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American Bee Journal



PUBLISHED MONTHLY BY
GEORGE W. YORK & COMPANY
146 W. Superior Street, Chicago, Ill.

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Three - Banded Leath'r-Colored Italian QUEENS. Selected Untested, \$1.00 each; 6 for \$4.50. Also—

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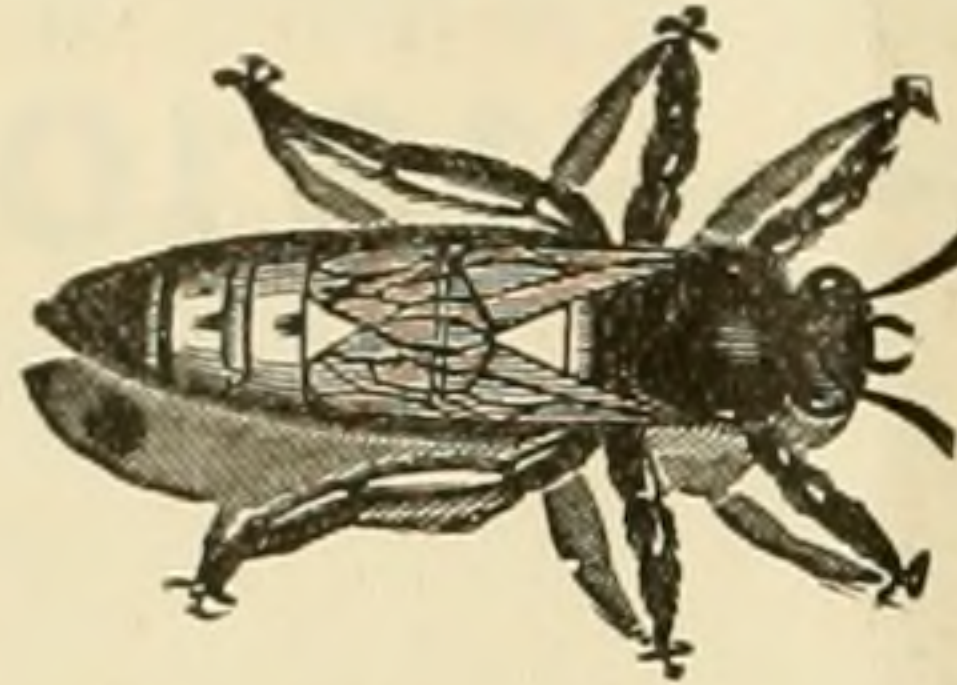
Untested Italian Queen-Bees

Our Standard-Bred

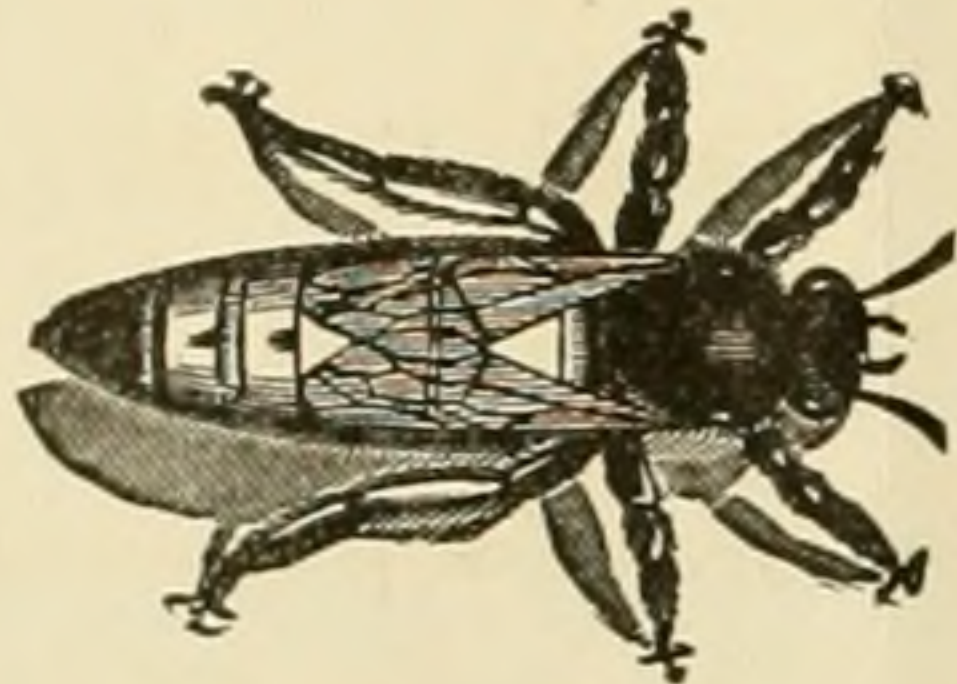
6 Queens for \$4.00; 3 for \$2.10; 1 for 75 cents.



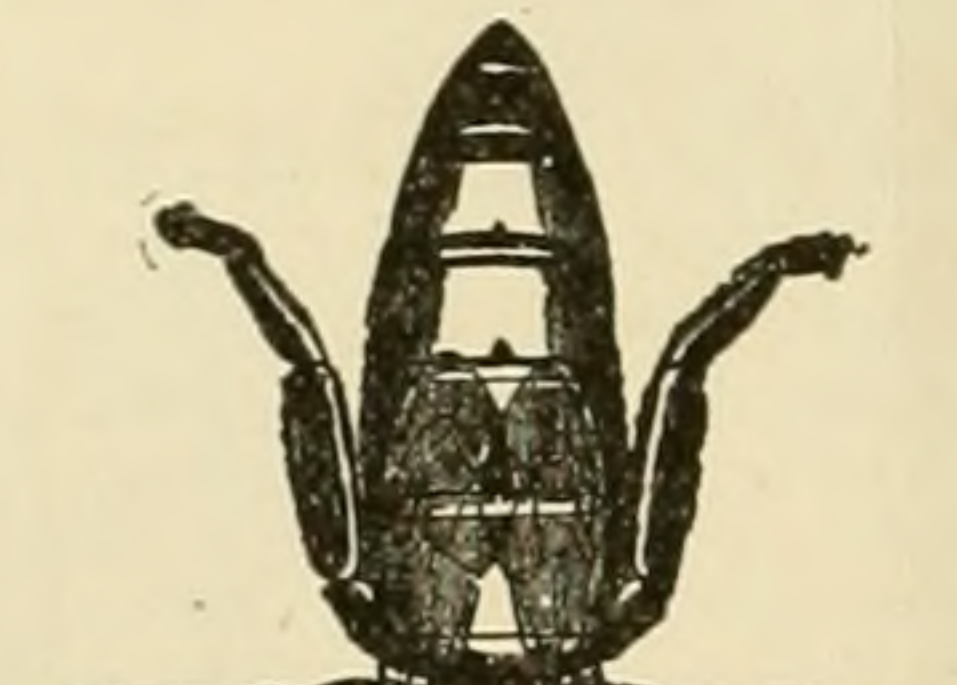
For a number of years we have been sending out to bee-keepers exceptionally fine Untested Italian Queens, purely mated, and all right in every respect. Here is what a few of those who received our Queens have to say about them:



GEORGE W. YORK & Co.:—The two queens received of you some time ago are fine. They are good breeders, and the workers are showing up fine. I introduced them among black bees, and the bees are nearly yellow now, and are doing good work.
Nemaha Co., Kan., July 15. A. W. SWAN.



GEORGE W. YORK & Co.:—After importing queens for 15 years you have sent me the best. She keeps 9 1-2 Langstroth frames fully occupied to date, and, although I kept the hive well contracted, to force them to swarm, they have never built a queen-cell, and will put up 100 pounds of honey if the flow lasts this week.
Ontario, Canada July 22. CHAS. MITCHELL



GEORGE W. YORK & Co.:—The queen I bought of you has proven a good one, and has given me some of the best colonies.
Washington Co., Va., July 22. N. P. OGLESBY.

GEORGE W. YORK & Co.:—The queen I received of you a few days ago came through O. K., and I want to say that she is a beauty. I immediately introduced her into a colony which had been queenless for 20 days. She was accepted by them, and has gone to work nicely. I am highly pleased with her and your promptness in filling my order. My father, who is an old bee keeper, pronounced her very fine. You will hear from me again when I am in need of something in the bee-line.
Marion Co., Ill., July 13. E. E. MCCOLM.

We usually begin mailing Queens in May, and continue thereafter on the plan of "first come first served." The price of one of our Untested Queens alone is 75 cents, or with the old American Bee Journal for one year—both for \$1.40. Three Queens (without Journal) would be \$2.10, or 6 for \$4.00. Full instructions for introducing are sent with each Queen, being printed on the underside of the address-card on the mailing-cage. You cannot do better than to get one or more of our fine Standard-Bred Queens.

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Will work red clover. 90c Untested; \$1.25 Tested. **Five-Banded Golden**, the same.—Natural Golden from Imported stock, extra. Ask for List. Reduced rates in July.

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WHEN HE IS WISE ENOUGH TO USE THE DANDY
MUTH IDEAL BEE VEIL

3 HONEST OPINIONS

"IT'S THE BEST ON THE MARKET"—DR. D. EVERETT LYON, ALLENDALE, N. J.

"IT IS A VERY GOOD VEIL"—MR. W. T. FALCONER (MODEST BUT DECIDED)

"IT'S THE VEIL"—MR. FRANK RAUCHFUSS, DENVER, COL.

AND IF TEDDY HAD HAD ONE WITH HIM IN AFRICA, HE WOULD SURELY HAVE BEEN "DE-E-E LIGHTED"

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"THE BUSY BEE MEN"

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Sold at reduced prices. Dovetailed Hives, Sections, and everything pertaining to bee-keeping of the **very best** kept in stock. Large Warehouse on of L. S. & M. S. R. R.

Wholesale and Retail. New price-list just out—**Free.** Let me figure on your wants.

W. D. Soper, Jackson, Mich.
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Queens from the well-known Swarthmore Apiaries of the late E. L. Pratt. The *brightest hustlers* and the most *gentle* pure strain of **Goldens** in the U. S.

The Swarthmore Apiaries, Swarthmore, Pa.
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We Have Some Copies Left of the Book
"Bees and Honey"
By Thomas G. Newman

bound in cloth, that we offer cheap to close out. It contains 160 pages, and is bound in cloth. It used to be a one-dollar book, but we will mail them, so long as they last, at 50 cents each; or with the American Bee Journal one year—**both for only \$1.20.** Surely this is a bargain. The book is well illustrated, and has some good information in it, especially for beginners. Address all orders to

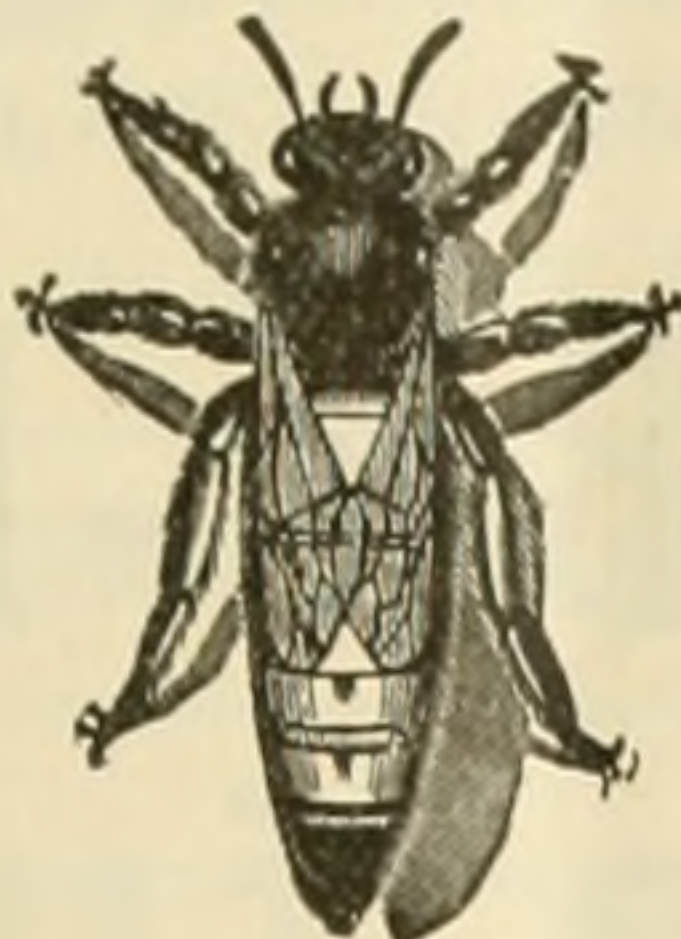
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Where you can get this Combination—

Prompt Service —AND— Lewis Beeware



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Our New, Up-to-Date CATALOG will soon be issued.

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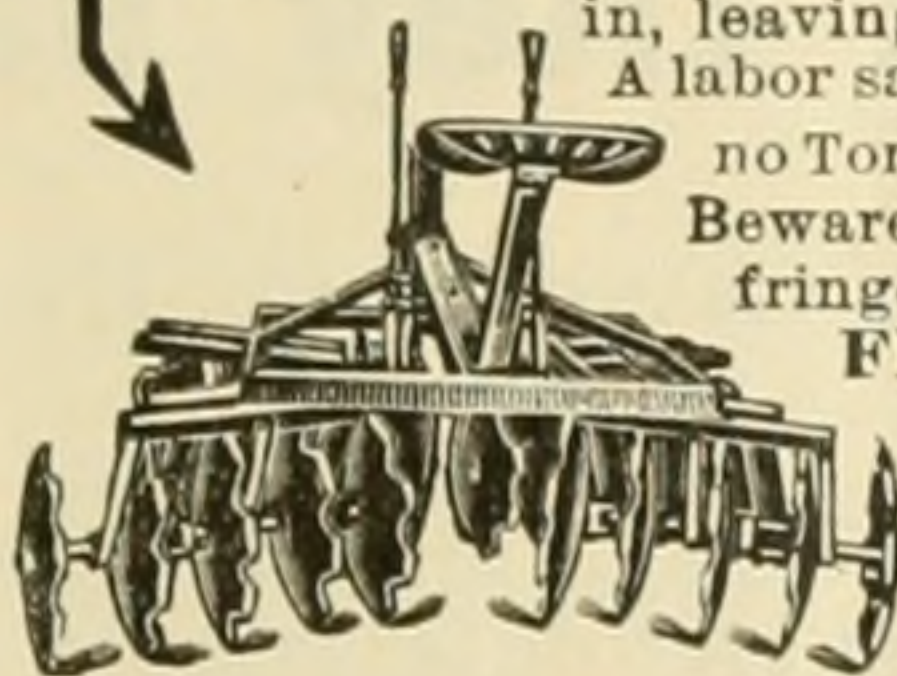
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The most wonderful farm tool ever invented. Two harrows in one. Throws the dirt out, then in, leaving the land level and true. A labor saver, a time saver. Needs no Tongue Truck. Jointed Pole. Beware of imitations and infringements. Send today for **FREE Booklet.**



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In 8-frame Langstroth hives. 1 Colony, \$5; 2 for \$9; 5 for \$20. Italian Queens—Untested 75c each; 6 for \$4. Select Tested, \$1.25 each; 5 for \$6.

L. Boomhower, Freehold, Greene Co., N. Y.
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Carniolan Queens.

	1	6	12	5A5
Untested.....	\$1.00	\$5.50	\$10.00	
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We Manufacture

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There are no better HIVES than ours.

Prices the lowest.

Satisfaction guaranteed, or money refunded.

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LEWIS BEEWARE

One large carload of the best grade of lumber going into the manufacture of the above perfect article every day.— One hundred thousand Sections and hundreds of hives in addition to other goods coming from our machines daily.

Lewis Bee - Hives built like furniture

This is the Brand



WATCH FOR IT

See what they say :

GRAND RAPIDS, MICH., April 2, 1910.

G. B. LEWIS Co., Watertown, Wis.

Gentlemen:—We have just had occasion to examine the dovetailing on the recent shipment of 2000 Dovetail Hives, and find them absolutely perfect. We have always considered the work done heretofore as good as they could be made, but your new machines must be absolutely perfect to the hair in order to turn out such work. We have never before seen anything in the bee-hive market that compare with them. This accounts for the many enthusiastic reports received on goods we have shipped.

Very truly yours,

A. G. WOODMAN Co.
A. G. Woodman.

HAMILTON, ILL., April 9, 1910.

G. B. LEWIS Co., Watertown, Wis.

Gentlemen:—We are in receipt of your letter of the 4th in regard to the new dovetailing done on your hives. We have always thought "Lewis" goods to be far ahead of any other make in quality and workmanship. That the new dovetailing is perfect goes without mention. This new feature will add to the already great popularity of "Lewis" goods.

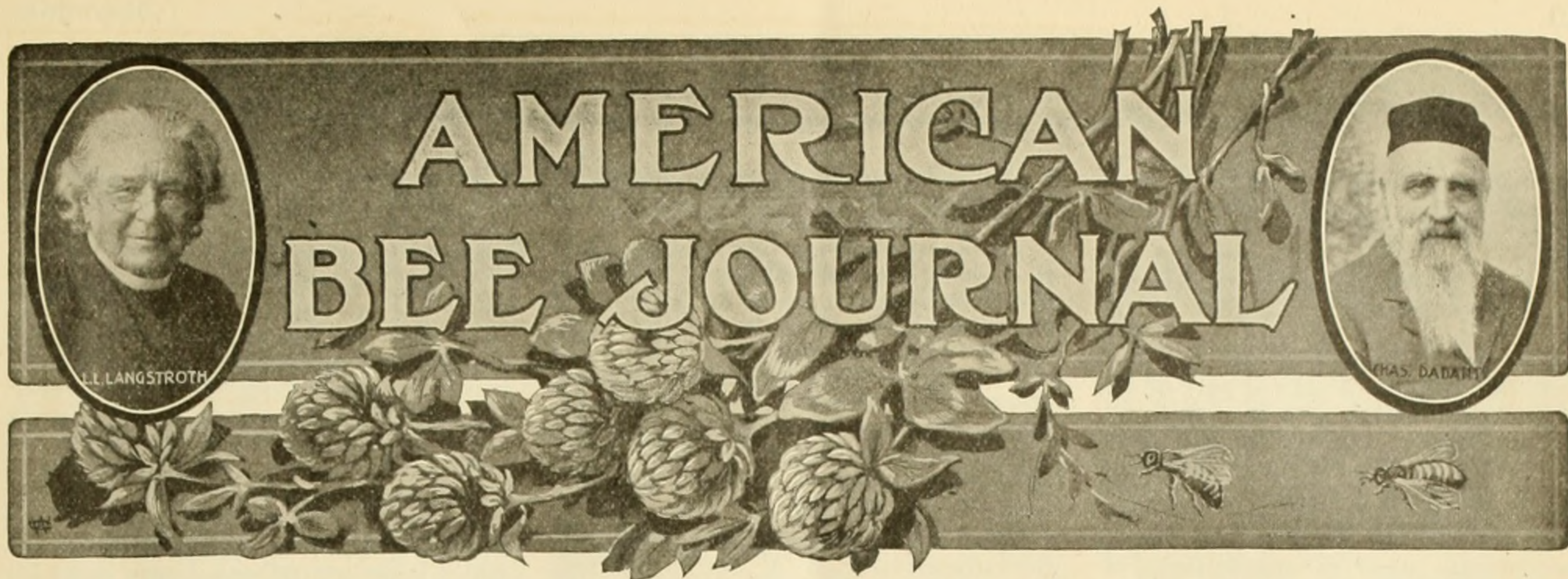
Truly yours,

DADANT & SONS.
L. C. D.

Thirty—Distributing—Points

Send for our Catalog. It is free, and will tell you the nearest point from which we can supply you.

G. B. Lewis Co., Watertown, Wis.



(Entered as second-class matter July 30, 1907, at the Post-Office at Chicago, Ill., under Act of March 3, 1879.)

Published Monthly at \$1.00 a Year, by George W. York & Company, 146 West Superior Street,

GEORGE W. YORK, Editor.
DR. C. C. MILLER, Associate Editor.

CHICAGO, ILL., MAY, 1910

Vol. L---No. 5

Editorial Notes and Comments

Red-Clover Bees!

Occasionally some beginner reads or hears about red-clover queens or red-clover bees, and understands that there is a race of bees distinct from all others, just as Italians are distinct, and that if he gets one of the red-clover queens he will be able to red-cloverize his apiary, just as he might Italianize it, and have his bees work on red clover just as freely as they do on white clover. Disappointment may await him.

There are differences in bees in many respects. In the same apiary colonies having the same origin may show quite a difference in temper. More commonly than perhaps some may think, ordinary bees work at times at least a little on red clover. At such times Smith notes by careful observation that one colony excels the rest in the amount of red-clover honey obtained. Naturally he calls that colony a red-clover colony, and queens obtained from it red-clover queens. But Smith has no monopoly of the business. Jones makes the same discovery among his bees, and he, too, has red-clover queens. Others likewise. Neither is there anything wrong in any one of them selling red-clover queens. The unfortunate part is that the trait is not fixed, and the beginner who expects to red-cloverize his whole apiary finds that after a generation or two he is just where he was before getting the new stock.

Prevention of Swarming

The plan given on another page by C. L. Grigsby is a variation of the Demaree plan, given to the public some years ago by G. W. Demaree, of Kentucky. Mr. Grigsby operates just before it is time for queen-cells to be started. It is not always easy to guess at this time correctly, and the usual way is to operate just a bit later, and if

some or most of the colonies have started queen-cells, they are destroyed. Mr. Grigsby says nothing about excluders, but the probability is that a queen-excluder is put over the lower story, otherwise the queen would be likely to go up at once into the story having the brood. In his case queen-cells were started in the brood above, and the bees afterward destroyed these cells. Bees do nothing invariably, and it may be possible that another year the bees may not be so obliging, and it may be necessary for the bee-keeper to intervene. Many who work for extracted honey have found the Demaree plan excellent. Pity it will not work so well for comb honey.

Illinois Board of Agriculture and Bee-Keeping

This office is in receipt of the Statistical Report of the Illinois State Board of Agriculture, dated Dec. 1, 1909, Springfield, Ill., J. K. Dickerson, Secretary. Naturally, the first object of interest is the report on Bees and Honey.

On page 25, the report gives 54,985 colonies of bees, which yielded 324,333 pounds of honey, the average price of which was 15 cents a pound. Some bee-keeper, upon reading that will say, "My honey was of the best quality, and all I could get for it was 8 cents. I wonder who the fellow was who got such a high price as to bring the average up to 15 cents." Of course, his honey was extracted, although equally of course the report includes both comb and extracted. Market quotations for Chicago up to the close of 1909, show 16 cents as the highest for best comb, and 8 cents for best extracted. That certainly would not average 15 cents. But some of the honey was sold in home markets, and may have brought a much higher figure.

A table shows bees, honey, and price for 1891 to 1909, inclusive. In 1891

there were 120,252 colonies in the State, dropping to 81,928 (1892); since then the number has averaged somewhere in the neighborhood of 55,000, except in 1896, when it was 43,411. The smallest yield of honey was 316,701 pounds in 1906; the largest was 821,678 in 1891.

Comparing the crop of 1909 with that of the preceding year, we find that the number of pounds of honey produced in 1908 was not quite 6 percent more than in 1909. As 1908 was a bumper year, and 1909 was generally voted a failure, it is hard to believe there is not some mistake about this, especially as there was little difference in the number of colonies.

The figures show that in the bumper year 1908, the average yield per colony was a little less than 6½ pounds. Surely there must be something wrong about that.

At page 86 begins a report for each separate county. Referring to a single county, McHenry county is reported for 1908 with a crop of 230 pounds! As a matter of fact, a single bee-keeper in that county had more than 75 times as much. If the reports of other counties are no more reliable, little reliance can be placed upon the whole affair.

In the report of the Illinois State Bee-Keepers' Association for 1908, we find that only 128 members reported their crops, but these 128 secured 471,429 pounds of honey, considerably more than reported for all the bee-keepers of the State in the figures before us.


It may not be easy to say just where the fault lies, but if nothing more reliable can be given, it might be better not to undertake a report which only belittles the business of bee-keeping.

Disinfecting Foul-Broody Hives

In the British Bee Journal, D. M. Macdonald quotes the latest pronouncement from the Bureau at Washington, that "We can be sure of complete disinfection by burning out the hive," immediately following it by this:

"I am neither a prophet nor the son of a prophet, but I am all but confident Dr. Miller will have a sad awakening when he finds next season that he has failed to kill, and has not even scotched, the snake."

Our good Scotch friend may be assured that although there may be dis-



American Bee Journal

appointment there can be no rude awakening, for there has been no falling to sleep in the comfortable assurance that no return of the enemy was possible. Indeed, there can be scarcely any disappointment, for under all the circumstances the return of the disease is not unexpected. In the first place, the treatment was in part of the cases experimental, with no certainty as to its success. In the second place, there being in the State of Illinois no law to prevent a man from cherishing foul brood if he so desires, and diseased colonies in all directions being conveniently near to supply fresh infection, it will be a surprise if there shall not be fresh cases.

But if every colony in the apiary should become infected, it will be no proof that the fault lay in not disinfecting the hives. Indeed, it may not be easy, if at all possible, to tell anything about it. In default of anything better, however, one may be allowed to fall back upon the testimony of the many experienced foul-brood inspectors of this country who claim that thousands of hives not disinfected have been used with no bad results. If any considerable number of these inspectors are strongly impressed with the idea that disinfection of hives is necessary, they are certainly not making any great noise in making that belief known.

Is there any positive proof that foul brood was ever conveyed by a hive that had contained a diseased colony? Please remember that the occurrence of foul brood in such a hive is *not* satisfactory proof that the hive was the disease-carrier unless all other sources of infection are entirely eliminated. It is not denied that the disease has arisen in foul-broody hives that have not been disinfected, but it is equally true that it has arisen or returned in hives that have been disinfected. Neither is it denied that it is an entirely safe thing to disinfect hives, but the likelihood is that until there is positive proof that a reasonable percentage of foul-broody hives will carry the disease, a good many will continue to believe that disinfecting hives does not pay.

Mendel's Law of Breeding

T. W. Ramm sends a clipping relating to this matter which he thinks of interest to bee-keepers. George Mendel, an Austrian monk, made experiments 50 years ago in breeding plants, and claimed to have discovered a law relating to crossing that could be relied on:

"Mendel held that where two strongly contrasting strains were crossed, one would be likely to prove itself dominant. The resulting first generation of offspring would all be like the dominant strain. Members of this generation would beget offspring three-fourths of which would follow the dominant strain; but one-fourth would react to the weaker grandparent and show the characteristics of that member that had appeared absolutely absent in the first generation. In the third generation these characteristics of the weaker member would reappear in the descendants of those that had shown it in the second, and remain fixed, reproducing themselves indefinitely. So would the characteristics of 25 percent of the dominant strain in this generation become fixed. This would leave an unfixed 50 percent that would breed another generation with the characteristics partly unfixed and in the same proportion as the previous generation. All the generations that followed

from this unfixed division would be like the third generation in the characteristics and their proportions."

For some time not very much attention was given to this, but of late years the Government has taken it up. At Bethesda, in the outskirts of Washington, is located an experiment station of the Bureau of Animal Industry, Department of Agriculture, and experiments made here, not upon plants but upon rats, have established the correctness of Mendel's law, an entire building being filled with cages of rats.

While of exceeding importance to the stock-raiser, it is not so certain that bee-keepers will be benefited by Mendel's law so long as fertilization is not at all under control in the breeding of bees.

Rear or Buy Queens—Which?

It is a question sometimes whether it is better for the honey-producer to buy queens or to rear them. Probably the same rule does not hold good for all. The great majority, no doubt, rear their own queens, but it may be a question whether some large producers might not do better to buy. So good a bee-keeper as M. A. Gill, after trying both ways, says he cannot afford to rear his own queens. Having over 1000 colonies, he can spend his time more profitably at other things, and pay some one else for rearing his queens.

