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# GLEANINGS IN BEE CULTURE

VOL. 34

OCT. 15, 1906

NO. 20.



"The Proof of the Pudding"—Honey as a Food.

**THE A.I. ROOT CO.,**  
MEDINA — OHIO



# BEE-KEEPERS

We carry the largest stock of goods in the Middle West. The low freight rates from

## Toledo

will save you money. We will buy your HONEY and bee-wax, and pay highest market price. It will pay you to correspond with us when your crop is ready to market. No shipment is too large for us. Carcads a specialty.

## Queens! Queens!

We have a yard at Toledo with 100 colonies and over, which we use for queen rearing only; besides several out-yards which we run for honey, also for extra bees and brood, and queens are mailed same day order is received.

## Our 70-page Catalog

is sent free to any one asking for it. No matter whether you keep one colony or five hundred. We also handle a large line of poultry supplies, and sell eggs for hatching. Our 1906 mailing list is sent with every catalog. Don't buy until you have seen it.

## Griggs Brothers

523 Monroe St. : Toledo, Ohio

European Bee-keepers!

# Save Time and Expense

by sending direct all your orders and correspondence to our exclusive agent for the European continent and its colonies. . .

EMILE BONDONNEAU

142 FAUBOURG - ST. DENIS, PARIS

Prompt Service  
and Satisfaction  
Guaranteed. . .

The A. I. Root Company

# CENTRAL AND NORTHERN PENNSYLVANIA

Distributor of Root's Goods from the  
Best Shipping - point in this State.  
WHOLESALE - AND - RETAIL

I sell at catalog prices, and, with the low low freight rates of the competitive railroad companies, I can save you money by way of transportation charges.

In soliciting your orders I will assure you that every inducement consistent with conservative business is afforded my customers.

I also rear Italian and Caucasian queens from the best stock that money can secure. Write for my descriptive price lists of queens and bee-keepers' supplies—both free.

Beeswax taken in exchange for supplies.

E. E. PRESSLER, WILLIAMSPORT, PENN.



Headquarters for

# Bee - Supplies.

“Root’s Goods at Root’s Factory Prices.”

If you want to purchase bee-supplies, THE BEST MADE, order from Cincinnati, as you will save the freight charges and time it takes for goods to be shipped from Medina to Cincinnati. Cincinnati is one of the best shipping-points, particularly for the South. I keep all the time a large stock on hand and can ship promptly on receipt of order.

**A Special Discount**      *o*      *o*  
*o*      *o*      *o*      **on Early Orders**

Will buy or sell **HONEY** extracted or comb

If you have honey to sell describe quality or mail sample with lowest price delivered Cincinnati. If in need, state quality and quantity wanted and we will cheerfully quote you prices.

## Beeswax Wanted!

We all the time pay highest market price on delivery of goods.

# C. H. W. WEBER,

Office and Salesroom, 2146-2148 Central Ave.  
 Warehouse, Freeman and Central Avenue.

Cincinnati, - Ohio.

## Honey Markets.

### GRADING-RULES.

**FANCY.**—All sections to be well filled, combs straight, firmly attached to all four sides, the combs unsoiled by travel stain, or otherwise; all the cells sealed except an occasional cell, the outside surface of the wood well scraped of propolis.

**No. 1.**—All sections well filled except the row of cells next to the wood; combs straight; one-eighth part of comb surface soiled, or the entire surface slightly soiled; the outside surface of the wood well scraped of propolis.

**No. 1.**—All sections well filled except the row of cells next to the wood; combs comparatively even; one-eighth part of comb surface soiled, or the entire surface slightly soiled.

**No. 2.**—Three-fourths of the total surface must be filled and sealed.

**No. 3.**—Must weigh at least half as much as a full-weight section.

In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

**PHILADELPHIA.**—Comb honey has been arriving quite freely, and the demand is quite brisk at this time. Prices seem to have an upward tendency. The outlook is for still higher prices. We would advise parties who have comb honey to ship to send it in at once and sell it while the demand is on, for September, October, and November are the big honey months. We quote: Fancy white comb, 16 to 18; No. 1, 14 to 15; amber, 12 to 14. Fancy white extracted, 8 to 9; light amber, 7 to 8. We are producers of honey, and do not handle on commission.

WM. A. SELSER,

Oct. 8. 10 Vine St., Philadelphia, Pa.

**ST. LOUIS.**—There is a good demand for extracted as well as comb honey. The receipts are not large, and the choice goods are sold on arrival. We quote fancy white comb at 14; No. 1, 12½ to 13; light amber, 12 to 13; dark and broken, 8 to 10. Extracted light amber, 6½; Spanish needle and white clover would command 7, but the receipts of this description are inadequate; Southern, in barrels and half-barrels, 5 to 5½. Beeswax, prime, 28½; all impure and inferior, less.

R. HARTMAN & Co.,

Oct. 8. 14 So. Second St., St. Louis, Mo.

**CHICAGO.**—The receipts of comb honey are quite large, and there is also a good demand for it, so that prices are well maintained at 15 to 16 for No. 1 to fancy. Any thing short of these grades is not selling freely, and ranges from 1 to 3 cts. per lb. less. Buckwheat, 12½; dark grades, 8½ to 10. Extracted white, 6½ to 7½; amber, 6 to 7; dark, 5½ to 6. Beeswax, 30.

R. A. BURNETT & Co.,

Oct. 8. 199 So. Water St., Chicago, Ill.

**TOLEDO.**—The market on comb honey remains firm. The demand is fair, and receipts equal to the demand. Fancy white comb honey in a retail way brings 15 and 16, with very little demand for low grades. Extracted white clover in barrels brings 7½ to 8½; cans, the same. Beeswax, 26 and 28.

Oct. 8. GRIGGS BROS., Toledo, Ohio.

**INDIANAPOLIS.**—Fancy and A No. 1 white comb sells for 16 to 17, and demand is good; fancy amber, 11 to 12, with slow demand; No. 1 white, 13 to 14, demand not good. Best grades of extracted honey in 60-lb. cans brings 8 to 9, and demand is good, but higher prices will retard the market; amber extracted bringing 6½. Good average beeswax sells here at \$33.00 per 100 lbs.

