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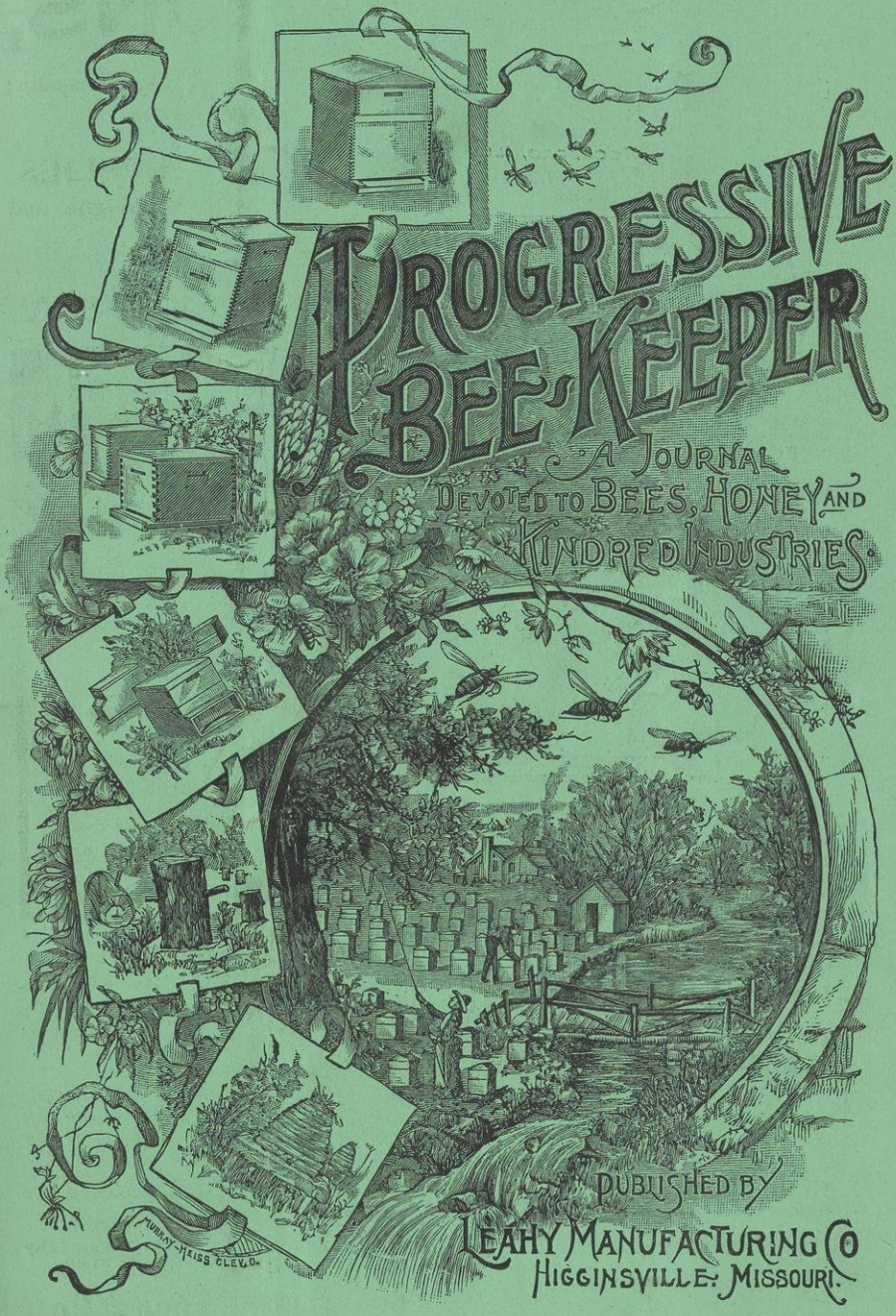
Higginsville, Mo.: Leahy Manufacturing Company, June, 1902

JUNE 1902



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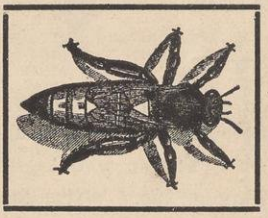
"I'm from Missouri"

But you don't have to show me. . .



I belong to a strain that in 1901, in spite of the intense protracted drought, gathered a large surplus and had enough honey left to run us through the long severe winter of 1901-1902.

Price list of Italian bees and queens by mail, postpaid:

	April	May	June to Oct
Untested queens, each		95	60
" " 3 for		2 40	1 50
Tested queens, each	1 40	1 25	1 00
Tested queens, 3 for	4 00	3 60	2 50
Select tested, each	2 40	2 40	2 00
By express, not prepaid			
1 fr. nuc., untested queen		2 00	1 75
2 " " " "		2 50	2 25
3 " " " "		2 75	2 50
1 " " tested queen	2 75	2 50	2 25
2 " " " "	3 00	2 75	2 50
3 " " " "	4 00	3 75	3 25
Full colonies with tested queen in 10 frame hives	7 00	6 00	5 00

I issue no catalogue. Please order from above prices and save yourself the trouble of sending for catalogue. Remit by letter or P. O. money order on Bluffton, Mo., or express money order Rhineland, Mo.

S. E. MILLER, Bluffton, Mo.,
Prop. of the Star Apiary.

Please mention the "Progressive."

If you are not a subscriber it will cost only 50c to be one

QUEENS!

...BUY THEM OF...

H. G. QUIRIN,

The Largest Queen Breeder in the North. . . .

A. I. Root & Co. tells us our stock is extra fine; Editor York, of the A. B. J., says that he has good reports from our stock from time to time, while J. L. Gandy, of Humboldt, Neb., secured over 400 pounds honey, mostly comb, from single colonies containing our queens. We have files of testimonials similar to the above. Our breeders originated from the highest priced long-tongued red clover queens in the U. S. Fine queens, promptness, and square dealing have built up our present business, which was established in 1888. Price of Golden and Leather Colored Queens before July 1st:

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Selected stock	1 00	5 00	9 50
Tested	1 50	8 00	1500
Selected tested	2 00	10 50	
Extra select'd tested the best money can buy	4 00		

We guarantee safe arrival to any state, continental island, or Eropean country; can fill all orders promptly, as we expect to keep 300 to 500 queens on hand ahead of orders. Special price on 50 to 100 queens; free circular. Address all orders to

QUIRIN, The Queen Breeder,
Parkerstown, Ohio.

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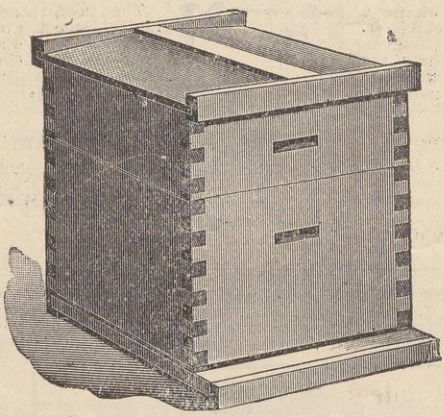
PROGRESSIVE BEE-KEEPER.

