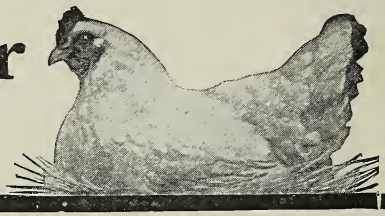
Gleanings in Bee Culture

VOL. XXXIX JANUARY 15, 1911 NO. 2

"Keep chickens,"

says the FARM JOURNAL,

and live better at less cost.



THOUSANDS of families, in city and country, have found this the easy way to IMPROVE their standard of living, and at the same time LOWER THE COST. With chickens you always have delicious food, for the family or for "company." Their eggs supply you with ready money or ready food. They are pets that *pay their board.* By keeping chickens, boys and girls can earn money, and also get an excellent training. Sometimes the back-yard plant grows into a large business, like those of CORNING, CURTISS, and FOSTER, who make many thousands of dollars a year.

Raising chickens pays if you know how, whether you keep a dozen hens, or run a large poultry-farm; but **you need the best guides.** Many get from their chickens less than HALF as much as they might get with the guidance of any of these **three splendid modern poultry-books,** which tell the experience and methods of the most successful modern poultry-raisers.

These methods have all been *tested* by actual experience and proved successful. The FARM JOURNAL stands back of them, for it has investigated them and KNOWS. They can be used with six hens or six thousand. Of the Corning Egg-Book alone, **OVER 100,000 COPIES** were sold in one year. Many are using these methods with splendid success and profit.

The Corning Egg-Book is the great guide-book for back-yard chicken-raisers. It tells how two city men in poor health, with no experience, starting with thirty hens, built up in four years an egg business which in one year, with 1953 hens, made an average profit of **$6.41 a year per hen.** These men learned how to make hens **lay the most eggs in winter,** when they get 60 and 70 cents a dozen. This book tells how they found the best breed, why they raise only white-shelled, sterile eggs, how they keep hens **LAYING ALL WINTER,** when they hatch chicks to do their best laying in January, how to mix the feed that produces most eggs, and how their whole system works to that one end—eggs, EGGS, EGGS. It gives photographs and complete working plans of their buildings, which you can build in SECTIONS, large or small as needed.

Curtiss Poultry Book tells how Roy Curtiss, a farmer's boy, starting with a few neglected hens, has built up at NIAGARA FARM one of the **best-paying poultry plants in the world.** Roy agreed that if his father would furnish feed he (Roy) would supply eggs and chickens for the farm table, and all left over were to belong to him. In two years Roy was using so much feed that his father had to cry quits, but the boy kept right on. His brother joined him, and the business grew and grew. But they had no guidance, and had to learn by their own mistakes. Such a guide as the **Curtiss Poultry Book** would have saved them thousands of dollars. This capital book was written right at Niagara Farm by the veteran poultryman, **Michael K. Boyer.** He says he never saw a general poultry plant so well managed. Every day shipments go off, every day money comes in. Their percentage of fertile eggs, of live strong chickens hatched, of day-old chicks shipped without loss, is really wonderful. This book gives all their methods and feed formulas, tested and improved by years of experience. Many pictures. Whether you raise chickens, ducks, or eggs, have a dozen fowls or thousands, you will find in this book help that you can get in no other way.

"Poultry Secrets" is a remarkable collection of successful "wrinkles" in poultry-raising, secured and edited by MICHAEL K. BOYER (known to poultrymen as "Uncle Mike"). Many of these were treasured secrets of famous poultrymen, guarded with jealous care because of their great value. We paid hundreds of dollars for them. This is the ELEVENTH EDITION, and thousands are using these methods with great profit.

W. R. Curtiss tells his successful method of hatching **50 per cent** more pullets than cockerels; the Philo System is described and explained; the "15-cents-a-bushel" and "8-cents-a-bushel" green feed secrets; secrets of the Angell, Palmer, and Hogan Systems; Boyer's method of absolutely insuring fertility of eggs for hatching; Townsend's System for preventing death of chicks in the shell; Felch's famous mating chart, suppressed for many years; feeding and fattening secrets; and MANY OTHER PRICELESS SECRETS, are here disclosed for the first time.

ANY ONE of these books and Farm Journal balance of 1911 and all of 1912,	ANY TWO of the books and the Farm Journal for three years,	ALL THREE of the books, and Farm Journal for two years,
50 cents	**$1.00**	**$1.00**

Be sure to say plainly WHICH BOOK *or books you want.*

Farm Journal is the standard paper for everyone who grows or wants to grow fruit, vegetables, poultry, or stock of any kind. It is 33 years old, and has **over 750,000 subscribers,** in all parts of the country. "Judge Biggle" and "Peter Tumbledown" are characters better known to many than Hamlet or Micawber. It has a fine poultry department, more valuable than most poultry papers. It is a favorite paper with housekeepers. Clean, clever, cheerful amusing, intensely practical. Cut to fit everybody, young or old, village, suburbs, or rural routes. Unlike any other paper and always has been.

On any one-dollar offer, if your order is mailed within TEN DAYS of the date of this paper, we will send you also the famous Poor Richard Almanac for 1911, full of wit and wisdom for the rural home. Address your letter just like this :—

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Gleanings in Bee Culture

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VOL. XXXIX JANUARY 15, 1911 NO. 2

Editorial

"Our Homes" came in from Florida too late for insertion in this issue, hence will be held over until the Feb. 1st issue.

STATE BEE-KEEPERS' CONVENTIONS IN OHIO AND INDIANA.

Ohio bee-keepers are reminded of the fact that the Ohio State Bee-keepers' Association will hold its convention in Cincinnati, at the Grand Hotel, Halls 1 and 2, Feb. 16 and 17. There will also be an important State Convention of the Indiana bee-keepers in the State-house at Indianapolis on Feb. 2. A good program is being arranged for both conventions. State Entomologist Shaw, also foul-brood inspector, will be present at the Cincinnati meeting to deliver an address. In the same way, State Entomologist Douglass, and also foul-brood inspector Demuth, of Indiana, will deliver addresses at the Indianapolis meeting. The bee-keepers of both states should get out to these two conventions, as there will be important matters up for discussion. The editor of Gleanings expects to be present at both meetings, and assist in the discussions.

THE HONEY-COOKING RECIPES.

On page 777 of the Dec. 15th issue we asked all those who knew of good recipes, in which honey was one of the ingredients, to send such to us, and in exchange for any that we could use we agreed to send Gleanings one year free, or a copy of "How to Keep Bees," by Anna B. Comstock, the "Townsend Bee-book," "Alexander's Writings on Practical Bee Culture," or "How to Keep Well and Live Long," by T. B. Terry. A large number of recipes have come in, in response to this offer, for which we will issue the proper credits just as soon as we can go over the list and find out what we can use. Meanwhile, any others among our readers, who intend to send recipes will please get them to us as soon as possible.

So far we have been considerably surprised to see how widely honey is used for making almost every thing, from shoe polish and cough syrup to bread and cake.

NATIONAL BEE-KEEPERS' ASSOCIATION ANNUAL REPORT.

The 1910 Annual Report from General Manager N. E. France is just out, and, after looking it over quite carefully, we find that in many respects it is ahead of any other. There are quite a number of very interesting illustrations, and the whole subject matter of the report bears the stamp of practicality. As usual, a full list of the members of the Association is given, which list, by the way, is larger than ever before, and shows the Association to be in first-class condition.

The new secretary, Mr. E. B. Tyrrell, has sent out, with the report, a request for names of bee-keepers to whom he might write with the idea of interesting them in the Association and thus materially increasing the list. By the way, we happen to know that Mr. Tyrrell is well qualified for his new position, as he has practically spent his life in work similar to this; and we bespeak for the National Association a period of greater growth and prosperity than it has ever enjoyed.

CANDIED COMB HONEY; WHAT SHALL WE DO WITH IT?

At this time of the year, dealers and jobbers should look over their comb honey very carefully. If they detect initial signs of candying they should move it off at once. If the room is not raised to a temperature of about 80 degrees Fahr., they should take steps at once to have a uniform warm temperature provided night and day. When honey once *starts* to candy the process goes on very rapidly. With a uniform temperature of about 80 degrees the candying is delayed materially.

We once thought we could stop it by putting the temperature up to 95 or 100, but we found from experience that such a high temperature has a tendency to make the combs sag and leak. We do not now advocate a higher temperature than 80 to 85.

Dealers should make sure that it does not jump from 90 down to 32. There is nothing in the world that will make honey candy any quicker than a *variable* temperature.

ILLUSTRATED MATERIAL ON HAND FOR PUBLICATION.

Never before in the history of Gleanings have we had so large an amount of illustrated material on hand. We have spared no expense in procuring the very

finest engravings possible from some of our largest and most extensive producers, illustrating each step in important methods of management, many of which we ourselves have not fully understood up to this time. It is astonishing how these "moving pictures" aid in making the meaning clear. Then, once seen, they are never forgotten, and the method in question is permanently fixed in the mind.

In spite of the fact that we have so much on hand, we are just as anxious as ever to get good instructive photographs, illustrating various interesting points in connection with bee-keeping. Mere pictures of apiaries we do not ordinarily care for, unless they illustrate some special feature.

HOW THE MOVING PICTURES ARE SECURED.

In some instances the editor himself has visited the yards of the contributors, taken the necessary pictures, step by step, to illustrate a prospective series of articles contracted for. In other cases the contributor has used his own camera. However, besides our complete and up-to-date outfit which we use ourselves, we have four or five compact folding cameras that we send out to special contributors together with the necessary instructions, so that they "press the button and we do the rest." Parties who have had no experience at all have taken some very good pictures in this way.

CAPPING-MELTERS AS VIEWED BY OUR EXTENSIVE PRODUCERS.

WE can not help noticing that some of our large bee-keepers who have tried capping-melters under quite favorable circumstances have had more or less complaint to make in regard to them. As our readers know, there are quite a number of different shapes and sizes of melters that have been used; and one opinion that has been expressed quite frequently is that a capping-melter means considerable apparatus that needs constant attention at a time when all hands are the busiest. Some have come out quite frankly with the statement that they would prefer to lose a little honey rather than have so much heat and fuss around in the way. Others have decided that it is better to allow the cappings to drain and accumulate until a time when work is not so rushing and labor is less expensive, then render up the whole lot at one time and have it done with.

There has been also more or less complaint of the quality of the honey being injured by being heated in close contact with the wax, propolis, etc. The latest producer to express a sentiment of this kind is W. A. Chrysler, who, in a paper read at the Ontario Bee-keepers' Association convention, and published in the December issue of the *Canadian Bee Journal*, had the following to say on the subject:

We have capping-melters that are used to separate honey from the cappings while the uncapping of the combs is in progress. The cappings, when first removed (not having time to drain), contain large quantities of honey. I maintain that, although the honey may be just as palatable, it is changed in flavor and color to a certain extent, although it be not overheated. All honey, when melted with cappings or comb, will take on the flavor and the color that wax, smoker smoke, and probably other minor substances, such as travel-stain, etc., will give it. Overheating has been suggested many times as being the cause of darkening the honey and affecting its flavor. From my experience I am thoroughly satisfied that the honey will be darkened in color and changed in flavor, even if not overheated.

Unless cappings can be in some way pressed cold, we may always expect capping honey necessarily to be kept separate from our other honey, and sold on its merits.

I find that cappings, after having been drained of all honey that will drain from them, still contain a large percentage of honey, the value of which will repay an effort to secure it in a palatable and salable condition.

While taking off honey, it is advisable, however, to avoid smoking the bees more than is necessary, as smoker smoke, when used to excess, will affect the flavor and the color, especially the cappings or honey exposed on the surface of the combs.

In my honey-house I have an uncapping-tank about 6 feet long, about 18 inches wide, and about the same depth, made of ⅝-inch lumber, and lined on the inside with tin, in which I have four wire-cloth baskets, about 17 inches square and about 12 inches deep, which have lugs to hang them suspended in this tank, and handles for removing when ready to melt up. I can uncap in any place that is most convenient along the aforesaid tank; and when the wire-cloth basket is full I can slide it along out of the way to drain, and replace with an empty one.

The cappings, when sufficiently drained, are melted over steam-coils, or in a vessel placed in hot water, with an opening to allow the wax to separate from the honey. The chief difficulty I have found is to separate the wax and the impurities from the honey successfully, and with the desired amount of labor. I have, while attending this convention, seen displayed here, by the Provincial Apiarist, Mr. Pettit, an apparatus that I feel certain will obviate and remove the above difficulties, and may also be used in connection with the wax-press when rendering wax from all combs.

Some of these objections may be overcome; but time only will tell whether the capping-melter is a piece of apparatus that will come into general use. We know that there is a large number of capping-melters of various constructions in use, and we invite comment on the question, cut where it may. Let those who know speak from their experience so that others may profit thereby.

IMPORTANCE OF ACCURATE AND HONEST GRADING OF COMB HONEY.

MORE and more the evidence is coming in, showing that too many bee-keepers either do not grade their comb honey at all, or else do it so slovenly and carelessly that the consignee is simply disgusted when he comes to open up the cases and finds No. 2, No. 1, and Fancy all mixed together indiscriminately. One dealer said that he could excuse careless grading, providing that the front of the case was not faced up with "fancy." Said a jobber, "When I send out a case of fancy comb honey and suppose that the case is in keeping with the facing on the outside I get 'particular fits' from the grocer, and I deserve it, too. Now," he said, "Mr. Root, you can not blame me very much when I turn around and give the producer 'fits.' When that producer turns around and sends my letter

to the Root company and wants me 'shown up,' it makes me mad all over, and I have about come to the conclusion that I will never handle another pound of comb honey so long as I live."

This is only a sample of some of the interviews that we have had with some of the buyers of comb honey. No wonder some of our dealers are saying they won't handle any more, especially when so much good comb honey carefully graded is broken down in shipment.

There is no question but that there must be a radical reform in the marketing of comb honey. In the first place, better shipping-cases must be used, and the comb honey must be packed on corrugated paper. When small shipments are sent out, the cases should be crated in carriers, in the bottom of which are heavy cushions of straw. In the second place, producers must learn the importance of careful grading, not to say honest grading, for it is not honest to face a case with fancy combs when all the rest of it is No. 2, No. 1, and fancy, indiscriminately mixed up.

Another practice that can not be too strongly condemned is mixing *old* comb honey with *new*. A few months ago we inspected one shipment where it is evident that this year's crop was mixed up with last year's. The latter was largely candied, and otherwise gave the appearance of being old. Unless the whole lot is regraded, putting this year's crop by itself, and last year's crop by itself, the entire shipment will go at the price of the poor honey. The average dealer has no facilities for regrading, and therefore he will lump off the whole lot, if it is on consignment, at any old price to get it off his hands.

The seeming indifference on the part of some small producers (and a few large ones) in packing their comb honey for shipment in such haphazard ways as have been described, will, sooner or later, drive railroad companies to refuse to handle comb honey. It has already driven from the field hundreds and possibly thousands of good customers who would buy comb honey largely to sell again.

We propose to hammer at this proposition until reform is well under way. Such slovenly, careless methods of packing should give way to more scientific ways of putting up a product so fragile as comb honey, and we invite bee-keepers' associations, bee-journals, and all bee-keepers everywhere, to join with us in the crusade.

A BEESWAX EXPLOSION.

YESTERDAY, if we had been told that beeswax would explode we would not have believed it; but, nevertheless, one of our men is to-day suffering from severe burns about the face and hands as the result of beeswax apparently exploding that was being heated during the progress of an experiment. The details of the incident are as follows: About a pound and a half of wax was being heated in a deep wash-dish over an ordinary stove. The dish had a rounding bottom, was about a foot in diameter at the top, and perhaps six inches deep. The melted wax occupied not more than 1½ inches space at the bottom of the dish. When fine bubbles of wax commenced coming to the top, showing that the boiling-point had nearly been reached, about half a pint of water from a tea-kettle was poured in, the idea being to cool the wax and prevent it from boiling. Without any warning, however, there was a sudden explosion, all the hot water and wax being thrown violently into the face of the one who was performing the experiment; and, as the wax had to be scraped off with a knife, it caused some quite severe burns before it cooled.

Now, did this wax, like nitro-glycerin or gunpowder, simply explode of its own accord? There was no exposed flame or fire at any time, and, fortunately, nothing caught fire afterward. Our explanation of the trouble is as follows: Wax boils at a much higher temperature than water; hence, although the wax in the dish on the stove had not quite reached the boiling-point, its temperature must have been considerably above the boiling-point of water. When the hot water from the tea-kettle was poured in, its tendency was to go to the bottom of the dish because the wax is lighter; but the high temperature immediately volatilized the water; and as the steam had no exit except through the wax, it fairly lifted the whole contents of the dish into the air.

