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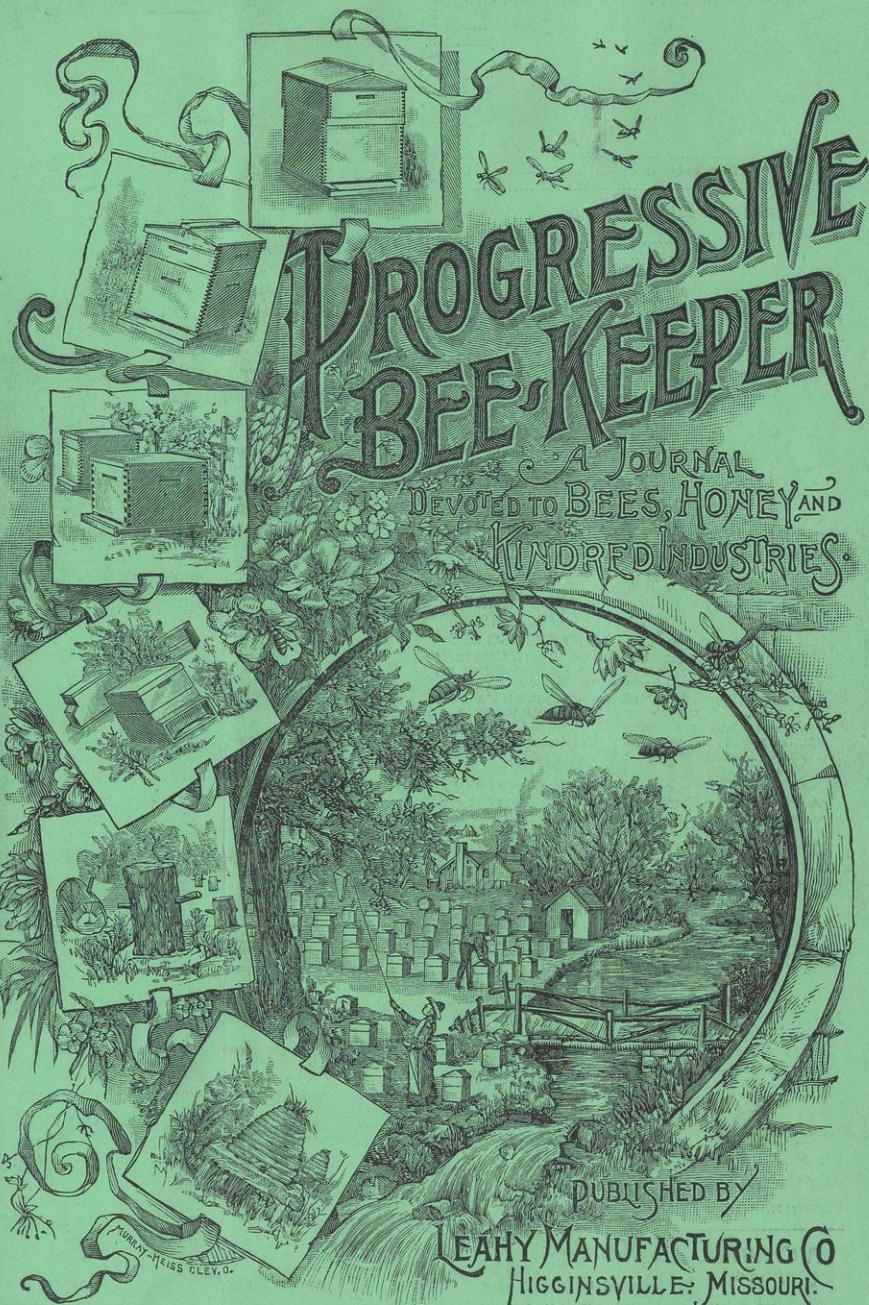
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JUNE 1901.



THE PROGRESSIVE BEE-KEEPER

A JOURNAL
DEVOTED TO BEES, HONEY AND
KINDRED INDUSTRIES.

PUBLISHED BY

LEAHY MANUFACTURING CO
HIGGINSVILLE, MISSOURI.

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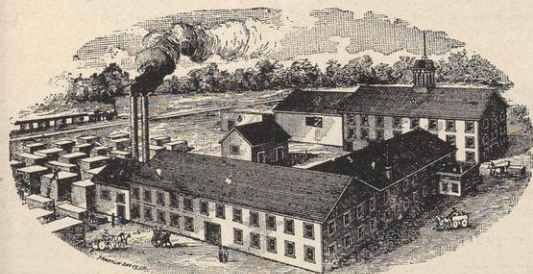
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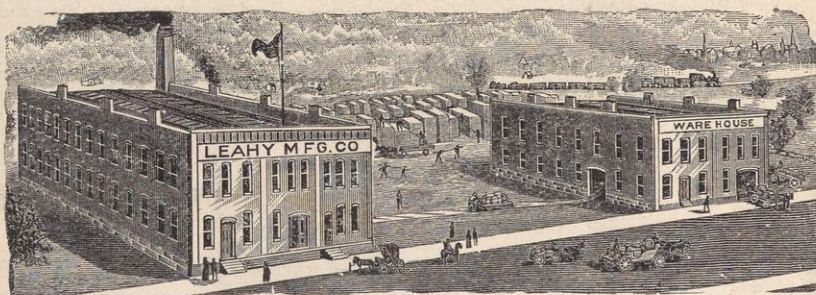
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Contents of this Issue.

Are There any Queen Breeders	174
Convention Notice.....	185
Clipping Queens	190
Double Wall'd or Chaff Pack'd Hives.....	189
Entrances	189
Good for Australia.....	188
Good Things in Bee-Keeping Press.....	178
Look up Good Locations	178
One-armed Man Makes Hives.....	187
Perfect Satisfaction.....	187
Starters vs. Combs for Swarms.....	174
The Season	189
The Wax Moth	189
The Cliff-Dwellers (Concluded)	181
The Use of Comb Foundation	180
Worth Ten Times its Price	187

Are There any Queen-Breeders? Starters vs. Combs for Swarms.

F. L. THOMSON.

"I had always supposed that inbreeding was in all cases undesirable," says the editor of *Gleanings*, p. 86, thereby showing complete ignorance of the science and practice of breeding. He goes on to argue against it; and of course those who sneeze when the leaders take

snuff now say to one another "Go to, we will none of inbreeding. The editor of *Gleanings* is an authority, and he says it is bad, and therefore it is, and now let us hear no more thereof," Mr. Arthur C. Miller, in the *March Review*, comments thus: "In *Gleanings* for Feb. 1, page 85, H. L. Jeffrey has an article on the value of breeding stock, to which the editor appended some rather surprising comments. I wrote a somewhat caustic article, and sent it to *Gleanings*, and it should appear by March 15. The substance was this: the authors of our text books, and the editors of our journals (LOOK OUT), appear to be grievously ignorant of the laws of heredity, and of all such authors as Darwin, Huxley, Haeckel, Spencer, and a host of other biological authors. Now, if our instructors are ignorant, what wonder that the rank and file do not advance in scientific queen breeding?..... Cheshire, Simmins Alley, and Doolittle, and 'A B C', all ignore the subject completely. Is it any wonder we do not get ahead? BAN! Scientific queen-breeding, forsooth. "Breeding queens," "Golden breeders," etc. ROT..... The only

thing we have DONE, ACTUALLY ACCOMPLISHED, is to cause the bee to vary. Variation once started seems to run riot unless fixed by scientific breeding-in. For an example of this, look at the pedigrees of noted trotting horses. It is a deep and fascinating subject; but, above all, it is of vital importance to us as bee-keepers. I believe it should be talked and written about, and hammered at, until the whole fraternity is alive to the importance of the matter." The editor of the Review, who is not usually in the foot-note habit, started a comment thus: "Of what use is it for us to understand the laws of heredity and breeding, unless we can control the mating of the queens?" The next month, in a foot-note to another article by Mr. Miller, the editor of the Review said "I have not materially changed my mind, but I must admit that, to a certain extent, we ARE able to control the parentage of our bees. We can rear our queens from such stock as we please, we can prevent the production and flight of undesirable drones (in our own apiary, and that is all) and we can fill the air with drones of selected parentage."

