only a few pounds of honey in them. At the proper time I removed the cells; but it appears that the bees, having their hand in, had also started several cells of their own on the frames of brood. I did not know this until later, however, and these cells hatched. My first intimation of any thing abnormal was on seeing the colony swarm. It had shown no swarming inclination during the clover flow, and I was proportionately astonished. I hived the swarm, however, and looked through the old hive, thinking that I could find some good queen-cells which would be useful just then. To my surprise, however, I found nothing more than three cups, each with an egg in it. I then examined the super, and discovered the hitherto unsuspected cells, and also a fine young virgin, just hatched. I removed the excluder, allowing her to mate.

Now, it seems clear that this colony had no intention of swarming until forced, as it were, by the hatching of the cell above the excluder. Then they must have hastily constructed cups, in which the queen deposited eggs and the swarm went off. Why they did not do away with the virgin is one of the mysteries of bee nature; but it is clear that they never would have swarmed but for the hatching cell. In future I intend to see that no cells are allowed to hatch in the super.

Stouffville, Ont. F. L. POLLOCK.

Did the Bees Steal the Eggs from Another Hive?

Early in the spring of 1910, when the bees had reached the point of breeding rapidly, and long before we were thinking of swarms, I found a swarm hanging on the grape-arbor. The cluster was smaller than the average. As I was much surprised, I looked over the colonies to see where it could have come from so early in the season, and finally discovered a colony with only a very few bees. On examination I found a fair amount of brood, but all drone and nearly all in worker-cells. There was not a cell of worker brood in the hive, and I examined the combs carefully. After removing the queen from the swarm, the bees returned to this hive. Now, the remarkable thing about this hive was that there was a recently hatched queen-cell, and a fine one it was too. In hiving the swarm I found a young queen, but there were no young worker bees. They were given worker combs, and in due time the queen began laying. As the bees were old, reared the previous fall, the colony became quite weak before the young bees emerged; but it built up well during the season. I purposely gave them no help, as I wished to see if the queen was of any use. Some time last fall, however, they evidently superseded the queen, as this spring a new one was on duty, and I am keeping this queen to see if she will be of any value to me the coming season.

Now, where did the egg come from that produced the queen reared in that cell? Did the old queen, by a mighty exercise of will power, lay a single worker egg where it was so badly needed to save the colony? or did the workers purloin an egg or larva from some other colony? Did the bees by their intense desire transform a drone larva into a queen-bee?

Port Orange, Fla., Aug. 2. J. B. CASE.

[There are two ways to account for the presence of this queen-cell. It sometimes happens that a good laying queen will begin to fail. This is shown by an increase of drone brood and a decrease of worker brood. The relative disproportion continues to increase until there is almost no worker brood but a great predominance of drone brood. It is possible in this particular case, that, just before the queen failed entirely to produce worker eggs, the bees took one of those eggs and reared around it a supersedure cell. Ordinarily we may say, however, that bees would not allow such a condition to go from bad to worse for so long a period. The presumption is that they start supersedure cells about the time the drone-cells begin to show up prominently. We would, therefore, be inclined to favor the opinion that in this particular case the bees stole an egg from another hive.—ED.]

Honey-pumps Attached to Power Honey-extractors.

I am interested in centrifugal pumps to raise the honey from the extractor to the tank. Are they a success for that purpose?

Modesto, Cal. D. J. GRABILL.

[We are using a centrifugal pump for pumping honey in our honey-bottling department, and are very much pleased with its working. Of course you will need an electric motor or a small gasoline-engine to drive the pump. The pumps we use are the centrifugal type with a one-inch outlet. Power extractors are now being equipped with centrifugal pumps. R. F. Holtermann, of Brantford, Ontario, has a twelve-frame automatic extractor with a centrifugal pump, the whole operated by a gasoline-engine. The advantage of this arrangement is that the honey is pumped out of the extractor just as fast as it accumulates in the bottom of the machine, and then can be delivered to any height desired, or into any can. It is then not necessary to put the extractor up on some high bench so that the honey will run down into some can. In fact, the machine can be placed on the floor, on a level with the rest of the work, and the honey can then be elevated by means of the pump to a tank in an upper story of the building if desired.

We predict that the honey-pump has come to stay. There is no reason why it will not handle honey just as well as it will handle oil or any other product in a liquid form or semi-liquid condition.—ED.]

Smoking Bees at the Entrance Does Not Pay.