WALTER S. POWDER,

Oct. 8. 513 Mass. Ave., Indianapolis, Ind.

**BUFFALO.**—Honey is now doing extra well here, and very little arriving. Buyers are looking for choice to fancy comb. We quote you fancy white comb 15 to 16; A No. 1, 14 to 15; No. 1, 13½ to 14; No. 2, 12 to 13; buckwheat, 11 to 12. White extracted, 7 to 8; amber, 6½ to 7; dark, 5 to 5½. Beeswax, 30 to 32.

W. C. TOWNSEND,

Sept. 29. Buffalo, N. Y.

**SCHENECTADY.**—There is a lively demand for both comb and extracted, and stock is moving off at a great rate, and prevailing prices are firm. Fancy clover, 15 to 16; No. 1, 13 to 14; buckwheat, 11 to 12. Extracted, light, 6½ to 7½; dark, 6 to 6½. Write us before shipping.

C. MACCULLOCH,

Oct. 9. Schenectady, N. Y.

**KANSAS CITY.**—The demand for both comb and extracted honey is good. We quote No. 1 white comb, 24-section case, \$3.00; No. 2 amber, \$2.75. Extracted white, 6½ to 7; amber, 6. Beeswax, 25.

C. C. CLEMONS & Co.,

Oct. 9. Kansas City, Mo.

**ST. PAUL.**—Fancy honey, 15 cts.; No. 1 white, 14; No. 2, 11 to 12. No other goods traded for on this exchange. Dark honey not wanted.

W. H. PATTON,

Oct. 8. Sec. Bd. of Trade, St. Paul, Minn.

**NEW YORK.**—The demand for comb honey is very good, especially for fancy stock, and arrivals now are quite heavy. We quote fancy white at 15; No. 1, 13 to 14; No. 2, 12 to 13; buckwheat 11. Extracted in good demand and prices are somewhat firmer. We quote California white at 7½, light amber at 6½ to 7, and amber 6. Southern honey in half-bbls. in good demand and finding ready sale at from 55 to 65 cts. per gallon, according to quality. Beeswax is somewhat weaker, and 30 is about top price. HILDRETH & SEGELKEN,

Oct. 9. 82-86 Murray St., New York.

**WANTED.**—Beeswax. We are paying at this date for pure average beeswax delivered at Medina or any branch office named below, 27 cts. in cash or 30 cts. per lb. in exchange for bee-supplies, less transportation charges. We can not use old combs. Pack securely and address plainly. Be sure to send bill of lading when you make shipment, and advise us how much you send, net and gross weights. Ship to home office or nearest branch named below.

THE A. I. ROOT CO., Medina, Ohio.

Chicago, 144 East Erie St.; New York, 44 Vesey St.; Philadelphia, 10 Vine St.; Washington, 1100 Maryland Ave., S. W.

Honey and Wax Wanted and For Sale. See Classified Ads. on Page 1331.

## FANCY WHITE EXTRACTED HONEY

CRATES 2-50 LB. CANS; 8c

TWO OR MORE CRATES; 7½

LARGER LOTS; WRITE FOR SPECIAL PRICES. ALL

F. O. B. CINCINNATI. CASH WITH ORDER. SAMPLES 10c.

TO PAY POSTAGE.

THE FRED W. MUTH CO.

No. 51 WALNUT STREET CINCINNATI, OHIO.

SEND FOR CATALOG OF BEE SUPPLIES WITH SPECIAL DISCOUNT.



# BUCKWHEAT HONEY!

Our clover and raspberry honey is all sold—went at 8 and 8½ cts., according to quantity—but we still have 6000 lbs. of buckwheat. Right here let me say that this buckwheat honey was left on the hives until it was all sealed over, and is thick, rich, and ripe—far

superior to the thin, rank stuff often found on the market. You needn't take my word for it—send for a sample. It is put up in 60-lb. cans, two in a case, and the price is 6 cts. a pound.  
**W. Z. HUTCHINSON, Flint, Michigan.**

## EVANS & TURNER, Columbus, Ohio,

are in the market for white comb honey, and especially want some fine stock from Wisconsin, Michigan, Indiana, and New York. They would also like to hear from Iowa producers. Write fully what you have; and if you care to name price, do so, stating about what time you will be ready to ship.

## Chas. Israel & Brothers

486-490 Canal St., New York

Wholesale Dealers and Commission Merchants in

Honey, Beeswax, Maple Sugar and Syrup, etc.

Consignments Solicited. Established 1875.

**FOR SALE.**—Extracted honey, strictly pure, buckwheat, 6½c; clover mixed, 7c, in 60-lb. cans and 150-lb. kegs. This State production; best flavor.

H. R. WRIGHT,

Wholesale Commission, Albany, N. Y.

The Danzenbaker Twentieth Century Smoker

Awarded Highest Prize

**A GOLD MEDAL**

at the World's Fair.

St. Louis, 1904.



**UP-TO-DATE,  
STRONGEST,  
COOLEST,  
CLEANEST.**

It has a side grate that strengthens the fire-cup, and holds a removable metal and asbestos lining that keeps it cool, adding to its durability. It has no valves to get out of order or snout to clog.

**Every Thing Guaranteed "Root Quality."**

**ALL THAT IS CLAIMED.**—The General Manager of the National Bee-keepers' Association says:

I have given your Twentieth Century a thorough trial. For convenience in lighting, durability, and long time one filling will last and give ample smoke, I find it all you claim. In the spring I shall want several. I always want the best.

N. E. FRANCE, Platteville, Wis.

**SURPASSES ALL OTHERS.**—"After giving the Danzenbaker Twentieth Century Smoker several trials, I can say it surpasses all smokers it has been my liberty to try; it will not go out until fuel is all consumed, and it produces a cool smoke, a feature very necessary in any first-class smoker."  
GRANT STANLEY,  
Nisbet, Pa.

Prices: By mail, \$1.25; three, \$3.25.

By express or freight, one, \$1.00; three, \$2.50.