Now, first, it is evident that Mr. Miller needs a serious rebuke. No matter what the editor of the Gleanings may say, one should never write caustically about it. Editors are superior beings. They can say things that we can not. Then, too, the self-esteem of our leaders is too precious a thing to be so trifled with. If it conflicts with the truth, the only thing for the truth to do is to subside until the authorities see fit to recognize it. And Mr. Miller should not only have abstained from writing caustically, but he should have started in something like this: "Dear Brother Root: I know that you are always willing

to acknowledge whenever you are mistaken, and you are the fairest man I know of in an argument." Then he should have wound up with some references to the splendid condition of our bee-literature, and Gleanings in particular, and the grand men in charge of it. I should particularly recommend to Mr. Miller to study the writings of Prof. Cook and Dr. Mason in this particular. But as it is now, I have not yet seen Mr. Miller's article in Gleanings, and I fear that either it will never get there, or if it does, it will be accompanied by a crushing foot-note, written more in a sorrow than in anger.

No wonder the editor of the Review had to back down after his first foot-note, though he tried to soften the fall by saying he had "not materially changed his mind;" for he is the one who has been advertising "superior stock" far and wide, and calling attention to the foolishness of not handing over \$1.50 for queens bred so as to remain superior stock. Even if he does say he has not materially changed his mind, he says on the same page "Own up like a man, if you are beaten in an argument. It's a manly thing to do, and raises you in the esteem of honorable men." Of course, then, it must be that he not materially changed his mind. What a power a judicious general remark has!

It is about time that bee-keepers understood that queen-BREEDERS are a different class from queen-REARERS. There are plenty of queen-rearers, who will tell you they bred queens by the most approved methods—artificial cups, nurseries specially prepared colonies, and what not. But rearing is not breeding. Are there really any queen-BREEDERS? I THINK there are a few—I really don't know whether there is

ONE who applies those principles of selective breeding which good stock-breeders do. And yet breeding is a practical science. Its principles were not reasoned out, but found to be true in the practice of hundreds of thousands of cases by successful breeders. Its fundamental laws are of universal application, both to animal and vegetable life. But how many so-called queen-breeders go beyond the simple principle that "like begets like?" If few or more, then, indeed, they need to hustle to place bee-culture on the same plane as the breeding of sheep. Yes, like begets like, but there are exceptions and qualifications and modifications of the highest importance. How many know that cross-breeding is a very uncertain proceeding? But I have seen advertisements of queens of one strain mated with drones of another, the implication being that of COURSE the resulting strain would retain the good qualities of both, and hence it would pay the common bee-keeper to buy queens of that strain to breed from. Now, cross-breeding in the hands of an expert may do. It was thus that the breed of Plymouth Rock chickens arose. But in the vast majority of cases, the good qualities of a strain after the first cross can be retained only by keeping it pure. It is the expert's business to pick out exceptions, and develop them. The common bee-keeper should not be asked to waste money on cross-breeds to breed from, and should know why, so that he may be able to defend his pocket-book, if for no other reason. Of course it is of use to discuss and understand the laws of heredity.

Then, as to inbreeding, the leaders ought to know enough to keep still about what they don't know. It shows very poor sense, to say nothing else, to use influence in

bolstering up something of which you are perfectly ignorant, relying on the high-mightiness of your position to down an opponent whose only offense is in differing with your preconceptions. The best authorities (and the best authorities means those most successful in actual practice) agree that inbreeding, IN ITSELF, is of no detriment whatever. If the two parents have common traits, they are approximately doubled in intensity in the offspring. If the parents are related, they have more common traits than non-related parents. If the common traits are bad, the inbred offspring will be very bad. If they are good the offspring will be very good. The true detriment of inbreeding is its riskiness in the hands of the incompetent or ignorant, or when left to chance, as in nature. OF COURSE inbred stock runs out in nature; there is no security against weaknesses being intensified along with good qualities. But when the parents are selected, it is possible to choose only vigorous ones, and yet have them related. Another thing that makes inbreeding a powerful instrument for good in the hands of those who are competent to use it is that inbred stock produces a greater number of prepotent individuals, and a higher degree of prepotency, than is possible to secure by watching for chance cases. Prepotency is the ability of an individual to produce offspring resembling himself more than the other parent, and which also have the same power, and, naturally, is the chief factor in building up a new strain.

In short, the bee-keeper or queen-rearer who depends on "like produces like" alone, is not going to produce uniformly good stock, or exercise discrimination in buying it, and he will get left. It is near-

ly a hundred and fifty years since Bakewell went beyond that, and if we can not at least follow in his steps now, we are much behind the times.

At the spring meeting of the Colorado State Bee-keepers' Association, held at Longmont, April 30, considerations such as these moved the secretary, Mr. Working, to read a paper on the subject, in which he called attention to the fact that in-breeding from the best, qualities transmitted vary, and that the great breeders breed towards an ideal.

Mr. H. Rauchfuss said that very little has been done in improving bees. His best bees are still from imported queens. He had bought queens from a greater breeder, and thought they had to be good, but they nearly all died in winter.

Mr. Aikin said perhaps the reason imported queens seemed better was that they were crossed here.

Mr. Rauchfuss said that was what he meant, and that the first cross was superior, but bad-tempered; but after the first cross the progeny was not much good. Speaking of the first cross being bad-tempered, he said the Caucasians were an exception, as he could handle Caucasian hybrids without a veil. Those queens which died in the winter were all raised here from eastern stock, so that it could not be said that climatic conditions affected them.

Mr. Aikin said in his experience with black bees and Italians, the first cross was alright, but bad-tempered, but their subsequent progeny was poor.

Mr. Gill said that we as honey-producers need not spend much time on the subject, but leave it to queen-breeders to study out. (I should say we need to know enough to know which queen-breeders

know their business.) He thought there were no better bees than in Colorado. The qualities we should try to perpetuate are longevity, good comb-building, strong wing-power, the trait flying right up to the entrance instead of dropping down and crawling to it, and working early and late, and he does not care whether they have gold rings or not, or other color.

I have not space to add much of the discussion on "Combs and how to utilize them," but should say here, in order for the information to be timely, that Mr. Gill desired to go on record as saying that comb honey producers can produce double the wax, and more honey, and a nicer quality of honey, by avoiding the false economy of carrying over old black combs to hive swarms on. He can produce more honey by hiving swarms on frames that have all but one inch of the combs cut out than on a full set. Even if the combs were new, he would cut them out, all but enough for starters. He would use full sheets in the sections. With full combs below they fill them up with honey the first thing, get in a clogged condition, and lose five or six days' work. He said A. I. Root was mistaken in saying nothing was used in the cappings but wax; but bits of cocoons and other material are carried up from below when old combs are present, and the resulting section combs are not so white. As to saving the bees work, nature at that time fits the bees to construct comb. They have a surplus of wax, which would otherwise be wasted.

Mr. H. Rauchfuss emphatically agreed with Mr. Gill, except that he used starters of foundation instead of leaving an inch of old combs. Another advantage is that this may be applied without wait

ing for swarms, and when so done, is a non-swarmling management, for the colony put on starters is put in the condition of a swarm, and does not think of swarming. In that case, he arranges it so the bees from the old colony join as fast as they hatch, and by that system, which he has practiced for years, he has obtained his largest averages. Another advantage is that such colonies are much easier handled, even if one wants to inspect as late as September, being more free from burr combs.

A line or two was left out on page 112, end. It should read "Get one of your BEST business men as manager, subject to a few of the other BEST business men as a board of directors."

Denver, Colo.

◆ ◆ ◆

GOOD THINGS IN THE BEE-KEEPING PRESS.

◆ ◆ ◆

Somnambulist.

Canadian Bee-Journal:—To the question "Are propolis quilts an advantage or disadvantage on either supers for sections or extracting frames?" the answer by rising vote was eighteen to twelve in favor of their use.

In favor of out apiaries, G. A. Deadman has to say:

It is a noteworthy fact that the bee-keeper with a large number of colonies, as a rule, does not get as much honey per colony as one with a smaller number when managed as well; and as his stock increases his average decreases. I have for a long time tried to solve this problem as far as myself was concerned and after 20 years I have come to the conclusion that I have been keeping too many in one place. When the white clover is in full bloom it would seem hardly possible to overstock it, but if we limit our observation to this particular time we will make a grand mistake. In my opinion it is at fruit bloom time that the greatest mistake comes from having too many bees in one place. I used to look very indifferently on the honey from this source, but I have changed my views entirely. We do not want any of it in our surplus apartments but the more we can get of it in the hive proper the better the queen will lay, and I was going to say better still, there will be no empty cells for the white clover to follow and it is then taken direct to the surplus apartment. It makes a great difference to

the white clover surplus when the hive below is filled with honey, brood and bees at the beginning of this our almost only source of surplus honey. Previous to last year I have had from 150 to 200 colonies in the home apiary with often not enough honey gathered to carry them over from fruit bloom to white clover. Last year just before fruit bloom I shipped 100 colonies to Owen Sound and lo! the difference, we never had so much honey in the hives at the beginning of white clover bloom, never had so large a surplus and never so little feeding to do except one year when the white clover continued to yield honey during August even after the queen had slackened up her laying. Now it may have been due to the season, but I feel safer in attributing it to the fewer bees.