If wax is being heated over boiling water, there is no such danger if our explanation is the correct one, for the wax could get no hotter than the boiling water underneath; hence it hardly seems correct to say that wax may be boiled over water. It is true that the water underneath boils; but the wax above does not reach its own boiling-point, although the steam from below, rising through the wax, agitates it and gives it the appearance of boiling.

All this only goes to show that it is much safer, when melting wax, to put water in the bottom of the vessel before the wax is thrown in. The wax will then not reach its own boiling-point. In the experiment described above, the wax was already above the temperature of boiling water before the water was introduced. Very serious results would surely follow if a large quantity of wax were brought nearly to its boiling-point, being heated in a dry vessel, and then water introduced. If a large quantity of cold water were put in there might not be bad results, as it would have a tendency to cool the wax, although the first of the water put in might make trouble before the larger volume had cooled down the body of the wax. If we are not sound in our reasoning, we shall be glad to be corrected.

Fires from burning wax are very hard to extinguish; and the greatest precautions should be taken, not only to prevent wax from boiling over, but to prevent such occurrences as this.

Stray Straws

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

ITALIANS are far less inclined to "resort to the fluids excreted by aphides, to damaged fruits, etc.," p. 12. That's new. I wish the proof had been given.

FIGURES as to nectar-loads, page 780, are, after all, not very conflicting. Professor Koons' data give 20,000 bees to carry one pound of nectar. That would be .350 of a grain to a load against Mr. Digges' .333.

DUMMIES for eight-frame Dovetailed hives are, I think, usually made the same length as brood-frames, 17⅝. For years I have used them ½-inch shorter; and if I were making new ones they would be an inch shorter. Bees never build in the space left, and they are more easily handled. Manufacturers, please take notice. [We are not sure but you may be right. We shall be glad to hear from others.—ED.]

A HIGH PRICE is set on propolis, p. 772—namely, $5.00. I'd like to sell five or ten pounds of it at that price each year I have a crop of honey. [You say you would be glad to furnish propolis at $5.00 a pound when you have a crop of honey. When you have not a crop, perhaps you could not furnish it in quantity at any price; therefore $5.00, taking seasons as they go, probably would not be much out of the way.—ED.]

F. H. CYRENIUS, p. 802, it doesn't follow that you would make a big gain by feeding between fruit-bloom and clover because J. A. Green did. That 1000 lbs. of sugar—perhaps 3 lbs. to the colony—wouldn't cut very much figure in filling up; but it would cut a big figure in keeping up brood-rearing; for in Colorado there is a dead break in brood-rearing, while with you it is probably the same as here — the queen doesn't stop laying.

"I CAN NOT SEE why anybody should think that he can buy better queens than he can rear at home," page 766. The man with average bees can always buy better queens than he can rear, simply because some one else has better bees than he has. If he buys a queen of better stock than he already possesses, even should that queen after her journey prove a poor layer, he can from her rear queens that will beat his old stock.

"WE HAVE an idea that, to eliminate completely the swarming desire, is to breed a race of bees that is lacking in fecundity." —*Canadian B. J.*, 358. I don't know about that. The thing I do know is that the colonies that give me record crops are the very ones from which the swarming desire is completely eliminated for one or more years. They seem to have at least enough fecundity left to get more honey than anybody else.

BANATS "more nearly resemble the black bees in appearance, and it would be difficult to keep the blacks and Banats separate." That would hardly count against the Banats in places where the black blood is nearly all worked out. I suppose there are thousands of bee-keepers to-day who have never seen pure blacks, although some of us never saw any other for years.

HOW LONG does it take a bee to load up with pollen? In six to eight seconds it cleans up a single erica blossom, and in five to six minutes the beginning of the pellets can be seen; eighteen to twenty minutes later they are finished; and four to five minutes later the bee is back to its hive ¼ mile away.—*Deutsche Imker*, 336. Can it be that it fools away four or five minutes getting over that quarter of a mile? [What kind of a mile is meant, doctor?—ED.]

DISAGREEMENT still continues as to absorbents and sealed covers. I wonder, now, whether, in places where absorbents do better, sealed covers would not do just as well if the absorbents were put *on top* of the sealed covers. At any rate, it seems very important to have the top warm, sealed or not sealed, so that moisture will not be condensed and drop down on the bees. [When sealed covers are used for outdoor wintering there should *always* be some warm packing placed on top. The great thing in favor of sealed covers is that they keep the packing material dry because the moisture can not escape through the top.—ED.]

ALLEN LATHAM has the secret of keeping section honey. I have some of his get-up of 1907, '8, '9, and '10, and there's no more sign of graining in the first than in the last. All of it is thick, stringy, with never a grain. Now, how does he do it? [This is very important. If Mr. Latham, or any one else, has a plan of keeping comb honey liquid, it would be worth much to dealers who have to hold over a crop after the holidays, In this connection it is proper to remark that some honeys will remain liquid very much longer than others. We wonder whether our friend has any plan that would keep *alfalfa* honey from candying for any great length of time.—ED.]

"SOLID CARDS of honey" break up the cluster, so that the bees, instead of being in a solid cluster separated only by midribs, are separated into slabs of bees ⅜ inch thick, p. 19. That's true, with an "if"—*if* there is not room for them to cluster below bottom-bars. In my cellar the colonies that look "goodest" to me are the ones with a big cluster below bottom-bars, not separated even by a midrib. [We had in mind, particularly, colonies in *outdoor* wintered hives. It is not so necessary to have a winter nest for *indoor* colonies; but when they are outdoors it would be simply impossible for the cluster to be so strong that it would reach away down below the bottom-bars. If the entrance was of the usual size, the bees would hug up against the top of the hive.—ED.]

CARBOLIC solution. Little is heard about it nowadays, so it may be prettier in theory than in practice, quoth ye editor, page 26. Possibly less is said about it now because it has become a settled thing. Cowan's Guide Book, p. 98, says it is frequently used, and gives instructions for using. Digges' Practical Bee Guide says, "By some the carbolic cloth is preferred to the smoker. In certain operations it is somewhat easier to work with than is the smoker," p. 67. To subdue bees, lay over them a cloth moistened with a solution. Cowan says 1 oz. of Calvert's No. 5 carbolic acid to 2 oz. of water. Digges says 1 to 10. I've heard of its tainting the honey.

ONCE I HAD two nuclei in the same hive. One of them, becoming queenless, united with the other. I suppose it united without flying out, merely crawling the short distance from one entrance to the other. At any rate I found one side of the hive deserted, and part of the field bees regularly entering its entrance, and then solemnly marching out again, and walking across to the other entrance. This they kept up for days, I suppose as long as the original field bees lived. I leave Ralph P. Fisher to reconcile their actions with his experience that "bees invariably seek the shortest way home." [At our north yard, where we use 200 twin baby nuclei, we find it a common thing for some of the bees of the queenless side of the nucleus to desert and go over to the side that has a fertile queen.—ED.]

IS THERE a better name than "extracted"? page 3. The fact that much discussion, several years ago, failed to find the better word, it looks as if there were none. "Extracted" is a better word now than it was then, because it has had all these years of reputable use. The editor strikes at the root of the matter. It is not so much what the name is, as what the public knows about the thing itself. My Chicago daily—and likely other dailies—contains a full-page ad. of beer—not beer of this or that make, just beer—its food value, its tonic effect, nourishing, soothing, livening, cleansing, etc. That ad. cost a pile of money, and on the face of it the beer-makers must have got together to pay for it. If it pays them to raise big money to pay for lies about their vile product, why should it not pay bee-keepers to get together to tell the truth about the most delicious and wholesome sweet in existence? In that way the public would learn just what extracted honey is, and the name would matter little. Will they ever do it?

YE EDITOR "silenced for ever" all questions as to beet sugar being inferior for wintering, p. 733. Now comes one of the big feeders, Wesley Foster, who breaks the "for ever" silence by saying, *Ranch and Range*, 34, "The reason for using cane sugar in place of beet sugar is that syrup made from beet sugar turns to crystals much quicker than syrup made from cane sugar; in fact, cane-sugar syrup fed to bees does but rarely granulate." [Beet and cane sugar look exactly alike, and chemically are precisely the same. Very often local dealers will sell what they suppose is cane sugar, when in reality it is beet, and *vice versa*. We have never been able to get granulated sugar from the sugar-refiners which was guaranteed to be either beet or cane. The question of crystals forming from the syrup would depend more on the way the syrup was heated, we should say, than upon the material out of which it was made. Our friend Mr. Foster we consider one of our most reliable correspondents. We simply raise the question as to whether he is misinformed as to the source of the sugar. We have tried ordering a granulated sugar made of sugar *cane;* but so far the sugar trust has not seen fit to give any information, any more than to state that they guaranteed it to be first class, and equal to any granulated sugar sold.—ED.]

"AT WHAT DATE would you advise feeding for stimulating or for increase in the spring?" is the common question of all beginners after they have been reading a little about bees, and have somehow got the idea that bees will not build up as they should without that sort of attention from their owners. The proper answer to that question—an answer given with emphasis—should be "At no date." If bees do not have plenty, yes, abundance, of food, they should be promptly fed (and that feeding is better done the summer or fall previous); then, having abundance, the safe thing is for a beginner to let them alone. It's the safe thing, as well, for the veteran. A sort of exception occurs in places where there is so great a break in the early forage that the queen stops laying. [You are sound, doctor, all the way through, but once in a while a beginner finds his colonies, during mid-winter, with almost dry combs. If he has no combs of sealed stores from other hives or in reserve in his honey-house, the only thing he can do is to give slabs of candy, laid up on top of the frames. We recommend hard rock candy, made only of granulated sugar; there should be no flavoring of any sort. Generally speaking, it should be made by a professional candy-maker who knows how to do the work without *overdoing* it. A slightly burned candy is almost sure to be fatal to the colony before spring. Where one can not secure the rock candy, the orcinary queen-cage candy does very well. One objection to it is the waste, as the granules of the sugar rattle down between the frames, and the first warm day, or fly day, are carried out and deposited at the entrance. We find nothing of this kind when rock candy is used. Again, unless the candy is made of the right stiffness, it softens from the warmth and moisture of the cluster, and sags down between the frames, daubing up the bees. This difficulty can be overcome by putting the candy in wooden butter-dishes. Metal or porcelain dishes should not be used, as they are too cold for the cluster.—ED.]

Siftings

By J. E. CRANE, Middlebury, Vt.

On page 683, Nov. 1, attention is called to the necessity of strong colonies for working a late flow. Good advice, and it is just as good for working an early or mid-summer flow.

After looking at those beautiful pictures on pages 690 and 691, of the field meeting of the Massachusetts Association of Bee-keepers, it makes me regret more than ever that I could not accept their pressing invitation to be present.

I think it will pay to read that article twice by Albion Platz, page 651, Oct. 15, on stimulative feeding. Evidently we can not improve much on Nature's methods; and the closer we study this old teacher the more success we shall have.

Hip! hip! hurrah! Vermont at last has a foul-brood law. Conditions were favorable, and a few of us put our shoulders to the work and it went through. We did not get all we desired, but enough to make it work in our small state, and we hope in the near future to eradicate entirely this scourge of foul brood.

Wesley Foster, page 682, Nov. 1, gives us a glimpse of Colorado winters. It must be a great thing to be able to leave bees out all winter without packing or care. By the way, I have found a most excellent material for packing to insure safe wintering is 1½ inches of live bees packed around a moderate-sized colony.

The editor says, page 711, Nov. 15, he would like to see the question of a settling-tank vs. strainers settled. Well, we have settled it so far as we are concerned. Unless honey is quite warm or thin we find it too great a task to strain it satisfactorily, and now prefer to trust to a settling-tank. [This opinion seems to be growing.—ED.]

I was much interested in the short editorial, page 643, Oct. 15, on the value of bees as fertilizers of cranberry-blossoms. Mr. Martin, Commissioner of Agriculture for Vermont, recently informed me that, while the apple crop of Western Vermont is large, that of Addison Co., where the most bees are kept, is much larger than in the adjoining counties.

A very interesting article is that by D. M. Macdonald, page 617, Oct. 1, on securing heather honey in Great Britain. Some of his methods are especially applicable to this or any country, and we do well to remember them; viz., to get the hive full, crammed with brood in all stages, with an abundance of hatching bees, strong colonies just as the flowers begin to bloom, from which the harvest is expected. But why heather honey sells at so much higher a price than clover honey I fail to see.

Attention is called, page 679, Nov. 1, by the editor to the relative price of comb and extracted honey. I believe that here in the East, in small packages, say from ¼ to one pound in glass, extracted honey sells as high as or higher than comb; but in larger quantities the extracted sells for less. However, when we speak of a pound of comb honey we think of a section, which often does not weigh over 14 ounces after the wood and wax are removed.

Mr. Holtermann's note, page 614, Oct. 1, on percolator feeders, seems to me quite to the point. I never could see the sense of letting our sugar dissolve slowly in cold water when we could melt it in half or a quarter the time with hot water. We have to feed heavily here in Vermont, especially some years. With hot water we are able to melt up two or more barrels of sugar and take it from six to ten miles away and feed the same day, and then repeat again the next day. How long would it take with "percolator feeders"?

A number of articles have recently appeared as to the practicability or possibility of breeding out the swarming impulse. Some think it can be done, while others claim it is impossible. Now, I am not going into the fight, but just going to stand on the fence and "holler" for the under dog. One thing seems to me very clear, however. The swarming instinct or impulse, or whatever you may call it, is a very variable quality in different breeds or races, or even strains of bees of the same race. Furthermore, when any quality, either in plants or animals, over which man has control, is variable, he can either increase or diminish that quality by careful breeding and selection.

Mr. W. E. McFarland tells us, page 655, Oct. 15, of a wise chicken he has, that every afternoon goes around among his hives catching drones. A great deal has been written about improving our bees, and I am of the opinion that, a breed of chickens such as he describes would be a decided acquisition. Try as we do to cut down the drones, we always have quite too many, and a few chickens with drone-eating habits would just fill the bill. Only think! instead of our drones being a complete waste, as now, they would furnish food for our feathered family; and our hens, instead of just furnishing eggs will earn us money at drone-catching. But how about our choice drones? I think we will just set such hives on a barrel, so the chickens wouldn't find them.

Bee-keeping in the Southwest

By Louis Scholl, New Braunfels, Texas

THE REAL PRICE OF BULK COMB HONEY IN TEXAS.

On page 680 Otto Sueltenfuss takes the writer to task as giving to the bee-keeping world an erroneous idea of the prices of bulk comb honey. Had our correspondent taken the pains to investigate the situation as thoroughly as we did through some forty or more letters asking for postal-card replies, he would have found that by far the greatest amount of Texas bulk comb honey sold for 10 cents per pound, and a great part of fhis realized those who sold direct even better than this. We have sold on a 11, 11½, 12, and 12½ cent basis the entire season for bulk comb honey. For extracted honey our price, f. o. b. shipping-point, was 9 cts. per lb. in the two 60-lb. cans, and 9½, 10, and 10½ cts. in the smaller-size pails in case lots.

On page 580 he quotes the average price for extracted as having been 7 cts., and a dull market for this later for three months, crowding it down to 6½ cts. This seems strange to us, since we have scoured the country for extracted honey with which to put up our bulk comb honey, and found nearly everybody sold out; or those who had any, held it at 8 to 9 cts. We ourselves paid 7¾ cts. for dark amber, and 8¼ for light-amber honey in two 60-lb. cans, in several thousand pound lots. A single lot of 33 fifty-gallon barrels, we paid 7 cents per lb. for, the lightest we could get, though still a light amber. In the first place we have seen no "water-white" honey this year, and know of none that sold at so ridiculously a low price as 6 to 6½ cents, as stated. If he got so little for *his* honey it does not necessarily set the price obtained for the great bulk of the Texas honey crop. We have yet to meet a single bee-keeper who is complaining either about the demand or the prices of honey this year; and *many* have obtained more than the ten-cent basis.

ORDER YOUR SUPPLIES EARLY.

This is of more than average importance, for delays in ordering the needed supplies for the next season have resulted in far greater losses than one would suppose without a second thought. The writer has seen instances where the simple delay of a month in the spring meant almost the entire loss of a honey crop to the owner of several hundred colonies of bees, while in other instances a great part of the main crop was lost for the simple reason that the much-needed supplies were either not to be obtained at all or they were delayed "somewhere on the road" and could not be located until it was too late. A little extra care in this direction would prevent many a loss of a crop.

