

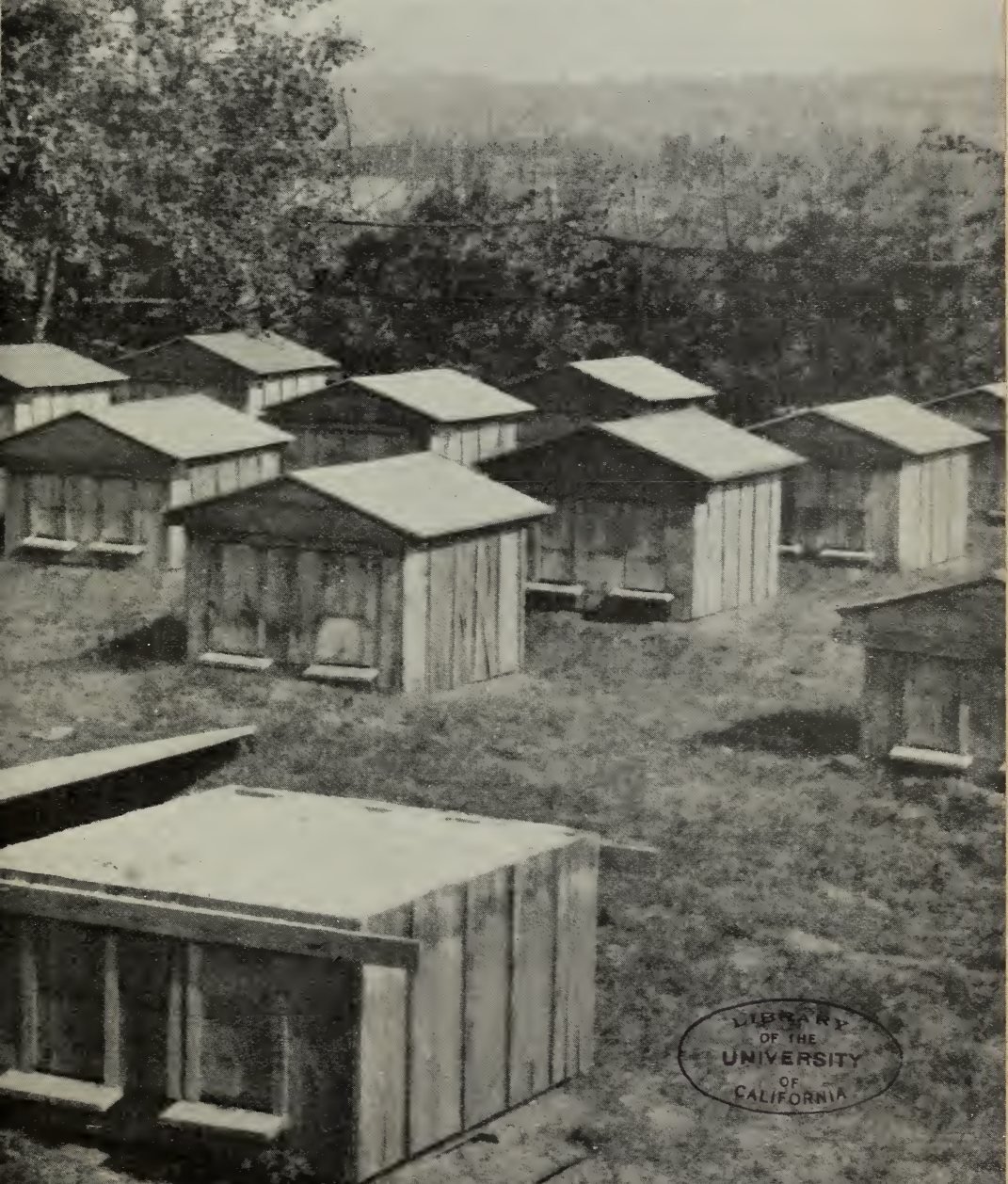
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VOL XL. SEPT 15, 1912, NO. 18

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Gleanings in Bee Culture

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SEPTEMBER 15, 1912

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Editorial

WHY DOESN'T THE AVERAGE PRODUCER GRADE HIS COMB HONEY?

ONE large buyer complains that the average producer does not grade his comb honey at all, or else does it so poorly that the honey has to be graded again before it is fit to send out. If this is true, it is small wonder that he cannot get good prices. As a general thing the buyer charges for re-grading, at a price that will make it possible for the producer to make big wages if he would do it himself. Dealers, other things being equal, will buy continuously of the man who grades honestly and intelligently, so he knows every year what he is going to get when he orders a fancy, No. 1, or a choice.

We respectfully suggest that every beekeeper use the grading rules adopted by the Colorado State Beekeepers' Association.

UNIFORM GRADING RULES.

IN our issue for July 1 we endorsed the grading rules adopted by the Colorado Beekeepers' Association. We knew nothing about what Editor Tyrrell was going to say on the subject, and he was ignorant of what we were to say; but apparently he was of the same mind as ourselves, as is evidenced by the *Beekeepers' Review* for July. We are now informed that the suggestions made by both of us are to be carried into effect by the National Beekeepers' Association appointing a committee of honey-producers and honey dealers to formulate a set of grading rules which it is hoped will be adopted by beekeepers of the East as well as of the West. Good! With some slight modifications the Colorado rules could be made to fit Eastern beekeepers.

SHIPPING BEES WITHOUT COMBS, AGAIN.

ON page 502, Aug. 15, we referred to the possibility of shipping bees long distances, even in ear lots, without combs. For some years back we have made a practical success of shipping bees in pound and half-pound lots all over the United States. So far no obstacle has been encountered ex-

cept during extremely hot weather such as we have been having for the last few days. During such torrid spells some packages do not go through in the best of condition. The probabilities are that the express handlers pile other packages over the packages of bees, completely shutting off the air. When bees suffer from want of air, water seems to accomplish wonders. We are, therefore, during this week of exceedingly warm weather, trying the sending of packages of bees equipped with bottles of water. We shall be glad to give our readers the results of the experiments.

We sent three pounds of bees in one package to Dr. C. C. Miller, and the report came back promptly that only four of the bees were dead. We sent a like package to Dr. E. F. Phillips, of the Bureau of Entomology, Washington, while the weather was extremely warm, and the bees arrived there in bad condition. To-day, Sept. 10, is one of the hottest days we have ever known, and we are just sending another 3-lb. package to Dr. Phillips, with a bottle of water.

At this time of the year 3 lbs. will take up all the bees of a fair-sized colony. Assuming that brood-rearing has stopped, it would be possible to ship several hundred 3-lb. packages of bees, and put them on other sets of combs on arrival at destination. But we will not build any air castles until we see how our little air castles grow. More anon.

HONEY-CROP CONDITIONS.

FREQUENT rains over the country, especially east of the Mississippi, and the extremely warm weather, have stimulated the secretion of nectar, not only from belated white clover but from alsike and the second crop of red clover. There has been reported a fine fall flow in many sections from asters and goldenrod. Some reports from New York indicate a failure of buckwheat. A representative has been up through the Northwest in Wisconsin and Minnesota, and he reports there will be

more clover honey than was originally indicated.

In our last issue we stated that the opinion prevailed that there was a large amount of clover honey still held back. Later reports continue to confirm that view.

Apparently *extracted* honey has reached its high-water mark of price. We hope it will hold its own. This only goes to show that beekeepers have been running too much for extracted honey and not enough for comb. The hard logic of facts, too much extracted, and a scarcity of comb honey, should convince us that we should run more for comb honey. There never was a time in all our experience when No. 1 and fancy clover comb honey did not have a good market. We do not believe it is possible to produce too much of it any season.

The conditions for a honey crop next year were never more promising. Reports show that there is more white clover on the ground than has been known before for many years. Beekeepers should begin to make preparations to produce comb honey.

A DISTINGUISHED VISITOR AT THE HOME OF THE HONEYBEES; RUSSIA'S COMPLIMENT TO AMERICA.

We have just had the honor of a visit from Dr. Ivan Kablukov, Professor of Chemistry at the Royal University and Agricultural Institute of Moscow, Russia. He had been sent by his government to attend an international convention of chemists at Washington, D. C. As he was making bee culture more or less a study he was commissioned by his government to make us a call, which he did. He seemed very much delighted with every thing he saw, and more than once expressed his surprise at the immensity of the beekeeping industry in the United States, as evidenced by the buildings and general equipment that go to make up the plant known as the "Home of the Honeybees." He used his notebook freely, and doubtless will be able to transmit to his government a good deal of valuable information on the possibilities of beekeeping in Russia; for what has been done in the United States may be accomplished in that great country.

It will be remembered by some of our readers that in 1903 the Russian government also sent Mr. Abram Titoff to this country to study American beekeeping. He spent two full seasons here, and proved himself to be not only an alert but an efficient and intelligent workman among the bees. He later spent a couple of sea-

sons in California and then he went back to his own country in April, 1906. Now, according to Mr. Kablukov, he is inspector and teacher in bee culture in Kieff, Russia. We of America ought to be proud of the fact that a great country like Russia considers our methods worthy of adoption.

BEE EXHIBITS AND BEE SHOWS.

ALMOST every department of apiculture has been represented in books relating to bees except the science of making exhibits of bee products at fairs and shows. But even this field has now been very amply covered in a new work just out by Mr. Wm. Herrod, F.E.S., junior editor of the *British Bee Journal and Beekeepers' Record*, London, England. This little volume contains nearly 175 pages, with appropriate illustrations, especially of many prize-winning exhibits at the various shows in England. The author discusses the question of producing, preparing, and judging exhibits of bee products in a most thorough and painstaking way. While the manner of preparing these exhibits is somewhat different from the general scheme in vogue in the United States, yet any American reader will gain from it many helpful suggestions. "Mr. Herrod," in the language of Mr. Thos. Wm. Cowan, senior editor of the *British Bee Journal*, "has had more experience in managing the largest and most important shows in the country than any one else; and in this book we have the practical results of his experience clearly stated for the benefit of those desiring to produce and prepare exhibits with some expectation of gaining prizes."

The price of this book is not stated; but information can be secured by writing to the office of the *British Bee Journal*, 23 Bedford St., Strand, W. C., London, England.

A NEW BOOK ON BEEKEEPING BY PROF. H. A. SURFACE, OF THE DIVISION OF ZOOLOGY, DEPARTMENT OF AGRICULTURE OF PENNSYLVANIA, AT HARRISBURG.

A NEW book or bulletin on bees, by Prof. H. A. Surface, Economic Zoologist at Harrisburg, has just been received. The author, well known to our readers as one of the leading lights on beekeeping in his State, has come to be almost a national figure. A trained scientist, he not only keeps bees himself, but has for years been conducting a series of experiments in practical apiculture; and we believe we are quite within the truth when we say that he is not only authority in scientific apiculture but in practical apiculture as well.

He is an indefatigable worker. His correspondence is voluminous, for he never seems to tire in rendering helpful advice, not only in zoological matters but in telling the farmer and the fruit-grower how to grow more and better crops, as well as how to combat insect enemies with which they have to contend. We are glad, therefore, to recommend this bulletin on practical apiculture, because we believe its advice is sound and safe.

It contains over 70 pages of matter, with original illustrations by the author. This latter feature is quite unique in a work of this sort, because many modern bee books consist of a series of illustrations that seem to be more or less "common plunder." But Professor Surface has not borrowed a single cut. The whole work from beginning to end is distinctly original.

Nothing is stated as to how this book can be obtained; but we presume that any resident of Pennsylvania can secure it free of charge by making application to the Pennsylvania Department of Agriculture. Ask for Zoological Bulletin, Vol. II., No. 3, entitled "Beekeeping, by Prof. H. A. Surface." Persons living outside of Pennsylvania will probably have to pay a moderate fee. A letter addressed to the Department of Agriculture, Harrisburg, will doubtless bring the information.

A NEW GOVERNMENT BULLETIN ON COMB HONEY; HOW TO SOLVE THE SWARMING PROBLEM.

THERE has just come from the Bureau of Entomology, Farmers' Bulletin, No. 503, entitled "Comb Honey," by Geo. F. Demuth, Apicultural Assistant in the Bureau of Entomology. For several years Mr. Demuth was foul-brood inspector for Indiana. Prior to that time (and even afterward) he was one of the most successful producers of comb honey in the country. When we say "successful" we mean he made money at the business year after year. Now that the production of comb honey, because of difficulties, is getting to be neglected, a bulletin that can be obtained free for the asking, telling how one can overcome those difficulties and at the same time make money, is particularly opportune.

We have read this bulletin with considerable care, and we believe that, from every point of view, it is not only orthodox, but one of the best if not the best treatment of the subject we have ever seen. Some of the methods advocated are old, and some others are practically new.

A plain standard Langstroth hive with

the usual super equipment is illustrated and described; in fact, the paper is full of original illustrations showing hives and supers in a variety of combinations. Plain and beeway sections and their supers are clearly shown by line cuts. The merits of the extracting supers, combination supers (for both comb and extracted honey), and bee escapes are all carefully considered.

The manipulation of the bees to secure a crop is taken up very minutely.

The author's treatment of swarming deserves a most careful reading by every one of our subscribers. As swarming is one of the serious drawbacks if not the most serious in the production of comb honey, the man who contemplates producing this product will do well to learn how Mr. Demuth eliminates the nuisance. Perhaps not all will agree with him as to the theory of swarming. He says, "It is possible to manipulate all colonies before any swarming occurs so that most of them go through the honey flow without swarming, thus eliminating the weekly examination." Italics ours. We are in position to know that he has done what he says he can, and that, too, without the purchase of any special appliances other than those in possession of beekeepers generally over the country. Now, then, listen: "Any manipulation for swarm control," he says, "whether applied after the colony has acquired the 'swarming fever' or applied to all colonies alike previous to the swarming season, is based upon the single principle—a temporary disturbance in the continuity of the daily emergence of brood." The italics in this case are those of the author. He goes on to describe the different methods for controlling a swarm, and says that by each one of these methods "the temporary disturbance in the continuity of brood is an important factor in the process."

For some time Dr. E. F. Phillips, in Charge of Apiculture at the Bureau, has been looking for a comb-honey man—one who is an expert in the practical treatment of bee diseases. That he made a wise selection will be agreed to when the beekeepers of the country come to review this bulletin. We predict that the entire edition will be exhausted in very short order; and any one who desires to secure a copy should speak at once, before the edition is all gone. This bulletin may be obtained free by addressing the Secretary of Agriculture or any Member of Congress. Ask for Bulletin 503, entitled "Comb Honey," by Geo. F. Demuth, Bureau of Entomology.

Stray Straws

DR. C. C. MILLER, Marengo, Ill.

THAT EXTENSION wheelbarrow, p. 561, looks like a good thing. Might be well, though, to shift the platform a foot or so forward. That would make it lighter to lift.

DR. KRAMER says, *Schweiz. Bztg.*, 217, that a young queen produces progeny of lighter color than an old one, and that a queen that is old but still vigorous is better to breed from than a young one.

MR. EDITOR, your objections to having honey stored below the brood-chamber are correct; and if sections are produced, there's another objection, the cappings will be badly darkened. I've tried it, p. 564.

S. E. MILLER, it is true that your method of numbering hives, p. 485, makes it "not necessary to walk around to the side or end of the hive" to see the number; but I'd rather save my head than my heels, and with plain tags I don't have to do any figuring as to what the number is. Besides, you probably didn't think of my cellaring bees, and your plan would hardly work in the cellar.

I. HOPKINS, p. 480, rightly says that what is called the Dines method of queen-rearing originated in Australia, leaving a little uncertainty as to when it was first published. Prior to any date he gives, it was mentioned in a *Straw*, April 15, 1909. The fact that little or nothing has been said about it in foreign journals since that time looks a little as if the plan had not panned out well.

PERCY ORTON is quite right, p. 334, in saying that European foul brood does not *always* injure a queen. A light case seems to have no effect on a queen. Ye editor seems to hold that European foul brood never injures a queen. I think E. W. Alexander held that it generally does. I believe that a severe case always injures a queen—not that she has the disease, but living in the foul atmosphere lowers her vitality, making her dull and inactive. [If it is true that European foul brood generally injures the queen, we confess our ignorance, and stand corrected.—ED.]

DR. HERING, RUNDSCHAUER of *Deutsche Bienenzucht*, says, page X., that he agrees with the views of the editor of *GLEANINGS* about wintering; but he objects to cellar wintering, for he thinks the free dry outdoor air, full of oxygen, the most favorable to the health of bees. Right you are, doctor; you can't emphasize too strongly the importance of good air. But our cellars

with furnaces may be kept so open that the air in them is just as good as outdoors. [The logic of the past season (and there is nothing like facts) argues pretty strongly for cellar wintering for extremely cold winters or very cold climates. A great deal depends on the kind of winter, the sort of exposure, whether the bees are wintered outdoors, and the kind of protection. If they are wintered indoors the kind of cellar, the amount of ventilation, and the humidity are factors that must be considered.—ED.]

T. B. TERRY says, *Practical Farmer*, 416, that honey is said to have the same wholesome sugar as in sweet fruits, "but it is in condensed form, so do not eat it clear or in large quantities for best results." He also says, "I consider choice butter a safe form of fat." Bro. Terry, didn't you forget to add the caution, "but the fat in butter is in condensed form, so do not eat it clear or in large quantities for best results"? Isn't there as much danger of eating butter clear as in large quantities of honey? Do you think there's half as much harm done to those who eat honey clear or in large quantities as the harm done to the thousands of poor ill-nourished children by never getting a taste of it? Long may you live to preach the gospel of keeping well.

A STRANGE SEASON this. It promised a dead failure, very little clover in sight, with feeding till last week in June, then a growth of clover coming from nowhere and increasing to a splendid flow with never a break till the fall flow began the last of August; and at this date, Aug. 29, the bees are piling in the honey from white clover, sweet clover, heatsease, and possibly other things. Others complain that cool and wet days have hindered gathering. Same here. At this very minute, 9 A. M., it is cool and cloudy—wait a minute. . . Just been down to the yard, and hardly a bee flying. But I'm not complaining of the cold rainy days. They're a blessing—prolonged the season by just that much. Already I've taken 96 sections from each of four colonies, with perhaps 75 nearly finished sections on each hive, and more to follow. But with all that, mind you, the crop is short. The bees are not in the country. [Was there ever a year when clover held on so well? If so, we do not remember it. Even now, Sept. 1, it yields a little—almost enough to take care of the daily consumption for brood-rearing. As we have never had a fall flow to speak of, it comes in very handy.—ED.]