On the subject of out apiaries without an attendant, Mr. Newton expressed himself as follows:

This is a difficult question, I have no doubt that would be a puzzle to everyone of us present. I feel myself that an out yard for section honey cannot be run to advantage without having someone in attendance, especially in the fore part of the season. I believe one might bethere during the swarming season and attend to the swarming, or if the queens are clipped take note till the apiarist comes on the following day; but I don't believe it is an advantage to run an out yard for comb honey without an attendant.

In the Review for May W. Z. H., sums up the situation in this wise:

While it is true that many bee-keepers who are "grubbing along" with less than 100 colonies, might make money if they would enlarge the borders of their business, it is equally true that it would be foolish for any one to dash headlong into the establishment of several out-apiaries. Let the man who is in position to do so, start one each year until he reaches the top of his bent. In this way there is not much chance of failure—that is, a failure of the whole business of bee-keeping. It is also true, as suggested by Mr. Gilstrap, that a man may be so situated that it is better for him to manage only one apiary and something else in connection with it. Each man should thoroughly understand his own business, and make the best of it.

In the March Review the prize article written by F. P. Clare, Rideau Center, Ont., contains these suggestions:

Were I starting life again as a young man I should (and my advice to every young man in the ranks is) look up good locations, and START OUT-YARDS. CONCENTRATION IS THE SECRET OF SUCCESS. Don't try half a dozen different lines, but get to the TOP IN ONE. Gird up the loins of your mind, and give the business to which you are called, or have chosen, your best thoughts and all the energy of your being. Be in earnest. But this is not enough; you need KNOWLEDGE, this means study, reading the best journals, and visiting about among men who are making a success of the business. You need a center to work out from; this means a good wife and a home.

This brings "home again" to where M. A. Gill in the PROGRESSIVE asserts

If I had given the impression that a bee-keeper means a man and woman, and some children, I will stick to it, and say that a man possessing the above mentioned perquisite, is

a better bee-keeper at least than any "old batch" Thompson, Rambler and Eversole et al. to the contrary notwithstanding.

Why every man nearly, takes a wife just before he accomplishes anything notable, or at least soon after—witness Gen. Fred Funston and Admiral Geo. Dewey.

Again—"The 'old batch'" hasn't these incentives and if he has hired help, he hasn't these incentives either, the most they care for, as a rule, is plenty to eat and time to meditate. I wonder if it would be news to either of the gentlemen named in this article that incentive cuts quite a figure in the size of the honey crop as well as along other lines of success in life."

Just here let me thank Mr. Gill for his kind invitation to visit him and also say that in so far as I am concerned, he was altogether too anxious to "wear that shoe," as I did not have him in mind particularly, but merely used a quotation from Mr. Thompson to illustrate a general evil. I am not sorry, however, that I happened to strike out on the line I did, inasmuch as it was partially the cause of our getting such a sprightly article from Mr. Gill. Wish I could more frequently be the indirect means of stirring up similar "hornets' nests."

Returning to out-apiaries, F. L. Thompson says in his article "Mostly for Beginners" in May PROGRESSIVE:

As there is a degree of uncertainty in the business, he should have more than one apiary and the conditions surrounding each should be as different as possible, so that if the crop fails in one, it may not in all.

An editorial in the same number tells us that:

A putty knife is a very useful tool about the apiary; not to putty up the knot holes or crevices, but to scrape propolis off the hives, pry frames apart with and for scraping off burr combs.

With no wish whatever to detract from the honors of the putty knife, I would suggest that a small trowl with the edges sharpened is "hard to beat."

Bro. Doolittle furnishes a quotation from a newspaper telling us we need never be without the the best of vinegar if we will only rinse the cappings after draining. Same says good vinegar can be obtained in 90 days but better in 365 days. I am curious to know if honey vinegar is not longer in making than that of other combinations intended for making the same product.

That decoy made of old mullen tops and residue from the wax-extractor is a useful hint.

Going back to the Review we find these editorials:

I am becoming more imbued with the spirit of trying to HELP bee-keepers, to be of some real and lasting benefit to them; to arouse,

encourage and inspire them; to set them to thinking; to lift them out of ruts; and to lead them to look upon their business as a BUSINESS. It is all right to tell a man exactly how to perform a certain piece of work, but sometimes it is of more benefit to rouse him, and set him to thinking out problems for himself. To simply fill the Review, even with good matter, and sell it at a profit, no longer satisfies me, I wish it to lift up, encourage, arouse and help bee-keepers as it has never done before. This discussion that it has started upon "Wake up bee-keepers, to the changed conditions," thus showing bee-keepers how they can better their condition by keeping more bees, is an illustration of what I wish to do.

In uncapping, have a strip of wood 1 x 2 inches in size fastened across the top of the uncapping can. In the center of the strip, from the under side, drive an eight-penny nail up through the strip, allowing the point to project above the wood far enough to afford a resting place for the end-bar of the frame of the comb to be uncapped. Upon this point the comb may be tilted to any desired angle, and quickly reversed for uncapping upon the opposite side, without lifting the comb. This arrangement also prevents the frame from slipping about while the comb is being uncapped. This plan was described by F. Minnick at the Wisconsin convention.

Finding queens is something difficult in populous colonies of blacks or hybrids. In such cases it is sometimes advisable to "sift" the bees, so to speak, by running them through a queen-excluder. Here is a plan described at a York State institute by Mr. D. H. Coggs hall. Fill a hive with empty combs, set it upon the stand of the colony containing the queen that is to be found, setting the colony to one side. Put a queen-excluding honey-board upon the top of that. Now take the combs, one at a time, from the colony, and shake the bees into the empty hive. The bees will at once run down upon the empty combs below, and the queen is easily found upon the top of the queen-excluding honey-board.

S. D. Chapman in a lengthy article sets forth his methods of manipulation from which we clip the following:

From about the 1st to the 10th of July I kill all of my queens. I have practiced this for 16 or 17 years. I would not go to this expense unless I thought I had some pretty good reasons for doing it; as it takes a day in each yard to hunt them up. Where queens are worked as I work them they never prove as good the second year. With my management the average life of the best of queens is not over two years. The 1st year of their life, not one in a hundred are superseded. The 2nd year, from 30 to 50 per cent of them will be superseded in the fore part of the season, just at the time we want a good queen in every colony. This makes a big hole in my honey crop. At the time I kill my queens my colonies are in the very best condition. I am sure of just as good queens as we can get with the most favorable swarming conditions. After killing the queens, for about 25 days, no eggs are laid in the hives. Our colonies are not raising a lot of bees that would be consumers for this length of time. As the brood hatches in the brood-nest the bees fill these combs with honey, leaving the colony in better condition for winter. One of my best reasons for killing the queens is that thereby each colony is furnished with a good young queen to build them up for winter.

The Use of Comb Foundation.

S. E. MILLER.

Is it not at times an article of unnecessary expense dear editor?

As a manufacturer you may not appreciate this article, but as an editor I believe you wish the truth to prevail regardless of the effect it may have on the manufacturing part of the business, hence this attempt to open a question on which I think there is room for discussion. Of course it has been threshed over before like many other subjects. But that does not prove that we may not get out a little more grain by giving it another flailing. Tons and tons of foundation are used annually, and whether or not it is always used to the profit of the purchaser is the question which has bothered me for some time.

To fill an 8-frame hive (L size) with full sheets of medium brood foundation costs from 55 to 60 cents and in some cases more, depending on the quantity purchased, and the amount of freight paid. I have based the above calculation on prices found in the Leahy Mfg. Co's catalogue. Now the question is, does the bee-keeper ever get that fifty-five cents back? In some cases no doubt, he does, but in others I think it is very doubtful. Nice straight combs, all worker cells, is the strong argument in favor of foundation.

I have in my apiary as nice all worker combs built on starters as anyone can show built on full sheets. I have others that contain partly drone comb and some nearly all drone, but these are by no means useless, as I use them in the upper story for extracting from, or, if I wish to, I can cut out the drone comb and fit in worker comb as Mr. Doolittle does, but I must con-

fer that I have never done this as thoroughly as I should have done. To come back to the figures, each comb built on a full sheet of foundation. Medium brood $5\frac{1}{2}$ to 6 sq ft. to the lb, price 45cts, cost the bee-keeper 7 cts. and time consumed in putting it in the frame.