For further particulars, see Dec. 15th Gleanings, page 1370; sent free with price list.

**F. DANZENBAKER, MIAMI, FLORIDA**

## To Florida and Return, \$25.00.

**T**HE above low rate has been placed in effect for the **ROUND TRIP** from **CHICAGO** to **TAMPA**, and other Florida points, to enable people from the Northwest to visit the **FLORIDA STATE MID-WINTER FAIR**, to be held in Tampa, Nov. 14th to 29th. Also rate of \$20.00 for the **ROUND TRIP** from **CINCINNATI, LOUISVILLE, EVANSVILLE, CAIRO, ST. LOUIS.**

This affords an excellent opportunity to examine within a small space the resources of the entire State, as well as to familiarize yourself with the attractive opportunities existing for a location in a section endowed by Nature with a most delightful climate—thus enabling work to be carried on throughout the entire year. The lands are peculiarly rich and very productive, and visitors to the Fair will see fine displays of citrus fruits and early vegetables in addition to the surprising exhibits of Florida live stock. For full information, descriptive literature, and copy of "Seaboard Magazine," address

J. W. WHITE,

General Industrial Agent, Seaboard Air Line Railway,  
Department F, Portsmouth, Virginia.



## SAVE HALF YOUR FUEL

BY USING THE

### Rochester Radiator

Fits any Stove or Furnace. Guaranteed to do all we claim or money refunded. Write for booklet on heating homes.

**Rochester Radiator Co.,**  
50 Furnace St., Rochester, N. Y.

Price from \$2.00 to \$12.00

For hard or soft coal, wood or gas.

## SPRAY PUMPS

"TAKE OFF YOUR HAT TO THE MYERS"

**MYERS**  
The Pump that pumps easy and throws a full flow. The cheapest pump is the best pump, that's a Myers. Pumps, Hay Tools & Barn Door Hangers. Send for catalog and prices.  
**F. E. Myers & Bro.,**  
Ashland, Ohio.





# Gleanings in Bee Culture

## Devoted to Bees, Honey, and Home Interests

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**A. I. ROOT**  
Editor Home Departments

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Department Editors:  
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LOUIS H. SCHOLL, G. M. DOOLITTLE, W. P. ROOT.

**J. T. CALVERT**, Business Manager

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**THE A. I. ROOT CO., Medina, Ohio, Publisher.**

Find enclosed.....for which please send me Gleanings in Bee Culture.....months, and.....as per offer.....  
Please continue sending Gleanings until otherwise ordered.

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# Paroid Roofing—

Here's Our Offer:

**Read This Trial Offer on the Roofing That Lasts the Longest.**

**B**UY one lot of Paroid; open it; inspect it; apply it to your roof, and if then you are not satisfied that you have the *best* ready roofing made, send us your name and address, and we will send you a check for the full cost of the roofing, including the cost of applying it.

**P**AROID is the best ready roofing ever made. You can *prove* it to your own satisfaction from a sample, but a *better way* is to *use it*. All we ask is that you *try it*, and we make the way easy.

Is there *any* offer we could make fairer than that?

Could we *afford* to make such an offer if we were not *sure* that Paroid is better than other ready roofings?

It is better; we *are* sure; and this is *why*:

Four things enter into the making of a good roofing:

The *felt*; the *saturation*; the *coating*; and the *method of laying*. Paroid excels on all four points.

\* \* \*

The *felt* is the foundation. If it is not right to start with, no treatment of any kind can make it into a good roofing.

We *know* that our felt is right because we make it in our own mills (established in 1817.)

We make it because we cannot buy a felt elsewhere *good* enough for Paroid.

Other manufacturers who buy their felt in the open market—wherever they can get it cheapest—necessarily take big chances at the very start.

We couldn't give you the money-back guaranty we do if we did not make the complete roofing under our direct supervision.

\* \* \*

Paroid roofing is not merely *dipped* in a solution, but is *soaked* in a water proofing mixture of our own, which renders every fibre of it—through and through—absolutely water proof.

\* \* \*

And then the *coating*. Paroid is coated on *both* sides with a *smoother*, *thicker*, *tougher* and more *flexible* coating than is on any other roofing made.

There is no room for doubt about it. You need not take our word for it. Use your own judgment. Compare Paroid with other kinds. You will find that Paroid is the only roofing that doesn't

*break* when you give it a short bend. If you can *freeze* the various samples you'll have a still better test, and you'll find Paroid the only flexible roof in a zero temperature, while others crack like an icicle.

\* \* \*

But even the best roofing must be *properly applied*.

In every roll of Paroid you will find a complete roofing kit, with a supply of *square*, *rust-proof*, *water-proof* caps. The only rust-proof cap made.

These caps are patented. You get them *only* with Paroid.

Being square, they give you larger binding surface and so hold the roof more securely.

Being water-proofed on *both sides*, they do not *rust* and *work loose* and cause a *leak*, as all other caps do, sooner or later.

\* \* \*

And when the roof is laid, you not only have a *good* and *durable*,

but you have a *sightly* roof. Its smooth, uniform surface, makes it the best in appearance of all ready roofings.

\* \* \*

And there you are:

The best felt for a foundation; The best and most thorough water proofing saturation;

The best and most flexible coating;

The most slightly ready roofing made;

And a positive money-back guaranty.

Will you try it on these terms?

\* \* \*

They are some of the reasons why Paroid has stood the test of time for the United States Government, for railway, factory, farm and poultry buildings.

It lasts longest. It gives best service. And we stand back of it.

May we send you samples and prices?

**F. W. Bird & Son,** 20 Mill Street, East Walpole, Mass.  
1420 Monadnock Bldg., Chicago, Ill.

**Cut Out and Mail This Today.**

Please mail me your book of plans for farm buildings and samples of Paroid. I enclose 4 cents for postage.

Name \_\_\_\_\_

Address \_\_\_\_\_

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BY THE AD. MAN.

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To get the fullest returns from advertising you should keep your name before your prospective customer the year round. This means running your ad. in every issue when you have been accustomed to only part—the rush season.

