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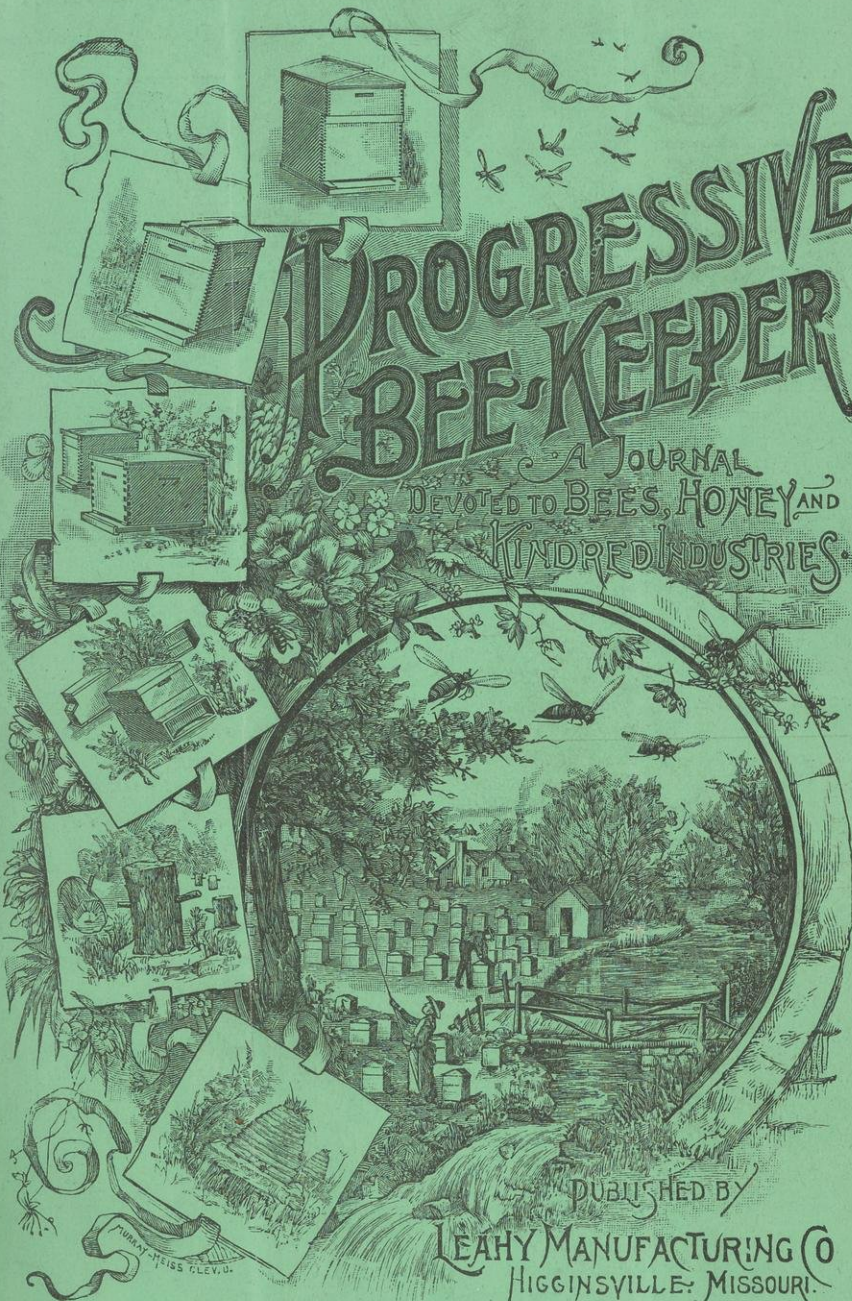
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JANUARY 1903

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A JOURNAL
DEVOTED TO BEES, HONEY AND
KINDRED INDUSTRIES.



Entered at the postoffice, Higginsville, Mo., as second-class matter.



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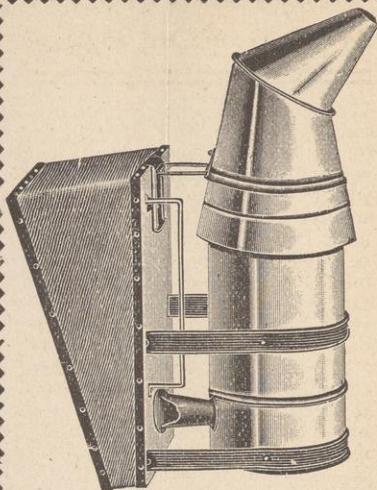
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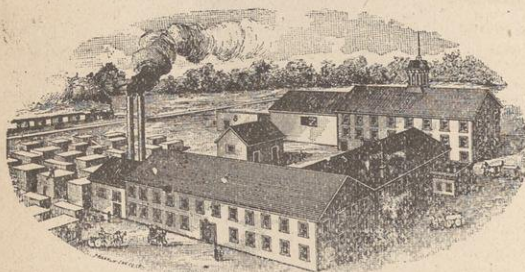
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The Progressive Bee-Keeper.

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Published Monthly by Leahy Manufacturing Company.

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SHOOK OR SHAKEN—WHICH?

S. E. MILLER.

Two subjects are occupying considerable space in several of the bee journals at present. Shook or shaken, brushed or forced swarms are being thoroughly over-hauled and the more one reads about it the more confused he becomes. One writer advises hiving them on drawn combs and insists that it is the only proper way. Others say hive them on full sheets of foundation while still

others say give them starters one-half inch wide only.

The most of the writers on the subject seem to agree that the shaken swarm should not be given any brood. When doctors disagree how is the patient to know which doctor's advice he should follow? Out of the many writers on the subject not two seem to practice precisely the same method. No doubt it will continue to be so hereafter, but on the whole the most of the articles on this subject will be of value to the reader who has occasion to practice forced swarming, and who among us with any considerable number of colonies, does not at times have occasion to follow this practice. What bee keeper has not at some time had a colony doing splendid work in the sections only to learn a few days later that they had swarmed at some time when he was obliged to be away from the apiary for a short time and that all work in the sections had ceased. Of course having the queen's wings clipped would prevent the swarm from leaving, but even then if the bee keeper is not on hand when the swarm first issues and has returned to the hive before he returns he will not know that they have been out. My experience is that a colony after attempting to swarm twice with a clipped queen will kill her and then as soon as a queen

hatches, she leads off the swarm. By this time much more of the brood has hatched. The swarm is much larger than it would have been at the first attempt and consequently the parent colony is left very weak, and our chances of receiving any surplus from that colony gone. In a case like this there is no doubt that there would be a great gain in shaking the swarm at the proper time and thus avoid the danger of their leaving at some time when the bee keeper is not present.

No doubt there is much to be gained by a judicious practice of this method of swarming but we should not bank too much on what we read and conclude from the flattering reports that we have struck a bonanza and are now on the high road to riches. Likely none of us can follow to the letter the method as laid down by any one particular writer on the subject but must vary it to suit our localities and consider the many little circumstances that go to make up the difference in different apiaries managed by different men. We should read up on the subject, sift out the grain from the chaff and then after some practice and study we can adopt a system of shook swarming suited to our own particular wants.

After we have decided on a particular method, each one may for himself call them what he likes, shook, shaken, brushed, forced or artificial swarms. For my part I will call them shook swarms, because I know that when I get through shaking them they have been shook.

The other subject that is receiving considerable attention is the formation of a bee-keepers trust or union. This is a subject that well deserves discussion or what would be better still, action.

A large per cent. of what the consumer pays for his honey is added to it after it leaves the producers hands, and the nearer we can come to taking it from the producer and putting in

the hands of the consumer, the less will be this unnecessary added expense. Let the producer and consumer divide what is profit to the middle men and the consumer will get his honey at a lower price, while the producer will receive more than what he does at present.

Another heavy expense in the marketing of honey is the transportation charges. This can be very much reduced by handling it in large quantities. This and many other things a properly organized body of the bee-keepers can do. But all the talk in the world will do no good unless the majority of bee-keepers are ready to go into it and lend a hand to help push it along. The tendency of the present age is to unite in vast numbers or unite vast amounts of capital and do business on a large scale and make small profits on large amount of commodities rather than large profits on small amounts. This can only be done by the aggregation of large capital, or the co-operation of many individuals engaged in the same per cent.

Bee-keepers, I believe, are above the average in intelligence. The farmers in some of the western states are co-operating and saving several cents per bushels in marketing their grain.

Shall we bee-keepers stand with folded arms and wait until the procession goes by?

Bluffton Mo.

We are indebted to the A. I. Root Co., Medina, Ohio, for a copy of the 1903 edition of the A B C of Bee Culture. In the new addition a pleasing change has been made in the binding; many new engravings and much interesting matter have been added. By a system of constant revision, the A B C is kept as nearly up-to-date as is possible. The new volume contains nearly 500 pages, and in typography and general make-up reflects much credit upon the publisher.

GOOD THINGS IN THE BEE-KEEPING PRESS.

BY SOMNAMBULIST.