Now if the wax contained in this sheet of foundation was used where most needed, I think there is no doubt that it would be a paying investment at all times. But is it? I say no! Notwithstanding the nice talk about bees drawing out foundation and even the experiments carried on to prove that they do; it is more a theory than an actual fact and I think I would be safe in saying that ninety per cent of the wax in a sheet of foundation remains right where is when put in the frame, and therefore the bees have to secrete the wax for building the greater portion of the comb. Take a piece of comb-honey-frame, one of your brood-frames that was built on heavy brood foundation, lay it on a plate and with a case knife scrape away the cell walls. Scrape as long as the wax breaks away easily, then turn it over and scrape the other side the same. You have now scraped off the part that the bees built and have left the part that the foundation manufacturer built. Now examine it closely and imagine, if you can, how much the bees have drawn out the foundation in completing the comb. The same test may be applied to any weight of foundation but the effect is not so apparent in the light weights as in heavy.

Please notice dear friends, that in the above I have been discussing foundation in the brood chamber and do not conclude that I have any doubts about the value of thin foundation in the production of comb honey.

Buffton, Mo.

The Cliff-Dwellers:

by

J. M. Davis, Spring Hill, Tenn.

(This story began in the December issue.)

During the coldest weather, I leave the window shutters open, so as to freeze any moth eggs that may be on the combs. Sometimes I have to make a strong sulphur smoke in the old stove, generally this is the result of carelessness."

"Wal, Kunnel, that beats my time sho'. I hed no idee that tha wus sech a stablishment in Merica; I have bin thet fraid of the critters I've kep my distance. Look! thars a whoppin' big swarm, whars yer cow bell, guess I ken stop em."

"Oh! Tom, don't hop so excitedly, and don't punch a hole in the bottom of my wax extractor. Just let them alone, and you will soon see they will settle with any music.

Hand me that little wire cage off the shelf, and come with me, no danger at all. See, here's the queen climbing this blade of grass. Ah! thats accomodating. Just to walk right into the cage, off the grass.

See, Tom, they are clustering in the top of that apple tree?"

"Wal, Kunnel, thats the fust swarm of bees I ever saw stopped without a racket. Thets the purtiest and longest bee I ever saw, why, she is as yeller as gold. Wat was she skirutin' in the grass fur? Tho't kings went up with the swarm."

"Well, Tom, you stick to your kings, loyally—but you will have to desert your collors. Queens rule here. I keep one wing clipped off all my queens to prevent them leaving with the bees. See this one has her wing clipped."

"I declar; the idee of cuttin' off a bee's wing. Sara Jane cuts her chickens' and turkeys' wings off to keep them

out of the gardin; but I never'd a tho't of cuttin' a bee's wing. Whars yer saw? I'll jist clime that tree and saw off the limb for you, Kunnel."

"Oh! never mind doing that, Tom. Please just help me move the old hive back here—thats alright. Now kindly help me place this new hive in place of the old one, there, now place the caged queen at the entrance over at that shady corner. You will now see how I have bees."

"Yes, and I told you Kunnel, to let me rap on the old basin, or they will lite out."

"No, Tom, you just wait, see they are coming down to the new hive on the old stand, and are going in nicely—now you may unstop the cage and let the queen go in with them. See how quick she went in, now the job is done, they will all be back in a few minutes, and soon be at work again. I think we have given the imported bees time to have their fly; so let's take a look at her ladyship, the queen.

Why yes, they are working as nicely as any colony in the yard, although they haven't been here two hours. I will first remove the screws that hold on this frame covered with wire cloth, you see they have all gone down. This frame in two inches deep, but when we arrived it was full of bees clustered so as to relieve the brood chamber of as much heat as possible. In warm weather they need fresh air, therefore when we move them far, an extra space for a part of them to cluster in should be furnished, and the hive covered with wire cloth, then there is less danger of overheating and melting the combs down."

"Whats that sponge for Kunnel, tha dont cifer do tha?"

"No, Tom, that held their drinking water, see (squeezing) they used nearly all of the water. This enabled them to keep the young brood alive during the journey. A few folds of old linen, or cotton cloth, answers very well

soaked with water, and laid on the frames as was this sponge.

These corrugated sticks were put in to hold the frames apart, one at each end on top and one in the center at the bottom. I will place them in this new hive as I remove the frames and then I won't be bothered with the corrugated stick on the bottom."

"Why, Kunnel, they seem to fit jist as well in this gum as t'other. How did you hapen to git 'em so alike, four hundred miles away?"

"Tom, the Leahy Manufacturing Co. makes these hives, and ships them all over the country, every piece fits any hive, no matter if you buy it in Australia. It would be a great help to us for all bee-keepers to use a standard frame; and I will be glad to see one adopted. See, here is the queen and a fine one she is."

"Thets tru', Kunnel, she's a whopper, broader between the sholders and longer than t'other one; but not so purty gold-like, as t'other one, and these bees are longer too; but three strips of gold around them. T'other was nearly all gold-lookin'. Say, Kunnel, what on airth is she craw-fishin' into that cell fur, has she sot down to rest?"

"Ha! ha! why she is depositing an egg. Tom, see, she is through and peeping in other cells to find an empty one—there, watch her."

"Now, if that aint funny; didn't she hump thet long back and crawfish as purty like. Say, Kunnel, I hev' heard of hens layin' two eggs a day, but I never bleved they culd do it. Look, thet old huzzy is humpin' her bak agin. Well, thets three in a minute and a half, is she all eggs?"

"Very nearly so, Tom; at least she can deposit from three to four thousand eggs in a day of twenty-four hours. You see, they do not stop at night. These eggs would make a pile about as long as the queen I think."

"Gee whiz! Wish we could get some Italian chickens and geese and turkeys

an' ducks. Can't you 'port'em, Kunnel?"

"We could get them, Tom, but they would be no better than your's, probably not as good. I see my wife at the window waving her handkerchief, and here I've been over two hours without going up to see whether she was dead or alive. I became so engrossed with my bees that I forgot everything, and I just now remember I hav'nt had my breakfast and dinner. You see she pets me some when I've been away."

"Thanks, Kunnel, I jist thot of it, Bil Johns in sed he'd cum to my house at ten 'clock to buy my yearlings and I recon he thinks I have left these diggens. I will hev to hurry on. I got that ocpide with the bees thet I forgot everything 'cept Sara Jane, and I jes wish she war here to see 'em."

"Very glad to see you take such an interest in them, and you seem not to be afraid of them now. I will need some help this summer, and if you can come over and bring Jake tomorrow, we will extract some honey, and see if I can't give you some further instructions. Say, Tom, you need not wear out your cow bells ringing down your swarms, just spend that time getting your hive ready, and you will spend it more profitably."

"Kunnel, I will be ded sho to come and bring Jake tomorrow an' help you. Jake is a peart lad, jist twelve yest'day an he's mity fond of bees. I see your wife shakin' thet kerchef at you and you had better go, or she will be after you, good evening, Kunnel."

"Good evening, Tom, I shall expect you."

"Good mornin', Kunnel, Jake and me have been here *two hours* and Sara Jane she thot me would be late."

"Good morning, Tom, and Master Jake, I am especially gald to see little boy bee-keepers. They make the best ones in the end. Tom, you see the bees are cross early in the morning. The sun has warmed them up now, so we will get to work, everything is ready."

"Well, Kunnel, Jake he's mity struck and ses he's goin tu be a bee-keeper and get some *hitalan* bees."

"Alright, my boy, I will help you get started. Now bring out the wheel-barrow, and nine dry combs. While I start the smoker. I always have it handy—but use it as little as possible. I find cedar bark, well packed, lasts longer, and gives the best volume of smoke of any fuel. Here is number one, see, I gently pry off the top, and use just a little smoke, push several frames just a little nearer together, so as to get room to draw out a frame without crushing the bees. Now I give the frame a quick jerk, which you see clears the comb of most of the bees, and this long turkey feather soon gets off the balance; now as we have out three frames of honey, I will put in one of the empty combs everytime I take out a full one. Here is one full of honey, but not capped; we will leave that, as it is too thin when not sealed to make a good grade of honey. It is not "*ripe*". After extracting this honey, we will exchange the empty combs with number two, for her full combs, and so on through the apiary. Tom, draw your honey knife across the sharp edge of the cross piece over the uncapping can, to clear off the honey and when the knife gets gummy, put it in a bucket of water, which dissolves the honey, and you will find that it will be s have off the cappings nicely. Here is a new tender comb, and I will have to turn the extractor much slower to prevent breaking the comb."