I agree with Mr. Chapman in all that he has said, p. 435, July 15. During my 14 years' experience in bee-keeping I have found that smoking bees at the entrance is a mistake except in the very rare case of the hive getting a severe jar, by accident or otherwise, when, in some cases, the bees pour out from the entrance, and, if not sent back by getting smoke in their eyes, they will make their anger felt unmistakably.

In handling bees in my apiaries, which I run for profit and not for amusement, I always have a smoker ready, but rarely use it.

I think the advice to a young bee-keeper, to begin manipulations with two puffs of smoke at the entrance, is the worst counsel that can be given.

The answer to the question, "Does it pay at any time?" shoufd be "No," as the cases requiring it should be very few, and may be considered a negligible quantity. C. NOEL EDDOWES,

Apiarist at Government Farm School, Jamaica.

Halfway Tree, Jamaica, B. W. I.

[If a beginner uses no smoke in opening a hive he may come to grief. A good deal depends on the time of day and the bees. We would advise the beginner to use a little smoke when opening hives under all conditions; then experience will tell him when he can use it sparingly or not at all.—ED.]

Our Homes

A. I. Root.

Behold the Lamb of God that taketh away the sin of the world.—John 1:29.

There is none other name under heaven given among men, whereby we must be saved.—Acts 4:12.

Thou shalt not commit adultery.—Ex. 20:14.

What therefore God hath joined together, let not man put asunder.—Matt. 19:6.

Our first text has always been a favorite one of mine. It has been to me one of the most hopeful texts in the whole Bible. These words were uttered by John the Baptist. It seems to me that even John himself did not begin to realize the wonderful and *tremendous* truth embodied in that brief sentence of only a few words. Well, dear friends, it has within just a few days come to me that not only are these words *true*, but, still further, nothing else in this whole wide universe *can* take away the "sin of the world." Other things have been tried and are being tried; but the Lamb of God is the only remedy and the only *cure*. In our second text we have the words of Scripture to indorse this very thing. These are the words of Peter after his baptism and new birth: "There is none other name under heaven given among men, whereby we must be saved." And the more I see of the world, the more I am convinced that there *is* no other safe and sure remedy for sin.

Some years ago a great discovery was made here in a certain part of Ohio, called the "gold" cure, and a good Christian, a reader of Gleanings, wanted me to help it through these Home papers. He wanted me to help poor struggling humanity out of the bondage of a fearful appetite, by administering a *drug*, the gold cure I asked him to go to the pastor of his church and get an endorsement of the work the gold cure was doing. A Congregational minister gave me a very favorable report. Then I asked this pastor of the church if the folks who were cured by the gold cure became Christians and united with the church. He seemed to think I was demanding too much, and replied something like this: "Why, Mr. Root, you might as well insist that a man who has been cured of typhoid fever should become a Christian when he gets well." I spoke of it here in these pages; and I said the man who had been cured of typhoid fever, or any thing else, would do a very sensible thing if he would become a Christian and "give God the praise" when he got well. You notice I could not accept the idea that there was any real substantial cure for any thing unless the "Lamb of God" came in somewhere sooner or later. Most of you probably know how the gold cure has turned out. A good friend of mine, who spent quite a sum of money in going to the gold-cure sanitarium, seemed all right for a few weeks or a few months. He finally, however, was back to his old habits. In talking with him about it afterward he said something like this: "Mr. Root, there has never been any thing invented, and never will be, that will prevent a man from getting drunk when he *takes a notion* to do so."

There it is, friends, and there is a whole sermon in that little speech. The only cure or remedy is to take away the disposition to wish to get drunk—to be born again, as Jesus expresses it; and only the Lamb of God that taketh away the sin of the world can bring about this new birth. Of course, much may be done to help the sinner by getting rid of the saloons, and by getting away from bad companions and removing temptation; but so long as the disposition remains the same, to use the language of our text, "There is none other name under heaven, whereby we must be saved."

Well, what brings this whole matter to mind this morning is a notice in the papers, which most of you have seen, to the effect that Upton Sinclair and his wife are going to part; and the strange part of it—the *unprecedented* feature—is that Upton, we are told, whom I have held as being almost a model in these pages, sits by calmly while the wife admits she would like to leave him and go away with another man who is also one of the little crowd of three. You will remember there has been a lot said about the "unwritten law." Somebody has undertaken or succeeded in "alienating" the affections of the wife—perhaps the mother of the family.