The subject of forced swarms occupies considerable space in Dec. 1st, Gleanings, and it is a continuation of this all absorbing subject; we will also continue the clippings. Extracts from J. B. Crain's article are as follows:

"If the object is simply to prevent swarming it is pretty effectual but not wholly to be depended upon." "The value of this method will depend very much on the skill with which it is used."

I have never observed but that shaken swarms worked just as industriously as natural ones, if there were as many bees. I have had the best results from shaken swarms when shaken on to old combs.

One thing you must never give them and that is brood.

J. E Chambers tells us that "great judgment and skill are required in order to get best results from brushed swarms." The secret is to get them to work at once, and with a vim and hustle, which goes further toward counter balancing the swarming impulse.

The process of brushing does not put the bees in condition where they feel that they have swarmed, except when they would have swarmed in a few days anyhow.

A brushed swarm under proper condition will always be stronger than a natural swarm, and gather more honey, because most of the working force will go with it, and is strengthened by a second drive. With me starters are not as good as half sheets of foundation.

The summing up of this article is as follows: "First, don't brush unless the colony is very strong." "Don't brush unless there is a good flow, or to control the swarming fever.

"Be sure that the bees gorge themselves with honey.

"If you don't leave a few old bees in

the old hive you must not shake out the thin unsealed honey for the young bees; use it for a substitution as water, and of course the force left will all be needed to nurse the brood."

If you use any drawn comb in the supers and none in the brood chambers you will catch some pollen. Unless an excluder is used the queen will go above and lay in the sections which contain drawn comb.

"Don't use an excluder if you can avoid it," as it tends to discourage the bees from properly entering the supers.

Our idea, "have your hive level and shaded."

"Be sure to reinforce the swarm with another drive from the old hive within seven days."

Following these articles is one in which Homer H Hyde condemns shaken swarms. Give reasons, "the old colony does not build up in time for the latter flow of honey and the new colony is soon also weak from the fact that it is without hatching bees for about twenty-four days, and unless the queen is very vigorous the new colony is seldom in the right condition to secure the best results from the later flows."

He then goes on to describe "the method of increase and swarm prevention practiced in the apiaries of our company"

First, the season before we have a good number of extra brood combs built out; next we see that all colonies have prolific queens, and go into winter with plenty of honey.

Brood rearing here usually commences in earnest the later part of February, and by the middle of March the colonies usually have their brood nests about filled with brood.

If honey is coming in and it usually is we decide about how much increase we want at each apiary and start cells accordingly. Just before these cells are ripe we return to each apiary, and from each strong colony that would be

likely to swarm before April 10th, we take two frames of bees and hatching brood and insert in their places two empty combs carried over. We place these two frames of bees and brood on a new stand and give them a ripe cell in a cell protector, making as many new colonies as we wish to increase.

We return to each apiary in a week or ten days, and from all colonies showing indications of swarming we draw two or more frames of brood inserting in their places empty combs or frames of foundation, taking the combs of brood and adding to the nuclei started.

We continue this operation until the honey flow opens up. Our experience is that once we have the colonies in the supers and at work, there will be very few that will care to swarm. Our object is to draw only enough from the colonies to keep down their swarming until the honey flow comes.

When we start the nuclei we like to have about two empty combs to place on each side of the combs of brood, and the rest of the hive is filled with full sheets of foundation. Should any however fail to build out their combs and make good colonies by the end of the second flow they are helped, and the unfinished work divided up with the old colonies so that all may be in fine shape for winter.

Now I know that this system of work depends on the locality for its success, but very probably it can be modified to meet the demands of other localities of the same general nature. We knew that for our locality it is far superior to any other method.

On the subject of forced swarms the Dr.'s straws have to say: "The chief argument for being satisfied with forced swarms lies in the advantage forced swarms give over foul brood. I confess it's a strong, if not an all sufficient argument, wherever foul brood prevails."

(Editor Root warns us that foul brood is on the increase at a fearful rate.)

The forced swarm is far and away ahead of natural swarming, and utter nonswarming would be still better.

Friends please don't lose sight of the fact that just as much ahead as shaking is over, letting the bees have their own way, just so far is it ahead of either to have no swarming at all and no depletion of either brood or bees to prevent swarming. Just a few of you, at least, keep company with me in the continued quest for non swarming, without sitting down half way between that and natural swarming, satisfied with forced swarms.

In another straw he answers E. Root in this way "Why shouldn't a forced swarm that has had two drives of bees be the equal of the untinkered colony that never thinks of swarming," quoth ye editor.

I don't know unless it be that the untinkered colony is saved the labor of building an extra set of combs. Then the cost of two tinkering's ought to be charged up somewhere.

Whereupon ye editor replies: "Yes it is true; the cost of two tinkering's must be charged up somewhere, but will not that charge be less than tinkering with a swarm in the air, chasing to the top of an elm tree to get it after it is clustered? I have no faith that you will ever get an untinkered swarm that will not swarm. Of course, you will have isolated cases every season, and a whole yard of 'em some seasons."

F. Greiner in American Bee Journal thus comments on brushed or forced swarms: "In practicing the method, locality plays an important part. The shaken off bees absconding is, for instance, unknown to some, whilst with others precautionary measures have to be taken or else 20 per cent of the crushed colonies leave the bee-keeper. There is really too much at stake to run any chances. One single swarm held from going to the woods will pay in honey for all the entrance guards

needed in a large apiary, or pay for the trouble of keeping a brood comb, or rather a comb of brood does not always hold the bees from absconding in my own locality and the entrance guard has failed once with me.

"This however, does not hinder me from applying these means. It is the best we can do, so far as I know. In some localities a hive full of brushed off brood combs may be set up on a new stand—the hatching bees will take care of things. I learn this from the writing of others for I have never tested it myself, not being of that venturesome nature. I prefer to make a sure thing of it by placing one or more sets of brushed combs upon some colony, leaving them there from six to nine days. Then they can be separated without the slightest risk of losing brood or starting a case of robbing. If the weather is warm and there is not much open brood in a hive, it may do to leave things to the emerging bees."

He adds that "I believe that more disagreements and disputes arise among bee keepers on account of differences of localities than any other one cause."

In Dec. 18th number we are told how J. C. Wheeler protects the brood and at the same time leaves the whole force on the old stand, to wit: "All the bees are shaken or brushed off and the hive of beeless brood is set on the old stand, the forced swarm near by. The field bees will return to the old stand, and the brood will be well cared for. In a day or two the forced swarm is put on the old stand and the hive of brood removed to a new stand some distance away. All the old bees will be sure to go to the old stand, and enough young bees will have emerged to care for the brood, thus leaving all the bees with the swarm and yet running no risk with the brood."

In testing the forced swarm theories, many will do well to cultivate caution. It is to be hoped that out of all these

variations some one of them will be adaptable to one of the many different localities. Bee-keepers will welcome anything in the shape of help along the line of controlling swarming. And should a non-swarming strain of bees ever become a reality thrice welcome will they be.

W. M. Stolley in American Bee Journal speaks of having owned three stands of bees for as many years and they never sent out a swarm nor gave a pound of surplus. He kept track of them for years and they were never known to furnish any surplus or cast a swarm. They simply lived. Now if they had only stored surplus what a gold mine they would have proved. But if we must sacrifice surplus to secure that non-swarming strain, we will gladly put up with the old-fashioned swarming bees.

W. J. Stahman owned a strain of bees that failed to attach the comb to the sides and bottom of the sections and all the progeny of said bees showed the same characteristic trait. He says there are bees that fasten the combs on all four sides of a section—fasten it before the comb is half finished; that makes comb honey that can be shipped with safety. This he considers a point worthy of more attention than it now receives.

Oh, when we get the improved bee, the gentle, beautiful, prolific, comb fastening, surplus storing, non-swarming bee, won't we be in clover, at least if we are not our bees should be and of the white variety to. An up-to-date bee-keeper would be the next requisition and I sometimes wonder if he will be forth coming. That is will the average bee-keeper be able to keep up with the rapid strides of progress? One thing is certain, he will never without the aid of the journals, but then the average bee-keeper certainly does read them. If he doesn't, let him remember that "now is the day of salvation" and

begin at once before it is too late.

Pickings from Our Neighbors Fields begin with, "Even a hasty glance over the bee journals of Europe shows a great increase in activity in bee matters. New organizations of bee-keepers are constantly forming methods are freely and ably discussed, the old is given place to the new, ruts are being filled up and new paths are coming into views, new uses for honey are causing an increase in price and new sources of nectar are constantly coming to the front."

The journals of this country are in no respect behind in apicultural progress. the leading lines of thought may be stated broadly to be in line of increasing our bee ranges and finding more and better markets for honey.

My, how people "dew differ" now. I imagined the leading line of thought to be controlling swarming through the medium of forced swarms but judging from the last two bundles of clippings you are most probably aware of that.

MOVING BEES.

BY GEO. W. WILLIAMS.

In November Progressive I noticed an article from Bro. T. W. Morton on "Moving Bees."

This reminds the writer of the many articles he has read on the "moving business" and without a single exception every article read is misleading.