There are other advantages gained by the early ordering of supplies. It is still early enough to do this; but the *proper* time to get the new things should be in the late fall or the early winter months. As soon as the honey crop is out of the way, and there is still some of the money on hand from the proceeds of the apiary, turn it into supplies for the next season. At this time there is a reduction on early orders. These can be shipped out earlier, since there is not the rush of the busy season, and the trouble resulting from delays *en route* will not be felt nearly so much.

But there is a much greater advantage; and that is, if the supplies are received early they can be put together and painted at leisure when there is nothing else of a pressing nature to interfere, as is the case later in the season. Then we are able to give our thoughts and attention to some of the more important things that help so much in making our business a success. This warning is given at this time so that those who have not already ordered will not be caught delaying the matter any longer.

PREVENT FIRES IN THE APIARY.

Fire may do disastrous work in an apiary if proper precautions for its prevention are not taken. One of our river-bottom apiaries, in which the hives are on scaffolds four feet high, is located in a Bermuda-grass pasture. While the stock keep the grass very short in the pasture, it grows very rank and thick in the apiary during the year. This fall the grass caught fire; and, before it was discovered, a lot of supplies and some lumber, part of the fence, and several large trees, were burned. One of the scaffolds, together with six colonies of bees on it, also burned up entirely. Several others that had caught fire were saved. Had this not happened on a Sunday, when there were many plantation negroes near the place, the fire would not, perhaps, have been discovered, and the entire apiary would have been destroyed.

We have always been careful to guard against such disasters; but this work was delayed on account of other matters. It has made a still firmer impression upon us of the importance of cleaning up the apiaries *in the fall* of the year instead of leaving all fallen leaves and other trash and rubbish until spring.

Although we have been careful before, this experience has taught us to do this work a little earlier and more thoroughly than heretofore. It is not very pleasant even to think of finding one or more of the out-apiaries entirely wiped out by fire. Where some of the apiaries are located in pastures or forests it is also wise, as an extra precaution, to plow or otherwise clean a space entirely surrounding the bees. This, together with a clean-kept apiary, not only prevents fire losses but improves the appearance of things materially. It shows intelligence, energy, and thrift on the part of the owner.

Conversations with Doolittle

At Borodino

BOOKS, HIVES, ETC., FOR BEGINNERS.

I read with interest your article for beginners in the November 15th issue. Now please name some of the practical books on bee-keeping; and tell us what size of frame and hive you would use. Would it be advisable to sow sweet clover or other nectar-producing plants for bee pasture?

It would be hard work to pick out any special book on bee-keeping and recommend it above all the rest, as all writers on apiculture have their own individual ideas of what is *practical*. When any one originates something new, that thing is more practical in his hands than in the hands of some one not familiar with it. To illustrate: For over thirty years of my bee-keeping life I used a smoker made of a piece of tin ten inches long, rolled into a tube two inches in diameter, and locked together with a stove-pipe joint, so there was nothing to unsolder from heat from the burning fuel. In one end was nailed a cone-shaped plug having a ¼-inch hole in the center, while the other end was fitted with a removable plug or stopper having a mouthpiece with a hole bored through it, something like the mouthpiece of an ordinary tobacco-pipe. This cylinder was filled with almost any kind of fuel that would produce lots of smoke—a coal of fire or a little punk set on fire from a match dropped in, and the mouthpiece or plug replaced. It was then held between the teeth, and the smoke directed just where it was needed, by a slight breathing through the mouthpiece and a little turning at the desired angle by a pressure of the teeth, or a little motion of the head and neck. This left both hands free, and the directing of the smoke, and the quantity required, became, after a little, almost automatic. When, finally, my teeth began to decay I had to resort to a "bellows smoker"—a thing which the great mass of bee-keepers called "perfection;" but I was so thoroughly disgusted with it that I threw it into the waste-box till I was simply obliged to go back to it on account of having no teeth to hold the old mouth smoker with.

In 1876 I was at Medina, having the old mouth smoker with me. I showed the founder of GLEANINGS, Mr. A. I. Root, how I used this smoker; and as he saw how any amount of smoke, from the least trifle to a large volume, could be directed just where it was needed, and at the instant needed, while both hands were free, he became very enthusiastic in the matter. When I returned home I left the old smoker with him; but I soon received a letter telling me how the "elephant" had filled his eyes with smoke till the tears streamed down his face—how his lungs were filled till he was nearly strangled, and he forgot to turn the thing on the bees, so that he got the worst stinging he had had in a long time. If beginners—yea, and all others—will be patient in trying something new, their trial is not so apt to be in vain.

Now about the books: I think all will bear me out when I say that the book containing the most *up to date* matter on apiculture is the one called "The A B C and X Y Z of Bee Culture." But, while this is a fact my eyes always glisten at the sight of my old 1865 edition of "Quinby's Mysteries of Bee-keeping," for it was at the feet of this Gamaliel that I learned my first lessons in practical apiculture. Of course, this book is now out of print; but "Quinby's New Bee-keeping," by L. C. Root, Father Quinby's son-in-law, is still obtainable, and brought more nearly up to date. Then there is "Langstroth on the Honey-bee," which was and is considered "the *standard*" for the world. And our own Dr. Miller's book telling of his forty years' work with the bees, which has placed him where his name is a household word on the tongue of every lover of our little pets, should be in every bee-keeper's library. And, dear me! there are nearly or quite twice as many more books on bee-keeping that have the "right ring" in them, from which so much can be learned that surely no one interested in bees can go amiss in making a selection.

For 35 years I used and "swore" by the Gallup frame about the same as I did by that old mouth smoker. The Gallup frame was like a Langstroth frame, but it was 10¾ in. square, inside, or 11¼ outside. Mr. Gallup used twelve of these to the hive, while I used only nine, spacing them 1½ inches from center to center. This small brood-chamber caused nearly all the white honey to be stored in the sections; but when I wished a non-swarming plan for working my bees, this one-foot cube for a brood-chamber would not answer. I then took the old beaten path and adopted the regular Langstroth size, using ten frames to the hive; and now, after getting "acquainted" with this regular L. frame and hive I am wondering at the patience the rank and file of the bee-keepers of the past had with my continual claims for the Gallup as best.

Now about sowing for bee pasturage: I very much doubt whether the sowing or planting of any thing which is of no value except for the nectar it may produce can be made to pay on land which will produce fairly good returns for farming purposes. Sweet clover is surely a great honey-plant; and the beauty of this plant is that it will thrive on gravelly, rocky, or sandy soil where almost nothing else will grow at all. I have sown it all about here by the roadside, by gullies, and all waste places, until it is quite a help to the bees. But as an apiary of 100 colonies requires hundreds of acres of pasturage, the clovers, as sown by our farmers, the basswoods growing for lumber, and the buckwheat for its grain, give 99 out of every 100 ounces of nectar which our bees gather; while the hard maple, willows, and fruit-trees give the most of the other ounce not included with the 99.

General Correspondence

SECOND HAND CANS.

Does it Pay to Use Them? Occasional Lots of Cans will do for Use the Second Time; but in the End the Second-hand Business Proves Unsatisfactory.

BY F. B. CAVANAGH.

The only possible object in using second-hand cans is the saving in cost over new ones; therefore if second-hand cans cost us 30 cts. less per case we can obviously sell our honey at ¼ ct. per lb. less when we market. Furthermore, if the cans have contained nice light honey, and have been carelessly drained, there will be close to a pound of honey in each can, which, included in the selling weights, may net us 10 to 15 cts. more per case. All very well so far, and a good-appearing proposition; but now for the facts and figures governing both sides of the case.

In the first place, it is exceedingly hard to get cans which are good enough. The dealer empties his once-used cans after melting the contents by placing the can in hot water. The can looks very good, but in reality it is injured at the time of emptying when he shoves it back into the box to await an order from some bee-keeper. Mr. Beekeeper writes a letter something like this:

HONEY BEND, May 22, 1910.

Honey Bottler Co., Big City, U. S. A.

Gentlemen:—

Have you any good second-hand cans, conforming strictly to the following specifications? New cans used but once for white-clover, alfalfa, or sage honey; bright, and free from rust both inside and out; free from leaks; not battered, and with caps which fit; cases to be in good condition for shipping. You might also quote me on the same cans shipped without cases.

I had decided never to use second-hand cans again, as I had to throw out fully one-fifth of those purchased of a firm last year. However, the 100 cans *you* sent me loose last fall were so good (with the exception of the ones the trainmen used in playing football) also, that your firm is highly recommended to us; hence we contemplate trying once more if prices are right. Yours very truly,

E. Z. BEEMAN.

In due time a cheerful reply comes back:

BIG CITY, U. S. A., May 27, 1910.

Mr. E. Z. Beeman:—Replying to your favor of the 22d, we have for immediate shipment 200 cases of good cans such as you describe, in good solid boxes. For these we ask 30 cts. a case. We also have 100 loose cans at 5 cts. each.

These will be good; cans used but once; and on receiving them, if you find any you can not use, just throw them out and report to us.

Yours truly,

HONEY BOTTLER CO.

The order is sent. Mr. Beeman, being busy at the time the cans arrive, takes a hasty glance at a few cans opened at random, finds them bright and good, is satisfied, and stores them away.

In a couple of weeks comes another letter advising of several hundred more cans in stock. Beeman writes that the first lot looks fine, and if others are as good he says, "Ship us the 100 boxes and 200 loose cans."

The Honey Bottler Co. replies later that they have shipped 100 boxes of cans, 40 cases of which have had maple syrup in them marked ××, and which are good cans, and "we hope you can use them at 20 cts. per case; also 200 loose cans, some of which are not so good, so we include 25 extra ones. Trusting you can use the entire shipment, we beg to remain, etc.

"P. S.—You may throw out any cans which you can not use."

Now, the proper thing to do was to inspect the cans before accepting. However, Mr. Beeman, being busy at out-apiaries, leaves strict advice to the agent and drayman not to delay a minute in getting those cans inside the shop. No bees must get at them; hence the cans are piled inside, and, feeling secure of the company's good faith and the clause to throw out any poor ones, Mr. B. waits for a rainy day to inspect the cans.

It rains at last, so to the shop goes Mr. Beeman and helpers armed with towels, a tank of cold water, tub of hot water on a gasoline-stove, also hammer and nails to renail boxes.

The first 200 cases tested are satisfactory, barring a dozen with nail-holes. Of the remaining 400 cans, over 160 are sour inside, or blackened with an evil-smelling rusty substance, much unlike maple syrup. About 100 remaining cans are tarnished outside, and hardly fit to use; but Mr. Beeman polishes them up and keeps them, hoping to make a little better report. He very kindly writes the Honey Bottler Co., expressing regrets. They, being very much surprised, and somewhat offended, reply thus in substance: "Enclose shipping-bill for 25 cans, which," they add, "ends the matter so far as we are concerned."

Mr. Beeman takes the local bank's cashier down and has him look the lot over. He smells the openings of many cans with appropriate exclamations of disgust. He writes his confirmation of condition of cans, and sends it in the same mail with Mr. Beeman's kind repetition of facts.

The Honey Bottler Co. say they now recollect having sent cans used for maple syrup, and are, therefore, enclosing billing for 75 more loose cans to replace these. The letter closes thus: "The cans we sent you were exactly what you ordered; and if you are not satisfied now, then we certainly shall not do any thing further in this matter."

Mr. Beeman calls attention to the matter of freight, which aggregated over $30.00 (no reply); offers to return cans (no reply); writes a sassy letter, saying he will take such action as the case justifies (no reply). Honey Bottler has the money. Mr. Beeman has the freight-bills and dray-bills to pay, and a shop cluttered with cans which, like whited sepulchers, look good outside, but are very bad inside.

The reader may draw his own conclusions, knowing that this firm is rated and well recommended.

My experience in past years has never been quite satisfactory. There were always cans without caps, and cans with holes in them. Frequently cases bought as used but once the past season would have old dates stamped by the railroad company, showing conclusively that, in reality, they were two years old instead of one.

The deterioration of honey-cans occurs in ways unlooked for. To begin with, the acid contained in honey acts on the tin. Honey spilled in the melting-tank forms a sweetened solution which tarnishes and eventually injures the tinning of the can. If wiped dry the can will remain bright, but this is seldom done. The bee-keeper then fills it with honey; the varying temperature causes a collection of moisture, which frequently rusts the can badly before it is shipped. Can-manufacturers do not tin their cans heavily enough to withstand more than a single season's use.

Then we have inside deterioration of cans, which some dealers in cans refuse to acknowledge. Cans containing thin syrup or honey with caps loosely attached will "breathe air," inhaling during falling and exhaling during rising temperatures. Thus in time oxidation of the tin occurs inside as well as out. If the caps are air-tight the cans will swell and shrink from expansion or contraction of air, causing an audible snapping, which in time cracks little cross-shaped leaks in the can.

In conclusion I would say go slow. It doesn't pay to buy second-hand cans as a rule. Good second-hand cans quickly marketed may be all right. Cheaper cans may serve in certain cases in selling to a wholesale manufacturer where price is a prominent feature. To ship hard-looking cans to a mixed trade will certainly cause the loss of customers, no matter how fine the honey inside.

We all desire a deserved reputation for a neat, cleanly, and securely boxed article as well as one of superior quality. If a "kid" handles the honey-gate and the honey spilled is left on the can-tops, what will it look like when marketed even in new cans?

Fill the cans to weight *yourself;* don't spill a drop on the can. It isn't necessary. Then box them up, and either remove at once to a separate room or cover with a cloth, piling five cases high. Don't let bees crawl over cans and cases if they are to look nice. Lastly, don't be stingy with nails. I have never lost a can of honey in my fifteen years of shipping, and I attribute it largely to care in screwing caps tightly, nailing cases securely, and also to the use of caution-labels.

Enclosing our product in cheap cans is like dressing in shabby clothes. It gives a bad if not a wrong impression. Good containers appeal to the average user to the extent of the difference in price, and are fully as convincing in suggesting the quality within as are statements made by the producer.

Hebron, Ind.

THE PROPER ARRANGEMENT OF BAIT SECTIONS IN A SUPER.

How Baits at the Sides of a Super Tend to Discourage Swarming.

BY C. B. PALMER.

It has been said that a queen will not ordinarily lay in bait sections if such sections consist of worker comb. The bait sections I use are the unfinished ones saved from the previous season. I asked Dr. Miller where to place bait sections when an excluder is not used; and from his usual answer,* I concluded that he used an excluder. When I read the editor's remarks on page 379, June 15, 1909, I went directly to my bee-yard to see if I had placed the baits where they would do the most good. I had put supers on fifteen colonies on Monday, the 14th of June, and on the following Friday I raised the covers and listened with my ear close to the honey-board, and heard the bees waxing and making that snapping sound in ten of the fifteen supers. The other five colonies gave forth a roaring sound below the supers, so I knew that ten had commenced to work. (This is my way of finding out without disturbing the bees.) Therefore, on Saturday, the 20th, I raised the honey-boards to examine those bait sections. For convenience I will refer to the sections by number as in the following chart:

3	2	1
4	5	6
9	8	7
10	11	12
15	14	13
16	17	18
21	20	19
22	23	24
27	26	25

One super had baits in sections 2 and 11, the latter being covered with bees that were drawing out the cells, and the former containing a few bees that were doing nothing. The other nine supers had baits in sections 4 and 6, 22 and 24, and 11. I found that all of these were full of bees. The end sections seemed to have as many bees as any other sections in the super except those with baits, but the most bees were in sections 22, 23, and 24, and in 4, 5, and 6; sections 8, 11, and 14 had no more bees than 4, 5, and 6, if as many. The under side of the honey-board showed more bees clinging to the ends than the middle, and more bees were at the ends of the supers than at the sides. My bees seem to boil over more at the ends of the supers than at the sides, so there must be more bees there ready to come out.

When it came time to put on second supers all around, I found that the ends were

*I don't know.

just as far advanced in the first supers as any other part. In the second supers that are added, the more unfinished sections or baits the better, placed at the ends and sides. The third and fourth supers added are placed above the others, or underneath, depending on the honey-flow; but the location of the baits in the supers is not changed.

We would not think of putting a whole frame of honey in the center of the super, because we would not want such frame to receive brood; so if we use such frames from below for baits we put them at the sides of the super. In the same way we should not risk sections with drawn comb in the center. Then by locating the baits at the ends and sides, more bees are drawn from below, so that the crowded condition of the hive is relieved at just the right time, and swarming more likely prevented. At the time I put on the first super I put one-inch blocks under the hives, so that the bees are checked in their desire to swarm, in two ways.