The lawful husband, whose home has been wrecked, or is about to be wrecked, shoots down the assassin, or the man who is worse than one. He shoots him down because he has robbed him of something that silver and gold, and not even millions of money, can ever repay. The community and the courts let him go scot free—at least they do sometimes; and the excuse given is what has been termed the "unwritten law." (In this case, Upton, instead of shooting the man, as I understand it, sits with them a consenting party.) Of course I do not justify the shooting. I do not believe it is best to take the law into one's own hands under any circumstances—that is, unless a midnight assassin might shoot you unless you shot him first, or unless he might shoot your wife and children unless you killed him first. To tell the truth, I am not sure that even this is the best and proper thing to do, for it necessitates keeping a loaded gun or pistol in the home.

In Our Homes for July 1, 1910, I quoted from Upton Sinclair in regard to his starvation remedy; in fact, I had quoted him quite at length before then. I spoke about his emancipating his good wife from the drudgery of preparing three square meals a day. In commenting on his starvation cure I said, "Who is Sinclair, and has he been a sensible man hitherto?" At another time, when I indorsed his articles in regard to securing health by the use of simple food and

simple ways of living outdoors, I said that, so far as I could gather, Mr. Sinclair was not a Christian. I wondered that a man should be doing such philanthropic work for the world and still refuse to acknowledge the claims of the Lord Jesus Christ. I confess I felt afraid of him, and a little suspicious too. Now imagine my consternation and the pain I felt to see the following in the Cleveland *Plain Dealer*, sent from New York, Aug. 23:

Upton Sinclair, author and social colonizer, in a surprising statement to-night announced his intention to bring a suit for divorce. In his statement Mr. Sinclair declares that his wife this morning wrote him a letter so clearly indicating her affection for a certain young poet that he has no hope of a reconciliation.

The action of Mr. Sinclair in giving out such a statement surprised his friends and co-workers in the social colony of which he is the head. He has repeatedly given his views on the marriage vow and ties, and some of these views seemed to indicate a belief on his part that husband and wife could at any time separate should they find the marriage burdensome. On one occasion Sinclair said:

"When my wife and I fell in love with each other we talked the whole marriage business over very conscientiously. We both hated the idea of being tied together by either a religious or legal ceremony, and we tried to make up our minds to set the right kind of example to the world.

"But we knew Mrs. Sinclair's father and mother would go raving crazy if we did what our consciences told us was right: so, to ease their minds, we let some one mumble a few words over us and made them happy. We are married, and now we have seen the world and know a great many married people, and we are a good deal ashamed of being married ourselves.

"Marriage in this day is nothing but legalized slavery. That is the most polite word to call it, I fancy. The average married woman is bought just as much as any horse or any dog is bought."

We can forgive Upton Sinclair for being like many other good men—a socialist; but I do not know how we can excuse him for being a "free lover," if the foregoing statement is true. Away back in my childhood there was some sort of sect that had a brief existence (thank God it was brief) who advocated free love; and if I am correct this thing has come up a few times since; but humanity, I am glad to say, frowned it down. There are, or at least used to be, quite a few who did not accept the gospel of Christ Jesus; but all of these, with very few exceptions, held fast to the marriage relation as handed down to us by our ancestors and the sanction of the Holy Scriptures. But Mr. Sinclair coolly says, if the report above is true, that he and his wife would never have been married at all, but they finally did have some words "mumbled" over them in order to keep Mrs. Sinclair's father and mother from going "raving crazy" (let us thank God Mrs. Sinclair had a father and mother who were sensible), and, therefore, now propose to part! If there is any thing in the whole wide universe connected with humanity that should be held more solemn and sacred than the marriage relation, I do not know of it. One of the papers has intimated that Mrs. Sinclair has a child; but a book he put out in regard to health gives not only a picture of himself and wife but of three children. Just think of the mother of three children, and a mother who has posed before the world with her husband as a reformer on the matter of diet, and as a leader toward higher and better things—think of such a woman proposing to leave her husband and children and go off with a "poet" just because she took a fancy to him!

History tells us again and again of good, faithful, and honest men who were proof against all the temptations that money could offer. In the shameful exposures now going on in Columbus in regard to the senators, the papers tell us that when they got hold of a man who could not be tempted with *money* they employed some skillful woman of good looks and winning ways (but of doubtful character) to do the work. Ever since the days of Adam and Eve, Satan has played havoc and ruin among the human family by means of what the Bible terms the "strange woman." Here is what the Bible says about it:

Hearken unto me now therefore, O ye children, and attend to the words of my mouth. Let not thy heart decline to her ways, go not astray in her paths. For she hath cast down many wounded; yea, many strong men have been slain by her. Her house is the way to hell, going down to the chambers of death.