The impression left by these writers are that if bees are moved only a short distance, say one mile and under, many of the old field workers will return to their old stand and be lost but if moved a longer distance, say three, four or five miles, they will, on starting out the first day, get their location and return to their hive. As an explanation for this they say that when moved only a short distance the bee is familiar with all the surroundings and goes on her usual routine of business and

when loaded returns to the old stand when lo! her house has been moved, and yet only a rod away, and she is lost, but if the colony has been moved, say five miles when she comes out to work she gets her new location and returns all "O. K." This looks reasonable and is the accepted "version," but it is a long way from the facts as a little bit of reasoning will demonstrate.

While the bees are shut up in the hive, as they must be to move them, how do they know whether they are being moved five miles or five rods? They do not know nor have no way of ascertaining until they get out of their hive and look around, and the old bees that have been moved five miles comes out of the hive, if there is no obstruction in the way, and flies direct, as she thinks, for the old field, but finds when too late that she is in a new territory and lost, lost for "keeps," while those moved only a short distance return and hover around their old stand and we can see them and note the number lost, while those moved a long distance do not know where to go, scatter about and perish and we have no way of knowing how many are lost only by the depletion in the hive. There is just as many bees lost out of a colony moved five miles or five rods if everything else is equal. The point in favor of the long distance move brought about from the fact that in a long distance move we shake and disturb the bees more than in a short move, and the more they are disturbed the more they will fly around the mouth at the first coming out to see what the trouble is.

Moving bees in the height of working season is always attended with loss and should be done as little as possible. My plan, if I have to move for any reason, is to shut them all in at night, giving plenty of ventilation by laying a wire cloth over the top and blocking

up the cova, keeping them in all the next day; then on the second morning about an hour after they should have been at work, smoke them just enough to make them fill themselves and open the entrance. By this plan I notice that nearly all of them as they come out they will turn their heads towards the hive and locate themselves.

Mr. Editor, why is that friend Root in speaking of the worker bee insist on calling it a "him" or "he?" Why don't somebody tell "him," "he" or "her" that the workers are queens dwarfed and therefore are females and should be called she and her.

Humansville, Mo.

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It would be impossible to take the place of Mr. Doolittle in his line of expert information, and I shall not try. Average apicultural interests, however, is a line that may be presented by a writer who is representative and alive to his own interests. A Bee-keeper who is not an expert, in the proper and limited sense of the word, but who depends for his living on bee-keeping, while having other powerful interests that occupy his mind, may well represent bee-keepers at large, for his particular requirement of just so much effective work and no more is one that is characteristic of the great majority, for many reasons.

THE word editor is getting to be as badly misused as the word professor.

This writer is not an editor, and has further stipulated, in assuming the duty of writing paragraphs of general interest, that he shall be as independent and unfettered as a contributor should be.

Bee-keeping has a peculiar fascination as an occupation. It gives returns in money. Children require a practical preparation for life. Put those few facts together, and what conclusion do you think you had better draw? Once in a while a farm journal says "Give the boy a pig, or a calf, or a plot of ground, so that he may have something of his own." I have never seen this question very thoroughly discussed in such a journal. Yet it is one of the most important that can occupy our attention. If a man is too weak-minded to have a particular purpose in life as a justification for the existence of his own peculiar individuality, but has taken it on himself to call children into existence, he can at least make their development a purpose. It is not a sufficient one, for if he does not justify his own existence they may not justify theirs—he will miss giving them the example of his own growth as an incentive to theirs, but if he neglects theirs too, he certainly will be a flat failure.

FACIATING as Bee-keeping may be, it is not in itself sufficient to justify the exclusive attention of a mature mind in this age of awakening to social duties, but as an educational influence it has great possibilities, and the bee-keeper with children growing up in his home who does not avail himself of it is very foolish. The usual parental idea of education is to leave it all to the school-teacher as being something special, and external to the home. But education, in the truest sense, is taking place all the time, at home as well as at school, for better or worse.

DEFECTS of formal education are beginning to attract attention. The

greatest defect is to be traced not to teachers, but to parents. Education is discipline, knowledge and culture, and discipline is not the least important. The usual way of applying discipline is the repetition of set tasks, to which the pupil is held down by the exercise of authority. Neither the average teacher nor the average parent gives much thought to the possibility of getting the same repetition of tasks, with tenfold the effectiveness, by impulses from within, instead of pressure from without—by building upon the temporary desires of the child as motives, instead of more or less perfunctory submission to authority as a motive, and as the result is that real discipline, leading to habits of perseverance, is not acquired in three cases out of four so treated, for when the mind is antagonized, it merely shuffles along under the good of a dull annoyance. One only has to think of the mental condition of slaves, to realize the fallacy of this method of discipline. But how has this wrong theory and practice grown up in education? Because society expects and demands of school the same methods as are applied at home. When a child dawdles and shirks, because his expanding mind and body demand exercise in something different, he knows not what, the average parent applies force and severity, under the impression that is the only method of teaching perseverance. It is a great mistake. It generally amounts to the destruction of the power of mastering perseverance, and teaches evasion instead.

How different is the effect of the activities of a healthy child upon his own mind! If he wants to build a play-house, and make a cellar under it, the amount of perseverance that he will put into hard digging is astonishing. If such activities are often repeated, his own energy trains itself, and if the parent or teacher spent his

acumen in searching out such motives as would inspire the child to undertake such work as leads to knowledge and culture, instead of attempting to force those things upon him in such a way as to inspire disgust, we would have home training and school education that amounted to something, instead of the appalling proportion of failures that now result. Professor Butler of Columbia University, an authority on education, says:

We have still to learn what interest means, how it is changed from indirect and how it is built up into a permanent element of character. We inexperienced in seeking out and seizing upon the present and temporary interests of the student, and in using them as a factor in training. It is a common thing to hear it said that since life is full of obstacles and character is strengthened by overcoming them, so the school and college course should not hesitate to compel students to do distasteful things simply because they are distasteful and difficult. I do not hesitate to say that I believe that doctrine to be profoundly immoral and its consequences calamitous. But, it is answered, you certainly would not trust to a student's whims and allow him to do or not do as he pleases. Certainly not, and that is not the alternative. The proper and scientific course is to search for the pupil's empirical and natural interests, and to build upon them.

PRESENT AND TEMPORARY INTERESTS. Scarcely any element of country life is superior to bee-keeping in this respect, in the time of childhood. But I wonder how many bee-keeping parents—a beggarly fraction of one per cent, I suppose—give the boys and girls a few colonies apiece, and the time to work with them, and a bee-book, and companionship in looking up the natural history suggested by the bee, and in planning methods of work, and above all in looking pleasant and beginning over again with a varied method when the child outgrows the first enthusiasm. However, that rather goes beyond the province of old bachelors to discuss. But I speak feelingly from my own experi-

ence as a child, which, together with observation of youthful comrades, leads me to conclude that there is always enough energy in a child to do its own training, if aroused and rightly directed, and in comparison with this, the pressure of external authority is a miserably weak instrument. Perhaps the kind of education we need most is the education of parents.

A PRACTICAL TRAINING—What is it? Is it the study of practical subjects in school? That is theory, not practice. Is it practical work? That does not follow at all for it may be mere drudgery, and drudgery is deadly. The spirit of work is the valuable part of it. Only practical motives make practical work. If the child earns and saves money by his work, he feels himself to be a part of the actual world and a force in society, and is thus preparing himself for real life by entering into it. The only way to learn how to do a thing is to do it. Work ostensibly nothing but discipline, misses the opportunity for the most powerful kind of discipline.

BUT how combine practical work for which practical motives are absolutely necessary, with the mastery of knowledge and the absorption of culture? Well, that is the great problem of education, and when experienced minds acknowledged themselves floored by it under present conditions, we shall have to remain modest. But one thing is sure, that the question is not to be solved by practical work and practical motives alone, for it is thus that exclusive and narrow minds are formed, and obstructionism in social progress results, with the continuation of undeserved misery. For spirituality and liberal-mindedness, for progressive citizenship and the foundation of true happiness, we must continue to depend on all-round education, and apply ourselves to remedy its defects; and for this purpose teachers and educators are

greatly dependent on the co-operation of parents, in evolving right principle of general education in general home training, in supplying the knowledge, by frequent consultation, for special treatment of each individual child, in making this increased recognition of individuality possible by employing more teachers for the same apparent work, but requiring them to study the needs of individuals more and in setting the example, and creating the public sentiment which shall make these things possible, by home application of the principle of arousing interest from within as the foundation of all training.

THEREFORE, bee-keeping parents, whatever you do, don't make your children help you in such a way as to overlook the wonderful possibilities of the excellent instrument for developing their souls that you happen to have control of in your peculiar business. Give them a few colonies of bees for their very own, and then don't be didactic or priggish or domineering, but put yourselves in their place, and study the workings of their minds; for the real motive power of training is the child's soul itself.

F. L. THOMPSON.

Denver, Colo.

Progressive Bee Keeper: I feel that the lately issued ballot for officers of the National Bee Keepers' Association is unfair, — especially so to E. T. Abbott, a friend of mine. For the good of the Association I have asked the Board of Directors to order a new ballot, — said ballot to name all candidates for each office, so each member can take his choice. Also the said ballot to provide for voting on the proposed amendments to the Constitution.