SIFTINGS

J. E. CRANE, Middlebury, Vt.

The honey season about here began June 22 and closed July 20, lasting just four weeks—three weeks on clover and a week on basswood. We have a very good crop.

* * *

Thanks for C. A. Bunch's description on page 454, July 15, of a sweet-clover-seed stripper. I might have saved a lot of seed two years ago if I had known how; but I supposed it had to be drawn to a barn floor and thrashed like grain to get the seed.

* * *

That editorial, page 431, July 15, in regard to the use of glass in shipping-cases, and the statements by Mr. Hathaway, page 454, are quite to the point; and yet there are some markets that will call for it for a long time to come, I fear; and not only cases with glass but sections as well.

* * *

Mr. E. W. Peirce, page 409, July 1, hits the nail squarely on the head when he tells us that we can not expect the price of honey to go above a certain figure. This is most certainly true with the great mass of consumers; and yet there are some who will pay fancy prices for honey if they can not get it without doing so.

* * *

Louis H. Scholl gives us a "chunk" of bulk comb honey to think about, p. 434, July 15. Now, I would like to ask him frankly if he would advise the beekeepers of the North to put up bulk honey in tin or glass, and pour over it choice clover or linden honey that granulates quickly in our cool climate, and then ship to the cities to wait for customers. What is best for him may not be for us, although I have a friend here in Vermont who is quite enthusiastic over "bulk comb honey;" but he sells near home.

* * *

I am not exactly glad that Orel L. Herisher has had foul brood among his bees, but that, having had it, he can tell his experience as he has done on page 299, May 15. European foul brood or American foul brood in the hands of an earnest or industrious beekeeper is not the scourge it is usually considered. I visited one town last year where every yard, so far as I know, was diseased, and it seemed a hopeless task to clean it up; yet by following a few simple directions these same yards to-day are almost free from disease. One yard of black bees where almost every colony was diseas-

ed, I found on a recent visit entirely free, and as clean as one would care to see. But I see the finish of the careless farmer beekeeper in the near future, and the whole business left in the hands of those who will care for their bees.

* * *

J. L. Byer, p. 264, May 1, says that it is hard to explain why a cross between Italian and black bees should be called a hybrid. Well, my friend, I will tell you. When Italian bees were first introduced into this country, or before, they were described as most wonderful bees—very distinct from the common bee, and much larger than black bees. It was claimed, too, that they would work on red clover. The conclusion was drawn, that of course a cross, if it would cross with the common bee, must be a hybrid; and since that time we beekeepers have kept right on using the word in a wrong way when we knew better. Is there time for repentance? I think so. Why not call all the various crosses between the different breeds of bees "grades," as is done with cattle and sheep? Is a cross between a Carniolan and a black bee a hybrid? Then why should a cross between an Italian and some other breed be called a hybrid?

* * *

Mention is made, May 1, p. 273, by Dundas Todd, of hiving a swarm by first using a little smoke. It is a popular idea that smoking a colony of bees clustered on the branch of a tree is ticklish business, for smoke frightens them and then they will all leave for the woods. I myself used to be afraid that, if I smoked a cluster, the bees would immediately run away. I have now used smoke for this purpose for more than thirty years, and never yet have driven a swarm away. Smoke is even more helpful in making bees gentle when clustered than when in the hives. Besides, they often cluster in fence-corners or on branches where one can not readily dislodge them or saw off the limb, and smoke is exceedingly helpful in driving them to a place where they can more easily be hived.

Speaking of the value of ground cobs for packing, p. 259, May 1, the editor commends this material because of its capability of absorbing water. I had supposed that the value of packing material consisted in its ability to hold air. I don't want any water in the hives or packing, and there will be little in either if good provision has been made to get rid of it.

Beekkeeping in California

P. C. CHADWICK, Redlands, Cal.

On Aug. 27 I leave, by motor cycle, for a ten days' trip among the beekeepers of Southern California. While my time will be too limited to extend into the central and northern valleys this year, I hope to be able to cover that territory another season and get acquainted with the beekeepers and their methods.

* * *

Bees in many localities are doing very little, with little prospect of late nectar to stimulate breeding. I would not be surprised if the stock for wintering would be rather low, causing a shortage of bees for spring breeding. Some localities, however, continue to yield from various sources sufficient to keep a good amount of breeding going on and colonies strong.

* * *

The following dispatch is taken from the Redlands *Daily Review*, and dated at Los Angeles, Aug. 24:

That Geo. B. Larinan's bees ate 12 acres of strawberries, thus depriving the market of that amount of fruit, to his damage in the sum of \$1500, is the allegation in the complaint filed to-day in the superior court by T. Katoaka.

The suit is an action in trespass, Katoaka in his complaint alleging that the bees "in great numbers, flew, roamed, foraged, and trespassed upon the plaintiff's land without his consent, and ate up, injured, and destroyed the berries, being the growing thereon."

Katoaka's ranch is located in the A. B. Chapman rancho and Larinan's apiary of 200 hives is on adjoining property. In addition to demanding damages for the alleged destruction of his berries, the plaintiff seeks an injunction to prevent Larinan from maintaining his hives on contiguous land.

* * *

Five big meetings for beekeepers were scheduled for the summer as follows: Aug. 3, Dinuba; Aug. 12, Santa Paula; Aug. 14, Redlands; Aug. 19 and Sept. 6, Los Angeles. These meetings were held under the direction of Mr. J. B. Neff, representing the Agricultural Department of our State University, speakers being furnished by the State Association, from its membership. The boys were wide awake to the interests of beekeepers in general, and especially to the necessity of awakening a general interest among those who are not organized in counties or affiliated with the State association. The officers of the State Association have some fine plans laid, and expect to make the Association membership worth many times what it costs. The meeting at Dinuba was a big success, also at Santa Paula, while the one at Redlands was so far ahead of expectations that every

one was well pleased. Some old-timers were here, including Mr. T. O. Andrews, of Corona, and Mr. A. T. Wagner, of Imperial Co. A variety of subjects were on the program and all were handled with skill. Meetings outside of the big schedule are also being planned, one at Covina having already taken place. California beekeepers should be thankful that we have energetic men at the head of our State Association who lose no opportunity to advance our interests.

* * *

I am in receipt of a letter from Mr. M. E. Richter, editor of "Honey Plants of California," who is now located at Santiago, Chili. Mr. Richter writes me regarding the sage-worm, on which I commented in the Jan 15th issue. I quote from his letter: "You say you observed their abundance in off seasons when the sage is less thrifty, and that you are of the opinion that the weather has no influence thereon. My observations were made in Ventura and Santa Barbara counties, and, of course, during the flowering months of the sage. With many cloudy days during April and May the sage-worms were numerous; but with the first real warm weather in June there was a marked diminution in the worms, and they were invariably found on the north side of the whorls. Such seasons were, to be sure, off seasons, and the sages were not thrifty, for they lacked the necessary warm weather. With bright warm sunshine, however, in April and May, the worms were inconspicuous, and the season was good." In justice to Mr. Richter I have quoted the above, though my ideas are somewhat different from his. Some features of this season would seem to prove his contention, while others do not.

The sage-worm, or weevil, as I have previously styled them, were the worst, to my knowledge, this season, and the weather through April and part of May was surely very bad, which would bear out Mr. Richter's contention. On the other hand, the weather after May 12 was very warm and clear for a number of days just at the time this pest was doing its worst, and cutting the life out of the buttons. The season of 1905 was the coldest and most backward I have ever seen, yet there was not a weevil, but an enormous honey-yield, nearly all of which came after May 15. The following season, with bountiful rains and open spring weather, the weevil was quite plentiful, and sages yielded meagerly. I will make further observations next season.

Beekeeping in the Southwest

LOUIS SCHOLL, New Braunfels, Texas.

WHY SWARMS CLUSTER.

Mr. Anthony's theory, as related by the editor, page 502, Aug. 15, is a new one to me, and one in which I am not inclined to take much stock until further and more convincing proof is furnished. There may be something in it; but, according to the old saying, "one swallow does not make a summer." I hardly believe that the one instance alone shows that the killing of the remaining virgin in the parent hive had any thing to do with the return of the swarm from the tree-top. Swarms with virgins often do strange things, generally leaving for parts unknown as soon as they emerge from the hive. Yet, on the other hand, we have had such swarms hang about the yard for a day and even more, trying, perhaps, to gain entrance to some other colony. We have hived swarms with virgins after the bees had actually clustered instead of running away to the woods as might be expected, and then had them return to the old hive from which they had issued.

* * *

HONEY-CROP REPORTS INTERESTING.

It is strange how much more interesting the reports are when we have had an unfavorable season. This may be partly due to curiosity to see whether other beekeepers have fared better or worse. In one way the reports this year serve as a consolation, as they show that some others are faring no better. This year, for instance, we do not feel our loss so keenly, as there seems to be a rather short crop, taking the country as a whole; for, except in the case of a small portion of the country, there seems to be but a partial crop after all. We can be thankful, at least, that we need not fear having to feed our bees to carry them over until next year. It is true that there are a few localities where feeding will probably have to be done, since the rains delayed too long to help out in the fall.

Honey prices should rule a little better this year as a consequence of a general shortage of the crop. The Western honey seems to be a good deal more scarce than the Eastern. Some parts of the South have had good crops; but that in Texas is unusually short, especially since there has been an almost entire failure in Southwestern Texas, the main honey-producing section.

But since the fruit and syrups have been so plentiful the price of honey is not so very much higher after all, for honey is

still considered more as a luxury than as a necessity. This means that, as soon as the price of honey goes higher than usual, other things are substituted in its place, if they can be obtained at a reasonably fair price. Peaches and other fruits happened to be very plentiful this year, so that they have filled the demand for sweets to such an extent that less honey has been purchased than usual. The abundance of other fruits accounts for the large amount of preserves that have been put up; and these preserves, together with the large amount of sorghum syrup made this year, accounts for the smaller demand for honey. It will be remembered that fruits and syrups were more or less a failure last year, so that the demand for honey was far greater. However, in spite of all this the price of honey has gone up half a cent per pound or a little more over last year's prices, and it will be no trouble to sell all that has been produced before the end of the fall.

* * *

THE AUTOMOBILE A SIGN OF PROGRESSIVE BEEKEEPING.

One of the most pleasing indications of more progressive beekeeping is found in the constantly increasing use of automobiles by beekeepers. In itself, the ability to own an automobile usually indicates that a beekeeper is more or less progressive, or that he is possessed with progressive ideas at least. As a rule, the purpose of procuring an automobile is not only for use as a pleasure machine but more as a real business proposition. That the automobile is coming to be acknowledged more and more a much needed addition to the beekeeper's equipment, especially for real progressive beekeeping, is well known. The beekeepers who are taking advantage of this fact have the assurance that they are prepared to accomplish not only more work, but to do it better, while at the same time more pleasures can be enjoyed, both doing his work and while at leisure.

The automobile has come to stay, and the time is not far when a good "machine" can be obtained at a very reasonable price. Fortunately, the great number of different makes of automobiles, together with the wide variation in price, makes it very easy to make a selection best suited to the needs and the pocketbook of the beekeeper. Once purchased, there is no doubt an automobile will pay well, provided, of course, there is use for one.

Conversations with Doolittle

At Borodino, New York

SEPTEMBER PREPARATIONS FOR WINTER.

"When is it best to make preparations for winter? I have always waited till the advent of cold weather; but I was asked yesterday if I had my bees ready for winter yet, and this set me to thinking whether I had not been a little late in my work for the bees to winter to the best advantage."

"I have believed for some time that too many of us wait too late in the season before making the needed preparations for winter. Here at the North the wintering of bees is one of the great problems, if not the greatest; and to neglect it through ignorance or carelessness is little short of criminal."

"But you would not begin preparations as early as the middle of September, would you?"

"I certainly would. For the past twenty years I have often commenced the latter part of August. Years ago, at a convention an old beekeeper who had succeeded better than the most of us gave out this as the secret of his success: 'The time to begin preparing for a good honey flow is the season before.' I have always remembered this when about to put off something which needed immediate attention; and with a little modification the same statement applies very nicely to the preparation of colonies for wintering. And the best part of it is, such preparations place the bees in the best possible condition to be in readiness for the next year's honey flow."

"But you would not pack your bees for winter yet, would you? A good many of the supers are still on in my yard."

"The old advices in regard to getting ready for winter dealt almost wholly with packing, sufficiency of stores, ventilation, amount of entrance room, etc. Now, these things are necessary, but it is just as important to look after the age of queens, the proportion of young bees, and the number of bees in each colony. Can any of these be changed after winter sets in, or even after October, here in the North?"

"Sufficiency of *good* stores also should be included as another of the necessary preparations which should be looked after as early as this; and the month of August is much better unless one lives in a locality where a surplus yield can be expected from fall flowers. The mass of beekeepers usually defer these necessary winter preparations until late in the fall, when it is

too late to remedy any defects which are discovered at that time, regarding the general condition of the colony. I am well aware that stores may be given in November, and even in December, by way of frames of sealed honey. But this can not be done with the assurance that it will be conducive to as perfect wintering as would have been the case had such frames been given at this time, which allows a sufficient number of warm days for the bees to adjust such stores all about the cluster, as they always will do where they have the needed time.

"With all of these things attended to at the proper time, a condition is brought about which very largely measures the success in wintering, regardless of those things so much stress has been placed upon during the past. The fact remains that, if a colony is provided with a vigorous queen, plenty of young bees in proportion to the older ones, so that a cluster of suitable size is in control of the combs which contain ample stores of good quality within easy reach, many of the so-called essentials have very little to do with the safe wintering of such colonies. Therefore this work of preparation should begin immediately after the close of the honey harvest, to give the best results. But if, under special stress of circumstances, it can not be done then, should the weather continue favorable, fairly good results may be expected if all colonies receive the necessary attention prior to the first of October."

"What would you consider a vigorous queen?"

"One which has brood in the hive at the close of the honey flow to the amount of two to three frames full, with a good quantity of bees of all ages besides. Two frames of brood give about 12,000 bees, and three frames about 18,000. Now, if the queen retrenches at the close of the nectar flow, so that she can lay a little longer, then there will be perhaps 20,000 bees from this brood, all of which are sure to be young, and full of vitality for wintering purposes. And, in addition to these, there will be at least half as many more that emerged prior to the close of the harvest, and these will be pretty fair for winter so that the colony will contain not far from 30,000. Such a colony as this, in a ten-frame Langstroth hive, with a proper amount of suitable stores, insures it in a great measure for the next year's honey flow."

General Correspondence

CANDOR AMONG BEEMEN

Why Orders for Bees or Queens Should be Filled Promptly, or a Postal Sent Explaining why Delivery Can't be Made then, but Stating when they can be

BY LEWIS P. TANTON

In a recent issue of GLEANINGS, business candor was advocated, especially in relation to queen deliveries. The average purchaser, dealing with the different supply houses, can emphasize the necessity for this caution, in many instances. To save the loss of a valuable queen a frame or two of brood is wanted, or a queenless hive is in danger of extinction for want of a queen. An order is dispatched to a dealer who loudly advertises promptness. Not a word of explanation, not a line of reply, until you lose your patience, and, not unlikely, the bees you are trying to save, and then the article will come when you have no use for it. I have before me a letter saying, "I will send you two untested Italians Monday or Tuesday." Those queens were not mailed as promised; considerable loss and inconvenience are incurred, and I am left in ignorance as to when or if they will ever be sent, and thus am at a loss to know whether to order elsewhere or not.

Another dealer quoted this spring on bees, "up to 100 hives." I ordered one hive, to be shipped *at once*, by express, saying I wanted it immediately to get brood to save a weak colony, with a valuable queen. Over a fortnight after he received my order he replied, "I will ship next week." My queen died in that time, so I canceled the order.

Now, in both cases a post card, promptly sent, would have enabled me to order from other sources, in ample time to save my bees. I refrained from doing so, expecting those already ordered to arrive at any moment.

My experience is, no doubt, that of thousands all over the continent who have been similarly "stung." These dealers foolishly imagine that, by this process, they retain trade. The opposite is the case. The burnt beekeeper, like the burnt child, dreads fire. The slothful dealer may retain the proceeds of his first sale; but that transaction ends his business relations with that customer, most likely, forever.

This candor should always be exemplified in the description of the goods offered for sale. I once purchased several two and three frame nuclei from a dealer in Massachusetts. One of these, a three frame,

weighed about eighteen pounds in a light shipping-box, threw off a strong swarm, and yielded 110 lbs. surplus honey the first season. All this lot (8 nuclei) was nearly as good. At the same time I received a so-called full colony from another dealer, in a Langstroth hive. Bees, combs, and all weighed just 23 lbs.; had a hybrid queen; made no increase, and very little surplus honey. Which of those dealers do you think will command respect and hold trade? I have had dealings with the first of these for many years, and it is like doing business with a bank, for reliability and uniformity. One transaction settled me with the latter.

As a class there are no more upright people in the world than beekeepers. Those who are dishonest are, in reality, freaks, and scarce. Much that appears irregular is laziness or carelessness. The bee is the world-wide emblem of industrial nature. The beekeeper, to ensure success, must study and imitate his subject. Doing this brings him in closer touch with the operations of nature and nature's God. This contact develops diligence, frankness, and the higher ideals of honor in his interpretations of the responsibilities of business life. The one who fails to profit by the teachings of his busy exemplars will show an ill-kept apiary, a long list of dissatisfied clients, and all the evidence of a wasted business experience.

Do you notice that the most generous and public-spirited of beemen are of that class who study their subject the closest? Can you account for it in any better way than by ascribing it to the affinity of two great industrial natures, the man and the bee? The bee gives a full comb and full weight. Try them and you will find them prompt. Test them for integrity and you will find them candid and practical. Imitate them.