But you say this is expensive.  
To meet this one objection to the plan, we will start a new classified department entitled "Bee-keepers' Directory," for the exclusive use of all-year-round advertisers. Under this heading we will accept suitable ads limited to 2, 3, or 4 lines at the following rates:

2 lines for 24 issues and GLEANINGS one year	\$5.00
3 " " " " " " " " " " " "	7.50
4 " " " " " " " " " " " "	10.00

Cash in advance. Ad's can be changed only during the first issue of January, April, July, and October. It is intended that only bona-fide notices offering for sale bees, queens, or bee-supplies, and offering honey or wax for sale, or "wanted," appear under this head. We reserve the right to reject or modify any ad, that is not eligible to these special rates. Specify "Bee-keepers' Directory" when sending order.

Do you know what this offer means? First, you can place your card before GLEANINGS readers at less than half our flat rate; 2. You receive GLEANINGS one year free; 3. Your ad. will appear in nearly a million separate copies of GLEANINGS. Just think of these opportunities to reach your prospective customers!

This column is distinctly for the benefit of our readers. It is maintained at a loss to us, as we could fill the space with matter at our regular rate.

This opportunity will doubtless be quickly grasped by queen-rearers and supply-dealers whose advertising appropriations are limited, and who desire best returns from a small investment; also by large advertisers to supplement their regular advertisements and to place their names in a department sure to be scanned by the prospective buyer.

Did you notice the advertisement of the *Youth's Companion* appearing on page 1326? It is hardly necessary to introduce this paper to the bulk of our readers—they have all heard of it, and most have read it one time or another.

But are you a subscriber now? Perhaps you have children in your family to whom it would prove a source of unending delight. It's good reading for every one. Its pages next year will include stories from the pens of the best writers in the world. Write for announcements or a sample copy. Better still, subscribe. *Mention Gleanings when you write.*

## CIRCULATION OF GLEANINGS.

A paper for bee-keepers must have bee-keepers for readers. Conceded.

And these gentlemen are *exclusively* bee-keepers? *No!*

The percentage of exclusive bee-keepers is very small among those who keep bees. It is safe to say that 90 per cent of GLEANINGS' readers are directly interested in farming. They live on farms.

GLEANINGS is a technical paper. It does not appeal strongly to children or the hired help. It reaches the head of the home, and it comes very close to him because of its special character.

See what a splendid medium GLEANINGS is for the general advertisers catering to farmers' necessities. It is doubtless as efficient as a *general farm paper* having a much larger circulation. We have had our advertisers tell us so—and they know.

## LAST CALL.

Our *third photo contest* is scheduled to close November 1. As yet the entries have been very light; and if you have a picture of any value you are almost certain of winning one of our prizes. Look over the lot of pictures you have. May be you have one—for instance, a family group excelling those appearing in recent numbers. We should be glad to get it. There are many views around every bee-keeper's home that will interest GLEANINGS' readers. If you haven't had them taken yet, don't let this beautiful October weather slip by without doing so, and enter them in our contest before too late. See particulars in ad. on page 1323.

The attention of our readers is particularly called to the advertisement of the Seaboard Air Line R. R. on page 1279 of this issue. Our Philadelphia manager lately called our attention to the importance of the fair at Tampa, Fla., suggesting that we make a display of our goods there. While we were not able to arrange for this, we are very glad to bring the fair to the attention of our readers, as it will undoubtedly afford an opportunity to judge of the resources of Florida very much better than can be obtained in any other way. The great attractions of the fair, coupled with the exceptionally low rates made by the Seaboard Air Line R. R., will interest a good many of our readers who are thinking of visiting Florida.

## CERTIFICATE OF MERIT.

GLEANINGS was awarded a certificate of merit by the Worcester County, Mass., Bee-keepers' Association at their annual meeting, Sept. 24—26, 1906. It is only one of the many ways in which our subscribers and friends show their regards for the magazine we are making. We are trying to make GLEANINGS the best magazine of its kind published. It is a pleasure to know when we are in a measure succeeding.

## CLASSIFIED ADVERTISEMENTS.

Notice the arrangement of our classified columns. We are going to make this one of the most interesting and profitable departments in the paper.

### ADVERTISING - RATES

Twenty cents per agate line flat.  
Classified columns—bonafide exchange or want ads.—15c a line, others 20c a line.  
Discount for cash in advance, 5%; if paid in 10 days, 2%.  
No objectionable advertising accepted.  
Forms close 10th and 25th of each month.  
Guaranteed circulation per issue, 30,000.

GLEANINGS IN BEE CULTURE  
MEDINA, OHIO

# Seasonable Goods!

## Non-drip Cases

The kind we call "Root Quality"—none as good.

## Glass and Tin Packages

for extracted honey. A neat package means a fancy price.

## Honey-extractors

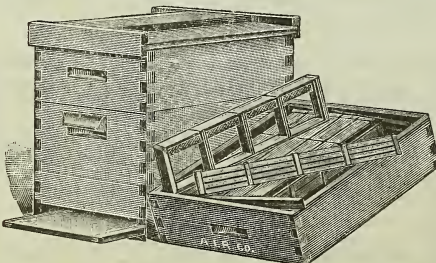
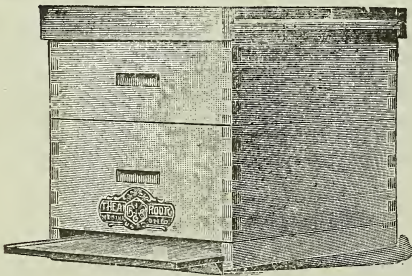
The Cowan No. 15 will give you years of honest service. You need one.

During this month (October) we are offering a special discount of six (6) per cent for cash orders for Bee-supplies for next season's use. After November 1st the discount will be five per cent.

We Have the  
**Largest Stock of Bee-supplies in Michigan**  
and all **ROOT QUALITY**

**M. H. Hunt & Son, Bell Branch, Michigan**  
Wayne County

# ROOT'S HIVES!



Look Good.

Are Good.

Good Results.

Do you know a good thing?  
Do you use a good thing?  
Our catalog describes them.  
Six per cent discount during  
October.