Mrs. Sinclair is a very handsome woman. When they gave her picture in *McClure's Magazine*, fixing her up with all the skill that these folks who picture handsome women bring to bear, I said to Mrs. Root I was afraid that Mrs. Sinclair's good looks, without Christ Jesus in her heart, would bring trouble. We do not know who is most to blame—the woman or the "poet." When he found out that Sinclair himself had no objection to his making love to his wife—a married woman and a mother—of course he was not slow in taking advantage. When I was a child they used to have a fashion of suggesting and sometimes using "tar and feathers" for such men. I am glad the fashion has been done away with, along with other savage and heathen customs. Instead of tar and feathers, the scathing criticisms and sarcasm seen in the daily press ought to be more keenly felt than the tar and feathers. Sinclair and his wife and this poet (he is not worthy of having his name mentioned) are getting enough of it. I am getting to be what the world calls an "old man." I have seen considerable of humanity. I have been through the mill. I have felt Satan's claws. The scars of his clutches may not show on my body; but they have been left on my conscience and on my spiritual life. There has been a good deal said in regard to the evil the daily papers are doing in publishing crime. This may be true; but I am sure, notwithstanding, that our daily papers are doing us good in telling us about the downfall of men and women, and *why* they fell. They listened to Satan. Miss Florence Richards, in a temperance talk last night, Sept. 17, said some people do not believe in a personal devil, they declaring it all a myth. But some good woman replied by asking who it was, then, or *what* it was, that was at the bottom of all the crime and misery that are

going on in the world. Now, this woman whom we are discussing has got hold of a silly or crazy fancy, to the effect that that poet is a better man, or that she could be happier with him, than her own husband. It is simply Satan's work to wreck and ruin the lives of all three. This woman will see her mistake and blunder, and become tired of the man in a very few months or weeks. History is full of such cases. It is a species of infatuation. Satan pictures with great skill and eloquence some qualities that a woman does not possess at all; and after an elopement or runaway, or something of that sort, *both* of the stupid idiots soon find out their mistake; and some of them have good sense enough to go back and do all they can to right the great wrong. But *it can never be done.* A certain bee-keeper who, before he died, stood quite prominently before the world, became enamored with the good-looking *wife* of another bee-keeper whom he met at a convention. She was the mother of quite a family of children. This vile fellow (we can not call him a man) set to work systematically to persuade this poor foolish woman that her husband was not her equal; that her surroundings were not what she ought to have; and finally, for his sake, she consented to leave her home, a good faithful husband and children, and go off with a "strange man." It was not a *strange woman* in this case such as we have described in the Bible, but it was a strange man whom nature had endowed with an unusual faculty in the way of making himself agreeable. The poor deluded soul came to her senses in *just a few hours.* She came back to her humble little home (crippled, or *worse* than crippled, for life), and on her knees begged piteously to have the poor wronged husband and father forget and forgive her awful and sinful folly. The matter was finally submitted to me for advice and counsel; and after praying over it I felt impressed to say to the woman, much as the Savior said in olden time, "Go (back to your home and family), and sin no more." So far as I can learn, during the years that are past, peace and tranquillity have reigned in that home. The poor mother has probably been cured for life of the desire of praise because of her good looks.

Now just a word about our third text—"Thou shalt not commit adultery." In the 20th chapter of Exodus, you will notice this follows the command which says, "Thou shalt not kill." These two commands are given in a few short words; but since the world began it seems as if a terrible curse rested on the one who deliberately breaks either. The murderer never gets over the effects of his awful crime. One who has taken the life of a fellow-man is never the same man he was before the crime. The very thought of it follows him, and destroys his happiness and peace of mind until death, and who knows how long after death? It is much the same way with adultery. One who deliberately transgresses, yields to Satan, and tramples under foot this holy command, is never the same afterward. It is frequently remarked that a woman who has lost this priceless gem looks different ever afterward. The bloom of innocence and purity is gone. She may repent, and God may forgive her sin, but the scar remains. There is no getting back exactly where she was before. Now, the great wide world seems to repudiate the idea that it is the same with a man. Perhaps a man does not show it on his face and in his eyes as does a woman; but nevertheless the mark of Cain is there; and those who are skilled in reading humanity can judge pretty surely. Of course there is forgiveness for murder and adultery, for our first text tells us so; but, notwithstanding, more or less of a lifelong blight has fallen on the man or woman who deliberately transgresses in this way.