Charlottetown, P. E. I., June 17.

[We have seldom read an article that is more to the point than this one. It will bear careful reading on the part of all queen-breeders and those who have supplies of any sort to sell.

The best advertisement that any queen-breeder can put up for himself is promptness in filling orders; but no one can fill an order for a grade of queen or queens that he does not have. In that case, the only thing for him to do is to write to his customer at once, stating that he hasn't the grade called for, and ask for instructions. Very often a suggestion that he

can ship a higher or lower priced queen than was called for will meet with a ready response from the customer; but the main point is, he wants to know what to *depend on*, and he has a *right* to know. Mr. Tanton, in the article above, has given the reason *why* better than we can do it.

In a word, a queen-breeder should either fill the order promptly or send a card of explanation, telling when he can send. If a customer can not wait, he can cancel the order, and at the same time send elsewhere.

Perhaps in what we have said we may be throwing stones at our own glass house as well as that of the other fellow; but if so we will take the consequences.—Ed.]

MOVING TWO CARLOADS OF BEES OVER A THOUSAND MILES

BY R. F. HOLTGERMANN

Years of experience in moving bees to buckwheat as well as to favorable clover pastures and into winter quarters has given me a good deal of dearly bought information; but I have sometimes asked myself, "Is it worth while?" My friends sometimes say that I take the matter of moving bees too seriously; but my reply has always been that the only one who should undertake such work is one who looks upon this branch of beekeeping in a serious manner. Such a one must be willing to guard every point and make sure that every thing is right.

Last year I purchased a carload of bees in Michigan and brought them home with entire success. From past experience I have learned that there is a great difference between cars. For instance, some have that portion above the floor loose, so that it sways from side to side. Others have weak or uneven springs, so that while traveling they bump up and down continually, and, of course, disturb the bees unnecessarily.

On this trip I found that, in routing a car, the interests of the railway company and my own may not be the same. On this occasion, after about twenty-four hours, I was just about as far from Detroit as when I started, only on another line. If I had only known it, I could have gone by a much more direct and rapid route.

Early last winter I purchased a lot of colonies in eight and ten frame Langstroth hives from a beekeeper who lived in Missouri. The severe drouth of last year had practically destroyed all the clover in his section, so that there was no prospect for a surplus white-honey flow.

Of several railway lines equally available we selected the one which had the reputation of being officered by men who were courteous, obliging, and desirous of considering their customers; namely, the Chicago, Milwaukee & St. Paul; and our experience proved entirely satisfactory, as we heard neither oaths nor unbecoming language from any of the railroad officials. In ordering the car I stipulated for one in good condition, and I also specified the way in which it should be sent. I had a promise from the district traffic manager that, if I would wire him ahead of my arrival, he would see that the cars were picked up at Chicago and sent on by the first through freight from that point, so we had the promise of fast freight service all through. The distance to be traveled was about six hundred miles to Chicago, and from that point home a little less than six hundred miles more. As the through freight which was to take our bees left about 9:00 P. M., we had to do most of the loading the night before, as I load only at night. This delay of nearly twenty-four hours is quite a serious matter in warm weather, when the temperature is between 80 and 90 degrees in the shade.

THE KIND OF HIVES WE HAD TO DEAL WITH.

In the lot of hives that we purchased, there were eight and ten frame hives, several odd-sized hives, and some box hives. The bees were Italians, hybrids, and blacks. Over about three-fifths of the colonies we had a shallow super on top, half of which was covered with wire screen and the rest with a thin board. Wire screen also covered the entrances.

About one-third of the hives had a portico fastened over the entrance, four inches deep and the width and height of the front of the hive. This portico had a wooden top and sides, and a wire-cloth front. Then about half way between the entrance and the top of the hive there were two air-holes, 1½ inches in diameter, in the front wall of the hive, for ventilation during swarming time. These odd-sized hives, and the box hives also, had a hole the same size at the back, which we made to enable us to keep the hives closed at the regular entrances after we brought them from the distant points in the country, the three nights previous to loading. This hole in the back was covered with wire screen the night we loaded, and it gave considerable air. The bees in hives so prepared did the best of all, but it may have been because they were blacks.

The box hives had a 1½-inch hole at the top, covered with wire screen, and the

whole hive bottom was covered with wire cloth, to which air was admitted by two-inch legs nailed to the sides of the box. It will thus be seen that we had quite a variety of hives to experiment with.

LOADING.

We decided to make sure not to reach our destination on Sunday. In the first place, I did not want to unload on Sunday, even if I could secure teams for the purpose, which was unlikely. In the second place, in hot weather it would be a serious matter to be obliged to leave the bees twenty-four hours in the car after landing—much more serious, in fact, than a similar confinement before the start.

The three nights before the night that we loaded, we spent in moving the bees in from different points in the country, as mentioned above, and on the fourth night we loaded both cars, with the exception of some thirty-five colonies, which we left until the next night, as we did not leave until 9:00, and we knew we should have time to get them in before the train pulled out.

We had engaged two 36-foot cars for the trip. Forty-foot cars are better, even if they do cost a little more: for with the former one loses much more room than the mere four feet difference in length. A 36-foot car should hold from 200 to 225 colonies in ten-frame hives fitted with shallow supers on top. We loaded the hives so as to allow a narrow passageway between the rows, the whole length of the car. The hives with top ventilation had a two-inch strip laid above them to keep the next tier of hives that distance from those below. Of course there were some exceptions to this because of the unevenness of the hives.

Strong colonies in hot weather, when they are to be confined for a considerable time, should not be packed solidly side by side, as they give off considerable heat through the hive wall—a matter of considerable importance. (The combs in the hive should run parallel with the sides of the hive.)

Those hives having front ventilation, as with the porticos, were not placed in straight rows end to end, but staggered and held apart on all sides by strips of lath in the right place. In case of upward ventilation, the hives were located more directly in line; but even then laths were used at the back to keep the bottom-board, brood-chamber, and super together and to keep the hives apart.

ON THE WAY.

As there were two of us (my son, William Ivar, and myself) we thought we could take turns at night watching the two

cars; but in this we were mistaken; for neither one of us saw the inside of the ca-boose. The piles of hives, although well braced each way, and securely fastened together with laths, gradually moved sidewise in the long fast trip, and we needed all the spare lath and the assortment of nails, hammer, and lantern that each car had, together with our own most careful watching, before we could call every thing safe, and then we did not dare to trust the hives alone. During the three nights on the road we had only snatches of sleep on top of a couple of bare boards or hive covers.

Our other equipment consisted of a barrel of water, a pail, and a dipper for sprinkling the bees when they rushed about their hives with their tongues sticking out through the screen. We also had cotton batting for quickly stopping any little opening that might allow bees to get out. The good wife of Mr. Diemer had provided a generous supply of lunch. One can not depend on getting meals on the way.

I have found it good policy to recognize the fact that, with a jar of honey or a little cash, a railway man may serve my interests without wronging his employer. I do not believe in trying to bribe a conductor to let one ride free. We had an understanding as to the transportation of ourselves, and in Canada the railway company, by order of the railway commission, has to give free transportation for one man with each car any way; but as the train is made up, if the car is near the center of a long line of cars the slack of the train results in a tremendous and unavoidable jar to the car. We made up train at Chicago, and again partially at Detroit; and in both instances, as well as at the starting point, we secured a place near the engine. Again, at the stop-overs the bees are likely to get restless. While traveling, the air is circulating freely, and the bees remain quiet; but if the car is at a standstill with the sun beating on one side, and perhaps a building close by to reflect it on the other, and to shut off the air, the care-taker has need to be anxious, and a dollar is nothing to pay to be put in a breezy position.

SPEED OF FAST FREIGHT TRAINS.

The run to Chicago took only about 31 hours. From that point we were transferred to the Chicago Belt Line, which took our two cars to the Wabash Line, on which the one run from there to Detroit took a little less than sixteen hours. There we made up train again and reached home about 10:00 P. M.—four days from the time we loaded the first bees, or three days from the time we started.

The temperature when we started was between 80 and 90, and the air very warm and sultry. However, the brood was uninjured; and so far as I could judge, the brood-chambers did not show any effects from the confinement. This was contrary to my expectations, and must have been due to our faithful and frequent watering. Practically no black bees or their crosses were dead; but among the strong Italian colonies we found quite a number of dead bees. I told Mr. Diemer before we left that I expected this, as I have always noticed that Italians, when excited and unable to get out of the hive, may turn and sting one another to death. However, this was not a serious loss, and the trip was a decided success. It was not long after the bees were unloaded and the hives opened that we sought a well-earned rest.

Brantford, Ontario, Canada.

BEEKEEPING AND SCHOOLTEACHING

BY B. D. ROBERTS

In view of the now inadequate wages of the country schoolteacher, and the short term of school, it becomes necessary for the great majority of pedagogues to seek summer employment. At present, it seems, farming is the chief resort of those who do not "take the road," canvassing. But farming can not be carried on successfully during vacation alone. Thus, with the capital which is necessary, and the hired help which is often insufficient, the net proceeds are greatly diminished. Again, farming is open only to the men, while a great many of our teachers are women.

To such a somewhat cultured class of men and women there is open no more gentlemanly, lucrative, and yet recreative occupation than beekeeping. It is true, attention is required in early spring; but by the proper use of Saturdays and evenings it is possible to get along till vacation.

Beekeeping offers the ideal field for exercise of the teacher's scientific and experimental tendencies, and can not but be a success when attempted with his usual energy. The small capital, the comparatively sure returns, the unlimited field and the pleasant out-of-doors work, would surely appeal to the teacher were his attention but once attracted, and yet in none of the teacher's periodicals have I seen the subject mentioned, even in an advertisement. Nor is this a one-sided proposition. Teachers, as a class, represent some of the best mental energy in our land, and, with their organization and co-operation, which would certainly be extended to their

vacation pursuits, could they once be interested, they would not be such a despicable addition to beedom. Through their joining the ranks, the honey market would not be loaded, but rather livened, for they could and would, since it would then be of personal interest to them, create a great demand for honey among the younger generation, and at the same time do their duty by expounding the truth concerning this paragon of sweetness.

Knox, Ind., Aug. 8.

BAD TASTE CAUSED BY DEAD BEES IN HONEY

BY BENJAMIN C. AUTEN

When raw fruit is put up in jars for exhibition purposes, the experts in charge of the work spend weeks testing and changing the solutions in which they are preserved, so as to get the density exactly the same as that of the enclosed juices of the fruit to be preserved. If it is too light in density, the fruit will burst; if too dense, it will shrivel. This is because, when two fluids of different densities are separated by a membrane, the two fluids interchange until the mixture each side is of the same density, the less dense fluid going through faster than the heavier one.

In an article by a prominent honey-producer, published two seasons ago, the writer did not deem it necessary, when extracting, to keep the robbing bees which fell into the vat constantly skimmed out, taking it for granted, I presume, that the bees were clean and would do no harm if taken out at the end of the day or at the close of the job. How clean bees may be is not necessary to consider. As soon as a bee is in the honey it begins to shrivel, this shriveling being due to the escape of the body fluids through the membranous walls of the insect into the honey; and, though honey is a powerful preservative, it can not prevent the occurrence of chemical changes in the animal matter (though it may prevent actual decay) which can be of no advantage to the honey as a food.

As a matter of fact, I have bought extracted honey which had a flavor almost exactly analogous to the odor which comes from decaying bees in hives in which they had frozen out. Is it not possible that here arises a part, at least, of the popular prejudice against extracted honey?

Carthage, Missouri.

[It is not always possible to prevent some bees from being in the honey, but it is surely best to skim them out several times a day, at least.—Ed.]



FIG. 1.—A corner of A. B. Anthony's apiary near Sterling, Ill., showing his specially constructed hive.

THE ANTHONY "LEAF" HIVE

A Hive in which the Combs may be Thumbed over Like the Leaves of a Book, and yet Lifted out like the Loose Leaves of a Ledger, either from the Bottom or Top

BY H. H. ROOT

There are few beekeepers who, at one time or another, have not had visions of an ideal hive made according to their own notions; and manufacturers of bee supplies have had opportunities galore to buy

"patent rights" for making and selling these strange creations, destined to be of real value to no one. There are something over two thousand patents issued on hives, every one of which must have cost a hundred dollars at least; yet those that have really been of benefit to beekeepers in general can be counted probably on the fingers of one hand, without counting the thumb; therefore when we heard that Mr. A. B. Anthony, of Sterling, Ill., had invented a hive we were naturally inclined to believe



FIG. 2.—One of the hives turned over on end by means of the clamp, and the lower half of the brood-chamber with the bottom-board removed to allow the frames to swing from side to side like the leaves of a book.

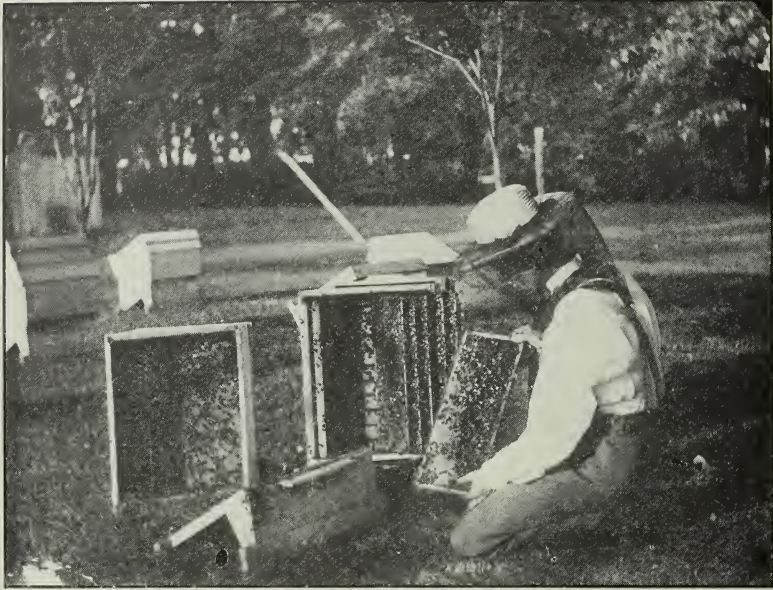


FIG. 3.—If necessary, any one of the frames may be lifted out without disturbing the rest.

that his hive, while it might be the hive of hives in his own eyes, was probably lacking in practicability from one standpoint or another; but after investigation we felt that it was worthy of being placed before the beekeepers for their approval or disapproval as the case might be.

For a good many years Mr. Anthony

has felt that the great drawback to modern beekeeping is the time and labor required in going through the present type of hives. He had found there was merit in keeping down queen-cells; and if he could get at them speedily, or in any way quickly ascertain what was going on in the brood-chamber, he could not only know the sit-



FIG. 4.—The frames may be handled from the top if desired, after the cover and supers are removed.



FIG. 5.—Cover removed, showing construction of super, wide frame for the sections, with separating slats nailed on one side, etc. The peculiar construction allows room for 33 sections in one super over the eight-frame hive.

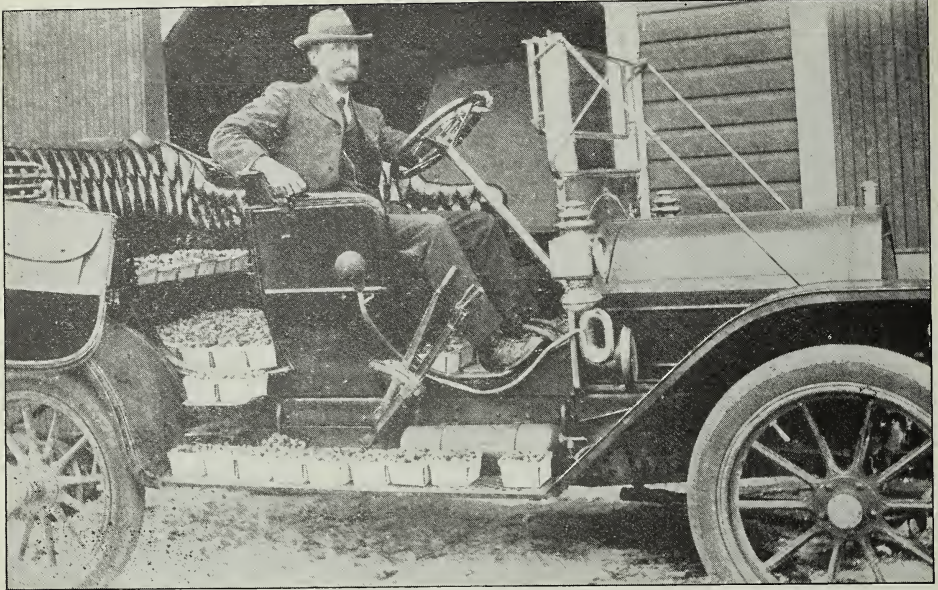
uation, but the better handle the swarming problem, and—"keep more bees."

With application to the problem for twenty-three years, Mr. Anthony finally perfected a modification of the Huber "leaf" hive in which he could turn the combs like the leaves of a book from one side to another, giving an opportunity to inspect each one thoroughly while at the same time, if occasion demanded, he could remove any comb just as easily as a leaf may be taken from the modern loose-leaf ledger. And he went still further, in that he adopted a construction that made it possible for him to remove the combs at will, either from the bottom of the brood-chamber or from the top in the regular way.

My first impression of his apiary of about one hundred colonies was that the hives had been located on insecure foundations, and that a strong wind had toppled most of them half over, where they remained, neither standing up nor lying down. On coming nearer the yard I made up my mind that Mr. Anthony had built his hives with steep floors, on the old theory that the moth-worms, however much against their will, if they fell off the combs would be unceremoniously rolled downhill out of the hive entrance. However, I discovered that some of the entrances (most of them in fact) were at the "top of the hill" rather than at the bottom. See Fig. 1, which shows a corner of the yard. Notice that the en-

trance of the hive at the extreme right is at the "bottom of the hill," while in case of the rest of the hives the bottom-board slants the other way, so that the entrances are at the top.