50 Cents per year. Subscirbe now.

Nothing so Profitable on a Farm

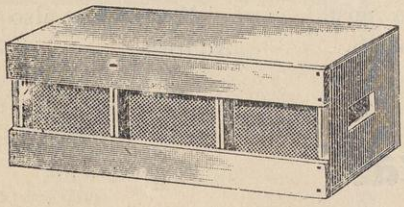


...as...

a Few Stands of

Bees.

They work for nothing and board themselves, and require but little time to handle. We have just received a carload of the famous "Higginsville" Supplies, consisting of dovetailed hives (like cut), sections, foundation, extractors, shipping cases, smokers, bee veils, swarm catchers, etc.....
Write for new 1902 catalog, just out.



Topeka Bee Supply House.
Topeka, Kas.

The
Progressive Bee-Keeper.

A Journal Devoted to Bees, Honey, and Kindred Industries.

50 Cents per Year.

Published Monthly by Leahy Manufacturing Company.

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Table of Contents.

MAKESHIFTS.—A PAPER HONEY HOUSE.

F. L. THOMPSON.

Mr. Thompson—"My experience does not cause me to look with much favor upon makeshifts. It is better to avoid them when possible, as they are the dearest in the long run; and few can plan out really good devices of that character. Instead, use good materials, exact workmanship, and then care well for the structure."

Wonder if that hits me.

Mr. Smith—Caught you, did I? Shouldn't wonder if it did, from the looks of some of the things around here. What are you reading that from?

Mr. T.—Hello, Mr. Smith. That is from an essay by T. Lytle, entitled "A Good Honey-House" read at the Colorado convention, and reported in the Rocky Mountain Bee Journal. What do you refer to."

Mr. S.—This honey-house, for one. Who ever heard of such a thing as a paper honey-house? And no floor!

Mr. T.—Yes, this is a makeshift; that is, at present. But when the rest of it is built, this part will do just the way it is for storing empty supers, and it will not be a makeshift, because for that purpose you don't need anything better.

Mr. S.—The idea of a paper house for any purpose! It won't last any time.

Mr. T.—At the other place I have an 8x8 paper shanty, tarred paper without and resin-sized within. (both outside of the framework) with a lath roof to hold the paper up, but no laths in the walls, nothing but the paper and the framework, and it has stood fifteen months, and seems almost as good as ever. It seems likely to last two or three years without renewal: and then I would simply add another layer of tarred

paper and let it stand another two or three years. The framework is permanent, and the cost of the paper is so trifling it hardly matters. I much prefer that kind of a makeshift to a canvas tent over a framework I have had two tents two years, and they are now full of holes.

Mr. S.—But don't you punch holes in the paper every little while?

Mr. T.—Not a hole. Why should I? A tramp punched a hole in it once to steal some food, and some kind of a bird pecked two holes in the roof. I just put new panels of paper over those places.

Mr. B.—But it can't last: now, you can't convince me of that; it is unreasonable. Paper!

Mr. T.—Two small studdings of inch lumber, two inches wide, about a foot apart, between each pair of two-by-fours, make it last long enough to suit me. Confess you are just theorizing. You may think me a crank, but from my actual experience with paper I wouldn't have any other sort of a building for this purpose, unless it were a fire-proof one. It is a real money-saver. Just think of the amount of room—most of it, in fact—that is taken up for storage of empty receptacles of all sorts in a honey-house, for which matched flooring and walls, and a shingled roof, and carpenter's work generally, are wholly unnecessary. Mr. Jones, you know, has built a three-hundred-dollar honey-house. No doubt it is a good one; but that money is locked up for good and all. With fifty dollars of that I could have built a house, and had money enough left for repairs on it, that would with the occasional repairs last me as long as I live, and then I would have had the other two hundred and fifty to use in other practical and remunerative ways, or to buy books with. I tell you, this makeshift question has two sides to it. If all makeshifts are not good, some are, and it is worth while to consider what they are. Many things are to be considered in answering the question of what pays. When everything is taken into consideration, any old shanty pays Mr. Coggshall better as an extracting room than to spend money on a special apartment. Now, I think my paper shanties are still better than his board ones, for they cost less, and are bee-tight besides.

Mr. S.—Do you mean to say that when you build the rest of this, it is going to be of paper too?

Mr. T.—Certainly. When a thing has proved good, what more do you want? Of course there ought to be a floor in the shop part, and where the comb honey is stored, to prevent dust.

Mr. S.—But dust ought to be kept out of the supers that are prepared before the season begins.

Mr. T.—Those supers ought to have a newspaper between each one anyhow, no matter where they are; and a cover above and below each pile will keep the mice out.

Mr. S.—But you want a place to store empty combs.

Mr. T.—I would have the comb-honey room a little larger than suffices for the comb honey, and store them in there. The point is, not to have any part of the house too good for what that part holds. You don't put on a collar to milk your cow.

Mr. S.—Let me read you something from the last Review. "It is all right for a man with limited capital to put up with makeshifts. In fact, he is compelled to or go in debt for them..... Get improved machinery just as fast as the profits of your business will allow the expense. To squeeze along with imperfect tools, when the profits of your business will allow the purchase of good ones, is the poorest kind of economy. Don't let the habit of putting up with poor tools become so fixed that it cannot be changed when conditions change. Another thing: Watch the conditions; study them closely; they

may change so gradually that you do not realize the change.....Fortunately, bee-keepers require few tools, and there is little excuse for their using poor ones.....The largest factor in the production of honey is labor, and anything that tends to lessen this factor should be given the most thoughtful consideration ...The comfort of working with efficient tools, the greater quantity and superior quality of the work produced, in short, the actual economy that accompanies their use, should lead everyone to their adoption at the earliest possible moment." That's what I call solid sense.

Mr. T.—It seems to me hardly judicial enough, and it leaves out the point I mentioned, that when everything is taken into consideration, some makeshifts pay better than perfect devices. I agree with it, of course, as far as it goes. That's just the reason I use ten-cent under covers instead of four-cent quilts for the comb honey supers. But are not the majority of bee-keepers men of limited capital? We have to face actual conditions instead of desirable ones. Moreover, this particular makeshift has a positive and peculiar advantage. Its cheapness and durability make it possible to enclose a great deal more space for storage purposes than one could otherwise afford. You will readily see that opens up a number of possibilities. Here is one: look at that pile of stuff, will you? honey-boards, smokers, brood foundation starters, chisel, and several other things all in picturesque confusion. I am one of those unfortunate beings who love order, but can't be orderly. The state of my honey-house is a continual vexation to me, but I generally have something to do that is more important than to attend to it; and when it is attended to, it quickly lapses to its original state. Now, when I get my ideal very large honey-house completed, one large room opening into the shop will very much resemble a public library. It will hold nothing but cases of shelves and compartments, both along the walls and across the room; and then I can instantly chuck away anything after using it, and instantly lay my hand on anything I want to use. The smoker and the chisel may lie around now here, now there, as usual, for I fear I am incurable in that respect, but this plan will dispose of that plethora of occasionally-used articles that is so annoying.

Mr. S.—Now I've got you. You're talking about something that doesn't exist, which you haven't tried. Who's theorizing now?

Mr. T.—I am, and it's the proper thing to do, for I am not making any pretense to do anything else but theorize about such a room of shelves. But when you decoy paper as a building material, you are settling up a theory for a fact, for you hav'nt tried the paper and I have.

