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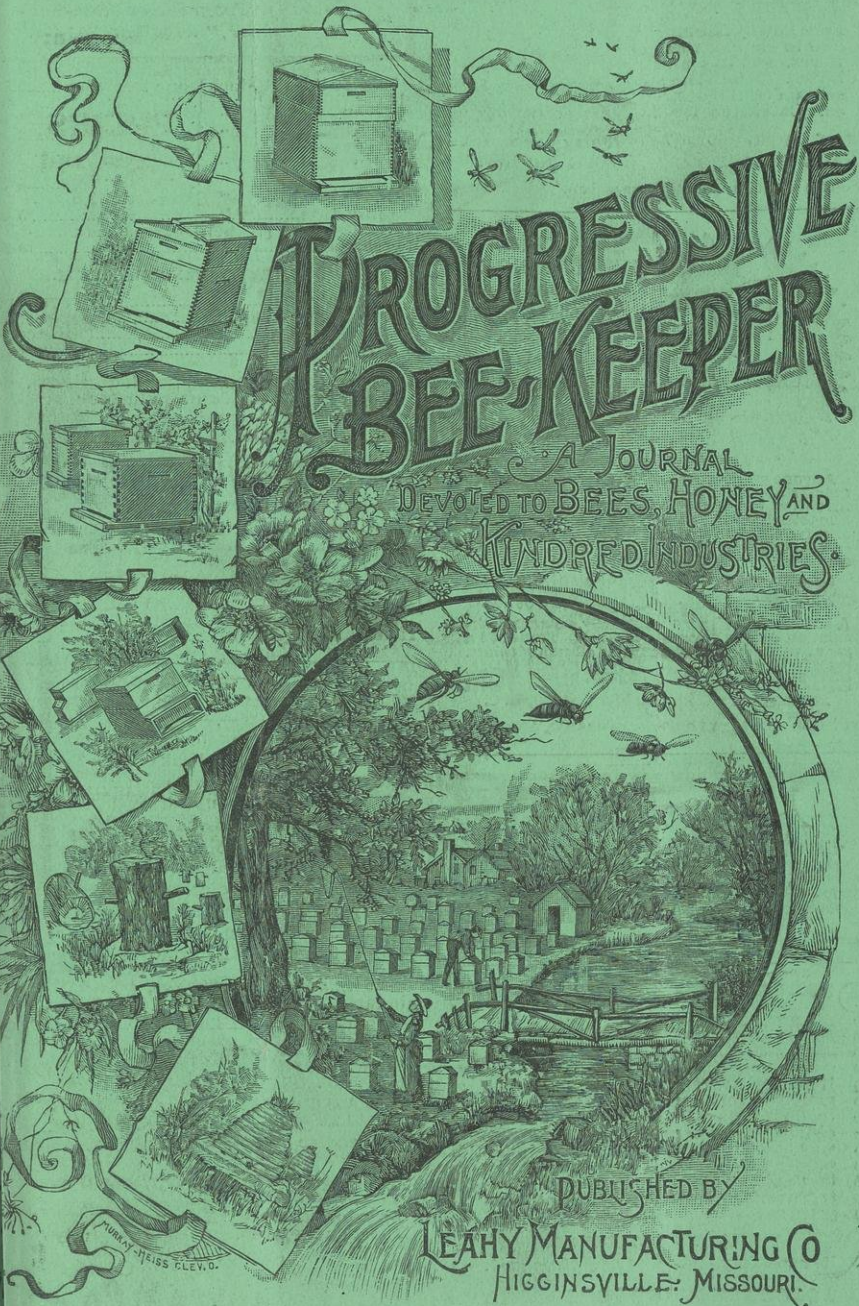
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FEBRUARY 1902



THE PROGRESSIVE BEE-KEEPER

A JOURNAL
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PUBLISHED BY

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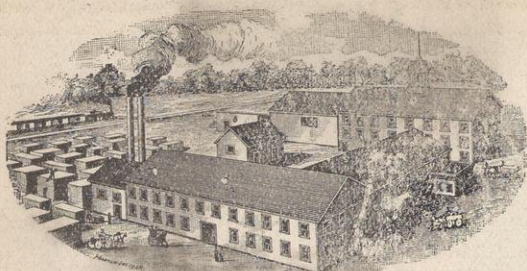
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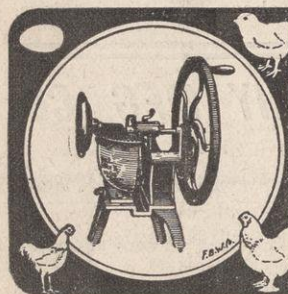
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Vol. X.

HIGGINSVILLE, MO., ^{get}JAN., 1902

NO. 2

Convention Comments.

F. L. THOMPSON.

The proceedings of the late Colorado convention will appear in the State Horticultural Report, soon to be printed and distributed among Colorado horticulturalists and members of the State Bee-keeper's Association. They will also appear in the Rocky Mountain Bee Journal, as its editor was there and took full notes; also in the American Bee Journal, which this year for the first time, reached down into its pocket and made a cash arrangement with the secretary of the report. As there will be so many sources of information, I shall not make a summary but instead, make some comments on what appear to be instructive points.

Those who have attended conventions a number of years know how few new points are brought up, nevertheless they continue to attend. Why? Our reason seems to be the slight, but far-reaching modifications of views, hence of practice, which fresh discussions of well worn topics bring about. One may think he has reviewed in his mind all the considerations bearing on a certain procedure, and perhaps he has but the discussion will bring out the importance of some in a clever light, and diminish the weight to be attached to others. Even a slight modification

in the direction of wise husbandry may mean the saving of many dollars, when applied to hundreds of colonies. Unless one is very conceited indeed, he will find benefit often enough to make it pay to thus thrash over the old subjects year after year.

But conventions have their limitations. One should not expect too much. An important matter may come up and not be discussed at all. Conventions are aggregations of individuals and one individual, or a number of individuals may not feel like talking just then. "The Interests of Isolated Bee-keepers" was a good paper, but no discussion followed. Nevertheless, the subject is as important now as it ever was.

It also frequently happens that a discussion following an important paper will not take up the topic at all. Mrs. Barber's paper on "Abnormal Swarming Fever" dealt directly with the problem of dealing with an apiary that is already in a state of excitement that hinders work. This is something, liable to happen to the best of bee-keepers, especially if he has several yards to attend to. But the convention flopped right over to the old, old subject—Prevention of Swarming. A convention will see a topic when it is big and plain as a barn door, but unless a rather high degree of interest is aroused to start with, it does not appre-

ciate the modifications and qualifications set before it.

Again a discussion may not represent a convention, because the members best representing a given topic happen to be absent at the time. This happened after the reading of Mr. Bruce's paper, "Grading Comb Honey." A reading of the slight discussion reported would give the impression that the State Bee-keepers Association doesn't think much of grading rules; but precisely the reverse is the case.

When I get up to talk I feel like a dull and rusty augur boring into tough wood. So when I listen to the false starts, the twice or thrice told phrases and the indecisive expressions that, themselves make repetition necessary, I feel we are about all in the same box anyway—if I think about it at all. But what does make me feel as if little ants were crawling all over me, is for an easy talker—one who CAN say just what he wants to—to get up and deliberately ramble all over creation, just as if he were in a corner grocery. Some people have queer ideas about a convention. They seem to think it is chiefly a social matter. Now, I may not be a very good judge of the social side. I never could see any great attraction in smirks and platitudes, and going home without the ghost of an idea other than what one went there with. Possibly, like color-blind people, I am incapable of appreciating the charm and value of reading between the lines of the said inanities and using them merely as instruments to dissect character with. I confess myself rather repelled than otherwise by personality pure and simple, if compared with purpose—it seems like a shameless proceeding to peer into what other people do not intentionally show me, which I might misjudge without a great deal of peculiar, but, to me, valueless knowledge. But however that may be, what have inanities to do at a convention, wheth-

er they reveal personality or not. Beekeepers can get all the society they want in other ways. When they drive many miles to a convention, or pay railroad fare and hotel bills, they have a right to expect that the limited time of the convention itself (not speaking of the intermissions which can be spent socially if desired,) shall be devoted to that which conventions alone can give; and that anything else, no matter how valuable, which can as well be procured in other ways, shall be rigorously excluded. The presiding officer should consider it one of his chief duties to keep the discussion, business-like and to the point.

The discussion of priority of rights in bee-territory will doubtless disappoint Dr. Miller, for most of the speakers were disposed to think that interlopers could be kept out in no other way than by moral suasion. Cattle ranges and irrigation waters were compared with bees. But as Mr. Aikin pointed out, that though public water can in some ways be compared with bee pasturage, overstocking can be approximately decided in the one case, but not in the other. The same applies to cattle ranges. Cattle men do not interfere with each others ranges, because it is so plain that a certain number of square miles can only support a certain number of cattle. But bee pasturage cannot be compared with cattle pasturage, because while it is partially a matter of supply and demand supply of water and demand by bees—another condition co-exists with this and makes it impossible to determine how far a shortage should be attributed to simple overstocking; namely the fact that a poor season for 300 or more colonies might have been a poor season for 100 colonies, and a good season for 100 colonies might have been a good one for three hundred or more colonies, owing to the extreme variations of the flow of nectar coupled with the vast num-

bers of both blossoms and bees, and the necessity of visiting the blossoms every day, making it impossible to compare the supply of nectar to the growth of grass. In fact the late Mr. James Marvill, of Illinois, a bee-keeper of experience, is credited with saying that a poor season is poor, and that a good season is good, for 600 colonies as well as a much smaller number than 100—I forget the exact number. This impossibility in drawing a line in a variation of several hundred in the number of colonies makes it impossible to establish a standard that would have any legal standing even in the cases of many hundred colonies in our locality, in which it seems likely that plain overstocking would be the chief factor in average years. The time alfalfa is cut for hay also makes a great difference. If there is any other way to do than to accept the situation and plan accordingly, I do not know what it is.