Take the hive in the foreground of Fig. 1 for example. Suppose one stood at the left of this hive and looked squarely at the end of it. He would manifestly observe that the end of the brood-chamber is a parallelogram, and that the corners are not right angles, as in case of the ordinary hive. Moreover, the brood-chamber case is made up of two halves, the ends of which are triangles as shown, instead of rectangles. Now, when Mr. Anthony desires to look over his brood-chamber, perhaps to find the queen, he uses a clamp somewhat similar in principle to the device described in GLEANINGS by F. H. Cyrenius, page 774, July 15, 1905. He quickly adjusts this clamp and tips the whole hive over without removing the cover or the super, and without disturbing the upper part of the hive at all. With the hive tipped over in this position resting on the clamp, it is the work of but a moment to remove the lower part of the brood-chamber case, to which the floor is attached, and lay it to one side as in Fig. 2. Then, without prying any thing loose, the combs beginning at one side may be swung over, one by one, so that both sides are exposed. While this work is being done, there is no danger of killing



Selling strawberries; the way E. B. Rood manages near Bradentown, Florida. See page 591.

bees, nor sliding combs past each other so that bees are rolled and crushed, and thus infuriated; and, what is more noticeable, the moving of the combs is as quietly done as the turning of the leaves in a book, and the bees show no tendency to bunch up on the combs, so that, if one is looking for the queen, there is no great mass of bees collecting at any one point, which makes it difficult to see the combs at all, and almost impossible to locate the queen without using so much smoke as to cause the bees to stampede.

If desired, the bees may be brushed from both sides of every comb without taking the combs out of the hive body at all—that is, without detaching them, for there is plenty of room for the brush on either side of the combs as they are swung one by one from one side to the other.

If Mr. Anthony wishes to take a comb entirely out of the hive, he can do so more easily than he could take a comb from an ordinary hive (Fig. 3), and he can put the combs back just as easily. The combs can not be slid back and forth in the hive in bunches of twos or threes; but with this construction there is, perhaps, not as much need of it as with the ordinary hive. If one desires, the cover and supers may be removed and the combs lifted out from the top as in Fig. 4; but Mr. Anthony finds that there are so many advantages connected with the other way that he rarely gets at his combs from the top.

I found in this hive a new method for spacing brood-frames, in that they are hung off the center, causing them, through gravity, to attempt to swing beyond the perpendicular. They are prevented from doing so, however, because of pins on the lower inside ends of the brood-case against which they lean, and are spaced. This construction affords little chance for sticking with propolis, and there are no obstructions like nails and staples to dull an uncapping-knife or to hitch and catch in removing frames.

I was told more was obtained in this hive than expected; for with much manipulation of it in periods of dearth of honey, no time as yet had occasioned the use of a tent; and it looks reasonable that the keeping of brood-frames from exposure at their top sides, where the honey is stored, and the keeping of all frames compact would aid much toward the avoidance of robbing.

Mr. Anthony runs for comb honey almost exclusively. The few extracting-supers that he has are exactly like his brood-chamber. The comb-honey super is shown in Fig. 5. Instead of the regular section-holders, wide frames are used, according to the Hand method, which entirely surround the sections. The foundation is also put in by J. E. Hand's plan, in split sections. The slats forming the separators are nailed on one side of the wide frames, as shown by the frame at the left lying on top.

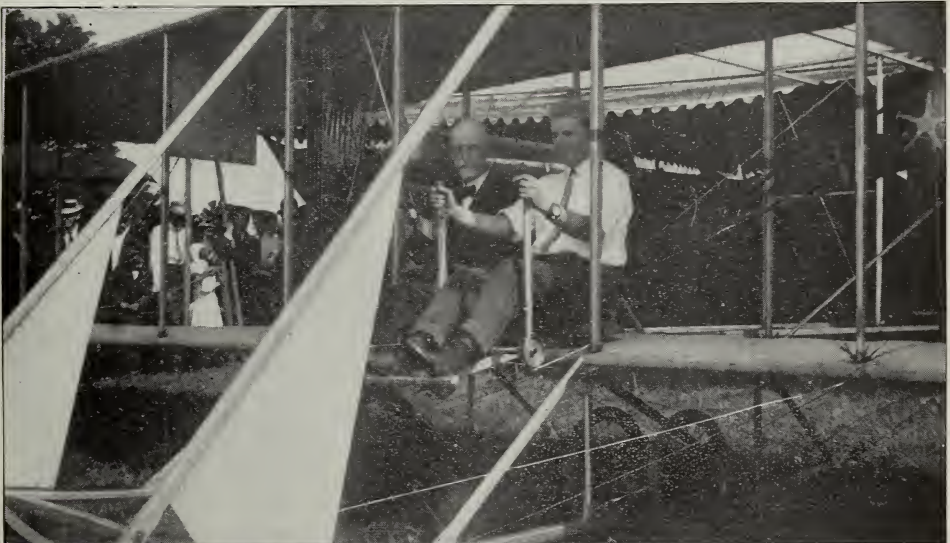
Owing to the fact that the top of the hive is not level, but slanting, the capacity of a ten-frame super is provided on the eight-frame hive. The construction of the wide frame and separator slats combined permit easy passage of the bees from one section to another at all points, so that one section is not divided from another by cross-cleats, thus separating the bees into small groups. The three sections are really more like one shallow extracting-frame, so far as the passage of the bees over and around them is concerned.

Notice that the super is a little longer than the hive. There is an object in this; for when the inside fixtures are removed, as in the fall, the empty supers are used as an outside winter case, three or more of them being slid down over the brood-chamber, making a tight double wall completely enclosing the hive itself, and leaving room for plenty of packing over the top of the brood-chamber.

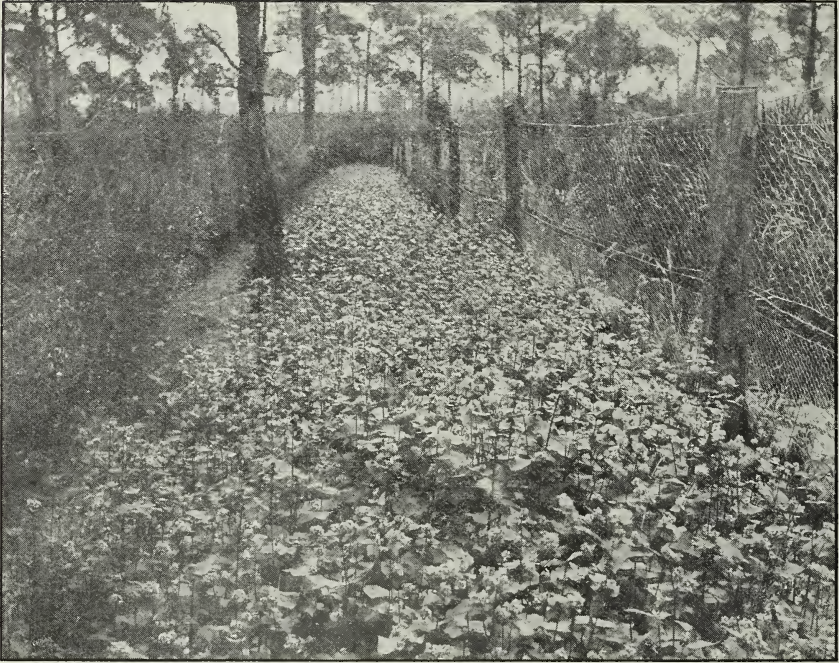
It will be noted that one side of the super is considerably higher than the other. Instead of starting in the center, the bees always start on this upper side because it is warmer. At such times and when with cool weather there is a slow honey-flow and the super is not uniformly worked, it is the labor of but a moment to turn the super around with the other side at the top so that the bees will be sure to complete that. This accomplishes the same result as is brought about by shifting the sections from the outside to the center of an ordinary super to be completed. By

reason of fewer propolis contact points, finished frames may be removed to avoid discoloration, or empty substitutes be given when the near close of a honey-flow does not warrant the giving of a whole super.

In No. 5 the entrance is at the bottom of the brood-chamber. In a number of the other hives it is on the other side, as shown in some of the other illustrations. It is possible to have the entrance at either side, and it takes but a moment or two to change from one to the other. Mr. Anthony has been experimenting considerably with the two positions for the entrance, and has not entirely decided whether either position is best suited for all occasions; or whether one position is better at one time, and the other for some other time of the year. There are certain advantages in both; and it is probable that, at certain times of the year, one position would be preferable to the other. Of course, if the change were made the hive would be turned around, so that the entrance would always be in the same direction. Notice that the brood-frames, instead of being at right angles to the entrance, as in the ordinary hive, are parallel to it, as in the hive used by Mr. Allen Latham. The sections, moreover, are not parallel to the brood-combs, but lie crosswise. Another decided difference is that the bee-space, instead of being over the top-bars, is under the bottom-bars, so that there is no crushing of bees in case the brood-chamber or super is set down on any thing flat, helping also to



An up-to-date Wright Brothers flying-machine. The persons shown in the cut are your humble servant, A. I. Root, and Mr. Oscar Brindley, the aviator See page 593.



A strip of buckwheat in A. I. Root's Florida home. See page 593.

keep surplus removals covered and protected from robbers, with the shifting found in all apiaries.

If more than two comb-honey supers were stacked upon the hives there would be danger that they would topple over;

but bees do scarcely any work in a comb-honey super three stories high, and, besides, such honey should be removed as soon as finished, to be nice and white. The extracting-super, instead of setting off at an angle like the comb-honey supers, stand vertical, so that any number of them can be stacked up.

The cover is a very substantial one, being made of $\frac{7}{8}$ boards halved together, so that they can come and go with the shrinking and swelling of the wood, and covered with tin painted on both sides.

It can not be denied that a hive of this pattern would enable any foul-brood inspector to make an examination very quickly; and now that disease is creeping over the country at such an astonishing rate, this feature alone would certainly be quite an advantage. But there are always some disadvantages connected with a radical departure from standard lines.

I may be wrong; but in my opinion there are two serious disadvantages. One is that such hives could not be used interchangeably with any other standard hive on the market, as the covers, bottom-boards, brood-frames, and, in fact, all the accessories are either odd-sized or odd-shaped. The second disadvantage is that these hives, owing to the greater number of parts, and the angular shapes, are not



A. I. Root's windmill, tank, and tower in Florida.



FIG. 1.—Mr. Rood's "lightning operator." The picture gives you a good glimpse of the celery when ready to be harvested.

only much more complicated and harder to put together, but more expensive. Just how much more expensive I can not say at this time. Mr. Anthony, however, says that all good things come to the front, and he thinks that progressive beekeepers with a future would be willing to pay for the added cost. The hive is fully patented, the claims covering both the design and details of construction.

SHORT CUTS FROM THE PRODUCER TO THE CONSUMER

BY A. I. ROOT

For several years past I have had quite a little to say to our readers in regard to Mr. E. B. Rood. I have told you something about how nicely he manages as superintendent of our Sunday-school on Sunday, and I have also told you quite a little about his skill in market gardening. He was one of the first to demonstrate that strawberries can be grown successfully in Manatee Co.; and now for many years he has been growing strawberries by the acre, more or less, and marketing all or nearly all in his own locality. I do not mean to say that he peddles them from house to house, but he runs them into towns every morning with his automobile, and gets them into the hands of

the people for dinner within an hour or two after they are picked from the vines. While his horses are busy plowing and cultivating in the fields, the automobile takes the berries quickly and safely to the grocer, where they are sold out and consumed, usually the very day they are picked. As I have explained, Mr. Rood also does considerable business in the way of selling real estate; and after the strawberries are unloaded he takes time to carry people who come from the North around the surrounding country, and through his own beautiful garden, straw-



FIG. 5.—A heap of boxes ready to be filled; also trimmers and packers at work.



FIG. 2.—Trimming the celery and packing it in boxes.

berries, celery, sweet and Irish potatoes, and other crops according to the season. As a matter of course, everybody does not succeed as my good neighbor Rood does; and some are so unkind as to intimate that his beautifully kept gardens are more to help him sell real estate than to make a profit on his crops; but as he is located just across the street from my own five acres, I think I have an opportunity to know something about what it costs him to keep his place in such beautiful trim and what he gets for the stuff he sells. And, by the way, it just

now occurs to me that this is the biggest kind of a chance for any of you to sell your real estate, if you happen to have more than you need, or are getting too old to take care of a farm. The best advertisement that can *possibly* be gotten up for a piece of land is to put on it a few acres, a single acre, or even a part of an acre, in "high-pressure" up-to-date gardening. The books and periodicals now devoted to rural industries will keep you posted as to the wonderful things being done along these lines in this year of 1912.

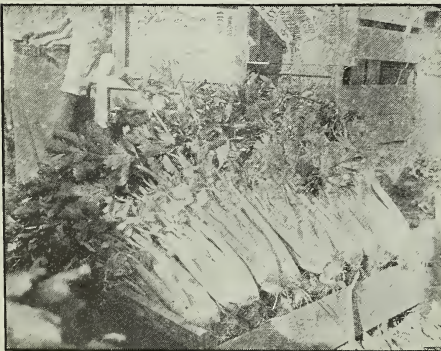


FIG. 3.—A glimpse at "short range" of the trimmed bunches ready to be packed in cases.

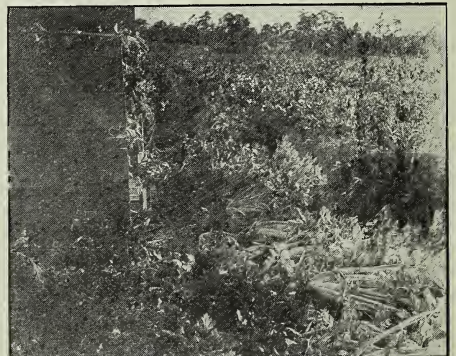


FIG. 4.—A glimpse of the celery rows and the stalks after cutting.

THE WRIGHT BROTHERS' FLYING MACHINE IN THE YEAR 1912. SEE P. 589

BY A. I. ROOT

Some time ago a few of the leading business men of Medina became enthusiastic over the idea of having a flying-machine exhibition on our fairground on the Fourth. Correspondence with the people who send out flying-machines brought out the fact that it would cost a good deal more money on the Fourth than later during fairtime. Indeed, the demand was so great for machines on that special day that the best arrangement our people could make would be \$1000 for a man and machine to make three trips—the man to remain in the air not less than 45 minutes all together. The question was whether our county of Medina would turn out in sufficient numbers at 25 cts. admission to make up the thousand dollars. But it transpired that something like 10,000 people were on hand to witness the flights. The flights were a perfect success in every respect. The operator handled his machine with almost the ease that a bird in the air flaps its wings. He went up something like a quarter of a mile, and went off over the country for two or three miles in different directions—executed a variety of sharp turns, dives, etc.

The machine, as you see, p. 589, is made to carry a passenger; but as it requires a longer space to get off the ground with a passenger than our fairground afforded, no attempt was made to carry a passenger. As I was close at hand, however, during all the flights and preliminaries, a request was made that I occupy the vacant seat while the machine was standing on the ground, and have a picture taken of myself and Mr. Brindley. Perhaps I should explain that the Wright Brothers manufacture the machines, but they have nothing to do with renting them out for fairtime, exhibitions, etc. All correspondence in regard to this matter should be directed to The Mercurial Aeroplane and Entertainment Co., 803 Central National Bank Building, St. Louis, Mo.

You will notice the operator has hold of two levers, besides other levers operated by the feet. As it would be inconvenient for him to take his watch out of his pocket, he has a pretty little timepiece strapped to his wrist, as you will notice.

I had a long talk with him during the day, and he entirely agrees with me in thinking that there is but little danger of loss of life if the instructions furnished by the Wright Brothers are strictly complied with. The deaths of at least a part of the

aviators have been because they became excited, and wanted to make a display that was evidently unsafe, or started out when the weather was unfavorable. Somewhere out west during a fair, I think it was, the aviator declared it was not safe to undertake the flight just then. But the crowd hooted and jeered, called him a coward, and said "the machine would not fly anyhow," etc. He was a young fellow, and finally, in desperation, he said he *would* fly, even if it broke his neck, and he did. He was killed almost instantly. That crowd was *guilty of murder*. In another case a young fellow undertook to exploit "sliding down hill on the air," at a breakneck speed, expecting to turn the machine up again when he neared the ground. This time, however, he had a heavier machine than he had ever operated before. He failed to calculate the consequences of a sudden change in direction and the momentum occasioned by the increased weight. The consequence was that the sticks of wood and wires of steel would not stand the shock. The machine was crushed, and he was killed. In one or two cases I have seen the operator smoke a cigarette before starting, to give him courage (?); but I am glad to say that Mr. Brindley, who sits by my side, never touches tobacco nor stimulants of any kind whatever. I know there is quite a mental strain on the aviator because on one occasion, owing to a little gust of wind at an inopportune moment, he failed to get off the ground. On the flight just before this, one of the wings touched a telephone wire. Had the wing been an inch or two closer to the wire the result would have been a smash-up and very likely death to the operator. Well, after this failure to get off the ground he went and lay down on a cot in the tent, and rested some fifteen or twenty minutes while his assistants got the machine back to the starting-point. God forbid that any more lives should be sacrificed through want of care, or a disposition to take risks in showing the wonderful things that this new vehicle or transporter is capable of.

SOME GLIMPSES OF OUR FLORIDA HOME SEE P. 590

BY A. I. ROOT

First, we will consider the windmill, purchased last fall of Sears, Roebuck & Co. Let me explain that, although we are in the region of artesian wells, these wells are quite expensive, and the water is not only sulphurous but hard; while the surface wells, say eight or ten feet deep, or even

less, are mostly soft water, as they are fed usually by the abundant rains, which pass very freely through the sandy soil. Some of these surface wells are only five or six feet deep, and seldom fail to furnish water, but in limited quantities. Many people have spoiled their soft-water wells by going deeper. Of course they get a more abundant flow by going lower, but the water usually becomes hard. On this account we decided to have a windmill with tank above. The well was made by putting down three pieces of sewerpipe, 24 inches in diameter, each piece being 30 inches in length, and so far we have had plenty of water that makes a suds of soap fully as good as rain water. In fact, Mrs. Root says it takes less soap with the well water than with the rain water; but this does not mean that the water is absolutely pure. It seems to contain some mineral that acts something like soda or borax, really helping the soap to dissolve and cleanse. This surface water, however, I feel sure, is not safe for drinking, although the people generally, I believe, drink it without any hesitation. I have always used rain water right from the clouds. If I could not get this I would boil well water before drinking it. I am pretty sure I am right in taking this stand, for there is quite a little typhoid fever at some seasons of the year in that region.