Mr. S.—Well, well, that theory is your own affair. I should think, myself, it would pay better to be orderly.

Mr. T.—That compartment room would be just the thing for an orderly person too, for there is no getting around the fact that a regular and methodical clearing up, when each article cannot be put away separately, takes valuable time.

Mr. S.—I still can't understand how you can call such a paper affair durable. Tarred paper, after a year of use, is always associated in my mind with tatters.

Mr. T.—Now you're talking sense. There is a great gulf between not understanding something, and saying it isn't so. As a matter of fact, you don't see any tatters about mine, except where I did not pare away some of the extra ends. I don't understand it fully either. But as the conditions are different, there is no doubt a reason for it. It may be that the tarred paper which has caused that association of ideas in your mind was nailed in a single layer

over rough, irregular boards, with chinks between them, whereas mine has a stiff, smooth, air-tight backing at all times—the inner layer of resensized paper.

Mr. S.—I should think you would use those short nails with convex tin washers, instead of the laths.

Mr. T.—That's just what I don't want to do, for you can't pull those things off in a hurry. By using only laths, with not too many smooth nails, which can be stripped off in short order, the work of renewing a panel or covering the whole thing anew is made swift and easy; and the laths hold it well enough.

Mr. S.—It must get rather hot in summer under that black paper.

Mr. T.—It does. But the color can be fixed. See this panel, which I painted a few months ago with water paint for an experiment. You see it sticks all right and is perfectly white. The tarred paper gets so dry and fuzzy after a short time, it seems likely any sort of a wash would stick. I shouldn't wonder if common whitewash would do; if it won't, the water paint will. If the staring white is objectionable, you can tint it any color you like.

Denver, Colo

GOOD THINGS IN THE BEE-KEEPING PRESS.

SOMNAMBULIST.—

White clover plentiful and thrifty, but bloom scarce. Bees in these parts suffered from dysentery superinduced by the consumption of inferior winter supplies, or honey largely combined with honey dew, made quite a perceptible impression on the spring count. Best growing season we have enjoyed in years. Soil loose and in fine condition for cropping. Showers come just right, so that those of us who have not all our eggs in one basket have cause to rejoice. Another thing we have to be thankful for is, foul brood is unknown in this country. Really the space allotted to this subject in the journals is waste space so far as we are concerned. Only hope the time may never come that we shall be compelled to go back and review these articles and study up this topic.

The editor of the American Bee-Keeper calls our attention to the preference that the wax-moth has for combs in which pollen has been stored or brood been reared. Such combs are frequently wholly destroyed, while combs of newly drawn foundation in the same hive and subjected to the same conditions are wholly unmolested. From this pest we are in no wise exempt, and one of the best or safest plans to fight it is to give the combs to strong colonies, and they will attend to the enemy.

Arthur C. Miller raises a hand in defense of the "let alone system." He says, "Often bees left entirely to themselves yield far better returns than those most carefully handled." Thinks this fact should be a crumb of comfort to the timid novice or the too busy man. Says, "Probably the idea of much handling of the bees being necessary has been caused partly by a misconception that all the things recorded in the best books are always needful, and still more by many articles in the bee press stating that great results may be achieved by certain manipulations. Surely some operations properly conducted at proper times are productive of good results, but it does not follow that all persons or all places are adapted to such proceedings." "When results are favorable the methods are heralded far and wide, but the failures are seldom heard of." Dr. Miller (Gleanings) thinks bees mark their location each time they are moved, so that loss from that cause is slight. Expects next winter to try moving bees from the cellar when weather will permit of a flight, and again returning them to the cellar. Thinks wind a factor in wintering that

does not have due consideration. In other words, severity of weather is not wholly dependent on latitude.

The Pacific Bee Journal is alive to the interests of its readers and to the issues of the day. On its front cover appears in prominent type, "National Bee-Keepers' Association Meets at Denver First Week in September—Low Rates." Going? A rousing good time is assured. I must confess to slight pangs of jealousy or envy or whatever it might be the better termed, on reading about the California bee-keepers handling their honey by the ton. And there is one reader who suffers even worse than I, as is evident from the symptoms when he is perusing these accounts of California and other western bee-keepers' sales. He exclaims, "Sommy, no wonder that our honey is kept down in price. These fellows just get their orders for a car or two of honey and proceed to make the same and fill the order." I could not help but laugh. This friend would not stoop to adulteration, but is prone to misjudge a fellow bee-keeper. Repeatedly have I told him the facts in the case, but as often have I found him to be haunted by the shadow of a doubt. What wonder the dear public is so hard to convince? F. B. Simpson, a Review contributor, thinks "we should take the public into our confidence." How can we? That's what I've been trying to do for years, but I've moved in that direction at the pace of a tortoise. However, you can rest easy on one point, and that is, the public never forgets that honey can be, indeed is being, adulterated. This, and the fact that bees sting and are a general nuisance any way, seems quite easy of retention. All else connected with bee-keeping is surrounded by an impenetrable veil of mystery, behind which they care not to see. As an illustration, a few weeks ago, when I had completed the first round among the bees, a customer of at least ten years' standing approached me with, "Say, when you were at work among the bees, didn't you take any honey? I must have some comb honey." At that time the blossoms might be counted by the dozen, were you to leave out house plants.

The venerable Dr. E. Gallup furnishes the Pacific Bee Journal with a good queen-rearing article, in which he says, "The fact is, one can raise queens blacker than any black bee you ever saw from the purest Italian queen." "Many seem to think that a bee is a bee anyhow." "By raising cheap queens, with insufficient food, etc., you shorten the life of the queen from four, five or six years to from three to eighteen months. Do you not shorten the life of her progeny in proportion, consequently lessen the production? You certainly do." "Now, if we make up a small nuclei and a small amount of bees, give them eggs or larvae, and they succeed in raising a queen, the bees feed but a small amount of food; all, or nearly all, as the case may be is consumed. The queen frequently leaves none in the cell when she emerges. What has changed that egg to a queen? Why, from changing the shape of the cell from a horizontal to a partially perpendicular. The egg or larvae has everything lacking to develop a perfect queen. It lacks warmth, food, the electricity that a large amount of bees generate when gathering forage rapidly, etc. There is nothing to change or develop that egg into a five or six years old queen. Consequently her age is not prolonged beyond the age of the common worker. Why do many claim that their black bees are ahead of the Italians for profit? Their black bees have raised natural queens and in a natural manner at swarming time, and the Italians have been monkeyed with artificially and unnaturally." By way of emphasis, he states that Adam Grimm went to Italy to select queens himself, choosing those from strong or populous colonies

that had cast a swarm the same season, and that he succeeded in introducing 43 or 45 out of 50 purchased. He charges us "not to be afraid of getting the colony for queen raising too strong in numbers. Use a two story hive. I am in favor of large hives for every purpose. A two story ten-frame L hive is none too strong for me."

S. K. Bennett presents some pointers connected with California bee-keeping. He says, "There are seven California bee-keepers who keep at least 1,000 colonies. The most successful run 100 colonies in a place. They keep teams that carry five men, with all necessary tools and material, and make ten miles an hour. The specialist likes to have his colonies so that they will produce a ton to the hundred colonies."