Yours truly,

N. E. FRANCE.

[No comment from us is needed.—
Ed.]

With this issue Mr. F. L. Thompson becomes one of the editorial writers for the Progressive. Three reasons why we have solicited the aid of Mr. Thompson are these: Outside of Missouri our largest circulation per state comes Texas and then Colorado. The next is Mr. Thompson has had some experience in this line and third, he hews to the line regardless to where the chips fall.

Another department we have added with the new year is our Texas department" as we said before, the next states in circulation for the Progressive was Texas and Colorado. Well, with Texas next to our home state and a large circulation in many other southern states we have opened a Texas department under the management of Homer H. Hyde. Mr. Hyde is an experienced bee-keeper, has spent his childhood in the apiary and to him the appellation "son of Texas bee-keeping" is not putting it too strong. Mr. Hyde is also the representative of the Progressive in Texas. So kindly send him your good will, advertisements and subscriptions. Mr. Hyde's paragraphs will always have something new in them.

One of Editor Yorks correspondents has this to say of the Chicago-Northwestern Convention held at Chicago Dec. 3-4:

"MR. EDITOR: I wish I could say something to some of my brother bee-keepers within easy reach of Chicago, to awaken in them a sense of the privilege they are missing by failing to attend the meetings of the Chicago-Northwestern. It was a wide-awake convention. The time was not filled up with 'long, prosy papers, but the question-box, for the most part, furnished material for live discussion. Bright bits of information sparkled out here and there, some of them from men who would never have given them in the columns of a bee-paper, nor in any other way than by the stimulating in-

fluence of personal contact with other men of experience in convention assembled."

It was our good luck to be present at the above convention and can vouch for all the brother has said. We have attended many conventions, but for a real live enthusiastic gathering of bee-keepers none have equalled this. The Denver convention was a grave yard compared with it. At Chicago I think all went home with a kind feeling for all present and longed for the time "when we shall meet again"—unless it was Brother Hutchinson.

WEED PROCESS—COMB FOUNDATION.

At recent Ontario bee-keepers convention held at Barre Ontario, Canada, the question was asked. "What is your experience with Weed Process Foundation?"

Mr. Chrysler—I have not used it.

W. J. Brown—It is no advantage.

Jas. Armstrong—For the brood-chamber I would not use anything else. There are more sheets of the foundation per pound, and it is stronger.

Mr. Holtermann—The objection raised to section foundation is that the bees do not work on it so readily. Pressure in milling it makes it harder.

C. W. Post—It is good when properly manipulated.

W. J. Craig—The hardness depends on the wax used. Wax from cappings is much harder than that from old combs.

Several members said they found the bees prefer old-process foundation. Some maintain the contrary.

Several of the large bee-keepers order as much as 500 pounds of our extra thin foundation for their own and neighbors use, saying that the weed thin and extra thin is too brittle to handle and the bees do not work well on it. We would think if the weed has this fault it would be a good thing for the southern states, as the harder the foundation the more heat it would stand. Our process is not just exactly like the Weed. It does not crystallize quite as hard as the Weed process hence is not so transparent and brittle.

Texas Department.

HOMER H. HYDE, Editorial Writer.

Floresville, Texas.

N. B.—All subscriptions from Texas should be sent to me direct. All matters relating to advertising should you desire space in the Progressive, should also be sent to me. I am the Texas agent and representative of the Leahy Mfg. Co., for their excellent paper, the Progressive. We ought to have 500 subscribers from Texas, so come on with your subscriptions.

SALUTATORY.

Some four weeks ago quite unexpectedly Mr. Leahy wrote and stated his wish to have a special Texas department in his journal, and offered me the position as editor of that department. After some correspondence I consented to take temporary charge and possibly permanent charge. I have no desire as is usually the case to beg your pardon for this department of the PROGRESSIVE. I simply give it to you for what it is worth. I shall endeavor to make this department as instructive as possible and as truly representative of Texas Bee keeping as it is possible to make it. I shall ask your co-operation in the matter. Shall be glad to have letters from you at any time offering suggestions and would like you to give me your views on any question under discussion. Our space however is limited to 4 pages and would ask you to make your correspondence short and to the point.

Now I do not expect everybody to agree with me on all points, and when we differ, please remember that we do it honestly, and that I shall always be willing to yield any point upon the proper show of evidence.

It is my desire that nothing old or

stale be found in this department, but all men are mortal and if I put in something of no importance, please pardon. In closing let me add that I hope the department may be found of interest to my fellow bee keepers.

In this issue will be found an article by the writer on bulk comb honey. I am sure that this will meet the approbation of all bee keepers who are already acquainted with the production of bulk comb honey, and we trust will be an eye opener to those who are not. This honey is the great Texas product and I think the bee keepers of Texas are ahead of all other states when it comes to putting up comb honey in the right shape for the masses and in a way that is bringing Texas bee keepers more money than would section honey.

In the next issue the writer will give his extended experience on the spreading of brood. I will tell you when and how it may be done to advantage, and when and how it may be practiced to a great disadvantage. In the March issue I will write an article on Races of Bees, strong colonies (how secured) for the honey flow, etc. The April issue will have an article on preparing honey for market, and I will likely continue to write an article each month as long as I have charge of this department. We trust that you will at once become a subscriber to the Progressive in order to miss none of these articles.

Now that Texas is to have a department in the Progressive Bee Keeper we trust that you will all take hold and give this department your support, and more, give this journal your support. If you are not a subscriber become one at once and get your neighbor to subscribe. The price is only 50c per year, a very insignificant sum. All subscriptions from Texas should be sent to me direct. Also all advertisers in Texas desiring space in the Progressive will please make their application through me and all correspondence in regard to same should be directed to me. See notice at head of this department.

If from time to time any of our Texas amateurs should desire to ask a question on some point in Texas bee keeping, they are at liberty to do so and if they will forward same to me direct, I will answer their questions through this department, or direct as the case may be. I would ask all questioners, however, to enclose stamp if they wish a reply direct. Come on with your questions and they will be answered to the best of our ability.

For several years The Hyde Bee Co. has been looking around for some cheaper and at the same time satisfactory paint for bee hives. We believe we have found this in what is advertised as Powderpaint, the same being shipped as a powder and for application is mixed with nothing but cold water. We ordered 100 lbs last season and used it on a big lot of hives and after it has been on nearly one year we are very well satisfied. We find that the cost is about one-third that of lead and oil paint. We believe that it deserves a fair trial by all bee keepers.

Now is the time of year to get your hives, supers and everything in readiness for the honey crop. You should figure out about what your needs will

be and get it in and put up ready for the honey flow when it comes. It is poor policy to wait until the honey flow is here before ordering the needed supplies. You should have them now and get them ready so there will be no loss when the flow comes. A great deal more money is lost by having on hand too few empty hives and supers than there is by having too many. The big rains that have blessed Texas the past fall and promise to continue will almost insure a big crop all over the state and especially will this be so in the Southwestern part, where fall and winter rains always insure a big crop of honey.

MOVING WITH OPEN ENTRANCES.

This has been tried by a few. Are there many who approve of this mode of moving bees? After studying the matter over thoroughly and putting it to a test to a certain extent we can not give it our approval. It might work with others; all right. And it might work very successfully for a time or two, but oh the time that it does not do so.

Suppose of an accident. All the hive entrances wide open. Woe to the man in charge then.

How many times old box hives and others, too, have been moved, some just set into the wagon as they stood in the yard; others with cracks, unnoticed at first, from which bees made their escape and lo and behold, the many amusing stories told by those having had some experience along this line.

When moving bees we would prefer to have everything well secured so that no bee can make its escape. Then no trouble will ensue.

For short distance moving we have most successfully used strips of burlap or other heavy cloth about three inches wide and as long as the width of the hives.

Fold double, lay against the entrance

and push into the whole width of the hive with a knife. To open the hives, run through the yard, pull out the rags and that's all.

BULK COMB HONEY—ITS DEMAND, ITS PRODUCTION PROFITABLE.

BY H. H. HYDE.

A few years ago bulk comb was practically unknown, but today there is scarcely a bee keeper in the United States that has not heard of it and how it is produced. It is now the principal product of the south western Texas bee keepers. Its production is rapidly gaining ground not only all over Texas, but is gaining a footing in Nebraska, Colorado and Utah.

The demand from the consumers for this article is rapidly growing and is keeping far ahead of its production, and of this fact the bee keepers are rapidly catching on. There are many reasons why it is gaining a hold with both the consumer and the producer and especially the former.

When he buys a can of bulk comb honey he feels sure that he is getting a pure sweet just as the bees made it; he feels that he is getting full weight, and he knows he has bought it at a less price per pound than he could have bought section honey. Then he has his honey in a nice bucket where the honey cannot break or lose out when cut in two, and when he has eaten out the honey he has a useful pail left. These are some of the reasons why the consumer prefers bulk comb honey to section honey. I am talking of the majority of the people. Of course there are the wealthy who will always buy a limited quantity of section honey because it is high in price, and has to them a fancy look.