The windmill shown is 40 feet high, just a little above the pine trees, as you will notice. The ten-barrel tank is twenty feet from the ground. The whole apparatus, from Sears, Roebuck & Co., cost, I think, about \$85.00; but as I had a self-oiling attachment, and also an automatic arrangement to stop and start the tank when nearly full of water, the expense was a little over \$100. This latter arrangement makes the mill stop of itself when the water is within a few inches of the top of the tank. When the water is drawn off, the mill starts of its own accord, thus keeping the tank always full without supervision, but never running over. The self-oiling arrangement enables one to oil every part of the mill by simply pulling a wire; and the mill can be stopped at any time so that it will stand perfectly still. I insisted on this, because I was not willing to submit to a squealing and screeching windmill to annoy my neighbors. Wesley and myself put the tower and mill together; and with the aid of a pulley and tackle, and a couple of other colored men, we raised the tower and got it up quite easily. The anchor at each of the four corners was made of a common barrel sunk in the ground, and filled with concrete.

The bolts that hold each of the four corners go down into the ground four feet, with a plate of iron at the bottom anchored also in concrete. A pipe connected with this elevated tank goes through all of our poultry-yards, and furnishes drinking water, as I have explained. The ornamental wire fence of which you get a glimpse runs in front of our home on the street.

BUCKWHEAT IN FLORIDA.

The strip of cleared land forming a sort of lane that you see in the picture was put around our first acre in order to prevent forest fires, during a dry spell, from encroaching on our home. This buckwheat which you see grows without any fertilizer except the droppings from the poultry, and there is not very much of that. The plants in the foreground are the Japanese buckwheat; further down, the silverhull. In our Florida sand the Japanese comes up first, and was very much ahead of the silverhull all through the season.

The picture also gives you a glimpse of the way we make our fences to restrain the poultry. The lower strip is one-inch mesh and two feet wide, and goes down into the ground so as to prevent wild animals from digging under. We did not get it down quite deep enough, however, for we found holes where they got through in several places. I think that, if the netting were to go as much as six inches below the surface, there would be very little danger of animals digging under. For the protection of the fowls at night on their roost I would, however, go a little deeper, or, perhaps, better still, turn the lower edge out horizontally about six inches. You will notice the barbed wire where the inch netting and the two-inch meet. There is also a barbed-wire strip along on top of the post. This barbed wire prevents unruly cows from making their way through the netting. Down along the creek we have another barbed wire midway between the upper and lower strands.

In regard to growing buckwheat for grain as well as food for bees, the objection is that, where you get the ground sufficiently fertile to grow a crop, you can grow other things that will bring much more money than buckwheat, such as potatoes, celery, etc.

SOME GLIMPSES OF NEIGHBOR ROOD'S CELERY GROWING.

I have said so much about Mr. Rood's success with celery in past numbers that I shall need to explain only briefly the pictures.

On one of the rows you get a glimpse of the heavy paper that is now used to tie the plants up for bleaching. The colored

man in the picture ("lightning operator") is cutting off a plant just below the ground on a row where the paper covering has been removed.

The picture shows you colored men and women at work. These people go in gangs from one celery-field to another. They are well trained for the work, each one having his appointed task, so all goes along like clockwork.

By turning the pictures around, you can read the trademark on the ends of the boxes from Mr. Rood's plantation.

The material for boxes for celery, oranges, and other Florida crops, is prepared in great factories scattered all over Southern Florida. The ends of the boxes are nailed up by machinery, so that when they get on the ground all that has to be done is to nail on the thin boards so as to make a box. Here in the North I believe it is the custom to wash all celery, especially where it is grown in the muck, before packing. In Florida they say it ships very much better without wetting at all. The sandy soil shakes off so easily that there is very little left after shipment.

Permit me to say in closing that, like corn, potatoes, and almost every other crop, there are lots of fields of *poor* celery all over Florida—crops that will not sell for enough to pay the cost of growing; but I am glad to say, however, that the Florida people, like those here in the North, are, as a rule, progressive. Every year sees more and more *good* farming and less and less *poor* crops. The "boys' corn club" is doing a lot to get their fathers out of the old rut.

SHADOWS FROM THE PAST

BY D. M. MACDONALD.

"I can call shadows (or spirits) from the vasty deep," says one of Shakespeare's characters; and another replies, "But will they come?" Well, I will call up from the long gone by past a few "characters," dim and shadowy they may be, but interesting withal, and perhaps they may teach even moderns some useful and instructive lessons in bee lore.

Thomas Hill issued the first book on bees in the English language, "A Profitable Instruction on the Perfect Ordering of Bees," in 1579. It contained little from his own pen, being mostly translations from the works of ancient writers, from Aristotle and Virgil down. But it marked an epoch in bee literature. American beekeepers might note the following: "To check swarming, skilful practicers will cut

off the king's wings, as then they will not attempt to fly far abroad." "Cut out," he advises, "all corrupt combs, and, if necessary, feed bees to enable them to renew the loss." "A beekeeper should entreat his bees by a gentle manner," a good equivalent to our modern advice, "handle gently." These early hives were made much as they were in America in comparatively recent times. "Take your hives of the wood of a hollow tree or of light boards made square"—the counterpart of your bee-gums and box hives. "In all cleanliness and sweetness, bees are much delighted," reads as if quite modern. "Gilding" was a process almost equivalent to depriving bees of their surplus takes, leaving the brood-nest intact. And they used an intimidant to aid in the process: "Put under the hives some linen rags, making a *smoake*." Hill was a good judge of honey. Here is his first prize sample: "It must be very clear, of a golden colour, and of a pleasant and sweet taste, cleaving somewhat, but not stiffening or waxing hard together."

What matters it that master Hill calls the queen a king? that he tells us bees take "45 days" to hatch? that they "sit on their young like as a hen doth on her eggs?" that bees "marvellously stay and guide themselves by carrying small stones in their legs?" that "drones are imperfect bees who have lost their sting?" and many other "whimsies"? Hill had grit in him, and gave us a *book*, "a thing rare and seldom seen in the English tongue."

Edward Southern "brak the ice," as Purchas tells us—that is, he gave us the first genuine English bee book, produced from the author's own experience, for he wrote from among the bees. He was, indeed, a practical beekeeper. His advice to beginners shows this: "Goe orderly to thy bees and thou shalt finde them gentle as sheepe." He had no belief in the efficacy of "tanging" with a basin, pot, kettle, or frying-pan. Cleanliness he rigidly inculcated. He was an advocate of powerful colonies, and believed in having all "justie and stronge." When stung, he advises, "Take a sage leafe, cabbage leafe, or a piece of dock leafe; rub it in, and the paine will soon cease."

John Levett, 1600, claims to have had an "unparalleled experience," and that he can "resolve all doubts whatsoever." He had the true beekeeper's instinct, as he considered working among his bees more a pleasure and delight than any "irksome or laboursome toyle." He writes for country people, and especially the women of the

household, who were then the active bee-keepers of the family. He loved a bee-talk as he loved nothing else, and declares, "to talk of bees to those who love them not is like music played out of time, and harsh, or a pleasant tale to the sorrowful." He joined small lots, "as when there is a great companie they generate heat better, and therefore thrive better." The chief source of honey he looked on as a thick and gummy dew made by the influence of the "starres," and falling from heaven. He believed in a "master-bee," and tells us of the "generall guard of souldiers" attending him, and also of "commanders, generalls, lieutenant-generalls, marshalls, sergeant-majors, colonells, and captains." The master-bee had a sting, but more for ornament than use. He practiced driving bees. His manner of killing off these bees was a barbarous one, being no other than crushing them to death beneath a broad board.

Rev. Charles Butler (1609) was one of the princes of beedom, and his work is a classic for all time. He himself predicted that it would "travel to the most remote parts," and this has been literally fulfilled, as no work is more sought after than the scholarly "Feminine Monarchy." Purchas said of it, "Butler wrote singularly wel," and I fully indorse the statement. The very title of the book shows he was ahead of his generation. If he did not fully realize that the queen bee is the mother of the hive, he tells us plainly that young queens were begotten of old ones, and that the drones "serve for generation and for the preservation of their sweet kind." He was thus at least on the verge of comparatively modern discoveries. He used a "hood of bouldering," the original of our bee-veil. He taught that the best time to manipulate is when the bees are out in the fields; and he advised handling them gently. "For cleanliness and neatness," he says, "they are a mirror to the finest dames." Further, "Among all the creatures God hath made for the use and service of man, in respect of great profit with little cost, bees are the most to be admired; for with little care which need be no hindrance to business, but, rather, a delightful recreation, they bring in a store of sweets fit for meat and medicine." Of this "quintessence of all sweetness," he has much to say. The best prize samples should be "clear, odoriferous, yellow like pale gold, sharp sweet or pleasant to the taste, and of mean consistency." All honey, however, was not like this. "Some make one work of all—pounding and compound-

ing honey, wax, bees, and works all together; then with a press they violently wring out all that will run."

In 1618 William Lawson published "Country Housewives' Garden with the Husbandry of Bees, being the Experience of 48 Years' Labour among the Bees." He counts no orchard or garden complete without some hives of bees; and no housewife is a good one "that wanteth bees and is not skilful in handling them. They yield, rightly managed, great pleasure and large profit. Stings are not to be apprehended, because they know their keeper, who ought to be familiar with them." Many use smoke in handling bees, but he utterly disliked its application. Ringing in time of swarming is a "meare fancy." Violent handling of them is "simply evil." Bees, of all creatures, love cleanliness and peace; therefore handle them leisurely and quietly and they will not hurt. A drone-trap was used; and for mice, then very troublesome, the best remedies are "cats, rats, traps, bane, and watching. Contract entrance to exclude such vermine; but do not stop up close, as bees require a flight in winter."

"The profit of bees is great." He does not give the price of honey; but it must have been high, for he asserts that forty stocks will yield more profit than forty acres of ground. The sisterhood should be interested in Lawson's work, as it was written specially for the gentle sex, and he all but asserts that a good "bee woman" must be a good housewife.

Following chronologically we next come to Richard Remnant, 1637, who insists on the "great profits" to be derived from bees. Apparently he found the pursuit a paying one, as he asserts he bought and sold to the value of a thousand pounds a year. In uniting and handling bees Remnant used smoke. He unhesitatingly sets the queen down as a female and the drone as a male. He, however, confounded pollen and wax, as most writers did long after his time. "The wax is gathered of the flowers or bloomes." Pollen was then looked on as "animable matter" from whence the bees were generated. The bees gathered it, carried into the cells, whence the king dealt with it, and it became a "maggot" out of which workers were evolved. He fed by cutting out a comb from a full hive over-supplied, and inserting it in a poor hive. "In all these operations, still the bees with smoke (but not too much). Be not fearful, but patient and gentle, and in time with experience you will become readie in all these things," which is sage advice even to-day.

Remnant's book is specially interesting because it contains the first precise reference to that fell scourge, foul brood. Here is the extract: "Some putrefaction sticks fast in the cells, and is of a brown or deepish yellow colour, which should have been brood, but came not to perfection. Other putrefaction looketh somewhat white, and was a brood, but afterwards took cold, and so was chilled, and perished before it came to maturitie." Chilled brood and foul brood!

Banff, Scotland.

MORE ABOUT THE IMPERIAL COUNTY ORDINANCE

Two Other Counties Have it in Force

BY A. F. WAGNER

As you have given Mr. J. E. Ross, of Brawley, Cal., space in your paper for his article in the July 15th number I think it no more than fair that you accord me the same privilege.

In the first place, I want to eliminate all personality. In order to enlighten the readers of GLEANINGS I will give them a brief history of the situation here.

In 1909, when I was appointed inspector of apiaries this county contained somewhere in the neighborhood of 5000 colonies of bees. Bees were being brought in from other parts of the State, without any inspection. In some cases the shipments were accompanied with a certificate where the inspector of apiaries never opened a hive. This was done in order to cover the State law, I understand.

When I explained this situation to the beekeepers a committee went before the Board of Supervisors and asked for some protection. The supervisors suggested that I might hold them up at Imperial Junction for inspection. Imperial Junction is no place to inspect bees, it being away from the water and on the barren desert. No bees were inspected there.

During the year 1911 several shipments of bees were made into this county, and through these shipments more foul brood was introduced. In September, 1911, I met Mr. Pleasants, the inspector of apiaries of Orange Co. I explained the situation briefly to him. He told me Orange Co. had an ordinance that would suit our case, and said he would send me a copy of it. I handed the Imperial Valley Beekeepers' Association one of them, not for endorsement, as Mr. Ross would have you believe, as we were not ready for that then, but for their consideration. At the close of

the meeting they appointed me a committee of one to secure signers to a petition to be presented to the Board of Supervisors. As you no doubt know, this is a large county; and for me to see every beeman and obtain his signature would take considerable time—in fact, more time than I could spare—so I sent each beeman a card, asking him to attend a meeting, stating the purpose. At this meeting the whole county was represented, and a committee of three was appointed to obtain signers to a petition to be presented to the Board of Supervisors for the enactment of this ordinance. Eighteen signed this petition at this meeting. When the petition was presented to the Board it contained 48 names. This petition is on file at the County Clerk's office now, and open for inspection. The Board passed this ordinance, and it became a law Feb. 1, 1912, and is in force now.

WHAT WERE THE RESULTS?

Upon its passage I immediately notified all the inspectors, and also general freight agent of the railroad companies. In the latter part of February a carload of bees was shipped into Imperial from Los Angeles Co. Working under Sec. 7 of said ordinance, I asked that these bees be moved to Imperial Junction, or three miles from any other yard, and be held thirty days, not to exceed sixty days, in quarantine, or to remove them from the county. I am convinced that I was fully within the bounds of the law. This was done for two reasons—first, an irregular certificate, not giving name of proper owner and date of inspection; and, second, shipped from a district where European foul brood was known to exist. Immediately a great howl was raised—not from beemen, however. All kinds of tactics were resorted to, from threats of personal injury to large suits of damage. I was determined, however, to test the ordinance on this case. Seeing that I could not be bribed nor coerced, while I was away (during the night) influence was brought to bear somehow on the supervisor of that district so that he himself took the responsibility of having the bees released, and the District Attorney asked me to work under Sec. 2 of said ordinance. Now, I am no attorney at law, and do not pretend to understand all the ordinance; but I surely think the framers of this ordinance had legal advice, as three counties now have such ordinance in force—namely, Orange, Riverside, and Imperial. I also understand several other counties have similar ordinances. So far as I know, it has never been tested in court. So far

as using it as a bluff, I will say that, out of four carloads of bees that were shipped into the county, not one case of foul brood was found.

I have the highest respect for the inspectors of apiaries of Riverside, Los Angeles, Orange, and San Diego counties; and this ordinance was not directed against them as regards the 2000 colonies kept out. I am satisfied they were not able to get a clean bill of health from the above inspectors.

I do not care to take up any more of your space; but as to Mr. Ross' accusation it was merely a local affair, and I am satisfied to leave the question to the beekeepers of this county.

El Centro, Cal.

REPORT OF THE MISSOURI STATE CONVENTION

BY J. F. DIEMER, SEC.

The tenth annual convention of the Missouri State Beekeepers' Association was called to order at 4 o'clock P. M., August 1, by President J. W. Rouse, at his home in Mexico, Mo.

After prayer by the president, the usual formalities incident to such meetings were proceeded with, after which the remainder of this session was occupied with a general discussion of ways and means of increasing the membership and securing the co-operation and interest of the beekeepers of the State in the work of the association. Excellent and helpful remarks were made by J. W. Rouse; T. C. Wilson, Sec. State Board of Agriculture, Columbia, Mo.; C. P. Dadant, Pres. Illinois State Association, Hamilton, Ill.; R. A. Holekamp, St. Louis; M. E. Darby, Springfield, Mo.; W. L. Kent, and E. C. S. Miller, Mexico; E. B. Gladish, Higginsville; Irving F. Long, Marcelline, Mo.; J. F. Sandker, Woodlandville, Mo., and others.

The evening session was called to order at 8 at the same place; and on motion it was ordered that articles 4 and 5 of the constitution be changed so that fifty cents should hereafter be the annual dues to the association instead of one dollar.

The matter of offering premiums at fairs for apianian products was taken up and discussed; and it being shown by the president of the Illinois State Association that the following States offer the following amounts viz., Minnesota, \$1062; Wisconsin, \$500; Oklahoma, \$311; Illinois, \$453; Kansas, \$290; Indiana, \$248, and Missouri \$148, the secretary was instructed to investigate and find out what could be

done toward increasing the amount of premiums offered in Missouri.

On motion the secretary was instructed to take up the matter of the advisability and cost of incorporating the State Association.

On motion the secretary was instructed to cast the entire vote for the following as officers of the Association for the ensuing year: President, J. W. Rouse; Vice-president, R. A. Holekamp; Secretary-Treasurer, J. F. Diemer.

The third session was called to order at 9 o'clock on the morning of August 2, and many matters of interest were discussed, chief of which was the question as to whether our association should adopt the constitution and by-laws of the National Beekeepers' Association. Very little enthusiasm was shown for it by the members, and considerable doubt existed as to the advisability; but on final vote it was adopted.

M. E. Darby, State Inspector of Apiaries, made a report of his work. He made very emphatic the possibilities and impossibilities under the present foul-brood law, with the present limited facilities and means at his command, and convinced his hearers that it would be impossible for one man to do the work required to be done to stamp out foul brood, which exists in nearly every one of the 114 counties of the State.

At noon the convention adjourned.

How to Transfer and When

In my small apiary I have four old-time gums which I wish to replace with modern hives. What is the best way to move the bees from the old hive into the new one? As all of my bees are hybrids, I wish to get Italian queens.