The plan of putting on Heddon extracting supers before the flow, tiering up with sections later, was recommended by a bee-keeper who uses Heddon hives, who said much of the old honey is moved up into them by the bees; giving the queen more room. This is only a variation of the plan practiced by Mrs. Gathright, as described in the Progressive a few years ago—a hive divided about two thirds of the way the principle of which (though he uses 7 in frames) can be applied to any ordinary Langstroth hive, by adding shallow supers of extracting frames or an equivalent before the flow. My variation is to save up all imperfect sections and use them in section supers in this

way. The special advantage in my locality is that it obviates all necessity for feeding, having the brood chamber entirely free from brood. It is the nicest way of increasing the capacity of the little 8-frame hives to meet the exigencies of the average colony in this locality. I apply it to 10-frame hives also. Since I began this plan it seems like a necessity.

Those little points were brought out that are likely to be new to most readers. Too keep the small ants out of the honey-houses Dr. McLean uses ordinary moth balls. He says they do not taint the honey and are effective. In answer to the question, "how may old covers full of checks, be repaired to be serviceable?" several recommended tacking on sheeting or canvas, painting both the cover and the cloth, and Mr Hawley said the reason the paint does not make the cloth crack is that by applying it to the wet paint, and painting over it, it is fastened to the wood at all points by the paint and expands or contracts with it. Mr. Hawley uses seamless sacks for a cloth covering. Mr. H. Rauchfuss pointed out that a flat cover, even after being repaired in this way, lets water creep over its edges, and onto its under side, into the inside of the hive. To avoid this, after the covering is put on (he uses Neponset paper) two laths, a little shorter than the space between the end cleats of the cover, having their ends cut diagonally, are nailed on top of the cover, next the side edges. Hence the water does not flow over the edges, but off at the corner.

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S. E. MILLER.

Nearly every bee-keeper who produces extracted honey is at times obliged to liquify honey that has candied. If the honey is in five gallon cans we can place the cans in a larger receptacle filled with hot water and place on the stove, but this I know to be a very unsatisfactory arrangement for if we wish to transfer the honey into smaller receptacles, as is often the case, we must lift the cans out of the larger receptacle before we go on with our work. Some months ago I saw in Gleanings a description of an apparatus that cost something like one hundred dollars. This was large enough to hold a barrel of honey. The most of us however are not prepared to go into the business on so large a scale and many of us are not ready to invest one hundred dollars for said purpose. At least I am not, so here is what I did. I purchased two lard cans, such as are usually kept for sale in a general store; the smaller one holds about six gallons and the larger one about ten gallons. By placing the smaller one inside of the larger one it leaves a space of about five and one-fourth inches all around. I took these to the blacksmith who can also handle a soldering iron and had him join the cans together by means of braces in such a way that the bottom of the smaller can was about one and a half inches above the bottom of the larger one, and a space between the two as mentioned above. I was unable to find a honey or molasses gate in the town

so I had the blacksmith use a steam valve with two sections of pipe attached, thus forming an elbow. One section of the pipe was passed through the outer can and into the inner one, very close to the bottom and securely soldered to both. In short it is a can within a can, with a space all around the inner one to contain water and a valve for drawing the honey from the inner can. Fill the inside can with honey and the space between with water, set it on the stove and let her boil until ready to draw off. According to those who have had experience in bottling honey, we should not heat it to above 160 or 180 degrees F, therefore we should have a thermometer for testing the temperature. Mine is an ordinary thermometer graded up to 220 degrees. I took the scale, with glass attached, out of the frame and case, punched a hole in the upper part of the metal; attach a string long enough so the bulb of the thermometer will reach nearly to the bottom of the can, tie the other end of the string to a stick that will reach across the top of the cans and drop the thermometer in the honey. Honey will be perfectly liquid and flow freely at 120 degrees but if to be bottled and kept liquid it is no doubt best to heat it to 160 degrees. Here is the cost of my apparatus: 1 can 60c, 1 can 40c, paid blacksmith for valve and work 60c, thermometer 30c, total \$1.90.

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GOOD THINGS IN THE BEE-KEEPING PRESS

SONAMBULIST.

On October 16 the family circle at the home of the Review was extended to admit an addition of two sons. The arrival of two not only full grown, but well grown sons at one and the same time is an event of which any one may feel proud.

Ye editor treated on the matter in quite a homelike style which made one almost long to "have been there," or since that were out of the question, made us return thanks that there were such homes as he described. The picture of the quartette, the twins and their husbands has traveled almost from shore to shore in the bee journals. Each one happy to extend congratulations to all concerned. And now two more homes are started, and may the sunshine of happiness and prosperity remain with them, is the sincere wish of the Progressive family. In the Dec. Review, F. J. Miller, of London, Ont. gives his method of manipulating the Heddon hive, which is at once promising and interesting.

I clip all queens; having no greater difficulty than with any other hive. Then, for filling the hive with bees, I know of no system so effectual as to exchange the two cases forming the brood chamber, placing the one from underneath on top, not even requiring to handle a frame for this work. Then, as the swarming season approaches, I examine for queen cells by simply dividing the brood chamber by inserting my hive tool between the two joints of the brood chamber, at one corner, usually taking the end that will allow the sunshine best to strike the inside of the hive while open. I now grasp the upper brood chamber, by the end hand hole; with my left hand raise it gently, puffing the nec-

essary smoke, giving a slightly drawing forward motion, canting the hive from corner to corner, drawing it forward on the bottom brood chamber, probably one inch, and resting it against the left knee. I now grasp the end of the hive with the right hand, and place the left on top of the cover, pressing it gently to prevent the super sliding off the raised brood chamber. As I raise all up to a sufficient angle to allow of looking under, I can tell in a moment if they have queen cups, open or capped cells. If open cells, bruise them closing the hive; if capped I form a division by setting one chamber at the side of the old stand, giving each a brood chamber of combs, and it matters not which one contains the queen, all will be well until the next visit. This method of opening is continued until the third super is on the hive; from that time on I lift the supers down, or all but one, and open as before. During the swarming season this examination takes place with each hive at each visit to an out yard, about every four days.

Among the editorials we find a reporter's break while attempting to write up a recent Colorado convention: "Over 150 members were present, and only a few looked as though honey had soured on them. Like all other industries, that of bee-keeping produces a characteristic face' An expression of pugnacious patince, ready to combat the stings of outraged drones, is the general cast of countenance, and makes a bee-keepers' convention a most interesting and entertaining affair."

Also these very necessary instructions to those who may contemplate the use of bisulphide of carbon:

Bisulphide of carbon will, according to most of the testimony given at the Buffalo convention' destroy the vitality of the eggs of the bee moth, as well as the larvae. The combs must be in a close room, or in closed hives, so as to confine the gas that is given off by the bisulphide of carbon. This substane should be placed at the top of the room, or stack of hives, as the fumes are heavier than air and

settle down. This gas, like that of gasoline is explosive, and all lighted matches, lamps, etc., must be kept away while the bisulphide is being used.

In the American Bee-Keeper F. G. Herman proceeds to play the woman folks compliments in this wise; Since it does not require either hard physical labor or very much previous training, but does call for the distinctly feminine traits of patience, tact and watchfulness, and since it promises in return both pleasure and profit, bee-culture seems to me to be almost an ideal occupation for the woman who wants to emulate the busy bee and improve each shining hour.

Aside from its attendant pleasures and profits, there is a peculiar fitness in that a bee-hive is a lively illustration, a working model, and a triumphant indication of the applied principles of woman's rights. In the bee colony the male is a necessary evil, or rather an evil necessity. He is hatched from an inferior egg, lives through a neglected infancy, reaches a despised maturity, has his little day and is promptly pushed off the boards, in other words is hastily dispatched by a disdainful and all-powerful femininity. To this rule he has no choice but to submit, since he is provided by nature with no weapon of self defense in the shape of a sting, and hardly any tongue though this perhaps avail him little against so strong a feminine majority. Under this desepotic feminine sway the kingdom is ruled both well and wisely, so perfectly indeed that a colony of bees has always been held up as a model of good government.

L. E. Kerr dares to look forward to the day when we can, or may have a main flow that will last all the season and bees that have tongues to fit all the flowers and asks "what may we not expect?" and from way off in the distance methinks I hear the echo answer—"low prices."

On the question of superseding queens, G. M. Doolittle says "I believe it more profitable to adjust our hive system to the average queen producing long lived workers, than to practice superceding queens every year, as some do.

On extracted honey he has this to say: In my opinion, no honey has quite as nice flavor as does that which has been left on the hive until the end of the season, the bees having been allowed to ripen it until it is so thick that it will almost stand alone, after being taken from the comb. Of course it is more work to extract such honey, but by keeping it in a room the temperature of which is nearly or quite 100 degrees, for four or five hours, it can be extracted very nicely. When extracted, honey should be stored in tin or earthen vessels, and kept in a dry warm atmosphere entirely free from odors. Loosely cover and let it stand in this dry warm store room until all the air-globules dissappear, the scum that arises being skimmed off, when the honey can be put into glass or tin vessels, ready for sale or family use; and it will retain its fine flavor for years, if kept in a proper place. Much smoke injures the flavor. Extractors uncapping cans, honey knives and other implements and utensils should not be left standing very long with the honey adhering to them, but should be cleaned with boiling water as soon as possible. Combs with much pollen should not be put into the extractor; or, at least, honey from such combs should be kept by itself. Combs containing brood should be kept above queen excluding metal long enough to allow all bees to hatch before extracting the honey therefrom. After the honey has been standing a few days the upper portion containing particles of wax, etc., should be moved and used for feeding; it is therefore not practi-

cal nor advisable to fill any receptacles calculated to go to the consumer directly from the extractor. Extracted honey, having a tendency to absorb moisture from the surrounding atmosphere, unpleasant odors, etc., should be tightly covered. Tin vessels are to be preferred.