The amateur with only 2 or 3 colonies is often in need of a queen—sometimes he has scant notice of the need—and he may save money by buying. But the amateur will tell you that he is not in the business for the money so much as the pleasure, and as queen-rearing is "the poetry of bee-keeping," he does not want to be deprived of that pleasure.

Returning to the large-producer, it ought to be true that he cannot produce queens so cheaply as the man who makes a specialty of queen-rearing. Another locality may be more favorable for queen-rearing than the one occupied by the honey-producer. The queen-rearer has everything arranged for the business. In short, it is

like any other business—a man can buy from the large manufacturer for less money than it costs him to produce his own goods.

To this the honey-producer may reply, "Yes, it costs me twice as much to rear my own queens, and they are worth three times as much as those I can buy from Tom, Dick, and Harry. By breeding always from my best stock I can increase my crop of honey to such an extent that it will pay, many times over, the extra cost. If I buy from Tom, Dick, and Harry, about all I know of the queens is their *looks*, and while I like pretty bees, I care more for those that will 'deliver the goods.'"

All this must be admitted. Moreover, it is true that only the man who produces honey can really tell what is best stock. A man may rear a million of queens, but if he never does anything but rear queens, he knows nothing about their worker-progeny as honey-gatherers.

While all this may be true, it is not the whole of the story. One does not need to buy of Tom, Dick, and Harry. One may buy of a queen-rearer who is thoroughly reliable. Suppose A is such a man, and B a honey-producer. It will not cost B 5 cents to send his best queen to A, and why may not A rear from her just as good queens as B would, and for less money? There is no law against doing even better than that. If B sends his best queen to A to have his young queens reared from, so may C and E, and a dozen others. Having all these choice queens on hand, what is to hinder A from pitting them against each other, and finding out which is the best of the lot *as a honey-producer*? And, in general, what is to hinder A from skirmishing about and getting from men who are reliable as honey-producers their best stock, and then selecting again the best of the best? And if A is honest and intelligent, something of that sort is exactly what he will do.

There is still room for improvement in stock, and if the land is to be stocked with the very best, there must be intelligent co-operation between queen-rearers and honey-producers.

Miscellaneous News-Items

Schroeder's American Visit

Alexander Schroeder gives in *Illustrierte Monatsblätter* a pleasant detailed account of his visit to the apiary of W. H. Horstmann, Chicago, a picture of the apiary accompanying. Such men as Mr. Schroeder help to lessen the distance between the two countries.

Time to Spray Fruit

The *Journal of Agriculture*, of Victoria, contains some "Orchard Notes," by J. Cronin, Principal of the School of Horticulture, which it would be well if every fruit-grower could read. It is shown that it is a serious mistake

to suppose that fruit-blossoms should be sprayed. Mr. Cronin says:

The codlin-moth is popularly supposed to develop into the perfect egg-laying stage about the blossoming period, and it lays its eggs in the calyx or eye of the young fruit, or as some few people assert in the blossoms. The practice of people holding this belief is to try and fill the eye of the fruit with the poison, whatever it may be, and to depend largely, if not altogether, upon the one application. The facts are that few eggs are laid during the blooming time, except in case of late-flowering varieties that are not specially attacked in the eye on account of being in flower when the moths are plentiful, and the majority of the eggs, at least, are not laid in the calyx, or even near it. Also, the calyx is often closed, and the fruit fairly large, before any evidence of codlin-moth is present, and the first trace is the egg *on the fruit*, and the young insect attacking from

the side. Many, if not all, of the supposed attacks from the calyx end of the fruit will be found on examination to be made from outside the calyx, and underneath its lobes, and not from the interior of the cavity. It is positive waste to spray apples and pears when in blossom; it is erring, possibly, on the side of safety, to spray very thoroughly before the calyx closes. But it is absolutely necessary, in the writer's opinion, to spray very carefully when the first eggs are seen, and to repeat spraying periodically as fruits are swelling, after very heavy rains, or when by any reason whatever there is an untreated surface of the fruit exposed.

Gen. Mgr. France Injured

On the evening of March 31st, as General Manager N. E. France and wife were mailing the last buggy-load of the pamphlet "Bee-Keepers' Legal Rights," they met with serious injuries through another team running into their buggy, up-setting it, and causing a runaway. We are glad to report that both Mr. France and his good wife are getting along nicely, and doubtless in due time will be as good as new again. At any rate, their hosts of friends will rejoice that they were not more seriously injured.

New Factory of G. B. Lewis Co.

April 28th we visited again the new factory of the G. B. Lewis Co., of Watertown, Wis. When we were there last fall everything was but in prospect, as only the brick walls of the main building were up. Now 30 or 40 machines are running in the building, and things certainly are humming. Next month we will be able, with the aid of illustrations, etc., to show something of the development of a large bee-supply factory from the ground up. The G. B. Lewis Co. were working 13 hours a day, and were still somewhat behind on their orders, but at the rate they were turning out the goods they would soon be caught up, and ready for practically everything that comes to them. But more of this next month.

Illinois State Convention Report

The 9th Annual Report of the Illinois State Bee-Keepers' Association is ready for delivery. It will have 224 pages. About 50 copies extra of the cloth-bound edition have been ordered, which new members will receive so long as they last, when they pay the annual fee of \$1.00 to the undersigned, which also will make each one a member of the National Bee-Keepers' Association.

The Illinois State Association will send a delegate to the next National convention.

JAS. A. STONE, Sec.

Rt. 4, Springfield, Ill.

The above Report is, we believe, one of the largest volumes ever issued by the Illinois Association. It contains, besides other interesting matter, the reports of the 1909 conventions of the Illinois State Bee-Keepers' Association, the Chicago-Northwestern Bee-Keepers' Association, and also the National Bee-Keepers' Association. It will be a book worth having, and any bee-keeper who has not yet sent in his \$1.00 for membership should do so at once in order to get one of the cloth-bound copies. Remember that there are only about 50 available copies, and if you want one of them, you will have to remit to Mr. Stone very promptly. The \$1.00 will pay your membership fee in both the Illinois State and the National Associations, as mentioned by Mr. Stone.

Summer Course in Bee-Keeping

The South Dakota State College of Agriculture and Mechanic Arts announces a summer session for 1910, beginning Wednesday, June 22d and continuing to July 13th. The courses of instruction are open to any one who desires to take advantage of them. The bee-keeping instruction, which is part of the course, will be given along the lines of starting an apiary, increase of colonies, hiving and managing, producing of comb honey, etc. Prof. A. A. Brigham, director of the summer school, will deliver lectures on poultry culture and bee-keeping. For further information, address A. A. Brigham, care South Dakota State College, Brookings, S. Dak.

A Big Swarm and Good Colony

I am sending a picture where I am hiving the largest swarm of bees I ever saw from one 8-frame hive. I got 6



A BIG SWARM OF BEES.

gallons of extracted honey, 28 pound-boxes fairly well filled, and this big swarm, although the honey-flow was not very good last year.

T. M. GULICK.

Edgerton, Minn., Jan. 8.

Tests for Wax-Adulteration

Paraffin and ceresin, I believe, are the main adulterants. If the beeswax is pure, and if you chew a sample you will find it will all granulate in your mouth. If there is any great amount of paraffin along with it, it will be pasty and act like gum in your mouth. It is a simple test, which I am assured by manufacturers and others, will tell if there is any perceptible amount of paraffin with it. Ceresin, I understand, is the main adulterant used in comb foundation. They tell me as good a test as you can make for that—I have never tried it myself—is to take a hot iron and drop a sample of what you know to be pure beeswax on it, and notice the smell and odor of the smoke; and then take your suspected sample, and if there is a small percentage of ceresin in it you can tell it right away—a very fatty, pungent smoke will come from it.—J. L. BYER, in *Canadian Bee Journal*.

Short Course in Bee-Keeping

Circulars are now being distributed for the two weeks' course in bee-keeping which comes May 25th to June 8th, at the Massachusetts Agricultural College.

The practical field-work and demonstrations in the handling of bees will be given by Dr. Burton N. Gates, of Washington, D. C.

Crops for honey bees will be treated by Dr. William P. Brooks.

Bees, and their relation to the pollination of plants, will be treated by Dr. George E. Stone.

The origin and evolution of the honey-bee, by Dr. Henry T. Fernald.

Bee-Keepers' supplies, by Dr. James B. Paige.

No tuition is charged in the course. Board and room can be secured at reasonable rates.

A circular and registration card can be secured by writing the Director of Short Course, W. D. Hurd, of Amherst, Mass.

It is encouraging when agricultural colleges are turning at least a little of their attention to the study of bees and their value as aids to profitable agriculture and the sweet food-supply of the world. May the good work go on, and may many young men and women take advantage of the opportunity to study the honey-bee and its work.

National Biscuit Co. and Honey

The last of March we had a very interesting interview with Mr. H. J. Evans, head of the purchasing department of the great National Biscuit Company, here in Chicago. Naturally the conversation turned on honey, and some surprising statements were made.

In the first place, the Company uses about 125 carloads of honey annually! A carload being from 13 to 15 tons, it would make about 3,600,000 pounds. That surely is some sweetness. The larger portion of the honey they purchase comes from the Western part of this country, although they do get quite a little from the East, the South, and from Cuba. At the end of each week a report is made to headquarters from all the branches of the Company, and it was found on Saturday, March 26, 1910, that there was on hand a total of nearly 2,000,000 pounds of honey. So it will be seen that they seem to have no difficulty in keeping up their supply, even if there was a shortage in the crop in some places last year.

It is generally supposed that a gallon of extracted honey weighs 12 pounds. Mr. Evans said they never had any honey, from anywhere, that weighed as much as 12 pounds to the gallon. The nearest was 11 pounds 14½ ounces, and that was honey from Arizona and California. He thought the average weight would possibly be not over 11 pounds and 10 ounces.

I asked about honey adulteration. Mr. Evans said there is no such thing, and has not been so far as his Company's experience goes, especially in a wholesale way, as they buy honey. The nearest they ever came to getting adulterated honey, was in a small lot they purchased some years ago from an Iowa bee-keeper. In testing a sample from the lot, their chemist found cane-

sugar in it. On further investigation, it was learned that sugar had been fed the bees in the spring to tide them over till the flowers should yield, and some of it must have been carried up into the extracting combs. That was the only experience the National Biscuit Company ever had with adulterated honey. That certainly speaks volumes for the honesty of honey-producers generally.

The National Biscuit Company never uses any shipment of honey without first submitting a sample to their chemist. In the case of a carload of honey, they select and test 10 samples taken from various parts of the car. They will not use any adulterated honey at all. It must be absolutely pure.

In their bakings, the light amber honeys seem to hold out best as to retained flavors, although alfalfa, sage, and many other kinds of honey are good. They find that even the best honey-dew honey is quite inferior for their use. Practically all the honey that comes from the Hawaiian Islands is honey-dew. They have had it offered to them as low as 3 cents a pound.

Their bakings which carry the name "honey" at all, such as "Honey Wafers," etc., contain *only* honey as a sweetener. If there is the least bit of any other sweet used in connection with the honey, the word "honey" is not used in the name under which it is retailed.

As most of our readers know, we were for some years in the honey-business, and handled from 3 to 5 carloads a year, bottling the larger part of it. But when we talked with the man who buys 125 carloads *every year*, we felt that really we had never been in the honey-business at all. However, we wouldn't take a good deal for the honey experience we gained in those years when we *tried* to sweeten all Chicago and many other places as well. The only way to learn some things is *to do them*. Theory is all right, but usually the man who *knows* is the one who has been "through the mill" himself. Mr. Evans is that kind of a man. We appreciated the free and frank manner in which he talked, and we believe our readers will be interested in what we have here briefly given from the conversation we had with the head of one of the most important departments of the well known National Biscuit Company.

Clarifying Wax With Acid

Some object to the use of sulphuric acid at any time for clarifying wax, and certainly it should be used only in case of very dark wax, if at all. When used at all, the danger is that too much will be used. O. L. Hershiser thinks a teaspoonful to a gallon of wax should never be exceeded. He says in the Canadian Bee Journal:

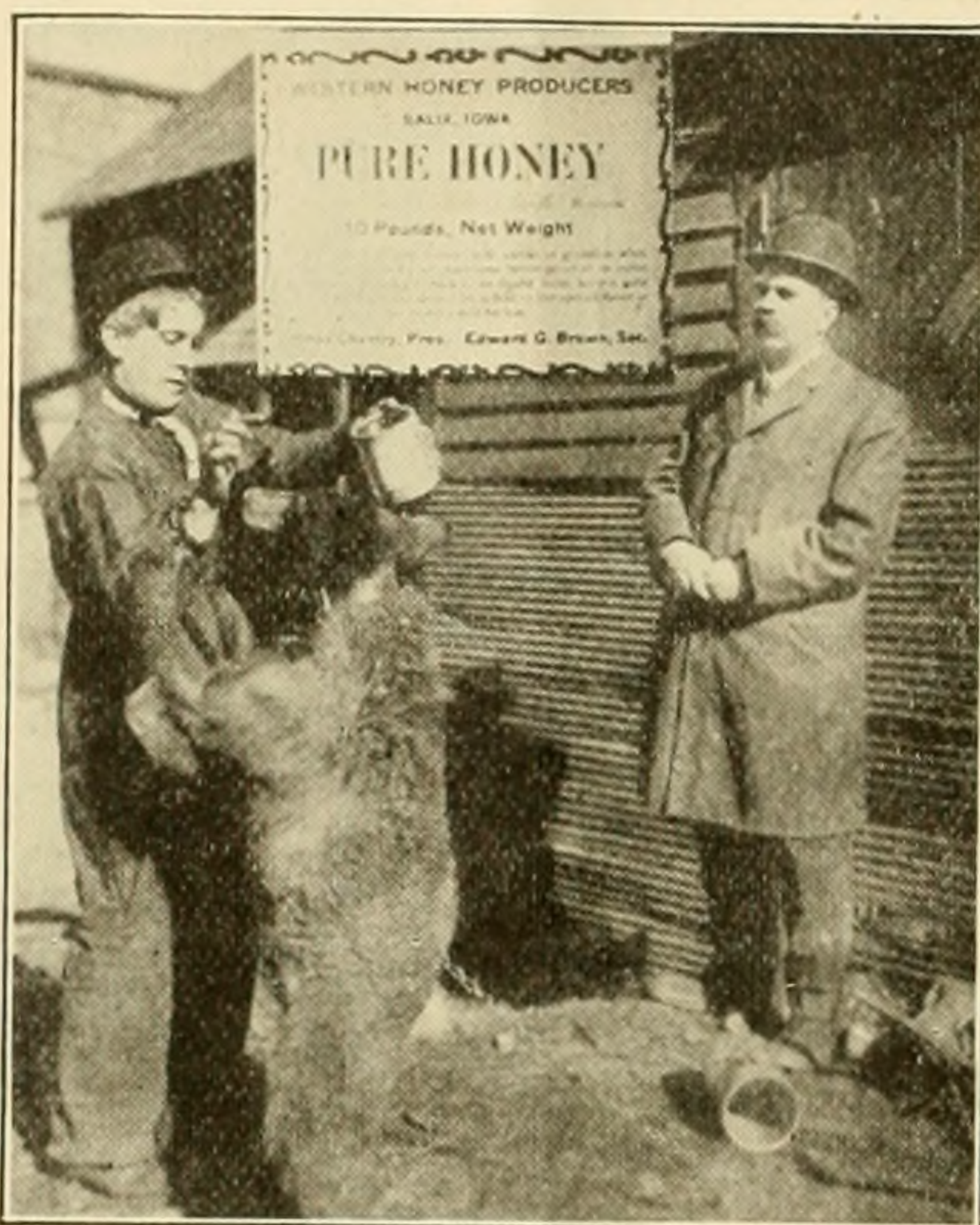
Suppose you have a quantity of wax that it is desired to treat with acid. Melt the wax in about one-quarter its volume of clean water. When hot enough to remain melted without commencing to congeal on the surface for the space of about 10 minutes, remove from the fire. Provide a cooking spoon with a long handle and into it pour sulphuric acid in the quantity of not to exceed a half-teaspoonful to a gallon of wax. Pour the acid from the spoon into the wax without diluting, and at the same time com-

mence stirring vigorously and keep it up for 4 or 5 minutes. When agitation of the wax due to stirring has ceased, if there is any scum on the surface, skim it off and set the vessel away to cool. If you will wrap the vessel containing the wax in papers or cloths or set it in a slightly larger vessel to prevent the rapid radiation of heat, and cover with a lid having a hole one or two inches in diameter in the center to cause it to cool more rapidly at that point it will be more likely to cool in a solid cake.

Diluting the acid with water before introducing into the wax has been tried, but the results were unsatisfactory; the desired effect in bringing out the yellow color was not obtained.

A Pet Bear that Likes Honey

While I was at Grand Island, Nebr., I saw a pet bear and gave it some honey, and it was so anxious to get it, it would whine and reach for it, and growl, etc. So I got a photographer to take a snap-shot as he was pulling the owner's arm down to take some from



BEAR WHINING FOR HONEY.

his fingers. It is a rather poor picture, but it shows him while I was watching his actions, and listening to his roaring whine for the honey.

Salix, Iowa. THOS. CHANTRY.

Michigan Bee-Keepers

These people certainly are hustlers. Recently they have been making a "Whirl-Wind Campaign for New Members." They issued a large 4-page circular giving a little history of what the Michigan State Bee-Keepers' Association is trying to do for its members. Secretary E. B. Tyrrell, of 230 Woodland Ave., Detroit, is a wide-awake officer, who is leading in the effort to build up the largest, and the strongest, and the most helpful State bee-keepers' association in this country. Its dues are \$1.00 a year, and if 50 cents more is added (making \$1.50) any bee-keeper will become a member of the National as well as the Michigan Association.

For 6 years the Michigan Bee-Keepers' Association has published a booklet giving the names and addresses of its members, and stating the kind of honey they had for sale. This booklet has been the means of selling tons of honey for the membership, and finding

many new markets. It seems to be working out the practical solution of the marketing problem, and has met with gratifying results so far.

Keep an eye on that Michigan Association, and those hustling "Michigan-ers." They know how to do things.

Bees in Switzerland and Russia

The following paragraphs are taken from the Daily Consular and Trade Reports for Feb. 28, 1910. Mr. Frank Benton edits these reports—in fact, dresses them up a good deal from their original "amateurish" form. For more than a year he has been editing consular reports. Here is what was recently reported from Switzerland and from Russia, relating to bee-keeping:

UTILIZING BEE-PASTURAGE OF MOUNTAIN AREAS IN SWITZERLAND.

Consul-General R. E. Mansfield, of Zurich, writes interestingly of the development which the cultivation of bees has reached in the mountain republic of central Europe. He says:

Much of the 16,000 square miles of territory comprising Switzerland is so mountainous and stony that when available for any purpose it can only be for the pasturage of animals. Yet, so carefully are all of the natural resources conserved and exploited that the country is one of the most prosperous in the world, and the Swiss people are as contented as they are industrious and frugal.

An attractive feature of every Swiss landscape in spring and summer is the beauty and variety of wild flowers growing in profusion on hillsides and lower mountain ranges, while the valleys resemble beautiful mosaics in the rich and varied tints of flowers that cluster in the greensward. This wealth of blossom, in addition to beautifying the landscape, is turned by the thrifty Swiss into profit. The flora of Switzerland possesses qualities that produce delicious honey and thousands of colonies of bees may be seen in the country, being utilized by the people to increase the food-supply and commercial products; in fact, the production of honey and wax constitutes an industry of considerable importance to the Confederation, as is shown by statistics furnished by the Swiss Society of Apiculturists.

It is estimated that there are 250,000 colonies of bees in the country, each of which produces 40 pounds of honey during the season, a total of 10,000,000 pounds a year. The average price of Swiss honey for the year 1909, was 25 cents per pound, giving the year's product a total value of \$2,500,000. The statistics furnished by the Society of Apiculturists show that the highest average production for 1909 was in the Canton of Lucerne, where 8000 colonies of bees produced 424,000 pounds of honey, an average of 53 pounds to the colony. The next highest average, 42 pounds, was in the Canton of Berne, where 9600 colonies produced 403,200 pounds of honey. The territory comprising the Cantons of Lucerne and Berne is rich in the flora especially suited to honey-production.

The honey crop of Switzerland, valued at \$2,500,000, is largely profit to those engaged in the industry, nature producing the raw material.

BEE-INDUSTRY REVIVING UNDER MODERN METHODS IN RUSSIA.

Consul John H. Grout, of Odessa, writes as follows of the conditions under which the production of wax and honey are found to be profitable in the southern part of the Russian Empire:

Apiculture has for many centuries played an important part in Russia. When sugar was an imported article, and its price as compared with other articles of food ruled high, being sometimes even more than tenfold that of fresh beef, honey, the only natural sweet of local production, was of much importance, and nearly every large household had its own apiary, and honey seems to have been generally plentiful. It was even an article of export, and still more so beeswax, which the people in those days had not learned to adulterate nor found substitutes for.

With the advent of cheap and good sugar less attention was given to bee-culture, and

a half century ago the industry seemed to be declining. Famous physicians pointed out the great value of honey as a remedy in certain maladies, while equally great botanists drew the attention of farmers and fruit-growers to the necessity of bees for the proper pollination of many fruit and field crops. It was shown that the decline of apiculture was not the direct and inevitable consequence of the reduction in the area of forests and the resultant absence of proper shelter for bees, but that, with good care and judicious selection of varieties of bees, more energetic breeds might be obtained.

SUGAR NOT A GOOD SUBSTITUTE FOR HONEY

It was found that sugar was not a real substitute for honey, especially as food for the aged, and still less for children, so that even dear honey had a justification alongside cheap sugar. The industry began to revive, and while in some parts there is still a continuing decrease in the production of honey, there is a decided increase in others, especially in some places where there is little forest shelter. Even a considerable reduction in the extent of meadows and a corresponding increase in the sown fields does not prevent a successful further development of apiculture, provided proper attention is devoted to it, and provided there are in the neighborhood such trees as the locust (*Robinia pseudoacacia*), wild olive (*Elaeagnus oleaster*), the maples, lindens, etc. Among Russian field crops there are also some invaluable as honey-yielders, such as buckwheat, the clovers, rape, flax, etc. If, to tide over particularly lean periods, small plots are sown with phacelia or some other honey-plant, then with moderate attention bee-culture can be made a paying industry. It is found that, without detriment to their health, bees may be fed for winter stores, or to carry them through a dearth of honey with cheaper sweets than honey.

A report from Bessarabia states that in the year 1860 the percentage of the whole area devoted to agriculture was 37.8; in 1881 it was 44.6; and in 1887 it was 61, a steady growth unfavorable to apiculture. There was also a great reduction in the area of buckwheat fields, the acreage in 1900 having been 2741; in 1903, 3634; 1904, 1947; 1905, 887; and 1906, 403. This shows a considerable reduction in one of the principal food-plants of the bees, yet the following interesting data as to the honey and wax produced are reported:

Year	No. apiaries.	No. colonies.	Tons honey.	Tons wax.
1892.....	4,082	84,241	123	40
1900.....	2,977	42,351	120	32
1901.....	3,590	53,677	214	51
1905.....	3,418	50,220	253	66

Thus, there was a decided increase in the output in the face of less favorable circumstances, and with better instruction this can be still further extended. Some other provinces are without doubt more favorably situated than Bessarabia, although the honey from this province is appreciated, and sells at higher prices than some other grades.

New Jersey's Governor and the Vetoed Foul Brood Bill

We have received the following from Mr. Albert G. Hann, Secretary of the New Jersey Bee-Keepers' Association:

The bee-keepers of New Jersey, through their State Association, succeeded in getting a Foul Brood Bill passed; but when it came before the Governor for his approval, he vetoed it on April 12th. We do not know his reasons exactly, but understand he considered it too drastic.

Our Bill was modeled after the one recommended by Dr. E. F. Phillips, of the Department of Agriculture, and was considered a good one by all who saw it. We think it was rather from a lack of understanding on the part of the Governor, than from anything else. We spent all our efforts to get the Bill, on the Assemblymen and Senators, thinking the Governor would surely approve.

To say that we are greatly disappointed is expressing it mildly. After working so hard to get the Bill passed, and then have it stabbed by the Governor was the least of our expectations.

But, then, there is no use to fret. We will simply have to stay sweet and try again. I suppose we will have to frame a Bill to meet the Governor's objection, and try again next winter. This is individually our opinion,

and will have to be approved by the Association.

In the meantime, we would like to have more bee-keepers join the Association. Dues are 50 cents a year. We know of some bee-keepers who have held aloof from joining the Association because they thought we could never get a Bill passed. The stronger the Association the stronger appeal we can make next winter.

ALBERT G. HANN, *Sec'y-Treas.*
Pittstown, N. J.

We regret very much that New Jersey's Governor was not seen in advance by some leading bee-keeper, who could have explained to him the need of just the kind of a Foul Brood Law that the bee-keepers had succeeded in having passed, and which should have

had his hearty approval. It is the same experience that Missouri bee-keepers had some years ago. It is discouraging, but success will finally come if bee-keepers do not give up. Persistence does wonders, sometimes. Before the next session of the legislature, let all New Jersey bee-keepers get into their State organization, so as to be ready to win next time. Numbers mean much in a thing of this kind.

We congratulate New Jersey bee-keepers on succeeding in securing the passage of the law, even if the Governor was not sufficiently informed on the subject to give it his approval.

Our Bee-Keeping Sisters

Conducted by EMMA M. WILSON, Marengo, Ill.

Honey Preserving Fresh Butter

Wash the butter thoroughly in several changes of water, slightly salted and boiled for about 5 minutes. The hands of the operator should be thoroughly washed and then rinsed in water previously boiled. The butter is then well worked up with the hands, and after being well kneaded there is no longer any butter-milk left. Put the butter into glass jars, the best for the purpose being those holding 2 pounds. These jars must first be well washed in boiling water, made thoroughly clean and then dried.

When ready for the butter, turn over the jar and burn in it a sulphur match, then put in the butter, pressing it well down. This done, pour on the top, to the depth of about one-third of an inch, thoroughly ripened honey just about to granulate, and screw on the lid. If the operation is carried on exactly as directed above, the butter will keep well right through the winter.

Scotland. D. M. MACDONALD.

It is quite a compliment to the Sisters' department that so distinguished an apicultural writer as Mr. D. M. Macdonald, from far off Scotland, should favor us with the foregoing. Mr. Macdonald may be assured that the compliment is greatly appreciated. On the face of it, one can hardly doubt the good effect of honey thus used in preserving butter. There will be plenty of opportunity to try it the coming summer.

Why These Things Are So

They are so because the source from which bees gather honey is the same today as it was, not only "20 and 30 years ago," but since the beginning—free. The poultryman's product comes from grain, etc.; said grain costs him more today than it did 20 or 30 years ago; the grain comes from land that then cost him 5 or 10 cents an acre, and that now costs him \$5 to \$10, and way up to \$100 or more.

The dairyman pays more for his milch cows and their keep than formerly, and so has to charge more for his butter and milk. Hogs cannot produce 5-cent lard and eat the high-priced corn grown on the high-priced land. What, may I ask, do you have to pay for your bees' pasturage? It costs no more than it did 20 or 30 years ago—it's free. See? If you had to pay so much for every tree and plant that the bees worked on, wouldn't you have to ask so much for the honey gathered? As you pay out nothing for the source, you ask only the sum which recompenses you for your time and labor and other expenses.

Prices have risen on queens and nuclei because the source of them also has risen. Pure-bred Carniolans or Italians are worth more today than the black bee, and the black bee has not any more value than it had since the beginning—at least I think that is correct.