Tivoli, Tex., June 26.

W. C. WIESE.

[The very best time of year to transfer is in the spring during fruit bloom, for at that time enough honey will be coming in to prevent robbing, and the bees will have a chance to build up again for their main honey-flow. Colonies can be transferred at any time of the year, although it is, of course, well to do the work early. But if a time is selected when the honey is coming in so that there will be no tendency to rob, it would be entirely feasible to do the work almost any day during the season, providing it is not cold enough to chill the brood, while the work is in progress.]

We always advise the Heddon short method of transferring bees, described in our ABC and XYZ of Bee Culture.

It is pretty late to transfer this year; but still if you are careful to select a time just before the main honey-flow is over, we believe you can transfer all right and get the bees built up in good shape for winter. The fact that your winters are not as severe as ours up here makes it possible for you to transfer almost any time during the summer. You can requeen at the same time you transfer by destroying the old queen as she runs with the rest of the bees into the new hive, which you can do very easily, as it is not at all difficult to find her as she runs in, especially if you spread a sheet in front of the hive on which to shake the bees, allowing them to run up into the new hive. After destroying the old queen you can introduce the new one by the regular cage plan described on the covers of the mailing-cages.—E.D.]

Heads of Grain from Different Fields

Answers to Questions from a Beginner

1. Are supers left on all winter?
2. If the life of a bee is eight weeks, how can they live all winter?
3. Will chickens eat bees?
4. What are bees doing around water?
5. Must all hives be fed a month before they winter? When should this begin in the vicinity of Philadelphia?
6. What is the best method for wintering bees in double-walled (Buckeye) hives?
7. Should only eight frames be left in a hive of ten frames for winter? What should be done with the remaining frames if they contain brood? Logan, Pa., July 9. BEGINNER.

1. Supers should not be left on the hive during the winter. Comb-honey supers especially should be removed as soon as possible after the honey is capped over. With extracting supers it does not make so much difference; but they should all be removed before cold weather sets in.

2. Bees live longer than eight weeks when they are not working.

3. It has been said chickens will often eat bees, but we have never seen them. In any event we are convinced that they rarely do. A number have reported that their chickens ate drones only.

4. Bees require considerable water, especially when rearing brood; and if there is no water near the apiary an artificial watering-place should be provided. An old tub is satisfactory, although you should use a float or chips to prevent drowning.

5. It depends upon circumstances somewhat as to whether colonies need feeding in the fall; but if there is no honey-flow in the late summer to keep the queen laying so that there will be enough young bees to go into winter quarters, feeding should be resorted to. Some feed early in the fall, while others wait and feed thick syrup just before the cold weather comes on. A combination of both plans is often to be recommended.

6. It is impossible here to go into a full discussion of wintering, and we would refer you therefore to our booklet, *The Buckeye Beehive*. Make sure, however, to have good strong clusters made up of young bees largely. Also make sure that the stores are ample, and well arranged in the hive.

7. A very large colony might occupy the full ten frames; but it would be better to use a chaff division-board and only eight frames if the colony is not quite as strong as it should be. Late in the fall there is very little or no brood, and you can easily take out a couple of combs that contain no brood and the least honey to make room for it. —Ed.]

Trouble with Twin Mating Nuclei; Why do the Bees Ball their Queens?

You would oblige me greatly by giving me a little advice in connection with operating the twin nuclei. No doubt your men have found out by experience when is the best time of day to work with the little clusters. I find they are repeatedly balling the queen when opened during the afternoon; and in accordance with advice in the A B C book I made them up with bees from a black colony from another yard. These same black bees are most ferocious, and sting the hands and wrists continually. I don't use the smoker; but it is almost impossible to get along without some smoke. They won't let your hands come near the frames. Of course, as yet I haven't had the feeders in the hives, for I haven't had them. Perhaps that will keep them more content. Gloves make it almost impossible to handle such small frames well.

Are the ventilating holes supposed to be left uncovered by the tin? The bees from the other half of the hive are always poking into the next compartment, and no doubt worry the inmates—especially so with the extra strong nuclei. They spend half their time outside the entrance, bunched. Kirk's Ferry, Que H. H. SELWYN.

[Your difficulty, we think, is because you used a bad strain of black bees. If you had used gentle Italians or Carniolans you ought not to have had any trouble, providing you did not put too many bees in each side. We aim to put

about four ounces of bees in each side; that is, not much more than 1200 individuals. We should judge from what you write that you are putting too many bees on a side. We have no trouble, or very little, any way, from bees balling the queen, no matter what time of day they are opened.

The ventilating holes on the end covered with metal are simply to give ventilation. Ordinarily they should be kept closed, except in extremely hot weather, and always when robbers are inclined to cause trouble.

Another solution of your difficulty is that your covers do not fit tightly on top of the nuclei. If the bees can get from one side to the other you will have balling, no matter what time of day you open up the boxes of bees. We use an enamel cloth tacked to the center division board in such a way that one side or the other can be folded back and expose only the bees of the one side. Of course, it sometimes happens that the one side is queenless and the other has a laying queen, so that the bees of the queenless side will go over to the side that has a queen. You will generally find that the strength of one side or the other will vary according to whether it is queenless or has a queen that is laying.

We do not find any instructions anywhere in the A B C and X Y Z of Bee Culture recommending the use of black bees for the mating nuclei. You ought to use something that is pure stock—either pure Italians of a gentle strain or pure Carniolans that are equally gentle, or, possibly, Caucasians. The ordinary black bees or hybrids of this country are too cross for this purpose, and we should judge the black bees you refer to must be an exceptionally cross strain with some yellow blood in them; for bees that sting as you describe are not fit for twin mating nuclei. We would brimstone them, and start with a fresh lot of gentle bees; for you never can succeed with bees as cross as that.

You can operate twin mating nuclei any time of day when it is warm enough, when robbing is not allowed to get started. When there is a dearth of honey on we work them under cages.—Ed.]

A Honey-bound Brood-nest; How to Let the Bees into the Super

The brood-cells of our colony are nearly filled with honey, and it does not look as though there were enough empty ones to accommodate very many eggs. We presume this is due a good deal to the fact that the hive was without a queen for some time, and the bees have been filling all the cells in the lower section. They have not started to work at all in the super containing the small sections.

Cleveland, O.

A. O. S. ALLAN.

[The condition in the colony may work out all right, although there is danger that your brood-chamber may become honey-clogged; that is, the bees will get so in the habit of storing in the brood-combs that they will keep on and on, and the queen will be practically forced to quit laying. At the same time, the bees will refuse to enter the supers. To prevent the condition get some partially filled sections of honey, and place in the super as baits to entice the bees up. See reply to Bigelow, next page.—Ed.]

Swelling from Bee-sting

Can you tell me what will prevent swelling from a bee-sting?

Jewett, N. Y.

ROGER P. ROSE.

[About the only thing to do in the case of a sting is to remove it as soon as it is received, taking precaution not to squeeze the poison-bag at the time of doing it. The sooner it is removed, the better. If it is allowed to remain in the flesh the effects will be much more severe, because the sting will gradually work itself into the flesh until the contents of the entire poison-bag are injected into the wound. Sometimes if the affected part is placed in the mouth, and the poison sucked out, it helps somewhat, the same as is done in the case of snake-bites in the West.

As a general thing, there is not very much that can be done to allay the effects of the

sting except to keep down the local fever by the application of hot and cold water in alternation. Never rub the affected part, no matter how much it may itch or burn. If one has been stung for the first time he should remain very quiet, keeping himself as cool as possible. In any case, if one should receive very many stings he should apply the hot and cold applications, using a little salt in the water to help neutralize the effects of the active poison, and then keep very quiet. If blotches break out on the individual, call the services of a physician immediately, especially if the heart should be affected.

The foregoing advice applies only to those who have not become accustomed to the effects of the poison. Old beekeepers, while they feel the pain of a sting as much as they ever did, have no after-swelling. They do nothing except to remove the sting. Further treatment is unnecessary.—Ed.]

Robbers Attacking a Nucleus

In dividing a colony for the introduction of a queen, about half the frames were taken to the new hive and stand. The queen was put in in the usual manner; but imagine my surprise when, upon opening the hive about a day later, I found it almost solidly full of robber bees, with clouds of others hovering around the hive and striving to get in. The queen was still safe within her cage. I find robbers one of the greatest obstacles to the division of a colony. No matter what method is used, the queenless half is somewhat demoralized, and not in good condition to defend itself against robbers. I shall be glad to receive any suggestions as to what should be done when such a problem arises.

HONEY-CLOGGED BROOD-CHAMBER OF A QUEENLESS COLONY.

Here are the conditions: I should like to know what an experienced beekeeper would advise. A prosperous colony, at the height of the honey flow, became queenless for some unknown reason, and failed to raise another queen. All the larvae and brood developed, and the very prosperous colony then filled every cell in the ten frames with honey and sealed it over. The bees hanging around the entrance of the hive, and the ten frames of finest sealed honey, made a sight to be remembered. What would an experienced beekeeper do first, and what would he do next? How would he treat the situation, especially if he had no extractor and no extra frames on hand? I have seen many inquiries as to what to do with a poverty-stricken hive or a weak colony; but I have never seen such a perplexing problem of over-prosperity in the way of honey. In such conditions it would be useless to have introduced a new queen, because there was not a cell in which she could lay.

EDWARD F. BIGELOW.

Arcadia, Sound Beach, Ct.

[After forming nuclei during the robbing season it is very important to reduce the size of the entrances to about the space one bee can pass at a time or close with grass. A nucleus, when it is first placed on its stand, will not recover its colony spirit sometimes for 24 hours, and in this interim robbers get into the hive and overpower it. If the weather is not too hot or the nucleus too strong we usually advise closing the entrance with grass for 24 hours. The grass will wilt, and allow the bees in the hive to escape, by which time they will have recovered their colony spirit enough so they will put up a defense. As a rule nuclei should be put on their stands the night before if the entrance is left open.

In the case of the honey-clogged brood-chamber, we would have taken out three or four combs in the center, put in empty combs, and introduced a queen. A beekeeper can have no better capital than combs of sealed stores which he may use to supply colonies short of stores late in the fall, mid-winter, or the following spring. At such times it is not practicable to feed.—Ed.]

Can Honey Producers do Without the Middleman?

I wish to commend Mr. Hastings' article, July 1, 1912. He says we can not do without the middleman, and in a very ingenious manner compares what the producer pays the middleman to what he would have to pay hired help to take his place if he marketed his produce himself.

Omitting a discussion of what added profit the

middleman, jobber, wholesaler, and retailer make off the producer, and the tendency of each to cheat the other, and all of them the producer, and granting that beekeepers are better informed along these lines than most other producers, I doubt whether there is one that will not agree that there should be some better way of handling our product than the present wasteful unstandardized means of disposing of a crop of honey. Mr. Hastings says we can not do without the middleman, but I think we can. The National Association has stepped out of the dark, and says it is anxious and willing to be the middleman. Now it is up to the producers to help. If we do not sow we can not reap. Let us follow Mr. Hastings' advice, and co-operate. If we do our part it will be easy for the association to do its.

JAMES K. HEDSTROM.

Calabasas, Cal., Aug. 1.

Variations in Color and Disposition

Why is it that not much is heard of the Banat bee of late? I read nothing about them in any journal. Are they no good? or what is the matter? I have one colony of what I suppose to be Banats. The queen was bought as a tested one from a well-known breeder.

I have also a colony of goldens bought of a well-known breeder. I notice no difference in color between them and my regular three-banded bees. Could these bees be called golden with only three bands? They are as gentle as the Banats.

I have 25 colonies of regular Italians. Why does their temper vary so? I have some that are almost stingless, while others attack me at a distance. The queens are fine bright yellow; the bees all well marked with three bands, all reared by myself from fine blood. Is it natural for some three-banded Italians from the same breeder to vary in temper this way?

SUBSCRIBER.

[We do not know that we can point out to you the definite objection to the Banat bees. We know that they were tried quite considerably seven or eight years ago, but for some reason or another they have been largely dropped. We presume the facts are these: On testing, they probably proved to be no better in the long run than the Italians or Carniolans, so that it would only be multiplying races and making beekeeping more complex to introduce the Banats and accomplish no real good. See the report by Albin Platz just below.

There is an unfortunate lack of uniformity in the ideas which different breeders have regarding queens, especially as regards color. What some call "golden" would be called "leather-colored," probably, by others. The goldens are usually supposed to be four or five banded, although we do not know that there would be any good reason why an extra bright-yellow queen should not be called "golden," even though she had only three bands.

The question of gentleness is one concerning which no definite law can be laid down. If queens are reared from a queen mother whose workers have always been very gentle, and introduced to respective colonies, those colonies will usually be quite gentle also. On the other hand, queens reared from a queen mother whose bees are very cross are also likely to have cross workers themselves. This is not a positive rule, however, for unquestionably the drones have some effect on the disposition of the workers, so that it depends somewhat upon the drone with which a queen mates as to whether her workers will be gentle or irritable.—Ed.]

Banats Not as Good Honey Gatherers

During the last few years quite a little has been said about Banats. They have also been advertised quite extensively, and numerous merits have been claimed for them. Let me give, in a few words, my experience with them.

A little over two years ago I purchased a tested Banat queen of a prominent queen-breeder, and introduced her safely to a colony of bees. The first year I had her (1911) the honey season in this locality was a complete failure, and, moreover, American foul brood was rampant. They wintered successfully, and started the year 1912 in good condition. However, as the season advanced and they started to breed rapidly, holding their own with

other colonies, I noticed that, although their hive was packed with bees, they stored very little honey. It seems they make a great demonstration about nothing, rushing in and out; flying when it is too cool for other bees to be foraging, and, in short, accomplishing very little. The queen scatters her brood over several brood-chambers, filling some frames completely, and others scarcely at all. They are extremely excitable, scampering over the frames and stampeding in great shape, and finally dropping off in bunches into the grass. To find the queen is like finding a needle in a haystack. They are poor comb-builders, often drawing out one side of a frame of foundation and neglecting the other side. However, they have one good quality. They are hardy, and winter well. That is their only redeeming feature.

Now as to results as far as honey is concerned. My best colony of Italians produced 155 lbs. of extracted honey to date. The others averaged 95 lbs., and the Banat colony gave me just 37 lbs.—a very creditable showing surely! No more of the black fellows for me. I am going to winter them, though, and requeen next season; for about all they are good for is to hold their own against any amount of cold. After all there is no strain of bees equal to good Italian stock in gentleness, ease of manipulation, and honey-storing propensities. I advise all to stick to them.

Cincinnati, Ohio.

ALBIN PLATZ.

Hive Numbers Made of Rubberoid

The best numbers for hives that I have so far found are some that I cut myself out of rubberoid roofing.

I bought a series of two-inch stencils, and, after marking the roofing, I cut the numbers out with a penknife. It was slow work, yet it paid. I have been using them for four years, and they are still as good as when first made. They would last even better if they were painted or dipped in the paint that comes with the roofing. They are black, and show up very clearly on the white hives.

BEES, WHEN THEY START THEIR OWN CELLS, MAY SELECT LARVAE FOUR DAYS OLD.

Page 294, May 15, Dr. Miller refers to the "American" and the "natural" method of starting cells. If a hive is dequeened at any time when the bees are not preparing to swarm, what age of larvæ do they pick to start their queen-cells with? When making an experiment of this kind it is necessary to keep a pretty accurate watch on the frames for about five days before dequeening. You should chart out the different combs as you find them each day, then you will be in a fair position to know the age of the younger larvæ.

I was surprised to find the number of two, three, and even four day-old larvæ the workers selected to produce their queens with. Naturally, the older the larvæ selected, the earlier the queen emerges from her cell; so the older larvæ is by far the more likely to be the coming queen of the colony.

I very much question if the youngest novice at queen production (I do not say breeding) could do, from our point of view, more harm than the bees themselves do according to the above experiment, which has been verified on three different occasions.

Will Dr. Miller be so kind as to tell us what method the Swiss use to introduce their virgin queens?

Swarthmore, Pa.

PENN G. SNYDER.

[We respectfully turn this over to Dr. Miller.—Ed.]

Swarm Accompanied by Three Virgins

Regarding the item on number of queens in a swarm, page 469, Aug. 1—here in North Vancouver we have had unsettled weather practically all summer, and consequently some swarms have been delayed. Here is an instance: Early in June I found a swarm issuing, and noted the direction it seemed to be traveling. As all my queens are clipped I expected to find the queen in front of the hive, but was disappointed; and as the bees did not return I guessed the reason—supersedure. I located the swarm in a small patch of brush, and took an empty hive to the place.

On shaking the bees on to a sheet of newspaper, and watching them marching in, I was surprised to see three queens afterward. I opened the hive and took the first queen I could find and returned her to the parent hive, first breaking down the remaining cells. Both colonies did fairly well. The queens commenced laying, and were clipped shortly after—about two weeks, I think. Is it a common occurrence for several young queens to go out with a swarm?

A VIRGIN THAT MISSED HER HIVE WHEN RETURNING FROM A FLIGHT.

On returning home after half an hour's absence one summer afternoon, about 4 o'clock, I noticed some excitement among the bees of two hives, and found the probable cause in the shape of an Italian queen on the top of one of the said hives. Now, as I said, the queens of all full colonies were clipped, but I had several nuclei (for mating) in which were virgin Italians, and I found some little excitement in one of these; so, taking a chance, I picked up the young queen and put her at the entrance of this hive; thereupon she walked boldly in, and things seemed to quiet down and I found her (or any way an Italian queen) laying about a week later. I supposed the bees had accompanied her on her matrimonial trip; but why she could not have gone straight home, and why the other hives were excited, was beyond me. Perhaps you could explain.

North Vancouver, B. C. FRED E. WHITE.

[It is not unusual to find after swarms with a number of virgin queens. We have taken over a dozen. However, such a find should not take place in a well-regulated apiary. Occasionally, however, a good beekeeper will have more bees than he can look after, with the result that he will have after swarming and a plurality of virgins to each after swarm.]