A. E. Willcutt offers a string of "Don'ts," as follows: "Don't sell your honey for less than others are selling for Don't sell at a sacrifice because you think that you must have the proceeds at once. Don't lower the price that you may sell before your neighbor does. Don't be fooled by the unscrupulous honey-buyer who tells you that he can buy for less money in other localities. Don't be in a hurry to sell to the buyer who says he is offering you more than anything else is paying. Don't be fooled by the report of enormous crops. Don't hold your crop, thinking to corner the market when others are selliug at a fair price, and so fool yourself. Last but not least, don't put your honey in old and dirty cans or barrels, as it is one of the sure ways to lower the price on your own crop and on that of others."

In an article on selling honey, declares F. Archibald, "The apiarist must counteract the influence of the glucose fiend or shut up shop. To my mind it can only be done in one way—plead your case with the consumer at his back door." He advises to get peddlers interested. One plan he has of getting two tidy young men to canvass both sides of a street, and follow, yourself, filling the orders. Says "One must hold the plow or drive, or scratch a poor man's ribs." Thinks we should have more equal distribution, guarding against glutting any one market.

S. E. Miller, in the Progressive, has an equally good article on the same topic, in which he lays stress on neat appearance and really thinks suavity counts for considerable. Wherever such men are to be found, there you will find a standing market from year to year for the products of the apiary. You will observe, however, a slight difference in the instructions of the two. While Miller tells you to step up to the front door, in a brisk, business-like manner, Archibald says "back door." Is that a difference of locality? Here, only menials, or those who are extremely intimate, are ever expected at the back door. Here our hired men sleep in the house same as the family, while there I understand they must carry their bed with them and roll up in their blankets wherever they may find a chance—that is, in the barn, or some other other outside place. Maybe the back door business is on the same principle. If so, it would certainly take more "grit" to push things there than here. Everyone knows the value of push is to keep everlastingly pushing. It is easy to push while all is new and fresh, but when the novelty is worn off many fall by the wayside. Then should great results fail to materialize, others drop out of the race, and because the way is long, more become discouraged. Stern fortune is conquered alone by the one man out of a thousand who keeps on pushing, year in and year out, through summer heats and winter snows, in spite of discouragements and difficulties. Eventually he is crowned by fortune and rich rewards of success are showered upon and heaped around him. Truly perseverance is more valuable than genius.

I see an Ohio grocer is about to be

prosecuted for selling Arbuckle's coffee, the pure food department claiming that the glazing constitutes adulteration, and renders it unsalable in that state. Arbuckle's will send lawyers from New York to defend, while the pure food commissioner will employ the best legal talent to represent the state. If every state would warm up on this subject, honey producers need no longer fear the glucose fiend. And why should we not be protected, and not only we, but the masses of the consumers? I once heard a Chinese lecture. Among other things he said: "You send missionaries to our country to convert the heathen, but were our government to permit the sale of adulterated food, as does yours, it would be called murder. No, our country would not allow its subjects so destroyed, and you call yours a Christian government."

Naptown, Dreamland.

The Progressive Bee-Keeper.

A journal devoted to Bees, Honey and Kindred Industries.

FIFTY CENTS PER YEAR.

G. M. DOOLITTLE & R. B. LEAHY, EDITORS.

The coming convention to be held at Denver bids fair to be a grand success, but why the directors should have chosen so late a date seems a lack of their knowledge of the climate and rugged beauties of the state. Colorado is a summer resort rather than an autumn paradise for people from a lower altitude. Denver, the most beautiful city of our country, will not be all the bee-keepers coming so far will wish to see, but the chill of the September breeze will curtail to a great extent the un-acclimated, and will shorten the tour of many. We are all going, however, are we not? Colorado has the most excellent and up-to-date bee-keepers of any state in the union. Let's meet them.

E. H. Schaeffle in Gleanings has the following to say concerning the United States Census Report of Bees and Honey: When the United States Census Bureau gave out its first report it was doubted whether Texas exceeded California. Now that the report is published in full, there is no longer any mystery about it; for, according to the report, in 1900 there were, in the United States, 4,109,626 colonies of bees that in that year gave an average of 15 lbs. of honey to the stand, and were valued at $2.50 each. Of these, there were in Texas, 392,622; North Carolina, 244,539; Tennessee, 225,788; Alabama, 205,369; Missouri, 205,110; Kentucky, 203,820; Georgia, 187,919; N. Y., 187,208; Illinois, 179,953; Pennsylvania, 161,670; Ohio, 151,391; Virginia, 139,064; Iowa, 138,811; California, 125,444; Indiana, 117,148; West Virginia, 111,417; Arkansas, 111,138; Missouri, 106,090, Michigan 100,397; Mississippi, 95,143. This will afford interesting reading, as it shows that sections that have received no notice have in them more bees than others with an international reputation for honey.

In a recent letter, Mr. G. M. Doolittle states that the past spring was the worst for the bees he remembers to have been during his thirty-three years as a bee-keeper.

THE BEES were gotten out of the cellars from the 15th to the 19th of April, and came out in excellent condition.

THE LOSS was only one here at home, out of seventy, and one out of thirty at the out apiary. The one loss at the out

apiary was very small last fall, but I thought I would try and see if it would winter, and the one here at home was queenless.

THE CONSUMPTION of stores from the latter part of September, at which time they were prepared regarding their winter's supplies, to time of setting out averaged about six pounds to the colony, for those here at home, while those in the out cellar consumed nearly or quite twice as much. Those in the out-cellar were in a house cellar, with a family in the rooms above, while those here at home were in a special cellar dug in the side-hill, so that an even temperature of 45 degrees was maintained during the whole time they were in winter quarters, which was from November 15th till April 15 to 17th, or approximately by five months.

I SEE BY THE REPORTS in the different bee papers that bees have consumed an undue amount of honey at the north this past winter, especially in Canada, many having to feed as soon as the bees were out of the cellar, the Canadian Bee Journal reporting that bees are short of stores quite largely. This may account for the large consumption of honey at the out-cellar, yet I think that the changeable temperature in a cellar under a house has much more to do with the matter with me. This difference in the amount of stores consumed would pay for the building of a special repository in a few years, and were it not that there is no suitable place for such at the out apiary I should think it wisdom to build one.

WITH A CELLAR under any building, the temperature of the cellar will change more or less with every change of temperature outside, so that a zero temperature for a week or so will run that out of the cellar down to near the freezing point, while a warm spell of like continuation will run the temperature up to where the bees become very uneasy. This causes them to consume stores, in the first case, to keep up the necessary temperature of the cluster, while in the latter case they consume stores to replenish the wasted vitality caused by uneasiness brought on by high temperature. In either case there is a waste of stores and a predisposition to poorer wintering.