As to the "slump," the bee-men are re-

sponsible, in that they should hold their honey rather than sell it for less than it should bring. Because farm products take a slump, it doesn't stand to reason that books (or anything else) should, too. Then why honey?

Now take cotton, and such like. Has not practically one man in Wall Street got possession of it? Wheat, etc., goes to Wall Street first, and is given to the miller's at the price they choose to let it go for. The miller sells it to the wholesaler at his price; then the wholesaler sells it to the retailer at his price, and then the consumer pays the retailer what he in turn asks for it. It passes through 6 hands, and, mind you, the seed it came from was high-grown upon high land.

It's a wonder to me, flour is as cheap as it is, 6 having to make a living out of it before the consumer receives it. Honey doesn't pass through so many hands; in most cases the producer sells to the consumer. If every bee-man had to have his honey worked over by some manufactory, and sold again and again to others, of course it would rise.

And now another reason why; Honey is not an absolute necessity. People can live without it, and when it gets out of their reach they will not buy it. If bacon went to 60 or 70 cents a pound people would still buy it. If flour and meal went to \$6 per 100 pounds, wouldn't they still *have* to buy it, some way or other?

It is true that we have customers who would buy honey if it soared to \$1 a pound; but they are few and far between, and very rich.

The foregoing has always been my idea upon this subject, and it is one that we have thought much about.

Eola, Tex. (MRS.) M. E. PRUITT.

Mr. Doolittle raised the question, "Why are these things so?" without attempting to give any answer to the question. It has remained for a sister to give one of the first answers. It will be interesting to know whether others agree with her.

Beginning With Bees

I do not know anything about bees, but I would like to learn, and in February I bought 2 colonies of bees from a man who was moving away. The bees were in his cellar and seemed to be all right, so I gave him \$15 for the 2 colonies and 3 extra hives, etc., and left them in the cellar. When this warm weather came, I went to look at my bees, and found them dead. I thought them all dead, and so did the father of the man I bought them of, who has kept bees for many years, and in whose cellar they were. Well, we took them outside, pulled the hives in pieces, and poured the bees out upon the ground, and in about 15 or 20 minutes I noticed some of them moving, and called the man's attention to it. We watched them awhile, and in half an hour there was about a pint of live bees. We put them back into the hives and fed them some honey and water. One colony, which the man said was

the old bees, had a little honey; but the other had none—not a bit. The combs were as dry as if they never had honey in them. We can find no queen-bee in either hive. What shall I do? Shall I let them alone, or shall I get a queen, and put them all together in one hive? Or shall I keep on feeding? What do you advise?

We are living in Barron Co., Wis., in cut-over timber, and I think it will be a good location for bees. I am anxious to keep a few.
(MRS.) J. BROSSARD.

Rice Lake, Wis.

Although you have not found a queen, it is by no means certain that there is no queen there. Even the most experienced sometimes fail to find a queen. Look and see whether there is any brood in the hive; if not, you may conclude the bees are queenless, in which case it will be well to furnish a queen to the united lot of bees. By this time the bees ought to get along without any feeding.

Honey for Hens

Here is something for the sisters who are interested in the biddies. It is taken from Schweizerische Bienenzeitung:

In all cases of disease among my hens, especially diseases of a catarrhal form, I have used a strong solution of honey in warm water, and have found no medicine to compare with it. It is wonderful how quickly the creatures recover with this cure, which consists in stirring honey (one or more table-

spoonfuls, according to the number of hens) into the drinking-vessel in the morning, the honey being previously dissolved in hot water. In severe cases I give each hen daily a teaspoonful of clear honey.

It is also advisable to allow well hens this luxury as a preventive of disease.

A Correction—Other Items

There was a slight mistake in my article in March, 1910, pages 72 and 73, which I would like to have corrected, which says, "and all sells as extracted honey at 10 cents a pound." It should have been, "and all sells as comb honey at 10 cents a pound"—that is, when the honey is dark. When it is white honey, of course it sells for 12½ and 15 cents.

By the way, we have sold about 1000 pounds of that dark honey this spring; this dark honey was gathered from live-oak balls. It was honey that the bees had over from their winter stores.

In looking over them in February, we found 2 colonies queenless out of 120. One of them we saved, but the other was too far gone, so we increased one, and our rows are not broken. Both cases were the result of neglect on our part.

I would like to tell you some more of our experiences, etc., but I'm afraid I shall wear my welcome out.

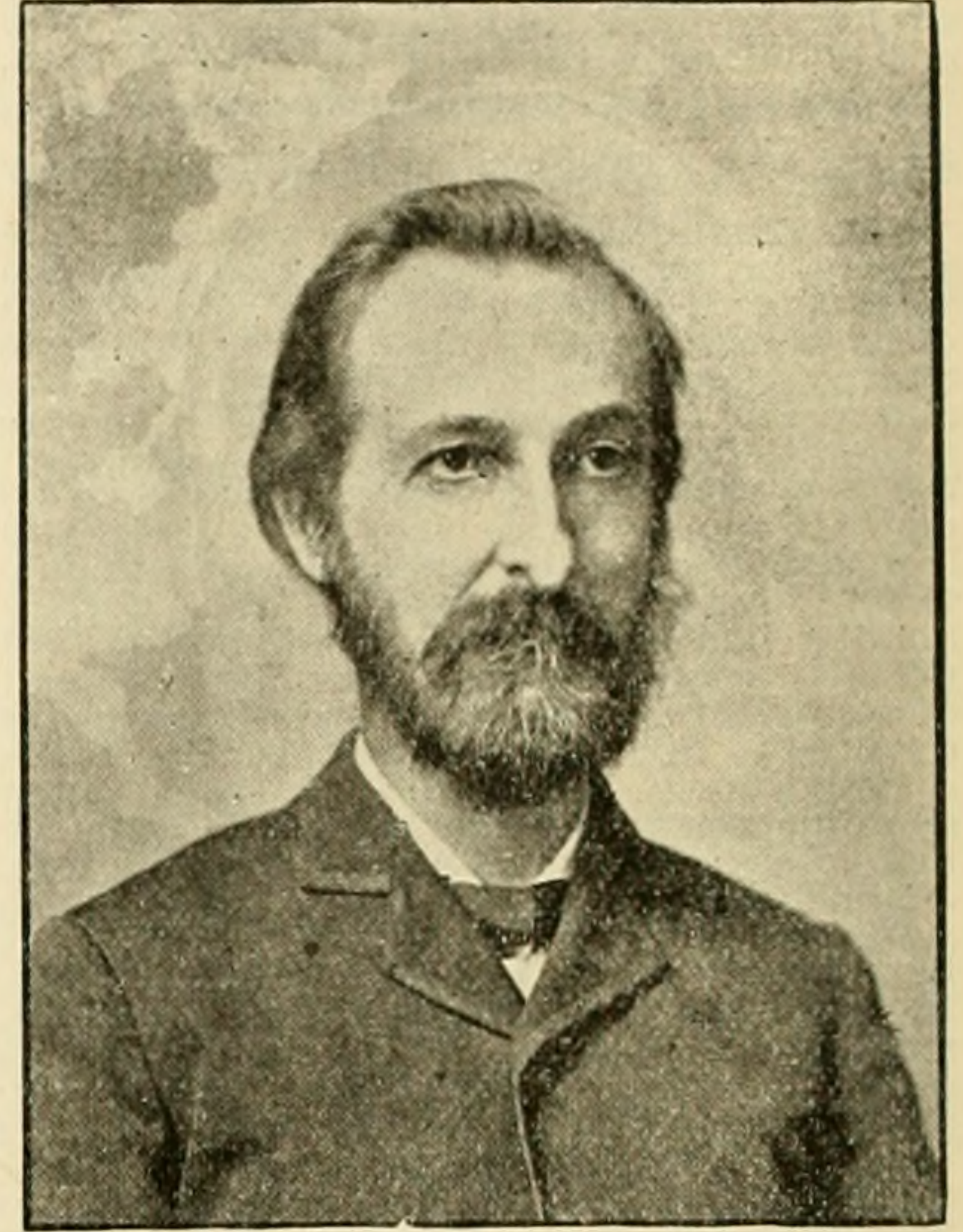
(MRS.) M. E. PRUITT.

Eola, Tex., March 31.

Have no fear about wearing out your welcome. You will always be more than welcome.

Please accept sincere thanks for the private word of appreciation accompanying your article. Such words warm the heart, and make us feel that we are indeed sisters.

One by one the old bee-keepers are passing away. Only a few of those who lived when the Langstroth hive was invented are still with us. Many of the present generation know but



DR. J. P. H. BROWN.

Sketches of Beedomites

Dr. J. P. H. Brown

Mr. J. L. Patterson, of Augusta, Ga., writing us recently informed us of the death of Dr. J. P. H. Brown, of Augusta, Ga., Aug. 24, 1909. He was in his 78th year, and it seems death had been expected for some time on account of his feeble condition.

Dr. Brown came to Augusta some 40 years ago from Atlanta, where he had been a practicing dentist. He was also interested in agricultural pursuits, and was one of the old organizers of the agricultural clubs and agricultural movements. Dr. Brown was looked upon as one of the leaders in his part of the country.

In the American Bee Journal of Dec. 7, 1893, we published the following brief sketch of Dr. Brown:

"Dr. Brown was born Oct. 15, 1831, and was reared on a farm in Carroll Co., Md. Like many other country boys, he worked in summer and went to a common country school in winter until he was 16 years of age, when he attended an academy in his native town. He afterwards took a course in natural science and mathematics at the Western Liberal Institute in Marietta, Ohio.

"After leaving the Institute he studied medicine, but mechanism being a ruling passion, he took up dentistry as a medical specialty. He migrated to Georgia in 1859, and his services were so much appreciated by the Confederate Government that he was detailed to manufacture dentists' gold-foil and other specialties for the dental profession.

"Dr. Brown's commencement as a bee-keeper dates back to childhood. His father

kept bees in the old box-hives, and his earliest recollection is the cry of 'Bees swarming!' and the unusual thumping on a tin-pan to settle them.

"In 1870 he adopted the movable-frame hive and introduced into his apiary the Italian bee. In 1874 he began to import queens direct from Italy, and to breed them. Since then he has been a large breeder, and has shipped bees and queens to all parts of the United States, Canada, Cuba and Mexico.

"As a queen-breeder Dr. Brown has worked for a better bee; and to secure this object he has brought to bear all the science, skill and detail that he was possessed of. He also runs a factory for the manufacture of hives and supplies for the apiary."

Dr. Brown is survived by no near relative except his wife, Mrs. Mary Brown. His only child died several years ago. He was a popular citizen of his locality, and was held in very high esteem not only by those who knew him where he lived, but also by the dental fraternity, who considered him "one of the most prominent practitioners of Georgia in days past, and who did the most active work for the advancement of his profession in his time; who having turned aside from the prevailing selfish idea of 'making money,' has left a public record as evidence of special work in uplifting the profession."

Some years ago Dr. Brown conducted the department of "Southern Beedom" for the American Bee Journal, which department is now in charge of Mr. Louis H. Scholl, of Texas.

little of the struggles made by our fathers in the bee-keeping line. We have all entered into their labors, and are reaping the result of their efforts and devotion to the cause of bee-keeping. Only a few more years and not one of the faithful old-timers will be left to tell the story of bee-keeping in its infancy in this country. Almost without exception the apiarian leaders we have personally known, or read of, have been splendid men—in fact, some of them have been splendid women. It is an inspiration to know not only that, but that their successors *deserve* the success and honors that have come to them during the passing years.

Thomas William Cowan and His Work

That does not mean that a full account of all our distinguished cotemporary has done for British bee-keepers and bee-keeping is to be set down in order here, which would take too many pages. It is merely to say that a man who has been so actively engaged, and for so many years, begins now wisely to think of taking things just a bit less strenuously. At a late meeting of the British Bee-Keepers' Association he offered his resignation as its Chairman, after having filled that important position for 36 consecutive years. This was felt to be nothing short of a calamity, and instead of accepting his resignation the Association begged that he would take further time for consideration, with the assurance that his position should be made as easy as possible.

Since the death of Mr. W. B. Carr, who so ably assisted Mr. Cowan, the burden of editing the British Bee Journal has been entirely upon the shoulders of Mr. Cowan as editor-in-chief,

except as he has wisely brought into training a man who promises well as his successor, Mr. W. Herrod. The American Bee Journal extends to Mr. Herrod its heartiest good wishes, with the hope that between the two Bee Journals—British and American—there shall always remain the same cordial

relations that have been in the past.

To Mr. Cowan, not as a British bee-keeper, but as one who belongs to the whole world, are hereby extended congratulations upon the life of usefulness he has hitherto been permitted to enjoy, with the earnest hope that his last days may be his best.

the bees have been crowded for room at different times.

Is it at all unreasonable to suppose that with proper care a strain of bees with these good traits could be propagated that would have all the virtues of the Italians with perhaps less of their faults? Certain it is that if I could have an apiary like the colony mentioned, I would not exchange it for any Italian stock that I have ever handled, and we have had a few from most of the breeders in America.

As to one race being more immune to foul brood than another, it seems a fact that the Italians are more capable of resisting the ravages of black brood than are the other races; but in all sincerity it certainly appeals to the writer to be a joke, when it is claimed that Italians are less subject to the old-time foul brood than are the other races. Does any one, I wonder, really entertain such a view? As a matter of fact, in my limited inspection work, I have generally found more foul brood among Italian colonies than among other bees, not that they are more subject to the disease at all, but because, as a rule, Italians are inveterate robbers as compared with other races, and are always nosing around for mischief, consequently get into trouble oftener, as is bound to be the case with bees or members of the genus homo, for that matter, if they stray away from home too often in other people's premises.

Canadian Beedom

Conducted by J. L. BYER, Mount Joy, Ontario, Canada.

Foul Brood and the Inspectors

At this writing (April 18) the names of the different apiary inspectors for the current year have not yet been made public. The appropriation for the work has been increased, and the number of inspectors increased from 14 to 16. A few years ago there was much discussion in the bee-papers as to whether foul brood is on the increase or not, and it seems that the action of the Department at the present time should be a good answer to the question. While not saying that the disease is on the increase at present, yet all may rest assured that we have all we want of the article, and might probably spare seed to other countries that may be in need of some samples. One favorable feature about the situation is that an aggressive policy of education is being advanced, and while far too many are not reached even by this means, yet enough are influenced to be a powerful factor in helping to eradicate the disease.

Early Spring—Prospects Good

In common, I suppose, with most of the country this year, we are, in our section, having a very early season—fully a month or more earlier than last year. Winter jumped abruptly into summer, almost, early in March, and with slight interruptions of cold weather has so continued right up to date of writing (April 18). Last year the apple blossoms were still in bloom during the latter week in May, while this season, if the warm weather should continue, the blossoms will show in another week or 10 days—the earliest, by all odds, that I have any record of since I have been keeping bees.

While little has come into the hives as yet, still a lot of warm weather with some pollen being gathered, has caused the bees to breed up at a great pace, and as a consequence the stores are disappearing like magic. If the weather should be cold through willow and apple blossom, it will be a case of feed the bees or let them starve. Clover is in fine shape, and barring some setbacks that may come in the way of heavy frosts later on, prospects are good.

In the fruit-raising sections of the country, the situation is regarded as somewhat critical, as the blossoms are abnormally advanced for the time of the year, and as we usually get heavy frosts after this date, naturally the fruit-men are much concerned as

to the weather conditions of the next 3 weeks. To a certain extent the same thing applies to the bee-keepers, although, by feeding, the matter can be helped out somewhat even if the fruit-blossoms should freeze, as it is not at all likely that the alsike would be injured by a freeze to any great extent. However, we have had a wonderful spring so far, and perhaps a like condition may prevail all through the balance of the season. In looking back over my past years of bee-keeping, I find that, as a rule, my best years have been after a late spring. Here's hoping that this year may be an exception to the rule.

Breeding from the Best

To the writer's mind, there is no question but what there is a good deal of truth in the surmise (page 118) relative to the different races of bees being popular in different countries, simply because the different countries have improved certain races to the exclusion of others. As pointed out, in Switzerland the German or black bees are preferred to the Italians, and consequently the latter race has been neglected, while, on the other hand, the reverse is true with a vengeance on this continent.

For the past 3 years I have commented on the fact that in my yards during the said period, the colony that has headed all each spring, is one bought from a farmer bee-keeper who never bought an Italian queen in his life, and to all appearances the bees are of the genuine German race, in so far, at least, as color goes. There the comparison ends, however, as the colony is very quiet, without a trace of the nervous disposition so common to the black bees. This spring again, this colony is very strong and ready for a super any time that a flow of honey comes along. At this date (April 15) the bees are fanning at the entrance although the weather is too cool for flight, and whenever it warms up a bit, they will cluster outside.

A peculiar feature of this colony is that this condition keeps up right through the season without declining in strength as is generally the case with colonies abnormally strong so early in the spring. For the past 3 years this colony has stored a super full of honey from the willows and fruit-bloom, and, by the looks of things at present, this condition is apt to be duplicated again this season. In all this time the colony has never offered to swarm, although

Not Byer's Bear

What's the joke, Mr. Editor, on page 134, about J. L. Byer and the bear? Surely a case of mistaken identity in some way, as back in the 70's the writer was not concerned about bears, weather prophecies, or anything else for that matter, as it was late in that decade that I first saw the light of day. When I read the item it caused me to scratch my head a bit in a meditative mood, and wonder if I was a second Rip Van Winkle. I suspect that my name has in some way got mixed with that of an old friend still living who has always been a great sport and hunter. As the names are not very similar, it is up to you and Mr. Wismer for an explanation.—[We shall have to refer this to Mr. Wismer. It must be a mistake.—EDITOR.]

Early Stimulative Feeding of Bees

By the way, I wonder how many are practicing early stimulating this spring? Please don't mention the subject to me, but kindly, instead, hand me out a recipe to keep down brood-rearing without letting the bees starve. Not a colony died in the winter, and so far I have found only 2 percent queenless, with about that percentage weak. Dozens of colonies in 10 and 12 frame hives (Jumbo frames) have brood in from 6 to 8 frames, and are boiling over with bees. Lots of these colonies had 25 pounds of stores, at the least, a few weeks ago, and now some of them have nearer that number of ounces instead. Is it any wonder that the thought of stimulating gives me a pain, and that instead I am thinking of dipping into my pocket, not to stimu-

late, but to avoid starvation if the weather should be bad during willow and fruit bloom?

One favorable factor in the situation is that the bees are so strong that they will be able to take advantage of every bit of weather that allows them to fly when any nectar may be available. With two seasons in succession very late and generally considered bad for brood-rearing, yet in both cases it was necessary to super most of the bees during fruit-bloom to hold down swarming, and now with a spring of the other extreme, and bees in the same shape—really, I am afraid that I am done with all spring stimulating (previous to a possible dearth between fruit-bloom and clover) for the future, and will leave that work to the other fellow, the writer being contented, or rather (shall I say?) *discontented*, to buy sugar only to avoid starvation, as I am rather expecting to do in a week or so.

List of Ontario Apiary Inspectors for 1910

[Since another item in this department was put in type, Mr. Byer sent in the following:—EDITOR.]

1. J. S. Schrank, Port Elgin—Bruce and Huron counties.

2. D. Chalmers, Poole—Waterloo and Perth.

3. Wm. Idle, Clarksburg—Wellington and Grey.

4. W. A. Chrysler, Chatham—Lambton, Kent and Essex.

5. John Newton, Thamesford—Middlesex and Elgin.

6. Jas. Armstrong, Cheapside—Norfolk, Haldimand and Welland.

7. W. Bayless, Grand View—Oxford and Brant.

8. Alex Robertson, Waterdown—Wentworth and Lincoln.

9. Arthur Adamson, Erindale—Halton, Peel and Dufferin.

10. Hy. Johnson, Craighurst—Simcoe and Muskoka.

11. J. L. Byer, Mount Joy—Ontario, York, Victoria and Durham.

12. W. Scott, Wooler—Peterboro, Northumberland, Hastings and Prince Edward.

13. J. B. Checkley, Linden Bank—Lennox and Addington, Frontenac and Leeds.

14. A. A. Ferrier, Renfrew—Renfrew, Lanark and Carleton.

15. Alex Dickson, Lancaster—Russell, Prescott and Glengarry.

16. Homer Burke, Tayside—Grenville, Dundas and Stormont.

Convention Proceedings

Southeast Minnesota and Western Wisconsin Convention

The following address was given by Pres. W. K. Bates:

PRES. BATES' ADDRESS.

Again we are gathered in our annual meeting, and so far as I know death has not taken any of our membership.

The last year was not one of the best for our pursuit, but I think the territory covered by our Association had as good a honey harvest as, if not better than, some of our sister States and locations. Honey-dew was prevalent to a greater extent than usual, and tended to lower the price and quality of honey, and very little surplus honey was gathered after July 20; but, so far as I can learn, bees generally went into winter quarters with plenty of stores.

I think the time has arrived that we should study more to improve our strains of bees, which can only be done by improving our queens and strains of bees that give us the best results, and this cannot be attained by the usual way of keeping bees, but only by applying the best methods will we be able to hold our own; and prices of our products do not increase with the increase of prices of the articles we use, such as lumber for hives, supers, sections, etc.

The marketing of honey is a subject for all of us to study in its different phases.

The reports we get from the Western fields seem to be that bee-diseases are on the increase. European and American foul brood are being found in the West, and may invade our locality any year, and our members should be alert and on the look-out for any outbreaks of these and other diseases.

I have to report to you at this time the death of the Minnesota State Foul Brood Inspector, Wm. Russell, at Minneapolis, in May, 1909, who was with us at our last annual meeting. Gov. Johnson appointed Mr. Russell to succeed himself for the current year, and at his death appointed Mr. Hamlin V. Poore, of Bird Island, to the office, who, as far as I know, has "made good" as his successor.

I would recommend that our rates for

membership be raised so we can gain a membership in the National Bee-Keepers' Association as a body. I have had some correspondence with Mr. N. E. France, the National Manager, and he desires us to become members. A rate of 60 or 75 cents would pay dues in both our own and the National Association.

We must all work for the National meeting in Minneapolis, in 1912, which is the probable place in that year.

I am glad to report that the two Minnesota State Bee-Keepers' societies merged into one large association in January, and I would recommend that you send a delegate, or delegates, to their next annual meeting.

Few people realize the magnitude, importance and possibilities of the present bee-keeping industry in the United States, and as it has reached the annual sum of \$20,000,000 in honey, and \$2,000,000 or more in beeswax, it seems to me we all should see that in the census about to be taken, correct reports should be given so that we may have a better showing than we had in the 1900 census reports; for in that census the average number of colonies to the farm in the United States was less than 6, and valued at \$14.40—a very small investment, indeed.

Your committee appointed at the last annual meeting on revision of our constitution and by-laws, held a meeting at Minnesota City, in January, and will report the results of their work to this meeting at the proper time, for your action on the same.

W. K. BATES.

Mrs. E. Monette, Jr., offered the following remarks, which were of interest:

MONETTE NON-SWARMING METHOD.

Since there have been many inquiries regarding our brother, C. Davenport Monette's non-swarming method, and especially the similarity of his method and that of Dr. Jones, I wish to make a few remarks on the subject.

At the time Dr. Jones published his book, he wrote us, sending his book, and asking us if, in our opinion, his method might not have been that of C. Davenport. On reading his book, we thought it might be possible; but about two weeks ago we received, through

the courtesy of A. C. Gilbert, of New York, two clippings taken from the American Bee Journal, dated March, 1906, and July, 1906. In these C. Davenport says his method or operation "requires 3 or 4 minutes to each colony, though I have frequently done it in less than 2 minutes; then the next day, or any time within 15 days, another operation requiring less time. There is no searching for queens, no jumping of hives around, no possibility of any eggs or brood being chilled or lost, no possibility of after-swarms."

In the other article, "There is no cutting of queen-cells. The frames are not removed."

Now it seems to me, there can be no similarity in the two methods, since by Dr. Jones' method the frames have to be removed and part of the brood destroyed. He also says the operation can be repeated the next day, or any time within 15 days.

Also, at the time of C. Davenport Monette's death, June 13th, many colonies were strong enough to swarm, and some did swarm in a day or two. Although at that time neither Mr. Monette nor I knew anything about bees, and had immediately to study and learn, we can recall no instance of seeing any brood carried out, or showing signs of being uncapped, on examination; and there were as many colonies as strong, and stronger, that did not swarm, as those that did. Since reading these articles relating to his method, we have thought that perhaps these colonies had been so treated.

That he did have some way of preventing swarming, I am positive, as he often left home in the height of the swarming season for a day or two, and himself said that swarming did not trouble him any more. His articles sent us by Gleanings and those in the American Bee Journal, sent by friends, are all we have to go by. The house and entire contents were burned, and his brothers were not interested in bees at the time, consequently they did not know a queen from a drone. Neither have we been able to find any one in the neighborhood who had been in our brother's confidence.

MRS. E. MONETTE.

[This probably will be the final word on the Monette non-swarming method. It seems to have perished with him, when he was burned to death, with the house and contents.—EDITOR.]

Patronize Our Advertisers

We have been endeavoring to increase the patronage of our advertising columns. But nothing else would help us so much to do this as would a liberal patronage of our present advertisers on the part of our subscribers. So please, always, mention that you saw the advertisement in the American Bee Journal whenever you write to advertisers. This will help both of us and the advertisers. If it were not for the advertising patronage we have, we couldn't possibly furnish the American Bee Journal at \$1.00 a year. So we hope that all will aid us in this matter by complying with our request to mention having seen their advertisement in the American Bee Journal, when writing to any of our advertisers.

Don't forget that we now have a "Want and Exchange" column that is a good place in which to make your offers also. If you have anything that you think our readers would like to buy, there is no better place in which to advertise than in the Am. Bee Journal.

Single Number Worth \$25.

I am glad to see you getting into line with a \$1.00 publication. From the standpoint of one specialist at least, I wish to say that I prefer 25 cents worth of the American Bee Journal to the money, any time. What does a dollar a year amount to when a single number may suggest something worth \$25? Beekeepers are at last awaking to the possibilities of their profession, and it will not be to turn down one of the best bee-papers simply because it costs 25 cents nearer to what it is really worth. This is my honest opinion, at least.

Hebron, Ind.

F. B. CAVANAGH.

Southern Beedom

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Arrangement of Hives for Bulk-Comb Honey Production

We have been in the midst of a great rush during our early April honey-flow; when we have had to *do things*; when every labor-and-time-saving short-cut method and management had to be brought into play. And during this time we have found what it is to have a proper arrangement, or system of arrangement, of the hives in the apiaries.

We have tried many ways of placing the hives, arranged differently in as many apiaries, and have found some all right, while others had great disadvantages. Placing hives in straight rows, equal distances apart, is bad practice, even if the hives are several feet apart. Placed in rows, and in pairs is better; still, each pair is like another pair in the same row or the next rows. Too much sameness should not exist, mainly on account of the resultant loss of queens in mating, and also to avoid the drifting of bees.

We prefer to handle our hives in groups, and therefore arrange them accordingly. There is a great advantage in working the colonies in groups of 5, as we do, and especially in our extensive work in producing bulk-comb honey, with the idea in view to reach the greatest possible quantity with the least amount of labor and expense.

At the same time we prefer shade—natural shade, or at least a partial

ary of 50 colonies. By studying this closely you will see that 3 hives face southeast, if you will look at the way the arrow points. These 3 are placed about 3 feet, or a little more if the tree is larger, from the main trunk of the

protecting the colonies inside to a great extent. Such an arrangement has to be tried to be appreciated.