"Kunnel, sum of these combs are made of black wax and sum of white wax, whar do they get the different culors?"

"All combs are like this new one when first made, but become black with age, I have old black combs just thirty years old, but, I get just as nice clear honey from them, as from these new ones—besides they are tough and stand more rough handling than new comb."

"Kunnel" here is a low gum. What we goin' to do here?"

"Let us see how they are getting along. Oh! nicely, they are sticking on little bits of white wax along the top cells, and are crowded with bees. Hand me that queen excluding zinc off the wheel-barrow, and I will put on these freshly extracted combs, which will put them right to work in the super. Jake, you run up into the extracting room, and get us nine empty frames for the next hive. Well, this is the last hive, and we have taken about four thousand pounds in ten and a half days. Now, I want to arrange cells for a few hundred queens. We will not need our smoker, as I do not breed from cross bees."

"Wat's them little yaller things you're gittin' Kunnel?"

"Queen cells, Tom."

"They are mity purty, Kunnel. Does the queen stick them on the little stick that way?"

"No, Tom, the queens, do nothing except deposit eggs. My little daughter, Annie Dane, makes these for me, it is just fun for her, and saves me a great deal of time, as I use hundreds of them."

"Well declar, thet child is only eight year old, an makes such nice little things? Looks to me like it would take a reglar jueler to do sich work, how on airth does she make them so thin and smothe at the mouth and so round and nice?"

"I will lend you a book, written by Doolittle, that explains this fully, and let me say right here, Tom, I would not go back to the old method of queen rearing for one thousand dollars cash. That book is worth its weight in fine gold."

"Well, Kunnel, I will put it under my pillar every nite and bring it back soon as Sara Jane and me and Jake reads it; an we will be mity proud to read it. Wat's thet quill spoon for, Kunnel?"

"This is to transpose the larvae from the worker cells to the queen cells. I will show you the modus operandi. Here are eighteen cells in this hive nearly ready to cap over. See, twelve are large and rough, four are smaller and rather smoother. I always destroy such cells, so I will take these four, and use their royal jelly to put in these new cells,—hand me the stick, Jake."

"Why, Kunnel, here's a worm in this one, is it a moth?"

"No, Tom, it is a young queen, see I throw them out this way, and dip up a small quantity of the royal jelly with my quill spoon, and place it in the bottom of the new queen cells, thus; now, I have fixed thirty-two cells. I will get the larvae from the "Berberini" imported queen. See, I remove this dummy first, and find the queen."

"There she is, Kunnel, on that frame."

"Thanks, Tom, your eyes are keen. You see I cannot afford to risk dropping so fine a queen in the grass or to injure her, therefore I never take any chances. I will just take this frame and leave her in the hive. See, here is plenty larvae just the right size, about twelve to twenty-four hours old. I slip my quill spoon under them this way, raise them out and slowly lower them into my queen cells, until the point of the quill just touches the royal jelly at the bottom, and by drawing it back, the little larvae sticks to the royal jelly, which is in its nature, glutinous. Now all the cells on this stick have larvae in them. I will place it between these two combs of brood in super of number 50. See the stick fits tightly in this frame half filled with comb, and the brood on both sides will help keep the little queens warm, as the bees cover these combs all the time."

"Why, Kunnel, won't the little queens fall out, with the mouths of the cells down that way? And how on airth do you take little worker bees an make queens outen them?"

"No, Tom they won't fall out, the jelly holds them, and its their nature to grow with their heads down. Never horizontally, like a worker bee. The peculiar food given them in great abundance, and developing in large perpendicular cells, transforms them into queens.

Now, that I have my one hundred queen cells stocked with larvae, I will take out some ripe cells."

"Wat do you mean by ripe cells, Kunnel?"

"A ripe queen cell is as easily distinguished as a ripe apple. See this stick of queen cells. The points are all light colored and pointed, these will not be ripe for several days. Now here is a stick of cells that will hatch tomorrow. See they have blunt flat ends that are brown, and rough. The bees knowing that the young queens will want to come out tomorrow, are helping them by trimming off the points of the cells. I take them off the day before they are due, and carefully place them in the half inch holes you see in this block, with the points resting on the little wool cushions so as not to jar, or injure the young queen. I have only twelve ripe cells this time, Tom, here is what we call a queen nursery, which is merely a very small swarm of bees—enough to cover well, two or three Langstroth combs.

See this patch of brood? I place the cell thus, just above the brood and press it into the comb. See, no danger in pressing a Doolittle cell into a comb that way, but a very light pressure would destroy a natural cell. This nursery has been queenless two days, and will gladly except the cell. Now here is a nursery containing a queen that I wish to mail tonight. Here she is, see I remove the cork in the end of this cage, and pick her up by both wings poke her head in the hole from which I took the cork, thus. See, she went in nicely, and to keep her there, I place the end of my thumb over the

hole until I can put in ten or a dozen workers *not too young*. Now all are in, I replace the cork, tack on the cover, thus. Now I will put on a one cent stamp and send them to the post office. I will have to protect the cell, or the bees will destroy it before they miss their queen. This wire cell protector prevents this, and by the time the young queen emerges from the cell, they will have discovered the loss and will gladly receive her. In two days she will be laying and I will ship her, give them another cells, and continue to do this until the season is over."

"Well, Kunnel, thets all mity strange like to me. I am interested in this bizness, and if you don't mind, I and Jake will come over and hold odds and ends for you, and learn somethin' mo' tho' my hed is liken to burst with infirmation now. I will talk to Sara Jane all nite, and I am glad Jake wus along, he can help me keep strate. Jake he's jes' car'ed away, why I cud a brusht his eyes off with a splinter—he's bin so 'stonished."

"Well, Jake, here is the new hive with foundation, already to hive your swarm on. You shall have a nice queen, a descendant of the Berberini stock, as soon as your colony is ready for her, and I predict that a progressive young bee-keeper will make his start with this hive."

"Thanks Kunnel, why Jake will be so proud his Sunday clothes won't fit him. Sara Jane, Jake, and me will read the bee bukes and me and Jake will cum over now and then. I'm jist goin' tu get shed of them pesky black critters, and get sum of them Berberini Hitalans wot 'grated from the Aps. I'm mity glad that tha went pirutin' round Mr. Berberini's place, and thet you got sum of 'em Kunnel, and air 'stributin 'em over 'Merica, like as Mr. Berberini did in Hitaly. Gud evening Kunnel."

The end.

Convention Notice.

Editor:—Many inquiries have been received by the Executive Committee of the National Bee-keepers' Association regarding the time and place for holding the next convention of the Association. The reply has generally been that Buffalo, N. Y., would be the place of meeting; but until this morning, Apr. 19, the date of meeting has not been settled upon.

On March 2d the Secretary of the American Pomological Society wrote President Root in part as follows:

"As bee-keepers and fruit-growers have many interests in common which could be considered and discussed with mutual profit. our Executive Committee has instructed me to extend to your Association a cordial invitation to hold a joint meeting at some time to be decided later by correspondence.

At this meeting we would suggest that the subjects of discussion center round the general topic of the mutual relations of bee-keeping and fruit growing, . . . which can be briefly treated by speakers selected in advance from among our prominent bee-men and fruit-men; . . . in order that a better understanding of these mutual relations may be reached. . . . It has been suggested that a considerable portion of fruit-growers do not yet appreciate the preponderance of the benefit derived. It is felt that a full public discussion of the subject would, therefore, result in good to both industries."

Realizing as the Executive Committee did, that this was a golden opportunity for presenting the bee-keepers' side of the subject to the representative men of the fruit-growing industry, the invitation of the Pomological Society was at once accepted by the committee in behalf of the Association.

We have had to delay the fixing of the date for our convention until the Pomological Society had fixed their time of meeting. Our convention will be held on the 10th, 11th and 12th of September next, commencing on Tuesday evening the 10th.

We were at first undecided as to place of meeting, hoping the G. A. R. would meet at Denver, Colo.; but when it decided to meet at Cleveland, and we received the invitation of the Pomological Society, we felt that we ought not to miss such a splendid chance to enlighten some of them on the relation of bees to horticulture, and, by meeting at Buffalo, the York State and Canadian bee-keepers would be within easy reach of the place of meeting; so we at once fixed on Buffalo as the most desirable place.