As soon as granulation begins extracted honey should be stirred at short intervals during the process of crystallization. This will cause the grain to be fine and prevent the separation of the thin portion from the crystals. Bee-keepers should make it a point [which the writer emphasizes] that their extracted honey goes to the consumer in original unbroken packages.

It looks as if there may be a little care and labor involved and yet the majority of the people seem to think that you've only to set out the colonies, perhaps the hives alone and rake in the shekels. I wonder were I to relate a little actual experience if it would be of any use to some other wanderer through this veil of tears? One season, not going to tell you when, because by leaving you in the dark you may conclude that it was long enough ago that I may be wiser now. Think I am too. In self defense, however, I must say that I usually have a surplus in the equipment department each season and on this particular occasion I was not altogether responsible in-as-much as I had turned over all the work to a foreman whom I considered more competent than myself.

Notwithstanding my extreme confidence I more than once declared that we were going to be agreeably surprised in the crop, and mildly suggested that perhaps we had better reconnoitre, along the line of shipping cases but the ever ready answer was "better wait till we get there." I reluctantly took the advice and the results were we had to borrow every empty vessel in the whole country or suspend opera-

tions, and the honey already so thick and the weather so cool that it was decidedly dangerous, as at any time Old Winter might set his foot down on the whole thing. Keeping right at it, working night and day, for fires must be kept going that the honey would extract, we finally found ourselves surrounded by as incongruous congregation of vessels as is possible to imagine.

I had sent in hot haste for cases but corn was very scarce and high and people were compelled to butcher early to save feed so they began a run on us for the borrowed lard cans. The honey had to be emptied with nothing to empty in, and no new lard cans on the market with which to replace the ones in use. This state of affairs lasted on up to the day of the arrival of the much longed for shipping cases. Then I rejoiced. I counted my troubles o'er, finished up the home apiary and as it was getting very unseasonable left an out apiary in charge of a helper.

Demand greater than supply, honey all on the market as soon as it could be canned and everything lovely. Towards the close of operations I received notice from the helper: "Don't send here for any more honey, all gone except that in the Hartman jars and it's off in flavor as well as smell, especially the latter, smelled so 'loud' had to give it free swig so put it out doors, not fit to be in the house. Those jars have been soaked with some truck or other that has been in them some time and the honey has embraced the same and is fit for nothing but spring feed, if fit for that. This was near \$10 the same as thrown away, but as it was the last of a chain of inconveniences and disappointments I tried to forget the matter when here came a letter stating that all cans from this yard were short in weight.

Inexperienced help, cold weather and consequent stiff honey were accountable for the latter state of affairs. I

think I have paid dear enough for the whistle not to be caught again.

Rambler gives us as laughable as realistic pen picture of first lessons in making comb foundation, or first attempts at the same on a new machine. I will venture to say that it is not the first time that a machine coupled with a supply company were in danger of being "kicked into the middle of next week;" nor was it the first time a Mrs. scored a point or two higher than Mr. by many. Give the average woman but half a chance and she will invariably rapidly rise above frills and furbelows, to a position somewhat more elevated than a decoy goose, notwithstanding that some think the latter her highest aim.

When the old maid of our family saw, on pages 904 and 905, pictures of gentlemen with massive plants as back ground, and read with due disregard to the semicolon J. Webster Johnson a specimen of luxuriant plant life in Arizona she exclaimed: "Is that the kind of plants they raise out there? Please book me for a ticket to Arizona without delay."

Among the editorials in the Gleanings we cull these: "We are getting good reports of the young clover all over the country." An equally encouraging statement to those who have honey for sale is— "more proof is coming in, showing the amount of honey in the country has been greatly exaggerated."

The use of separators, first last and all the time, will, in the great majority of instances, earn from one to two cents per pound; and why will bee-keepers be so foolish as not to separate (or, better, fence) their supers?

Still again, we are continually getting lots not scraped. One little lot was wormy; and—would you believe it—the producer even went so far as to sprinkle flour on the surface of the sec-

tions to cover up the tracks of the nasty things.

For the sake of good prices and fair dealing, brother bee-keepers, do be careful. When I say this I am afraid I am not reaching the very people that ought to read it; but if a man will not take a bee journal, or, still worse, will not read it when he does take one, he surely ought to suffer the consequences and he will."

Hold, hold there don't swing that old blunderbuss around the horizon so recklessly. That last and worst shot is liable to hit many among the number dodging Sommy. Is it because you've grown so accustomed to swinging around the circle of these United States that you must be swinging in some sort 'o way to exist? Danger of your living in a glass house and remember what is said about throwing stones.

Most bee-keepers in this "neck of the woods" entertain the notion that bees obtain honey from corn; one thing is certain, some seasons they work on it persistently. However I am so sleepy that the idea that all this activity meant pollen alone, never succeeded in securing a lodging with me. What could be expected of sleepy heads any way? Where little has been given not much must be expected. But I should very much like if some of our wide awake Missouri bee-keepers, and we have numbers of them, would investigate during the coming season and report. Do not forget the latter part of this request, for a light beneath a bushel, of what use is it? Could not I rouse up sufficiently to get there before sunrise and know for myself?

Most certainly, pray do not think for a minute that the cosiest corner and the easiest chair are always accorded to your humble servant, but, as you are aware, in union there is strength. Just as I am writing the November 15

Gleanings has just arrived and the first "Straw" reads:

"My observation has been that, in a good year, the large part of the queens will be superseded and but few in a poor year."

And because of its being a poor year we are discouraged and the less inclined to be on the alert, and thus we are led along the Broadway to that world renowned resort—Defeat. Next:

"B. C. Hugentobler writes:" "Sweet clover yielded two tons for me, while the severest drouth of years was upon us." Just like sweet clover,

Another:

"Colossal Ladino is the name of a new white clover originating in Germany, and well spoken of in Revue Internationale. It winters well, does well on poor soil, is larger every way than common white clover, and yields about 70 per cent more green fodder and 38 per cent more dry fodder than the common.

What if this should prove the avenue leading out of all our recent perplexities, such as shorter tubed red clover, longer tongued bees and so on.

Still another:

"Dr. Pachner says 1000 drones consume a little more than 4oz. daily. That means that the drones reared in 28 square inches of comb will, in 5 weeks, consume about 9 lbs. of honey.

"Dr. B. F. Jones, in review, quotes from Gleanings, p. 522, "When one practices clipping for a number of years he will be surprised how many colonies he will come across that have changed queens unknown to him," and takes that as proof that clipping has caused the death of the queens. Why, bless your heart, Doctor, in the natural course every queen is superseded, clip or no clip, making a fourth to a half of the queens in an apiary superseded every year."

Of course it is largely due to this very system of clipping that we are in possession of said knowledge.

Naptown, Dreamland.

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TO

**CHICAGO, ST. LOUIS,
KANSAS CITY,
MEMPHIS, DENVER.**

AND POINTS IN

**ILLINOIS,
MISSOURI,**

AND TERRITORY BEYOND.

N. A. B. K. A.

Toledo, O. January 27, 1902

We the undersigned have this day counted the ballots cast for General Manager and three Directors of the National Bee-Keepers Association to fill the vacancies caused by the expiration of the terms of Eugene Secor as General Manager and J. M. Hambaugh, Dr. C. C. Miller and C. P. Dantant as Directors, and find that 339 ballots have been cast, of which Eugene Secor received 172 for General Manager, the other 167 ballots being cast for twenty nine different members, the largest number of votes cast for any one of them being 33.

For directors, J. M. Hambaugh received 181 votes, Dr. C. C. Miller received 233 votes, and C. P. Dantant received 216 votes. The other votes were cast for 109 different members, the largest number cast for anyone

being 29.

We have also counted the votes cast for and against the proposed amendments to the constitution and find that 215 votes were cast for the first amendment and 93 against it, 264 votes were cast for the second amendment and 47 against it.

The time and place for the next convention has not yet been decided upon, but notice will be given in due time through these columns.

A. B. MASON,
S. J. GRIGGS.
Committee

RUMELY That is a name that means character and utility. It suggests the best in Threshing Machinery. If investing, start with the Rumely and you will end at the same place. Get our catalog on the **New Rumely Separator** and the **Rumely Rear Geared Traction Engine**. All approved devices and appliances to each, and constitute the one perfect threshing outfit. Catalog shows our engines for all purposes. We send it for the asking. Write to-day.

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"Higginsville" Bee Supplies at Kansas City.



Having purchased the good will and business of H. L. Miller, of Supplies, I will be in a position to furnish all Bee-Keepers' Supplies at Higginsville prices.

You will save freight by ordering of me. Write o Catalogue.



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is the equal of any incubator made in hatching quality. It costs less because it is smaller. The methods of heating, regulating, ventilating, etc. are thoroughly reliable and results are guaranteed, if you follow instructions. It's the biggest bargain in the batch at the price. Fully described in **Our 20th Century Poultry Book**. Sent for 10c, worth \$1. We have 115 yards of thoroughbred poultry.

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Quincy, Ill.

Long Tongues, Etc.

C. C. MILLER.

So long as one colony of bees will under identical circumstances store more honey than another, so long will the progressive bee-keeper feel unsatisfied until he has the best stock that can be obtained. It is well that of late the attention of many has been concentrated upon the matter of improvement of stock. Just what constitutes improvement, and how improvement may be secured are questions not always easily answered. Again it is not an easy thing to make an exact estimate of the value of an improvement, in a case where there is no question as to its being an improvement.