**The A. I. Root Co.**  
**Syracuse, N. Y.**



# 10 WEEKS 10c COPIES FOR ...

We want every reader of GLEANINGS IN BEE-CULTURE to get acquainted with the

## Weekly American Bee Journal

Certainly it would pay any bee-keeper to read it regularly. And in order that those who are not now getting it may do so, we want the opportunity to send it for 10 weeks for only 10 cents (stamps or silver.) That would be at least 160 pages of bee-literature for just one dime. We offer the last 10 numbers of 1906 for 10 cents as a "trial trip." You will want it for all of 1907 after the 10 weeks, we are sure.

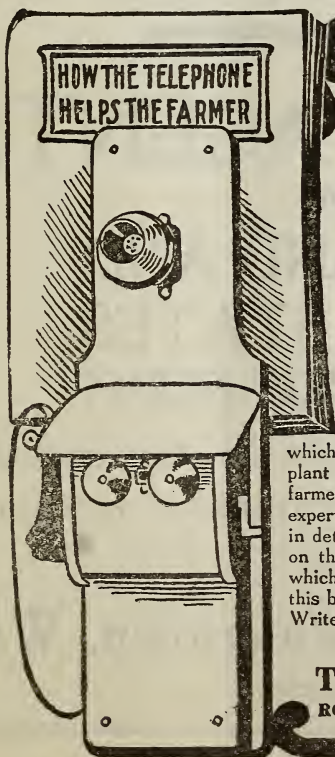
### SOME OTHER SPECIAL OFFERS TO NEW SUBSCRIBERS

The Weekly American Bee Journal from the time your new subscription is received to the end of 1907—and your choice of one of the following:

- 1. With Doolittle's book, "Scientific Queen-Rearing" (bound in leatherette) both for .....\$1 25
- 2. With Dr. Miller's "Forty Years Among the Bees," both for . . . . . 1 80
- 3. With Dadant's "Langstroth on the Honey-Bee," both for . . . . . 2 00
- 4. With Root's "A B C of Bee-Culture," both for . . . . . 2 00
- 5. With a Standard-Bred Italian Queen, both for . . . . . 1.50  
(Queen mailed either before Nov. 1, 1906, or in May or June, 1907.)
- 6. With Gold Fountain Pen, both for . . . . . 2 00
- 7. With Novelty Pocket Knife (your name and address on one side, and Queen, Worker and Drone on the other side) . . . . . 2.00

A sample copy of the Weekly American Bee Journal free. Ask for it. Address all orders to

**GEORGE W. YORK & CO., 334 Dearborn St., Chicago, Ill.**



## You Want This Free Book

Of course you need a telephone. You need it for business, for the family, in sickness, in case of fire, or in danger of any kind. The question is—how can you get one on your farm? This little book which we send free the same day we get your request answers the question perfectly and tells you how to get the greatest convenience of the twentieth century so easily and cheaply that it becomes a positive saving and a money-maker, instead of an expense. It tells all about

### Stromberg-Carlson Telephones

which are made in the largest independent telephone plant in the world. These are the best instruments for farmers' lines, because they have been constructed by experts for this particular purpose. They are described in detail in the booklet, together with full information on the organization of farmers' lines, the manner in which they are built, cost of material, etc. You want this book, E36 "How the Telephone Helps the Farmer." Write for it today.

**Stromberg-Carlson  
Telephone Mfg. Company**  
ROCHESTER, N. Y. CHICAGO, ILL.



# HAVE YOU READ BEE PRANKS?

This is a pamphlet compiled from newspaper clippings containing many laughable and wonderful anecdotes which have actually happened in connection with bees. . . .

The book also contains, in nutshell form, what the great poets and other writers have to say about these interesting little insects. . . .

WE GIVE IT FREE FOR THE NAMES AND ADDRESSES OF FIVE BEE-KEEPERS if sent direct to G. B. LEWIS COMPANY, WATERTOWN, WIS., U. S. A.

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## WE WANT AGENTS FOR THE NEW ENGLAND AND SOUTHERN STATES EAST OF THE MISSISSIPPI

To buy our goods outright by the carload.  
Liberal inducements and exclusive territory.

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G. B. Lewis Co., Watertown, Wis.  
Bee-keepers' Supplies.

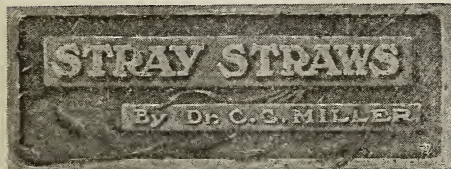
# GLEANINGS IN BEE CULTURE

A Journal Devoted to Bees, Honey, and Home Interests  
Illustrated : Semi-monthly : One Dollar per Year  
Published by The A. I. Root Company, Medina, Ohio

Vol. XXXIV.

OCT. 15, 1906.

No 20



IN REPLY to Geo. W. Deyo's question as to poor wax-makers not entering the supers, tell him I agree with the editor.

THAT DOOLITTLE shade-board, p. 1253, is a fine thing. I wonder, however, if nearly the same results can not be obtained with less expense and trouble by the right kind of double covers.

IN EUROPE there is general complaint of a bad year. [The year has been bad everywhere except in localities. Considerable honey was produced in York State, but apparently it was disposed of locally, for there was not enough to overflow into the great markets.—ED.]

PLEASE TELL Dr. Aulick, p. 1254, that we have no trouble with  $\frac{3}{8}$ -in. bottom starters toppling over (we use thin, not extra thin, foundation), and there has never yet been a case of burnt fingers in putting them in with the regular Daisy fastener as rapidly as they can be handled.

IN SPRING "a whole lot of dirt, dead bees, and often mold and fith," are not generally found on my bottom-boards, especially since the furnace is in the cellar. Some of them are just as clean as in the summer; the others are cleaned out just as soon as set down outdoors in a very short time by scraping loose and tipping up. Say, Bro. Doolittle, weren't you just a bit carried away by poetic frenzy when you talked about stimulating brood-rearing by the "sweet summer side" of a board?