Sometimes I am consulted in regard to the advisability of getting a divorce. I think I have always said, "No, *no*, NO; do not do that. Do not even *think* of it;" and I usually end by saying, "What God hath joined together, let not man put asunder." Several times one or both parties will say, "But, Mr. Root, are you sure that God ever did bring us together?" And I think one friend added, "Is it not possible that it was a blunder that we ever got together? or did not *Satan* have something to do with it?" My reply is, usually, that Satan has nothing to do with bringing people together. *His* business is to separate and *break up* homes. And where children have been the fruit of the wedlock it is certainly God's plan.

My good friends, if any of you whose eyes rest on these pages have ever been thinking of getting a divorce, take my advice, and say, "Get thee behind me, Satan." Things may be bad as they are, but your old friend A. I. Root assures you they will be worse just as soon as you consider for a moment setting at naught God's law.

I have spoken several times about the day of my conversion. I told you that, when I decided to put the Lord Jesus Christ first and foremost of every thing in this world, I not only loved humanity better, but I loved even the horses that stood around the door of that old church. Perhaps I did not tell you, however, that, next to the Lord Jesus Christ, a love commenced from that day forward to grow and increase in my heart for the dear companion whom God gave me. That love has been growing stronger each year, and each day and hour.* When Satan tries me at every turn, as he tries most of us, the thought of Mrs. Root and the sacred and solemn ties that bind us together has been a more powerful antidote against Satan's wiles than any thing else in all this world. Let me, therefore, close with the beautiful text—the last of the four I have chosen—

"What therefore God hath joined together, let not man put asunder."

*The great Father, in his infinite love and mercy, has permitted us two to meet life's burdens and joys, hand in hand, for full fifty years. The 29th of September, 1911, will be the 50th anniversary of our humble start out together.

HIGH-PRESSURE GARDENING

A. I. Root

SOY BEANS AND CHUFAS FOR CHICKENS, PIGS, AND OTHER FARM STOCK.

On the last cover page of Gleanings for May 1 you may have noticed A. T. Cook's advertisement of his "domestic coffee-berry." He gives a picture of the plant loaded with the coffee-berry, or soy beans, for that is what it is. He says it is as easily raised as corn, will ripen in 80 days, and is one of the very best egg-producing foods for poultry. Some time in June I sent for a pint, I think it was, to try them again for coffee. Our older friends will remember we discussed the American coffee-berry in place of real coffee several years ago. Well, we tried it again and compared it with Terry's coffee made of browned wheat, and I myself prefer either of them to real coffee. As the soy bean has a slight beany flavor I rather prefer the wheat; but it is certainly a very good and nourishing coffee, and I think it is far preferable to the real stimulating coffee. As we did not use up all the beans for coffee, when my son-in-law was making garden he had some vacant ground—a part of a row—and I told him I should like to put in it my coffee-beans.

They were sprinkled in pretty thick. It made a row perhaps 100 feet long. This was about the middle of June. Well, we give you a picture, on page 598, of that row of soy beans 80 days after planting. I stood up in the row so as to give you an idea of the height and luxuriance of the plants. The ground they were planted on was where we had our plot of timothy grown on the Clark method (see advertising page 23, Aug. 15). I think there was some manure spread over the timothy sod before plowing before I came back from Florida. These beanstalks, as you see, are more than a yard tall, and they are covered with pods containing beans all the way up. If you look closely you can see the bean-pods hanging from the branches. They are all over the plant. Now, if cut and fed to cattle or horses while the beans are green, our experiment stations say they are about the most concentrated food of any thing in the shape of hay. I have just been out to this patch and stripped a lot of the beans from several stalks, and fed them to the poultry near by. The younger chickens did not seem to be satisfied at first that the beans were good to eat, and the old hens spent quite a little time in biting them and dropping them again. When they found beans that were soft enough to mash up so they could get a taste, they began to gobble them up eagerly. The two roosters, however, took them at sight and swallowed them all down, green or old, as fast as I shelled them out. I suppose you know poultry has to get used to a new kind of food or diet, especially when it is in the shape of grain.