BUT WITH CELLAR WHOLLY UNDER GROUND, the change of temperature outside has no perceptible effect, and the bees are aware of nothing except one apparently endless dark night, with a temperature perfectly agreeable to them. After the bees got settled down from being placed in the cellar in my side-hill, I went in and found the temperature at about 45½ degrees above zero: when I next went in we had had a month without the snow even softening in the shade, while much of the time during this month the mercury had stood at from zero to eight below, yet I found the temperature inside the cellar at exactly 65 degrees on entering it. Then, this spring it had been so warm from March 20th to the time the bees were set out, that all of our ten to fifteen feet deep snow banks were all gone, and the grass was beginning to green; but in going in the cellar to commence setting the bees out a look at the thermometer found it standing at exactly 45½ degrees, or the same as it was soon after the bees were set in the fall previous.

THIS CELLAR HAS NO SPECIAL means provided for any ventilation, nothing more than what air can get in through the four reasonably tight doors at the entrance, and through and through the earth its walls of mason-work at the sides, and the three feet of dry earth overhead for covering, which is kept dry from a roof over all. Mr. Root and Mr. Bingham have been try to persuade me into believing, through the columns of Gleanings that did I put

in a ventilator having a sixteen inch square throat that my bees would winter better, but from the perfect way the bees have wintered during the past, and the extraordinary nice shape they came out in this year, I do not find any disposition on my part to do so. I have been anxiously watching the columns of Gleanings this spring to see how their bees came out, but so far I have not seen anything further than the warm weather the latter part of March caused uneasiness with the bees inside of different cellars so ventilated, so that the doors had to be swung open at night to quiet them.

SINCE SETTING THE BEES OUT we have had very changeable weather, the mercury going as high as 80 in the shade for a little while one afternoon, and before the next morning it dropped so that it stood at 30 at sunrise. Then we have had snow three times, and on several nights ice has formed from water being "skimmed" over, to that one-half inch thick. Then we have had winds the larger share of the time from a mild breeze up to furious gales, so that on the whole bees have had a hard time, and brood rearing progresses very slowly. This is bad enough with the bees coming out in fine condition when set from the cellar, and I am very thankful that they were thus, for with poor colonies many of them would not survive. To-day, the 3d day of May, has been almost the first nice day for the bees, and they have improved it to the best advantage, carrying pollen and water at a rapid rate, and I hope that from now on brood-rearing may go on after the fashion of good years.

IN OPENING HIVES in the spring all should be very careful to see that when closed, the tops are closed as tightly as possible, for a crack at the top at this time of the year means a loss of heat which would brood hundreds and thousands of embryo bees, and the eggs and larva of to-day are what will be the laborers to gather the nectar from our early white honey flow, consequently, by not looking after these matters as we should, means much loss in honey. And as this honey is always this which brings the highest price in market, a little loss here is far greater than a loss of an equal number of pounds later on when honey of an inferior quality is gathered. Bear in mind that the bees cannot close such cracks at this time of the year as they do when it is warm enough so that propolis can readily be obtained, and all of such work that is done with bits of wax they gnaw from the combs, or from propolis they may be able to get from some old hive laying about in such a position that the rays of the sun may soften it so it can be worked. When you close the hive see that the cover is put on in just the same position it occupied before, and if from any reason it has warped so that there will be cracks anyway, caulk these cracks up with strips of cloth, which will enable the bees with very little labor to make all as tight and snug as before. I only advise opening hives at this season of the year for the purpose of seeing that each has sufficient stores to carry them sately to the opening honey harvest, together with a suitable queen, and to put them in good shape for the next six weeks to come, after which the hives should be left untouched until it is time to begin active work looking toward an increased amount of brood preparatory for maximum amount of bees in time for the main honey flow.

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

LITTLES.

A little joy along the way,
To make the old world brighter;
A little smile from day to day,
To make some sad heart lighter.
A little love to sweeten life,
And gild the earth with glory;
A little song with sweetness rife,
So runneth life's glad story.

—Will Ward Mitchell.

STARTING BEES TO WORK IN THE SUPERS.

W. W. McNeal in American Bee-Keeper.

This is a fine point in bee-keeping, and everyone who has the care of bees should study it well. Many promising colonies are spoiled for section work by improper management at the time of putting on the supers. A colt will not pull like the trained horse. When one considers that it is the young bees of the colony that are to be influenced by the super manipulations, the importance of using coaxing tactics will be seen at once. Young bees can be scared away from the supers very easily, and for this reason it should be made as homelike as possible. When the first impulse to go above has been turned aside and storing has begun in the brood chamber instead, supers of sections will almost without exception be ignored by them.

It should be remembered that a colony will not occupy a super when not sufficiently strong to utilize vacant room in the main hive. It is the sheerest folly to put on a super at this stage of affairs, and expect to see the bees enter it at once. Moreover much harm can be done by giving a weak colony added room early in the season. Should the weather become unfavorable shortly afterwards, much of the brood is sure to suffer from cold. The loss is not confined to the immature bees that perish thus; but the natural thrift of the colony fades away after a few such reverses.

Bees cannot work in the super, though strong, when the supply of nectar is limited to the needs of the brood compartment. There must be honey to gather above running expenses of the hive before they will put any in the supers.

Having these two all important factors—a strong force of bees and a good honey flow—at our command, the next essential is to have the desire of the wax-workers well stimulated. I know of nothing better for this than the giving of a case of partly drawn combs of the current season's make. The fragrant odors of new wax and honey will incite a colony to put forth its best efforts at honey-gathering. But the most practical, because the most accessible, comb early in the season, for the purpose of drawing the young bees into the supers, is old, black and brood comb, with a little brood in it. The blacker it is, the better; just so it is free from mold and dirt. I could never see that such combs seriously effect the color of the honey put into them, if it was originally light.

It is better not to put on a queen-excluding honey-board at the time the combs are given for the communication between hive and super should be as direct as possible. If the queen does go up and occupy them for a few days only, no harm will be done. When the bees are well going above the case of combs may be exchanged for supers of section and foundation. Or, what I consider better still, if the flow of honey is good, is to lift the case and put the section super between it and the brood-chamber. Of course, when this is done you must make sure that the queen is in the lower hive. Usually she will not pass the section super to again reach the upper case of combs. By such manipulation the super, to a great extent, takes the place of the queen-excluding honey-board, with the advantage of more direct communication. The queen should not be allowed to stay in the upper or extracting case, as we will call it, for the bees carry pollen thereto, which will cause more or less fermentation in the honey when extracted....

I do not like drone comb for use in extracting stories. If there is little or none in the brood-chamber, the queen is apt to pass through the section super to get to it, while a queen-excluding honey-board will prevent her from doing this. The bees will often reserve

a goodly portion of the comb for her, at a time when honey is plentiful. This causes dissatisfaction on the part of the bees, and I am inclined to the belief that many excellent queens are "balled" by the workers simply from an inability to get through the honey-board and gratify their wishes. Drone comb has one good feature: it is seldom, if ever, used for the storing of pollen.

Now, it will be seen, I think, that to get the bees into the super at the proper time, it must be so snug and warm, so assuring, that the young members of the colony will feel at home while there. In all preparatory work, keep close to that which is common to the bees, and their obligations will be dutifully performed.

Wheelersburg, Ohio.

GETTING BEES STARTED IN THE BROOD-NEST.

Does it Seriously Interfere with Starting in the Supers?

Dr. C. C. Miller in American Bee Journal.