DEUTSCHE IMKER advises a correspondent, who complains of brittle foundation, to mix with his wax one per cent of honey, stirring thoroughly before pouring into the mold. The bees show special preference for such foundation. [There may be something in this, but I doubt it.—ED.]

"THE PIPING sound is generally attributed to young queens anxious to escape from their cells,"—*Irish Bee Journal*, p. 51. There is some confusion as to terms. Better say the piping is made by the free virgin, and the quacking by the virgins still in their cells. [You are correct. But sometimes correspondents and editors alike mix the terms.—ED.]

HOW MANY can tell the age of a larva by looking at it in the cell? When just hatched it lies curved in the bottom of the cell, a straight line from head to tail, being a little more than  $\frac{1}{2}$  as long as the diameter of the cell. At one day old it is still in the form of a semicircle, but has grown so that the line from head to tail is a little more than  $\frac{2}{3}$  the diameter of cell. At two days old it lies head touching tail, forming a complete circle whose diameter is nearly  $\frac{3}{4}$  the diameter of the cell. At three days old it occupies  $\frac{5}{8}$  of cell-diameter. At four days old it fills the entire diameter of the cell. These important data I got from Dr. E. F. Phillips.

R. HAWORTH asks where I got that "fireless stove." Didn't get it—made it. Any one can make one. Take an old trunk or box; paste paper over any cracks, and it's not a bad plan to paper it all over; pack in hay or excelsior, three or four inches deep in the bottom; set in the vessel or vessels to be used, and pack in solidly all around them hay or excelsior, packing clear to the top of the vessels. Now make a cushion the size of your box, stuffed solid to lay over the vessels to fill completely the rest of your box. The cushion should be at least three inches thick—the thicker the better. Over all must be a



tight-fitting cover. The material to be cooked must be brought to the boil and kept there until entirely heated through, then quickly put into the box and covered up. Oatmeal put in at night will be hot in the morning. At dinner to-day I ate chicken, cooked in the hay-box, that was delicious. It was put in about 8 o'clock in the morning, taken out just before dinner, floured and browned in butter in the frying-pan. [From the number of favorable reports I have seen of this fireless stove, I should say it was an unqualified success, and a great fuel-saver. We are planning to have one put in our house.—Ed.]

AN INTERESTING SIGHT I saw this morning, Sept. 21. A bee that appeared to be quite young was busily digging away at a dandelion blossom; but its rather deliberate movement attracted my attention. At first I thought it might be a sick bee; but looking closely at it I saw that it was using its tongue all the time. I touched it with my finger, but it paid no attention to it. I pushed it around two or three times; but as soon as I left it, it began digging away again. After watching it about a minute I laid my watch on the ground to time it. It seemed to be cleaning away the pollen a little; but I could see nothing accumulating in its pollen-baskets. After 14 minutes it flew away. Dandelions were rather plentiful; and, timing other bees. I found they spent from 8 to 30 seconds on a flower—a longer time than I had supposed. Was that the first blossom my young bee had ever seen? and did it suppose none was to be found elsewhere?

I DON'T WANT to injure the man who invented the reversible bottom-board; but in comparing it with bottom-racks I think Bro. Doolittle omits some points, p. 1234. With the rack, two or three times as much airspace is allowed under the bottom-bars, and I count this of so much importance that it would settle me in favor of the rack if there were no other advantage. If I understand him rightly, Bro. Doolittle favors reversing because it obliges him to heft the hives "by which we know which require feeding if any do." Why, bless your heart, Bro. D., can't I heft it just as well with the bottom-board on, lifting it only once instead of your twice, saving the drawing and nailing of staples and adjusting of hive on bottom-board? But, really, I count depending on hefting *alone* a very slipshod way of doing things. You can't trust it within several pounds. A hive is a good deal heavier when you're tired than when you're fresh. I don't generally raise the hive when I heft it. If I pull enough to know that it feels as if it were nailed to the ground, and feel sure that it is away beyond the danger-point as to weight, then nothing further is needed. But if there is any sort of question about it, then it must be actually weighed. The scales may show it 5 pounds over the necessary weight; but hefting will not tell me *for sure* whether it is over or under. [We do not depend on "hefting." Before putting the bees up final-

ly we examine every comb, then mark on the record the amount of feed, if any, that will be required to give the necessary stores.—Ed.]

I AM HOPEFUL that Mr. Wardell has given us the true secret of failure when putting weak colonies over strong ones, p. 1229. It looks reasonable that allowing the weak colony to remain over the strong one some time before any intermingling of bees would be conducive to good fellowship, for the same reason that a strange queen is caged on introduction. I have puzzled no little over that sentence at the top of the page which tells of partly lifting the cover, and have come to the conclusion that the semicolon after "partly" has no business there, allowing us to lift entirely the cover which was partly sealed to the excluder. Why would it not make a still surer thing to have wire cloth between the two colonies for two or more days in advance? or, perhaps, combine the plan for uniting that originated in this locality? Put a piece of heavy manilla paper under the excluder, having in it a hole large enough for one bee to pass. [You are right. The semicolon should not have been there. It was not in the copy, and after it crept into the type it was marked out, but got overlooked.]

Your suggestion of putting some sort of barrier between the upper and lower story is all right. It occurred to me that perhaps it might be best in the case of some bees, at least, to put a wire-cloth screen between the upper and lower story for a couple of days, then replace with perforated zinc. This would prevent the bees from getting together too soon.—Ed.]

ANOTHER "if" might well be added in that Cuban discussion, page 1232. "If" it turns out that Cubans can send in duty-free honey at prices with which we can not compete, what then? Well, if they can, let 'em. Bee-keepers are not the only people in the world; and if it will be better for the country at large to import its honey than to produce it, we bee-keepers can make a living some other way. But I have no real fear that I should get a cent less for honey if Cuba should become one of us. Besides, Cuba is not going to be annexed. [We do not need to be afraid of that last "if," even should annexation become an accomplished fact. The poor seasons that Cuba has been having for two or three years back have put bee-keeping in her borders in a decidedly bad way. Thousands of colonies have died out from neglect or starvation; disease has killed other thousands, and it will be a long time before the bee business recovers itself in Cuba. The time was when there had not been a break in the good seasons for many years. If Cuba, like California, is to have only now and then a good year she will never be able to break the market in our great cities any more than California has been able to do in its good years. When the Golden State does have a good season she is able to produce honey as cheaply as Cuba, and de-



liver it in Chicago for less money than Cuba could deliver the same grade of honey, even with the duty off. But late reports indicate that the administration is decidedly against annexation. The Cubans themselves do not want it, and Uncle Sam is apparently not in haste to assume new burdens in addition to those he already has.—Ed.]