Bulk comb is produced in either full bodies or shallow Ideal supers. If the former is used it is hardly practical to fasten in full sheets of foundation, as

the frames cannot be wired because we expect to cut the honey out, but with the Ideal frames we can use full sheets if we so prefer. Ideal supers and frames are preferred generally because they are not so large, are not so heavy to handle, they are nearer the right amount of room to give a colony at one time, and they can be freed of bees much quicker than can full bodies. To free them of bees we simply smoke down between the frames well and then pry the super loose and jounce it, when it will be found that most of the bees will fall out. They can then be stacked up and a hole left at the top, when in two or three hours time the last bee will have left the supers.

Then again the supers and frames are nice for extracted honey, should the bee keeper in any event desire to so use them, and in fact in putting up bulk comb it requires about one-third extracted honey with which to put the comb up.

In packing bulk comb we cut out the comb nicely and place it in the cans, and afterwards pour in extracted honey to cover the comb and to fill up the crevices, and in this way about one-third extracted honey goes in, and it must be remembered that this extracted honey goes in at the comb honey price. It has been found both practical and profitable to produce both comb and extracted honey in the same apiary and in fact on the same hives at the same time, for many have found that it pays them to have one super of combs on top of the regular brood nest so that the queen may fill it with brood before the honey flow, if she likes, and when the flow comes these supers catch the first nectar, and as soon as the flow is on and the bees have commenced to secrete wax this super of combs is lifted and the empty frames of foundation placed between them and the brood, which is the most effectual way of baiting bees into the supers, and it will be

found that where colonies are so worked swarming is kept in check if not entirely prevented, the queen is left in entire possession of the regular brood nest and by the time the flow is over the brood will have hatched from the shallow super of combs and the bees will have filled it with extracted honey, and this is just what we will want in putting up our comb honey, as we have already shown that at least one-third the honey must be extracted with which to pack the comb. It has been demonstrated time and again that bees will store all the way from 50 per cent to 100 per cent more honey when worked for bulked comb than they will when worked for section honey, and many believe, the writer included, that where the bees are worked as outlined above that nearly if not quite as much bulk comb honey can be produced as could be produced of extracted honey alone, and especially does this hold good where the localities have fast flows of honey, in which a great amount of wax is always secreted whether there are any combs to build or not.

We will now show the relative cost of bulk comb to section honey. When we buy bulk comb supers and frames we have bought them to use for years. When we buy sections they are for only one season's use, whether they be filled with honey or not. Then we have to have costly separators, followers, etc., that soon give out to be replaced. When we go to ship we have to have costly glass front shipping cases and these cases in turn packed in crates for shipment. When we pack section honey we have to take lots of time and patience to scrape the sections. When we pack bulk comb honey we buy cases of cans and cut the honey out into them.

When we get ready to ship we have to pay a high rate of freight on section honey, and more, run the risk of having a good part of it badly damaged or destroyed all together. When we ship

bulk comb we get a low extracted honey rate and have the assurance that it will go through as safely as if it was extracted honey. When we go to prepare supers for the harvest, all we have to do to our bulk comb supers is to scrape the top bars a little and fasten in the foundation, but with section honey we have to make up shipping cases and sections and spend a long time putting the foundation in just right. When the supers are put on, the bees go to work in the bulk comb supers at once and in a big cluster and thereby forgetting to swarm, but with section supers the bees have to be carefully baited and coaxed into the supers and when they get there they are cut off into twenty-four or more small compartments, which they have to try to keep warm, and to get them sealed out to the woods we have to crowd the bees and thereby losing honey. By crowding we lose equally as much honey as we do when the supers are first put on by reason of the bees being slow to enter the sections. Just how much honey is lost by the bees being slow to enter the sections, how much is lost by crowding and how much is lost by swarming I am unable to say, but it is considerable.

You may take the items in the production of the two honeys from beginning to end and there is not an item that is not in favor of bulk comb honey, except solely in the matter of price received, but friends, where unbiased men have tried the production of the two honeys side by side and carefully taken into consideration every factor they have invariably found that they can make at least 50 per cent more money producing bulk comb and many have placed the per cent much higher.

There is another fact, not one of the men who once quit section honey have gone back to it. We were ourselves large section honey producers several years ago, but have been converted and

have disposed of most of our section honey supers and to-day have a large pile of them awaiting a purchaser.

You may say, I have no trade or demand for bulk comb honey. I will say that all you have to do is to produce it and offer it for sale and you will soon have a trade that nothing but bulk comb will satisfy. You may say, I will have to ship my honey and what then?—there is no market for this new product? I will say, take your honey to the cities and offer it yourself and you will find a ready and appreciative market and one that will next year demand more bulk comb and the grocerymen will have to order their supplies from you. There is no question but that a market can be found. The bee keeper of Texas have found a market for more than they can produce, and I take it that the bee men of other states have the same intelligence and the same get-up-and-get that the Texas bee men have.

The packages used in putting up this article are now most largely 3, 6 and 12 lb. tin friction top pails, that are put up in crates holding 10 of the 12 lb. cans, 10 of the 6 lb. cans and 20 of the 3 lb. cans. There is also some demand for bulk comb in 60 lb. cans, 2 in a case, the cans having 8" screw tops. These are sometimes ordered where the buyer desires to put the honey into glass packages for a fancy trade.

In conclusion I wish to refute the statements made that the production of bulk comb honey was the old fogy way of honey production. I assure you that it is not and that it requires as much skill and as fine a grade of honey as it does for section honey. I also assure you that the consumers are behind this move and that it is only a question of time when the production of section honey will almost have disappeared.

Should there be any who read this that desire further information I should be glad to give it.

Floresville, Tex.

A Statement Concerning the Office of State Entomologist, the Entomological Department of the Agricultural and Mechanical College; its Work, Equipment and Needs.

College Station, Texas, Dec. 1, 1902.

It seems proper by way of introduction to call attention to the enormous loss occasioned by insects in Texas, and the consequent magnitude of the work of this office in investigating means to mitigate such loss, and securing the adoption of the methods advised by the farmers of that state.

INJURY BY INSECTS IN TEXAS.

The last census shows that one-half the cultivated acreage of Texas is planted in cotton, and it is grown on four-fifths of our farms. The cotton plant is peculiarly susceptible of insect attack, and the chief work of this department is therefore upon the insects affecting it. In his last report, Prof. F. W. Malley has estimated the loss from the cotton boll weevil in sixty-nine counties at \$8,258,915. Mr. W. D. Hunter, Special Agent of the United States Department of Agriculture for the past two years, in investigating this pest, states (Year Book U. S. Dept. of Agr., 1901, p. 373): "Of the twenty-five counties that annually produce twenty-five thousand bales or more, seventeen are now concerned. Statistics show that in these counties the devastation of the weevil has caused the amount of land required to produce a bale to be fully doubled. Where it formerly required an average of 2.3 acres to produce a bale of staple, it now requires 4.3 acres." Twelve to fifteen million dollars is, therefore, doubtless a fair estimate of the loss now occasioned by this pest, which has spread to but half the cotton growing region of Texas. The importance of this pest needs no emphasis. Its control is of vital importance to the whole state, not only to the cotton planter, but to the broker, manufacturer, banker, railroad, and all lines of industry depending upon or

connected with cotton growing. I believe that there are few graver problems before the people of Texas to-day than the control of this insect.

Almost an equal amount of damage is done by the worm (*Heliothis armiger*). Prof. Mally very conservatively estimates the loss from it at \$4,822,370 in 1902, while Mr. Hunter (U. S. Dept. Agr., Year Book, p. 677) attributes to it a loss of 15 per cent. of the crop in 1901, or \$26,657,180. A very large amount of the damage is also done by "Sharpshooters" (mostly *Homalodisca coagulata*), and a host of pests which prey upon the young plants. Undoubtedly 20 per cent. of the total crop, or approximately \$35,000,000, is none too large a loss to attribute to the insects attacking cotton.

In 1897, Mr. F. H. Chittenden, Assistant Entomologist, United States Department of Agriculture, estimated the loss upon stored corn in the seven Gulf States at 10 per cent. of the product, valued at \$20,000,000. He then stated that fully 50 per cent. of the Texas stored corn was often destroyed by weevils. But were only 16 per cent. destroyed while stored, there would be a loss of \$8,000,000. Growing corn has a long list of insect enemies, among the more important of which are the boll worm, cut worms, stalk-borers, white grubs, plant lice, etc., etc. Thirty million dollars is a very safe estimate of the damage annually done to corn by insects in Texas.

Thus the farmers of Texas are annually being taxed over \$60,000,000 upon their two staple crops by insect pests.

During the season of 1901, many wheat fields were a total failure, due to the ravages of a little-known pest (*Toxoptera graminum*). Based upon the average value per acre for the last ten years there was a shortage of \$2,000,000 upon the acreage planted in 1901, which was smaller than in several years.

One million, five hundred thousand dollars would hardly cover the loss upon wheat from insects in 1901. Damage to oats, hay and forage crops will easily amount to \$1,000,000.

The vegetable crop of Texas is valued at close to \$10,000,000, and is rapidly increasing, so that \$1,000,000 damage by insects to vegetables is a very conservative estimate. Frequently it is twice or thrice that. A host of new and unknown insects are constantly troubling the trucker, and often require considerable study before successful means of combating them can be devised.