We work the groups from behind, or the northwest side, with all the entrances facing away from us. There is no interference with the bees' flight, as we always have our backs near the tree behind us, where very few bees fly. We are also, most of the time, in the shade, especially the hottest part of the day. The trees serve us a double purpose. Besides furnishing shade for the bees and for us, we use their trunks



FIG. 2.—GROUP OF FIVE HIVES—READY FOR SUPERS.

tree, or trees, where there are several in a group. This allows free passage-way for the operator from behind them. From 1½ to 2 feet of space is left between the hives, from each other. Two more hives are then added, as in the pictures, one facing northeast and

to lean against the covers, supers, etc. while we are operating the hives.

One of the prettiest pictures is that of Fig. 2. It shows to our hearts' content the ease and convenience with which this arrangement permits us to put on 5 supers at a clip in less time than it takes to tell it. That's what we call saving time and labor, which is expense, and one of the short cuts which helps to make profitable bulk-comb honey production. But I'll tell how it is done, although it will take much longer to do this than the real operation itself.

As our hives are arranged this way—in groups of 5—our other manipulations are made in 5's; and it is the easiest way to keep account of the hives in the apiary, supers added, or other work done. Just as we manipulate our frames and combs in sets (or groups) instead of handling the frames individually, just so we continue this method of grouping in our apiaries in the arrangement of the hives in groups. Yea, we go still further, and *even arrange our apiaries in groups*, managing each group separately, and then grouping the whole again into one business on an up-to-date, extensive scale. The latter will be described also in due time later, but at present I would like to have the reader's attention on this grouping-of-hives plan; and, if possible, try a group or two, and also our manipulations, as we shall endeavor to describe them from time to time.

Accordingly, then, to conform to the groups of 5, our hive-cart is arranged. It takes 15 supers, or enough for 3 groups at a time. This load is wheeled to the rear of a group; with

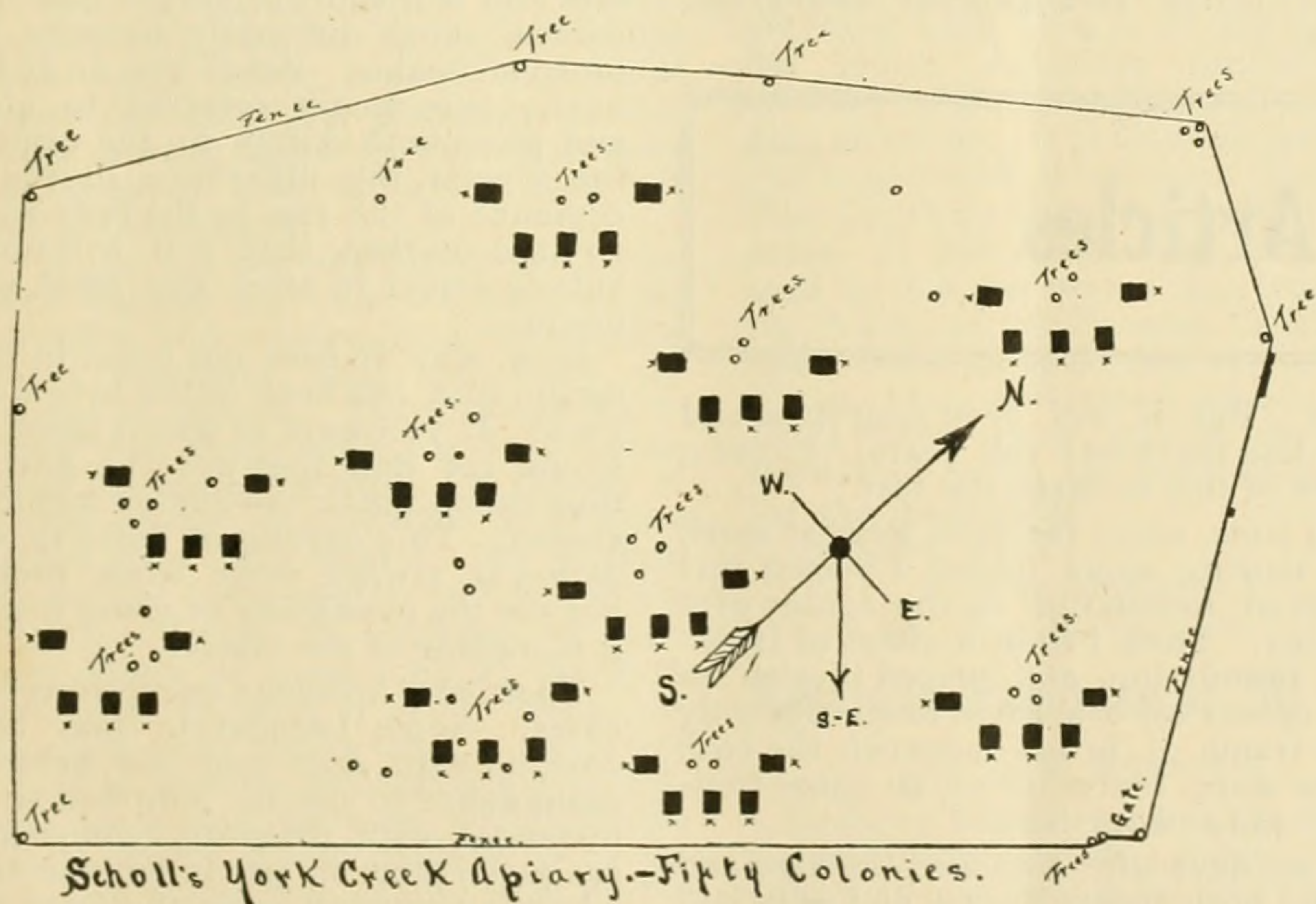


FIG. 1.—APIARY ARRANGEMENT—GROUPS OF FIVE HIVES.

shade—during the heat of the day. We detest shade-boards, after trying several kinds, so we make use of scattering trees as they happen to stand in the apiary.

Under each tree we arrange the hives in groups of 5's, as you will see in the sketch of our York Creek Api-

the other southwest. Although all the colonies do not have shade all parts of the day, each gets a good share some time during the day, especially during the hottest part. Then having hives placed as we have them, the hottest sun strikes them at the corners instead of side or end, thus

smoker in the right hand, the left raises off the covers in a jiffy, jars the bees off on the ground in front of the hive, and places it against the tree behind, while a puff or two of smoke keeps down the bees. The next hive receives the same treatment, and then the next, and in 5 jiffies all the covers

that's so easy, everything is always in place, the trees standing ready for you at all times. This saves much valuable time, as there is none wasted looking for a place to put the covers, or looking for them when they are scattered around when the hives are to be closed again.



FIG. 3.—GROUP OF FIVE HIVES—SUPERS IN PLACE.

are piled against the tree, with the smoker sitting on top of them, as shown.

Now the 5 supers are lifted off the cart *in one load* (they are light), and set on the first hive opened, the lower one released, and 4 set on the next hive, releasing each lower one until only one super remains for the last of the group.

Now the smoker is grabbed again with the right hand, a whiff or two of smoke chases the few bees that have had time to crawl up to the top out of the way, and the left hand replaces the covers in several jiffies more; and

In Fig. 3 we again see the same group of 5 hives, supers and covers all in place, and it has all happened so quickly that the bees below hardly know it happened. We do not stop to smoke at the entrances when we put on supers. Not necessary; only a waste of time when bees are gathering honey, and it would only set them back or disturb them unnecessarily. This is quite an item, as it saves time for the operator and the bees.

This is given for those who wish to arrange their hives systematically; and what better arrangement could one wish?

readers all know that it becomes so by heating, and finally melts when enough heat is applied. But many do not know that when beeswax has been heated, it retains its flexibility for quite a time, even if the heat is not continued. I may very well compare it to iron, for it may be malleable or brittle according to the manner of rendering it and manipulating it. It has similar properties to those of iron also in this, that time acts upon its malleability. Those of you who have used wire for fences, or for grape-trellis, know that new wire, fresh from the factory, is not brittle unless tempered. But those who have seen the same wire on their fence or on their grape-arbor for 30 years, know also that at the end of that time, even if it is galvanized, the wire is much more brittle. So it is with beeswax. It is more brittle, and therefore harder, when it is old. To give back to iron its ductility, it is necessary to melt it. But not so with beeswax. It takes much less to give it back its flexibility. Heating to blood heat or a little more will render it flexible again.

If we have foundation from the previous years in our hives outside of the cluster, this foundation has become hard and is not attractive to the bees. Neither is old comb, until they have covered it for a few hours and given it their heat. But fresh foundation only a few days old, used by the apiarist, still shows a softness similar to that of new-built comb. The bees, therefore, take to it with great eagerness. That is why many apiarists will tell you that old foundation is not so readily accepted by the bees. But just as soon as that old foundation is covered by the cluster it becomes warmed up, and within a very few hours will be as soft and acceptable as the new-made. Of course, if both the old and the new are put into supers, the bees will not hesitate and will appropriate the new foundation more promptly because it is more malleable. But if you do as I did in the experiment referred to above, and place both kinds in the center of the cluster, the difference in the acceptance of the two by the bees will be so little marked that you will not be able to detect it after the lapse of 48 hours.

Now, why do bees cut holes in foundation that has been in the hive a long time? If you were to watch them you would see that they use the particles thus cut to repair the combs within the cluster. This cutting of holes in foundation is always done when they do not see the possibility of using it where it is outside of the cluster.

There are, however, exceptions to all cases. Some foundation may be so covered with dust that the bees have repugnance to use it. You find similar instances with dried-up combs which are given them in partly-built sections. I have sometimes seen the bees build new combs in preference to using old ones that were within their reach. But give them old combs in the center of the cluster and see whether they do not use them quickly. If there is anything moldy or objectionable about such combs, when they are inserted by the apiarist in the heart of the brood-nest, they soon cut out the objectionable parts and make new work out of the

Contributed Articles

Old Comb Foundation—Will Bees Work It?

BY C. P. DADANT.

I see in the April number of the American Bee Journal that several ask the above question of Dr. C. C. Miller, and he answers it favorably. As I have made experiments on it, I thought best to mention them.

Years ago the statement was made in the bee-papers that comb foundation became worthless with age; that the bees would cut it out. I decided to test this for myself. I had at that time, in the upper room of our shop, a box of foundation of an odd size which had been made for a special order, and the one ordering it had countermanded the order. As it was a large size, and we did not wish to work it over or cut it, we had put the box away, hoping to fill an order with it sooner or

later. But it had been forgotten and had laid there two full years. I used a sheet of this to make my test.

In June, when the bees were at work and storing some honey, I placed this sheet of foundation in the center of a colony. Then I took a sheet of fresh-run foundation and placed it also in the center of the same hive, with only one frame of brood between the two. They were therefore on an equal footing—old and fresh alike.

Two days later I opened the hive and found both sheets drawn and eggs laid in both. This, it seems to me, ought to be sufficient evidence that old foundation is as good as new, even if there might be a few hours of difference in the acceptance of it by the bees.

But now let me explain why old foundation is considered as less readily accepted by the bees, and why the bees sometimes cut holes in it.

Beeswax has peculiar properties. My

old. You will find the case exactly the same with comb foundation *made of good beeswax*, no matter how old it may be.

It is therefore safe to say that old comb foundation, which has been properly kept, will be worked by the bees as readily as, the new goods as soon as it has been heated sufficiently. Exposing it to the heat that would soften it for a few minutes previous to its insertion in the hive, would make it as promptly acceptable as new goods, but this is not at all necessary.

Old comb foundation has one advantage over new goods. Owing to its very toughness it is less liable to stretch or breakdown under the weight of bees than the other, and is safer for swarms.

A CORRECTION.

In closing, allow me to correct a typographical omission in my last article on honey-vinegar, page 127. In the eleventh line, the printer makes me say, "If the air has been excluded the acetic fermentation has probably also begun." It should read, "If the air has *not* been excluded." All reasoning persons who have followed my explanations have readily understood that the air is absolutely necessary in the making of vinegar. Oxygen is at the base of nearly all chemical changes.

Hamilton, Ill.

Bee-Keeping in Old Mexico

BY B. A. HADSELL.

In my last article, in describing the route from the city of Mexico over the International & Vera Cruz, a few words were overlooked which do not make it clear, which I will now explain.

From the City of Mexico until we drop down out of the clouds it is a vast tableland, owned by wealthy land owners, each having large buildings with many tenant houses, with street railroads connecting the railroad stations, and the land is devoted to farming one crop of corn or barley, therefore not a bee-country.

Much of the shrubbery in Texas, New Mexico and Arizona, such as the mesquite and catclaw, have thorns, and so it continues until you reach the tropics of Mexico. There nearly everything has bloom with but few thorns, even the mesquite drops its thorns, or rather changes to a number of varieties which have no thorns, but produce bloom and beans similar to those in the States. Nearly all varieties of trees bear bloom at some time of the year, and when the tree is not in bloom the morning-glory covers them at the height of 20 to 40 feet, furnishing bloom during the season we term winter in the North, and I should judge it to be the greatest honey-flow of any time of the year, yet I am puzzled to say just when the greatest flow would be in the tropics, as there is so little change in the temperature, that the bees can work continuously. It is possible that some of the blooms which stand upright may have the honey washed away by rain during what we term summer, but I am confident that many of the bloom hang down, and that the honey is protected, and can

be gathered by the bees, at any time of the year when it is not raining, and it seldom rains except in the evening and the night, and then they can get a great abundance of honey.

The tropics of Mexico are certainly the bee-man's paradise. My ambition has always been to be the largest bee-keeper in the world, and Arizona was probably the best location in the United States that I could have selected to accomplish that end. I probably reached the height of my ambition, but think I have found a better country on the southwestern coast in the tropics of Mexico, and am closing out my bees in Arizona as fast as I can find buyers, and hope to make Mexico my future home. The most desirable location that I found is from Geronimo to Tapachula. This valley is about 20 miles wide and 225 miles long.

At Geronimo the rainfall is 30 inches, and where they raise one crop of corn or grain a year without irrigation. This is a heavy mesquite country, of many varieties, which furnishes a heavy honey-flow. The rainfall increases as you go south. At Tonalá it is 60 inches, where they plant and husk corn every day of the year, and rice and sugar cane produce big crops without irrigation. At Tapachula it runs over 100 inches. The hilly section north of this valley receives three times the amount of rainfall in the valley. The valley section is covered with grass waist high, covered with fat cattle the year round. The valley slopes from the hills to the ocean, with prairie on the upper portion and valuable timber on the lower portion next to the Pacific Ocean, with mountain streams running across the valley every mile or two, making perfect drainage. There is scarcely an acre of waste land in that entire valley. The soil is very rich, with the purest of water and the most ideal climate of any place on the North American continent, the mercury never dropping below 55, or goes above 90. It is claimed that throat and lung trouble is unknown there. The Pan-American railroad runs through the center of this entire valley, and it will soon be one continuous line from Seattle, Wash., to the Panama Canal. This valley is the natural home of the orange, lemon, lime, and many other tropical fruits which grow wild in the woods, furnishing honey for the bees and fruit for the inhabitants.

Buckeye, Ariz.

(To be continued.)

Apiarian Progress of 50 Years

BY G. M. DOOLITTLE.

Looking over some papers found "stored away in the garret," I ran across an old bee-paper, and about the first item my eyes alighted upon was these few words, which carried me back to my childhood home and my father's bees, which engrossed my attention more than half a century ago:

"Bees, like poultry, belong largely to the farmer. He wishes to have an abundance of the sweets for his table, and if in bounteous years there should be some surplus, it is that much extra to be exchanged for other things."

Of course I, myself, did not keep bees more than half a century ago, but I can remember, as if only yesterday, when my father and a neighbor living nearly 2 miles away, who had a few colonies of bees, came to "our house" bringing one of those colonies in a box-hive (a simple box of boards about 14 inches square, with a cover nailed on one end, the height of which was about 20 inches), this hive hanging in the center of a sheet tied at the four corners, and carried between the two men by means of a pole resting on their shoulders, after the pole was passed through under the tied corners of the sheet. This is a very safe way to move bees, but hardly the one W. Z. Hutchinson would advise side by side with his ever-pushing advice of "keep more bees." A 4-horse team with a broad and high hayrack, capable of carrying 40 to 60 colonies, or a railroad train, are now needed by the Hutchinson type of men.

Next I wish to notice those words, "Bees, like poultry, belong largely to the farmer." Father was a farmer, "pure and simple," as all were classed in those days who followed mixed agriculture, as nearly every one did. About 2 years after this hive in a sheet carried on a pole arrived on "our farm," I was so interested that I went around among the other farmers who had bees, and I can now, in memory, count up some 15 "apiarians," all of whom lived within 2 miles of our house, and numbered their colonies from 2 to 15, and some 20; these latter being looked up to as *large* bee-keepers. For such to have been advised to "keep more bees" would have nearly "taken way the breath" of the "whole farming community." In that same circuit, in this year, A. D. 1910, only 3 persons keep bees, and neither of these would make the claim of being farmers, further than having a little land to set the bee-hives on, and a garden. Then, oh! it seems but yesterday, the ding-dong and a-rat-a-tat of the bells and beating on tin-pans, announced to the farmer in the corn or hay fields that "the bees are swarming," and I can in memory see the one living across the valley running from the field, and arriving all covered with "sweat," so that the bees could be "swarmed" before they "run off to the woods."

I often wonder what those who kept bees then and passed to "the great beyond" when I was a boy, would think if they could "appear on the scene" in this age of "keep more bees." Not one of them would know what the term "extracted honey" or "section honey" meant, without an explanation. Then all of the colonies with "hives which were hefty," and those thought too "light" to winter, were "brimstoned," and after the hives had been jarred and pounded upon so as to "jar the dead bees down into the brimstone pit," they were taken to the kitchen, pried apart, when the combs were cut out, and that sealed honey portion of the combs which was white and nice, put by itself when cut "where the white and dark honey separated," while the rest of the comb having honey in it was "chopped fine," when this "sweet mass" was put into a bag and the same hung up before the "old open fire-place," over the

"big brass kettle" to "strain." This "strained honey" was offered to those who kept no bees, in exchange "for other things" as the writer quoted at the commencement of this tells us, and in this way all of this class of honey was disposed of to the mutual advantage of all concerned.

Then, the white "honey in the comb," was taken to the towns and villages near by and exchanged for boots, shoes, "factory cloth," yarn for mittens and socks, which mother used to knit so nicely for us—bless her memory; and if sugar was wanted, the merchant would, "just to accommodate," give one pound of "confectioner's A" for 2 pounds of the honey. "'Twan't right," mother used to say, "but you know, husband, I can't use honey for making that company cake." That kind of sugar was the first *white* sugar I ever saw, but now it is impossible to get one pound of the dark "muscovado" sugar which used to be the sugar in common use at that time—plenty of which could be bought for 3 cents a pound, or the merchant would give 3 pounds of this for one of the white honey, by way of exchange, till he had enough honey to supply the wants of "home consumption."

Then, in those old days, our queen-bee was a "king," and the "sight of the king," when a swarm was being hived, was considered something worth telling about among all the neighbors, while the embryo queen-cells we now find on the combs were "the cradles of the kings," which, when clipped from the combs after brimstoning, were given to us children to play with. What would have been thought of the person who would have dared predict that before half a century had passed the traffic in king (?) bees, for "the improvement of stock," would amount up well into the thousands of dollars, if not into the hundreds of thousands. And what would not those fathers have given to have known of the non-swarmering of the present, where whole out-apiaries with colonies numbering from 3 to 10 times the colonies kept by the "large apiarians" of those days are kept without a single swarm to be cared for or lost? Those men who had to "run" from their work in the fields to care for swarms, were equally anxious to prevent swarming with those of the present, but with their "gums" and "box-hives" were not able to accomplish the things the many improvements of half a century enable us to do.

We older ones almost stand aghast at the mowing machine which takes the place of the scythe of 60 years ago; of the self-grain-binders, which take the places of the sickle and cradle; of the wheel-rake on which the rider is drawn by a horse taking the place of the hand-rake, by means of which the old men prided themselves as to who could "close the nicest winrow" in haying time; of the hay-loaders taking the place of the hand-rake and old ox-cart "laden with its burden of sheaves;" of the bicycle, the automobile, the airship, the telephone; by which a farmer talks to his neighbor through "a hole in the wall;" the phonograph by which "the dead still talk to the living," etc., all of which are even beyond the very

thoughts of the past. Yet in all of these, there has not been an advance so much above that made in bee-keeping, when viewed from an apicultural standpoint. In those days an extractor, a section honey-box, a movable-comb hive, separators, comb foundation, queen-bees reared on a stick by the thousand, shipping-cases for honey so perfect that our product can cross the continent by the car-load in safety, etc.; all of which was as far from the minds of our fathers in bee-keeping as were the autos, phonographs and telephones from the minds of the great mass of those living in that age. Surely bee-keeping has kept well abreast of the times. And had the writer of that little item which brought out these thoughts been living today, he would see bee-keeping as "belonging to the farmers" passing mainly from them into the hands of specialists. It is something wonderful, what has come to the bee-keeper, as well as the rest of the world, during the past 50 to 75 years.

Borodino, N. Y.

Swarms Deserting the Hives— Other Topics

BY E. V. PAGAN.

G. A. Barbisch asks, page 81, why his swarms left the hive after being hived, even when a frame of brood was given. He seems to think the clipped queens had something to do with it. Hardly. A colony does not seem to know any difference between a queen with clipped and a queen with whole wings, for it will swarm out with a clipped queen just the same as if her wings are whole, and it is not likely that the swarm knows any more difference. He is probably right that it was "because it was so tremendously hot during swarming time, and the swarms were so large." Added to that it may be that he took no great pains to give unusual ventilation. The excitement of swarming always begets a great deal of heat, and if a strong swarm on a hot day is put into a close hive, especially if the hive stands in the sun the bees get out. Give all the ventilation possible below, and at least for 2 or 3 days give large additional ventilation at top, either by raising the cover or by shoving it forward so as to leave an inch opening. If the hive is not in the shade, shade it in some way, perhaps by putting on top hay or long grass anchored down by a stick or two of wood. Showering the hive with water also helps.

BAIT-SECTIONS AND SWARMING.

Ralph P. Fisher, page 85, seems to think that in some way we should avoid using bait-sections. Just how he thinks it can be done, and his reasoning connected therewith, seem a little hazy, but as nearly as I understand, he finds out which colonies would need baits, encourages them to swarm, hives the swarm in a small hive and later on transfers them to a larger hive. That seems a good deal like surrendering the whole thing. Nothing is done to hasten work in supers until a colony has swarmed, and after that time bee-keepers in general are not particularly

concerned about hurrying super-work, for the bees themselves commence promptly, even if hives are not so very small. The chief object with all, with many the only object, in trying to hurry super-work is to prevent swarming. But Mr. Fisher seems to say, "If they want to swarm, don't do anything to prevent it, but if they must swarm encourage it." And swarming, in the general opinion, cuts down the honey crop.

Right down at bottom, his objection to baits is the fact that he has little or no faith in them to hurry up work. If he is right in that, then he is right in not using them. But if he has had experience with baits, it is hard to see how he can believe they make no difference. The fact that bees begin work in a bait before they begin in any other section ought to be proof enough that they begin work at least a little sooner in a baited super than in one not baited. Moreover, in a poor season the writer has had many a bait filled in a super and the foundation not drawn out in a single one of the remaining sections in the super. Can proof be stronger that they have a marked preference for the bait? If Mr. Fisher will give baits a fair show, he will probably find that he can cut down still more the small number of swarms he now has.

BLENDING TO PREVENT GRANULATION.

That's a good convention report, page 91, but in one spot the mistake is made that is only too common of telling about something just enough to awaken one's curiosity, and still leaving one in the dark. On page 92 is this: "He described a method of blending to make a good basswood flavor, to help prevent granulation." Now what's the use of taking up space to say that, and then leave us entirely in the dark as to what the method is?

PLAN OF SWARM PREVENTION.

The plan to prevent swarming, by A. C. Allen, page 94, is the Demaree plan, given by G. W. Demaree many years ago, which has proved reliable in many places, but there have been reports of some failures. The unfortunate thing about it is that it can be used only when running for extracted honey.

4.---Bee-Talks for Beginners

BY JIMSON RAGWEED, OF INDIANA.

SELLING BEES—HIVING SWARMS.

UNCLE JIMSON:—Ma wants to know if you would care to buy our bees. Pa has so much to look after, and ma says she cannot carry heavy hives about the yard at swarming-time like she did last year.

We had a nice letter from Sammy yesterday. We were surprised to know that he is in a business college in Knox County. His letter was printed just like one we had from the Empire Medicine Company.

Pa has gone to Martinsville to vote, and ma is making her ash-hopper.

Your neice, LUCILE RAGWEED.

DEAR LUCILE:—If I could I would discourage your ma about disposing of her bees because the season promises good, and a great many lady bee-keepers are making quite a success of the business. I think, too, that some of the hardships which you mention can be avoided. I remember that when you

have a swarm your ma takes a hive to the swarm to be hived and then moves the hive after dark. I do not consider this the best plan, because a newly-hived swarm goes to work at once, and they mark their location, and after being moved many bees return to that location, possibly to perish. I would solve the problem like this: Place an empty hive on its permanent location, and then bring the swarm to the hive. This lightens the work, and is much more satisfactory, for if hives are carried about after the swarm has entered, frames may be jolted apart and combs would then not be satisfactory.

Your uncle, JIMSON RAGWEED.

A BOY BEE-KEEPER—HIVING SWARMS.

DEAR UNCLE JIMSON:—I am now 8 years old. I go to school and to Sunday-school, and I help pa with the bees. We have 7 colonies, and pa is going to get a slinger.

Pa says to thank you for the picture with your hair down on your shoulders. Ma says she thinks you look more like grandpa Ragweed than any of the boys.

Pa wants me to ask you how you hive a swarm of bees. Pa pours them in at the top of the hive, but when he puts the lid on he smashes some of the bees, and then we feel so sorry.

I have 64 Lincoln pennies and a dog. Has Steve and Eva got a dog?

If you get this, write soon.

JAMES RAGWEED.

DEAR LITTLE JIMMIE:—I am surprised that you can write such nice letters. Tell your pa that I think the best way to hive a new swarm is to pour the bees at the entrance of the hive after having the empty hive on its permanent location. As soon as a few bees get started in they will hum a note of "Home, sweet home," and they will just scramble over one another to get in. Not a bee will be killed. I am like you, I always feel sorry when I see a bee destroyed.

Steve and Eva have no dog, but they have 7 or 8 cats.

Our best wishes to all of you, and you must write again to your uncle.

JIMSON RAGWEED.

BEE-KEEPING AS A BUSINESS.

MR. RAGWEED:—I have seen your name in one of the bee-papers, and I would like the privilege of asking a few questions about the bee-business. I am thinking of taking up the business as an exclusive line, but I have had no experience. About how many hives should I keep? What race of bees do you recommend? My library is quite complete on bee-literature, and I find the subject very fascinating. Pardon me for intruding on your valuable time, but I would be much pleased to hear from you.

WILLIAM TAFTVELT.

MR. TAFTVELT:—The bee-business, like all other agricultural pursuits, has its ups and downs, and some seasons we have near failures. I have never seen a season so poor that bees would not produce some surplus in your locality, either from white clover or fall flowers. In your location you would have a home market for all you produce, which would be in your favor. In a good season profits are excellent, and I have known a single colony to net its owner as much as \$20. It would be unfair to expect such a yield regularly, but I think one-fourth the amount, or \$5 per colony, as an average, would be fair. I do know that in your locality you could realize 20 cents per pound for comb honey and 15 cents for extracted. Retail dealers are getting this price, and the public would much prefer to buy from the man who has the bees.

As to making it an exclusive business, you should have at least 100 colonies, and then it might be well to establish out-apiaries of 75 to 100 colonies.

As to race of bees, I prefer the gentle Italians, but personally I would not try very much to keep up a high standard of purity where honey alone was my object. I am very partial to the gentle strains of bees, and I have beheaded many queens because their bees were inclined to be cross.