By the above plan, general excitement is induced all over the super; and when all the sections are being drawn out, and honey found sparkling in all about the same time, there is no uncertainty as to when to put the next super underneath. There is no need of worrying about the middle of the super, for it will develop with the rest,—but no faster. If I can get bees in 4 and 6, and in 22 and 24, I find that the end sections are filled also.

In supers started with the baits in the center, the work must gradually spread to both ends; and as there is no inducement for the bees to build clear to the ends, they commence to cap a few sections in the center and swarm. On the other hand, if they start at both ends, with the baits, the desire to "close the gap" causes more excitement and heat, and the bees seem to forget to swarm, as there is no clustering out, and very few bees on the frames of brood. Supers with baits in the centers alone show a small cluster of bees on the fronts of the hives for days, and the colonies frequently swarm before the ends of the supers are reached.

But the worst objection to the center baits is that the queen will fill the combs, and little grains of pollen will be scattered all over. Then the bee-moth will locate in that super as soon as possible, whether the super is on the hive or in the store. A few years ago I had to take a drayload of supers from the store to the honey-house and fumigate the whole lot simply because the baits had been in the center. The farmers near by do not use excluders.

I use sectional hives, and keep the top section as solid with brood as possible. The baits that I use are, as near as I can get them, like the last two in the upper row of the engraving shown on page 262 of the 1908 edition of the A B C and X Y Z of Bee Culture, and 266 of the 1910 edition. Nearly all of them contain some honey. I have about two hundred of these unfinished sections this season, and wish I had more. I took 1080 4×5 sections from seven old colonies, and have about 1500 sections in all. Two of the colonies gave 189 sections each, which is not bad. I surely must have placed *some* of the baits where they did *some* good.

Last season I tried three colonies with baits placed as follows: In the first super put on I had the baits in the center at 11, 14, and 17. These were all drone comb. In the second super the baits were at 10, 15, 11, 14, 12, and 13, and these were partly drone and partly worker comb. In the third super the baits were at 11, 7, 9, 15, and 13, and these were all worker comb. About twelve sections of these baits contained more or less brood.

Bradshaw, Neb.

HONEY-STRAINERS DONE AWAY WITH.

A Strong Endorsement of the Settling-tank Method of Clarifying Honey.

BY H. F. STRANG.

A discussion of settling-tanks and strainers has been asked for by the editor; and as I have been a user of the settling-tank method for about eight years, it may be that my experience will be interesting.

I have owned bees for about thirty-five years, but never had much to do with extracted-honey production until about eight years ago, when W. Z. Hutchinson began to advocate so strongly the keeping of "more bees." At that time I had been sick for six or seven years; but my health was getting so that I could work a little, and I ran an apiary in Southern Michigan on shares. While the owner was a good comb-honey man, his extracting-outfit was many years behind the times; and I laugh to myself sometimes yet when I think of the difficulties I worked under the first fall. The extractor was old style, and we had to stop it and take the frames out to turn them around; but the fun came in when we strained the honey. We had a barrel to strain into with a framework made to set on top, in which to hang the strainer; and by the time we poured in the third pail of honey the strainer was usually so covered with cappings and specks of wax that the honey would not run through it except by constant stirring with a long-handled spoon. Between putting in about half the time stirring and the other half washing out the strainer, our extracting did not progress very fast.

It has been said that all discoveries are by accident or chance. My discovery of the settling-tank was by the merest accident. My better half used to help me in the extracting; but once in a while I would become so disgusted and use such language that she would leave me to do my own stirring and washing. One afternoon, when she had gone back to the house and left me to my own devices, I drew off into 60-lb. cans nearly all the honey that we had stirred through

the strainer in a whole day's work. Then I picked out the largest strainer we had, and hung it in the barrel and went to extracting again. A lot of honey ran through; but when the strainer clogged, as it did very soon, I kept on pouring in the honey until finally the bottom fell out of it and all the honey not yet strained, with the pieces of comb (cappings and all) went down into the strained honey in the barrel. Then I felt so disgusted that I followed my good wife to the house after pouring in what honey I still had in the extractor, so as to be sure to make a good job of it. I expected that I would have to dip out the whole contents of the barrel the next morning, and warm it up and go through the stirring process again to get it through another strainer.

The next morning, when I was standing and looking at the outfit and dreading the job, the thought came to me that I might skim off the bits of cappings and wax and save having them to bother with; so I used a long-handled skimmer and removed all of the wax and cappings to a pail. Then, noticing how clear the honey looked below, I commenced to draw it off from the bottom of the barrel and pouring it into cans through a large funnel, so there would be no chance for any bits of comb or wax to get the start of me. To my surprise I found that I could draw the honey down to within about three or four inches of the bottom of the barrel before any scum or bits of wax ran through the gate.

I was not sure that the plan would work every time; so when my wife came out to help me I told her what I had done (not mentioning that the bottom had fallen out of the strainer, so that the whole plan was an accident); but when I suggested that we would not bother any more with strainers, but just let the honey strain itself, she said she knew we would have the whole barrelful to dip out and warm and stir through the strainer just as usual. However, I did not believe in crossing bridges before I came to them, so I extracted a barrelful and then went to work at something else. I visited that extracting-room several times during the afternoon, and just before going to bed I skimmed off all the wax I could with the skimmer and poured it into the uncapping-tank. The next morning I found out for sure that I had solved the straining part for good, and the next season the owner of the bees had two galvanized-iron tanks made, each of which would hold all that we could extract in a day. I found that, unless the honey was very cold and thick, it did not need to stand over twelve hours at the most; but in case of very thick cold honey the two tanks might be beneficial, so that there would be room enough to hold two days' extracting, allowing the honey to stand twenty-four hours in each one. In the morning, before I commenced drawing off the honey from the bottom of the settling-tank, I always skimmed off what I could from the top and poured it into the uncapping-tank.

I think it was about two years after this that Mr. Townsend began advocating a gravity strainer; but I think he found it too complicated, as I see he is now using the settling-tank, although having a float. I have tried the float, but can not see what benefit it is.

After having used the settling-tank plan so long, I surely would not go back and bother with strainers. With hot knives and good fat combs, extracting has lost so much of its unpleasantness that I am going to sell my farm next fall, hunt up a good location, and put my whole time and energy into extracted-honey production.

I may say that, after years of trying all shapes and sizes of hives from the Danzenbaker to the twelve-frame Jumbo, I say, "Hurrah for the ten-frame Langstroth for an all-around hive!"

Lakewood, Mich.

QUEEN-EXCLUDERS INDISPENSABLE.

The Opinion of a Twenty-four-hundred-colony Man.

BY CHAS. EDSON.

The general run of honey is improved by using queen-excluders. A party called on me recently who owns two thousand colonies. I always thought him a wideawake bee-man; but I changed my mind when he told me he did not use excluders. I am in hearty sympathy with the opinion expressed by Elias Fox, page 631, Oct. 15, 1909, when he said, "I would about as soon be without bees as without excluders."

In the same article Mr. Fox stated that he did not think nurse bees take honey from field bees. I can not agree with him in this, for, though they may not in a light honey-flow, I believe they surely do when they are robbing.

HOW TO STOP ROBBING.

A most excellent way to stop robbing, when extracting honey, is to fill seven or eight wet combs with water and set them where robbers can help themselves in supers; and, when the water is all gone, fill the combs up again. In a short time the robbers will give no further trouble, because they will all be full of water and the nurse bees will not accept further kindness.

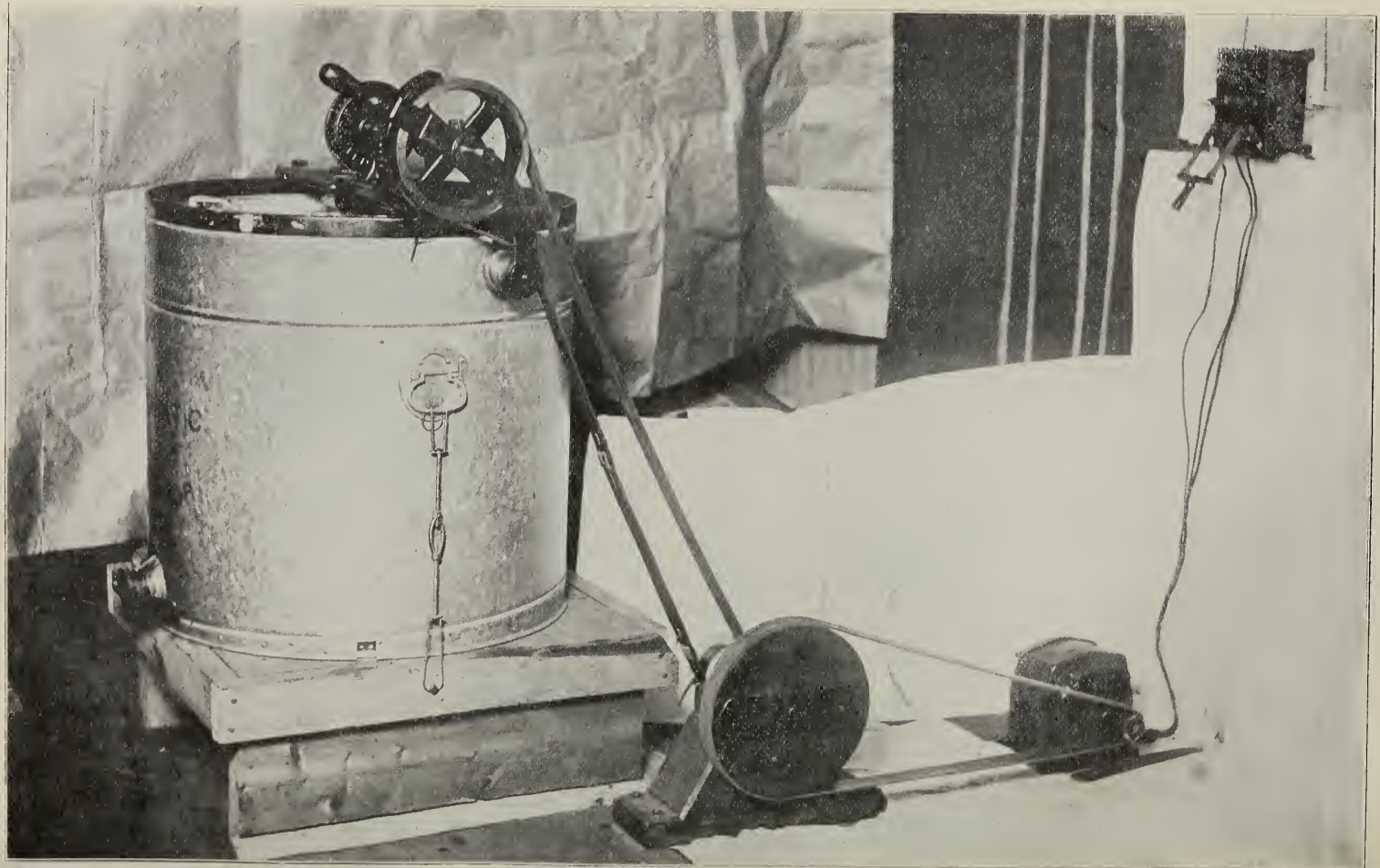
Grafton, Cal.

[Mr. Edson runs about 2400 colonies, so he ought to know whereof he speaks. We should be glad to hear from him further, as we regard him as an expert.—ED.]

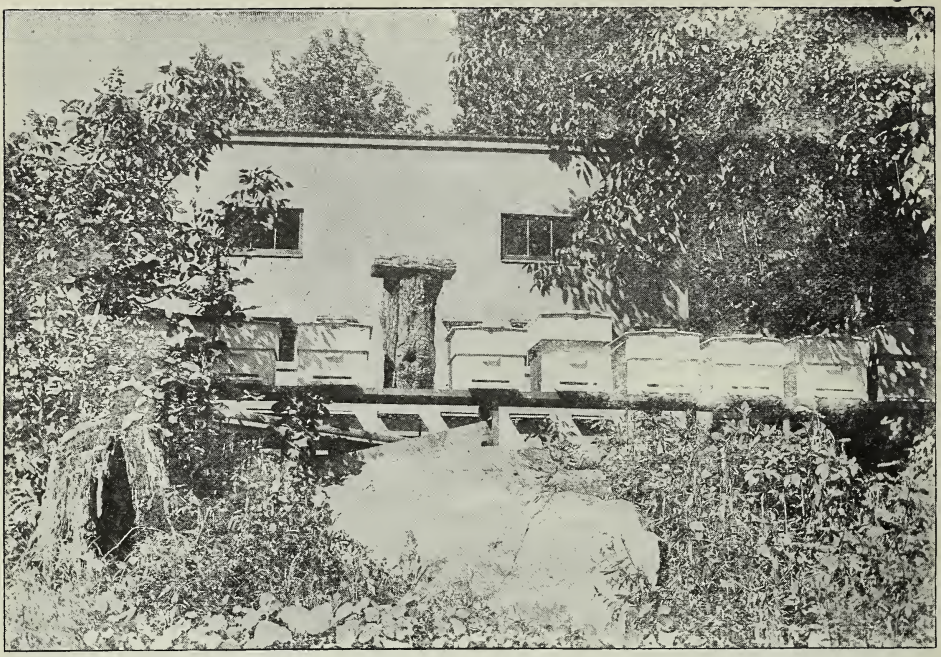
Motherwort a Good Honey-plant.

Motherwort is one of the best honey-plants I have ever seen. It begins blooming here in the mountains early in May, and to-day, Nov. 5, you can still find my bees work ingon it. It grows about 3 feet tall in large clusters. It will grow on any kind of land, but does better on rich sandy soil. Drouth has no effect on it. This plant is known here by many different names. The honey from it is of a light orange color.

Scholten, Mo. OTIS A. GRIFFITH.



ONE HALF HORSE-POWER ELECTRIC MOTOR DRIVING FOUR-FRAME AUTOMATIC EXTRACTOR.



DR. BIGELOW'S APIARIAN LABORATORY AS IT STOOD ORIGINALLY IN STAMFORD, CT.

EXTRACTING HONEY WITH ELECTRICITY FOR POWER.

BY A. D. SHEPARD.

As I have seen nothing in the bee-journals about operating a honey-extractor with an electric motor, I decided to send you a photograph of my automatic four-frame extractor equipped with a ½ H. P. electric motor for power. Instead of using a very large pulley on the extractor shaft, I used a countershaft as shown. The pulley on the motor is 2 inches in diameter, which belts to the 12-inch pulley on the countershaft. The small pulley on the latter is 3 inches, which belts to the 8-inch pulley on the extractor shaft, this reduction being just about right for the speed of the motor.

By this arrangement I still have the use of the idler for regulating the speed of the extractor, which I regard as very satisfactory. After most of the honey is out of the combs and the speed of the reel is a little too high, I loosen the idler a notch, allowing the belt to slip slightly, so that I have what I call a happy medium in speed.

The motor is a second-hand one, which had been in use before only a short time. I paid $40.00 for it, the original selling price being $55.00 or $60.00. The countershaft cost me $4.25, and the extra belting $2.12. Our city engineer estimates that it costs me about 15 cts. for electricity per thousand pounds of honey extracted. The electric-power plant is owned by the city, which perhaps makes some difference in rates. I find that this little motor "beats elbow grease all holler."

River Falls, Wis.

MOVING AN APIARIAN LABORATORY.

BY EDWARD F. BIGELOW.

Readers of GLEANINGS have been made familiar with my apiarian laboratory, which, for a few years, was located on Grove St., in Stamford, Ct.

In the early part of 1909 a resident of Sound Beach suggested that I should move my entire experimental outfit to that place, which is the next station on the main line of the railroad west of Stamford, and about twenty minutes' ride by trolley. Between the old and the new location there is a distance of only about three miles. But while this suggestion connoted many advantages, it revealed some rather appalling obstacles. One was the task of moving. The laboratory was constructed for eighteen interior colonies, with external experimental benches for as many more. At first my friend offered to build a new structure for experiments; but upon more careful consideration we decided to move the entire building and the colonies within it. It was also found advisable to move the pet-house, or, more strictly speaking, the zoological part of the experimental plant. Then arose the problem of method; but, fortunately, a contractor

was found who had a truck large enough to carry either of the buildings.