Some years ago, up in Michigan, I grew a lot of Banner beans, as they were called in the seed catalogs. They were so prolific that my neighbor Hilbert pulled up a lot and carried them home in order to save the seed. Thinking that, of course, the hens would not eat *beans*, he put them on the barn floor. One rainy day, when the chickens were driven inside, they got to fussing with the beans, and before my friend knew it the fowls had shelled out the dry beans and had eaten almost every one. They had learned the trick, and found that beans were not "pizen." By the way, if you wish to teach chickens to eat beans and peas for food, just plant the beans in the garden and let the fowls dig them up. Do you ask why we should take so much pains to teach chickens to eat soy beans? Here is my answer. It is a copy of an advertisement from that excellent poultry-journal, the *Petaluma* (Cal.) *Weekly:*

SOY-BEAN MEAL PROTEIN EXCEEDING 44% FOR CATTLE, POULTRY, AND ALL FARM ANIMALS.

Will double your milk, cream, and egg supply. Takes the place of beef scraps for laying hens at about half the cost. Soy-bean meal is endorsed by the United States Department of Agriculture, and many university experiment stations, as one of the best concentrated foods obtainable. For sale by all dealers. If your dealer can not supply you, please send us his name and address. Samples supplied by us on application.

North American Mercantile Co.,
318-320 Front St., San Francisco, Cal.

From a pamphlet the above firm sends out we clip the following:

Farmers' Bulletin No. 372, U. S. Department of Agriculture, is authority for the statement that soy-bean hay is about equal to alfalfa for milk and butter production, and, also, that soy-bean meal is superior to cotton-seed meal for pork, mutton, and milk. According to experiments at the Tennessee Agricultural College, soy-bean hay proved to be superior to alfalfa hay. (Bulletin 80, Tennessee Agriculture College, 1908.)

The soy bean has been tested at most of the experiment stations as a forage crop, and the result has been very gratifying.

Good preparation of the soil is necessary for the soy bean, otherwise weeds are likely to choke out the young plants. They may be sown broadcast or drilled, with the idea of using them as hay. If in rows they should be planted so as to have a plant on an average of two or three inches in a row, and the rows thirty to thirty-six inches apart. Planting should be shallow, preferably one inch and not to exceed two inches in depth. They may be planted through a wide period from early spring to midsummer.

Soy-bean hay yields from two to three tons per acre. To make good hay the crop must be cut when about half the pods are full grown or when the top leaves first begin to turn yellow.

Always be sure when planting that you have fresh seed, as the bean deteriorates after a season, and sometimes when over a year old will not germinate at all.

A bushel of soy beans is at least twice as valuable for feed as a bushel of corn. (U. S. Dept. Agriculture, Bulletin 372.)

I suppose somebody will make another "kick" about my free advertising; but when an advertisement like this tells us about a new chicken food I think they merit some free advertising. I have not seen their booklet as yet, but I have sent for it. Now, if these soy beans or the soy-bean meal will really take the place of beef scraps, it is very important that all of us get on to it and raise our own meat for chickens. This soy-

bean meal, I know, is advertised now by dealers in poultry-supplies almost all over the world.

CHUFAS, OR EARTH-ALMONDS.

Now for a word or two about the row of chufas. I have said so much about this nut that grows under ground, like the peanut, in back numbers, that I need not go over the matter again here. After we had filled all orders for a free sample of the chufas, there was, perhaps, a quart or more left. Well, the only place to plant them was in a dead-furrow right beside the soy beans. I hastily scraped out that dead-furrow with a hoe, and sprinkled in the chufas. They were so much dried up I did not suppose that many of them would grow; but they are now knee-high, and growing like weeds. As they were in the dead-furrow I threw the dirt up against them and made a little ditch on each side to keep the water away from them. I think it would be better to hill them up like potatoes, so the nuts will not get out of the ground and be sunburned. At the present writing, Sept. 15, 75 days after planting, there were quite a few good-sized nuts in the hills, and lots of little ones starting. These also are splendid food for poultry, and very rich in protein and carbohydrates, like all other nuts.

By the way, I forgot to mention in the right place that soy beans picked green are very good food. There is so much oil in them that it swims on the surface, looking like globules of butter. Well, these chufas are also very oily; but it is a lot of trouble to get them out of the dirt, either in the sandy soil of Florida or the Medina clay ground. But if you are growing them for the chickens, you need not have any thing to do with the harvesting. I have not had any experience with pigs; but chickens will "work for nothing and board themselves," and get every chufa out of the ground. My good friend Daniel Hall, of Oneca, Fla., says they stopped his hens laying, or at least they stopped laying when they were digging over the chufa ground. But somebody who is expert on poultry told me that letting hens have a large quantity of any very rich food all at once would be very likely to cause them to stop egg-laying for a time; whereas a little given them every day with their usual rations would have the opposite effect.