As illustrating one of these points, let the question be asked, "Would it be an improvement to have stingless bees? non-swarming bees?" and some would promptly say yes, some as emphatically no, while some would shake the head doubtfully and say, "I don't know." And so it would be of many things that would be considered by some improvements.

One of the things upon which bee-keepers are generally agreed, is upon the value of the introduction of foreign races of bees. Yet some bee-keepers in this land, and many good authorities in other lands, are emphatic in the opinion that the common black bees are better than any other.

As to the desirability of having bees of a bright yellow color, there seems to be only one opinion—at least no one has probably been heard from who

objects to yellow bees simply because they are yellow. But when it comes to the question of how much more a colony of bees are worth simply because they are yellow, opinions will be found to be much divided, and probably very few would give very much money to have all their bees changed to a bright yellow without having them changed in any other respect. And if it should be discovered all at once that some very black bee, as the Tunisian, would give double the yield of the brightest Italians, the probability is that many would really suppose that they could see more real beauty in black than in yellow. The specially encouraging feature about this yellow or "golden" business is that when American bee-keepers set out to reach a certain goal they are likely to get there.

Of late no one thing in the line of possible improvement has been so much under discussion as the matter of long tongues. Of course there are differences of opinion; some thinking that if we can only have sufficient length of tongue no other aspect of the bee need have any attention, others denouncing the whole business as a fraud.

There is no question that there is a difference in the lengths of bees' tongues. Measurements made by many have clearly shown this. In a table of measurements lately given in the American Bee Journal by Prof. Gillette, the total lengths of tongue varied from 23.5 to 27 hundredths of an inch. But the tongue-reach is a matter separate from the length, and it is a striking fact that the reach bears no direct relation to the length. In a lot of 5 black bees the total length of tongue was exactly the same in each, 24 hundredths of an inch, while the reach varied from 16 to 19. In one lot of Italians having exactly the same reach, 18 hundredths, the total length varied from 25 to 26. so it may be that of two bees having tongues of unequal length the one hav-

ing the shorter tongue may have the greater reach. It also appears from the table that there is a much greater difference in the reach than in the length, the reach varying 9.5 while the total variation in length is only 3.5. From this I should conclude that tongue-reach rather than tongue-length is the important thing, but there may be something I don't fully understand in it, for Prof. Gillette says, "I believe, for practical purposes, it may always be considered true that the bee with the longest tongue has the longest possible tongue-reach."

Now what advantage is there in this greater length or reach of tongue? If all flowers are of such depth that the shortest tongue may obtain all the nectar contained therein, then no advantage whatever is apparent. If all flowers are of such depth that any bee may secure part of the nectar but no bee can reach deep enough to get it all, then it would seem that in any and every case the increase of tongue-reach would be a thing of vast importance. For neither of these supposed cases is the one in actual existence. There appear to be some flowers with tubes so shallow that any bee has sufficient tongue-length to get all the nectar, and again flowers so deep that no bee can obtain any nectar, and still others occupying a middle ground, and this middle ground is that which offers a field for investigation.

The blunt question, "Do hive bees ever obtain nectar from red clover?" may fairly come in here. Prof. Gillette says the corolla-tubes of red clover that he has examined have varied between 35 and 37 hundredths while he has found no greater reach than 23 hundredths. In view of this he frankly admits his skepticism by saying, "It makes me wonder if it is possible that those who think bees have gathered honey from red clover can be mistaken, and that they visit the blossom of this

plant for pollen only." I suspect it would take a good deal to convince G. M. Doolittle that his bees gathered pollen only from red clover last season, and he is not alone in his testimony. In a tube measuring 37 hundredths of an inch, the nectar would have to rise only beyond a depth of 14 hundredths to be within reach of the bee having longest reach.

If nectar is to be found beyond the reach of ordinary tongues, I can see no way to get away from the conclusion that in any such case a sufficient increase in tongue-reach would be an advantage of very great value. And red clover and other deep-tubed flowers are in sufficient quantity to make it a matter of general importance to work earnestly to establish an increase in tongue-reach.

There are many other points connected with the subject that offer themselves for discussion, but I will content myself with mentioning a few points in my own belief, all the time with the understanding that I don't know for certain about the whole subject. I would give a lot of money if all my bees had tongues of sufficient reach to get even half the nectar secreted by red clover. It is possible that other flowers in my locality also have deep tubes. Wherever a tube is so deep that ordinary tongues can not reach to get all the nectar, increase of reach has an important money value. And yet I believe it would be a mistake to count the value of a bee in direct proportion to its tongue-reach. Energy and industry may go a long way toward making up for any deficiency in length of tongue. While setting a high value on bees that can reach "way down," I'm going to keep a sharp lookout for any colony that exceeds its neighbors in the amount of surplus it stores.

Marengo, Ill.

Marketing Honey.

FRED HAXTON.

After the crop has been harvested, and the work of the year is ended, the problem of the apiary still remains, as is by no means of little importance. The producer is very apt to consider himself poorly paid for his labor if he is compelled to sell his crop at a low price, while often he meets with difficulties in obtaining a market at any price.

The first essential to success in marketing is good quality. A poor grade of honey will wait long for a buyer, while a good article will always find a ready market. Comb honey is found generally in stores throughout the country, while an inquiry for extracted honey will generally meet with the answer: "Oh, you mean strained honey. We don't keep it." The principal reason why extracted honey is not as well and favorably known as honey in the comb is that it has never been put upon the market in the right shape, and had the sale of it pushed with vigor. The dealers who do handle the extracted article generally buy it from a commission merchant for about six cents per pound in bulk. The cases used are barrels containing about three hundred pounds each, kegs of one hundred and twenty-five pounds, and square tin wood-jacketed cans holding sixty pounds. Of these the sixty pound square can is in most common use, because it is the smallest size which can be conveniently sold at wholesale, and because in it honey when candied can be readily liquefied, while with the other forms of package, the honey is drawn through a faucet as long as it will run freely, after which the head of the barrel is knocked out, and the granulated honey removed with a scoop.

Some people understand that pure honey will granulate, and have no objection to the article in this form, but

the majority are prejudiced against it in this state, and refuse to believe that it is really normal, and that the honey is pure. Grocers, being unable to dispose readily of candied honey, generally refuse to accept it, and return it to the shipper, while if the honey is sent on consignment, the commission merchant generally liquefies it before attempting to put it on the market, and deducts from his returns thirty cents per can for this service. Clearly, in spite of all that has been said in favor of marketing extracted honey in a solidified condition, buyers are prejudiced against it, and justifiably, for they buy honey for use on the table or in cooking, and do not wish to go to the trouble of "melting" it, when they can buy corn-syrup which never hardens.

There is but one way out of this difficulty. Extracted honey is not intended as a substitute for molasses, and should not be sold at anything like the price of that product. Honey is and should be an article for the table. Extracted honey can be sold as readily as any staple, and a steady demand can be created for it if only it is put upon the market in the right form. The right form is not in a keg or can to which buyers bring a pail or pitcher. It is in a small package, handy, neat and attractive, designed for immediate use. Two, five and ten-pound pails are used extensively, and while they look attractive with their lithographed labels they give the buyer no idea of the appearance of the contents. The only form in which to sell liquid honey is in glass. A short time ago I entered a large grocery store where a whole counter was devoted to the sale of honey. On the left of the counter were piles of neatly labeled pails, in two and five-pound sizes, bearing the statement that they contained pure white-clover honey, which would granulate if left alone, but that "t were better thus." Near this was a pyramid of fancy white-

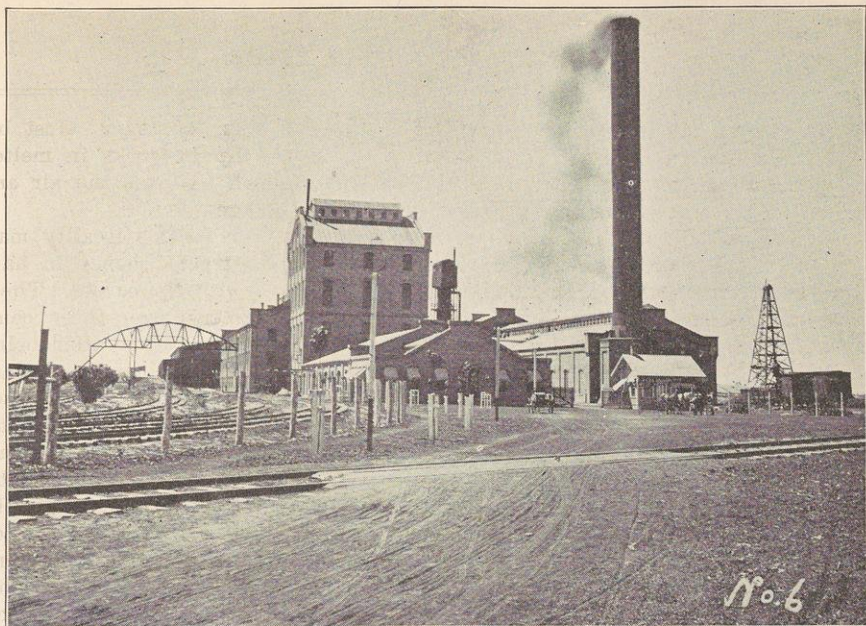
clover honey in one-pound sections, each of which was marked "From the Floral Valley Apiaries. Keep in a dry warm room where it will not deteriorate." The right of the counter was occupied by similar tiers of square bottles, each of which contained one pound of extracted honey, and bore a small label with the simple statement: "Orange Blossom Honey." The label was only two inches square, and left nearly the whole surface of the glass clear. The light shining through the bottles gave the honey a rich appearance, and the whole display was calculated to make one's mouth water, which it did very effectually. The pails bore the price mark "10c per lb.," while the comb honey was sold at 16c per section, and the pound bottles at 20c each. I considered that a pretty good price for extracted honey, and was greatly surprised when the manager told me that the sales on that alone were more than double that in both comb and pails. He said that the fact that the honey was labeled orange blossom had little to do with the sale, for he had equally good results with both white clover and linden honey. He suggested that when marketing basswood honey, it should be called "linden," as the latter name suggested more sweetness than the former. If honey is put up in such jars as these, it reaches the consumer before it candies, and adds many a person to the list of honey buyers because of its handy size and convenient price. In every city can be found a grocer—the leading grocer is generally most easily interested—who will take your whole crop of both comb and extracted honey if it is put up in attractive shape. I disposed of my whole crop in this way, and have secured a cash buyer for all the honey which I may in the future produce. I ship the bottles in cases with partitions very similar to those used in egg crates. These keep the bottles from touching, and I have never

had trouble from breakage. Just before sealing I dip the corks in melted paraffine, which excludes the air and prevents leakage.