Barnum's or any other circus would not have attracted more attention with a man in an open cage and a tiger driving the horses in the procession than this larger cage attracted with me inside of it in company with about a dozen colonies of bees. Our professional apiarists, of course, know that this was a simple matter in theory; but it was not found to be so simple in practice. The shaking of the building on a truck without springs was much greater than had been anticipated, although the road was smooth. Two hives, in spite of firm nailing, were literally shaken to pieces, and the insects came swarming out, the most astonished bees that I ever saw. Their amazement was almost ludicrous, and (for them) an entirely new experience. They alighted in clusters on various parts of the apiary; but they were so frightened that they forgot to sting. I scooped them off the sides of the building with my naked hands and put them back into the hives. It seemed almost impossible for them to sting; and it was as impossible to convince and soothe the driver, who sat at the front on the sill of the open door. So far as the horses were concerned, it seems rather risky, as I now think of it, to have about a quarter of a million bees within this rattling, shaking cage; but experience proved that they were absolutely safe, because every bee was too greatly frightened even to protect itself.

The photographs show the process of hauling the buildings out of the yard and loading them on the truck.

The third photograph shows the structure safely located at our experimental plant at Arcadia, Sound Beach, Ct., and the continuation of the work of experimentation, with the writer in the act of transferring the queen and some of her bees from the large hive to the miniature hive named Pearl Agnes in honor of my daughter. These hives have been in steady use during the summer, and have proved very convenient for manipulating small numbers of bees, and for exhibiting them to visitors.

Arcadia, Conn.

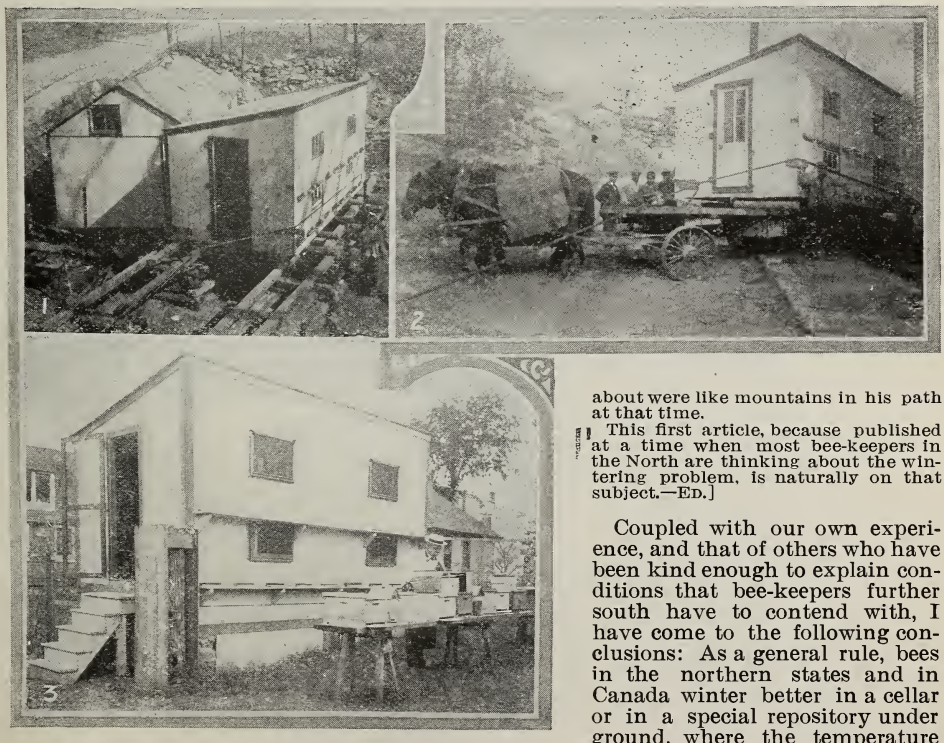
BEE-KEEPING FOR BEGINNERS, ILLUSTRATED.

Cellar Wintering in Northern Michigan.

BY E. D. TOWNSEND.

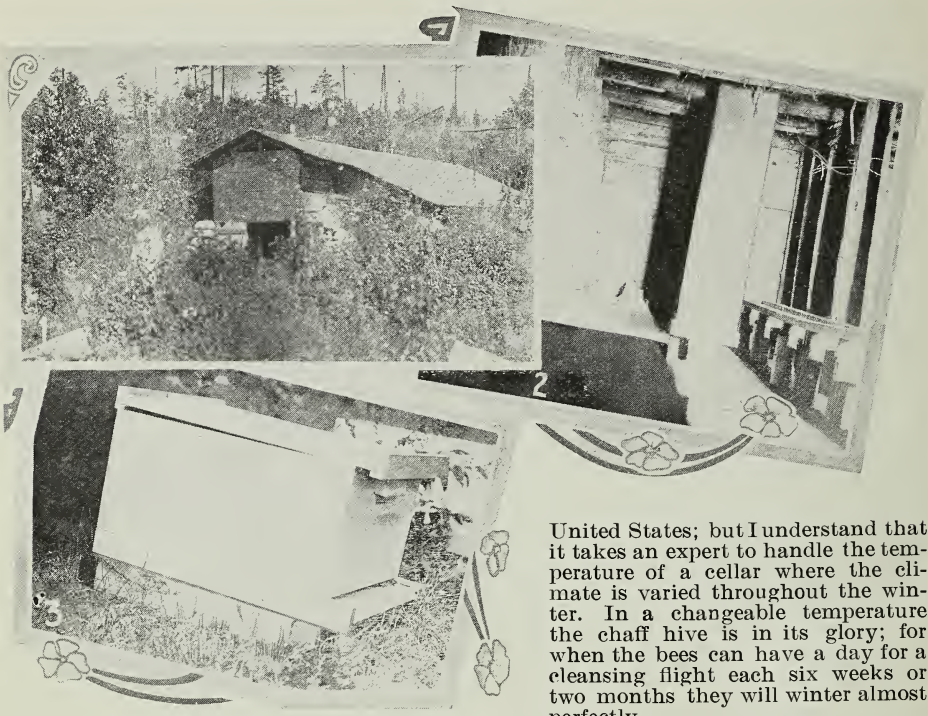
[We have engaged Mr. Townsend to write another series of articles for beginners especially, in which "moving pictures" will illustrate almost every point. Mr. Townsend says that, when he looks backs to the first few years of his experience as a bee-keeper, he can see that most of his dismal failures were on account of ignorance of the common principles. In other words, the little things that now seem to him almost too trivial to write about were like mountains in his path at that time.

This first article, because published at a time when most bee-keepers in the North are thinking about the wintering problem, is naturally on that subject.—ED.]



MOVING THE LABORATORY, BEES AND ALL.

Coupled with our own experience, and that of others who have been kind enough to explain conditions that bee-keepers further south have to contend with, I have come to the following conclusions: As a general rule, bees in the northern states and in Canada winter better in a cellar or in a special repository under ground, where the temperature can be kept near the 45-degree



ONE OF E. D. TOWNSEND'S BEE-CELLARS, OUTSIDE VIEW AND INTERIOR, ALSO HIS METHOD OF VENTILATING A HIVE THAT IS TO BE PLACED IN A CELLAR IN CLAY SOIL.

mark all the time. In the states a little further south, where the bees can have a flight every six weeks or two months during the winter, chaff hives or special packing-boxes containing from four to six inches of chaff at the sides and eight inches at the top are better adapted to the conditions. Still further south, where bees fly each month in the year, no packing is required; but, instead, a good cover that will not leak, and an abundance of stores, is all that is required for successful wintering. In this connection it is of importance to know that, the further south the bees are, the more honey they will consume during the twelve months of the year. In the North the extra surplus is laid up for winter use; while in the South, not only the winter stores have to be retained for the use of the bees, but even more has to be provided for the long summer drouth or the interval known as the "starvation period."

It is to be presumed that fairly good results with chaff-packed hives can be secured in the territory above mentioned for cellar wintering, if conditions are favorable; but, generally speaking, better results will be obtained in this cold region in the cellar or special repository, as stated. It is equally true that fair results in cellar wintering can be secured in the milder portions of the United States; but I understand that it takes an expert to handle the temperature of a cellar where the climate is varied throughout the winter. In a changeable temperature the chaff hive is in its glory; for when the bees can have a day for a cleansing flight each six weeks or two months they will winter almost perfectly.

It is not unusual for bees in this northern location to be confined to their hives from 90 to 120 days without a flight. In order to stand this long confinement, the bees out of doors would have to be in ideal condition, and they would have to have an abundance of good stores, as well as outside protection from the prevailing winds, and more than the usual amount of packing.

The first view in the illustration shows our bee-cellar in Charlevoix Co. This cellar is 14×32 feet, inside measurement, and 7 feet deep. It is wholly under ground except the hatchway, which has double doors, with about 4 ft. between the two doors, this space representing the amount of earth in front of the cellar each side of the hatchway. As the cellar is built in the side of a knoll, all but the front is naturally under ground. In the hatchway, a foot from the inner door, a partition with loose boards is built and filled in with straw during the winter.

Eight feet from the back end of the cellar a ventilator 17 inches square is placed. This is shown in the second view. The lower end of the ventilator is about a foot from the cellar bottom, and it extends up through the covering of the cellar, but not through the roof. This is not used much in the winter; but in the summer it is left wide open to dry out the cellar.

Two rows of benches, to set the hives on, are also shown in view No. 2, which gives an idea of half of the back end of the cellar.

Two more benches are on the opposite side of the row of cedar posts that support the center of the roof.

As stated above, the cellar is all under ground—the cover (22 inches thick) being the least protected place about the building. There is no cement used in the walls, cedar posts being set every three feet, and inch lumber nailed outside. This allows the earth to come close to the bees—a construction which we consider much better than a cement wall. A neighbor built a cellar, the walls of which were of stone laid without mortar. In order to make them stand, the stones were laid sloping slightly out; but experience showed that this was not necessary, as some of the later-laid portions stood just as well, although built very nearly perpendicular. After the wall was finished, almost even with the surface of the earth, logs from the forest were cut and laid across close together. Then the cracks between the logs were closed with small trees and finally straw and earth over the whole thing to a thickness of two feet. A roof and hatchway similar to ours completed the cellar, as good as could be made for the purpose of wintering bees.

A dry sandy knoll is much preferable to a clay soil for a bee-cellar. This reminds me of another neighbor, who lives in a low level country, whose cellar is not only very damp, but in the spring, as the snow thaws off, it is nothing unusual for him to have to wear his rubber boots and wade in several inches of water when he removes the colonies in the spring. This bee-keeper used to lose a good many bees until he discovered that, if he removed the covers entirely, and, instead, used two or three thicknesses of old carpet over the hives, the trouble was overcome.

We rent several cellars for outyards, and so we have experience with different soils and different conditions. It sometimes happens that we can not get cellars to our liking, several of them being in soil that is part clay. For such cellars we loosen the covers on the hives, as shown in view No. 3, until the end cleat rests on the back of the hive. This V-shaped opening at both sides forms about the same ventilation as is secured by replacing the covers with carpets as mentioned above.

Remus, Mich.

BEE-KEEPING IN NEW MEXICO.

Bee-keepers of the Pecos Valley Convene at Roswell.

BY H. C. BARRON.

The illustration shows a part of the members of the Pecos Valley Bee-keepers' Association, at their meeting at Roswell, in October. I am sending a copy of our weekly paper, which contains an account of the convention.

Hagerman, N. M.

[We are glad to see so full a report of a bee-keepers' meeting as was contained in *The Messenger;* for, the more the general public knows about bees and bee-keeping, the better.

Among the most important matters taken up at this meeting was a petition to the General Freight Agent of the Eastern Railway of New Mexico, for a lower rate on honey. Mr. Barron, in his letter, writes that this petition was granted.

As there are, no doubt, other points where similar conditions exist, we are publishing herewith this petition in full:

PETITION.

To the Hon. J. Brinker, General Freight Agent of the Eastern Railway of New Mexico:

At a convention of the Pecos Valley Bee-keepers' Association, held in Roswell, N. M., the fifth day of October, 1910, we respectfully petition you for your aid in securing for us a lower rate on honey from the towns of Roswell, Dexter, Hagerman, Artesia, and Carlsbad in the Valley to Chicago, Ill., and Kansas City, Mo. We have now much more honey than we can sell at home, and we can easily increase our product and desire to do so. We wish in the future to be sure of selling all the honey we can produce, and we feel com-

CONVENTION OF THE PECOS VALLEY BEE-KEEPERS' ASSOCIATION, ROSWELL, NEW MEXICO.

pelled to ask for lower rates to the large honey markets of Chicago and Kansas City.

Among our western honey-producing States, Colorado takes first rank, and we would come in competition with its immense honey product.

We understand that the distance from Denver to Kansas City and Chicago over the Santa Fé railroad is virtually the same distance as those cities are from Roswell.

The carload rate from Denver to Chicago on "comb honey in boxes with glass fronts" is 97 cts., and on "extracted honey in tin cans, boxed," is 75 cents per cwt.

We earnestly desire to obtain the 97-cent rate to Chicago that Denver honey-shippers pay on comb honey in boxes with glass fronts.

We also ask for a 66⅔-cent rate to Chicago on extracted honey, that being $200 per carload of 30,000 pounds, which is about two-thirds of the rate that we have asked you to make on our comb honey, and it is about (and perhaps above) the average proportional rate from other States. For example, the California rate on extracted honey is just one-half as much as its rate on comb honey. This we have just learned from the Santa Fé railroad office in Chicago.

Another reason why we desire a lower rate on extracted honey is, for some unknown reason to us, honey is darker in color here than the Colorado honey, and, though equal in quality, the price is invariably cut down from one to one and a half cents per pound on account of this amber color.

Another package mentioned in the Western Classification on which we should like proportional rates is on "comb honey in boxes," no glass.

We further desire rates to Kansas City that would be about proportional to what we have asked for Chicago.

It would be desirable, frequently, to send both comb and extracted honey in the same car to make up a full carload. This is done elsewhere, and each kind is billed out at its own rate; and we ask that this feature shall be arranged to accommodate us. We have been assured that you have taken a kindly interest in helping out various industries in the Pecos Valley. And now that we are in need of help we come to you for assistance, and shall be ever thankful for such aid as you can give us.

On behalf of the convention.

R. B. SLEASE, President.

HENRY C. BARRON, Secretary.

A committee was appointed to secure the names of large shippers in the valley for the purpose of annexing them to the above petition.

The convention also petitioned the county commissioners to fix the price of colonies of bees for taxation at $1.00 per colony. Mr. Barron writes that this petition will also probably be granted. All this goes to show that the "New Mexicans" are hustlers, and that when they go after a proposition they go after it to win. A pull, a long pull, and a pull all together, counts for bee-keeping as for any thing else.—ED.]

FULL SHEETS VS. STARTERS OF FOUNDATION.

The Melted-wax Plan for Fastening Foundation in Sections.

BY LEO ELLIS GATELY.

Not only is the foundation we use of necessity pure beeswax, but in the process of manufacture it is freed from all dirt and sediment, becoming more refined than the average article. Beeswax itself will not withstand the high temperature from a colony without sagging unless it is entirely freed from this dirt and sediment. In my opinion it is highly important that we emphasize to consumers the fact that no other wax has yet or probably ever will be found which can be used as a substitute for this purpose.

It is impossible to estimate the actual value of foundation in comb-honey production, as so much depends upon the extent to which bees are naturally secreting wax; also on the volume of the honey-flow, etc. The extra amount of surplus usually secured when full sheets are used, over and above that obtainable with small starters, I have found to vary from 5 to 25 per cent. Taking into account the fact that bees are at times involuntarily secreting wax, the foundation still affords a great saving, for this involuntary secretion is rarely more than sufficient for drawing out foundation into comb. The amount of honey consumed in the elaboration of comb is not as important, however, as is the saving of time, which foundation makes possible in providing storage room.

GATELY'S METHOD OF FASTENING FULL SHEETS OF FOUNDATION IN A WIDE FRAME OF FOUR SECTIONS.

In the production of comb honey the use of full sheets of foundation cut to fit will result in a larger proportion of fancy honey than by any other method. The two sections of honey appearing in the engraving show well the usual difference resulting between the use of full sheets and starters. The sections containing the full sheets may thus be placed in a higher grade, although the eating qualities are identical.