I suppose you can buy soy beans of almost any seedsman; but you can get them a great deal cheaper of somebody who grows them; and they are now being grown almost all over the United States, more or less, and the same way with chufas. Do not send to me for either, for I am not in the seed business; besides, if I should offer seed for sale after giving all this write-up, you might with good reason think I was biased in the matter. For the rest of my life, so long as the great Father lets me keep up this department I will try not to mention on these pages any thing I have to sell. In fact, I do not expect to sell seeds or chickens nor any thing else, except to my home grocer, and at home market prices.

CHUFAS AND GROUND-NUTS.

Mr. A. I. Root:—I noticed in the *Breeder's Gazette* that in the South chufas become an ineradicable pest. Later, however, another writer says there are *two kinds* of ground-nuts, and that the *chufa* was not likely to become pestiferous.

MRS. J. W. BEAUCHAMP.

Doniphan, Mo., May 24.

The above reminds me that our first planting of chufas in Florida was close to a piece of woods and the ground-nuts and chufas came up all together, and the two, looked at from above ground, resembled each other so closely that I gave up. I could not, for the life of me, tell one from the other until I dug down so I could see the nut. The shape of the nut is entirely different, and the ground-nuts are no good at all, so far as I know. After I had given it up and we had lost our crop, practically, because we could not weed out the nuts without getting the chufas also, a neighbor told how to distinguish the difference, because chufas always stool out, while the ground-nuts make only a single stalk, and I think this may be true. I do not think the chufas, even if they do self-seed themselves, will ever prove to be a pest—that is, if pigs and chickens are allowed to get on to the ground. This same tendency to stool with chufas enables us to separate the plants of a hill, and plant them out separately. In this way a little seed can be made to go a long way, but, of course, it takes a longer season. A nurseryman who visited our premises suggested that the ground-nut is a "degenerate" chufa.

GARDENING IN FLORIDA IN THE SUMMER TIME.

We are very glad indeed to give place to the following:

Mr. A. I. Root:—Will you allow one of the new comers to add something to what has been said on gardening in Florida? We find some things can be raised in early summer if you can irrigate. We had corn, tomatoes, and string beans after the season for them had gone by. Some other things can be grown in the same way, We used only the waste water from the house. The tomatoes were given some shade until they outgrew it. Now there are still some tomatoes, but the later blossoms all drop. Our good neighbor, Mr. Gleason, tells us that now is the time to sow seeds for tomatoes and egg-plants. They should be shaded a little when first transplanted to open ground; also that potatoes can be planted in September. He tells us that bush lima beans, summer squash, sweet potatoes, and cow peas will grow through the rainy season. I think we may start beets early, as they seem to thrive in this climate and soil. MRS. L. W. DENSMORE.

Sarasota, Fla., July 24.

I will explain to our readers that Sarasota is a neighboring town to Bradentown, and so, of course, the conditions in the two places are about the same. I presume likely the old residents have so much garden stuff almost all the year round that they are not inclined to take as much pains as the new comers from the North, who are delighted with the possibilities that seem to open up there on every hand. You will remember our neighbor, D. Abbott, had beautiful lima beans all winter, and almost all summer, from the same plants.

Temperance

THE BREWERS' INDUSTRY OFFICIALLY RECOGNIZED; SEE PAGE 544 OF OUR ISSUE FOR SEPT. 1.

THE following circular letter sent out by Wayne B. Wheeler explains itself:

The enclosed is a copy of a letter sent by Secretary Knox to the Diplomatic and Consular Officers of the United States. You will observe by this letter that Secretary of Agriculture Wilson has accepted the position of honorary president of this brewers' congress, and that the Secretary of State is asking, through our foreign representatives, that the various governments send delegates to this convention. This is the most uncalled-for official recognition that has been given the brewing interests in this country for a long time; and at a time when the churches and temperance people of the country are exhausting every effort to turn back this tide of debauchery, it seems especially unwarranted.

The so-called "International Barley and Hop Exhibition" in connection with this congress is the thin veneering to cover the real purpose of the brewers, which is, to secure this recognition by our government. Can you not get at least two other persons who will write the President, or telegraph him at once, protesting against a member of his cabinet presiding at a brewers' convention?

Columbus, O. W. B. WHEELER, *State Supt.*

We are told by the papers that a tremendous delegation of thousands of people will form a procession, with protests, at the time this celebrated brewers' congress comes off. May God help us in our efforts to make our President and Secretary of Agriculture recognize and consider the mistake they are making just at this present crisis in the affairs of our nation.