On page 311, Mr. Doolittle asks me to tell the reasons for my unbelief in the statement "that allowing bees to get started storing in the brood-nest seriously interferes with their storing in supers." I am very glad to reply to the man to whom I owe not a little for some of the things I have learned about bee-keeping.

I do not see that the first quotation from Mr. Boardman conflicts in the least with my belief. I think that no bee-keeper of any experience ever expected his bees to begin storing in supers while there is plenty of vacant space below. I should be glad to understand how that conflicts with what I believe to be the fact that starting to store in the brood-nest does not seriously interfere with their storing in supers.

If I am not mistaken, storing in any and every case, in accordiance with the first quotation from Mr. Boardman, begins in the brood-nest; possibly, to be more exact, in the brood-chamber or brood-combs—which, however, does not materially alter the case. The bees first store in the brood-chamber till it is filled. Moreover, a writer for whose opinions I have much respect is very positive in the opinion based on very careful observations that no bee coming from the fields ever goes straight to the super to deposit its load, but leaves it always in the brood-nest. Afterwards, it is carried by younger bees into the super, providing there is not room for it in the brood-chamber. If, however, there is room for it in the brood-chamber, in the brood-chamber it will be left, no matter how strong may have grown the habit of storing in supers.

The second quotation from Mr. Boardman is given without saying where it can be found, and, taken from its setting as it is, I do not know its full bearing—do not know what time is "this time," nor the conditions involved—so I cannot say whether it conflicts with my belief or not.

One year, a good many years ago, I thought I might prevent swarming by giving additional room in the brood-chamber for the queen to occupy. I put one, two or three empty combs in the middle of the brood-nest. If three combs were given, the bees promptly filled them with honey, in spite of the previous habit of storing in supers, and only when the queen was ready to use those combs were they emptied out for her.

When I used 10-frame hives, there was more honey stored in the brood nest than I find in 8-frame hives, and if the harvest began with empty combs in the brood-chamber, those empty combs had to be filled before work was done in the super, and I would rather have that white honey in the super; but when the brood-chamber was filled I could not see but the bees went to work in the super just as willingly as if they

had earlier formed the habit of storing in the super. Perhaps that does not exactly express the thought. Bees are creatures of habit, and after storing in a certain place, other things being equal, they will go on in that place more readily than they will commence in a new place. But always the desire to have their stores near the brood-nest is stronger than the habit of storing away from it, and they will store elsewhere only when compelled for want of room in the brood-chamber. What I mean is, that after filling up two or more combs in the brood chamber, they will then as readily form the habit of storing in the super as they would have done in the first place if they had not had those two or more combs to fill.

I think I have seen stated in forcible language by the same writer whom I have mentioned, that when the old queen is succeeded by a virgin queen, the bees during her virginity devote their energies to filling the brood-chamber with honey, and then when the young queen begins laying, the honey is rushed above, and the supers filled with marvelous rapidity; that, in spite of the fact that the bees have been fixing the habit of storing in the brood-chamber. Does Mr. Doolittle think he would get any more honey, if, during the time that the young queen has not commenced to lay, he would fill the brood-chamber with dummies so as to force the bees to continue the habit of storing in the super?

Give a colony an extracting-super, and keep it restricted to that one story, emptying it often enough to give them room, and after having the habit of storing in that one story continued during three weeks time, give them a second story without emptying the first, and see if they will not promptly enter the second super as if it had been given two weeks sooner.

It is probably the truth that habit has its bearing, but not enough to a serious hindrance; that bees always prefer to have their stores as near as possible to the brood-nest, and store away from it only when compelled to do so; that after having continued the habit of storing in the supers no matter how long a time they will always change to storing in the brood-chamber if room there is given; that they always begin storing in the brood-chamber before storing in sections: and that the length of time they continue storing in the brood-chamber has no special bearing upon their hesitancy to begin in the supers.

Mr. Doolittle wants me to give a better plan if I have one. As no plan has been mentioned I do not understand to what he refers. If he will say to what plan he refers I will be delighted to give him a better one—if I have one. But I have not been aware that we have differed in any plan that might be effected by a difference of belief as to the things that are herein mentioned.

Marengo, Ills.

THE CENSUS REPORT.

S. E. MILLER.

I inclose herewith a report on the production of honey and wax produced in the United States in 1899, which I have clipped from the crop reports of the United States department of agriculture. I believe this report in full has not appeared in any of the bee journals, (if it has, I have overlooked it,) and as I consider it of interest to bee-keepers, I send it herewith. Some comment has been made on this report in Gleanings, and Mr. E. R. Root seems to consider it not reliable. On page 368, May 1st Gleanings, Mr. Root claims that the year for which the census was taken was a poor season for honey in California. This being the case, it is evident that it is not the fault of the census department or of the enumerators, but rather the fault of the season on which the census happened to fall.

He (Mr. Root) says, "What I had in mind more particularly was not that the government did not gather its statistics systematically, but in some states the work is done much more thoroughly than in others." If we admit this, then, we must admit that the commissioners and enumerators of California were negligent of their duties, and that the Texans were more thorough in their work, for Mr. Root finds fault with the report because Texas stands ahead of California.

On the whole, I think we should take the census report as reliable, for I think in the great majority of cases reliable men were chosen to fill the positions of enumerators. Of course, in this, as in many other things, there would be occasionally an incompetent person appointed, just the same as we have incompetent postmasters and other officers, but is it not more likely that these incompetent enumerators were scattered pretty well throughout the United States, instead of being confined to any one state in particular?

Surely California would not like to have it said that the majority of incompetent enumerators. The question pertaining to bees and honey was the No. 46th, and the last one on the agricultural schedule, and there was no reason why an enumerator should neglect to ask these questions any more than he should neglect those pertaining to milk, cream, butter, cheese, wool, mohair, goat hair, poultry, eggs, etc.

Some fifteen to twenty years ago a man in this county and about ten miles northeast of here, made in one season $1,000 with one hundred colonies, at least so it was reported. Of course it was not long until nearly all his neighbors were keeping bees, and at one time there must have been something near three hundred colonies in that neighborhood. In enumerating that section in June, 1900, if my memory serves me correct, I did not find ten colonies all together. This is one straw that points toward a decrease in the number of colonies kept in Missouri. Is it not probable that there are many similar cases?

The census report would seem to indicate that bee-keeping, like civilization, is moving westward and, if anything, outstripping the latter in the race. I see no reason to doubt this, for each year the east is being more and more devoted to intense farming. The forest is falling before the axe, to be replaced by fields of corn, wheat and other crops that yield little or no nectar; swamp lands are being redeemed, and even the fence corners of the old rail fences that produced a considerable flora, are a thing of the past, and we have in their stead wire fences or no fences at all, and the land is worked up to the very lines between neighboring farms.

While the census report is not strictly correct, chiefly from the fact that many

people are not able to answer the questions intelligently or correctly, it is, on the whole, as near to the truth as we can hope to get, and an off-handed estimate is likely to be far from the facts.

Bluffton, Mo.

PRODUCTION OF HONEY AND WAX IN 1899.