The illustration also portrays our method for putting in foundation by the melted-wax plan. The foundation is not put in until after the sections are placed in the

A STUDENT OF F. MAURUS MASSE, BUCKFAST ABBEY, S. DEVON, ENGLAND.

wide frames, when they can be handled four at a time, making the work neither slow nor tedious. It is advisable to cut the foundation ⅛ inch less than the depth of the section, as this amount of leeway is just enough to make up for any possible sagging; and it also facilitates the work of putting in the foundation. It is sheer folly to attempt to fasten full sheets on three sides of a section unless each section is subsequently to remain in exactly the same shape until the foundation has been fully drawn out. With wide frames, having a nailed top-bar, this condition is easily and naturally met, as the frame at all times holds the sections perfectly true and square.

Fort Smith, Ark.

THE QUESTION OF HONEY PRICES.

BY JASPER LILLIE.

I have read with interest the article by F. L. Pollock, page 552, on "What is the Cost of Honey to the Producer?" and also that of Orel L. Hershiser, page 663, in which Mr. Hershiser differs widely in opinion from that of Mr. Pollock. There is certainly great variance in the prices of honey; and any plan by which this wide-spread irregularity could be remedied would be a boon to both the producer and consumer of honey.

It would seem that Mr. Pollock endeavors to show what the average expense and average income would be in an apiary of 200 colonies, taking that number, as he says, "as about the limit of one man's ability."

Mr. Hershiser seems to overlook or ignore this *average* proposition, and bases his criticisms on the fact that a large apiary can be operated at less expense per colony than a small one, and in doing this he makes some statements that are, to say the least, surprising. For instance, he says a plumber did a small job for him and charged 60 cents per hour; this I would consider a light charge, as most skilled workmen in our locality, when called out on a small job, charge $1.00 per hour; but, at the same time, if that man were open for a job I could hire him for $2.50 or $3.00 per day and get a skilled mechanic. It is hardly to be supposed that any one running an apiary would depend on going out and hiring a man by the hour to do work needed in his apiary; if he did, that apiary would soon change hands, or cease to exit.

Again, Mr. Hershiser says, "The apiarist with from 350 to 400 colonies will have an expense account but slightly larger for his greater number of colonies than the man with 200."

Now, suppose the man with 400 and the man with 200 colonies were both running for comb honey, and each had supers ready to be removed and replaced by new ones; suppose the apiaries had equal conveniences for doing this work, and suppose, for the sake of easy count, that one man could take out and replace ten supers in one hour; now suppose each apiary starts a man on this job and each pays $3.00 per day. Of course, it costs the 200-colony man $6.00 and the 400 man $12.00. This I should consider something more than a "slight difference."

It is true that a large manufacturing concern can turn out goods cheaper than a small one, as a 500-barrel flour-mill can turn out a barrel of flour much cheaper than a 50-barrel mill; but it is also true that the 50-barrel mill is often running at a good profit when the big mill is shut down by a dull market. So with the honey trade. The 400-colony man often finds the honey market glutted, and is compelled to hold or sell at a sacrifice, while the 75-colony man may, right in his own locality, be selling all the honey he can produce, at a good profit. This serves to some extent to equalize the per-

centage in profits of big and small dealers. Taken all in all, the Pollock suggestion seems in principle to be a good one; and, if properly carried out, might go far in settling the vexing question of *the price of honey*.

Franklin, Tenn.

OPPORTUNITIES IN PEDDLING HONEY.

BY THOMAS P. HALLOCK.

[While the author of this article, who is the Advertising Man for GLEANINGS, has always been in the ranks of the consumers rather than of the producers of honey, his enthusiasm over the possibilities of honey-peddling for bee-keepers who have the time and inclination to follow this practice is to be excused in the face of a knowledge of facts. Mr. Hallock is an experienced salesman, and has gained a wide acquaintance with practical bee-keepers through his connection with the publishers of this journal.—ED.]

One of the most sensible suggestions on how to create a larger and more appreciative market for honey which I have ever read or heard is contained in a leaflet distributed by the publishers of GLEANINGS IN BEE CULTURE, entitled "Peddling Honey." Doubtless many of the readers of GLEANINGS have read this little story by Dan White, a plain, practical farmer who built up a valuable honey-business; but for the benefit of all I want to repeat the following, which embodies the best of his several suggestions:

I got into the town just before dinner time; and after eating a good meal at a boarding-house I filled my pockets with the Root honey leaflets and took one honey-can and commenced business I started down a street and called at every house. After ringing the bell, or rapping, a lady would open the door and look at me with more or less suspicion. I would say, "I made the call to ask you if your family were fond of honey."

They would generally answer yes, but believed they would not buy any.

"Well," I would answer, "but I am not selling honey to-day. I am giving it away, and should be glad to give you some in a sauce-dish."

Some would look astonished; others would smile and say, "That's funny," but in *every* instance I was invited in. I would pour out the honey, then hand out a leaflet, telling them to read every word of it. "You will find it very interesting; it will tell you all about honey — how and why we extract it, etc. Then here is a postal addressed to me; and should you decide to want a 12-pound can, put your name, street, and number, on the card, drop it in the office: and when I deliver in about ten days you will get a can of honey."

Well, there were enough cards put in the mail within five days to take thirty cans of honey. I promptly made the delivery on time, taking along twenty extra cans that sold about as fast as I could hand them out; and since then I have received orders for 50 more cans from the same town.

There, Mr. Beekeeper, is a plan for building up a honey business, and a thoroughly good and practical plan it is.

If I were going into the business of producing honey I believe I should endeavor to be both the honey-producer and the middleman. I would sell my honey, in so far as I possibly could, on the "Hive-to-Home" plan, and I would cultivate a substantial class of patronage too, and get the top prices for my first-class product.

One way I believe I should try, if you are interested to know, is this: I would get a first-class, down-to-date wagon of the milk-wagon type — easy to get in and out — well painted and nicely arranged for carrying my comb and extracted honey in good condition, and with my name and address painted on either side and on the back of the wagon. Then I would start out to build a business on practically the same lines as suggested by our friend White.

May be it would be a good plan sometimes to carry a small observation hive with me in the wagon at the start, until my customers come to appreciate the connection between my honey and *real* bees. I would want them to trust me — to feel that I was selling them the purest honey bees can make, and to save their honey orders for me. I would have labeled packages and jars, and a leaflet telling a brief story of my apiary, showing a picture of it, and containing several honey recipes as well. I believe that, by following such plans, and watching conditions, and persevering, I could establish a honey route which would bring a considerable revenue to me — more, without question, than I could expect to derive from the sale of my honey through any easier method.

Other opportunities — some of them of broader scope — are suggested in this plan. In the large cities an experienced bee-keeper who knows honey and has some capital to start could maintain several honey-routes and supplement the sale of honey produced in his own apiary with that obtained from other bee-keepers in the same and distant communities. This could be done at a good profit; and that the plan is entirely feasible none will deny after comparing the prospective profits with those to be made on the distribution of milk peddled in large cities by hundreds of independent milkmen as well as by the dairy companies.

THE EASTERN NEW YORK BEE-KEEPERS' ASSOCIATION.

BY STEPHEN DAVENPORT, SEC.

The third annual convention of the Eastern New York Bee-keepers' Association was held Dec. 8, at Albany. President W. D. Wright occupied the chair.

Owing to the recent National convention at Albany the attendance was not as large as otherwise would be expected. Many who are usually present, and who attended the National convention, were absent at this time; and yet there was a larger attendance than at the last annual convention.

The secretary's report showed an enrollment of 95 bee-keepers as members, 34 of whom had joined during the year.

The treasurer's report showed a favorable condition of the treasury, with a handsome balance on hand.

On motion of C. B. Loomis, of Albany, the secretary was directed to address a communication to *Colliers' Weekly* to refute the canard concerning artificial comb honey.

W. D. Wright, of Altamont, as president;

S. Davenport, Indian Fields, as secretary, and M. A. Kingman, East Greenbush, as treasurer, were reëlected to their respective offices. Audubon Johnson, Delanson, was elected first vice-president, and C. W. Hayes, Brookview, second vice-president.

S. Davenport and W. D. Wright were elected delegates to the annual convention of the New York State Association of Beekeepers' Societies.

The contents of the question-box were quite limited; but there was animated discussion of the few questions presented, interspersed with wit and humor to the entertainment of the audience.

In answer to one query, the president stated that the best time to put bees in the cellar, from his experience, was from the 1st to the 10th of November.

The question was asked, if a larger hive than the eight-frame Langstroth were not more desirable. This led to a lengthy consideration of the subject of the best hive for practical use, during which the Adams hive of 16 Gallup frames parallel with the entrance was suggested and described by G. H. Adams, of Schenectady. He had used this hive for twenty-five years with the best results, and has had but little swarming. The merits of this hive were ably advocated by N. Lansing, of Troy. It seemed to be fully conceded that a larger hive than the eight-frame Langstroth is more desirable.

It was decided that the next semi-annual convention should be held in Albany in the spring.

There had been repeated disappointments in the efforts to secure addresses or papers on specific subjects for this occasion, and much anxiety was felt for the success of the convention; but it proved to be one of the most enjoyable conventions in which the association had ever assembled.

Indian Fields, N. Y.

LIFE SKETCHES OF NEW CONTRIBUTORS.

A Brief Outline of the Career of O. B. Metcalfe, "The New Mexico Chap."

BY H. H. ROOT.

This year we have planned to give brief sketches, by way of introduction to our readers, of some of our newer contributors who have been engaged to prepare special articles for 1911. The subject of this sketch first began writing for GLEANINGS under the *nom de plume* of "The New Mexico Chap," but later came out under his true name. He has been engaged to prepare a series of illustrated articles on bee-keeping in Mexico, and also to make extensive contributions to our series of "moving pictures."

Mr. Metcalfe was born Jan. 2, 1878, in New Mexico, and was raised in that Territory and in Colorado. From the age of ten to seventeen he worked with sheep, cattle, and goats, later trying the poultry business, following modern practices. Now that he is in the bee business, he frankly says he would never think of changing back to any other occupation.

In his seventeenth year he entered a special class in the preparatory department of the New Mexico College, with a previous training of six months in a private school, and some work at home where his sister taught him, as best she could, between intervals of his sheep-herding and working on the farm. During his college life he did all kinds of odd jobs to earn his way, and in 1903 graduated with a debt of some seven hundred dollars which he paid off by collecting botanical specimens the summer following. Having been awarded the scholarship from the scientific department at the same time he received his degree of B. S., he returned to New Mexico College in the fall of 1903 and took up graduate work with soil, physics, and forestry as major subjects. After receiving the degree of M. S. he began another plant collection, which he finished in the summer of 1905, having served during the year 1904–'5 also as an assistant in the scientific department of the college.

In 1907 he joined forces with his present partner, Mr. H. L. Parks, and 300 three-frame nuclei were bought by way of a start in the bee business. Five dollars each was paid for these, the money being borrowed at ten per cent.

The season of 1908 was the first honey season for the 300 nuclei. These were built up well, and quite a bit of surplus taken from them. That fall, 1200 colonies were bought, the money to pay for them being borrowed, as before, at ten per cent. At the present time the young men are doing well, for they have kept the interest paid up, and have paid a good part of the principal as well, besides putting several thousand dollars' worth of improvements into the bees and outfit. This speaks well for the bee business, beyond question; but during the same years and in the same locality others have had more or less of a failure, so that the record speaks even better for the ability of these two who have chosen the bee business as their life work.

Mr. Metcalfe says that, while he would not quit the bee business for that of a producer in any other line, he advises beginners not to go into bees on an extensive scale unless they expect to get back of the proposition with lots of courage and energy, and a large supply of optimism to tide over bad years; for he thinks that there are perhaps few other lines of business which look so gloomy one week and so much like getting rich quick the next, or *vice versa*.

With the above short outline our readers will better appreciate the writings of this newer contributor to our columns. The article which follows is the first of the series on Mexican bee-keeping, the other "chapters" that will appear later being well illustrated, for Mr. Metcalfe has a faculty of making not only good word pictures, but good pictures with his camera as well.

BEE-KEEPING IN THE HIGHLANDS OF MEXICO.

BY O. B. METCALFE.

With a view to locating bees in Mexico, and of procuring for GLEANINGS some data as to what sort of proposition bee-keeping on the high tablelands of Mexico really is, the author, during the latter part of August, entered the republic at Laredo and went by the Mexican National R. R. to the city of Mexico, stopping over wherever it seemed that there might be a chance of getting information on the subject. From Mexico City a short trip was made on south into the Cuerna Vaca country, and the return trip was made back up the old Mexican Central. The data I collected I will give without exaggeration and without prejudice. Of the queer old country with its quaint and romantic beauty, nothing will be said, except that, to any man who can afford it, the trip is worth while.

At Laredo the trip began through a semi-arid region, where the main plant life was the great flat-leafed prickly pear (*Opuntia Wislezeni*) and mesquite, with here and there a scattered growth of creosote bush (*Larrea tridentata*).

To an Eastern bee-keeper, perhaps few places would have looked less like a good location for bees. Nevertheless, if there were a valley running anywhere through this strip in which alfalfa or perhaps cotton were raised by the hundreds of acres, it would be the finest kind of bee-range, for all three of the plants are honey-bearers, and there are few plants that yield a better honey or more of it than the mesquite.

Just after the mesquite flow the creosote bush comes out with its thousands of bright-yellow flowers, and furnishes enough nectar for the bees to keep up brood-raising and to store a little bluish-yellow honey. The cactus also furnishes considerable honey in some localities. This semi-arid region is not, however, a practical location for bees unless it is supplemented by some irrigated plant, as the bees seldom store more than enough to summer and winter on from natural sources; and when the mesquite fails they sometimes starve.

At Monterey I had the good fortune to meet a Mrs. Allen, whose husband was a bee-keeper in Colorado some years ago, and who had taken it up in a modern way at Monterey. Unfortunately, Mr. Allen had died the year before; and his apiary had gone to pieces, part of the colonies having died out, and some more washed away in a big flood. However, his wife had taken some part in the business, and was able to tell me the things I wanted to know most. She still had some fine honey, both comb and extracted, by which I saw that honey of excellent quality could be raised in that locality. Bees do not suffer from spring dwindling at Monterey as they do further south in the wetter parts. Mr. Allen got an average of 100 lbs. of fine white comb honey per colony before Oct. 1, and a good fall flow of dark stuff from the sugar-factories. It seems that the Mexicans do not get the pulp as dry as the American sugar-refiners do, and that, after the pulp has turned black, the bees work around it and bring in a syrup which is blacker than New Orleans molasses, and not so good. All comb honey must be taken off before this dark syrup begins coming in or else the bees will fill any unfilled cells with it and spoil the sale of the sections. Some of the sections Mrs. Allen showed me had been finished at the corners with the dark syrup.

As regards market, the fine white sections brought 40 cts. each in Mexican currency, and the extracted about 15. This is an equivalent of 20 and 7½ cents American money, and in these articles all prices must be divided by 2 in order to get the equivalents in American money. The above prices were good enough for honey, and the wax brought $1.00 per lb.; but the trouble was, there was a very limited market for the honey, some trouble being experienced in selling the output from about ten or fifteen colonies—this, mind you, in a city of one hundred thousand. The Mexican is not a honey-eater, honey being used more as a medicine than as a food. On this account there is practically no market for it in Mexico except to foreigners.

Mrs. Allen claims that their light honey was mostly made from orange, mesquite, and a white syringia which grows wild all over the hills. She complained that the expense of estabishing an apiary in Mexico was very heavy. Among the interesting things she told me was a description of a colony of stingless bees which Mr. Allen had caught in the hills and brought to his house where he kept it hanging in a tree for several years. From the description, these bees made a nest something like the old-fashioned hornet, and of the same material. Very much unlike the hornet, they had no sting, and would not fight at all. The honey was white and pretty, but did not have the taste of honey-bee honey. I was much interested in these stingless bees, and hoped at least to get a picture of them, for I had several times heard of them; but they had washed away with the rest of the bees.

About twelve miles south of Monterey the Mexicans keep quite a number of bees in box hives and use another box inverted on the brood-nest box as a super. They understand that they are to leave what is in the lower box for the bees. The honey, they sell cheap; but the wax is not for sale, as they treasure it to make candles for the Catholic church.

Mesilla Park, N. M.

To be continued.

Wild Aster.

The worst weed pest we have here is one of the wild asters—*Aster tradescanti*. Do bees ever work on that kind of aster?

Oakland, Ill. WM. COX.

[We don't know. Can any one answer?—ED.]

Heads of Grain

from Different Fields

A Scheme for Strengthening Nuclei and Introducing Queens; Reversing to Get Solid Combs and to Destroy Cells.