A bee-keeper in this locality markets all his extracted honey in half-pint jelly jars with tin covers. These cost him a fraction over three cents each, and are valuable after being emptied, which is not so much the case with the square jars. The honey used is strictly pure, and of excellent quality, but the apiarist believes that the sale is greatly increased by adding a little comb honey to the liquid, so he fills the tumbler to within an inch of the top and drops in a chunk of white comb honey about two inches square. This serves two purposes, it gives a distinctive appearance to the glass and opens a market for the unfinished sections, while some would be classed as "No. 1 white" are used in this way. The covers of these tumblers are fastened with paraffine, and the jars are consigned to a commission merchant who has a steady demand for goods put up in this form.

Confectioners use quantities of extracted honey, and often by correspondence with the nearest candy maker, you can secure a convenient outlet for your crop of dark honey. Bakers can frequently use dark honey to good advantage, and will pay better prices than will the dealer or commission merchant.

Comb honey, as well as extracted, must reach the market in the right condition in order to bring the best price. Upon removing the supers from the hive, place at one side all poorly filled sections, which may be put in supers and returned to the hive to be filled. If there is no honey in the field, place an empty super above the one containing the sections, and upon that place a super containing feeders or other unfinished sections, which are first uncapped. If the sections are left capped, they will proba-



BEET SUGAR FACTORY, WHICH IS PLAYING HAVOC WITH THE HONEY INDUSTRY NEAR ROCKY FORD, COLORADO. THE ALFALFALANDS ARE FAST BEING TURNED INTO BEET PLANTATIONS, AND THE BEES ARE BEING "BEAT" OUT OF THEIR ALFALFA FIELDS, OVER WHICH THE LITTLE ROVERS USED TO ROAM. THE CAPACITY OF THIS FACTORY IS 250,000 TONS OF BEETS PER DAY.

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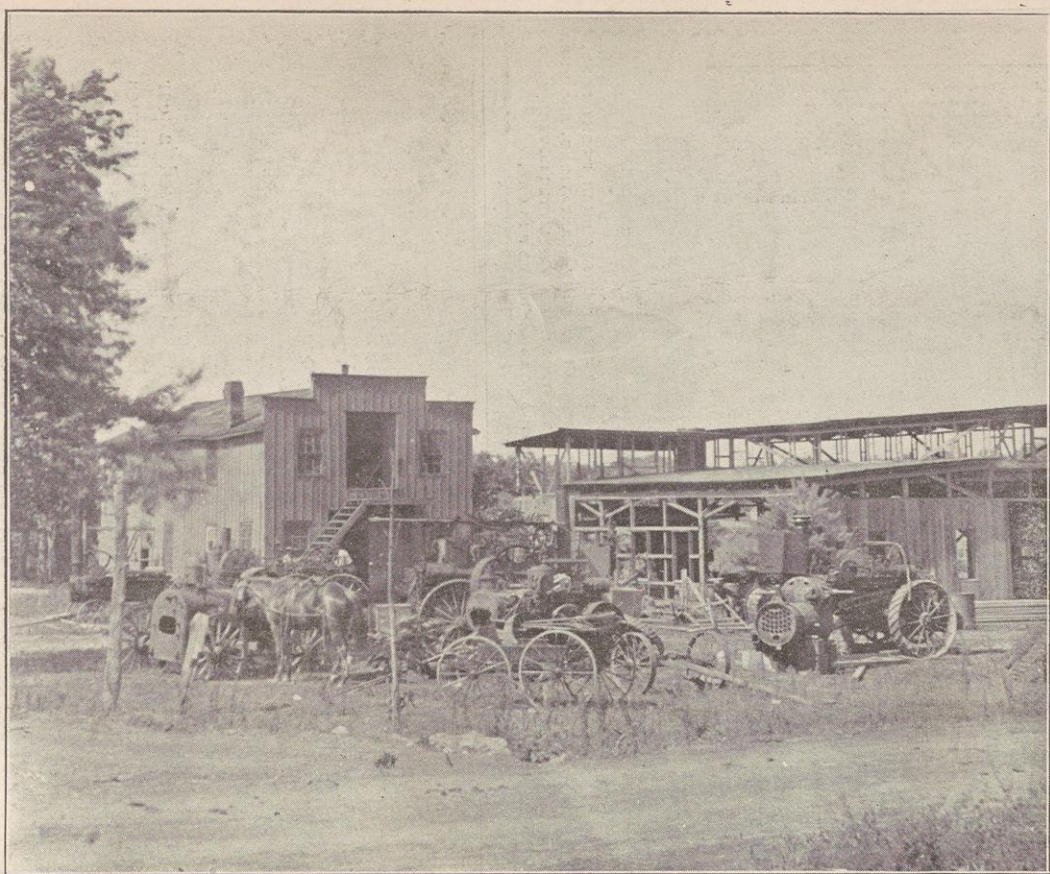


Our genial friend, Frank L. Aten, has lately received a car load of those unique "Higginsville" Bee Supplies. He issues a catalogue of everything needed in the apiary, and will be glad to mail you one if you will send him your name plainly written on a postal card. Mr. Aten also rears the best queens on earth.

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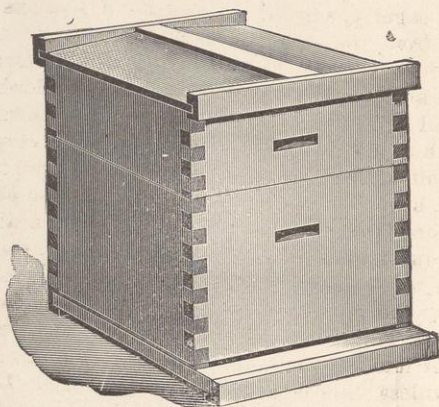
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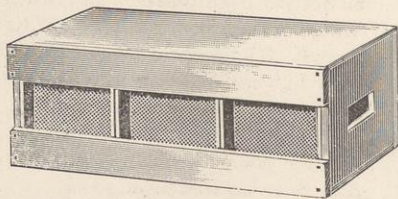
Nothing so profitable on a Farm



...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.**

bly be left undisturbed by the bees. The space of several inches between the first super and the feeders encourages the bees to work eagerly, and carry down the honey from the top, a process which would be slow if the feeders were directly above the boxes to be filled. Above all things, do not feed at the entrance in a time of scarcity of honey, as this often causes robbing. The extracted honey to be fed should be placed in the extractor and mixed with an equal quantity of water. The ripened honey is too thick to be readily transferred by the bees, so it is necessary to dilute it. This cannot be done by pouring water into the honey, and stirring, for unless thoroughly mixed, the water rises to the top and must be removed by the bees before the honey can be reached. This makes the process slower than before, but if the honey and water are poured into the extractor and the basket rapidly revolved for about five minutes, the contents will be a liquid of about the same consistency as newly gathered nectar. The sections which cannot be filled may be fed and laid aside until another season, when they make excellent "bait" to encourage the bees to enter the super early. I find that if the brood-chamber is well filled, it pays to feed for unfinished sections if good extracted honey can be bought for six cents per pound.

The well-filled sections are to be classified as "Fancy," "No. 1," and "No. 2," while if the honey is of exceptional quality, a fourth grade, "Extra fancy," may be made. According to the standard rules of classification, fancy honey must be free from travel stain, the comb must have no uncapped cells, and the cappings must reach evenly to the wood on all sides. The wood of the section must be clean, and the case of twenty-four must weigh not less than twenty-one pounds. "No. 1" must have only the first row of cells next the wood uncapped, and must also be

free from travel stain. "No. 2" is made up of what will not go in any one of the other classifications, and consists of sections poorly filled, unevenly capped or travel-stained. In grading, it is necessary that the classifications be followed closely, and that the honey in each case be of uniform quality. It is a very poor plan to put the best honey in front and decrease the quality as you near the back of the crate. It is generally the back of the case which the experienced grocer or commission merchant examines first. Before putting the honey in the crate, mark on the cover with a rubber stamp or pencil the following device:

Grade
Color
Gross	lbs.
Tare	lbs.
Net	lbs.

I use a rubber stamp which cost forty cents with pad, but as I ship a great many cases, I think the extra cost is made up in the saving of time. Weigh the case and mark the

weight as tare. After the honey is put in and the cover nailed, the whole weight is to be placed in the "gross" blank. By subtracting the tare from the gross, the net or actual weight of the contents is given. This is the weight for which you receive pay. If you neglect to weigh the case, the commission merchant or purchaser will have to do so, and this unnecessary handling causes some boxes to be broken and to drip, thereby causing the dealer to believe that he has bought an inferior quality of honey, or that it has not stood shipment well, while, in reality, only he himself is to be blamed. The grocer generally buys honey by the pound and sells it by the section, thus making two profits, one in weight, if the sections weigh less than one pound each, and his regular profit from an increased price.