EDITOR YORK, of the *American Bee Journal*, is getting up a special car of bee-keepers to go to San Antonio, Texas, leaving Chicago November 6th, arriving in ample time to attend the convention. Those interested would do well to write Mr. York at once and make the necessary arrangements for transportation.

SOME new and special departments, as well as some special articles, will appear in the next few months. If GLEANINGS has been indispensable to our 30,000 readers, we feel sure that, during the next few months, it will contain some of the best matter that was ever published. Our subscription-list continues to grow apace—such a steady and satisfactory growth that we feel warranted in putting in these columns the very best matter that can be obtained, regardless of cost.

If you have neglected to feed your bees, avoid giving them feed in cool weather during the day. If the weather is too chilly for the bees to venture out, it is a sad mistake to force them out into the open air by giving them a big feed during daylight hours. The feed should be given at night, or at least when it is so dark that no bees will rush out. If feeding is to be done during the day, let it be practiced when the atmosphere is warm, otherwise there will be a tremendous loss of bees that fly out and become chilly, unable to get back.

#### CUBAN HONEY.

It begins to appear now that President Roosevelt is decidedly against the annexation of Cuba, and Congress will probably take the same view. Whether annexation would reduce the price of amber and dark honey in the United States on account of the cheaper Cuban honey that would be imported can not now be determined. But as annexation probably will not come, there is no use in crossing the bridge before we get to it.

#### HONEY AS A FOOD—THE PROOF OF THE PUDDING.

In this issue we are able to present two quite notable pictures of family groups—one of I. R. Good, so well known to our older readers, and his family, as shown on p. 1307. The other picture shows Mr. Wilson Strock and his family on the front cover page. Both families are large users of honey. Mr. Strock says his children always have all the honey they wish to eat; that the whole twelve are enjoying good health, and that the last visit of the doctor was six years ago when the youngest came to the household. But honey alone is not entirely responsible for this excellent showing. No tobacco or intoxicants are used by any of the family, all of whom meet daily around the family altar.

But these two families that we present in this issue are by no means an exception. There are hundreds of other families just like them, and *just as good looking*, among the subscribers of GLEANINGS. We feel proud of our greater family of bee-keepers; and while there may be some black sheep among them they are few and far between.

Nature study, getting close to the things that God has made, can not help making all such students lovers of that great Creator who made every thing so perfect. No wonder bee-keepers and their families are such nice people.

#### THE NATIONAL PURE-FOOD LAW AND ITS EFFECT ON BEE CULTURE.

THIS is already beginning to have its effect, as will be evidenced by a copy of a letter from a large wholesale grocery concern in a nearby city which we here give, but whose name and address we omit for obvious reasons:

*Gentlemen:*—We are writing you again as regards the purity of the strained honey which we are receiving from you; that is, while we have no doubt as to its purity, still, in view of the new food law which soon goes into effect, some of our customers are demanding of us a guarantee of purity, and we, of course, have to give it; but we should feel easier if you would write us a warranty also.

You can see that buyers over the country generally (for this is only a sample of what we are now getting) are going to be extraordinarily careful as to what they take on. The national pure-food law (the one referred to in the letter) in connection with the laws existing in the various States, is going to make a misbranded honey, or an adulterated honey not properly labeled, a scarce article. The risk of violation is too great to take any chances. This ought to have the effect of stiffening the market during seasons of scarcity. You will note by comparing our Honey Column that the honey market is getting to be much firmer.

We furnish a warranty? Of course, and we were glad to do so in the case above mentioned. We don't buy except of reputable producers, and it would behoove all others to be equally cautious. In the meantime the glucose-mixers are "hunting their holes and pulling the holes in after them." 'Tis

well. Possibly there will be a millennium in beedom, even in our day. We shall see.

#### THE MEETING OF FOUL-BROOD INSPECTORS IN SAN ANTONIO, TEXAS, NOV. 12.

ONE of the most notable meetings ever held in the interests of bee culture will be that immediately following the big National convention at San Antonio. I refer to the meeting of the foul-brood inspectors, to be held Nov. 12. A provisional program is given elsewhere in this issue under the head of Convention Notices.

In view of the fact that foul brood and black brood are on the increase in many sections of the country, this will be a very important meeting. Dr. E. F. Phillips, acting in charge of apiculture, of the United States Department of Agriculture, will be present at that meeting; so will also Dr. G. F. White, bacteriologist, who has been studying bee diseases in the Department. Besides these two there will be a number of foul-brood inspectors from the various States.

The ravages of black brood and foul brood will be considered from every point of view, and doubtless plans will be formulated, looking not only toward better legislation, but the enactment of laws in those States where there is no protection for the bee-keeping interests.

#### THE BIG NATIONAL CONVENTION AT SAN ANTONIO, TEXAS.

SECRETARY W. Z. HUTCHINSON sends us the following letter from Udo Toepperwein regarding the National Bee-keepers' convention soon to be held in San Antonio, and accommodations that will be offered:

We have made arrangements for the National, Nov. 8, 9, 10; have selected the Market Hall in this city to hold the convention. This is a very good hall. It will seat 1000 people. We have selected the Grand Central Hotel as headquarters for the bee-keepers. These people guarantee to accommodate 50 bee-keepers, and think they can accommodate 100. For those they can not accommodate they will find nice rooming-places in the neighborhood of the hotel. In this way all bee-keepers can have a chance to stay not far from the convention hall. The hotel has 100 rooms, all very fine, and furnished nicely. It is a brand-new hotel, and we have secured special rates for bee-keepers at 50 cts. a berth and 25 cts. a meal. The restaurant is separate from the hotel, but all under the same management. I believe that the bee-keepers will be highly pleased.