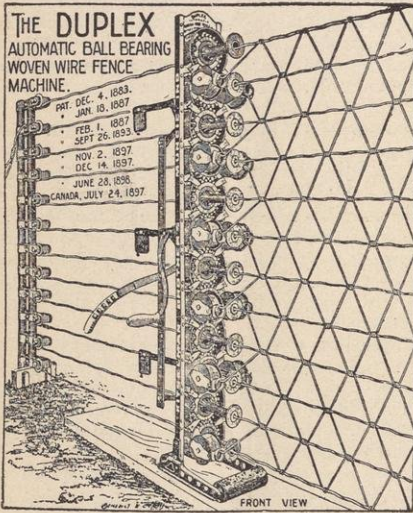
It has been decided not to have any papers or essays, but to rely wholly on the question-box to bring out the best and most important matters for discussion, so that any one

not being able to be at the convention, having any question or questions they wish to have discussed, can send them to the Secretary at any time.

The Committee has taken the liberty to request the Secretary of the Ontario Bee-keepers' Association to ask the members of that Association who may attend the meeting at Buffalo to bring their badges with them and wear them at our sessions, whether they are members of our Association or not, so that we may feel more as one, and know who our progressive neighbors are.

Information regarding place of meeting, entertainment, and railroad rates will be given as soon as decided upon. Don't be in a hurry about securing a sleeping-place during the convention. There is plenty of time, and, later on, better rates can be secured; but if you are in a hurry, write to the Young Men's Christian Association, and don't be bled by "sharks."

A. B. MASON, Sec. Sta. B. Toledo, O.



100 Different Styles of Fence.

It seems almost past believing that one little machine which can easily be handled and moved about by one man is capable of weaving over one hundred styles and kinds of farm, lawn, poultry and ornamental fencing. This is however true of the Duplex Ball Bearing Woven Wire Fence Machine. It is manufactured by our old friends and advertising patrons the Kitzelman Brothers, of Muncie, Ind. The cut shown with this article gives a very good idea of the machine and its method of operation. It also shows one style of farm fence in course of construction. The Duplex will handle satisfactorily any and all sizes of wire, using large wires for laterals and weaving on any number of smaller

sizes of wires. It will also weave perfectly a fence with desirable barb wire at top and bottom, a style of fence much sought after and appreciated in certain localities. Fence may be made of any desired height up to 50 inches. As to capacity, this will vary somewhat, depending upon many things, but the manufacturers state it conservatively at from 40 to 60 rods of farm fence per day. The Standard Duplex Machine makes a fence up to 50 inches high as stated above, but at a small additional cost special machines may be had which will make fence 54½ and 59 inches high respectively. The Duplex is well and honestly made of good material and with anything like ordinary care will last indefinitely. Kitzelman Brothers are also large manufacturers of Ornamental Fence and Gates. These fences are made entirely of wire and iron in the greatest variety of form and fanciful designs. They are so constructed that they will turn all sorts of marauders and at the same time increase rather than detract from the beauty of the enclosure. The ornamental gates and neat steel posts and rails greatly set off and increase the beauty and strength and value of the fence. Write these people requesting printed matter on fence machines, ornamental fencing and gates and all classes of fence materials.

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Geo. W. Cook, --- Spring Hill, Kas.

Please mention the "Progressive. 4-4t



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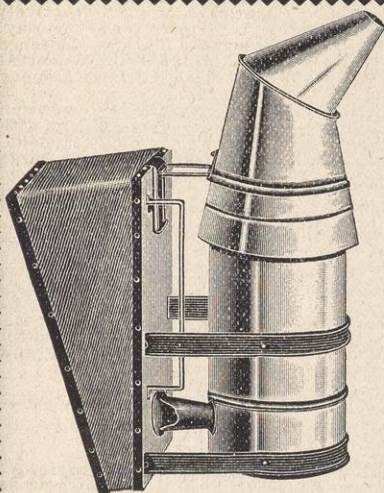
...PIG-TIGHT...

An Illinois farmer said that after harvest he had fully 200 bushels of loose oats on the ground that he could not secure any benefit from, because the fence around the field would not turn hogs. Figure the loss for yourself. He also said, all this would have been saved if he had used the Kitzelman Woven Wire Coiled Spring Fence, and the value would have gone a long ways towards paying cost of the fence.

With the Duplex Machine any farmer can make it himself at the actual cost of the wire. Catalogue free for the asking.
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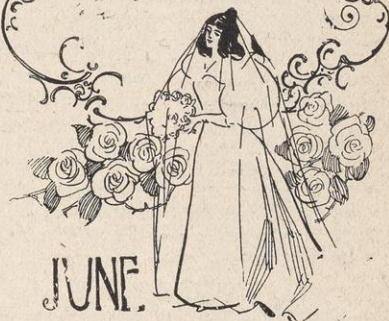
Sirs—The bee-hives sent by you came all O. K. and gave perfect satisfaction.

Yours respectfully,

C. W. PERRY, Waxahachie, Tex.

To the readers of the PROGRESSIVE BEE-KEEPER:—I would like to know how many one-armed bee-keepers there are, who nail their own hives? I have but one arm, which is the left one, and put hives together and nail them almost as quick as any one.—Wilson Conger, Willow Springs, Mo.

The PROGRESSIVE



The cold, backward spring, which we have been howling about so much in the past, has now turned into a cold backward summer. No swarms yet and prospects poor.

On the 11th of May, Mr. J. B. Salyer, of Jonah, Texas, made us a pleasant call. Mr. Salyer has large herds of thoroughbred cattle in Texas and had come to Missouri to purchase a few select animals for the benefit of his Texas ranch. When he found himself within about 50 miles of Higginsville he concluded to pay us a call, as Mr. Salyer is one of Texas' large bee-keepers as well as cattle raiser. After visiting here we took him to our Metropolis, Kansas City, and introduced him to Mr. J. J. Gladish, who showed him the wonders of that great cattle market, second only to the greatest in the world. Call again, Mr. Salyer, and we will show you the white elephant sure next time.

The following clipping from the Southland Queen, is timely and well suggested: "The Atchley delegation expects to be there and do their part to set our pursuit properly before Texas." We hope all other delegations will be there too.

"Remember that everybody is expected to take something to exhibit at College Station next July. Don't forget this, as we wish to make a credible exhibit of bees, honey, queens, wax and all supplies used in the apiary. We want to show people that we are progressive and strictly abreast of the times; that we have crawled long enough and now intend to walk right up with the procession. Do not wait for the other fellow, but make a start now for a good display. The Atchley delegation expect to be there and do their part to set our pursuit properly before Texas, and we want every bee-keeper in Texas to assist, and our showing will be made as it ought to be. Again we ask, Don't neglect this all-important event."

The Central Texas Bee-Keepers Ass't are making special efforts this year through their different committees to have one of the most interesting and profitable meetings ever held by that association. Their next meeting will be held at College Station, from July 22 to 25 inclusive. The following are some of the premiums that will be given away to the exhibitors:

—1—

1—Single-comb nucleus—Golden Italians. 1st—\$2.50; by E. J. Atchley, 2.50.

2—Single-comb nucleus—Three-band Italians. 1st—\$2.50; by E. J. Atchley, 2.50.

3—Single-comb nucleus—Holy-Land. 1st—\$2.50; by G. W. Hufstedler, 1.00, J. M. Faust, 1.00 and J. B. Salyer, .50.

4—Single-comb nucleus—Black bees. 1st—\$2.50; by M. M. Faust, 1.00, G. F. Davidson, 1.00 and J. B. Salyer, .50.

5—Sweepstakes on bees—Greatest number of different races, one-frame nuclei. 1st—Surprise package valuable articles.

—2—

1—Best section comb honey exhibit. 1st—By Udo Toepperwein, one comb honey hive; 2nd, by O. P. Hyde & Son, one golden breeder.

(1 @)—Best sample case sections—
— .50.

2—Best bulk comb honey exhibit. 1st—E. J. Atchley, five cases 8-inch screw-top cans; 2nd, W. H. Laws, fine golden breeder.

(?)—Best sample bulk comb—
— .50.

3—Best extracted honey exhibit. 1st—O. P. Hyde & Son, five cases extracted honey cans; 2nd, E. R. Jones, Holy-Land breeder.

(?)—Best specimen extracted honey
— .50.

4—Best exhibit bees-wax. 1st—by Udo Toepperwein, one Doolittle wax extractor; 2nd, Louis Scholl, apiary tool-chest.

Best sample of wax, not less than 2 lbs., bright yellow wax to have preference. By—
— .50.