The crates in common use contain 12, 24, and 48 lbs. each. In the 48 lb. crate the sections are in two tiers, which is a very bad arrangement, for

if the upper tier is damaged, the drip falls onto the tier beneath, and hurts the appearance of the honey. Manila paper is generally placed between the tiers, but the sections often stick fast in the drip caught on this. The 12 and 24 lb. crates are glassed either on one or both sides, but glass on only one side is preferable, because it is cheaper and has all the advantages of double glassing, while the crate is more substantial. The 24-lb. crate is in most common use, and should be adopted as the standard. In the up-to-date crates is a device for preventing damage from the drip from broken and damaged combs. The bottom of the case contains a manila paper tray, upon which rests slats about $\frac{1}{2}$ inch wide and $\frac{3}{8}$ inch thick. There are five of these strips at distances of 4 inches apart, and upon these the corners of the section rest. These strips raise the boxes from the bottom of the case, enough to keep them out of the drip from broken combs. Upon the top of the sections is a paper to keep out all dust and dirt, and over all is nailed the cover. Honey in such a case reaches the market in better condition and brings a better price than that in the old style crates, for no matter how carefully handled, if the distance shipped is a long one, there is sure to be some drip, and if this is kept from daubing the sections there will be no damage.

Unless honey is properly packed for shipment, it is apt to reach the market in poor condition. If the crates are shipped separately they will be handled roughly, as, owing to their small size they can easily be thrown about. It is well known that in the hurry of loading or unloading a car, freight handlers have little time to notice the "Fragile" labels pasted on the crates, and even if they had time, they would take no special pains in handling the cases. To stand the shipment well, the crates must be placed in a case so con-

structed as to prevent their being tumbled over the floor like a barrel, or put on a truck and dumped. If the shipment is a large one, it may be put on a bed of hay in one end of the car, with hay packed between and around the crates, with the intervening space filled with hay or straw. The packing material serves as a sort of cushion for the crates, and like springs in a carriage does away with sudden jars. They should be so arranged that the combs will run lengthwise of the car. In this position the strain comes against the wood, while if placed crosswise, the strain is in the center of the section and against the comb.

As a rule, the apiarist does not market his honey in quantities sufficient to warrant him in putting it directly in the car, hence he must use a package which will keep the crates together and insure their delivery in good condition to the consignee. Such a crate may be made of rough boards, 3 inches wide. It does not pay to use good lumber, as, unless special arrangements are made, neither the case nor the crates will be returned. Build the bottom of the large case of sufficient size to hold your shipment, if it is not more than twelve 24 lb. crates. If the shipment is larger other cases should be built. The slats on the bottom may be 4 inches apart. Build the sides with slats about 4 inches apart, and so arrange that the spaces will be over the glasses in the crates, allowing the honey to show through. The second slat from the top should project one foot on each end at both sides, furnishing handles at a convenient height. Two men will take such a crate by the handles and carry it into the car, while if the handles were lacking, they would load it on a truck and unload it in the most convenient manner. The handles prevent the case being stood on end, and insure the crate being left right side up. Build the case to take the

crates lengthwise. Pack about three inches of hay in the bottom, and nail the cover on tightly. On the cover plainly mark the name of the buyer, and the destination, with the following warning, "load with handles pointing toward end of car." In such a case I have shipped honey from Western New York to Chicago, where it arrived in excellent condition, though it was shipped in midwinter, and was more than a week on the road. In winter honey can be shipped with perfect safety, but it is better to make the case solid to prevent danger from freezing.

I sold a large quantity of honey in cartons last year, and packed the cartons in wooden packing cases with only caution labels, and the handles such as are used on the large crates. It stood shipment well, but the buyer wrote that the sale did not come up to his expectations. He said that the people did not buy well because they could not see the honey. He intends to buy my crop next year, and have me send the cartons separately so that he may use them in place of wrapping paper. The use of cartons is profitable, as they are sold by weight as honey, and cost less than honey at common prices.

The question of selling is an important one. I find that I can get as good prices from commission merchants as from the direct sale to grocers. I have sold my honey for several seasons to a firm of commission merchants in South Water St., Chicago, who bought it outright. They have always dealt with me fairly and honestly. The prices quoted in the bee papers may often be improved upon by correspondence with the dealers, and often they will buy the honey at the quoted price, saving you the customary charges.

The usual rate of commission is 10 per cent of the sale price. From the balance after the commission is deduct-

ed is taken the cost of freight and cartage, while if you direct that the honey be held and not disposed of until it has reached a certain price, a charge for storage is sometimes made. By selling direct you save all these charges.

If you have doubts as to the responsibility of your consignee, consult Dun's or Bradstreet's Commercial Records for his rating. The credit rating is of more importance than his financial standing. It is safer to sell to a dealer rated at \$1000 with "A" credit than to sell to a firm with \$10,000 and "B" credit. If you sell your honey direct, you may either consign the honey to the buyer or to yourself, and give the bill of lading to your local bank, attaching to it a slight draft for the amount of the bill. Notify the dealer of the shipment, and give him the name of the bank in his city through which you have drawn on him. If you prefer, you may send the B-L C. O. D. by express. In either case the buyer must pay for the goods before gaining possession of them.

I have made a careful study of the honey markets for some years, and have observed that prices are never much higher than just after the time of harvest. I sell my honey as soon after harvest as possible, because then there is a great demand for it, as the grocers like to advertise "New crop of honey just received." There have been many advocates of fine labels for section honey, but in my estimation it doesn't pay. Those who favor labeling say that it gives the goods a reputation, and encourages sales. This it may do, but how can one tell whether he will sell his honey next year where he sold it last, and where he "built up his reputation" with his labels. Even if the buyer asks for "Jones' Honey," he will accept something just as good if Jones' honey is all gone.

Ithaca, N. Y.

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WATKINS' Vegetable Anodyne LINIMENT

It means that here is a remedy that makes you feel certain of the lives of your dear ones in cases of accident or sudden sickness. It means many dollars saved to you that would otherwise go to the doctor or veterinary. In all cases of cholera morbus, diarrhoea, flux, rheumatism, cuts, cramps, strains, burns, mumps, sore throat, diphtheria, etc., it is a God-send.

Worth Its Weight in Gold.

Red Lake, Minn., June 5, 1901.

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"RIVERSIDE FARM or LED BY A BEE."

BESSIE BOND. Author.

CHAPTER VII.

PAT FINDS A BEE TREE.

Pat did not start back to "ould Ireland and his Biddie O'burk," the next day, or for many days to come. For Pat was not idle like the rest of us. While on Lady Mary's Isle, he thought he had found a treasure; which he declares till yet that it was a treasure. While walking about over the Isle, admiring its superb loveliness, and watching the bees as they filled their honey-sac from the sweet flowers, an idea came into his noddle, which he immediately put into execution. He thought there must be a home for those bees somewhere near and if it was on the Isle he would find it. He not only found one bee-tree, but three, then he was called

to go home and had not time to look farther.

I only had one empty hive, but I gave it to him, and as Uncle Ben claimed to be an expert bee-man, Pat prevailed on him to help hive them. So they sailed forth, armed with all the necessary implements for doing the work up nicely. In an hour or two, we boys, on the river fishing, heard a tremendous noise in the direction of the island, and judging rightly that Pat had got Ben "into it," Will and I rowed over to see what was happening. We stopped in the arbor, which was in plain view of them, and watched the performance. Ben was on the ground behind a clump of bushes, all muffled up in Aunt Bettie's biggest sun bonnet,

some old socks served as gloves and his pants tied close to his ankles. Pat was up the tree, bare headed, with the exception of a red bandanna, tied on "darky" fashion and "yelling like all possessed" for Ben to come back and finish his job. From the language he was using, he seemed to be consigning him to a place where the Howly St. Pathric, was not much acquainted. At last he prevailed on Ben to come back, but no sooner did he get back to his post than Pat "accidentally" let fall a whole bucket full of bees, which fell at his very feet and instantly covered him from head to foot. Of course the bonnet and gloves were some protection, but not enough to keep off a stinging by the bees. Once again did he seek the friendly shelter of the bush; but instead of stopping under them, he ran on and on, for dear life thinking he was leaving the place far behind: when in truth he was beating down a path round the bush, in the shape of a capital O. "Come back, you muckle headed goat" demanded Pat, "You'er a foin bee man. you be, when you hadn't larnt the first lisson, "murther," well I guess you'll think murther besides many other noice things before you're done wid it." Poor old Ben; every time he made the circle he came nearer to the bees and received a few fresh stings. About the second round he made a Weasach thorn tore a great hole in the crown of his bonnet, and as his wool had newly cropped, the bees were not long in finding it out. I could thoroughly sympathize with his misfortune" so I called to him telling him to come to the arbor. "Oh! the clabber-head," roared Pat; "he's that foin bee man. He's takin the sthings with 'aquinimity,' he is. He would'nt know sphlit banes from coffee, now"— "Go home, Ben and tell Bettie to rub sweet cream and Gray's oiniment on you," said I kindly. Though Will was

roaring with laughter ond Pat kept up his guying. "Yis go home to Bettie, ye cry baby, and tell her to give you a sugar-tit, and rock ye to slape mither." Pat had not cut the tree down, but only into the hollow, therefore he cut out the comb with the honey and brood placed them in a wooden pail, then swept a lot of bees in on top and handed it down to Ben, who should have tied the comb into the frames, and placed them with the bees into the hive; but as Pat was not very careful in handling them poor old Ben had suffered the consequences. I, however, prevailed on Ben going home for treatment while I took his place. We soon had the bees hived, and then left them till night, to move them. On returning home we found Ben quite blind, and in a swollen condition, of which I feared from sad experience, would last for many days. But he was under the care of Aunt Bettie and Aunt Millie and by the use of strong old Kentucky tobacco poultices, combined with several other remedies, they had him up in a day or two, as good as new.