It not infrequently happens that a virgin on returning from her wedding-trip will go into the wrong hive. Sometimes she will supplant the regular queen of the hive. At other times she will be promptly balled and killed. Old queen-breeders recognize the importance of having each hive so distinct in its location that the virgin will have no difficulty in finding her own home.—Ed.]

Bee-stings a Cure for Gout

I should like to relate my experience with bees as a cure for gout. I have been a great sufferer in years past from that and lumbago. One year ago last May I purchased a hive of bees for the purpose of the benefit I might receive from them by the better fertilization of my flowers and vegetables, and while handling them I was frequently stung. I was led to believe that, as I had been free from symptoms of my old complaints, I had been benefited. Last March I was getting ready for a trip to Colorado Springs and other points in the West, when I was taken with the same old symptoms of returning gout. I called my physician, and he prescribed the old remedies, when I startled him by saying that I was going out and let my bees sting me. This was Wednesday. The next day being sunny and warm, March 14, I hobbled out to my hives and removed my overshoes (for I was not able to get on my shoes) and hose, and put my foot up to the hive entrance, but they would not sting. Finally I caught three by their wings and carried them to my foot, and they did their part all right. The next day my foot was swollen very badly, but free from pain. On the following day, Saturday, March 16, I caught two more bees and let them sting me. That evening I was able to get on a pair of loose shoes, and have been on my feet ever since. I took my trip west, and had no symptoms of gout while I was gone, nor since my return. I will say I stopped taking all medicine after my first sting, and have not taken any since. I manage to be stung at least once a week to keep me in perfect health. I would not be without my bees for any thing. They are worth to me more than all the physicians for gout and lumbago.

Portland, Me., July 18. C. M. TALBOT.

[This is quite a remarkable case. Is there any one else among our subscribers who has had a similar experience, or knows of any one else to whom bee-stings have been a cure for gout or lumbago?—Ed.]

Death of Walter M. Parrish

Walter M. Parrish, a well-known beekeeper and queen-breeder of Lawrence, Kansas, died July 18 at San Bernardino, Cal., where he had gone some months previously because of failing health. Mr. Parrish was an enthusiastic beekeeper, and was exceedingly well posted upon the subject of which he was a student almost from childhood. He will be remembered as having contributed a number of articles to the bee journals. He also lectured at various times before the bee and horticultural societies of his native State. Not only was Mr. Parrish a beekeeper, but he was an ardent lover of nature in every form. He was a young man possessed of a strong character and a kind and lovable nature. His loss to the community and the beekeeping fraternity will long be felt.

Monrovia, Cal., Aug. 19.

LEVI J. RAY.

Growing Sweet Clover on Wheat Ground

Last fall I prepared 14 acres for wheat, and in December sowed nearly five bushels of white-sweet-clover seed on the field; but it was not entirely a success. However, I will have another 14 acres of wheat ground sown to white-sweet-clover (in the hull) this fall.

To begin with, the soil must be good. Here is my plan: We have 14 acres of good fallow ground plowed and harrowed nicely. Two tons per acre of raw ground limestone have been applied since the ground was plowed. Next we will apply 250 lbs. of acid phosphate per acre. The wheat will be drilled at the regular time, and five bushels of white-sweet-clover seed will be sown just before winter. We cut our sweet-clover for hay the second year of its growth. The aftermath, or second growth, is to be turned under for potatoes the year following. We gather the seed in the fall when most of it is ripe, and spread it out on the barn floor, and stir every day or two; then it will not heat, but grow finely.

We clip our sweet clover the first year in July or August to destroy weeds; but if it is clipped twice the first season it seems to be injured. If there are but few weeds it should not be clipped at all.

Lakeville, Ind.

C. A. BUNCH.

Uniting a Laying-worker Colony with the One that Stands Nearest to it

Having just read the article on laying workers, page 523, Aug. 15, I wish to say that, in my opinion, there is little use in trying to save the colony in the same hive. My method is to unite the laying-worker colony with the nearest colony after smoking both of them so that the bees fill up with honey. I leave entirely vacant for a week the stand formerly occupied by the laying-worker hive.

Like Dr. Miller I think bees count as much in one hive as in another; but if I want a colony on the vacant stand, after a week's time, I secure it by taking frames of brood and young bees from any source I see fit, letting them raise a young queen of their own if I have no other to give them.

I leave for 24 hours the laying-worker hive over the hive it was united with, then drive all the bees down into the lower hive with smoke, brushing off the few that remain. After this I use the hive that formerly contained the laying-worker colony any place where it happens to be needed.

WESLEY L. ROBERTS.

Four to Five Comb Honey Supers per Colony

On my strong hives, that did not swarm, bees are working on their fourth and fifth comb-honey supers, and the extracting colonies are three stories high, with the two top stories ready for the bee-escape.

White and sweet clover and basswood seem to have yielded tremendously during the latter part of June and the greater part of July. I have had supers of ten shallow extracting-frames, filled from two-inch foundation-starters, in about eleven days, as I kept close watch on the honey flow.

Considering the fact that I am but an amateur, and the first season that I have actually seen a queen or even the inside of a hive, I took a chance at an out-apiary which I can visit only

after working hours, getting swarms on the trees as late as dusk. I increased from 12 to 27 hives, three of which gave third swarms which I hived on eight-frame hives, as I was anxious for increase. These are doing well. At the last inspection there was brood in seven or eight frames.

TIMOTHY O'DONNELL, JR.

Chicago, Ill., Aug. 20.

[This is a good report for a beginner; but it should be remembered that a small apiary in a comparatively isolated location will give a much larger yield in proportion to the number of colonies than a large apiary.—Ed.]

Moving Bees in Hives that were About to Fall Apart

Last spring we moved some colonies in old-fashioned hives that were so old they could hardly be lifted without coming apart. In the evening, when we loaded the colonies, we ripped open a lot of burlap sacks, put about eight inches of straw in the wagon, and drove to the apiary. We tied one sack over the top of the hive; then, while one man lifted the hive up, two more tied another sack around the under part. By being careful in handling the hives we reached our destination, a distance of about six miles, and lost very few bees.

Cochranville, Pa.

FLOYD MINICK.

[It is our opinion that bees in these hives could have been moved without the use of sacking by giving them a liberal dose of smoke before loading them on the wagon, then starting off on a brisk trot. The jarring would have kept the bees good-natured; and if they were unloaded immediately before recovering their colony spirit, there probably would have been no trouble to man or horses.—Ed.]

Swarm Stopped by Smoke

About a month ago I opened a colony of bees, and they started to swarm. I gave them a good smoking and they returned at once. Yesterday I had a colony start to swarm, and I gave the bees a good smoking and they returned.

Dry Fork, W. Va., Aug. 22.

E. C. MERSING.

[As a general thing, when smoke is used liberally to drive back a swarm that is coming out it has very little effect. We have tried it repeatedly; and while it may check for a moment the onslaught of bees coming out, they will recover themselves and rush harder than ever. Your experience, we should say, was quite unusual. The only way we succeeded in stopping such a swarm is to clap a wire-cloth cage right over the hive, and catch the swarm in the top of the cage.—Ed.]

Lizards Eating Bees

The worst enemy that my bees have are the lizards that lie under the hive and catch the heavily laden bees that miss the alighting-board. I have an extension board 5½ inches wide; but many bees miss it and fall to the ground, especially on windy days. My hives are on stands a foot above the ground because of ants, lizards, etc., and also in order to provide ventilation underneath, for the sand is very hot during the summer months. I have found hens' eggs in which the whites were cooked by the sun and hot sand. There are a good many ants' nests under the hives on the ground. About all I can do is to use a 22-caliber rifle to kill the lizards.

Bishop, Cal.

GEO. HUNTINGTON.

Nearly One Thousand Colonies in One Apiary

I moved 700 colonies here. This is a mesquite location. I secured 350 cases of honey, and increased the apiary to 985 colonies. I now intend to move back to Chandler for alfalfa.

Chandler, Ariz.

J. M. HERMAN.

[So far as we know this is the largest apiary, possibly, in the world. Mr. Alexander kept 750 colonies in one apiary on the average; but here is a case where, for a time at least, there were nearly one thousand colonies. Can anybody beat it?—Ed.]

Our Homes

A. I. ROOT.

Judge not, that ye be not judged.—MATT. 7:1.
Thou shalt not bear false witness against thy neighbor.—EX. 20:16.
And Abram said unto Lot, Let there be no strife, I pray thee, between thee and me, and between thy herdmen and my herdmen; for we be brethren.—GEN. 13:8.

In the *Rural New-Yorker* for Aug. 24, the "Hope Farm" man (friend Collinwood) has something to say in regard to "grain smut," which, in consequence of the recent rains, is unusually bad this season. And he goes over briefly the best methods up to date to counteract smut and other fungous growth. After what he says about the care of our crops in this line he gives us the following:

HUMAN SMUTS.

A political campaign is not unlike a thrashing-machine. Men and what they say are run through it, and usually you will find a black dust of abuse and falsehood rising from it. This is what I call human smut—the meanest and most dangerous part of politics. For example, I received a note from a very well-known man in Ohio, who said:

"Mr. Roosevelt came through Ohio speaking against Mr. Taft. At one place he was so drunk that three men were needed to hold him up while he talked."

When I demanded proof it seems that this man got the story from a minister, who got it from another man, who in turn got it from "three reputable persons." Another man claimed that when Roosevelt spoke in Boston he was so drunk that he staggered as he came on the platform! Another man, who sat on the stage, insists that Mr. Roosevelt caught his foot on a hanging board.

Now I call these things human smut—a germ disease which gets into the minds of some men and makes them magnify and repeat such hideous stories. Every one knows where I stand on the rum question. We have no more use for intoxicating liquor than we have for typhoid germs, and the sooner people know it the better I am satisfied. The worst criticism I have of many Prohibitionists is their narrow and malignant personal abuse of public men. Somehow they can not see how this restricts their influence. As a case of typical human smut there was a young minister accused of beating his wife! The scandal terminated in a secret trial by the elders and deacons. The case against him was as follows: Three reputable church members were in front of the minister's house one night when they heard a fearful scream. The shadows on the curtain were very distinct. They recognized the woman's voice screaming and pleading, and saw the minister striking at her with a club, and heard language "unfit for the pulpit." Then suddenly all was dark, and there was a louder scream from the woman! A complete case, you will say, and human smut flew through that town like that from an oat-thresher!

Finally some one thought that, as a matter of form, they should give the minister a chance. His story was that he and his wife were having a particularly loving time—as much so as was possible in that moldy old parsonage. All at once a mouse ran out of his hole—across the floor. Ministers' wives are very human, and this one screamed and jumped on a chair, where she stood waving her skirts and her voice to frighten the mouse. Most ministers are also human until they enter the pulpit, and this one caught up a bootjack and ran about striking at the mouse, and, as he frankly admitted, using certain words which, while seemingly appropriate in a mouse hunt, were not for publication. The mouse got away without damage, but the bootjack knocked the lamp off the table and put it out. Thus the screams, the language, and the blows were all genuine; but the witnesses did not read the shadow

pantomime correctly. Murder was intended, but it was mouse rather than wife.

Now, human smut is scandal, and it can take such a case as this and spread a social disease which means ruin to reputation and blight upon progress. To the point—I believe these stories about Mr. Roosevelt are false and foolish. Men who are upon the most intimate terms with him tell me frankly that these stories are false. I believe them to be what I call human smut. They and the people who repeat them and add to them ought to be soaked in formalin and then sprayed with lime-sulphur. Mr. Roosevelt is at a disadvantage in that he can not say at once that he does not drink at all. I wish he could and would say so; but the men who are gathering back of him by the hundred thousand have been so well soaked with a desire to help their country that they are immune to human smut! You may take it from me that, sooner or later, the new party will be obliged to take a strong stand on the liquor question. They were forced to take up votes for women, though many of the leaders have opposed such a change. They will have to drink cold water yet.

I was exceedingly glad to see the above—so glad, in fact, that I have given place to it here in *GLEANINGS*. With the *Rural* I heartily agree that Mr. Roosevelt is at a disadvantage because he can not stand up as Taft recently did and say that he does *not* drink at all; and I think that President Taft added that any man who occupies so high and sacred a position as that of the chief executive of the United States should be able to say under all circumstances, "I do not drink."

Now, with this in mind I wish to express myself a little more freely than ever I have before in these pages in regard to the attitude of the Prohibition party toward the Anti-saloon League. Let me make another extract here from a letter from a good friend of mine who is an active Prohibitionist, and who occupies an important position in the affairs of the great city of Philadelphia. In his personal letter to me I find the following:

I am writing you a personal letter . . . simply to enlighten you on some facts that I learned while attending the national Prohibition convention at Atlantic City last week . . . I learned from a good ministerial brother who attended the national convention that both local option and the Anti-saloon League were positively enemies of the prohibition movement; and from very good data which were furnished me the Anti-saloon League was started by some liquor men in order to defeat the prohibition movement.
Philadelphia, July 26.

The above statement was to me simply appalling, and I can think of only one parallel case just now. When Jesus commenced doing his great work of casting out devils the Pharisees said, "This fellow doth not cast out devils but by Beelzebub the prince of devils."

Just think of it, friends. At the first meeting ever held in starting the Anti-saloon League, your old friend A. I. Root was present. Dr. Howard H. Russell, who

was an intimate friend and classmate with Ernest at Oberlin College—a most devoted Christian man and minister—was the man who first *suggested* the idea of combining all the people who love temperance, no matter what their affiliation, and fighting the saloon. It was my privilege to subscribe \$500 in order to start this new movement. Mr. Metcalf, a most devoted Christian man, gave another \$500; and the idea that Dr. Russell and your old friend A. I. Root *were in the power of the liquor interests*, or that the liquor power was *back of them*, is about the most absurd and silly falsehood I ever heard. Let me explain a little further.

Almost as soon as the Anti-saloon League got to doing effective work here in Ohio, the Prohibition papers, instead of bidding it Godspeed, commenced finding fault and picking flaws. I remonstrated first with the *New Voice*, and begged them to show at least Christian courtesy. The *New Voice* went down, for some reason unknown to me. The *National Prohibitionist* took its place (or at least so far as I know, it did), and began fighting the Anti-saloon League. I remonstrated again, and had a lengthy correspondence with Editor Ferguson. The *American Issue* at first made some reply to their thrusts; but I begged both periodicals for God's sake to refrain from this "cross-firing" when we were both working honestly before God, for the banishment of the saloon and for State-wide prohibition. I finally told Mr. Ferguson that his periodical would go down as did the *New Voice* if he persisted in giving place to such unchristianlike editorials or articles. Now, to show you that I was not hoping they *would* fail financially, or any thing of that sort, let me tell you that I gave them \$50.00 at one time when they were in financial straits, and voted repeatedly the Prohibition ticket. I was also a life subscriber to the *National Prohibitionist*; but it went down as I predicted, because, as I still think, of its unchristianlike attitude toward good temperance men who did not see things as they did. As an illustration, the pastor of our church—a man who occupied a high place in the affairs of the nation, absolutely *refused to read it* any further. When the *American Advance* and the *Vindicator* took the place of the *National Prohibitionist* I was pained beyond measure to see that they also—at least occasionally—gave place to articles that would almost seem as if they hated the Anti-saloon League as much as they hated the saloon-keepers.*

* There are several points on which I heartily

Because the Anti-saloon League made a map of the State of Ohio, showing the number of dry counties, the *American Advance* said it was not true, and that the counties they claimed to be dry were not dry, accusing the Anti-saloon League of untruth, and finally concluding something to the effect that the Anti-saloon League had *never done any thing* for temperance.*

Of course, there was *some* truth in some of their statements, as there always is; but it was not the *whole* truth. When we had our recent vote in Florida for State-wide prohibition the Anti-saloon League dropped local option *entirely* and worked against it; but a lot of the liquor men of Jacksonville all at once discovered that *they* were in *hearty accord* with local option. You can readily see how this came about. The Anti-saloon League came out into the open promptly, and declared they had nothing to do with them, and would *have* nothing to do with them. The same thing happened up in Maine. A great lot of brewers and liquor-dealers all at once discovered (as in Florida) that local option was exactly *the* thing; and I regret to say—in fact, I say it with pain—President Taft, together with the Governor of Maine, all at once espoused local option. Let me add that the Anti-saloon League of Ohio

agree with the Prohibition brethren. Where one county is made dry and the adjoining one is wet, the people do run over into that neighboring county. Our own county (Medina) has been dry for over 25 years; but some seven miles away, on the county line, is a little four corners where there is a saloon just over in Lorain Co. On a recent occasion eight drunks were arrested in one *Sunday* night round about that same saloon; and just a few nights afterward a railroad man was killed right in that vicinity, with a bottle of whisky in his pocket. I consulted our attorney to know if Medina people could do any thing to make that saloon-keeper at least obey the law; but the lawyer said the responsibility rested almost if not entirely on the authorities of Lorain Co. Notwithstanding this, I do know that the Anti-saloon League has accomplished wonderful results in making the greater part of the area of Ohio dry. We are in fact *almost* ready to drop local option and unite on State-wide prohibition.

Just one thing more: Many of the dry counties in Ohio have been humbugged by getting wet sympathizers into office. You will excuse me if I say that it seems as if "*the very Devil himself*" was shrewdly engineering for the brewers and distillers. But may the Lord be praised for the promise in his holy word, where John tells us he saw an angel come down from heaven, and he bound the old serpent, the Devil, and Satan, for a thousand years.