Later.—When the above first came to my knowledge I sent the following protest to President Taft:

President W. H. Taft,
Washington, D. C.

Dear Sir:—Permit me, as a friend of agriculture as well as a friend of temperance, to make a vehement protest against permitting Secretary Wilson to appear as honorary president of the Brewers' Congress in Chicago, October 12th and 22d next.

I am well aware that Secretary Wilson has been a friend to agriculture, and that we owe him a debt of gratitude; but he certainly has failed to notice the wave of indignation that is now springing up everywhere against the brewers and their tools, the saloon-keepers. In writing this I am only voicing the sentiment of The A. I. Root Company, Medina, Ohio.

Respectfully,
Medina, O., Sept. 5. A. I. ROOT.

To-day, Sept. 12, I am in receipt of the following from Secretary Wilson:

Mr. A. I. Root:—Your communication of a recent date is received. There is an international feature to this congress to be held in the United States. Agriculture is to be discussed. The United States is interested in the growing of barley and hops for domestic uses. They are naturally under the jurisdiction of the Department of Agriculture. Discussions along other lines would be foreign to us. This congress and this exhibition are not under the official patronage of the Government of the United States. The honorary presidency which comes to me is on account of my position as Secretary of Agriculture. I will have no actual presiding to do in this convention. Very respectfully,
Washington, D. C., Sept. 11. JAS. WILSON, *Sec.*

After reading the above I will admit that barley is used for other purposes than for making beer, especially in the Pacific States; and I suppose there is some market for hops aside from brewers' use; but I wonder how Secretary Wilson can approve, without a protest, the use the brewers make of his acceptance of the invitation to be present at that congress.

GOOD NEWS FROM CHINA.

A letter is in my hands from that noble and consecrated woman, Mrs. Lucy Page Gaston, the superintendent and founder of the Anti-cigaret League of America. The letter reads as follows:

My dear Mr. Root:—I suppose you have noticed the fight that is on in China against "the deadly." Dr. Wu and his compatriots who are putting in time, effort, and money in dead earnest are likely to bring some practical results.

China is leading the world in reform. Does not that seem strange?

You will be glad to know that the outlook for our work is better than ever before in spite of the difficulties in the way. My complete break-down two years ago was, of course, quite a misfortune; but I seem to be on my feet again, ready for the America-wide campaign that is needed.

LUCY PAGE GASTON.
1119 Woman's Temple, Chicago, Aug. 25.

In connection with the above I take pleasure in submitting the following clipping from the *Cleveland Plain Dealer:*

Singing hymns of praise which followed the opening of the exercises with prayer, citizens and students of the little college town of Mars Hill to-day marched around a big bonfire of all the cigarets and tobacco kept in stock by the merchants here, who promise that no more will be ordered.

An evangelist started a movement to stop the sale of tobacco to students, and the merchants agreed to discontinue its sale as soon as the stock on hand was sold.

The college authorities would not suffer any delay; $200 was raised by subscription, and the tobacco stock bought for destruction.

Asheville, N. C., Sept. 8.

Please notice, friends, that the above wave of indignation against cigarets and tobacco was started by an *evangelist.* Notwithstanding the great work that Billy Sunday and others of his class have been doing in our land, I am sorry to see some severe criticisms—yes, and some of them come from periodicals that claim to be religious. These criticisms are mostly because of the amount of money that has been given Mr. Sunday. Let me suggest, first, that these vast sums of money are free-will offerings; second, as with Moody, and I might also say Carrie Nation, the money has been used (so far as I can learn) for benevolent purposes and the good of humanity.

Referring to the newspaper clipping, notice also that the money was raised by subscription to purchase the stock of cigarettes and tobacco, so the dealers lost little or nothing by the crusade.

ADOLPHUS BUSCH, HIS "SUNKEN GARDENS," ETC.

When in Ohio last week, "The Crown of Diamonds and the Crown of Thorns" came to my notice. I feel very warmly on this subject, and wish to help you in the good work. I enclose 10 cts. in stamps for 100 of the pamphlets to distribute. Busch's "sunken gardens" in Pasadena are beautiful, and I could enjoy them if the money expended was obtained for something that did not degrade. He went to a "dry" town to settle and beautify it. Why did he not go among those to whom he has sold his misery-making stuff?

Minneapolis, Minn., Sept. 21. MRS. J. W. BULL.