But, oh! how I would have hailed with joy the following rescipe from the pen of the noted W. M. Stell, M. D. of Mexico, which appeared in the Southland Queen, on page 213, Jan. No. 1897, for it is excelent, and a new beginner armed with such a remedy need have no fear of bee stings.

Hydrochlorate Cocain	2 dr's
Tr Opii	1 oz.
Tr Aconite	1 oz.
Spt Chloroform	1 oz
Spt Aqua Ammonia	1 oz

Mix and apply to affected parts.

But I am putting the cart before the horse; we will go back to Pat and his bees. All of us boys went with him after supper, as far as the river, to see after the hooks which we kept in the river all the time now; but only Mart went to help him with the bees. They

seemed to manage nicely till they were about to start back with the bees, when they found the river had risen, from low tide to about three feet more water caused by heavy rains somewhere above our abode. But what is it Pat would not dare? Mart, sensible boy, wanted to leave the bees where they were and come back for them at a lower and safer tide, but Pat overruled, so they started across and had gone about half way when a drift log struck them, capsized the boat and they did well to get out with them selves. "Where are your bees, Pat?" I asked, as the two emerged from the water, all wet and dripping. "Faith, Mither Cal, but oi dunno. If yez will teck an hones man's worrud fer et, I blave they's gone to the kingdom come, an the boat longside of em.

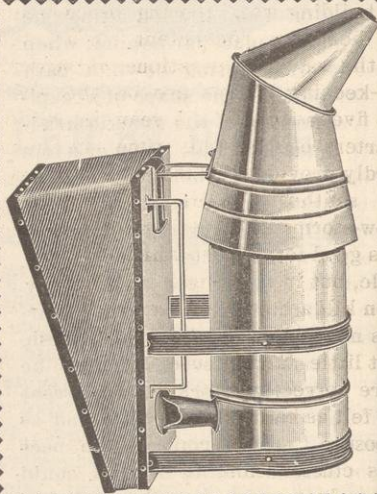
"Ah-ha!" said Dick, laughing, "I see what the matter is now; while you and Mart were enjoying a pleasant bath the boat walked off with those ill gotten bees. Am I not right, Mart?" That is just about the size of it." was the reply, but we might guy all we liked, we could make nothing off Pat. When Aunt Bettie heard of the disaster, she threw her hands up in clerical disgust saying, "De Lawd moves in a mischeivous way, his wonders to reform." Yes, we were heartily glad of Pat's misfortune, thinking it the best way he could have been paid off for playing such a mean trick on poor old Ben. He also had to do Ben's chores while Ben was disabled, all of which seemed to us a rightful retribution.

Therefore, as it ever has been, the evil-doer got the worst of it. Ah, but those were happy days for us all. The birds had never before seemed to sing so sweetly, as in that happy season when the world was full of sunshine and delight; the sky was blue with the glorious tint of sunny Italia's cerulean hues; every air was scented with the bloom of roses and musical with the

hum of honey-bees gathering honey through the long glad days; and at night the white stars gleamed upon the rows of bee-hives and sometimes lovers wandered arm in arm and said each to the other words old and sweet as old-time Eden's were. Yes, is was a happy time for more than one of us, and we have never forgotten those halcyon days. One never quite forgets the incidents that go to make the chain of one's love dream beautiful and complete with all the loveliness of joyous, peerless youth.

(To be continued).

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Progressive Bee-Keeping For Winter.

J. VOLKERT.

Now is the time to read, or now you can read, that there are not less than 26 requisites of a complete hive. It is doubtless a good way to count them up by the dozen, but it is certainly not a good way to form first the hive or then to formulate the requisites, because these are principles which remain the same all the time, while the way to give them a more or less perfect body may differ a thousand fold with the ages. All the roads lead to Rome, but one of them only is the shortest. Bee-hives are made to raise or keep bees for gathering honey. For this purpose they must protect combs, broods, or bees against enemies, wind or weather, retaining the heat necessary for building wax, rearing brood, curing honey, or convenient constructed for the various operations of modern bee-keeping. Bees are on the average five months of the year in winter quarters but for this time the hives hardly provide a better shelter than our southern prairies in blizzards, snow-storms and freezing temperature. It is good for a short while to suffer a little, but in the length of time might even kill a horse. Every body knows it is not as cold in the city as out in that little farm house, in winter, or more correctly speaking, the cold is not felt as badly, because there is less exposure. Everybody knows that bees cluster close in winter to keep themselves warm, but the bee-keeper spreads hives in winter, as in summer, over the ground, as the good house wife spreads the table. In the winter the colony is losing warmth, so has to consume more fuel, which is honey. From an economic standpoint this is a strong objection against the common use to place the hives separately in summer or winter. Well there are double-walled hives, also chaff-hives to

meet the loss of warmth, but they cost a great deal more than common hives and the increased expense is another strong objection against the usual placing of hives separately in summer and winter. No, you say, I winter my hives in the cellar and don't need any double walls or chaff. Let me tell you, it takes money to buy whiskey and it takes time and labor to put an apiary into a cellar. If you can do without it and it is sure you can, then save altogether, money, time and labor. Don't care, for if your hives have twenty-six requisites or twenty-six and a half, when they answer the purpose outlined above they are all right. Place them as far apart as you please in the summer to make sure the bees have a little less to do, and you a little more. Move the hives as much as you please when the days are long enough for a flight, but in the winter let them alone and cluster them close together. It was not the movable hive, but the movable frame that Langstroth invented, but if you don't care to move the frame and rather move the hives, I don't mean bachives, that would show no progress, move your hives up hill and down hill, east and west, north and south, but for winter move them close together, and provide every one with a straw mat above, at the sides, and at the rear of the cluster, and the bees will be as comfortable as a countryman in a city house. If you are living close to that unknown people which has to grease the axis of the earth in the neighborhood of the north pole, you can do a little more, and put a board on the windward side of the hives put together, one at the side and at the top of the other. They need only one roof to shed the water and instead of going around to see if the bees take a winter flight, you can peel potatoes for supper. You don't need to feed so much, but you can feed all you want to every colony on every warm day in fall and

spring and in the most convenient way. You can keep a milch cow besides your bees where you couldn't do it before, and you will save a pair of shoes per year. You will not have to work over hours and your arms will not have the strain and pain of lifting so much. In short, you will have more money and less expense, more leisure time and less pressing work; to put it in a nutshell, you will have the sweet without the sweat. If you think this a progress make it. I shouldn't wonder if you would ask me how, but I can't give you an answer right now.

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

EDITORIAL

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

The "Southland Queen," long published by the Atchleys, at Beeville, Tex., has been sold to Louis Scholl, of Floresville, Texas.

Frank L. Aten, of Round Rock, Tex., has just received a car load of Higginville bee supplies. Our friends in Texas who wish to save heavy transportation rates, will do well to write to friend Aten, for his price list.

We are somewhat late in getting out this issue. The excuse is the same as usual, too many catalogues to print and extra pages; (this issue is 6000 copies and 40 pages;) the extreme cold weather, and more or less sickness that prevails at this time of year.

We have on hand a nice lot of yellow sweet clover seed, that we can offer at 15c per pound; ten pounds \$1. When sent by mail add 10c per pound, in postage. It is claimed that this yellow

sweet clover produces better honey than the white sweet clover.

We have made some improvements in our "Higginville" smoker this year and have also added to our list of smokers the "Higginville Smoker" in brass. All "Higginville" smokers sent by mail between now and the first of July, will have a valuable souvenir attached thereto: in the way of a Columbian stamp. These stamps were published by a special act of congress for the World's Columbian Fair, held at Chicago.

In looking over our subscription list we find many delinquents. We do not believe that any one wants the Progressive for nothing, nor do we think they are dishonest and do not want to pay for what they have received. Feeling that all the above be true we have no hesitancy in asking those in arrears to pay up. To all that will pay up their arrearage, we will send one ounce of spider plant seed, by mail. This is the plant, you know, from which you can dip the honey with a spoon. In sending in the arrears we wish you would also include 50c for the year in advance. If you wish the Progressive discontinued to your address, kindly pay up and notify us to that effect and your wishes will be complied with. In any event you get the spider plant.

HE MAY BE REGARDED a master in bee culture that knows how to winter his stock in a healthy condition with the least loss of bees, the smallest consumption of stores, and with the combs unsoiled.

HIVES, or the habitation in which the bees live, breed and work, have been made of different materials, according to the fancies of people of different ages and countries. Melissus, king of

Crete, is said to be the first who invented and taught the use of bee hives.

MANY use tobacco smoke for quieting bees. While it will do the work, it seems to make the bees very revengeful for several days afterward and much crosser than when smoke from paper or decayed wood is used. Besides, the smoking of bees with tobacco often leads to a bad habit when one is not a user of the weed.

SURPLUS HONEY, when taken from the hive, should be stored in an airy warm room, so that it can cure out and grow better instead of deteriorating. The custom of storing honey in a cool cellar is now condemned by all progressive apiarists, for the dampness arising in such a place causes the honey to sweat and become thin, so that the quality, thickness and flavor are much injured.

COMB HONEY, to bring the highest market price, should be taken from the hive as often as once in two weeks, and once a week would be still better; for, if left on any length of time after it is finished, the traveling over, it by the bees will discolor the combs to such an extent that what was at first termed No. 1 honey is often classed as No. 2. Comb honey sells largely from its appearance, and they who would be successful must attend to all these little items.

IF, after swarms of bees keep coming, against the wishes of the apiarist, the best course to pursue is, while the swarm is out, to go to the hive, open it, and cut out all of the queen cells. To make sure that none are missed, shake what bees there are on the combs off, in front of the entrance to the hive, when each comb is to be carefully inspected, looking in every corner and about all irregular places in the combs. After this has been done and the hive rearranged as it was before, return the swarm to the hive and rest assured you

will have no more trouble from that colony.