1. Could a queen be introduced to a full colony by this method? Leaving the undesirable queen undisturbed, place a queen-excluder upon the hive, and on top of this queen-excluder place an extra hive-body containing a three-frame nucleus and the queen which you wish to introduce (a little later) to the colony below. This method of strengthening the nuclei is all right so far according to the late Mr. Alexander. After leaving the three-frame nucleus over the colony for some few days, kill the queen below. Cut out all queen-cells that are started by the bees below, and take off the excluder, permitting the queen to go below.

2. Bees generally place their queen-cells on the bottoms of the combs, do they not? If that is so, why wouldn't such a scheme as this be efficacious in hunting for queen-cells in reversible-frame hives? Supply full sheets of foundation; and after the bees have drawn it out, reverse all the frames but one. In this way you have nine solid combs, and one frame with space between the bottom of the comb and the bottom strip of the frame. Wouldn't they be most likely to draw out their queen-cells on this frame where they have plenty of room? This frame could be marked on the upper side of the top-bar for easy identification, so that, in looking for swarming preparations, this need be the only comb removed.

Strafford, Pa. A. M. PARKER.

[1. We see no reason why you could not introduce a queen by the plan you propose. If we are not mistaken, Mr. Alexander himself introduced queens in this manner when he worked the plan for strengthening weak nuclei.

2. In the early '80's, many bee-keepers were excited over the possibilities that might be accomplished by reversing. One of the strongest arguments put up at that time in favor of inverting combs was to get them built up solid to the end-bars and bottom-bars; and there is no denying the fact that this can be accomplished. Another claim was made, that the process of inversion would destroy swarming-cells; that the most of the cells would be along the bottom edge of the comb; and when the hives or combs were inverted the cells would be destroyed—that is to say, the young baby queens would die because they could not live "t'other side up." But, unfortunately for the advocates of this scheme, the idea did not work as well in practice. While it is possible and probably true that some cells were destroyed by inverting, if we remember correctly too many queens would hatch to make this plan for the prevention of swarming at all feasible.

You will, therefore, see that the idea that you propose could not be relied on.—ED.]

How to Produce Both Comb and Extracted Honey at the Same Time.

I have been thinking of using the ten-frame hive for extracting with Hoffman frames; but I should like a hive that I can run for extracted and comb honey at the same time if I wish to do so. I have seen in GLEANINGS where some bee-keepers do. I wish you would tell me all about it. I certainly should be pleased to read up on the subject from different bee-men under "Heads of Grain." When I use sections I wish to use 1½ x 4 x 5. Can I use them in connection with extracting-frames?

Converse, Ind., Dec. 23. J. F. MILLER.

[Your decision in favor of the ten-frame extracting-hive is entirely correct. When one runs for comb and extracted honey both, you may use about 75 per cent of comb-honey supers and 25 per cent of shallow extracting-supers. If the season, however, is very short, and there is danger of unfinished sections at the close of the flow, the proportions may be exactly reversed. Perhaps it would be safe to say that those who produce both comb and extracted honey use about half and half of each style of super. At the beginning of the flow, extracting-supers are put on first. When they are about half filled they are lifted up, and comb-honey supers are placed beneath, one for each hive. When the bees are well started in the sections the extracting-supers may or may not be removed. In some cases they are given to sulky colonies that show a disinclination to go into the supers. Such colonies can often be induced to go above when extracting-combs are partly filled with freshly stored honey. Other extracting-supers may be tiered up on a hive or hives, the bees of which do not make white cappings suitable for sections. It very often happens that some of the best workers in the apiary will store a large amount of honey, but the cappings of the combs will be so close on to the honey that it will have a water-soaked appearance. Such colonies as these should be run entirely for extracted. They also answer the excellent purpose of starting work in extracting-supers, and these partly filled supers may then be used to good advantage to place on sulky colonies.

When the season is pretty well advanced, the sections, as fast as they are sealed, are taken off the hive, and extracting-combs are put in their place to catch the tapering-off of the flow. You thus avoid unfinished sections. You are wise in deciding in favor of 4 x 5 sections.—ED.]

Two Strong Colonies Desert Hives in the Fall, Leaving Honey in the Combs.

I had three colonies, and took off extracting-supers in September. At that time every hive had what seemed to me a good stock of vigorous bees, and the upper parts of frames in the brood-chambers were filled with capped honey. After extracting, the empty frames were put out to be cleaned by the bees. This work they were very busy at while it lasted. Other work kept my attention from the bees until the beginning of November, when I took the hives to the cellar, and it was then I got my surprise. My two parent hives (eight-frame Langstroth), the ones I wintered over in 1909–'10, had not a single bee nor any brood—not a vestige of any thing in the comb but some capped honey in the upper half of each frame. The only hive with bees was the *one* swarm I secured, and they seem strong enough. Now, what went wrong in the two hives? Where could the bees go, and what made them go?

O'Connell, Ont., Dec. 6. W. M. SHIELDS.

[We are as much at sea in regard to this as you are. It seems very strange, to say the least. If only one colony disappeared in this way we could explain it better, for in that case it might be that *that* one had been robbed out considerably by the others, being weak, and that the few bees that were left simply left the hive on account of being an abnormally small cluster. It is possible, but not probable, that this was the case with both of the colonies. What makes us think this is not the case is that there was capped honey left in both hives. It would hardly look as if any robbing had been going on. You say that both of these colonies were comparatively strong when you removed the honey. Perhaps in the process of cleaning up the combs afterward the bees of these two colonies, being rather old any way, perhaps, literally wore themselves out fighting for the honey in those combs that you placed outside to be cleaned. We know that it is very hard on bees to fight for honey in this way, and perhaps this is an explanation of the trouble. However, we can not be at all sure.—ED.]

Proper Size of Entrance for Wintering.

I am trying to winter four colonies of bees in a shed, closed, except at the hive-entrances, with about four inches of planer-shavings above, below, and all around the hives. One colony is on eight Danzenbaker frames. The others are in 1½-story Danzenbaker hives with six brood-frames and six extracting-frames each. The covers are sealed; the bottom-boards, ⅞-inch side up; entrances, ⅜ x 5 for small colony; ⅜ x 6 for two others; ⅜ x 7 for strongest. For about three weeks the temperature has rarely gone above 32°, with a range of from 5 to 15 at night; yet there is a constant gentle murmur from all of the hives, and from one hive bees will emerge if approached quite closely. I don't find much discussion as to handling bees wintered outdoors after they have been prepared for the win-

ter; and, if it is not too much trouble, I should like to find out whether I ought to enlarge the entrances, and whether the bees' present activity will be likely to result in such a consumption of stores as to cause bad wintering.

Brookline, Mass., Dec. 12. LORING P. SEARS.

[It very often happens that, in the case of a very powerful colony, the inside walls of a hive are covered with quite an amount of frost. This is due to the moisture from the breath of the bees condensing and then freezing on the walls. There is a possibility that your entrance is too small. By enlarging it slightly the moisture will be carried off better; or there is a possibility that the side walls of your hives are too cold, this being due to insufficient packing at the sides. If you increase the amount of packing material in and around the hive, you would probably eliminate the frost inside. It may be necessary to enlarge the entrance also.—ED.

Alexander Plan for European Foul Brood.

I have read the various articles by Dr. Miller and others on European foul brood, and, to my mind, these writers know nothing about the disease that my old employer, E W. Alexander, did not know. They are now traveling the same path that he followed when he was developing a cure. He found that, the longer the colonies were queenless up to 25 and 26 days, the more certain the cure. Mild cases can sometimes be cured by short periods of queenlessness, and often by simply requeening. I know one colony, in fact, that cured itself.

I advise anybody who has European foul brood to get Mr. Alexander's actual plan as published in GLEANINGS in 1905 and follow it to the letter. A first-class Italian queen in as strong a colony as possible, that has been queenless 26 days, is what is wanted. During the 26 days the bees clean out the disease, and the first-class Italian queen is to keep the colony in shape so that it will be kept free from disease, and in condition to gather honey.

Sloansville, N. Y. R. V. COX.

Bees Dying in a Cigar-box.

I had a very strange thing happen last summer. I was caging some young queens preparatory to introducing them into full colonies. I used ordinary Benton cages, putting in four escort bees with each queen, and placing the cages in a cigar-box I carried with me. After caging half a dozen, I picked up one of the cages and found the queen and the four escort bees dead. What caused these bees to die? I had been working only about twenty minutes.

The queen and bees were in good condition when placed in the cage. There was plenty of honey in the nucleus from which I took them, and the cage had been supplied with fresh candy before placing them in it.

San José, Cal., Nov. 28. J. W. KALFUS.

[We can not imagine why this queen and the four escort bees should have died in the way mentioned. Could it be possible that the odor of tobacco was strong enough in the cigar-box, combined with a possible lack of ventilation, to stupefy the queen and bees in this one instance?—ED.]

Building Cells the Other Side of Perforated Zinc.

By placing a tight-fitting division-board in the brood-nest, putting, say, two frames with eggs, some honey, and all the bees thereon next the hive side, would queen-cells be started? or would perforated zinc have the same effect? I am aware that frames placed *above* zinc will cause cells to be started; but my point is to get cells built without in any way interfering with the usual hive work of storing and brood-rearing. The subsequent care and disposal of the cells is an independent matter. When cells so obtained were removed, the removal of the division-board would be a very simple performance and without any disturbance, or that is the way it appears to me.

Hoboken, N. J. C. D. CHENEY.

[A tight-fitting division-board for making two separate colonies in one hive will accomplish the result sought much better than perforated zinc. Of course, one side is supposed to be queenless, and the other you can have queenless or not, as you like. With a perforated zinc division-board such as you describe, the bees will build cells on the queenless side of the hive *providing* cells are already started. You can not get them to start cells in the first place, nor, for that matter, can you get them, unless there is a good honey-flow, to start cells in the upper story with perforated zinc between the two stories. In any case, in order to do much work in cell-building in a lower story the bees should be queenless, and should be fed a small quantity of syrup daily. For further particulars on the subject you are referred to queen-rearing in the A B C of Bee Culture.—ED.]

Separating Cocoons from Old Combs.

Could I soak old combs, containing cocoons, a day or two in water, then put them in the extractor and throw the cocoons out, leaving the comb clean again?

Fraser, Idaho. F. F. GEORGE.

[It is impossible to loosen cocoons to any appreciable extent by soaking the combs in water. Perhaps a few of the looser ones might fly out in the extractor if you soaked the comb several days, but we think that not many of them would.

It is better to continue using combs right along, even though there are a good many layers of cocoons in the cells. However, if the combs become so thick and the cells so small as to leave too little room for young bees they had better be melted up, and the wax rendered out of them. For the very best results, extracting-combs should not be used that contain many layers of cocoons, although many of the most successful producers prefer to have brood reared in the extracting-combs a few times to make them stronger.—ED.]

The Somerford Method of Forming Nuclei; what is Done with Old Queens?

I should like an explanation to the article appearing in the A B C of Bee Culture, entitled "Nucleus —Confining to keep the bees in," by W. W. Somerford. He says, "Remove the queens or cage them after getting the brood-nest well filled with brood. Wait ten days after removing the queen. . . . . Leave or loose the old queen on the old stand," and the bees from it will work straight ahead. Now what I want to know is, what is done with the queen in the mean while? How do you keep her from starving while the nucleus is being formed?

Columbine, Col., Nov. 16. T. W. WILSON.

[When Mr. Somerford wrote the article describing his method of making increase he probably took it for granted that his readers would understand that a queen could be caged in her own hive for a considerable length of time, and her own bees would take care of her. When he spoke about removing the queen he implied that those same readers would cage or introduce her in some other colony. In the next edition of the A B C book we will see that a suitable explanation is made.—ED.]

Alfalfa in Texas.

Will you please state whether alfalfa and sweet clover yield honey in Louisiana and Texas? From what can I learn the sources of honey in those states, especially the southern part of Louisiana? Does *Lespeza striata*, or Japan clover, yield honey? What hives are most popular in Louisiana or Texas?

Plainfield, O., Nov. 24. W. E. DEAN.

[Alfalfa does not usually yield nectar outside of the irrigated regions; but after it has been in a locality for some years it will secrete some honey. This will be found to be true in parts of New York. Sweet clover, so far as we know, yields honey everywhere in the United States. We are not able to advise you with reference to the other clovers mentioned.—ED.]

Only One Division of a Sectional Hive Used for a Brood-chamber.

If only one section of a sectional hive is used for the brood-nest, and a honey-board is placed on top with one or more section supers above, will the bees store pollen in the sections? I do not mean to use this shallow brood-nest all the while, except when there is a honey-flow.

RICHARD A. WEATHERWALKS.

Pompton Lakes, N. J.

[Under such conditions there is apt to be considerable pollen in sections; but this can be largely overcome by placing a comb containing pollen on each side of the brood-nest.—ED.]

Health Notes

By A. I. Root

TAKING YOUR MEALS IN THE OPEN AIR.

Sleeping outdoors is right in fashion just now, and thousands of people are getting health and strength and manly vigor by doing so. Now, I have not heard anybody say very much about having our *meals* in the open air; but I believe that children sometimes in their play have a little repast out under the apple-tree. Well, it just occurs to me that perhaps I am "breaking the record" by not only having my supper *under* the apple-tree, but getting it *from* the apple-tree. For five or six weeks, at just five in the afternoon I go out to an apple-tree in our dooryard where there are beautiful luscious apples just getting ripe; and I have a supper of fruit, and nothing else, and it agrees with me to a dot. I do not think I ever enjoyed any supper so much in my life as I do these fruit suppers.* By the way, my good friend, have you got a nice apple-tree right close by your home, where the children can have plenty of fruit without any assistance from the middleman or middle*woman?* Just think of it—instead of paying a dime for three apples on a fruit-stand, I simply reach up, while standing on the ground, and pluck the luscious fruit. Is it not a "short cut" in very truth, from "producer to consumer"? Let us do a little figuring. A lot of you think it not extravagant to pay 25 cents for a supper. Well, this apple-tree we call the Mann† apple; and it has the peculiarity of ripening its fruit gradually. From first to last there are nice apples on this tree for nearly sixty days. Well, this tree would usually give me sixty suppers. At 25 cts. each this would be $15.00; and as Mrs. Root and all the children and grandchildren help themselves to these apples whenever they feel inclined, we will say that what they consume is worth $10.00 more, or $25.00 from one apple-tree in one summer (or fall) of apples. Can't *you* afford to have an apple-tree?

And while I am about it, why don't you stop paying rent and get a little piece of land that you can call your own? A quarter of an acre or less would do for some sort of little home, and yet give room for an apple-tree. Suppose you get right about it now. The good wife and the children will join in with you, I am sure, and will contribute the nickels they have been in the habit of paying out for gum and candy at the soda-fountains.

TWO MEALS A DAY.

Some of you may feel inclined to joke me after reading the above, in view of what I have said about two meals a day; but T. B. Terry says a few nice mellow apples are so easily digested, and so quickly out of the way, they can scarcely be called a meal. A few times I have been persuaded to have a few crackers and a little cheese with my apples; but I rest during the night very much better without *any thing* but the fruit I have mentioned. Now, here is something which I clip from the *Plain Dealer* in regard to two meals a day instead of three. It comes from one of the great addresses delivered before the Mississippi Valley Medical Association:

DETROIT, Sept. 16.—Well-cooked vegetables, rice, and meat, as opposed to New England mince pie and Boston baked beans, has made "the graceful, self-controlled Turk the superior of the nervous, lank New Englander."

This was the contention laid down before the Mississippi Valley Medical Association yesterday by Dr. Fenton B. Turck, of Chicago.

"Diet has more to do with the making of great men or the deteriorating of the human race to the level of the brute than any thing else," declared Dr. Turck. "Compare that armor-plate mince pie diet indulged in by all America with the two sane meals a day that are enabling Turkey to produce the finest specimens of physical manhood in the world."

Later.—I shall have to explain to our readers that the above article has been in type for some time, waiting for a place in our pages; and just now, Nov. 1, as I am starting out for my southern home, I have received a tremendous backing to my little plea for at least one meal a day on apples alone. It comes about in this way: Once in my life I had the pleasure of seeing President Taft, and of hearing him speak; and, more than that, I have a very good friend who has had several personal interviews with our President; and on a quite recent occasion he had an appointment for a short conference with President Taft. He reached the place of meeting about one o'clock, and was informed by the attendant that the President was eating his dinner; but when the President learned who he was that was waiting for him he said, "Bring Mr. B. right in. Tell him it is my request." Well, when Mr. B. commenced to apologize for intruding during the dinner hour he found the President's dinner consisted of—what do you suppose? Why, it was just nice mellow apples and *nothing else.* When my good friend uttered an exclamation and said, "What! is that your idea of what a dinner should be?" the President leaned back in his chair, threw back his head, and laughed heartily, declaring that his idea of

*It occurs to me that a caution should be put in right here. If you undertake to make a full meal of apples at five o'clock as I do, it will not work at all if you eat apples or other fruit between meals during the day; and where you have one fruit meal, as a rule you had better abstain from fruit, sauces, and pie, etc., at your two other meals. There is such a thing as getting too much fruit, as you have doubtless often found out. Children especially have to be looked after in regard to this matter. This excellent health I am enjoying now is obtained, and *kept*, by carefully abstaining from putting *any thing* in my mouth whatever except pure water between meals, and having breakfast and dinner with little or no fruit. When nature gets accustomed to such a program, and knows what to calculate on (if I may use the expression) every thing works nicely.