The fruit industry of Texas is fast assuming large proportions. As yet but few unusual losses have occurred, but it will be strange if, with the large acreage now being planted, and no means for the prevention of injurious insects being brought to the state on nursery trees, if there are not serious losses within the next few years. This has been the experience of all fruit growing sections. The fruit crop is now valued at about \$2,000,000, and there are about 8,000,000 fruit trees and nearly 10,000,000 bearing pecan trees, according to the most recent statistics. Both the fruit and trees are damaged to a large extent by insects. A fruit tree represents a considerable investment, and thousands are annually killed by insect pests. A half million dollars per year is probably less than the damage done to fruit trees and nut trees and their crops.

Live stock are likewise troubled with insect pests, though the damage done by them is difficult to estimate. Warble flies injure the hides of cattle, ticks carry the Texas fever, sheep are affected with bots and scab, poultry having a long list of insect enemies, and a number of flies and gnats cause considerable injury to live stock by their annoyance. The last census values domestic animals in Texas at

\$236,000,000, and the annual sales amount to \$35,000,000. Ten million dollars per annum is a low estimate of the injury inflicted upon domestic animals by or through insects.

In addition to these strictly agricultural items, there is a very large and unknown amount of damage done by insects to growing timber and lumber, buildings, stored goods of all kinds, household furnishings, food stuffs etc., which, if it could be ascertained, would show a heavy loss.

Collecting these items, we find a total of \$75,000,000 loss occasioned by insect pests in Texas, as follows:

Cotton.....	\$35,000,000
Corn.....	20,000,000
Wheat.....	1,500,000
Oats.....	50,000
Hay and forage....	500,000
Vegetables.....	1,000,000
Fruits and nuts.....	500,000
Domestic animals.....	10,000,000
Timber, stored goods, etc., much over.....	1,000,000
Total.....	\$75,000,000

PRESENT FUNDS AND EQUIPMENT.

The appropriations from this office is as follows:

Entomologist's salary (\$1,500 and expenses (\$700)....	\$2,200 00
Assistant to Entomologist....	1,000 00
Insecticides and apparatus.....	600 00
Apiary.....	250 00
Total.....	\$4,050 00

This gives us \$1,200 for equipment, including laboratory and field apparatus, and library, office expenses, traveling and experimental field work. Of this sum, \$1,100 was available upon my assuming charge of the office, October 15, 1902. As this office has absolutely no laboratory equipment for the determination and preservation of insects, no system of records, and no library facilities, it has seemed to me imperative that we have sufficient equipment along these lines to render our work of permanent value, and \$400 have heretofore been expended for this. One hun-

dred dollars will be necessary for the running expenses of the office. This leaves about \$600 for covering all experimental work here and elsewhere traveling expenses, and any further equipment necessary during the coming year.

FUTURE WORK.

It seems desirable for us to thoroughly investigate and test all the methods heretofore proposed, and by a careful study of the habits of the pest both in laboratory and field, to determine the best means of combating the Boll Weevil and conclusively demonstrate the success of such methods upon a considerable scale.

A number of other insects are injuring the cotton to an unknown but a very large extent, notably, the "sharpshooter" (*Homalodisca coagulata*), and should be thoroughly studied as to habits and means of control.

The wheat growers of North Texas should be aided in securing means for combating the "green bug" (*Toxoptera graminum*). We feel quite certain that we can devise means of controlling this pest, but extensive field experiments will be necessary to perfect the acquired apparatus.

Tobacco is a promising industry in several counties. Last year, however, the crop at Willis was entirely destroyed by the stalk weevil (*Trichobaris mucroea*), and where as much as one thousand acres were formerly planted at that point, only enough for experimental work against this insect will be grown next year. This insect will probably eventually threaten all tobacco growing sections of the state unless checked.

There are a considerable number of new and little unknown insects affecting the truck crops of the state. With the growing interest in trucking, we should be in a position to aid the truckers by carefully investigating these pests, so that we might advise them as to practical remedies.

Likewise, the enormous planting of fruit trees will necessitate a careful study and survey of the worst orchard pests and immediate work against the most dangerous. The exact status of the scale insects in the Texas orchards should be ascertained at once and their further spread prevented as soon as possible. Otherwise our fruit growers may be involved in the heavy expense of combating these pests which has been borne by every other fruit growing section.

The Veterinarian of the College and Station is desirous of the co-operation of this office in investigating the insects affecting domestic animals, for much of which work we are illy equipped.

The bee keepers ask that we investigate the remedies for the disease foul brood, which has already destroyed several hundred colonies and threatens the apiaries of the state. Texas is the leading honey and wax producing state, the product amounting to considerably over one hundred million dollars.

FUNDS AND EQUIPMENT NEEDED.

It is evident that to meet these large demands we must have both men and equipment.

Assistance.—At the present time part of the time of my assistant is devoted to the experimental apiary, for which we have a meager appropriation. We need at least two or three more thoroughly trained assistants. One should devote himself to cotton pests. Another should investigate the wheat and tobacco insects above mentioned. Another will find more than he can do with the insects affecting fruit and truck crops. My present assistant will be needed for carrying on the rearing of insects and for laboratory work, just as soon as we are provided with suitable equipment. The correspondence and clerical work of the department is very heavy, and will large-

ly prevent my personal supervision of field work unless we can have the competent assistance of a stenographer.

Insectary and Building.—At present this office has two laboratory rooms, illy adapted to laboratory work and purposes, and entirely unfit for the successful rearing and study of insects. A glass house, known as an *Insectary*, especially constructed for convenience in rearing insects, is absolutely essential for their proper study. This is just as necessary as the laboratory to the chemist or shop to the mechanic. It is very often impossible and undesirable to attempt to study an insect in the field for a whole season in a distant part of the State, both on account of the loss of time, expense, and because sufficient accuracy cannot be secured in such field observations. Such a glass house should be attached to a two-story brick building containing office and laboratory room, two private laboratories, a bacteriological laboratory, an entomological laboratory for students, a lecture room and a photographic room. To the glass house should also be attached a shed for the storage of spraying apparatus and insecticides. Such a building, glass house and shed can be built and fitted for about \$12,000. This office will not be able to meet the demands made upon it until such quarters are provided as no suitable rooms are now available upon the campus.

Laboratory Equipment—As before stated, we are entirely lacking in laboratory and insectary equipment, and with suitable quarters considerable apparatus would be necessary which we now have no means of using. The laboratories should be provided with compound and dissecting microscopes and accessories, microtomes, chemicals, glassware dissecting instruments, drawing apparatus, suitable work tables and cases. The bacteriological laboratory would need considerable glassware,

sterilizers, incubators, filtering apparatus, etc. A well-equipped photographic laboratory is almost indispensable for the proper illustration of insects and their depredations. For the photographic laboratory and dark room a copying camera, a vertical camera, microscopic camera, projection outfit, lenses, ray filters, prisms, glassware screens and other accessories are requisite.

In the insectary we will require large number of breeding cages of various types, glass cylinders, crocks, root, cages, etc.

A small, well-selected insect collection and larger library are absolutely necessary to enable us to identify the many insects sent us for determination, as well as to recognize injurious species under study. It must be borne in mind that in a large territory with much newly developed land there are many thousand insects entirely new to science, many of which may become serious pests of agriculture.

Field Apparatus.—This department should have a much more complete set of spraying outfits and should be in a position to alter those on the market or construct new machines for special purposes as occasion may demand.

Field Work.—The largest of the running expenses of this office will necessarily be for field work. In our work against the boll weevil and boll worm, we desire to operate 100 acres of cotton on the College farm and an equal amount under contract with the owner on the Brazos river bottom as near the College as possible. On this land we will carefully and thoroughly test all the methods heretofore tried and advised for the control of these pests, and as the work will be under our constant personal supervision, careful records can be made at every stage of its progress. Only in this way can the value of methods now in dispute be determined.

Field work against the "green bug" of wheat, should that pest again appear will need to be upon a large scale. A large amount of insecticides will be required for both these lines of work.

We should also be in a position to secure the co-operation of the Experiment Station chemist, and attempt the invention of new insecticides for special purposes, as is now desirable against the boll weevil.

Publications.—But with all our work satisfactorily completed, it is for naught unless we can get it before the people and secure the general adoption of methods recommended for the destruction of insect pests. For this purpose we should have available a liberal fund for printing short illustrated circulars upon the principal insect pests of the State, circular letters, and more extended, well illustrated popular bulletins as occasion may require, as well as the fuller annual reports containing the details and technical results of investigation. Funds should also be available for addressing agricultural meetings and associations when requested, giving illustrated talks upon the insects of immediate interest in that locality. This office should be in a position during the winter of 1903-'04 to conduct a vigorous general educational campaign for the enlightenment of our farmers upon the best means of combating insect pests. This should be done by a wide dissemination of popular literature both through this office and the local press, and by illustrated addresses in as many localities as possible. This work can be done with the co-operation and support of farmers' institutes, local farmers' organizations, boards of trade and similar commercial bodies, who would doubtless assume part of the expense. The estimate of \$1,000 will hardly more than cover the cost of printing. I have therefore not included estimate for lecture work, as this would possibly be provided for in other funds. I append a

statement including the different items above enumerated, with the amounts necessary for the proper prosecution of the work of this department during the coming two years. This amounts to \$15,000 and \$12,000 for a building for the first year, and \$15,000 for the second year. This is a little over one-twenty-fifth of 1 per cent of the annual loss due to insects in Texas for the first year's appropriation, and a little over one-fiftieth of one per cent for the second year.