From advance sheets of Table 46, prepared by the census office, and showing "Bees, Honey and Wax on Farms and Ranges" in the United States, figures are obtained as follows: Number of farms, etc., reporting, 707,261; swarms of bees June 1, 1900, 4,109,626; value of bees June 1, 1900, $10,186,513; pounds of honey produced in 1899, 61,196,160; pounds of wax produced in 1899, 1,765,315, and value of honey and wax produced in 1899, $6,664,904

The Reports of the Eleventh Census (1890) show corresponding figures to the above only for the production of honey and wax, and to make the comparison between the figures of the two censuses clear, they are arranged as below:

Honey produced 1889..63,897,327 lb
Honey produced 1899..61,196,160 lb
Wax produced 1889 ...1,166,588 lb
Wax produced 1899.....1,765,315 lb

An examination of this table shows that the production of honey in the United States in the year 1899 was 2,701,167 pounds less than it was in 1889, while the production of wax was 598,727 pounds greater than in 1889.

This shows, apparently, a tendency on the part of the apiarists to devote more attention to the production of wax than formerly, the proportions being approximately, 55 pounds of honey to 1 of wax in 1889 and 35 of honey to 1 of wax in 1899.

In spite of the falling-off in the production of honey by the United States as a whole, a number of the states and territories had a production of honey in 1899 greatly in excess of their 1889 production. The production of Arizona in 1889 was 126,124 pounds and in 1899 it was 930,420 pounds; that of Colorado in 1889 was 390,906 pounds and 1,732,650 pounds in 1899; that of Kansas 890,913 pounds in 1889 and 1,187,569 pounds in 1899; that of Texas 3,286,386 pounds in 1889 and 4,780,204 pounds in 1899, and Utah's production was 479,158 pounds in 1889 and 1,292,118 pounds in 1899. A number of the other states, etc., whose total production, however, was small, show a large gain proportionately.

More noticeable, however, than the above-mentioned increases in production are the great losses in the amount of honey produced since 1899 that were suffered by some of the largest honey-producing states of the country.

Examples of this are Illinois, which had a production of 4,602,941 pounds in 1889 and one of only 2,961,080 pounds in 1899; Indiana, with a production of 2,106,817 pounds in 1889 to one of but 1,681,554 pounds in 1899; Missouri, which fell from 4,492,178 in 1889 to 3 018,929 in 1999; New York, producing 4,281,964 pounds in 1889 and but 3,422,497 in 1899; Onio, whose production in 1889 was 2,894,059 and in 1899 only 1,980,530, and, last to be mentioned but most remarkable of all, Iowa, with a production of 6,813,412 pounds of honey in 1889 and one in 1899 of only 2,539,784 pounds. Such an enormous decrease in production as that of Iowa, above, is somewhat startling, and a clear explanation thereof would be most interesting.

No further facts of any special interest are noted in the table, which shows, on the whole, but little, if any, increase in the industry since 1889.

A BEE-KEEPER'S EXPERIENCES.

T. W. MORTON.

Commencing with six colonies on frames, I run them the first season without a bee book or journal, thinking I could manage them with a knowledge I had gained from my father, he having kept bees in hollow logs and square boxes. I lost one colony the first season. In the latter part of August, while overhauling them, I found a number of queen-cells in one hive sealed over, preparatory, as I thought, to swarm, as I thought it too late in the season for them to build up and store enough honey to winter on, and as I had seen in some paper or somewhere else that cutting out queen-cells would stop swarming, and being anxious to try my hand, I cut out the cells. As it was a strong colony I thought I would get one super of fall honey from them. In about two weeks, on looking at them I found they had dwindled down to an average colony. The next time I looked at them I found they had dwindled below an average colony. The next time I looked at them, I found there were but few bees in the gum, and on closer examination, I found they had no queen. I then added them to another colony. I learned afterwards it was a case of supersedure. If I had had a bee book, I would have learned from it what to do, and would not have lost them, and the bees would have paid the price of two or three books. So much for trying to run an apiary without a bee book or journal.

When I cut out the cells I put a nice ripe one in a box and put it under a setting hen, and in a few days my wife was out among her setting hens, and found the box under Biddy, and being curious to know what it contained, opened the box, and lo! there was a queen bee in it. She called to me to know what it meant, and I confessed and explained the matter.

Now perhaps I should not have told this, for I see in the Progressive that J. W. Rouse has been hatching chickens over his bees, and if he should see this and reverse the process and hatch his queens under his hens. The other queen breeders—well, they would have to drop out of the business.

One day while looking at my bees I saw a number of dead bumble-bees in front of the gum, I wondered how they came to die right there in front of the gum. In a few days after that I was out among the bees and chanced to see a bumble-bee flying about the hive. After he had taken in the situation of the pigmies, as I supposed, he lit on the alighting board with the intention of walking over the little guards and helping himself to the honey within. Well, now, if you've never witnessed a bumble-bee's trying to enter a hive full of bees, you have missed something interesting in bee-dom. No sooner did he light than half a dozen of bees or more had him by the throat, as it were, and the way they did whirl over and over with the giant or whether the giant whirled with the pigmies with a whiz, fizz, ziz and zip that would make you think that a dozen buzz saws had been turned loose at once. By a mighty whirl he liberated himself and flew away out in the clover-field, thinking it would be a cooler place to load up out there than in a bee hive.

My next experience was introducing some queens that I had received from a breeder. I thought I would hunt the old queens out in the latter part of the afternoon, so that the robber bees would not bother. I had a tent but did not use it. Before I got through with the first two the robbers had scented the honey and were swarming around. I used the tent on the remainder of them. But they had gotten a taste, and were bent on pelf, and as the honey flow was slacking up, they were on hands the next morning and ready to slip into the gum the moment I raised the lid to place the queens on the

frames. I contracted the entrance and used most every means I had read of except shooting the entrance with powder. But they kept right on till the second day at noon. I covered all the gums with netting and let it remain until night. (My prayer was not like Joshua's, for the sun to stand still.) The third morning the robbers were in force bright and early; the case was getting desperate. I was tired and disgusted, sy I closed the entrance down till one bee could pass at a time, and went on about my work, and let them go it Gallagher. At noon they had quieted down some. The next morning all was quiet. I had made two nucleus while introducing the queens, and the robbers had not found them, as I had set them several rods from the other bees. In about a week I went out to look at the nucleus, and saw bees swarming around the entrance, and I thought the robbers had attacked the nucleus. I ran for my tent and stretched it over them to save them from being robbed to death hy the robbers. I watched them a few minutes, and seeing a number of bees loaded with pollen, I raised the tent to let them in. The minute I raised the tent they settled on the alighting board and commenced humming "Home, Sweet Home," and I thought that it sounded sweeter than I had ever heard.

Forest Grove, Mo.

THE COMING CONVENTION AT DENVER.

Of course we naturally expected that if the National Convention went out to Denver that those western people would do the handsome thing, but the present indications are that they are going away ahead of anything that any of us have dreamed of. Some things have come to me in private letters, giving hints of what may be expected, but all of their plans are not yet sufficiently completed to be given to the public; however, I have a letter from Secretary Working, that I have permission to publish, and here it is:

Denver, Colo., April 26, 1902.