—3—

1—Best collection honey plants, pressed. 1st—R. B. Leahy, brass Higginsville smoker; 2nd, Louis Scholl, Clark smoker.

2—Largest and best display apiarian implements. 1st—L. Stachelhausen, \$2.50; F. J. R. Davenport, \$1.00; J. H. Faubion, \$1.00; Chas. Freirich, 50 cents; total \$5.00. 2nd—Louis Scholl, combined brood-frame foundation-fastener, wiring and nailing gauge.

3—Sweepstakes—Largest, best, most interesting and instructive exhibit, all things considered. 1st—G. F. Davidson, \$2.50; J. B. Salyer, \$2.50; F. L. Aten, \$2.50; E. Y. Terral, \$2.50; total \$10.00. 2nd, R. B. Leahy, 2-frame Cowan honey extractor.

4—Blue ribbon best exhibit apiarian supplies.

5—Red ribbon second best exhibit apiarian supplies.

Texas is becoming a great bee state, and her bee-keepers have the push and energy to bring success, and we speak for them a rousing and profitable meeting at College Station.

Good For Australia:—A correspondent from Australia writes:—"In New South Wales, Victoria and Australia, rapid strides are being made in bee-keeping. Only a few years ago but few paid any attention to apiculture, but now many are interested therein. If this progress continues, bee-keeping will have grown into a very considerable industry and honey will form one of the regular articles of diet." Congratulations to our brethren on the opposite end of the earth.

The Wax Moth:—Many have asserted during the past that the larva of the wax moth cannot exist on clear, pure bees-wax, but that pollen is required to successfully breed these pests of the apiary. However, lately, much evidence is accumulating to prove that such larva do thrive between cakes of wax, and that comb foundation is often injured by their work. And this tallies with my experience. In unpacking some foundation the other day, which had stood in the loft of my shop during last summer, (a place kept very warm by the sun's rays on the roof, which [roof] was somewhat open about the rafters so that moths could get in,) I found that moths had worked in it so as to quite materially injure it, while the webs and cocoons told very plainly what had done the mischief.

The Season:—Our spring has been a very cool and backward one, up to date. The bees were not gotten out of the cellar until April 17th, and the next week was one of wind, rain and snow, with many frosty nights since. At this date, May 10th, a very few young bees are hatching, while the brood which is in the hives is not one-fourth as much as we frequently have at this season of the year. However, a few warm days will bring out the fruit bloom, and if we can only have propitious weather at that time the bees will begin to boom. White clover does not usually commence to bloom under about three weeks after fruit bloom, and under a good start from the fruit bloom the bees can be built up to where they will be ready for the clover, if the apiarist preforms his part as he should.

Double Walled or Chaff Packed Hives:—As noted above, the weather has been very cool and frosty since the bees were taken from the cellar. Colonies in hives having only single walls, or those not packed with chaff have had a hard time in trying to raise

brood, in fact some of them have dwindled to quite an extent. Other colonies in double walled or chaff packed hives, have much more brood and have not dwindled enough so it is at all noticable; even the weak ones seeming to have held their own. The cause of this difference seems to be that, during the day, the heat from the sun penetrates the chaff hive, and is there confined during the cold night which follows. Add to this the warmth generated by the bees and we have a much more comfortable state of affairs than in the single walled hives. On cold mornings, if the cushion on top is lifted and the hand thrust under, it seems almost like putting it into an oven. This seems to be an item greatly in favor of chaff hives. There is no denying the fact that bees enjoy heat. Just observe how they multiply during the warm weather of June July and August. And the nearer we can bring an approach to these months during April and May, just that nearer can we approach toward a maximum of bees in time for an early harvest of honey.

Entrances:—During the spring the entrances of all hives occupied with bees should have been contracted to suit the size of the colony, no colony having more than four inches in length by one-half inch in depth, but as the colonies become strong and warm weather draws on a pace, more entrance room should be allowed, and when the honey harvest arrives the full width should be given. Some raise the hives up at this time, setting them on four blocks, or simply raise the front on two blocks, or use wedge shaped pieces so as to give an entrance from one inch to one and one-half inches deep; but from many experiments I am convinced that an entrance the full length of the hive in front by one-inch deep is sufficiently equal to any demands of the colony inside, and fully as good results will be accom-

plished in honey and freeness from swarms as where a larger entrance is used. And where a hive has such an entrance, or where one can be made by simply removing the entrance blocks entirely, it is of less work, inconvenience and annoyance to both the bees and their keeper, than anyway of working. At least that is the conclusion I have come to after trying nearly every thing recommended by way of an entrance to a bee hive during the past.

Clipping Queens:—The practice of clipping queens is something considered very helpful by many practical bee-keepers. During the swarming season an apiary can be managed with far less worry and work, where the queens have their wings clipped, than can one not so having. Clipping is not a necessity, but simply a matter of convenience in hiving swarms. When it is practiced, it should be done during the early fruit bloom, before the colonies become very populous, as the queens are so much more easily found

at that time. It is done by simply catching them, using care not to injure them by too much pressure, when, with a pair of scissors or a knife, some of the two wings on one side is clipped off. I generally remove fully half of the two wings on one side, and where I wish to find a queen often and easily afterward, I cut off full one-half of all the wings on both sides. When clipping is resorted to at all, it is best to clip all queens in the apiary, otherwise there is a confusion in not knowing whether the queen from a certain hive which has just cast a swarm is clipped or not. To hive swarms having clipped queens, all that is necessary is to find the queen, let her into a small wire cloth cage, remove the old hive from its stand, substituting a new one ready for a swarm, when the swarm will return, running into the new hive. Allow the queen to run in with the swarm and place the old hive on a new stand, and the work is done.

G. M. DOOLITTLE, Borodino, N. Y.

Fire! Help! Police!

I need a multitude of bee-keepers to help me dispose of all the choice Italian queens I can rear this season.

— You Can Help Me —

By sending me your orders for Bees and Queens.

Prices June 1st, to October 1st.

Untested, each 60c; 3 for	\$1.50
Tested, each 90c; 3 for	2.50
Select Tested, each \$1.25; 3 for	3.70
Full colony 10-frame hive tested queen	5.00
2-frame Nucleus with tested queen	2.50

If you want an untested instead of tested queen with full colony or nucleus you may deduct 30c from above prices on same.

✠ S. E. MILLER, Mgr. Star Apiary, Bluffton, Mo. ✠

Registered letter, Bluffton, Mo.; Express or P. O. Money Order Office, Rhineland, Mo.
After July 1st, Bluffton will be a M. O. office.

QUEENS.

Improved Golden and Leather Colored Italian is what H. G. Quirin rears.....

We have one of Root's best red clover breeders from their \$200 queen, and a golden breeder from Doolittle, who says, if there is a queen in the United States worth \$100, this one is, these breeders have been added to our already improved strain of queens; for the coming season.

J. L. Gandy, of Humboldt, Neb., wrote us on Aug., 15th, 1900, saying that the colony having one of our queens had already stored over 400 pounds of honey, (mostly comb) he states that he is certain our bees work on red clover, as they were the only kind in his locality and apiary.

A. I. Root's folks say that our queens are extra fine, while the editor of the American Bee Journal tells us that he has good reports from our queens from time to time. We have files upon files of unsolicited testimonials. After considering above evidence, need you wonder why our orders have increased each year?

Give us a trial order and be pleased, we have years of experience, in rearing and mailing queens, safe delivery will be GUARANTEED. Instructions for introducing sent with each lot of queens.

Price before July 1st.	1	6	12
Warranted stock.....	\$.75	\$4.25	\$8.00
Selected Warranted.....	1.00	5.00	9.50
Tested.....	1.50	8.00	15.00
Selected Tested.....	2.00	10.50	
Extra Selected Tested, the best that money can buy.....		4.00	

We have 100,000

FOLDED CARTONS

on hand; so long as they last we will sell them with your address printed on in two colors, at \$4. per 1000, or 500 for \$2.75.

Address all orders to

H. G. QUIRIN, PARKERTOWN, OHIO,

(Parkertown is now a money order office).

Please mention the "Progressive."

The Amateur Bee-Keeper



SEND 25 cents, and get a copy of the **Amateur Bee-Keeper**, a book especially for beginners, by Prof. J. W. Rouse. By mail, 25c.

Address, **LEAHY MFG. CO.,**
Higginsville, - - Missouri

Our Paper for 10c a Year.