Poultry and small fruit go nicely with the bee-business, and I have often thought it might be well to have some other line on which to fall back in a poor season.

One other thing: One may be thoroughly well read on any subject, but in learning many of the details, actual experience is required, and on this account I usually advise beginners to start with a few colonies and then increase as experience may suggest. That the business is fascinating to you is much in your favor, and yet any one who studies the bee is bound to become deeply interested. I have kept bees for many years, and have no intention of giving it up, although I could take the agency for a certain brand of rattle-snake oil and make much more money.

Very truly, JIMSON RAGWEED.

Easy Comb-Honey Production

BY W. K. MORRISON.

There are hundreds of readers of the American Bee Journal who would like to find some way to produce comb honey as easily as extracted is now produced. They can sell comb honey readily, but it costs too much in time and trouble, and extracted honey is too hard to sell.

If you are in the above class, I wish to ask the favor of your closest attention, hoping you will do me the honor of following my directions to the letter. You will undoubtedly be told that producing comb honey in this way is impracticable, etc. Please do not mind such advice for once at least, and try the experiment yourself.

There are certain facts that should be borne in mind at all times, when we are producing comb honey.

First, swarming is the stumbling block in comb-honey production. If you control this without in any wise weakening the bees you have made a great step forward. The usual plans recommended are an aggravation rather than help. Mr. Louis H. Scholl recommends a plan that is certainly effective, but not all of us can dispose of canned comb honey. In the meantime we want something practical until the Scholl idea has gained more ground.

At the present time, when we put a comb-honey super on a strong colony, the net effect is to cause the colony to swarm. In any case it does not keep the bees from swarming. When a super with frames of comb is put on, the case is different. *Swarming is arrested at once*, and if this policy is consistently carried out the whole season, there will be no swarming worth mentioning. Why?

Our English cousins have gone a step further by adding a super below

the brood. The bees are not expected to use this super, but the added space tends to check the swarming impulse. Do you see the point? Well, it is this: A large vacant space is necessary. A super with a lot of partitions is not regarded by the bees as a vacant space. On the contrary, the bees have to be *compelled* to enter it.

The idea now presented is to create a comb-honey super that closely resembles a super for extracted honey. The fewer partitions the better, and the nearer the sections correspond to frames the better. They must be about the same width. Let me state the specifications:

1. Sections must be open on all 4 sides.

2. Sections as narrow as possible—not more than $1\frac{3}{8}$ inches from center to center.

3. Dr. Miller's T-super.

4. Absolutely no separators.

5. Starters; if full sheets are used they must be attached on all sides.

6. Hives set perfectly level. Use a brick-layer's spirit-level.

The first two points are very important. No success need be anticipated unless these are strictly adhered to.

I discovered long ago that bees cannot make straight combs if the thickness is greater than one inch. They will make reasonably smooth combs when the width allowed is not more than $1\frac{3}{8}$ inches from center to center. They will do better at $1\frac{1}{4}$ inches from center to center, and even better at $1\frac{1}{8}$ from center to center. Bees allow only $\frac{1}{8}$ of an inch between two honey-combs, so that the thickness of comb at $1\frac{1}{8}$ from center to center is almost one inch.

I once made a lot of hives with sections in the brood-chamber instead of frames. They were spaced at different widths. At $1\frac{1}{4}$ inches I secured the best results. The worst results were obtained at 2 inches.

You will have some trouble in getting narrow sections, as bee-supply men do not have them in stock. To get around this difficulty buy plain sections, and cut the insets yourself. They may look a little rough, but your customers won't mind that in the least. I used a Langdon mitre-box to cut the insets, using a chisel to gouge out afterwards.

You can readily make the T-super by purchasing long boards cut the right width and thickness at the planing mill. T-tins can be had by express or mail. The outside sections require an extra bee-space, but little chips of section stuff will provide that. There is no harm in using a follower.

To get good results the supers should be placed on in ample time. One of the causes of swarming is too much honey in the brood-apartment. The queen finds herself restricted for room to lay, and concludes the hive is full up.

Another point that must not be overlooked is ventilation. During hot weather provide an entrance to each super or story by pulling it back a little till there is just enough room for the bees to pass out. Also, pull the cover sidewise a little until the space between the follower and the side is exposed. I know full well what the text-books say about this matter. But

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pass them by for once. Writers often entertain views that are quite erroneous. The greatest fallacies have always had able writers to defend them. I have lost a great deal by following the writers of bee text-books. We bee-keepers have followed too ardently after writers who had an axe to grind, or they were too theoretical. Anyway, let us get out of the rut. Text-books are seldom original. They follow ruts.

There are a number of other points that I might mention, but they are not absolutely essential, and many bee-keepers cannot afford to make radical changes just now. One of these points is non-propolizable hives. Such hives are regularly advertised in Europe, and they are quite within the range of practical bee-keeping. *In many things we are behind Europe.* Our hive-roofs, or covers, also bottom-boards, are poor affairs. Their only merit is cheapness. I often think the great *improvements* we have made on the original Langstroth were in the nature of steps back-

ward towards the plain box-hive.

Personally, I prefer a broad, shallow hive which gives much room for sections, so that when a super is well filled it will give 45 to 50 filled sections. That is not quite essential, but it seems to me bees notice a super so placed much more readily than one which stands on top of a tall-shaped hive. I like to put that vacancy as near the brood as possible, so as to check the swarming fever. Shade also has something to do with this matter. Bees hived in a tub are not likely to swarm, if shaded. Put the bare tub out in the sun and they will swarm with the tub half-filled with combs.

It is my opinion we can control swarming so well that not more than 2 percent will swarm, and that, too, without any elaborate arrangements for controlling the same. The main thing to remember is to fashion your comb-honey hives so as to resemble hives arranged for extracted honey.

San Diego, Cal.

as the first and only book for a beginner. In any case, those empty combs ought to be quite a help to you, and if you have not already done so, you ought to clean out the dead bees and keep the combs in good condition till they can be used. It will be a good plan to put one or two stories of these combs under each colony, and then when given to swarms they will be readily accepted. But this may delay swarming, if you depend upon natural swarming. At a venture, I may suggest that if you are familiar with it, the nucleus plan of increase is a pretty good one.

2. If the honey is only a little sour, it may be given to the bees, one frame at a time. It may also be used as you suggest, for vinegar, and you will find full instructions as to this in the very excellent articles by C. P. Dadant in late numbers of the American Bee Journal. He knows ever so much more than I about making vinegar.

Labeling Honey

1. A friend of mine contends that it is necessary for me to place my name on every section of honey I sell in the State. Is this true?

2. What is necessary if I ship out of the State?

3. Would the comb foundation I put in sections prevent me from labeling it "Pure honey gathered from the nectar of flowers by bees?" ILLINOIS.

ANSWERS.—1. Your friend is entirely mistaken. There is nothing obliging you to put your name or anything else on your sections.

2. All the same whether you ship out of the State or sell in the State, as the pure-food laws of the State are about the same as the Federal laws.

3. The foundation makes no difference. It's beeswax, just the same as when no foundation is used.

Dr. Miller's Question-Box

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

Best Comb-Honey Super and Hive

1. What kind of super is the best to use for comb honey, and what are its advantages?
2. What hive do you think is best for comb honey? WEST VIRGINIA.

ANSWERS.—1. Personally, I prefer the T-super to any other. It is simple, costs little, and those who use it correctly have good results with it.

2. I doubt if there is anything better than the Langstroth hive, the commonest form of which is called the dovetail hive. The 10-frame size is best unless one gives much attention to the business.

Alsike Clover in Kentucky

Will alsike clover make bee-pasturage in this State (Kentucky)? A very small amount has been sown in this country until the last year or so, white clover being the principal source of honey. KENTUCKY.

ANSWER.—I think alsike may be counted on as a good honey-plant wherever white or red clover does well.

Kinds of Bees

What kind of bee is each of the ones I have enclosed herewith: The queen, 1; the bright striped bee, 2; the glossy looking one, 3; the common colored bee, 4? CALIFORNIA.

ANSWER.—You cannot tell by looking at a single bee what sort of a colony it belongs to. It is possible that all 4 specimens belong to the same colony of hybrids, a cross between blacks and Italians. For such a colony often has some bees that have 3 yellow bands, the same as pure Italians; some with no yellow, and some between. One of the workers seems to have 3 bands, as nearly as one can tell from a dried-up dead bee, and it may belong to a pure colony or to a hybrid. One of the workers may be pure black, or it may be hybrid. The queen may be almost anything; for one judges from workers, not from queens.

Cork-Chips for Water-Floats

What size of cork-chips do you use in water to keep bees from getting drowned? Also, about how thick is the layer of corks on top of the water? I am trying to get cork-chips here. I can get granulated cork, of which I have samples Nos. 2, 3, and 4.

Watering bees in this locality is quite an item. My 75 colonies get away with as high

as 60 gallons per day. I have to haul it all. I have been using large troughs filled with brickbats, but the bats take up almost all of the space. I also tried second-hand corks (cut them up), but in a few days the water would be foul; mostly wine-corks. I am sending samples of cork-chips. Should they be finer or coarser, etc.? CALIFORNIA.

ANSWER.—I don't believe it makes so very much difference as to the size of the cork-chips, although I suppose the finest chips will lose their buoyancy soonest. Neither does it matter greatly as to the depth of the layer, only so it be not so thin that the bees will sink down into the water, nor so thick that they cannot reach the water. The chips I have been using are those which the grocers receive as packing in kegs of grapes that come in winter, or at least very late in the fall. The chips are of various diameters, from very fine ones up to those that are $\frac{1}{2}$ inch or more in diameter. A layer about $\frac{3}{4}$ inch deep is first used, and more added later as they become soaked. The idea is to have enough chips so that the top surface will be a little out of the water. Although I never tried that size, I suspect that the coarsest you send (something like $\frac{1}{4}$ inch in diameter) would be ideal. After giving cork-chips a fair trial, if you find they're not great, please send me a letter "blowing me up," and I'll publicly apologize.

Getting Increase—Using Old Combs

1. Nearly all the bees in this part of the country were lost during the winter. What is the best way to increase?

2. I have considerable honey in hives where the bees died. Some is not capped, and is a little sour. What is best to do with it? Would it make vinegar? If so, what is the best way to make it? Where the honey is capped it seems to be all right. SOUTH DAKOTA.

ANSWERS.—1. I don't know. It depends upon circumstances, and especially upon your knowledge. If you have no bee-book, and very little knowledge of bees, very likely there is nothing better than to let the bees swarm naturally, hiving the swarms on the combs left empty by the bees that died. If you have studied a good bee-book thoroughly, so as to have a pretty thorough knowledge of general principles, you will likely be able to tell better than any one else what is the best way for you. If you have no such book, it will pay you big in the present case to get one. "Forty Years Among the Bees" is perhaps more full upon the subject of artificial increase than any other book, but I can hardly recommend it

Doubling Up Swarms

1. I would like to know the best way to double swarms up. If they both come out the same day, or a day or two apart, should I put the old colony on top of the new swarm? Should I take the bottom out of the top hive, or how can I get them together?

2. If a swarm comes forth, and you don't see what hive it comes from, is there any way to tell what hive it comes from? NEW YORK.

ANSWERS.—1. If they are only a day or two apart, the easiest way is to have the second one in the same hive as the first, just as if the hive were empty. But both queens must be laying queens, or else both virgins, for 2 swarms will not unite kindly if one has a laying queen and the other a virgin.

2. Take a bunch of the bees away from the swarm, dredge them with flour, and watch to which hive they fly back. Of course, you may also be able to make a good guess by looking into the hives and finding one which has a scarcity of bees.

Ten-Frame Hive for Winter—Feeding Section Honey—Getting Extra Frames for Spring Feeding

1. My bees wintered well, but I found 2 colonies very light. One was in an 8-frame Wisconsin style, and one in a 9-frame Acme. This year I am going to use the 10-frame dovetailed hive. Do you think they will winter better if we have a good year?

2. I fed these colonies by placing a super on each, and put in three 1-pound sections of honey, and repeated when empty; one colony does not use any more of the honey given. Was that way of feeding all right, as I didn't have any honey? Why does that colony refuse to take the honey given?

3. Do you look into each hive in the spring to see if the bees have plenty of honey, or clean out the moth-worm? In looking into the hive and raising the combs, would it be apt to start robbing? When is the best time to do this work?

4. The fruit-trees are starting to bloom, the weather is fine, and bees are carrying lots of pollen. Do you think there is much danger of starvation when conditions are such as these? Do bees use pollen for food?

5. How do you get extra frames of comb honey to be used in the spring, if needed? IOWA.

ANSWERS.—1. The change of hives will probably make very little difference in their wintering.

2. It is possible that the colony was weak and the weather too cold for the bees to get

so far from the cluster. More likely the bees have plenty of honey, and thought it was all right to leave the honey right where it was until they needed it.

3. Right away after the bees are taken out of the cellar I heft the hives by lifting them, and whenever I find one that feels light I look in to see whether it needs honey. I pay no attention to moths or their larvæ. There is not much danger of starting robbing if one is careful.

4. There may be no danger, and there may be great danger. Bees use stores rapidly at this time, and if there is not much honey in the hive a few cold days in fruit-bloom may find them starving. Also, there may be dearth and starvation between fruit-bloom and clover. The safe way is to have so much honey in the hive that there will be no danger.

5. Perhaps a few colonies are devoted entirely to storing honey in combs to be ready for emergency the following spring. Perhaps some are allowed to store in combs after the clover flow is over.

Foul Brood—Splinting Foundation

1. My bees have had foul brood. I lost 40 colonies last winter—foul brood, long confinement and honey-dew was the cause. I have 5 colonies left, and on account of foul brood I would like to shake them on comb foundation. When would be the best time to do it?

2. They are weak, and I would like to save all the brood I can. How shall I work it to save the brood?

3. How do you put splints in comb foundation, horizontally, crosswise, or up and down? and how big are they? OHIO.

ANSWERS.—I. "In the honey season, when the bees are gathering freely." Yet last year I operated in a drouth, there being no honey season.

2. Pile the brood up several stories high on a new stand, taking enough bees with the brood so it will not chill. In 3 weeks this pile can be brushed upon comb foundation and a queen be given.

3. The splints are put in vertically, running up and down. They are about 1-16 of an inch square, and about ¼ inch shorter than the distance between top and bottom bars.

Management for Increase

I have 2 colonies of bees and want to increase to 5. How would you increase so as to have them strong for the honey-flow? It comes about June 1st. What time should I make the increase? I would think that if I would take out the division-board and put a partition in it bee-tight, and put a queen in each side, they would have frames of brood between them; and when the honey-flow starts, take the partition out and introduce a queen, it would be all right. NEBRASKA.

ANSWER.—I don't know of any way by which you could increase 2 colonies to 5 and be likely to have all strong for the honey-flow, unless it should come very much later than the first of June. As to the time for making increase, it is generally not wise to undertake it before about the time when bees swarm naturally.

I cannot give an opinion as to the plan you propose, as I do not understand it.

A Beginner's Questions

1. I am a beginner and have only 8 colonies of bees. Last year I had one colony that had a fine Italian queen, and in October she was all right with plenty of honey for winter. When I opened the hive in March I could not find her, but there was another queen as black as any of the rest of my black bees. How did the black queen get there? She seems to have not a drop of Italian blood in her.

2. What race of bees will get the most honey, regardless of temper or any other faults?

3. I introduced an Italian queen into a colony of blacks, and in 5 days I found queen-cells sealed, and the queen I introduced was all right and laying, but the bees were taking care of the cells just as if they had no queen. Why did they do this when they had a laying queen?

4. How can I tell pure Italian bees?

5. How would it do to get queen-cells built in a hive with its queen in it, by putting all of the brood and bees over an excluder and leaving the queen below on empty combs, or giving a little more distance without the

excluder? Would the cells be as good as those built in a queenless colony?

6. If I remove the queen from a strong colony in a good flow will the cells be as good as the ones started in swarming season?

7. What percent of your bees swarm?

8. What race of bees would you adopt if you could not get Italians? VIRGINIA.

ANSWERS.—I. Hard to tell. It is just possible that she flew there from some other colony.

2. I don't know. I'd as soon risk Italians as any. Continued selection, always breeding from the best, will improve the gathering qualities of any kind.

3. They often do so. The probability is that finding things irregular at the time of the introduction of the queen, they think something is wrong, and as a matter of safety start queen-cells. Then before the cells mature they find they don't need them, and destroy them. But sometimes the cells are allowed to go on to maturity and the introduced queen is killed.

4. The regulation rule is this: Look at the worker progeny; if they show three yellow rings, the mother is pure, and purely mated.

5. If brood is separated from the queen by an excluder, sometimes cells will be started, and sometimes not. Cells will be more sure to be started if the queen be in the first story and brood in the third, with no excluder, and combs with no brood in the second story. Cells started in either way are as good as in a queenless colony, if the force be the same.

6. I think so. But something depends upon the condition of the colony and the time when the queen is removed. If the colony be weak, or if the queen be removed too early, a poor queen is likely to result.

7. If you mean what percent swarm naturally and are regularly hived in another hive, perhaps less than one percent. If you mean how many swarm out and then go back to their own hives, somewhere from 5 to 20 percent. If you mean how many would swarm if left entirely to themselves—in some years 10 percent, and in some years 90 percent.

8. I don't know. If ever that time should come, I'd try to study up on the question, and perhaps try some of several kinds.

Most Gentle Bees—Comb-Honey Hive—Introducing Queens

1. What strain of bees do you consider most gentle and easy to handle?

2. Do you think best to sprinkle bees with water before putting them in the hive when they swarm?

3. Would you use an 8 or 10 frame hive for comb honey?

4. Are hybrid bees as good as pure stock?

5. I have a queenless colony. What kind of a queen do you think best to introduce to them? They are 3-banded brown bees. What method do you advise? WASHINGTON.

ANSWERS.—I. The Caucasians are claimed to be gentlest of all, but reports do not all agree.

2. It is not a general custom, but if there is fear that the swarm will go off, sprinkling will help to prevent it.

3. For the one who does not give very close attention to bees, the larger hive is better; for the one who gives all the attention needed, the 8-frame hive may be better. But in building up before harvest, it will need to be used 2-story sometimes, and that really makes it a 16-frame hive.

4. Sometimes they are better, and sometimes not so good. But even if better, they are more likely to run out than pure stock.

5. Get an Italian queen and introduce by the method given in the instructions that come with the queen.

Increase by Dividing

Can you give me a method of artificial increase as good or better than natural swarming? I have 23 colonies, and would like to increase to 50, if the season is favorable, and have not time to watch them as I would have to do by natural swarming. MINNESOTA.

ANSWER.—Just what is the best way for you is not easy for me to say. It depends something upon your familiarity with bees and their habits. If you have not done so already, get one or more good bee-books and study up on general principles, and then you can judge better than I what course to pursue. My book, "Forty Years Among the Bees," gives perhaps more information upon

different ways of artificial increase than any other, but it would be better to have some other book first as a foundation study.

It may be well, however, to mention one way of making increase that may suit you. Ten or 12 days before you think there is danger of swarming, and at a time when honey is yielding well, take from her colony your best queen along with 2 frames of brood and adhering bees, and put them in an empty hive as a nucleus. The bees thus left queenless will start queen-cells. Within 2 or 3 days take from a number of other colonies all their brood but one frame, and put this brood in an upper story over an excluder, leaving the queen in the lower story with her one frame of brood, the rest of the story being filled with empty combs or frames filled with foundation. Ten days from the time your best colony was made queenless, set these upper stories on new stands and give to each a queen-cell from your best colony.

Increase by Driving—Races of Bees—Foreign Bee-Papers

I am a beginner of 2 years standing, or rather "kneeling," because I am all crippled up with rheumatism, so that I am unable to walk without a stick, and have to kneel when working with the bees. I began last season with 2 box-hive colonies and 2 weak nuclei, mismanaged colonies of the season before with bees enough to cover one frame. One of the box-hive colonies swarmed itself to death, or, at least, almost so, for when I transferred it Feb. 20, I found very little honey, no eggs, no brood (not even one capped drone-cell), and about a scant half-gallon of bees, so they must have swarmed at least 21 days before. I increased to 13 colonies, and got from 2 hives (which I did not use for increase after the middle of June) about 75 pounds of chunk honey from one, and 56 sections from the other; besides that, the latter being in a divisible 10-frame brood-chamber, and every frame of the upper section of it filled solid with honey, and had, about the week before Thanksgiving, the lower section filled, with the exception of a space about 3x5 inches in 3 frames, that was filled with brood. We had a fine fall flow, the bees gathering up to Sunday before Thanksgiving.

1. I want to double my colonies, which can easily be done as peaches and pears are in full bloom, and although the bees are a little behind last year, they have all from 5 to 8 Langstroth frames of brood, or the equivalent. I also have one colony doubled up and strengthened to 12 frames of brood, to be used to rear drones and queens, the eggs for queen-rearing to come from another queen. To get more increase I can use about 10 box-hives, if I should supply the planter's family with honey and leave the old hives on the place. Now I want to drive these bees as often as possible without ruining them. How often could this be done by putting the old queen back in the box-hive?

2. How long would it take for them to become strong enough for a second drive if I have to run in a virgin?

3. How long would it take if they had to rear a queen themselves?

Now, I don't want a mathematically exact answer, a rough guess will do.

4. I have several bee-books, Root's "A B C," Dr. Miller's "Forty Years Among the Bees," Hutchinson's "Advanced Bee Culture," Cook's "Manual of the Apiary," Doolittle's, "A Year's Work in an Out-Apiary," and a couple of pamphlets, but what all of these books do not say about the different races of bees would fill a good-sized book, and that is the one I am after. So if you can tell me where to get a book of that kind, in either English or German, you would oblige me very much.

5. I have sent for queens to several queen-breeders and received queens that produced good, hustling workers, but I don't believe I got what I ordered, because I got from one breeder Carniolans, and from another Banats; they both build nice little curtains from propolis about ½ inch back from the entrance, so as to let them enter upwards between the frames, and also below through small openings about ¼x¾ to one inch or so. These curtains or storm-doors have proven to be sure mouse-excluders, but also point strongly to Caucasian blood in those queens. Now I want the coming summer or early fall 2 or 3 imported Banat queens, mailed from the Banat part of Hungary direct to me without being classified; that is, picked over by anybody. If you know of any importer who will do this, please let me know his address, or if you know the address of an Austrian bee-paper where I could find advertisements from exporters (must be printed in German) please let me know. There is a bee-paper

American Bee Journal

edited in my old country, the Kingdom of Saxony, and if I am not mistaken, the city of Leipzig, that I would like to take if you can tell me its address and subscription price.

MISSISSIPPI.

ANSWERS.—I've studied over your questions several times, and each time the feeling grows upon me that I don't know very much about bees. I might bunch the 3 questions together and answer them by saying "I don't know" (which would be only the truth), but you suggest "a rough guess," and surely I can do so much as that, even if it be so rough that you'll need a very coarse file to smooth it. The great trouble is that there are no fixed data to work on—only varying quantities. The strength of the colonies may vary greatly, there's nothing definite about the amount you will drive each time, nor for that matter as to just how strong the driven lot should be. Something depends, too, upon the time of day when you drive. Perhaps it will be better to drive at a time when a good force is out in the fields, and then make a pretty clean drive.

But I'll undertake the guess, leaving the way open for any one to make a better guess.

1. About 3 weeks.
2. About 30 days.
3. About 6 weeks.

I don't know of any book that gives what you want about different races of bees any better than the ones you have.

I'm not so sure that you are right about those "curtain"-builders being of Caucasian blood. The worst gluers ever I had were the so-called Punics.

I will try to give information either in this or next number about the foreign journals you mention, in which you may perhaps learn about the bees in question.

Black, Sticky Substance Around Hive-Entrance

One of my colonies of Italian bees has a black, gummy substance around the entrance, almost entirely closing it. I have to clean it out every day; no other colonies have this. Is there any danger of losing it? Being a novice I would like to know.

DELAWARE.

ANSWER.—It is not likely that the colony is in any serious danger from it, although I must confess I don't know what the trouble is. It may be the droppings of the bees, and it is possible that a larger entrance would be better, if the entrance is much less than a square inch. If it were in the fall I should guess bee-glue, but not in the spring. I never before heard of a case that would need attention every other day.

Splinting Comb Foundation—Uniting Weak Colonies

1. What is the best way to support foundation in the frames, with wire or with splints? and how are splints fastened to the upper and lower bar, or not at all?

2. What is the best way to unite weak colonies? Shall I kill the queen, or will the bees do that?

3. Is it better to unite 2 swarms, and make one big swarm out of 2? and will I get more honey from one big swarm than I would get from 2 small ones?

WISCONSIN.

ANSWERS.—1. Splints are growing in favor. They are better than wire for brood-frames, but wiring is probably better for shallow extracting frames. Splints are pressed into the foundation, and not fastened either to top or bottom bar. Full instructions for fastening are sent with the splints.

2. The bees will destroy one of the queens, but it may be better for the bee-keeper to attend to that job. There will be more peaceful uniting if one colony has been queenless for 2 or 3 days.

3. You will be more likely to get more honey from uniting. In places where a strong flow continues very late, more honey may be had from the two kept separate.

Laying Worker—Young Queens

1. How early in the spring will a colony of bees take a laying worker? I have 5 colonies I put out-of-doors about the first of March, and the bees of one of the hives have died terribly, only about 2 combs of bees left. I ask about the bees taking a laying worker because I expect to find one or more hives without a queen when I look through them, and would rather give them eggs than go to the expense of buying a queen for them.

2. Will they take a laying worker before the queens of the other hives commence

laying? I would rather give them eggs from another hive to rear for themselves a queen.

3. Will they take eggs and start a queen after they choose a laying worker? If I understand what a queen of the current year is, it is the queen that is hatched this summer. I saw in Dr. Miller's bee-book that a queen seldom swarms of the current year's hatching.

4. How can a colony swarm the second time without the young queen swarming with them? and if the queen of the current year doesn't swarm, how soon in the spring can one go to overhauling the hives?

ILLINOIS.

ANSWERS.—1. Perhaps 2 or 3 weeks after beginning to fly nearly every day.

2. They may rear a queen from eggs or young brood given them, but it doesn't pay. When laying workers appear on the scene (it may be well to mention that instead of there being a single laying worker as you suppose, a whole lot of them go at the wretched business), all the workers in the hive are pretty old, and most of them will have died off before any young brood can appear to take their places. Indeed, whether there are laying workers or not, it is a poor plan to let a queenless colony rear its own queen in the spring. Generally the queens are very poor. The best thing is to unite the queenless colony with another having a laying queen.

3. In the case of a second swarm, or any afterswarm, a virgin queen goes with the swarm, and of course she is of the current year's rearing. But a *laying* queen of the current year, if left in the hive where she was reared, is almost certain not to swarm.

4. As soon as bees are gathering freely, and the weather is warm enough for them to fly well.

Requeening Colonies—Comb or Extracted Honey?

1. Which is the best way to tell whether a colony is queenless, and needs requeening?

2. Tell me how to go at it in an easy way to requeen colonies?

3. What month would be the best to requeen colonies? I have 21 colonies, and I would like to requeen part of them this spring or summer.

4. Which is the best plan, to run for comb or extracted honey?

5. Which makes most work, to produce comb honey or extracted honey? I guess extracted makes less work for the bees.

MINNESOTA.

ANSWERS.—1. Look and see whether there are eggs and brood present. If not, there is no *laying* queen present, but there may be a virgin queen. Give a frame with young brood, and if no virgin is present queen-cells will be started. Yet sometimes cells will be started even when a virgin is present.

2. There is probably no easier way than the one generally given as instruction that accompanies queens sent by mail. That is, to remove the old queen and put in the cage containing the new one, allowing the bees to liberate the queen by eating out the plug of candy. A safer way is not to let the bees at the candy for 2 or 3 days after the cage is in the hive.