IF THE MERCURY RISES to 45 or 50 degrees in the shade, with the sun shining nicely and little or no wind, let your bees fly, which are out of doors no matter if the ground is covered with snow, for under such circumstances the bees can arise from the snow without loss. Do not let any starve or suffer for lack of attention on your part. In fact every bee-keeper should make it his aim to do things at the right time, and in a proper manner, leaving nothing undone that will contribute toward success. Bee-keeping only pays when our pets are properly cared for, and if any one cannot spend the amount of time required by them they had better keep out of the business, for sooner or later they will turn out in disgust.

THE EGG OF THE QUEEN BEE is about one-sixteenth of an inch long and as large around as a fine cambric needle. These are deposited in the cells by the queen, they sticking fast to the bottom of the cell so as to stand on end, being held by an adhesive substance. In from sixty to seventy-two hours these eggs hatch into little worms or larva. They remain in the larva state about six days, when the cell is capped over by the workers, and the larva, after spinning its cocoon and undergoing transformation similar to "from caterpillar to butterfly," emerges a perfect insect; as a worker bee, in twenty-one days or as a drone in twenty-four days, the time being accelerated a little by extremely hot weather, or retarded by cool. This in answer to a question.

THE FIRST THING NECESSARY to bee-keeping is a hive. Bees cannot be kept without something to keep them in, and experience has demonstrated that in these wide awake times when competition is so sharp, it will

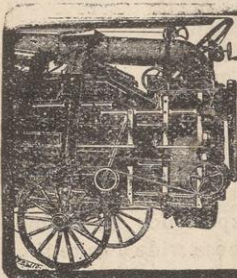
not do to keep bees in box hives. To be successful we must have movable comb hives. There are now many good hives before the public and any of the good ones will answer the purpose. I would not advise any one to pay for a patent right. Everything necessary to a good movable frame hive, is now and has been for years, public property, and the patent features of most hives are attachments that may be left off, not only without detriment to the hive, but with positive advantage. The vender of a bee hive having a patent right attached to it, has had his day.

IN LOCATING AN APIARY there are several points to be considered. Water is something we cannot get along without. There is a great quantity used by the bees when rearing brood, and some think that much is used by the bees to quench their thirst during hot, dry weather. One writer claims that at such times strong colonies use as much as a pound a day, per hive, allowing sufficient quantity for evaporation. A bee's life is governed by the work it does, and if it has to fly a long way for water, it cannot for its life bring the honey it could for its owner, if the water part was near at hand. Wet sand seems to be the most preferred of anything by the bees to suck water from, as the water found there is kept sweet and clean, while no bees are drowned. In absence of water near the apiary, a watering place

should be fixed for the bees.

THE FEAR OF BEES and the dread of their sting, deters many from engaging in apiculture, who would otherwise find in its pursuit both pleasure and profit. Could these same parties know how easily bees may be subdued, and how, with experience, all fear would vanish to nothingness, they would no longer stand aloof, but would make bees their companions and the apiary the place of business. The way of doing this is by means of smoke applied in any way most convenient, only so it is gotten between the combs among the bees. Smoke for quieting is by no means of late origin, for Calumella spoke of its use for this purpose at the very dawn of the Christian era; but it belonged to our own Quimby to put its use into practical form, when, in 1874, he invented the bellows smoker for subduing bees, which has since been improved so as to be thoroughly efficient; and to-day no apiary is complete without a bellows smoker. For fuel to be used in fumigation, I prefer partially decayed wood to anything else which I have tried, as it makes less heat, burns longer and is more rapidly prepared than anything with which I am acquainted. To use the smoker, first blow a little, three or four puffs, into the entrance, then uncover the bees and blow in at the top as long and as often as is required to keep them quiet.

G. M. Doolittle, Borodino, N. Y.



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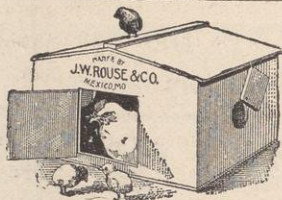
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Too Large Hives.

G. L. STACHELHAUSEN

In the August number of the Progressive H H Hyde says that he observed last spring, that the colonies having no supers with empty combs on top of the brood-nest and having not more space than they could occupy, were building up faster in the spring and were stronger when the honey flow began than the colonies on which supers remained during winter and spring. As we both live in Texas in about the same climate, and this remark is just

the contrary to my observations during more than 20 years, I think the difference observed by Mr. Hyde must have some other cause.

I had my first experience in practical bee-keeping in a northern climate with long and cold winters and at that time all bee-keepers were of the opinion that for the winter the hive should be contracted to such a space as the bees could occupy, because the bees had to warm up the whole inside of the hive, so the larger the unoccupied space the more warmth is lost to the bees. As early as 1867 I commenced to doubt this theory as I wintered one

colony on which the covering was partially removed accidentally. This colony had consumed a little more honey than others but commenced breeding earlier and came out stronger and healthier as all the other colonies. Never the less when I commenced bee-keeping 22 years ago in Texas I removed the empty supers in the fall and piled them up in the yard, as friend Hyde recommends. Unfortunately I found the next spring that the wax moths had destroyed a large part of my combs. This was the first surprise in southern bee-keeping to me as the moths in my old home did no such thing in the winter time. In the next fall I had no time to remove the supers. Some colonies had one, some two, some no supers and that winter was extremely severe and cold, so we had to cut holes in the ice to water the stock. But all my colonies wintered well and in building up in the spring if any difference was visible I would say that the colonies with one or two supers left on the hive consumed a little more honey but had more brood than the two colonies. Since this time the extracting supers remain on the hive all the year around in my apiaries and I could never see a marked difference in building up or in the honey crop.

Now we will consider the theory, that the bees warm up the hive in winter and early spring. It is hard to understand how this theory could be accepted by the bee-keepers during so many years. One may as well try to warm a room with an open door by the heat of his own body. What shall we think of this warming up theory if even the recommenders of the small winter space tell us that sometimes hoar-frost is formed on the combs or ice on the alighting pole? The bees have quite another way; they form a globular and compact cluster and keep all the heat produced by themselves inside this cluster, the outside bees forming the nonconducting overcoat. Doolittle, in Gleanings, 1901, page 146, gives a de-

scription how the bees can stand a severe cold without damage, and this is exactly the way they protect the brood in the early spring by forming a compact cluster. Of course the higher the temperature outside the cluster the more it expanded and the less honey they consumed to keep the necessary temperature and this explains why the bees consume less honey in the cellar, and for this reason the outside protection of the hive, especially on top, is of benefit; but I believe this benefit is over-estimated even in northern climates. Here in Texas every protection over and above the regular summer protection is damage.

Besides this the empty combs are bad conductors of heat; the farther away from the bottom board and from the hive walls the bees can form their globular cluster the better they are protected from the outside cold, and the most damage is done if the winter space is so contracted that the globular bee cluster is forced to touch the walls of the hive.

So we see theory as well as practical experience teaches that a large space filled with combs is no damage for the bees, neither in winter or early spring, at least not in a climate like ours in Texas.

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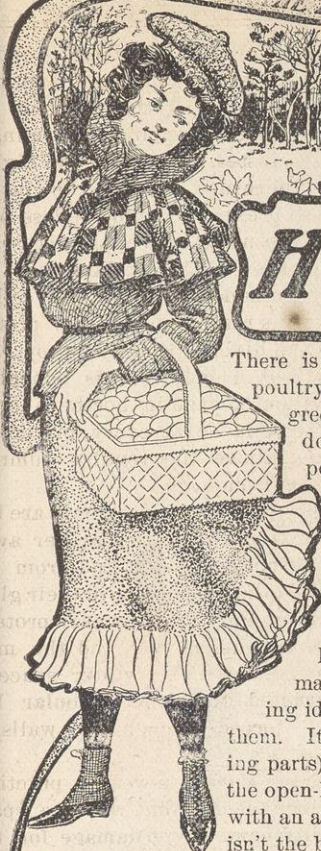
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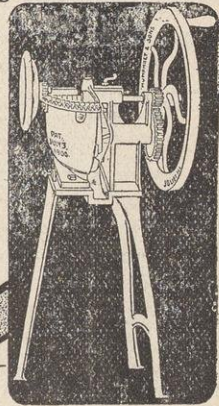
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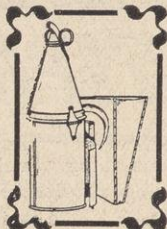
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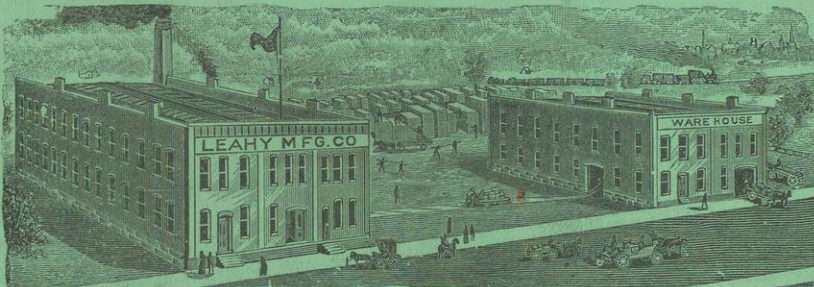
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The above cut represents the front cover of the **Amateur Bee-Keeper**. This book is in its fourth edition, 2000 having been recently printed, 300 of which have been sold within the past month. This little book is especially designed for beginners. Over 4000 have been met with ready sale and the demand is increasing. We do not hesitate to recommend it to those starting in our chosen pursuit, BEE-KEEPING. Price by mail, **25 cents**. Address,

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