AS an experiment, we are going to send our 16-page, regular 35c a year Poultry, Bee & Fruit Journal to all who subscribe before July 1, an entire year for TEN CENTS. Every one can afford this small sum and we should secure several thousand new readers before July 1st. Send your dime today and get four of your neighbors to send with you and we will make you a present of a good poultry book. You will be pleased, as we try to make every issue worth the regular subscription price. Send today to the

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Davenport, Iowa

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PRICES.

One quart.....	\$.50	One gallon.....	\$1.50
One-half gallon....	.95	Five-gallon can. per gal....	1.40

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Agents in every county in Nebraska to canvass for a thoroughly reliable nursery company. We pay commission every week. Address,

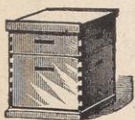
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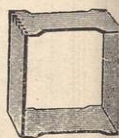
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in car lots—wholesale or retail. Now is the time to get prices. We are the people who manufacture strictly first-class goods and sell them at prices that defy competition. Write us today.



Interstate Box & Manufacturing Co., Hudson, Wis

GOOD QUEENS.

The Jennie Atchley Co.,
Beeville, Bee Co., Texas.

Dear Friends:—It gives me great pleasure to forward you this unsolicited testimonial regarding the merits of Atchley queens. The (3) three dozen queens purchased of you have made an excellent record for themselves. Not an Atchley queen among the twenty colonies lost during the severe drouth in July. I have bought queens from many breeders, and although the present crop is exceedingly short, the tiers of supers show where the Atchley queens are and speak volumes for your method of queen-rearing. I find the progeny to be very gentle, strong-winged, uniformly-marked, long-lived, of large size, and last but not least the best honey-gatherers I ever had. I shall want 100 more next season.

Yours Fraternally,

J. C. WALLENMEYER.

Evansville, Ind., Sept. 27th 1900.

Friends, if you desire to know more about real good queens, and where to get them, send for our catalogue, which gives queen-rearing and the management of apiaries for profit; also a sample copy of "The Southland Queen," the only Southern bee-paper. \$1.00 a year. We give to new subscribers a nice untested queen as a premium. Paper and all for \$1.00. You can send your subscription now and get the queen when you want her. We keep 3-band Italians, Goldens, Carniolans, Holylands, Cyprians in their purity, and in separate yards 5 to 20 miles apart.

Tested queens, \$1.50 each, \$8.00 per 6, or \$15.00 per doz. Untested, \$1.00 each, \$5.00 per 6, or \$9.00 per doz. Safe arrival guaranteed. Bee-keepers' supplies. Write for our free printed matter.

The.....
Jennie Atchley Co.
Beeville, Bee Co., Texas.

LONG TONGUED GOLDENS.

According to E. R. Root's measurements our BREEDERS BEES show a tongue reach of 20 and 21 hundredths inches. We are now booking orders for breeders to be delivered in August and September. These queens will produce bees showing 95 per cent (or better) straight 5-banders and have a guaranteed tongue reach of 19 hundredths or better. All queens large and prolific, price each \$5.00. Orders filled in rotation.

Untested queens, this stock June 1, one 75c; 6 for \$4.25; 12 for.....	\$8.00
Selected War.....	\$1.00
Tested.....	\$1.25
Selected Tested.....	\$2.00

We also have a fine stock of 3-band Italians at the same prices.

Our motto: Good queens and prompt attention to business.

Give our stock a trial.

Send for our large queen circular giving our methods of queen-rearing, honey production etc. We want every bee-keeper to have it. Remember be have the best stock and the largest queen establishment in the south.

O. P. Hyde & Son,
HUTTO, TEX.

KANSAS BEE-KEEPERS

We have a carload of "Higginsville" Supplies, at manufacturer's prices,

and are prepared to fill orders promptly, and can save you freight.

Send all orders to

**Topeka
Bee Supply House,**
E. W. DUNHAM, Manager
106½ W. 5th St.,
Topeka, Kas.

Catalogue free.

Foundation Mills For Sale

We have just taken in a second-hand foundation mill in exchange for goods. This mill has 2½-inch roll, the round bottom cell, of which the foundation comes off so easy, and from the looks of the mill, I do not think it has ever been used. The price of such a mill is \$30.00, and we will take \$18.00 for it on cars at Higginsville. This is very little over half price.

We also have one second-hand six-inch mill for making extra thin foundation, and one second-hand ten-inch mill for making medium or light brood. These are for sale cheap. Write for prices.

LEAHY MFG. COMPANY,
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ONE DIME! 10 CENTS!



THE FREESIA is one of the very best bulbs for window culture, and the grace and elegance of its pure white flowers have made it very popular with florists for cut flowers. Everyone can grow it as its culture is very simple and easy. Five bulbs are enough for a large pot, and will give an abundance of waxen blossoms of exquisite fragrance. For ten cents we will send postpaid to any address the

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New 20-page descriptive
price-list free.

SOME GOOD THINGS

That have appeared in the Bee-Keepers' Review for the present year are as follows:

A Visit to the Coggsfalls

The editor visited the Coggsfalls last winter, and in the January Review he gives the gist of the methods that have enabled these men to build beautiful homes (of which pictures are given) and put thousands of dollars in the bank. W. L. Coggsfall says it is the best "write-up" that has ever been given of their business.

The Frontispiece

A special feature of the Review is the beautiful frontispiece that it gives each month. This month it gives a characteristic California scene—snow capped mountain peaks in the distance, valleys and orange-groves in the middle distance, and a great irrigation-reservoir in the foreground.

Fertilization of Queens in Confinement

The special feature of the February Review is an illustrated article by J. S. Davitte, telling how he secured the the mating of 100 queens in confinement. Full particulars are given.

Working According to Locality, and Killing the Queens Each Summer

The March Review has an article on this subject, and I think it one of the best, if not *the* best article, that has ever appeared in the Review. The methods described are probably not adapted to all localities, but the thoroughness with which the writer, S. D. Chapman, of Mancelona, Mich., has studied out the conditions of his locality, and devised a system of management adapted to the conditions, is a most interesting and encouraging object-lesson.

Wake up, Bee-keepers, to the Changed Conditions.

In the March issue is commenced a series of articles from men who have made money by "Keeping More Bees." You can do the same. I consider these articles the most timely and helpful of any the Review has published. They will be continued into the April, and possibly into the May, Review.

Three Editors.

The frontispiece of this issue is from an 8x10 photograph, taken last February, at Madison, Wis., and shows the editors of Gleanings, American Bee Journal, and Review.

Special Offers.

The Review is \$1.00 a year; but to each one sending \$1.00 for 1901 I am sending 12 back numbers (of my own choosing) free. For \$2.00 I will send the 12 back numbers, the Review for 1901, and a queen of the Superior, Long-tongue Stock. Queen alone, \$1.50.

W. Z. HUTCHINSON, Flint, Mich.

WE MAKE A.....

SPECIALTY OF

SECTIONS,

Being located in the great BASSWOOD timber belt of Wisconsin; admitted by all to be the best for making sections.

A GENERAL LINE OF BEE-KEEPERS' SUPPLIES,

In stock, and at prices with the times. Write for Catalogue and prices, Free.

**MARSHFIELD MFG. CO.,
MARSHFIELD, WISCONSIN.**

Tennessee Queens.

Daughters of Select Imported and Select Golden Queens. Bred $3\frac{1}{4}$ miles apart and mated to select drones. No bees owned within $2\frac{1}{2}$ miles; none impure within 3, and but few within 5 miles. No disease. Twenty-eight years' experience. Warranted. 75 cents each. 100 choice young tested, \$1.50 each. Ready to mail today.

2-12

JOHN M. DAVIS, Spring Hill, Tenn.

FIVE DOLLARS

FOR

A PERFECT ROW OF QUEEN CELLS.

We shall have an exhibit of our Queen Rearing Devices at the coming Pan-American exposition, and we hereby offer to pay \$5.00 for the most perfect row of queen cells built in a "Swarthmore Cage" from "Plug Caps" or "Compressed Cells." For full particulars Ask for Queen Circular.

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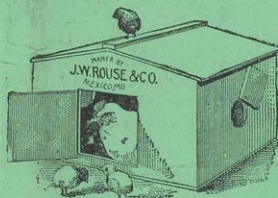
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Apiarian Supplies, Bees and Queens.

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MODEL
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RAT, CAT AND VARMINT PROOF.

One nailed, and five packed inside, making six coops; ship at low rates. Price, \$3.50.

Illustrated circular free.

*Latest Improved Hives,
Sections, Comb Foundation,
Smokers, Bee Veils, and all
kind of supplies, at low
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A beautiful 28-page catalog, free.

The "Amateur Bee-Keeper,"
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