3. June is a good month.

4. For some, comb is best; for others, extracted. You will have to find out which is best for you.

5. Comb honey is generally considered to take more work.

You would find it of great profit to get a bee-book.

Bees Robbing—Using Combs on Which Bees Died—Drone-Comb

1. Since you said that the hives I have need little packing, I unpacked them yesterday. Everything went all right, and I finished my work about 9 o'clock. I took no notice of the bees until after dinner. Then I happened to look at the bees, when, behold! they were robbing one of the hives. They were pouring in and out of the entrance, trying to push into cracks, etc. I shut the hive up, but noticed as I did so a heap of dead bees lying at the entrance of the next hive. At night, or rather towards night, when the bees were all in I opened the hive and found every bee in it dead. They had already begun to rear brood and had it in all ages. Now did the robbers kill the bees, or did they, after their hive was robbed, endeavor to enter the next hive and were stung to death?

2. What caused the bees to rob? I did not scatter any honey or comb, and I removed everything I had used as soon as I had finished.

3. I have several hives now empty which

had bees in, but they died during the winter. Now, I would like to know, since one of them contains two frames of honey-dew, can I put a swarm in it just as it is? Another has some candied honey in it. Can I put a swarm in this as it is?

4. If I can, would it be worth while to cut out the drone-comb? The reason I ask this last question is this: I have read that one should never give a swarm a number of already-built combs, for they are sure to build drone-comb in the rest or remaining space. Now if I cut it out won't they build drone-comb again in the same place?

NEW JERSEY.

ANSWERS.—1. I don't know; but robbers are not likely to kill the bees that are being robbed.

2. I don't know what caused the robbing in this particular case, but in general the fault lies with the robbed rather than with the robbers. In most cases, especially in the spring, the colony that is robbed is queenless. Likely this was not the case in the present instance, as you say there was brood in all stages. It may be the colony was too weak to defend itself.

3. It would be all right in case the honey-dew and the candied honey should be used up before winter. But there is some danger that this would not be the case; so it is better to have the combs emptied out before using them for swarms. Let the bees rob them out before the time of swarming, so the honey-dew will be worked into brood. Spray the combs of candied honey with water as often as the bees lick them dry.

4. It is worth while to cut out drone-comb if you patch the holes left with worker-comb or foundation. Otherwise the bees will be pretty sure to fill in drone-comb again.

Sundry Questions

1. What are the latest editions of "Langstroth on the Honey-Bee" and "Forty Years Among the Bees?"

2. How much do you suppose they would charge for ½-pound and 1-pound packages to ship bees? How much a piece without bees in them?

3. What kind of a drone-guard gives the best ventilation, zinc or wire?

4. How would this kind of hive be for the production of comb honey. Frame 15½x9¾, 8 in a hive; just one body used for a brood-chamber?

5. How would you like a wood-and-wire honey-board, with just ½ as many slats, and wire to take the place of slats to give more ventilation in the upper story?

ARKANSAS.

ANSWERS.—1. The latest edition of Dant's Langstroth is 1909; of "Forty Years Among the Bees," 1906. I don't know about the others you name in your letter.

2. I don't know; I don't find them listed in the catalogs. You can find out by writing to the manufacturers.

3. I think the wire.

The other things you ask about I have no practical acquaintance with.

4. The capacity of such a hive would be 72 percent of that of an 8-frame Langstroth. That would be quite too small.

5. Other things being equal, there would be an advantage in the greater openness.

Plans to Prevent Swarming

1. Do you think this is a good plan to prevent swarming? By fastening the young queen in the hive, by putting a queen-excluder between the bottom-board and the hive. If you don't get the right understanding of this, please look on page 179, "Forty Years Among the Bees."

2. I also enclose a clipping from a farm paper of a plan to prevent swarming. Do you think it is a good one to follow?

MINNESOTA.

ANSWERS.—1. If you will read on 2 pages further in "Forty Years Among the Bees," you will see that the plan didn't work well with me, and I wouldn't advise you to try it. I think it would be all right if one had only a single colony, and it might work fairly well in a small apiary; but in a large apiary there is too much swarming and mixing.

2. The plan given in the clipping ought to work successfully; although what works for one is not always sure to work for another. The clipping is this:

"METHOD OF HANDLING BEES.—Every bee-keeper of this locality should attend to his bees in the spring. Such is our way so that when the honey season begins, in each of his hives will be a powerful, strong colony,

that means in my locality about the first of June. By May 20th I generally put on a super of extracting frames, no queen-excluder between, so that the queen has free access to the super; and by June 5th, if this colony is very strong, the queen will have at least 5 or 6 frames of brood in this super. The honey-flow here begins about from June 15th to 25th. Then when I see that the white clover is in bloom, I raise this super off the hive and put 2 empty supers on there, a queen-excluder between the hive and the supers, and then take the queen, if she should be in the upper story that I have lifted off, and let her run in at the entrance of the hive, and put on top of the hive, and put on top of this the super with the frames of brood.

"And if there should be any drones present in the upper story I lay a strip of wood across under the cover of this top super with the brood, so the drones can pass out. Then I raise the hive one inch off of the bottom-board, put on a strip of wood between each corner of the hive and bottom-board. This gives ventilation all around. Now some will think, why not make the entrance larger? But I will tell you why this cannot be done, as the bees would build under the frames down to the bottom-board.

"Now then the work for the season is done, except adding more supers to the hive as the honey harvest continues. In this way I have not had any bees to swarm for a good many years, and have had as high as 300 pounds of honey per colony right here in the city of Stillwater. And last year I averaged over 100 pounds per colony, and my bees did not store one pound of honey after July 10th, as the honey harvest was very short here last season."—LOUIS MARKERT, of Minnesota.

Transferring from a Box-Hive

I have a colony of bees in a box-hive. What is the best way to transfer them to a frame hive (with the frames in)? And when is the best time to do it—after the swarming season, or now? CANADA.

ANSWER.—You can transfer them in fruit-bloom according to instructions in your bee-book; but nowadays the preference is to wait till they swarm, hive the swarm in an approved hive and set it on the old stand with the old hive close beside it, move the old hive to the other side a week later, and then 21 days after the time the swarm issued break up the old hive, add the bees to the swarm, and melt up the old combs.

Putting On Supers—Transferring, Etc.

1. Since I can get no satisfaction on this subject, I write you now before it is too late. I run for comb honey, and my bee-book, one of old origin, advises having comb honey stored in frames instead of sections. It also advises removing the honey as fast as capped. Now these views are, I think, or rather have been, abandoned, if they ever were held. The new method is, I believe, to put on one super, and after this is half filled raise it and put on another empty one underneath, and continue so until near the end of the flow, then cease the operations, and allow the bees to cap the honey over. R. C. Aikin, in a contributed article in last August American Bee Journal, says practically this: "Don't stretch the colony too far, otherwise you will have a lot of unfinished sections, with few complete ones." He says put on one super, and when another is to be added put it on top, and if the bees enter it in large numbers, and if the flow is good the position of the super may be reversed. Now, how can you tell if there is a flow, if it is a good one; that is, enough to continue to add supers, when to cease adding supers, and when to remove all sections, for I think you advise taking them off at the end of the flow?

2. For one who has asters, goldenrod, and some buckwheat, when is the proper time to remove all supers to allow the bees to get ready for winter?

3. I have a weak colony that is small. I hived them late last year on 2-inch strips of foundation in the brood-chamber. They did not half fill the chamber below with comb, but I fed them and they wintered all right. They are rearing brood like the others, and I would like to know how I could build them up for the honey-flow.

4. I think Aikin, in his article, which was mentioned before, tells you to take note of the honey-flow by watching the brood department. Now I would like to know if he pries off two or three supers in order to look down below. I would have to smoke the bees to such an extent that after I did I would not be able to find out anything.

5. In transferring you advise us to do it during the swarming season. You say "Wait until the colony has swarmed, hive the swarm, set it in the place of the old hive with the old hive near by, and 21 days afterward break up the old hive." You do this in order to have all the worker-brood hatched out, but why doesn't the queen continue to lay, or is it perhaps because all the bees go to the swarm? Wouldn't the queen with the hatching brood make a swarm? What is done with this brood, or rather, the young bees, after the old hive is broken up?

6. When bees swarm you say hive the swarm, place it in the place of the old hive close by, and a week later move the old hive away to its future place. If you follow this plan, will the old colony store any surplus? If not, will the swarm make up for it? NEW JERSEY.

ANSWERS.—1. Unfortunately it's a matter of more or less guessing. When the flow begins to let up, you will see a let-up in the activity of the bees. The plainest sign of the let-up of the flow, however, is generally the crossness of the bees, and their trying to rob. You can tell something by the appearance of the plant upon which the bees are working, as to whether the bloom is disappearing. But sometimes the let-up is only temporary. In a clover harvest the bees may for some reason stop storing for 3 or 4 days, and then begin again as fiercely as ever.

2. The bees are likely to take care of that matter themselves. Brood-rearing will gradually become less, and the cells left empty in the brood-chamber will be filled with honey, so that although you may leave the supers on until the flow ceases you will find the brood-chamber heavy with honey.

3. You can give them help from a very strong colony, say one that has 6 or more frames of brood. It will not pay to help them from a colony that is not itself very strong. You may shake the bees from a frame of brood in front of the hive, when the younger bees will run in and strengthen the colony; you may exchange one or more frames of younger brood for one or more of riper brood; or you may give to the weak colony from the strong colony a frame of sealed brood with adhering bees, perhaps repeating this after two or more days.

4. I don't understand how smoking the bees will prevent you seeing the condition of matters in the brood-chamber, even if you use so much smoke that the bees get to running like a flock of sheep. But there is no need to use so much smoke. Just enough smoke to keep the bees from flying out at you will allow you to lift off the supers and leave the bees as quiet below as if they had not been disturbed, or at least almost as quiet.

5. The queen does continue to lay in the swarm; but there is no queen in the old hive, only a queen-cell, and the young queen that hatches out of the queen-cell will not have much brood before the end of the 21 days, when all the bees from the old hive may be added to the swarm. Or, combs and bees may be transferred, and continued as a separate colony.

6. Unless the season is very good there will be little or nothing stored by the mother colony, but the swarm will store more than both would have stored if the swarm had been put on a new stand and the mother colony left on the old stand.

A Bunch of Ten Questions

1. Will queenless bees store honey?
2. Does the black bee enter the supers more readily than the Italian?

3. Will a 4-frame nucleus formed May 8 make any surplus honey if the season is good, and if the rest of the hive is filled with full sheets of foundation?

4. Is May 1st too early to have queens sent from Arkansas to Illinois?

5. Some of my neighbor bee-keepers claim the Carniolan bee is superior to the Italian. Do you think it would be wise for me to buy Carniolan queens, for mine are all black?

6. What is the difference between 3-banded Italian bees and the red clover bees?

7. How would it do if bees are run for extracted honey, to make a specialty of it and nothing else?

8. A strange thing happened to me last year. I had 5 colonies of black bees; 2 of them came out in the spring strong, and the other 3 weak. I thought I would run the 2 strong ones for honey, and the weak ones I would divide after they had built up; but, to my great surprise, the strong ones began swarming May 20; each colony swarmed 3 times, and I caught one stray swarm of yellow bees with some black ones as cross as

hornets. The 3 weak colonies I spoke of stored 175 pounds of salable comb honey, and none of them swarmed. How would you account for this? The 2 strong colonies did not store any honey.

9. What kind of bees are the yellow ones, with black ones in with them, that are crosser than my blacks? When I hived them I wore a black hat, and when I got through the crown of the hat was almost white with stings.

10. How do so many keep bees without the American Bee Journal? I can't understand how they do it. ILLINOIS.

ANSWERS.—1. Yes, indeed.

2. I think so; but I have no trouble with Italians.

3. Yes, if strong enough to have 3 of its frames well filled with brood.

4. I wouldn't care to have queens of this year so early, but last year's queens would be all right.

5. The Carniolans would probably be quite an improvement on the blacks, but I would rather risk Italians.

6. There may be no difference, and there may be a good deal of difference. The 3-banded Italian is the kind that comes from Italy, and a red-clover queen is any one whose bees work more than the average on red clover.

7. It's all right to make a specialty of either; although some think it better to produce both kinds in the same apiary.

8. That's not a very hard question, after all. The strong colonies split up their strength by so much swarming, and the weak colonies kept all their strength together. If you had limited the strong ones to a single swarm each, you probably would have had a nice surplus from them. Next time try it this way: Put the swarm on the old stand and set the old hive close to it; then about a week later move the old hive to a new stand. Then you'll be likely to get a fair yield from the swarm.

9. They are hybrids, or a cross between blacks and Italians.

10. Neither can I.

Reducing Hive to One Story—Looking for Queen-Cells—Queens Disappearing

1. How do you select the frames of brood when reducing to one story—page 130, "Forty Years Among the Bees;" that is, if a 2-story colony had, say 5 frames of capped brood, 5 of hatching brood, and 2 frames of eggs, which would you select 8 frames from to leave on the old stand? Also, reason why?

2. Do you shake the bees off the combs when looking for queen-cells? If so, do you shake the bees on the ground or upon the tops of the frames in the hives? My bees seem to try to hide cells by clustering in bunches.

3. On returning the queen after giving your foundation treatment (page 186), do you shake her off with the rest of the bees that were in the lower story, and let her run in that way, or do you catch her and let her run down between the frames?

5. I had some trouble with queens disappearing last season in using the foundation plan. The first few colonies that I worked made me scratch my head for a few days following, for, upon examination I found that they were plugging up the old brood-nest with honey. "That won't do," I said; "I want the honey in the sections." But when I returned the queen, gee! didn't they turn out comb honey though! I quit scratching my head, and commenced to rustle up more supers, saying in the meanwhile, "Guess Dr. Miller knows his business."

The prospect for a good season this year is very bright; it was fearfully dry for a month or more, and things looked decidedly bad for the bee-men, but rain came at last, and lots of it. CALIFORNIA.

ANSWERS.—1. Most years there will be some colonies at the time of reducing to one story which can take one or more frames of brood. In that case the ripest brood will be taken for those colonies that need strengthening. In a year such as the present promises to be, in which there will be more brood in the apiary than can be contained in one story for each colony, then the brood least advanced is taken away. The general idea is that the most advanced brood is to be left under honey-supers, and where brood is taken from a stronger to be given to a weaker, the weaker needs the better brood.

2. Sometimes the combs are looked over without any shaking, for if cells are in the hive at all, one is not likely to miss them all. But if a single cell is found, then it is hardly safe to omit shaking all the combs. Just

how the shaking is done depends upon circumstances. If the queen is to be found, she must be found before any shaking is done, and the frame she is on set out of the hive, for if a single frame be first shaken, then it's good-by to finding the queen. After the queen is out of the hive, the bees may be shaken on the ground, on top of the frames, or into the hive between the frames. If the queen is not to be found, the bees are shaken on the top-bars or into the hive between the frames.

3. The queen may be caught and placed on top of the frames, but that is not the very best way, for sometimes she will run over the frames for some time before going down between them, and it is possible that she may run over the side of the hive, or that the bees may start to chase her. In all cases where a queen is to be returned to her own bees, the safe way is to take one of the frames of brood on which she is to be, together with its adhering bees, hold or lay the frame flat, and let the queen drop directly upon the middle of it.

4. I've had trouble, too, with queens disappearing, so I've changed my practice. Instead of putting foundation below, I now put to one side in the lower story a frame with a little brood in it, perhaps a frame of pollen, and beside it 2 empty frames. When I say empty I mean empty. Not even a starter of any kind in the frames. That frame of pollen or honey with perhaps some brood will satisfy the queen better than frames of foundation, and the entirely empty frames will have very little comb built in them, which will generally be broken out for wax. I'm sure you'll like the change.

Requeening—Using Combs of Honey—Tramp Swarms

1. Can you requeen with young queens by killing or removing the queen that issues with a prime or first swarm, and letting the swarm return, then in 6 days it will issue again with a young queen? Is that a good plan to requeen?

2. I took my bees out of the cellar the night of the 24th, and they are now piling in the pollen. I saved several combs of honey for feed, but the hives are as heavy, apparently, as when I put them in—they don't need feed. What can I do with the combs? If I keep them to give to young swarms, how can I keep them? I put 37 colonies in last fall, and took out 37 this spring, but one flunked after taking out, but had plenty of honey.

3. Is it safe to take in tramp swarms, or is there danger of getting foul brood? IOWA.

ANSWERS.—1. It's an old-fashioned way and works well. If you want to increase by one colony, hive the swarm that issues with the virgin, set it on the old stand, and set the old hive 10 feet or more distant on a new stand. If you don't want any increase at all, return to the old hive the swarm each time it issues. But you may have to do that a number of times.

2. For some time they will be all right in a cool cellar, for worms will be slow at beginning work there. The safest place is to put under full colonies. One strong colony can take care of 3 or 4 stories. Put a story under, and 2 or 3 days later put another over the under one, and later still put another over the last, each time putting the new story up next to the story containing the colony.

3. There is danger if there is foul brood near you.

Weak Colonies—Using Empty Hives Where Bees Died—Age When Queen Lays

1. How will it do to change a weak colony with a strong one during the honey-flow in the afternoon? Will there be any danger of the home-coming bees killing the queens?

2. I reduced 26 colonies to 18 last fall, being in 8-frame dovetail hives. Almost one-third of the bees in each of the 18 colonies were frozen to death from the cold, long winter. I reduced those 18 to 11 this spring, and they are now in pretty fair shape. I have now 19 empty dovetail hives with drawn-out combs; how can I keep them so the moths won't get in them? Will it be all right to set one empty drawn-out comb hive under each of the 11 colonies?

3. If I work it that way will the bees swarm as usual, or can I shake them in the lower hives during swarming season, and place the new one on the old stand, and move the old one away?

4. I run for section honey. Which will be the most profitable, have those 11 colonies swarm to fill the 19 empty hives with drawn

comb, or let each swarm once? It is as good a prospect for the white clover as there ever was.

5. How long will it take after a queen is mated with a drone before she begins to lay eggs? MISSOURI.

ANSWERS.—1. Yes, there will be some danger.

2. No safer way than the one you suggest. You can put 2 stories under each, but it will be better to have only one under for a few days, and then put the second one *between* the full and the empty story?

2. If you leave them that way the bees may not swarm at all, but your plan of shaking may work all right. In any case only one story should be left at the time of putting on sections.

4. You will get a good deal more honey to let them swarm only once.

5. About 3 days.

Italian vs. Banat—Untested Queen

1. Which is the better bee, the Italian or Banat, as to honey-gathering and hardiness?

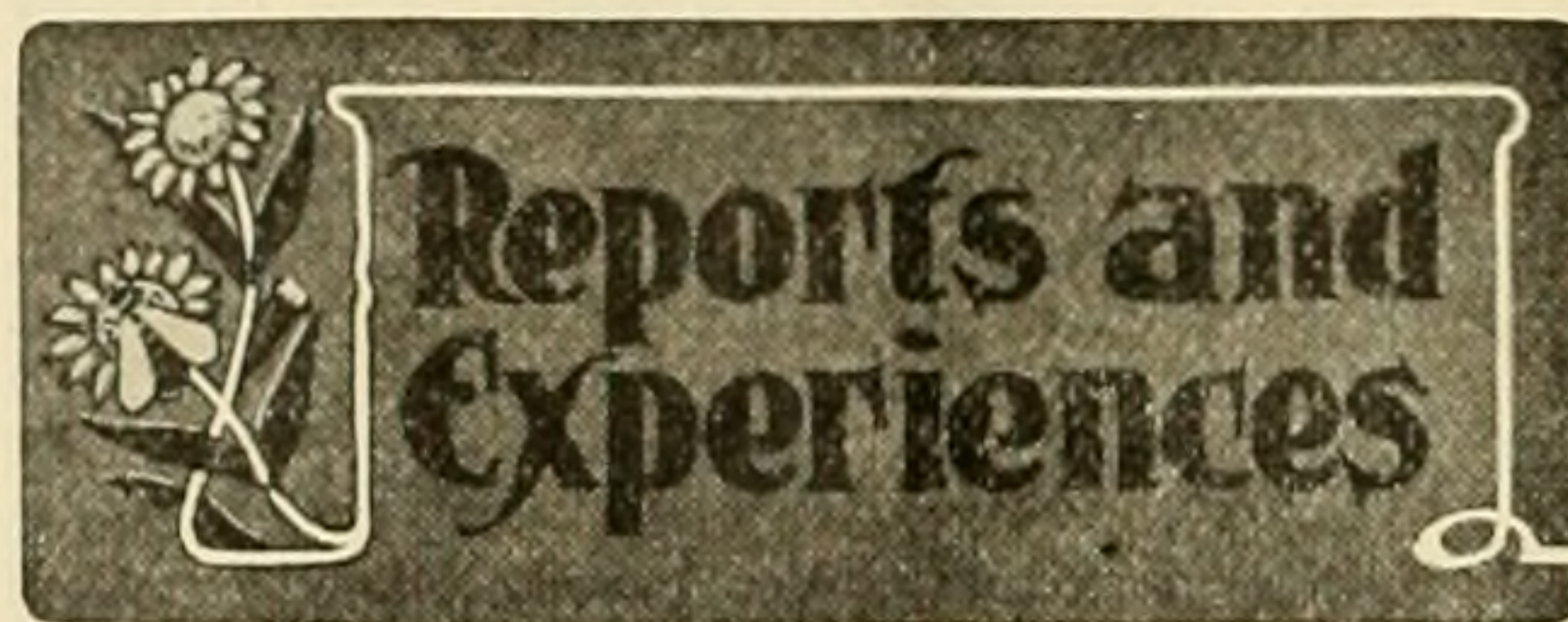
2. Is an untested queen pure stock?

3. Would it be advisable to introduce an untested queen into a strong colony? PENNSYLVANIA.

ANSWERS.—1. I have no practical acquaintance with the latter, and they are not yet as well known as Italians.

2. She is supposed to be of a pure mother, but being yet untested it is uncertain whether she has mated with a pure drone or not.

5. Certainly, if the likelihood is that the new queen is in any way better than the one whose place she is to take.



Bees Doing Nicely—Heavy Losses

We have nice spring weather. Fruit-trees are in full bloom. Bees are doing nicely—that is, what is left of them. We have had heavy losses. W. H. LEACOCK.

De Witt, Nebr., April 10.

Swarming in April in Indiana

Much natural swarming is being reported in central Indiana in April. It is rather unusual for this early date. The cold spell apparently has had no bad effect on strong colonies, and the white clover is luxuriant.

WALTER S. POWDER.

Indianapolis, Ind., April 26.

Bees Doing No Good

I have 400 colonies of bees in 10-frame hives, and up to this time they have done no good. It has been so wet that bees couldn't work; but things are looking fine now. I have had 6 new swarms today. I hope we will have better times later on. My bees did fine in 1909. J. R. FURLONG.

Belcher, La., April 23.

Wintered All Right—Blossoms Frozen

Last year I had only 2 colonies of bees. I did not get any honey, and had to feed one of them last fall. They wintered all right, and are doing well, although the blossoms are all frozen off; but dandelions are plenty. I hope to increase some this summer.

Galva, Ill., May 2. P. A. CARLSON.

Some Colorado Conditions

I don't suppose you have heard from the Western Slope this spring, so I will tell of the conditions. We had the hardest winter since bees have taken the place of the Indians—6 weeks without a flight. I feared they would all die, but my loss was much less than I expected. They swarmed late last season, and the second crop of alfalfa yielded no honey, so the late swarms gathered but little honey. I fed some, and doubled the rest, but did not gain in count—have the same number now as last spring. I am feeding a few to keep them alive. Spring is a month earlier here than last year. We

have a few flowers, and bloom on early peaches and apricots, and cottonwood bloom. I hope the trouble is nearly over, and that we will have a better honey crop than last year. E. C. WRIGHT.

Montrose, Colo., April 6.

Cold Weather—Poor Crop in 1909

We have had a cold spell of weather since April 15th. The bees are in good condition. I wintered 20 colonies in the cellar. They started to bring in pollen the same day. I hope there will be a good crop of honey this year. There was a very poor crop of honey here last year, as it was too dry.

HENRY F. FISCHER, JR.

Granton, Wis., April 23.

Early Swarms in the North

I was surprised with a swarm of bees yesterday. Even making allowance for the early spring, it is quite an item for north central Wisconsin. If any one in the northern half of the State can tell the same story, I would like to hear of it. A. FRASER.

Chili, Wis., April 28.

[Mr. Charles Busche, of Elgin, Ills., reports a swarm there after April 28th.—ED.]

Honey-Dew on Grass

I noticed an item on the secretion or excretion of honey-dew. April 7, 1910, there was a heavy honey-dew over the grass in the pastures. All the bees went wild over it. Neither the oak nor the hickory trees were in leaf—nothing but elms and soft maples.

We had a dry spring up to April 15th. I live in a prairie country. I would like to have a scientist explain as to the honey-dew referred to. A. W. SPRACKLEN.

Cowden, Ill., April 16.

Foul Brood and Tramp Swarms

I see the question is asked, "Is it dangerous to take a tramp swarm?" My answer would be, it is dangerous if hived on drawn-out combs; if hived on comb foundation, and the foundation taken from them after 4 days, it is safe.

My record shows that colony No. 13 swarmed May 30, 1909, and the swarm was put into hive No. 48. July 14, I found foul brood in No. 13, and Sept. 2 found foul brood in No. 48, which was hived on drawn-out combs. I gave them both the McEvoy treatment, and examined them both April 30, 1910, and found them in a healthy condition.

J. G. CREIGHTON.

Harrison, Ohio, May 1.

Prevention of Swarming

I see so much in the different bee-papers on prevention of swarming, and some of it does not appeal to me as being good common sense, so I will tell, as briefly as possible, a method which originated in my mind in the early spring of 1909, and which worked like magic.

Just previous to the time, when, in my judgment, the bees would start queen-cells preparatory for swarming, I went carefully, and, as I often used to term it, tenderly through each of my hives, stacking each super one by one to one side, and away from the hive-stand, placing a new bottom-board, and a new first super instead of giving said first super a full set of clean, empty worker-combs. If I found a queen I caged her for a few moments; if not, I took my chances on getting through without injuring her.

Placing a weighted down newspaper in front of the newly-arranged super, I begin shaking off and brushing each comb on this paper, and letting them crawl in at the front entrance just as I would hive a swarm. I endeavored as nearly as practical to place all brood in the top super, even with a 3-supered hive. My reason for this was to get it as far from Her Majesty as possible, thinking to give her a new start in business, believing that it stood to reason that they would abandon all idea of swarming for a while, at least.

As I got the combs clean of bees I rebuilt the hive, giving it as near its original appearance as possible, and if a queen had been caged I then let her run into the front entrance, shut up the hive, and gave them a decent letting alone. In many of the hives, consisting of 130 or more, capped queen-cells were plentiful. By the time I had thus

American Bee Journal

treated all my colonies, the black sage honey-flow was upon me in full blast. I quickly proceeded to go through each hive, and if I found any number of frames sealed up from one up I extracted that, or them, as the case was; and as soon as I was over the apiary, I returned to the beginning point and did likewise until the honey-flow was at an end. However the case may be, all the capped queen-cells were at once cut down, and while this whole Southern California was over-run with what I will call a swarming epidemic, I did not have a swarm during the season. I am now manipulating in a little different way, but practically along the same line, and whatever the result may be will be offered to the Old Reliable for publication in due time. C. L. GRIGSBY.
El Casco, Cal., April 6.

Bad Weather for Queen-Breeders

We are having the coldest, stormy weather I ever saw at this season of the year. It snowed Saturday, Sunday and Monday, with cold wind and rain since then. All tender vegetables, fruits, corn, etc., are killed. This has interfered fearfully with queen-rearing. I have worked as best I could, making nuclei in the snow, with bees crawling under my clothes and chilling on the ground. I prepared queen-cells in a warm room by the fire, using a lamp with a reflector to select the larvæ. JOHN M. DAVIS.
Maury Co., Tenn., April 27.