W. Z. Hutchinson, Flint, Mich.

Dear Sir—We have put both feet into it. Yesterday and the day before our executive committee (Harris, Gill, Rauchfuss and Working) made the preliminary arrangements for the big meeting in September. Following are the chief points decided upon:

The Colorado Association will meet on Tuesday morning, September 2, and devote the day to business, in the evening and the following days taking part in the general sessions of the National association. Our program committee will work with yours.

We will give a complimentary banquet to members of the National Association coming from other states than Colorado and a "Seeing Denver" trolley ride to all the attractive places in the city to the same people. Our members and those of your association who have the good fortune to live in Colorado will have the pleasure of sharing in these pleasures for a fixed price—to be fixed later.

We will plan for special excursions at low rates to places of interest in various parts of the state.

We gave our committee on exhibits fifty dollars and the authority to beg a thousand for the purpose of making a great exhibition.

We decided to "spread" ourselves in such a way as to make the visiting beekeepers forever proud of having attended the Denver meeting, and those who don't come everlastingly ashamed of themselves. And we have persuaded the mayor of the city and the governor of the state to do their utmost to make the occasion memorable; and the men who hold the purse-strings of the city are interested. Promises later. Then, too, the secretary of the Denver chamber of commerce, who is a past master in such matters, has become an enthusiastic member of our banquet commit-

C. & A. Rv

ALL EMPLOYES

In the operating department of the "Alton Road" are required to pass mental and physical examinations calculated to secure absolute safety to passengers and freight. Fidelity, promptness, and accuracy are rewarded by the merit system, the result being that one of the safest railways in the world is

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Pass. & Ticket Agent Higginsville, Mo

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. CO.

Higginsville, Mo.

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SEND 25 cents, and get a copy of the **Amateur Bee-Keeper**, a book especially for beginners, by Prof. J. W. Rouse. By mail, 28c.

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tee—a committee that is not too big to do things.

That ought to be enough to tell you now. You are to tell us when we may give the banquet. You are to name us three men, including yourself, who will respond briefly and thankfully to addresses of welcome by President Harris, Governor Orman and Mayor Wright. As for the banquet, you are to prepare for it, and nothing more—to be in good humor, in good appetite and in large numbers.

As for our people? With the kind co-operation of the railroads, we'll bring them to Denver in crowds. There'll be as many of our folks as of yours, if you dare! And before we are done with you, you'll be ours and we'll be yours.

Scatter the news! Tell it in Gath and Askelon. We'll tell it wherever Denver papers circulate.

Yours truly, D. W. Working,
Secretary Colo. State Ass'n.

It is very evident to me that the man who misses the coming convention at Denver will miss the treat of his lifetime. I expect to see it outstrip its predecessors in every possible manner—and that is saying a great deal. But look at the conditions: In the heart of the west, and for the first time. Beekeepers of both high and low degree, all over the west, will flock to it. The local arrangements, upon which the success of a convention is so largely dependent, are in the hands of very capable men. The rates on the railroads will be low. It is at the right time of the year—before cold weather, and after the work and heat of the season are over. The sights to be seen in and around Denver are equal to any on earth. Go to Denver, meet the boys, have one grand holiday, and go home loaded with enthusiasm and new ideas—the two things upon which all successes have been builded.

W. Z. Hutchinson, President.

Please mention the "Progressive."

Advanced Bee Culture

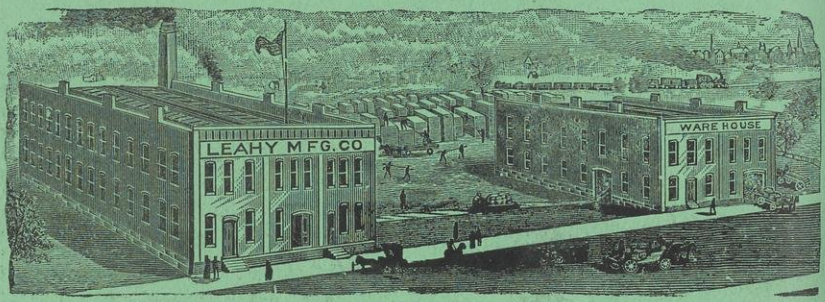
IS a book of nearly 100 pages (the size of the Review) that I wrote and published in 1891; and I will tell you how I gathered the information that it contains. For 15 years I was a practical bee-keeper, producing tons of both comb extracted honey; rearing and selling thousands of queens, reading all of the bee books and journals, attending conventions and fairs, visiting bee-keepers, etc., etc. Then I began publishing the Review, and, for several years, each issue was devoted to the discussion of some special topic; the best bee-keepers of the country giving their views and experience. "Advanced Bee Culture" is really the summing up of these first few years of special topic numbers of the Review; that is, from a most careful examination of the views of the most progressive men, and a thorough consideration of the same in the light of my experience as a bee-keeper, I have described in plain and simple language what I believe to be the most advanced methods of managing an apiary, for profit, from the beginning of the season through the entire year.

A new and revised edition, which includes the improvements of the past ten years, will be out June 1st. It will be as handsome a little book as ever was printed. The paper is heavy, extra machine finished, white book, and there will be several colored plates printed on heavy enameled paper. For instance, the one showing a comb badly affected with foul brood will be printed in almost the exact color of an old comb. The cover will be enameled azure, printed in three colors.

Price of the book, 50c. The Review for 1902, and the book for only $1.25. You can send in your order now, and the back numbers of the Review for this year will be sent at once, and, as soon as the book is out, a copy will be mailed you.

W. Z. Hutchinson, Flint, Michigan.

MANY IMPROVEMENTS THIS YEAR.



We have made many improvements this year in the manufacture of bee supplies The following are some of them: Our hives are made of one grade better lumber than heretofore, and all that are sent out under our new prices, will be supplied with separators and nails. The Telescope hive has a new bottom board, which is a combination of hive stand and bottom board, and is supplied with slatted tinned separators. The Higginsville Smoker is much improved, is larger than heretofore, and better material is used all through. Our Latest Process Foundation has no equal, and our highly polished sections are superb indeed. Send 5c for sample copy of these two articles, and be convinced. The Daisy Foundation Fastener—well, it is a *daisy* now, sure enough, with a pocket to catch the dripping wax and a treadle so it can be worked by the foot. Prices as low as conservative, considering the big advance in raw material. If you have not received our new catalogue, send for it at once. Sample copy of the PROGRESSIVE BEE-KEEPER free. Address,

LEAHY MFG. CO., Higginsville, Mo. East St. Louis, Ills. Omaha, Neb.

THE BEST PAINT FOR BEE HIVES

is one that will not disintegrate quickly, but form a hard, durable coating as impervious to atmospheric influence as it is possible to make a covering of this character. THE BEST BEE HIVE PAINT MADE.

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meets all these requirements perfectly, as it is made from the best carefully selected materials only. It may cost a few cents more per gallon, but considered from the standpoint of DURABILITY and SATISFACTORY RESULTS, it is by far the most economical article that can be used, and its intrinsic worth is bound to be appreciated by all careful and painstaking bee-keepers.

PRICES.

One quart	$ .55	One gallon	$1.60
One-half gallon	1.00	Five-gallon can. per gal	1.50

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