* While speaking about temperance periodicals, I wish to hold up to view the *Union Signal*, the official organ of the W. C. T. U. May God be praised for such a pure Christianlike periodical. Not only the love but the broad charity of the Lord Jesus Christ seems to shine forth from every page; and it has never, so far as I know, permitted a word of criticism in its pages of the Anti-saloon League; but it has again and again rejoiced in the victories they have helped to win. It also truthfully chronicles the progress and success of State-wide prohibition throughout our land; and when the mothers as well as the fathers are permitted to vote in this land of ours, I am sure a great victory will be close at hand.

will drop local option in a minute, *any where*, and vote for State-wide prohibition with the Prohibition party just as soon as there is a reasonable prospect of success. Well, now at just this very minute is the "golden opportunity." The Anti-saloon League will gladly unite with the Prohibition party and put in Chafin or Bryan as President, and thus unite the different forces, the Christian people, and the churches of *the whole United States* if the Prohibition party will consent. But instead of that they keep on hurling clubs at the Anti-saloon League, and promulgating statements at their great conventions, such as the one I have recently mentioned, held at Atlantic City. May God help us in this crisis; and may we who love righteousness and hate iniquity take *greater* care than ever before that the arch prince of darkness does not any longer get into our conventions, into our temperance periodicals, nor into our churches, and stir up strife where there is certainly no occasion nor need of strife and disagreement. Let us remember the beautiful sentiment expressed by the patriarch Abram when he said to Lot, "Let there be no strife, I pray thee, between thee and me. . . for we be brethren."

YE ARE OF MORE VALUE THAN MANY SPARROWS.

A good friend away off in Colorado sends us a little story clipped from a pamphlet sent out by the Y. M. C. A. of Mesa Co., Col. On some accounts the story belongs to "high-pressure gardening;" but in reality it should have a place in the highest kind of gardening—even the gardening that was taught by the hand and voice of God in the garden of Eden, away back in the beginning—a gardening and *garnering* of the souls belonging to the boys and girls in our homes. Here is the story. Read it and see what you think of it.

STORY OF A MESA COUNTY BOY AND A BIG RED APPLE.

John Average Mann was a successful fruit-grower in Mesa County, Colo., and Frank was his son. Frank was a bright boy and full of promise. At twelve years of age he dropped out of Sunday-school (but this was unnoticed, for in that county only 46 per cent of the boys attend Sunday-school). Shortly after this he began to smoke cigarettes which he bought at the corner grocery, contrary to the laws of that State. A few of the neighbors who chanced to know about it said something ought to be done, but nothing was. When he was fourteen he dropped out of school and folks all remarked it was "too bad." And then he began to find evil companions who led him gradually into places of ill repute, for, as the boys said, there was no other place to go. Many were sympathetic, and said something ought to be done for the boy. At seventeen Frank got in a "scrape" in Grand Junction, and it cost John several hundred dollars to save him from prison. A wise old man remarked that if John had half as much knowledge about the rearing of children as

about the growing of apples Frank would be different. Frank has since gone out into the world unprepared physically, educationally, socially, or morally to do a man's work in the world. John seldom hears from him; but last report said he was in Denver "workin' round at whatever he kin find to do." John and his lonely wife continue to work in the fruit, and dream of the happy days when Frank was a boy.

One day there was a knock at the door. It was the county horticulturist, who said he had discovered a strange blight in one of John's trees. A big red apple was withered and disfigured by some unknown disease. The field horticulturist must be called at once. In less than two hours he arrived on a motorcycle. The apple was treated, and the tree sprayed, but without avail. A "bugologist" was called from the agricultural college by telephone; the neighbors gathered, and there was a consultation, spraying, and pruning. The apple, once red and plump, now faded and withered, fell to the ground with a dead, sickening thud. The experts could not understand it, and the neighbors were frightened lest the disease might spread. A telegram was sent collect to the Department of Agriculture at Washington. In three days a great national entomologist arrived, and there was more consultation, spraying, and pruning. The disease was checked. John was grateful, and willing to pay the expense; but the county horticulturist said, "No, the people of the county are interested in the fruit crop, and they pay the bill." The field horticulturist said, "You owe me nothing. The State pays for such work." The Washington expert said, "That is what the Department of Agriculture is for. Feel free to call on us." One evening, after a few months, as John sat in his easy chair, thinking of Frank, his good wife handed him a book that had come in the day's mail. It was a bulletin of the Department of Agriculture entitled "Fighting the Heterocerous Lepidoper Bark Louse in Mesa County, Colorado." The old man sighed and said, "It is strange so many were interested in saving my apples and no one interested in saving my boy."

The above may be slightly exaggerated, especially some of the closing sentences; but I am afraid it is a fact that the different departments at Washington, especially the Department of Agriculture, seem to think this matter of preventing the dissemination of noxious insects is of more importance than looking after the morals of the children of our great land. Somebody said not long ago that the Department at Washington would send a learned professor across the continent to doctor a *sick pig*; but a *sick man*, woman, or child seemed to be outside of their jurisdiction. Let us thank God, however, that at least *something* is being done in caring for the spiritual health of our people. Now let us all work and pray that not only the Department of Agriculture (at the head of our nation) may give *more* time and attention to the spiritual life as well as the physical, but that Uncle Samuel may very soon also give us a couple of bulletins to which I should like to furnish the headings. The first would be, "A Bulletin Considering the Effect of Intoxicating Liquors on the Financial, Physical, and Spiritual Well-being of Our People." The other bulletin would be just like the above, substituting the word "tobacco" for spirituous liquors. Will you not work and pray, with me, that the above *may* be brought about?

High-pressure Gardening

EARLY POTATOES; ANOTHER "GREAT DISCOVERY."

Perhaps most of you remember how I urged you all last spring to plant just a few early potatoes in your back yard. Well, when I got back here to Ohio I undertook to "practice" what I had been "preaching," but could not find any Early Ohio, Bliss Triumph, nor any other extra early potato at any price. The best I could do was to get a bushel of Early Rose; but these had to be shipped from up in Michigan. I tell you this so that you may take warning and lay in a stock of early seed potatoes this fall, so you will not be caught as thousands of others were when they were ready to plant. Well, I planted my Early Rose, giving them the best soil and the best cultivation on nicely drained ground, and in response to my "high-pressure" treatment they just grew and grew; and now, with the abundant rains we have been having, some of the vines will reach up higher than my head, and they are still growing as thriftily and with as rank a luxuriance as when I first planted them. There are not very many potatoes yet, and Mrs. Root says they are all "going to vines," although I have assured her that wherever there were rank vines there *would* be potatoes sooner or later. Well, the result is that, while our potatoes are "Rose" all right, they do not seem to turn out to be *Early* Rose. There is no very brilliant discovery in that, is there? Right adjoining my patch my son-in-law has a garden, and he got hold of some State of Maine—the best he could do for extra earlies. Now, while my Early Rose potatoes were covering the ground with rank luxuriant foliage, the State of Maine was puffing up the ground, indicating that there were potatoes there; but as the State of Maine was still rather green and luxuriant, we hated to dig them a whole hill at a time; so we commenced "scrabbling" out the big potatoes, leaving the hill to keep on growing more.* Well, one of my favor-

* Does somebody ask if it is the regular habit of the author of the Home papers to wander off into a garden belonging to a neighbor and help himself whenever said neighbor happens to have better "garden sass" than his own? My reply is, this garden patch belonged to Blue Eyes, and I had been spending considerable time in pulling great weeds out of the potato-hills that nobody seemed to see but myself. One day in pulling up a great red-top weed a big nice potato came along with it; and as I went by her door I called out, "Con, I have pulled pretty near a wagonload (?) of great weeds out of your potatoes, and I am going to take along some of the tubers for pay." She replied, "All right, father; help yourself." So you may know that I not only enjoyed thus digging out the big potatoes, but I enjoyed doing it with a clear conscience; and Mrs. Root and I *also* enjoyed admiring the good qualities of the tubers at dinner time.

ite implements, both in the greenhouse and out in the open ground, has been a good-sized kitchen spoon. This kitchen spoon, however, is made of metal, and hence it is apt to become rusty, especially if it is not cleaned off thoroughly with the fingers every time it is laid down. One day when I was in a hardware store I caught sight of a big enameled spoon, and decided that it would be just the thing to use in the garden. Well, my wonderful discovery is this: Take such a spoon as I have described, and a little basket. (I always carry a *little* basket because a big one is apt to give me "that tired feeling.") Now with your basket and spoon go through your potato-patch and find where the ground is cracked open and is puffed up. Scrape off the dirt with your spoon until you get sight of the potato that is pushing up the ground. Now slide your spoon under this potato, push down on the handle, and out pops the tuber. Put the dirt back, and go on until you have enough potatoes for dinner; and do this, if you can, just before dinner time. If you have never tried cooking potatoes right fresh from the ground, I think you will pronounce this the nicest potato you ever tasted—that is, if you have a State of Maine, Early Puritan, a Thoroughbred, or a Bliss Triumph. Put the dirt back carefully, and your vines will keep right on growing—that is, if you have plenty of moisture. Pulling out the big potatoes acts like thinning out the fruit on an apple or peach tree. It enables the others to grow larger, and it loosens up the soil, and this does good and not harm.

Now, you people who have been digging out a whole hill while the vines were green and thrifty have been losing perhaps half the crop. Do not dig potatoes, if you can help it, until the vines are all dead and dry. So long as there is any green in the stalks, the sap is gradually going down into the tubers under ground. Some of you may say that scrabbling potatoes out of a hill is nothing new; but my discovery is along the line with which it can be done with a *big enameled spoon*. You can get such a spoon of Sears, Roebuck & Co., for a nickel.

THE TRUTH ABOUT SWEET CLOVER.

Just about two years ago our booklet on sweet clover of almost 100 pages was sent out. We printed 20,000; and judging from former experience we thought they would last five or six years; but just now our printers inform me

that the books are all gone but two or three hundred; and at the rate they are now called for they will all be gone before we can get another edition printed. What do you suppose is the reason? Simply this: The whole wide world is just waking up to the fact that the plant that many of us stupidly called a "noxious weed" has proved to be not only a valuable legume, but possibly the most valuable, all things considered, not even excepting alfalfa. The particular reason why it was called a noxious weed is because it is somewhat bitter in taste, with a peculiar odor. Domestic animals have to acquire the habit before they recognize it as a great nourishing food. Another thing, we have been blundering in the dark in our attempts to grow it as we grow other clovers. The recent discovery that it wants *lime*, and *must* have it, to produce the best results, has given it a great boom. We have been buying and selling the seed by the carload; but at the present time, Sept. 1, we are running short of a supply again.

A few days ago I visited Mr. H. T. Lane, of Twinsburg, O. Friend Lane is a sweet-clover crank. In fact, he told me he had invested over \$150 in hard cash during the last year for sweet-clover seed. He has been sowing it in different ways, and in different fields of something near 20 acres, although he has not secured a real good stand on much more than half that area. For instance, where it grew with tremendous luxuriance when sown with a field of barley on a low mucky soil, on a high gravelly hill it did not seem to do much if any thing unless he used either lime or a dressing of stable manure. A load or two of stable manure on a dry hilly knoll gave a luxuriant growth—some of it seven to eight and even nine feet high. Well, a good dressing of lime did almost as well as the stable manure. But when you have both lime and stable manure, then you have the ideal conditions for a stand of sweet clover. Where neither lime nor stable manure was used in many spots of ground there was no sweet clover, and almost *nothing else* for that matter, except a few stunted weeds. Mr. Lane agreed with me that he has been using too heavy a seeding. For instance, friend Wing, one of our best authorities, recommends 20 lbs. to the acre. Now, if every seed should grow, or even half of them, and the ground was limed or manured, 5 lbs. would be ample; and if you could have a stand of sweet clover with one stalk on every square foot, and soil that suits the legume, this one plant would probably give us more seed and

feed than any heavier seeding. See what is said elsewhere about transplanting alfalfa, page 568, Sept. 1.

Mr. Lane has toward a hundred colonies of bees; therefore the 20 acres of sweet clover do not make much of a show for each colony, although it keeps them raising brood, and helps to fill up with winter stores. As yet he has not got very much back for his investment of \$150. He said he had fed out a small stack of sweet clover mixed with some other grasses, and he added that his horses and cattle eat it with avidity, but he could not as yet decide how much it is worth for hay compared with other clovers. As he has quite a crop of sweet-clover seed to harvest, he will get some money for that, aside from the honey and the feed for his cattle. Perhaps I might add that friend Lane is in the great sugar belt of Northeastern Ohio. He has some of the finest maple trees I ever saw anywhere; and as he has toward a thousand sap-buckets he must have 500 or more sugar maples in his camp. He has a story to tell in regard to one of his finest and largest maple trees. It is a good match for my colony of Italians that gathered a *barrel of honey* during one summer. Well, this maple tree was tapped on three sides, each side having a six-gallon pail. During his best sugar day, in one of his best seasons, that tree filled all three of those six-gallon pails in one day. Now, if the sap continued to run all night, as it often does, that tree must have given a barrel of nice sap in 24 hours. I asked him if he had any syrup or sugar left. He said it was all sold at a good price. You see this great grove of maples is *also* a valuable adjunct to the bees. The trees must furnish a large amount of honey and pollen when in full bloom. His good mother, who still keeps house for him, is 83 years old; and she told me she was still reading my department in GLEANINGS, and expected to continue to read it with interest as long as we both live. I believe she still keeps house for her son without any assistance from any of the younger folks; and she is certainly very bright and active for a woman of her age.

PLANTING BASSWOOD TREES FOR HONEY, ETC.

In a late issue of your magazine I note what you say about your great yield of basswood. Having in mind a few acres of land which I could purchase, I beg leave to ask a few questions.

Would you consider soil lying on the western side of a low ridge or mountain a suitable place for basswood? The soil is of a sandy nature, and, I would say, below the average in fertility.

Do you mean to say in your editorial that basswood trees must be 40 years old before they yield nectar? At what age do they begin to blossom and yield? Do you know of any government bulletins on basswood trees?

Henrietta, Pa., Aug. 10. V. ROSS NICODEMUS.

My good friend, basswood trees will begin to bloom, usually, in four or five years from the seed—sometimes even three years; but, like all other plants, or at least like almost all others, it is only occasionally that we get a great yield of honey. There is as yet, I am pretty sure, no government bulletin in regard to basswood trees.

I can not answer your question about suitable soil, further than to say that bass-

wood thrives best near a stream of running water. In fact, we often see great trees overhanging water, and it does best on any low and rather moist land. But there must be drainage, for the basswood will not grow in standing water. Wherever you find it growing wild in the woods it is pretty sure to thrive under cultivation. In fact, with proper care, drainage, moisture, etc., it can be made to grow almost anywhere.

Poultry Department

THE CONVERGENT EGG-FARM, ETC.

Mr. Root.—Please tell us in your paper, whether Mr. Stoddard ever in his life made a *living* from poultry. I have known of him 30 years, and he was always advocating some wonderful (Philo) scheme for making people rich raising poultry. But they were all wind, and impractical nonsense. He is still at it.

Great Barrington, Mass. SETH WINSTONE.

My good friend, are you not a little rough on our old friend Stoddard? While there is a good deal of truth in what you say, I believe it is also true that Stoddard's first little book, "An Egg-farm," in which he first, so far as I know, advocated colony houses, was a very valuable contribution to our poultry literature. If you have been a reader of GLEANINGS you may be aware that I afterward severely criticised his larger book because it had so much impractical machinery.

Now, in regard to the convergent-poultry-yards idea: A few days ago I visited the city of Cleveland expressly to get a competent architect to make plans for our proposed bungalow cottage. He said it was out of the question for him to do it at once as I desired, and he finally gave his reasons. He and all his force of several clerks were working almost day and night on a great dairy barn or dairy farm. It was exactly like the convergent poultry-yard that I described in GLEANINGS. The cows were all on a circle with their heads toward the center, and the care was all given from that inner circle, the feed being dropped by gravity from the loft overhead. The architect, Mr. Herbert B. Briggs, informed us that such a dairy farm is already in working order at the Agricultural University of Illinois. Now, friend Stoddard in his youth did give us a good idea through the *American Agriculturist*, and later in his 30-cent book, of which we sold over 1000 copies; and if he gives us in his *old age* another good idea, in the convergent yard, shall we not give him credit? Very likely it is true that friend Stoddard, like many other inventors and geniuses, never had the faculty for "making money,"

as does friend Philo to whom you allude, and others who may not be half as deserving.

"MORAL DEGENERATES" IN THE CHICKEN-YARD.

In your issue for Aug. 15 you ask, "Will chickens eat bees?" I take the usual amateur's delight in volunteering what I *know* to be a fact. Not all chickens will. I don't believe some could even be induced to eat even dead ones; but you know, or ought to, that in every poultry-yard there is apt to be one or more "moral degenerates" that will persist in eating unwholesome food, catching wasps, centipedes, etc., and any filthy offal they can get to.

For two years I had chickens and bees. The first year I had two that just haunted the runway before the hives till I killed them. The second year I had one that took it up, so I made away with him. They were fair-sized broilers before I ever caught them at it. They may have begun by picking up dead bees around the entrances, though I frequently poured crude petroleum over them and all around the hives to keep down ants and grass.

They didn't seem to mind being stung. I would throw cobs at the hives to stir the bees up, hoping they would rally and drive them off. They would just dance and flutter a little, and then pick off the adhering bees and eat them, and deliberately go back to picking them off the alighting-board.

I have seen a hen pick them off the alighting-board of a hive in an old negro's front yard. He said she ate a few every day "for pepper."

A bee-sting hurts a little chick, and swells it up as tight as a tick. I had one killed by one sting on the neck.

Bee-eaters are like egg-eaters, feather-pullers, and those that get to pecking each other's heads to pieces. Feeding meat scrap is sometimes supposed to induce these habits; by others, the absence of meat in the rations is charged to the fault; but it is just a depraved appetite that will show up in some individuals of every flock, whatever the plan of management.

Little Rock, Ark., Aug. 1. JERRY HUMPHREY.

My experience indicates that the above is exactly right.

Here is something more along the same line:

Chickens will eat bees when they have no large run. I was trying out a pen of White Leghorns for record, and *confined* them near where bees would fly out in early spring and get chilled, and others would fly near by. The chickens would catch them first, kill them, and then eat them. I lost many before I "got wise." I have been keeping bees about 20 years.

Astoria, N. Y.

O. L.

You want to know if any one has positive knowledge about chickens eating bees. I will say this: I noticed a young chicken, probably a third grown, eat bees at the entrance as they would alight. I killed the chicken, and it had killed ninety, I think. This is the only one which I ever had occasion to examine.

J. R. COOPER.

Spargursville, O., Aug. 20.