We have had winter here for several days. It is still snowing this morning, with snow 3 inches deep. All the flowers and every green thing is killed, or I suppose will be before it is over. We were compelled to open our cell-building hives to look after queen-cells, with snow falling in the hives. We were getting in full shape for the queen-business before the storm came on, but we can't tell what the outcome will be, and we are now prepared to get out 1000 cells every month, if this spell of winter weather does not upset all of our plans. T. S. HALL.
Pickens Co., Ga., April 25.

Bees and Poultry—A Happy Combination.

—Many of our readers unite poultry culture with bee-keeping, to the advantage of the home table and the family funds. We have lately found a very valuable help for poultry keepers. This is Dr. A. A. Brigham's new book, "Progressive Poultry Culture." The book begins right. It gives first a sensible standard for the poultryman and his business. By studying the first chapter any one can promptly decide whether he is capable of making chickens pay or not. Next, the volume gives the science and best methods of practice in breeding fowls for a purpose. Incubation and Breeding are then treated in a clear, common-sense way, showing how to succeed and what to avoid. In growing the chicks after brooding age, Dr. B. especially advocates and fully explains the colony system, giving free range. The chapter on feeding, including the balancing of rations, is the best we have seen in print. Parasites and diseases, preparing poultry products for market, systems of selling, advertising, accounting, exhibiting, scoring, etc., are very practically handled. Housing and fencing are given a whole chapter, and the book is closed with a very careful consideration of practical methods of management. It is a good guide for the beginner, and a very valuable assistant of the veteran in chicken culture. It is well worth the price, \$1.50, postpaid. Bound in cloth, 293 pages. We club it with the American Bee Journal one year—both for \$2.00. Send all orders to the office of the American Bee Journal, 146 W. Superior St., Chicago, Ill.

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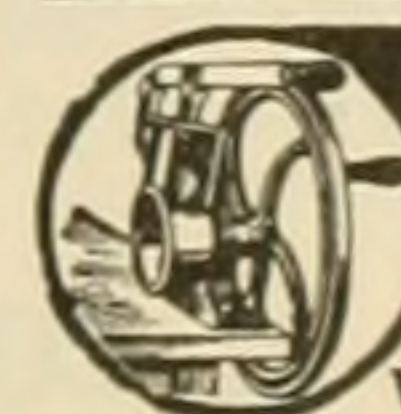
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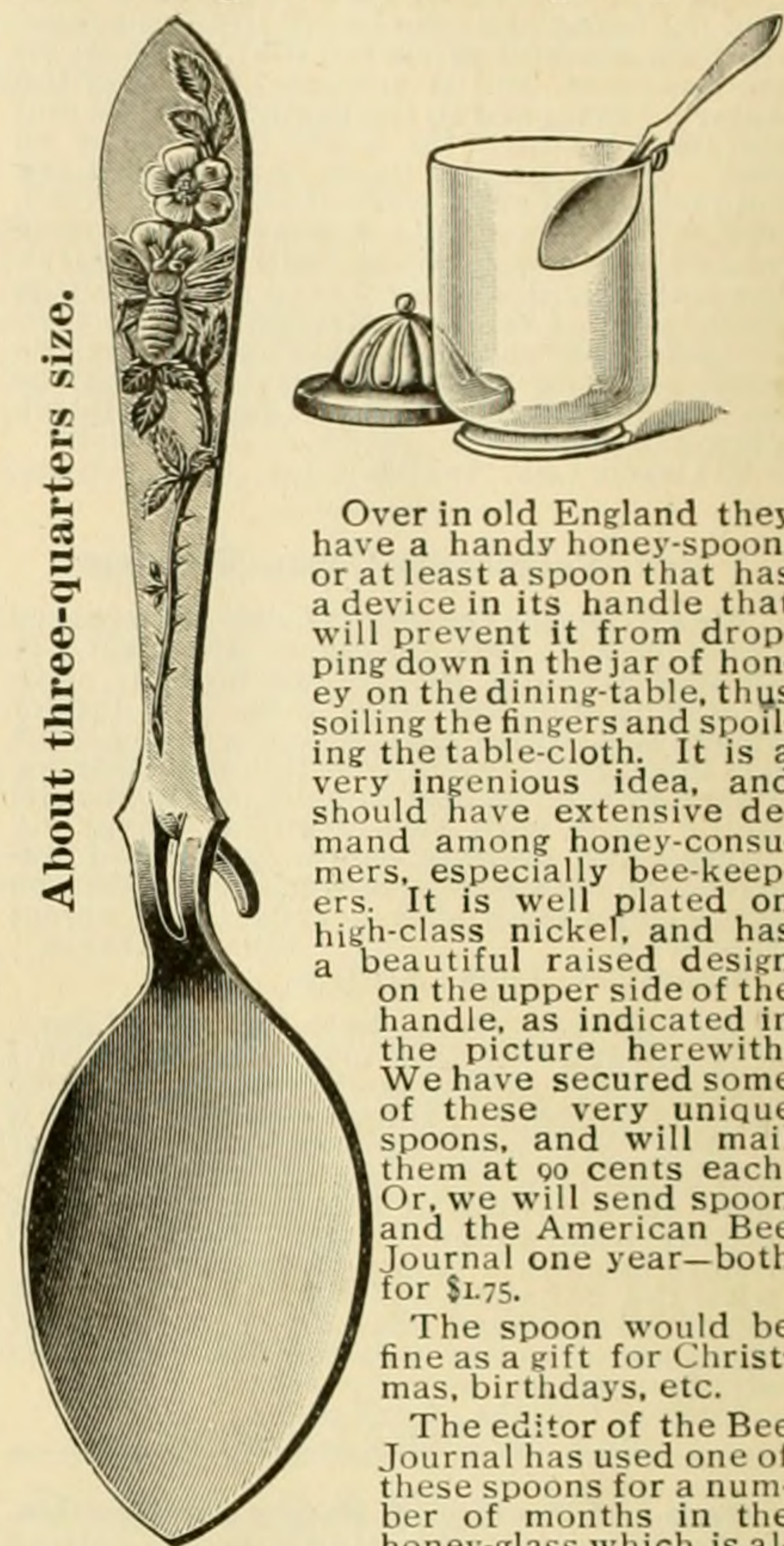
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An English Honey-Spoon



About three-quarters size.

Over in old England they have a handy honey-spoon, or at least a spoon that has a device in its handle that will prevent it from dropping down in the jar of honey on the dining-table, thus soiling the fingers and spoiling the table-cloth. It is a very ingenious idea, and should have extensive demand among honey-consumers, especially bee-keepers. It is well plated on high-class nickel, and has a beautiful raised design on the upper side of the handle, as indicated in the picture herewith. We have secured some of these very unique spoons, and will mail them at 90 cents each. Or, we will send spoon and the American Bee Journal one year—both for \$1.75.

The spoon would be fine as a gift for Christmas, birthdays, etc.

The editor of the Bee Journal has used one of these spoons for a number of months in the honey-glass which is al-

ways on his table, and he would not like to be without this spoon again, as it is so convenient, and also unusual in this country. We can fill orders promptly now. You certainly would be pleased with this honey-spoon, and so would any one to whom you might present it. Send all orders to,

GEORGE W. YORK & CO.,

146 W. Superior St., - CHICAGO, ILL.

MINK TRACK



INFORMATION
On Woodcraft and Nature

Is always fascinating to him who loves hunting and fishing especially. There are many enjoyable and profitable facts that you should know about the great

OUT O'DOORS where health, pleasure and profit abound. Do you know of the habits, value and methods of taking fur bearing animals, in your own locality? Also about Steel Traps, Snares, Scents, Deadfalls, Trapping Secrets, Raw Fur Market, Coon Hunting, Fox Chasing, Hunting Dogs, Big Game Hunting, Wild Fowl Shooting, Fishing, Prospecting, Camping, Guns, Ammunition, Ginseng and Golden Seal Growing, Fur Farming, Bee Hunting, etc. Some of these are

Great Source of Profit On the Farm During the Winter. You will find these topics all dealt with entertainingly and authoritatively in that splendid 160 to 200 page, illustrated monthly magazine

HUNTER - TRADER - TRAPPER
IT IS ALONE IN ITS CLASS.

SPECIAL:--
Send 10c. to this office and get a sample copy of the H-T-T, also a 64 page book of Interesting Information, containing late Game Laws, etc.

POSSUM TRACK

FOX TRACK

MUSKRAT TRACK

BEES, NUCLEI, and QUEENS

For many years I have been selling bees and queens, and guaranteeing satisfaction in every way. I will be in the business more extensively than ever during the season of 1910. I have mailed queen-bees practically all over the world. My prices the coming season will be as follows, for **Italian**

BEES

Full colonies with Tested Queens, in 8-frame Langstroth hive, \$7.00 per col.; in same hive with 10 frames, \$7.50. Colonies in lots of 5 or more, 25 cents per colony less.

NUCLEI

One 3-Hoffman-Langstroth-frame Nucleus, \$2.50; in lots of 6 or more at \$2.25 each; price of queens to be added. Orders for nuclei filled about May 10th to 15th, and thereafter.

QUEENS

Tested Italian, each \$1.50; 6 for \$7.50; or \$13.00 per dozen.

I have 50 choice Italian breeding-queens, either golden or leather-colored, at \$2.50 each. "First come first served."

Untested Queens After May 15

Italian (warranted) 75 cents each; 6 for \$4.00; or \$7.50 per dozen. Carniolan or Caucasian at the same prices.

If you have never had any of my Bees or Queens, you should give them a trial. Satisfaction guaranteed. Address all orders to

ARTHUR STANLEY,
DIXON, LEE CO., ILL.

Good Queens

If you are going to want any Queens for increase, or replacing old queens next June, it is time to begin to think about it. I have been breeding leather-colored Italian queens for years, and they are giving excellent satisfaction. If you are interested, write. Good queens; no disease; prompt shipment, and absolute satisfaction guaranteed. Prices: June, one, 00c; three, \$2.50; six, \$4.75; doz., \$9.00; 20 or more at 60c each.

S. F. Trego, Swedona, Ills.



ADVANCED BEE-VEIL

—POSTPAID—

All Cotton, 50c; Silk Face, 60c; All Silk, 90c

Made of Imported French Tulle Veiling; cord arrangement which permits wearer to handle bees in shirt-sleeves with no chance of bees crawling up and under veil. With a hat of fair-size brim to carry veil away from face, you are as secure from stings, movements as free and unrestricted, and as cool and comfortable as you would be at a summer resort.

Please send me two more bee-veils. I have tried all kinds, and yours are best of all.—N.E. FRANCE, Platteville, Wis.

Editorial Comment in Bee-Keepers' Review:—The Advanced Bee-Veil is something I have worn with great comfort the past few weeks. The peculiar feature of the veil is, the edges are held down firmly on the shoulders away from the neck. This does away with all chance of stings, and the hot, suffocating, uncomfortable feeling found in other veils that are tucked in close about the neck.—W. Z. HUTCHINSON.

A. G. Woodman Co., Grand Rapids, Mich.

☘ Caucasians, Carniolans, Banats, Cyprians ☘

Select untested queens, \$1 each; 5 for \$4. Imported breeding queens, \$5 to \$6. Send to original importer and get genuine stock. **FRANK BENTON, Box 17, Washington, D. C.**

QUEENS

An improved superior strain of Italians is what **Quirin-the-Queen-Breeder** rears.

Our stock is Northern-bred and hardy. Our five yards Winter on Summer stands with practically no loss.

One of our customers tells us he has become one of the largest honey-producers of the West, and says that in a great measure his success is due to our stock.

Prices before July 1	1	6	12
Select queens.....	\$1 00	\$ 5 00	\$ 9 00
Tested queens.....	1 50	8 00	15 00
Select tested queens....	2 00	10 00	18 00
Breeders.....	4 00		
Golden 5-band breeders..	6 00		
2-comb nuclei, no queen..	2 50	14 00	25 00
3-comb nuclei.....	3 50	20 00	35 00
Full colonies on 8 frames.	6 00	30 00	

Colonies and Nuclei, if shipped before June 1st, add 25 percent to above price; also add the price of whatever grade of queen is wanted with same. Safe arrival guaranteed.

Quirin-the-Queen-Breeder, Bellevue, O.

Please mention Am. Bee Journal when writing.

Celluloid Queen-Buttons

These are very pretty things for bee-keepers or honey-sellers to wear on their coat-lapels. They often serve to introduce the subject of honey, which might frequently lead to a sale.

NOTE.—One bee-keeper writes: "I have every reason to believe that it would be a very good idea for every bee-keeper to wear one [of these buttons], as it will cause people to ask questions about the busy bee, and many a conversation thus started wind up with the sale of more or less honey; at any rate it would give the bee-keeper a superior opportunity to enlighten many a person in regard to honey and bees."



The picture shown above is a reproduction of a motto queen-button that we offer to bee-keepers. It has a pin on the underside to fasten it.

PRICES—by mail—1 for 6 cts.; 2 for 10 cts.; or 6 for 25 cts. Address,

GEORGE W. YORK & CO.
146 West Superior Street, - CHICAGO, ILL.
Please mention Am. Bee Journal when writing.

! For Sale !

10 to 50 pr. ct. Discount

All Hives and Appurtenances of every description.

Large amount still in the flat. New Hives set up, painted, but never used.

About 125 Hives used and unused.

Would make best terms to party buying all the property.

Call Saturdays P. M., or Sundays; or address,

P. W. DUNNE,
165 South Forest Ave.,
3A3t RIVER FOREST, Cook Co., ILL.

Italian Bees, Queens and Nuclei



Choice Home-Bred Imported Stock. All Queens reared in Full Colonies.

Prices for May

1 Untested Queen....	\$0.90
1 Tested ".....	1.10
1 Select Tested "....	1.40
1 Breeder Queen....	2.20
1-Comb Nucleus (no queen)....	.95

Safe arrival guaranteed.

For price on larger quantities, and description of each grade of Queens—send for Catalog. Send for sample COMB FOUNDATION. 4Atf

J. L. STRONG,
204 E. Logan St., CLARINDA, IOWA.

New England Bee-keepers! New Stock at Factory Prices

—: PROMPT DELIVERY :—

Cull & Williams Co.
Providence, - Rhode Island.
Please mention Am. Bee Journal when writing.

Italian Queens 75c; Tested, \$1.00; Breeder Queens, \$5.00; 2-frame nuclei, with Queen, \$2.50 each. 5At
E. M. Collyer, Broadway 75 Ossining, N. Y.
Please mention Am. Bee Journal when writing.

ROOT'S GOODS

for 1910 are better than ever. We carry full line of them.

MR. BEEMAN, take notice! For low freight and quick service our location cannot be excelled in the State. Don't delay. Order now. You can be saving your honey crop while the tardy fellow is waiting for his goods to arrive.

Our 1910 Bee-Line

is of the best. We are making a specialty of high-grade untested queens from a famous strain of honey-gatherers, at \$1.00 each. Order now, and be sure to get one for our delivery after May 15, 1910. Remember that cheap queens and poor blood do not pay.

Rea Bee & Honey Co.,
Reynoldsville, Pa.

Please mention Am. Bee Journal when writing.

Golden Italian Red Clover Queens Gray Carniolan Queens

BRED FROM IMPORTED STOCK

	I	6	12
Untested.....	\$1.00	\$ 5.00	\$ 9.00
Selected.....	1.25	6.50	12.00
Tested.....	1.50	8.00	15.00
Selected.....	2.00	11.00	18.00

Prices after June 15th

	I	6	12
Untested.....	\$0.75	\$4.00	\$ 7.50
Selected.....	1.00	5.00	9.00
Tested.....	1.25	6.00	12.00
Selected.....	1.50	8.00	15.00

Choice Breeders, \$3.00 up to \$5.00.

Choice Italian Queens mated in my Carniolan apiary—First cross, one for 60c; 12 for \$6.50; 25 or more, 50c each.

FIRST CROSS.—We have tested these bees and find them to be real hustlers. We have also had many calls for this very desirable bee. We have decided to offer them to the bee-keepers at the low prices above. Carniolans have many good points to recommend them to the bee-keepers, more especially this first cross. The drones are large and powerfully strong flyers, which gives vigor and strength to the bees. They cap the honey white, which most Italians do not. They resist diseases very much more than any other bees, and are quiet, gentle, and easily handled. 5Atf

CHAS. KOEPPEN,

1508 Main St., FREDERICKSBURG, VA.
 Please mention Am. Bee Journal when writing.

**Line-Bred
 Italians**

My Circular tells why my Queens are superior to the general run of stock; it also contains hints on rearing long-lived, prolific Queens, improvement of stock, etc.

Send to cts. and receive sample cage of the Yellow West Bees on the market.

Queens ready for June delivery. Untested, \$1.00; Select Untested, \$1.25.

W. M. PARRISH,
 Queen-Breeder,
 Lawrence, Kansas

Bee-Supplies

Distributor of Lewis' Bee-Supplies at Factory Prices in Iowa. Also Red Clover and Leather-Colored Italian Queens; and the Folding Berry Boxes, and the old-style Boxes.

Beeswax wanted. Send for Catalog.

W. J. McCARTY, Emmetsburg, Iowa
 Please mention Am. Bee Journal when writing.

Tennessee-Bred Queens!

All from Extra-Select Mothers,
 Davis' Best, and the
 Best Queens Money Can Buy

38 Years' Experience in Queen-Rearing.
 Breed Three-Band Italian Queens Only.

November 1st to July 1st			July 1 to Nov. 1						
I	6	12	I	6	12				
Untested.....	\$1.00	\$5.00	\$ 9.00	\$.75	\$4.00	\$7.50	Select Breeder	-	\$4.00
Select Untested..	1.25	6.50	12.00	1.00	5.00	9.00	Nuclei; no queen	1 fr	2.00
Tested.....	1.75	9.00	17.00	1.50	8.00	15.00	" "	2 "	3.00
Select Tested....	2.50	13.50	25.00	2.00	10.00	18.00	" "	3 "	4.00
							Colony, "	8 "	8.00

Select-queen wanted and add price to price of nucleus or full colony.

For queens to be exported, add 20 percent to these prices, except to Canada, Cuba or Mexico.

JOHN M. DAVIS,

Dealer in, Importer and Breeder of

ITALIAN QUEEN-BEES

Depot, Telegraph and Express Offices,
 Ewell Station on L. & N. R. R.

SPRING HILL, TENN.

Please mention Am. Bee Journal when writing.

HONEY AND BEESWAX

When consigning, buying,
 or selling, consult

R. A. BURNETT & CO.

199 South Water St.

Chicago, Ill

Please mention Am. Bee Journal when writing.

EXTRACTING MADE EASY

by using

MILLER AUTOMATIC DECAPPERS

\$5 to \$35. Catalog Free.

APICULTURAL MANUFACTURING CO.,

Providence, R. I. 7Atf

Please mention Am. Bee Journal when writing.

MARSHFIELD BEE-GOODS

FRIEND BEE-KEEPER—We are prepared to fill your orders for Sections. A large stock on hand. Also a Full Line of Bee-Supplies. We make prompt shipments.

MARSHFIELD MFG. CO.,

Marshfield, Wis.

IOWA—J. W. Bittenbender, Knoxville, Gregory & Son, Ottumwa.
 KANSAS—S. C. Walker & Son, Smith Center.
 MICHIGAN—Lengst & Koenig, 127 South 13th St., Saginaw, E. S.
 S. D. Buell, Union City.
 NEBRASKA—Collier Bee-Supply Co., Fairbury.
 CANADA—N. H. Smith, Tilbury, Ont.

ARIZONA—H. W. Ryder, Phoenix.
 MINNESOTA—Northwestern Bee-Supply Co., Harmony.
 ILLINOIS—D. L. Durham, Kankakee.
 OHIO—F. M. Hollowell Harrison.
 TEXAS—White Mfg. Co., Blossom.
 WISCONSIN—S. W. Hines Mercantile Co., Cumberland.
 J. Gobeli, Glenwood.

Root's Goods in Chicago

Last April we moved to this location. We were unable then to arrange our stock as we desired as the busy season was upon us. April, 1910, finds us in better shape than we have ever been since the opening of this office.

Our stock is now conveniently arranged, hence no confusion in filling orders. We now have on display in our show-room a complete line of our supplies. Call and see them. From this date we will have cars from the factory about every 10 days.

Have you received our catalog for 1910? If not, we want you to have it. A postal card request will bring one.

Gleanings in Bee-Culture

If you have not seen a late copy of our paper, which is issued twice each month, you can't tell from a brief description how much valuable information each issue of it contains. Each issue is fully illustrated. Our writers are the very best. A trial subscription of six months (12 different copies) will cost you only 25 cents.

Alexander's Writings

Mr. Alexander was one of the largest, if not the largest, bee-keeper in the United States, and what he has told of his methods must necessarily be of interest to large bee-keepers. He kept bees for over 40 years, and produced honey by the carload. His writings are practical, and what he has done others may do if they care to follow his teachings. Here is what a prominent bee-keeper says of his book:

"Alexander's Writings are the best thing I ever read; practical, enthusiastic, sympathetic, encouraging. I predict an enormous sale of the book. Why not get out an edition with cloth cover? It's worth while. Wish you could print more such books."
WM. BAYLEY.

43 N. Brighton Ave., East Orange, N. J.

This Book is Sold only in combination with Gleanings

From now until January 1, 1911, we offer one copy of the Alexander book with every yearly subscription

to GLEANINGS, new or renewal. You get BOTH for subscription rate alone, which is only \$1.00.

Canadian postage, 30 cts.; foreign postage, 60 cts. per year extra.

Power Extractors

We believe all of our extractors are about as near perfect as it is possible to make them. For large apiaries one of our power machines is a great advantage. A circular of these will be sent upon request.

Read what a large producer says:

LANG, CALIF., Sept. 26, 1909.

Gentlemen:—Owing to the fact that power extractors are not in general use at the present time, it may be of interest to you to know that I used a Gilson engine "1 H. P.," together with the latest model of the 6-frame automatic extractors, "Roots," for this season's extracting. I was surprised and delighted with the work done. In extracting our heavy white-sage honey it not only cleans out the combs much cleaner than can be done by hand-power, but does it at a minimum of expense. The cost of gasoline and oil used being only 16¢ per ton of honey extracted. It takes the place of a man at \$40 per month and board, so one can readily see that it much more than paid for itself in the one season, besides doing much better work than could be otherwise. The above cost of extracting is given on the basis of gasoline at 25¢ per gallon, which is the cost here.

Truly,
H. A. SLAYTON.

Our Aim for the Season of 1910

This year we aim to give our customers the very best possible service. Remember, for low freight-rates and quick delivery, Chicago is as well located as any city in the United States.

Our Location and How to Reach It

The A. I. Root Co. INSTITUTE PLACE. 213-231

One block north of Chicago Ave., cor. Franklin St. Take any car going north on Wells St. Get off at Institute Place, ½ block west to Jeffery Bldg. Take elevator to 6th floor. Or take N. W. Elevated to Chicago Ave. and walk ½ block north on Franklin St. Tel. North 1484.

Elkhart Buggies

are the best made, best grade and easiest riding buggies on earth for the money.

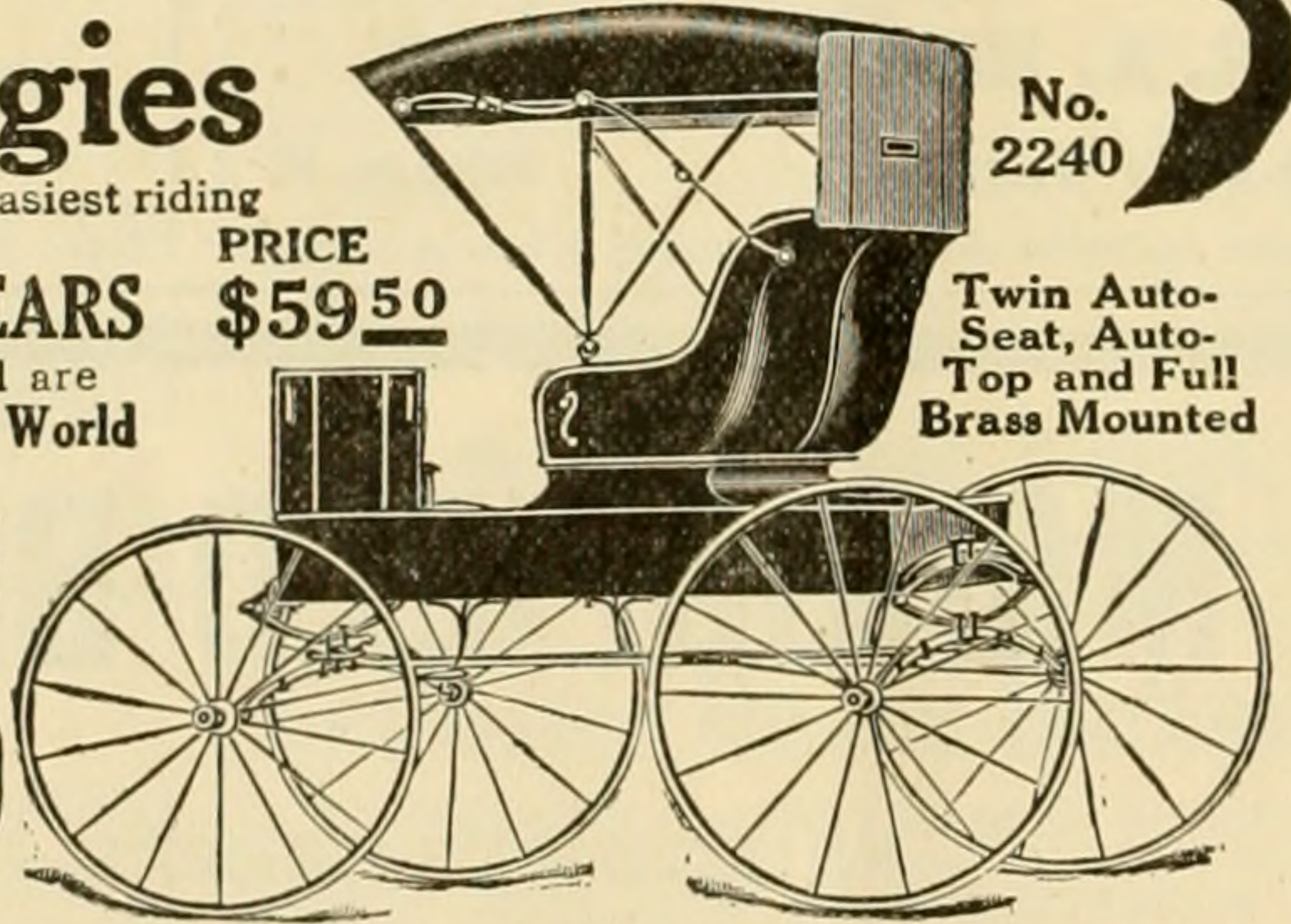
FOR THIRTY-SEVEN YEARS

we have been selling direct and are **The Largest Manufacturers in the World** selling to the consumer exclusively.

We ship for examination and approval, guaranteeing safe delivery, and also to save you money. If you are not satisfied as to style, quality and price you are nothing out.

May We Send You Our Large Catalogue?

Elkhart Carriage & Harness Mfg. Co.
Elkhart, Indiana



No. 2240

PRICE \$59.50

Twin Auto-Seat, Auto-Top and Full Brass Mounted

BETTER FRUIT

The best fruit growers' illustrated monthly published in the world. Devoted exclusively to modern and progressive fruit growing and marketing. Northwestern methods get fancy prices, and growers net \$200 to \$1000 per acre. One Dollar per year. Sample copies free.