†Prof. W. J. Green, of our Ohio Experiment Station, has just been here, and says the tree is not the Mann, which is a late winter apple. He took specimens, and will try to name our tree later on.

a good dinner was just nice mellow apples and nothing else."

Now, friends, I do not suppose it makes much difference *what* meal in the day shall be the fruit meal; but I do believe that one meal of apples alone would conduce greatly to the health and longevity of the whole human family. It might transpire in the end that some of you city chaps would have to get outdoors and *learn* to grow apples; but I think it would not only give you better health but more enjoyment than you ever had before in your life. And, by the way, is it not a wonderful thing once more to notice how "great (?) minds run in parallel channels"? Of course, when you take *avoirdupois* for a comparison there is not much similarity between the President and myself; but we *both* "like apples."

Just one thing more. Below is a clipping (I do not know where it came from) that indicates that the immortal Weston also eats his apple every day.

Weston keeps cheerful, looks on the bright side of life, and—eats his apple every day!

GOING WITHOUT YOUR SUPPER (OR BREAKFAST).

I think it will pay you, friends, especially those who are suffering from indigestion, to get *World's Work* for October and read the article headed "The Way to Health; my Experience with Fletcherism," by C. M. Cady, Professor of English Language and Literature, Doshisha College, Kioto, Japan. It is true the writer mentions omitting breakfast instead of supper; but I suppose it amounts to about the same thing. In my case I prefer omitting the last meal of the day so that digestion may be finished up and cleaned up before I lie down for my final rest. I want to make two extracts from the article as follows:

I made up my mind, with great fear and trembling, to try Mr. Fletcher's own plan of omitting the breakfast. I feared, because I had broken down twice before my classes, and I dreaded that experience again.

I went to school on Monday morning without eating any thing. I got through the first hour all right, but the second hour I began to feel "gone," and the craving of the stomach for food became very strong. Instead of eating, I drank two glasses of cold water; that braced me up to get through the third hour; at the end of the third hour I drank three glasses of cold water, and so got through the fourth hour without trouble. Then I found that a very light lunch left me without any distress, and that I could sit down and do some writing. This was encouraging, because it was the first time that I had been able to do this for more than two years.

The second day I repeated the first day's experience, but with less and less discomfort on account of the absence of food in the morning. The third day was very much better than the other two; on the fourth day it never occurred to me, so far as my bodily feelings were concerned, that I had not had my regular breakfast. Evidently my hunger in the morning was purely what Mr. Fletcher calls a "habit-hunger," for it was absolutely and completely removed by drinking.

Now, nothing, I think, could be more encouraging than my experience in this regard. It is not usual for a man to pull up after such serious breakdowns—four times repeated—but the fact was, as I now believe, my great trouble was largely due to overeating; the excess food simply poisoned my whole system, and the poison was the depressing influence. My experience has been similar to many others, that the intellectual life has been wonderfully increased.

As soon as I was on my feet ready for work, new and ever-widening opportunities for action and influence came my way—opportunities that were never dreamed possible, and for the taking of which I had never had the strength either of body or of mind. *Now* they are entered upon with promptness and handled without hesitation.

Before this last recovery, I seemed to be shut up mostly to the negative side of success—the finding out of what I could *not* do. Since last December, this state of things has turned quite about, and I have the positive enjoyment of seeing things that I touch *move*, and move, too, in the way that I push.

I wish to call attention particularly to the closing paragraph. Since I have omitted suppers, not only a new vigor but a new faculty to accomplish difficult things has come into my life. As Professor Cady puts it, "I have the positive enjoyment of seeing things that I touch *move*."

SOMETHING BRIGHT FROM FLETCHER.

We clip the following from the *Woman's National Daily* for Oct. 28:

WOULD YOU LIVE LONG AND CUT COST OF LIVING IN TWO? THEN CHEW, CHEW, CHEW, CHEW, SAYS HORACE FLETCHER.

CHICAGO, Oct. 27.—Would you live to a ripe old age, with every sense and every function and faculty alert and active? Would you cut down the price of your food one-half and the amount one-third? Would you devote a little more than half as much time to sleep as you now devote, and awake fully refreshed? Would you, now? Would you really eliminate your taste for liquor and tobacco, and still further cut down the cost of living? Would you, in short, entirely rehabilitate yourself, your whole body, your mind, your faculties? Then Fletcherize. Horace Fletcher, the world-famous exponent of the science of eating properly, told how to do it in a lecture on "The Gateway of Human Health and Efficiency."

"Masticate every mouthful of food until no vestige of taste remains in it before swallowing," is the rule he laid down. He claims that proper eating solves even the question of sociological reform. "Nature certainly intends well toward men; therefore nature certainly placed some responsibility upon men. If men, if the human race, learn to eat properly, then the day will come when there will be no necessity for social reforms; and when that day comes, my work will be done.

The above suggestion in regard to sleep probably refers to the fact that some people eat so much that it makes them sleepy and dull; and the further suggestion that the craving for liquor and tobacco is caused by overeating, I heartily indorse. Right along in this line somebody has suggested that plenty of apples is the best thing to induce an intemperate man to forget his cravings for liquor.

MORE PROFIT FROM A FARM OF TWO ACRES THAN FROM ONE OF FIFTY.

Mr. A. I. Root:—For a number of years I have taken your journal. I don't keep a bee: but the reading just suits me, especially the Florida articles. I have relatives living in Polk Co.. by the name of Lillibridge. They conduct a postoffice by the same name. I am a veteran of the civil war, 65 years of age. I get a small pension. I am told that I am as active as many men of 40. I use neither rum nor tobacco. Some years ago I owned a fifty-acre farm. I gave it up, taking a little place of two acres in the thickly settled portion of this town. I get more clean money from the two-acre place than I did

from the fifty-acre farm. I raise fancy berries which are sold right at the door to peddlers who supply the summer residents. As an example, last summer ordinary berries sold at 25 cts. for two boxes. Mine brought 20 cts. My first berries bring me 25 cts. at wholesale. I make my own fertilizer, and that is one secret. Another is, I set in August and get berries next June which average 20 to the box; but in your last issue I find the Florida growers have me "beaten to a standstill;" that is, you set plants in October and get berries in January. Why? I now want to ask some questions. You claim that you are comparatively free from catarrh, while my life is made miserable by it. Some years ago a man asked of the editor of the *Rural New-Yorker* this question, "Could a man farm it in the North, gather the crops, and go to Florida and raise another?" I don't think the question was ever answered. Distance lends enchantment. I have had some literature sent me by the Seaboard Air Line, also by the North Tampa Land Co. My people in Polk County keep writing for me to go there. Now, this passage keeps recurring to me; "Prove all things; hold fast to that which is good."

I hate to be idle. I had not taken a vacation in five years until I took a week off this fall; but I remained away only three days. Now, if I take up this task of raising two crops a year the two most prominent reasons will be, first, to get rid of my catarrh; and, second, to keep busy.

Now, for the questions:

1. Is it necessary to have irrigation? If so, do you have to go down 400 feet? and if so, what would be the cost?

2. Could a man dispose of, say, 20 crates per day locally?

3. Can I get the right kind of pickers?

For over thirty years I have been in the berry business. My berries are picked early in the morning by schoolchildren. The berries shine like diamonds. Other people pick their berries and keep them till the next day, and then they look like an old piece of liver.

And now, Mr. Root, in all kinds of business it is the small things that pay. In reading GLEANINGS it is easy to see who are the successful ones. I hope you will not think I am too presuming in writing to you, but I felt impelled to.

East Hingham, Mass. GEO. A. DOUGLAS.

My good friend, the readers of GLEANINGS want that "secret" about fertilizers. As you will see by our strawberry-book, the finest berries I ever grew were from plants set as you mention, in August. My nearest neighbor, Mr. Rood, sets his plants in August and September, and gets berries from the same before Christmas; but he grows his own plants right near his fruiting-ground. He gets his original stock, from which to grow *plants*, from the North in March and April, or earlier.

For five winters I have had very little trouble here from catarrh; but for the past ten days I have had some of it. I think it came from passing *three* nights in the poorly ventilated Pullman sleepers. I noticed the question you mention in the *Rural*, and rather decided the trouble would be to find a man (say like my neighbor Rood) who could stand it to run "high-pressure gardening" twelve months without any "rest up," instead of six months or less. I think you can do it (at least after a little experience) if you can keep up your enthusiasm both winter and summer, *without* any rest. Now for your questions:

1. Mr. Rood did some of his best berry-growing before he had an artesian well; but he had water in a shallow ditch that could be dipped up right through his long rows of berries. Artesian water is found at from 3 to 500 feet, and the cost depends on the size of the well—say 75 cts. per foot for 3-inch, and about $1.00 per foot for 4-inch.

2. In a town of, say, 2000 or 3000 people, I think you could market 20 crates a day at 20 to 40 cts. a box, depending on the season.

3. I think there are plenty of colored women and children who will do good picking if the boss is right on hand and holds them down to it.

THE SEARS AUTOMOBILE—SEE p. 674, AUG. 15, 1910.

My automobile was just two months on the way, and it did not show up until the shippers wired me that it was probably lost, and wired to know if they should ship another that showed up. An automobile is a queer thing to "get lost," it is true; and this long delay is, I am led to believe, very unusual, for two of my Ohio neighbors have just received, each of them, a carload of household goods, and they were only from ten days to two weeks on the way. Wesley and I, with the help of Mr. Rood's team and teamster, got it out of the car and hauled it down to our auto-house in one forenoon, and by next morning Wesley and I had it ready to start the engine; but we could not get it to "budge." It happened, luckily, that neighbor Rood had just bought a new Everet machine; and his chauffeur coming along at just that time, we applied to him for advice. He said:

"Drop a little gasoline into the pet-cocks of each of the cylinders."

We did so, and, "presto!" Off the engine went, a flying. I hereby give notice to the makers to make haste and put this simple thing in their instruction-book. Several times since, we have been obliged to resort to the same thing in first starting up on a cold morning.

Well, I have had the car now about ten days, and it has proved indeed "a thing of beauty," and *promises* to be "a joy forever." I have got stalled once, it is true; but it was on a dark rainy Sunday night, the second night after I got the machine, and I was going up a very sandy hill. The storm-curtains were all on; and as I could not see very well I got out of the track in the wet sand. I backed down to the bottom of the hill several times, but this only sank the wheels in deeper every time, and I balked always at the same spot. I finally walked about a quarter of a mile and found it was so rainy there was no Endeavor Society before the sermon, and three of the boys readily offered to help me out.

A little help at the right spot sent us up hill a flying; and before we reached the top the three were all aboard and we were making for the church.

Now, it was no more than natural that even *Endeavor* boys should (even on Sunday night) ask the question, "How fast will she go?" By the way, I am something of a boy myself, even if I am past 71; and it was so dark and rainy the streets were all clear of obstruction of any kind; and, tak-

ing it all together, we whizzed past the church before I knew it, and was wondering why the boys seemed so anxious to "get out" all at once.

Just as I had finished the above paragraph on my new typewriter, Mrs. Root suggested she thought it very unwise for me to rush into print with so good a report of that machine before I had made even one trip of any length over bad sandy roads. Some of you may remember the time years ago when I started out to write the chapter in the A B C book on bee-hunting. When I came to realize I really knew nothing, comparatively, about bee-hunting, I stopped my work, went and hired an old veteran bee-hunter, and, after laboriously tramping after him for several days, I wrote my "chapter." Well, my neighbor Abbott had been wanting to see some bees about ten miles away, across as bad sandy roads, perhaps, as any in this region. When we started out yesterday morning Mrs. Root said if we got back before dark she would feel very glad. Well, we made the trip easily, finding the bees in excellent condition (heavy with honey), and, after taking friend Abbott home, I was back at my own home before 2 o'clock; and the machine went so finely we called on another neighbor, then went to prayer-meeting in the evening; and I have just looked at the speedometer, and it shows the car made just about 30 miles yesterday, and many of the miles were over about as bad sandy roads as any you often find in Florida. The long trip really *improved* the running of the machine, and, I tell you, it "improved" *mightily* the "feller who ran it."

Some days ago the machine got hot, and we had to wait for it to cool off; and when I finally got home every thing was smoking at such a rate I was almost frightened, and began fearing the "air cooling" was not going to work so well after all. Being in a hurry, I told Wesley to look it all over and see to all the oiling arrangements, etc.

While he was eating his dinner he called to me:

"Mr. Root, there was a pretty good *reason* for the car getting hot. The belt was clear off from the fans, and they had not been running at all."

You see we had neglected to watch the new round leather belt that runs the "blowers" that cool the engine. They had first stretched and become loose, and had finally slipped off entirely, and I had been running the car perhaps a mile or two, with no help from the *fans* at all. I cut off a little of the belt and hooked it on in a minute, and since then we have had no trouble from heating; and, to my great relief, I found that getting the machine so hot had done no harm at all. You see every thing about it is made to stand a high temperature without injury.

As nearly as I can make out, the makers have a sort of "correspondence school" arrangement that enables them to care for their customers in a very Christianlike way. Here is one of their recent letters:

There is sometimes a little trouble about water slopping on to the friction parts; but this dries off very quickly, and it is for only a few feet that your friction slips. Water does no harm whatsoever to the friction-wheel unless it gets thoroughly soaked, as the friction created by the wheel coming in contact with the aluminum disc quickly dries any damp places on the wheel.

We wish to advise you that the proper way to run the car is to run it with the speed-lever forward, and cut down your supply of gasoline. You will be able to make the same speed in this manner that you would with your speed-lever retarded and throttle clear open. Then, too, it is liable to heat your engine to run on low speed too far. This is what caused your engine to get warm when running home the other day.

On fairly level roads you should run with the speed-lever advanced and the throttle open; and we wish that you would try this, as we are especially anxious to have you start out right with your car.

Now, we want you to write us, Mr. Root, whenever you experience any difficulty with your car, as we should much prefer to offer you advice from this office as to the proper method of running your machine than to have you take it to inexperienced garage men who invariably give the wrong advice, and get you into more trouble than ever. If you will take it easy, however, and follow the instructions given in the instruction booklet, we know that you will be able to run the car all right, and hope to hear from you in the near future, telling us of your experience with the machine.

On good roads it is an easy matter to make 25 miles an hour; but that is faster than I care to ride, as a rule. With fair roads from 12 to 15 miles can be kept up, without trouble, all day. After I had run it a few days I was very agreeably surprised to find it would start with the magneto as well as with the batteries; so we might almost say we have an automobile that not only dispenses with the necessity of water, has no "cogwheels" to get dry and make a racket, but can be run (at least as a rule) without the need of troublesome batteries.

Later:

A. I. R. AND HIS NEW CAR NEW YEAR'S DAY.

Oh! but that new auto *is* a "daisy." There is nothing to "forget" about it. Just "jump out" when you get there; and when you want to "go" again, it is all hitched up, and no lack of "muscle" to grind out the miles, sand or no sand.

TEMPERANCE IN ARIZONA.

Some time ago I informed the readers of GLEANINGS that in Arizona they had a queer sort of law, to the effect that temperance people had to have two dry votes to one wet vote to get saloons out of Arizona towns. The letter below informs us that the law has been amended so that the majority can now rule.

Mr. A. I. Root:—The last legislature amended the local-option law by allowing a majority to rule; but later it segregated the towns, allowing them, in case of elections, to vote separately.

We had an election on the 17th, taking in our entire valley and Graham County. We beat the saloon crowd in each of the three towns, and the county went dry about four to one. I will try to send you the printed returns. This will close eight more of their crime-making dens. We carried every voting-place, and one was 106 to 2. Two voting-places had no wet votes to count. When I bade you goodby at the train in our little town I promised you that we would fight them as long as they were in town.

Safford, Ariz., Oct. 28. W. E. GLASCOCK.