ESTIMATE FOR DEPARTMENT OF ENTOMOLOGY.

1	Building	\$12,000	00
2	Salaries—		
	Entomologist	\$1,500	00
	Two assistants	2,000	00
	Assistant and		
	apiarist	1,000	00
	One assistant	900	00
	Stenographer	600	00
		<u>6,000</u>	00
	Additional assist-		
	ance	1,000	00
		1st Year.	2nd Year.
	Salaries	\$6,000	\$7,000
3	Equipment of		
	office, labora-		
	tory and inse-		
	ctary	1,000	500
4	Bacteriological		
	laboratory	500	400
5	Library	750	300
6	Insect collec-		
	tion	500	300
7	Spraying and		
	field apparatus	750	500
8	Insecticides		
	and preparation	500	500
9	Travel	500	500
10	Office expenses	500	500
11	Apiary	500	500
12	Foul brood		
	inspection of		
	apiaries	1,000	1,000
13	Field work	1,500	1,500
14	Printing	1,000	1,000
		<u>\$15,000</u>	<u>\$15,000</u>

As a business proposition, the appropriation above recommended for this department is a small amount to spend in attempting to mitigate so great a loss.

What business house with an annual product of half a billion dollars would hesitate an instant in expending \$25,000, or twice, or thrice that amount, in seeking means to prevent a loss of 15 per cent of its product, with a value of \$75,000,000? The farmers of Texas can far less afford to stand such a loss.

Other States have found money appropriated for entomological work to be well invested. Maryland, with twenty-three counties, appropriates \$9,000 a year for work on insects and plant diseases. New York spends \$25,000 a year for nursery and orchard inspection of insects and diseases, besides supporting three capable expert entomologists at two experiment stations, and a State entomologist with two assistants. Ohio appropriates \$15,000 for nursery and orchard inspection, and has an entomologist at the experiment station. Illinois is spending \$20,000 for similar work and has for years appropriated from \$3,000 to \$5,000 for the office of State entomologist with three or four assistants. Riverside county, California, is alone expending \$4,000 per annum for the inspection and treatment of her orchards for insect pests.

Can the wealthy State of Texas afford to allow her agricultural interests to suffer from insect pests in the light of the experience of other States in profitably combating them?

It behooves the State of Texas to amply endow the office of State Entomologist, which is a department of the Agricultural and Mechanical College of Texas, so that it may investigate and demonstrate to its farmers the best means of combating insect pests now known, and so that it may be prepared to promptly take up the study of any new insects whose sudden outbreak may require considerable immediate study to prevent serious losses.

E. DWIGHT SANDERSON,
State Entomologist.

THE WHITE MFG. CO.

Wants to sell you your BEE-SUPPLIES. Send for their Catalogue and Price List of Bee-Keepers' Supplies. Best goods for the least prices. Address,

THE WHITE MFG. CO.,

Blossom, Lamar Co., Texas.

WHICH IS THE MOST HOPEFUL FIELD OF LABOR FOR THE NATIONAL ASSOCIATION.

Delivered at the Denver meeting of the National Bee-Keepers' Association by Dr. C. Miller.

Candidly I don't know. There is the protection of bee-keepers in their right to keep bees where they like, a field that has been well worked, and the rich has been the fruitage. But it can hardly be called a hopeful field, "For what a man seeth why doth he yet hope for?"

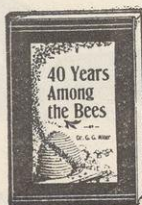
There is the fight on adulteration. A lot of good has been done in working that field, and the end is not yet. Possibly the end is yet so far off that the greatest hope lies in that direction.

It is quite possible, however, that a more hopeful field lies in another direction. Consider what has been done by the government for all the different branches of agriculture except bee-keeping. The direct governmental aid, the able work done at the various experiment stations there is need only to make the merest suggestion of such things to bring before your minds the millions of benefit to the country from them. Compared with all this, what has been done for bee-keeping? The one man in Washington, the professors at some of our colleges and experimental stations so few in number that their names are soon recited—these are not forgotten; but however able may have been the services they have rendered, "what are they among so many?"

Some may be surprised to know that this nation is decidedly behind other nations in this respect. Cross the wa-

ter and you will find various governments making direct grants of considerable money to the various bee-keepers' associations. Whether that be desirable here may be subject to question, but it would not be hard for this association to formulate a request for aid that might be of immense benefit. One of the maxims of a man who claims to get an unusually high price for honey "If you won't ask it you won't get it." Possibly it may be worth the while for us to consider whether we should not do some asking.

The editor of Gleanings has reliable information to the effect that at present Cuba produces about 200 carloads of honey annually, and that it is not too much to suppose that it is capable of producing 500 carloads. He says: "California has put out in one season an amount equal to this. But probably Cuba has better and more extended resources than any other province, state or island on this hemisphere." And still, West Indian competition cuts no figure (?). We wonder what has become of the American Bee Journal's correspondent, Mr. Rockenback, who gave up Cuban apiculture as a lost cause, several years ago.

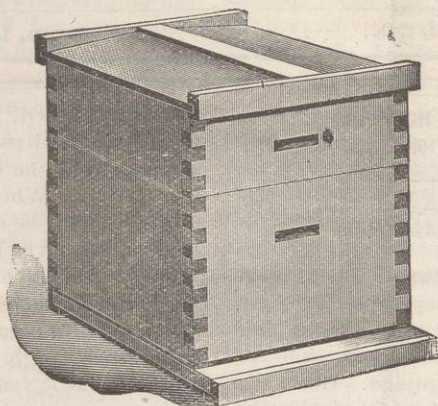


"40 Years Among the Bees" By Dr. C. C. Miller.

A new book every bee-keeper should have. Over 300 pages, cloth-bound, \$1.00; or with the weekly American Bee Journal one year—both for only \$1.75. Sample copy of Journal and Catalog of Bee Supplies free.

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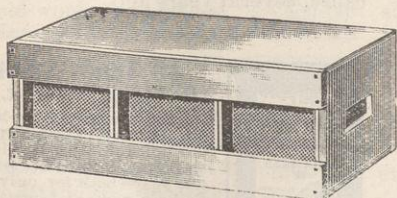
Nothing so Profitable on a Farm



...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 car-load 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.**



Chicago & Alton Railway World's Fair Emblem.

The above is an impression of the emblem adopted by the Chicago & Alton Railway to advertise the Louisiana Purchase Exposition, St. Louis, Mo., 1904. The design speaks for itself, and embodies not only the announcement that the Chicago & Alton is "The Only Way" to St. Louis, but also that cotton, corn and wheat, are the principal products embraced in the Louisiana Purchase, which is mapped in the cornucopia—the horn—The Land of Plenty. Hereafter no printed matter for the Chicago & Alton will leave the press without an impression of the St. Louis World's Fair emblem.

Money in Poultry

If properly attended to, there is much money in raising Poultry. Learn how to do it right. Get the experience of old successful breeders, and find a sure way to become independent, by subscribing for **POULTRY CULTURE**, the best edited and most up-to-date poultry magazine in America. Subscription price only 50c a year. Address,

POULTRY CULTURE CO.,

Kansas City.

Missouri.

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

True as the Gospel.

Bob Walton, editor of the *Armstrong Herald*, is credited with saying it never pays to look on the dark side of any proposition or to cross a bridge before you get to it. The man that goes through life constantly looking for trouble is sure to find it. While business reverses may come and the path ahead look dark and gloomy, yet we should all ever remember that the darkest of the night is just before the dawning of the glorious sunlight of the coming day. A cheerful disposition is always a good stock in trade. It makes the people with whom you come in contact feel better, and it will help you win success. The public shuns a man with a sullen disposition who sees nothing but the dark side of life and every proposition of public moment. One of the weariest characteristic of the human race is the disposition to kick a man when he is down. It don't get you anything and only adds to his misfortune and calamity. The good book tells us that we should help one another in times of trouble and misfortune, and not be ready to kick the fellow that has met reverses.

The advertisers in this paper are reliable and worthy of your patronage. Mention the **PROGRESSIVE**.

Up a Stump

10 MILES TO A DOCTOR

Watkins' Liniment all Gone

Enough to discourage anyone. Ill health, big doctor bills, no pleasure in life; blue and discouraged. What's the matter? Simply this. You can't work well, play well or sleep well until your body is in good healthy condition, and you can't keep the body in good healthy condition if you allow disease to once get a foot-hold. It is for this reason that a bottle of

Watkins' Vegetable Anodyne Liniment is so valuable in the house. It is ready when the first sign of cold or chill is felt. A few drops then does what a doctor would charge many dollars to do later. We receive numberless letters like the following:

MANAWA, Wis., July 5, 1901.
I have used Watkins' Vegetable Anodyne Liniment for colds and cramps with very best results."
H. F. ORA.