Better Fruit Publishing Co. HOOD RIVER, OREGON.

WASHINGTON QUEENS!

Wurth's Best Queens are as good as money can buy.

I have leased all of Sires Bros. Co.'s bees, with the exception of 100 colonies. I have control of seven hundred colonies of bees, and have the largest and best queen-rearing outfit in the State, with 40 years' practical experience



Bee-keepers from any part of world need not hesitate in sending me their orders, as they will get the best queens that can be reared under the latest and best improved methods.—

Safe delivery and satisfaction guaranteed.

Prices of Either Golden or 3-Banded Queens.

Untested, \$1 each; six for \$5; 1 doz. for \$9.75. Tested, \$1.50 each; three for \$4.25; six for \$8.25; 1 doz. for \$15. Select Tested, \$2 each; three for \$6.75; six for \$10.

Queens ready to send by return mail. Send all orders to—

DANIEL WURTH,

4Atf Rt. 1, WAPATO, WASH.

Please mention Bee Journal when answering this advertisement.

Golden and Red-Clover Queens...

From Extra-Selected Mothers

Untested, 75c; six for \$4.00. Selected Untested, \$1.00; six for \$5.00. Tested, \$1.50.

Safe arrival guaranteed. Twenty-one years' experience. Send your orders to

E. A. Simmons, Greenville, Ala.

Please mention Am. Bee Journal when writing.

American Bee Journal

CAPON TOOLS



CAPONS bring the largest profits—100 per cent more than other poultry. Caponizing is easy and soon learned. Progressive poultrymen use **PILLING CAPONIZING SETS** Postpaid \$2.50 per set with free instructions. The convenient, durable, ready-for-use kind. Best material. We also make Poultry Marker 25c, Gape Worm Extractor 25c, French Killing Knife 50c. Capon Book Free. G. P. Pilling & Son Co., Philadelphia, Pa.

Your Order Will Be Shipped **BY AIRSHIP** (IN 1915)

Meanwhile half a hundred freight and express trains are daily at your service.

FREE CATALOG for the asking, telling all about—**PEIRCE SERVICE—ROOT QUALITY.**

EDMUND W. PEIRCE,
136 W. Main St., Zanesville, Ohio

State that you saw this in Am. Bee Journal.

PRIZE TAKERS

Pharr's Golden took first prize at 3 exhibits in Texas in 1907. We will furnish Golden, Carniolan, Caucasian, and 3-band Italian Queens, untested, \$1.00 till June 1, then 75 cents. Tested, \$1.50 till June 1, then \$1.00. For large quantities, write. Our 3-band Breeders from W. O. Victor and Grant Anderson strains; other races from the best obtainable. "Prompt service and satisfaction," is our motto. Address, 5Atf

NEW CENTURY QUEEN-REARING CO.
or **JOHN W. PHARR,**
Berclair, - - Texas

Again to the Front with The Famous Banats



Having moved my Banat Apiaries from Sabinal to San Benito, Texas, I am now better prepared to furnish High Quality

QUEENS

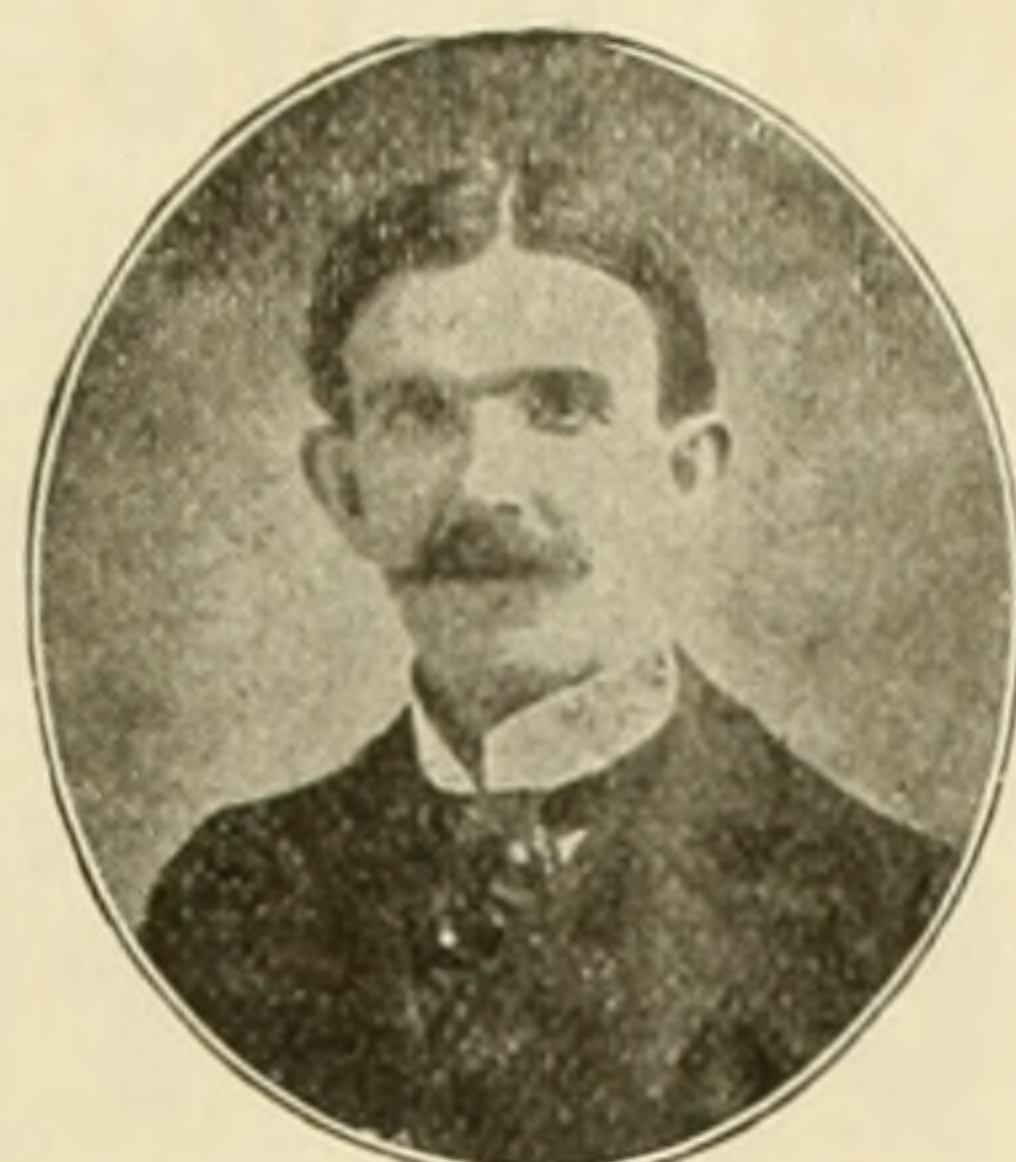
and guarantee them purely mated. Prices: Untested Queens, each, 75c; per doz., \$8.00 Tested Queens each \$1.25; per doz., \$12.00.

My stock is pure and free from disease—the gentlest bees on earth.

GRANT ANDERSON,
2Atf SAN BENITO, TEXAS.

NORWOOD'S—Texas-Bred—QUEENS

Three-banded Queen-Bees bred for business. Try them, then you'll know. Untested, \$1.00; six, \$5.00. Write us. 5Atf **E. B. NORWOOD, Del Valle, Tex.**



"If goods are wanted quick, send to Pouder"

ESTABLISHED 1880.

BEE-SUPPLIES

Standard Hives with latest improvements; Danzenbaker Hives, Sections, Foundation, Extractors, Smokers, Veils, and a complete stock of

Root's Standard Goods at Factory Prices

My equipment, my stock of goods, and my shipping facilities, cannot be excelled, and I ship goods to every State in the Union. Illustrated and descriptive catalog mailed free.

Finest White Clover Honey

on hand at all times. I Buy Beeswax.

Walter S. Pouder, Indianapolis, Ind.

859 Massachusetts Ave.

Please mention Am. Bee Journal when writing.

HAND-MADE SMOKERS

Extracts from Catalogs—1907:

Chas. Dadant & Son, Hamilton, Ill.—This is the Smoker we recommend above all others.

G. B. Lewis Co., Watertown, Wis.—We have sold these Smokers for a good many years and never received a single complaint.

A. I. Root Co., Medina, Ohio.—The cone fits inside of the cup so that the liquid creosote runs down inside of the smoker.

All Bingham Smokers are stamped on the tin, "Patented 1878, 1892, and 1903," and have all the new improvements.

Smoke Engine—largest smoker made.....	\$1.50—4	inch stove
Doctor—cheapest made to use	1.10—3½	"
Conqueror—right for most apiaries	1.00—3	"
Large—lasts longer than any other90—2½	"
Little Wonder—as its name implies65—2	"

BINGHAM CLEAN BEE SMOKER



Pat'd 1878, '82, '92 & 1903

The above prices deliver Smoker at your post-office free. We send circular if requested.

Original Bingham & Hetherington Uncapping-Knife.

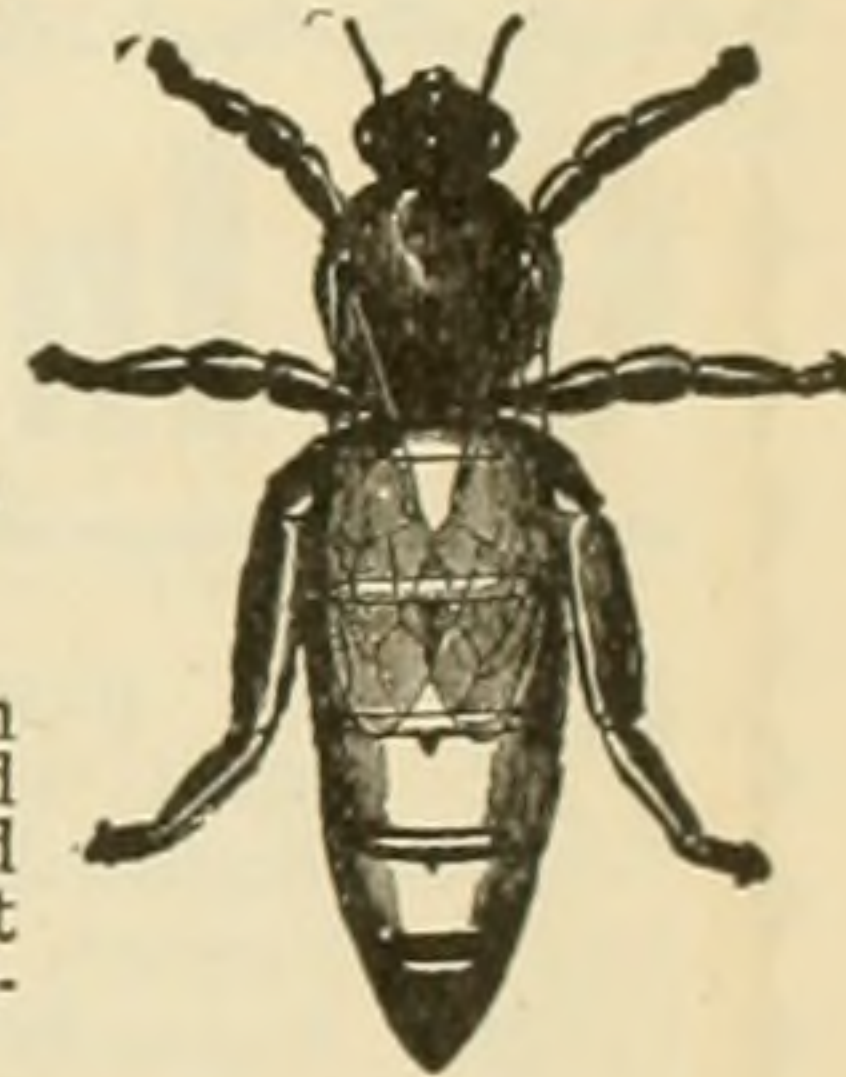
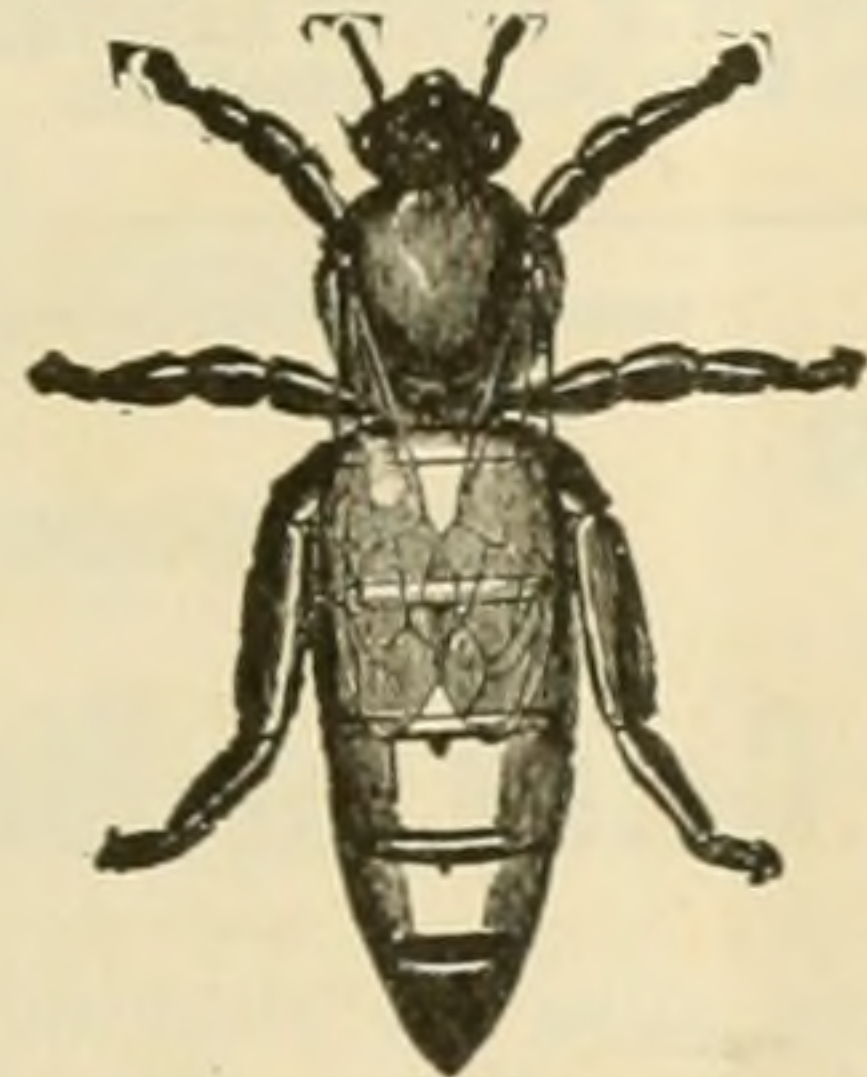
T. F. BINGHAM, Alma, Mich.



Patented, May 20, 1879. BEST ON EARTH.

Please mention Am. Bee Journal when writing.

DOOLITTLE'S "Scientific Queen-Rearing"



This is G. M. Doolittle's master-piece on rearing the best of queens in perfect accord with Nature's way. It is for the amateur and the veteran in bee-keeping. The A. I. Root Co., who ought to know, say this about Doolittle's queen-rearing book:

"It is practically the only comprehensive book on queen-rearing now in print. It is looked upon by many as the foundation of modern methods of rearing queens wholesale."

Mr. Doolittle's book also gives his method of producing comb honey, and the care of same; his management of swarming, weak colonies, etc. It is a book of 126 pages, and is mailed at the following prices: Bound in cloth, \$1.00; bound in leatherette, .75 cents.

Special Clubbing Offer

We offer a cloth-bound copy of this book with the American Bee Journal one year—both for \$1.50; or a copy of the leatherette-bound edition, with the American Bee Journal one year—both for \$1.25. The cloth-bound book given free for getting 3 new subscribers at \$1. each; or the leatherette-bound copy given for 2 new subscribers.

Every bee-keeper should have a copy of Mr. Doolittle's book, as he is one of the standard authorities of the world on the subject of queen-rearing and everything else connected with bee-keeping and honey-production,

George W. York & Co.,

Chicago, Ill.

LEWIS BEEWARE — Shipped Promptly

—SEND FOR NEW CATALOG—

Extracted Honey for Sale.

(Ask for Prices.)

Beeswax Wanted.

28c Cash—31c Trade.

ARND HONEY & BEE-SUPPLY CO. NOT INC.

(Successors to the York Honey & Bee-Supply Co.)

H. M. ARND, Proprietor.

148 West Superior St., CHICAGO, ILL.

Please mention Am. Bee Journal when writing.

Established 1885



We carry an up-to-date
Line of

Bee-Keepers' Supplies

Prices the lowest in the West. Write us for our 50-page catalog, ready to mail you. Free for the asking. We can fill your orders promptly and satisfactorily. Our old customers know what we handle; to new ones we can say that we have

The Best Make of Supplies

hence there is nothing to fear as to quality.

Send us your rush orders and get your goods before swarming time arrives.

Bees and Queens in their season. Beeswax taken in exchange for supplies or cash.

**John Nebel & Son
Supply Co.**

High Hill, Montg. Co., Mo.

ITALIAN QUEENS DIRECT FROM ITALY

— Extensive Apiaries —

E. PENNA, BOLOGNA, ITALY.

I send Queens from May 15 to Sept. 30. In Italy we have only Italian bees, so all my Queens are warranted quite pure and rightly mated. One fertile Queen, \$1.40; twelve, \$12.00; one Breeding Queen, \$3.00. Cash with orders. Queens sent postpaid. Safe arrival guaranteed. 5A1

Of Interest

FOR the past 50 years New England bee-keepers have purchased Bees, Queens, Bee-hives, Supers, Section-boxes, Comb Foundation, Smokers, Honey-jars, and other necessary bee-supplies, of the Reliable and long-established firm of W. W. Cary & Son.

I have recently purchased the above business, and will continue it at the same place as before. I have been associated with the firm for the past eight years, and have had experience in all branches of the business.

I have a fresh supply of the A. I. Root Co.'s goods, which I am able to supply you upon short notice. Send in your orders early and I will give them my best attention. 4A6t

Send for Bee-Supply Catalog.

EARL M. NICHOLS,

(Successor to W. W. Cary & Son)

Lyonsville, Massachusetts

The copies of "Honey as a Heath Food" that I have used have about doubled my sale of honey.

GEO. H. COULSON.

Cherokee, Okla., Oct. 26, 1909.

Write Us To-Day

for our 1910 Catalog and let us tell you all about

DITTMER'S COMB FOUNDATION

and

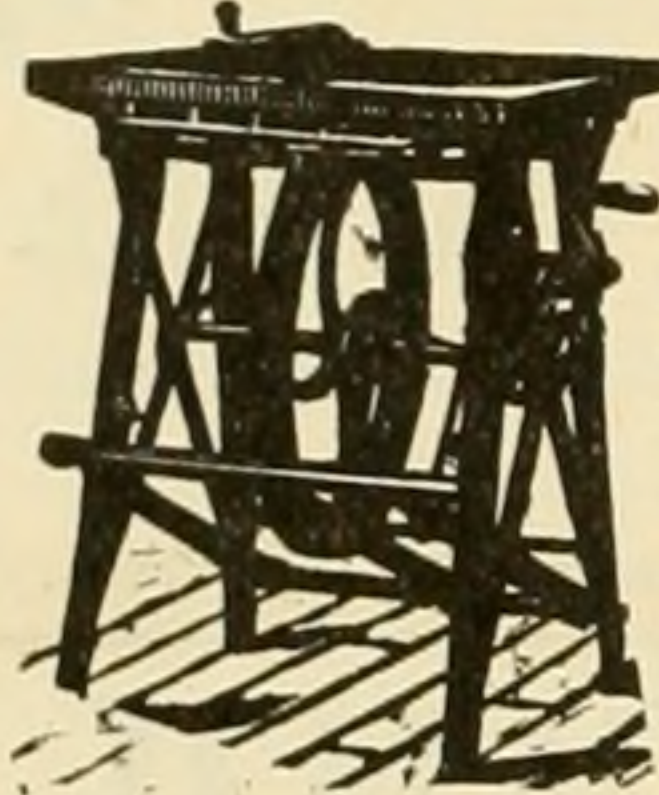
WORKING Your WAX for You.

Write us for **Estimate** on full **Line** of **Supplies.** It will pay you, and costs nothing.

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Read what J. I. PARENT, of Charlton, N. Y., says: "We cut with one of your Combined Machines, last winter. 50 chaff hives with 7-in. cap, 100 honey-racks, 500 brood-frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of bee-hives, etc., to make, and we expect to do it with this Saw. It will do all you say it will." Catalog and price-list free.

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The Oldest, the Largest and Best Equipped Queen-Breeding Apiaries in the North.

Every Queen Guaranteed Pure Mated. Italian and Caucasian. Circular Free.

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Please mention Am. Bee Journal when writing.

CRANE CELLULAR CASES

Mr. H. W. Coley, of Westport, Conn., writes us :

"I am using your Corrugated Paper Cases for shipping comb honey in, this year, and like them. On one shipment last year of six wooden cases packed in a carrier with a straw cushion, the greater part were ruined. This year the same quantity shipped to the same place in your cases went through without a broken comb."

1. The first cost of the Paper Cases is less.
2. He saved the cost of the carriers.
3. He saved the time of making the carriers.
4. He saved the weight of the carriers.
5. The Paper Cases weigh less than wooden ones.
6. They can be assembled in one-half the time it requires to set up a wooden case.

Send for our Circulars and let us tell you what some of the other large producers and dealers say.

Do not take our word for the value of this new Case.

Plan to order early. Some were disappointed last year.

J. E. Crane & Son, Middlebury, Vt.

American Bee Journal

Honey and Beeswax

CHICAGO, April 30.—The market on honey of all kinds is slow at this writing. Very little comb offered, with prices ruling at 18c for A No. 1 to fancy, and from 1 to 3c less on the lower grades. Beeswax is in good demand at 32c. R. A. BURNETT & Co.

CINCINNATI, April 30.—The market on comb honey is bare. Extracted honey is in good demand. White sage, in 60-pound cans, 8½c; amber, in barrels, 6½@6¾c. Beeswax in fair demand at \$33 per 100 pounds. These are our selling prices, not what we are paying. C. H. W. WEBER & Co.

INDIANAPOLIS, April 30.—There is a good demand for best grades of honey, but none is now being offered by producers. Dealers are fairly well supplied with one grade of comb, which is fancy white, mostly from Michigan, and 18c is the price asked. Finest white clover extracted is being sold by dealers in cases of two 60-pound cans at 10c per pound. Producers of beeswax are receiving 20c cash, or 31c in exchange for goods. WALTER S. POWDER.

NEW YORK, April 30.—There is practically no business in comb honey. Stocks are pretty well exhausted. There is little demand for fancy stock around 14@15c. Extracted is in fair demand only. Last year's crop is pretty well cleaned up, and the markets in general are not overstocked, only carrying a fair supply. Latest reports from the Coast indicate a short crop the coming season on account of lack of rain, and with a short crop in view, prices are likely to rule higher within the near future, and present stock is held firm. Beeswax steady at 30@31c. HILDRETH & SEGELKEN.

BOSTON, May 2.—Fancy white comb honey at 16@17c; No. 1, 15@16c. White, extracted, 8@9c; light amber, 7@8c; amber, 6@7c. Beeswax, 30@32c. BLAKE, LEE Co.

KANSAS CITY, Mo., April 30.—Our market is absolutely bare of comb honey, consequently we have no quotations to make. The demand for extracted is fair; supply light. We quote: White extracted, per lb., 6¾@7c. Beeswax, 25@28c. C. C. CLEMONS PRODUCE Co.

ZANESVILLE, OHIO, May 2.—There is about a normal demand for honey, with market rather bare. At this season of the year but little is offered. Best grades of white clover comb, which is what the trade here demands, should bring first-hand 14½@15½c, with wholesale prices about as last quoted. Producers should receive for beeswax 27@28c cash, 30@32c in trade, according to quality. EDMUND W. PEIRCE.

Only 25 cents per Case!

60-lb. Empty Tins, two to a case; used but once—as good as new.

C. H. W. Weber & Co., Cincinnati, Ohio.

HURT-CAIN CO., Inc., Receivers and Shippers of Comb and Extracted Honey. Refiners of Beeswax.

Consignments Solicited. We make a specialty of SOUTHERN HONEY. 5A3t 37 Vance Ave., Memphis, Tenn.

Cook's Honey-Jar.

With patent AIR-TIGHT SANITARY STOPPER is the Best and Cheapest Honey-Jar made. Sold only by

J. H. M. Cook, 70 Cortlandt St., N. Y. City.

Send 10 cents (half postage) for sample Jar, and catalog of WELL-BRED BEES, QUEENS, HIVES, etc. The oldest Bee-Supply Store in the East. 2Atf

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Years of experience in the manufacture of

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have made it PERFECT.

Bees like it, and the foremost

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It helps materially to increase the

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Ship us your

BEESWAX

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Will send shipping-tags, when you write asking for quotations.

We pay highest market prices.

W. T. FALCONER MFG. CO.

JAMESTOWN, N. Y.

SUPERIOR BEE-SUPPLIES

Specially made for Western bee-keepers by G. B. Lewis Co. Sold by Colorado Honey-Producers' Association, DENVER, COLO.

As Usual—

FRANKLIN, TENN., Feb. 19, 1910.

MR. C. H. W. WEBER,
Cincinnati, Ohio.

DEAR SIR:—Your consignment has arrived all O. K., and I find everything I ordered. I wish to extend many, many thanks for your promptness and fair dealing. All future orders will be sent to you.

Very truly yours,

W. A. MOORE.

I want you to notice Four Things in the above Letter :

I.—The goods reached Mr. Moore O. K. We know how to pack carefully and securely, and without any useless weight.

II.—He found everything ordered. We carry large stocks always on hand, and our system of checking prevents annoying mistakes.

III.—The advantages we have for prompt delivery are unsurpassed. If you want goods quick, send to Weber.

IV.—Fair dealing is now and always has been our motto.

CATALOGS have been mailed to nearly all our customers. If you have not received yours, send us a line and we will get one to you by return mail.

Yours for service,

2146 Central Ave., Cincinnati, Ohio.

C. H. W. WEBER & CO.

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BEE-KEEPERS OF THE WEST

Be Sure to get our **PRICES** on

B E E S W A X

Before selling your season's Wax
or
Let us send to you our prices for
Working your Wax into

DADANT'S FOUNDATION

Many large Honey-Producers prefer our Foundation to other makes, because the bees like it best.

We can use almost an unlimited quantity of BEESWAX, and we are buying at all times of the year at **highest cash and trade prices.**

During the season of 1909 we handled over 175,000 pounds of Beeswax.

DADANT & SONS, Hamilton, Illinois.

BEE-SUPPLIES OF ALL KINDS.

We Keep Only the Best.

Let us Figure on
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BEE-KEEPERS OF THE SOUTH

Established 1864

Bee-Keepers' Supplies

☞ We manufacture and furnish everything needed in practical, up-to-date BEE-Culture at the very lowest prices. We make the celebrated **DOVETAILED HIVES** and the famous **MASSIE HIVES**. These are the most practical, up-to-date Bee Hives made and our extremely low prices place them within the reach of all bee-keepers. Our **HONEY EXTRACTORS** and **BEE SMOKERS** are the very best that can be had anywhere. *We guarantee satisfaction to every customer or refund your money and pay the transportation charges both ways.* This means that you can send back to us any goods you buy from us that are not satisfactory. We will exchange them or refund your money instantly without a question.

☞ If you haven't one of our **CHAMPION SMOKERS** you don't know what a good one is until you get one, (sample by mail \$1.00).

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☞ Write us for prices on any orders. *We can save you money.*

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