The Best Remedy made for
Colds, Coughs, Colic, Diarrhoea, Cholera Morbus, Dysentery, Indigestion, Cuts, Burns, Bruises, etc.

An especially strong point about Watkins' Liniment from the farmers' view-point, is that it is equally good for

MAN AND BEAST.

Our agent will furnish you with any of Watkins' Remedies, or if we have no agent in your neighborhood, write to us, and we will see that you are supplied.

GIFT FOR 1903
We offer a beautiful Cook Book and Home Doctor this year to anyone who will send us his name and address on a postal card. Filled with useful information on everything pertaining to the home. Write to-day. It is free.

THE J. R. WATKINS MEDICAL CO.,
34 Liberty St., WINONA, MINN., U. S. A.



J.R. Watkins

POTATOES \$2.50 a Bbl.

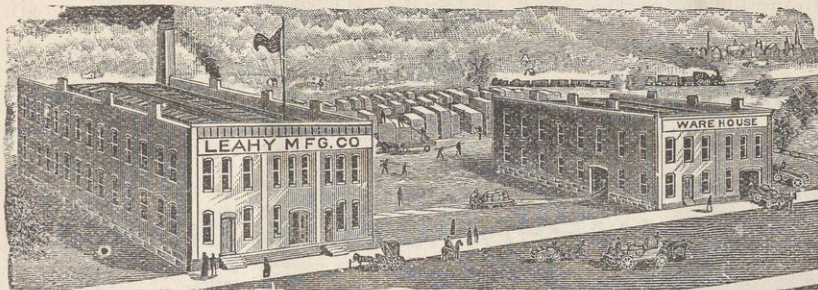
Largest growers of Seed Potatoes in America. The "Rural New Yorker" gives Salzer's Early Wisconsin a yield of 742 bu. per a. Prices dirt cheap. Mammoth seed book and sample of Potatoes, Speltz, Macaroni Wheat, 63 bu. per a., Giant Clover, etc., upon receipt of 10c postage.
JOHN A. SALZER SEED CO., La Crosse, Wis.

RUMELY

That is a name that means character and utility. It suggests the best in Threshing Machinery. Investigating, start with the Rumely and you will end at the same place. Get our catalog on the New Rumely Separator and the Rumely Gear-Driven 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.

M. RUMELY CO., La Porte, Ind.

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.
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A New Bee Supply House for the Sunny South.



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. Address,

**Frank L. Aten,
Round Rock, Texas.**

WE MAKE A.....

SPECIALTY OF

SECTIONS,

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

A GENERAL LINE OF BEE-KEEPERS SUPPLIES.

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

**MARSHFIELD MFG. CO.,
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INCUBATOR ON TRIAL

The Perfected Von Culin.

Successful result of 25 years' experience.
Scientifically correct, practically perfect.
Non-explosive metal lamps.
Double and packed walls.
Perfect regulation of heat and ventilation.
Made of best materials, and highest quality of workmanship and finish.

PRICES \$7.00 AND UP.

SATISFACTION GUARANTEED OR NO PAY.
We make Brooders, Bee Hives & Supplies.
Catalog and Price List sent Free.

**THE W. T. FALCONER MFG. CO.,
Dept. 74 Jamestown, N. Y.**

Make your own Hives

Bee-Keepers will save money by using our Foot Power Circular Saw in making their Hives, Sections and Boxes. Machines sent on trial if desired. Catalogue free.



W. F. & JOHN BARNES CO., ROCKFORD, ILLS.
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Please mention the "Progressive."

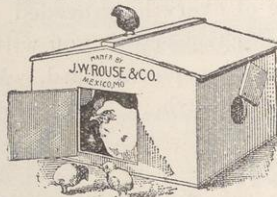
Cheapest and the Best

queens can be had at the lowest price—Long Tongue, Leather Colored, 5 Bander and Carniolians, at all seasons. Untested 50c; tested 75c. Satisfaction guaranteed.

**New Century Queen Rearing Co.,
Berclair, Tex.**

J. W. Rouse & Co., Mexico, Mo. Apiarian Supplies, Bees and Queens.

THE MODEL COOP,



RAT, CAT AND VARMIN'T PROOF.
One nailed, and five packed inside, making six coops; ship at low rates. Price, \$3.50.
Illustrated circular free.

*Latest Improved Hives,
Sections, Comb Foundation,
Smokers, Bee Veils, and all
kind of supplies, at low
prices.....*

A beautiful 28-page catalog, free
The "Amateur Bee-Keeper,"
an 80-page book for beginners; fully
illustrated. By mail, 25 cts.

J. W. Rouse & Co.

2 Years For \$1.00

After a man succeeds in publishing a good journal, the next step is that of getting people to read it, and becoming acquainted with its merits. This can be done by advertising, sending out sample copies, circulars, etc. All this costs money. I think I am safe in saying that for every new subscriber I have received, I have paid out \$2.00 in advertising; hence I have often said that a publisher of a good journal could afford to send his paper one year free. It would cost no more than any other forms of advertising and would be very effective, but, for obvious reasons, this plan could not be put into practice, but I am going to come as near to it as I can. I have between 200 and 300 complete sets of back numbers for the present year, and as long as the supply holds out I will send a complete set and the rest of this year free, to anyone who will send me \$1.00 for the Review for 1903. For a few particulars regarding the numbers already published this year read the following:—

There is not room to say very much about the back numbers for this year but I will mention one prominent feature of each issue.

JANUARY is a Colorado number; six pages being devoted to a beautifully illustrated "write-up," by the editor, of that paradise for bee-keepers. This issue also shows how to make a cheap hive-cover that will neither split, warp nor leak, in any climate.

FEBRUARY contains the beginning of a series of articles by M. A. Gill, who last year managed 700 colonies of bees, and produced nearly two car loads of honey. These articles are written from the fullness of his experience.

MARCH has an article by S. D. Chapman, on "What Makes Bees Swarm," that I consider the best I have seen on the subject. It gets right down to the foundation of the matter. In fact so thoroughly does Mr. Chapman understand the matter that he has so made up a colony that one half would swarm leaving the combs deserted while the other half would not budge.

APRIL ushers in some typographical changes. The smooth, shiny, glazed paper was laid aside for a soft white paper that gives to printing a clean, tasty, tempting look. The frontpieces are printed in

colors instead of somber black. The cover is of Court Gray printed in two colors—Umber and Milori blue.

MAY contains a five-page review of a book by E. A. Morgan, entitled "Bee-keeping for profit." It was rightly named, the author getting right down to basic principles, and giving the bit of profitable honey production, particularly in the Northern States.

JUNE shows how a man may practically defy foul brood; how he may keep bees in a foul-broody district, all surrounded by diseased colonies, yet keep his apiary so free from it and its effects as to secure a good crop of honey each year.

JULY has an excellent article by Mr. Gill on the management of out-apiaries for the production of comb honey, showing how the work must be generalized, yet systematic, and done just a little ahead of time.

AUGUST illustrates and describes the handiest and best bee-tent for circumventing robbers that I ever saw. It also has an article by Mr. Boardman on "shook" swarms, showing how we may practically take swarming into our own hands.

Remember that each issue contains dozens of interesting and instructive items aside from the ones mentioned. Send \$1.00, and the back numbers for this year will be sent at once, your name put upon the subscription list and the Review sent to the end of next year.

W. Z. HUTCHINSON, Flint, Michigan.

Made to Order.

BINGHAM BRASS SMOKERS.

Made of sheet-brass, which does not rust or burn out, should last a lifetime. You need one, but they cost 25c more than tin of the same size. The little pen cut shows our brass hinge put on the three larger sizes. No wonder Bingham's 4-inch Smoke Engine goes without puffing, and

Does Not Drop Inky Drops

I have used Bingham Smokers ever since they first came out. Working from three to seven hundred colonies twelvemonths in the year. I ought to know what is required of a smoker. The Doctor 3 1/2 inch just received fills the bill.

Respt., O. W. OSBORN.

Mt. Pleasant, Mich., 7-7 1896.
Dear Sir—Smokers came O. K. They are the best I have ever seen; sell like hot cakes.
Respectfully, WM. BAMBU.



The perforated steel fire-grate has 381 holes to air the fuel and support the fire. Prices, Heavy Tin Smoke Engine, four-inch Stove, per mail, \$1.50; 3 1/2-inch, \$1.10; three-inch, \$1.00; 2 1/2-inch, 90c; two inch, 65 cents.

BINGHAM SMOKERS

are the original, and have all the improvements, and have been the STANDARD OF EXCELLENCE for 22 years.

With a Bingham Smoker that will hold a quart of sound maple wood, the bee-keepers trials are all over for a long time. Who ever heard of a Bingham Smoker that was too large or did not give perfect satisfaction. The world's most scientific and largest comb honey producers use



Bingham Smokers and Knives. The same is true of the world's largest producers of extracted honey. Before buying a smoker or knife hunt up its record and pedigree.

T. F. BINGHAM, Farwell, Mich.



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.

NEW ERA HIGH GRADE PREPARED PAINT

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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