We have also planned a trolley ride and a Mexican supper, and the San Antonio people will elect the sweetest lady between 16 and 20 to be queen of the convention, and this lady will be introduced to the bee-keepers, and presented with a handsome gold watch on the stage at the fairgrounds.

Thursday, Nov. 8, is bee-keepers day at the fair, and advertised that way by the Fair Association. I believe it would be a good idea to go ahead and advertise the convention, so that we shall have a good attendance.

The Grand Central Hotel, which is to be headquarters for bee-keepers, is only one block from the I. G. & N. passenger station, so it would be well to mention that bee-keepers had better buy their tickets so as to arrive over that road, then they will have only one block to walk to be at home. While all of the roads connect with the other depots, and pass by the hotel, yet it is more convenient simply to step off and walk one block.

UDO TOEPPERWEIN.  
San Antonio, Texas, Sept. 20, 1906.

The Texas people, as I know from personal experience, are a hospitable set. They

will doubtless entertain on a scale that was never attempted before. It will be a grand time for the bee-keepers of the North to see a part of the sunny South as typified in some of the best bee country in the world. Then this great State is so broad that it has room for all—no need of bee-keepers encroaching on the territory of another. While Texas has had a poor season, or two of them, in fact, her honey resources rank the highest of any of the States, taking one year with another. The United States census report places the State in the lead, and all other evidence puts it there also. If there is any bee-keeper who is in ill health, and must make a change, let him go to Texas and see for himself the great people located there.

#### OUR CANADIAN DEPARTMENT.

OUR readers will have noticed that in the last issue we introduced a Canadian Department, the same being conducted by Mr. R. F. Holtermann, of Brantford, Canada. Mr. H. needs almost no introduction to our readers. For a number of years he edited the *Canadian Bee Journal*, but resigned his position to go into evangelistic work. Then he took up bee-keeping, and is now one of the most extensive honey-producers in Canada, and, I might say, in all North America.

He is peculiarly well fitted for the position of a department editor. In the first place, he has been a bee-keeper in a large way for many years; has traveled over Ontario as a lecturer on bees; was the experimenter for the Ontario experiment station; and during the time that he was engaged in that work he gathered a good deal of valuable knowledge concerning our pursuit. In addition to all this he has been keeping bees for the money there is in them, and has made it too. This necessarily accentuates the practical side of the man, and consequently his writings will have the value of both the scientific and the practical, based on the knowledge gained from a long and varied experience, and not on that gained from a few colonies kept only for experimental purposes. GLEANINGS, therefore, believes it is fortunate in securing for its Canadian readers, as well as those in the United States, as a member of our editorial staff a man so well fitted for the position.

#### ARE BEES REFLEX MACHINES?

WE are glad to announce to our readers that we have secured the translation of an exceptionally valuable paper by Dr. H. von Buttel-Reepen, a German scientist and a bee-keeper, on the subject, "Are Bees Reflex Machines?" Nothing published since the days of Huber goes more closely into the habits of bees, and explains *why* they do certain things, than this work. While the title, "Are Bees Reflex Machines?" might suggest a complicated scientific discussion, yet I am glad to say that it is one of the most interesting discussions on bee-life, and some of the varied phenomena connected with their movements, that has ever been



published. It explains satisfactorily many of the questions that baffle some of our best authorities.

Dr. E. F. Phillips, of the United States Department of Agriculture, in writing about it says that he considers it "one of the best scientific papers on bees that has appeared in recent years," and that "it combines as do few papers the results of both scientific and practical work."

The author, Dr. H. von Buttel-Reepen, is at the Zoological Institute, Oldenburg, i. Gr., Germany. He is President of the Naturwissenschaftlichenverein (Natural Science Union), of Oldenburg; President of the Bienwirtschaftlicher Centralverein für das Herzogtum Oldenburg (Central Apicultural Union for the Duchy of Oldenburg); Honorary President of the Imkerverein (Bee-keepers' Union), Oldenburg; honorary member of the Bienwirtschaftlicher Centralverein für die Provinz Hannover (Central Apicultural Union for the Province of Hannover), etc. From this it will be seen that he is in very close touch with the practical bee-keepers of Germany. He is also one of the co-editors of a "Lehrbuch der Bienenzucht" (Guide-book in Apiculture). He is also the author of a large number of scientific papers of great value.

The paper has been translated by Miss Mary H. Geisler, of Philadelphia, Pa., and the translation has been gone over by Dr. E. F. Phillips, of the United States Department of Agriculture. In addition to this the entire English translation has been examined by the author, Dr. von Buttel-Reepen, who has made some corrections in the translation, and has also added considerable to what appeared in the German editions, thus bringing the paper right down to date.

The table of contents indicates an exceedingly interesting array of subjects to be discussed.

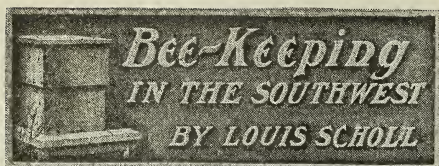
The Hive Odor and the Reactions Resulting from it.  
Modification of Reaction toward the Hive Odor.  
The Swarming-out of a Queenless Colony.  
Intensifying the Reaction.  
Overcoming the Reaction toward Hive Odor.  
The Odor of the Queen.  
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Failure of the Hive-odor Reactions in Queens and Drones.  
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The Means of Communication in Bees.  
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The "Teeting" and "Quahking" of a Queen.  
The Queen's Tone of Fear.  
Memory of Place in Bees.  
The "Paths" of Bees and their Direction.  
Disappearance of the Memory for Location through Narcotization.  
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Association of Impressions.  
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Conduct of Bees in the Buckwheat Season.  
Are Bees Attracted by the Color of Flowers or by the Nectar?  
Place Perception in the Queen.  
Memory for Locality in Scouting Bees.

The Eyes of Bees.  
The Flight of Orientation.  
The Finding of the Hive through the Senses of Sight and Smell.  
Bethe's Tree Experiment.  
Special Capacity for Orientation in Bees.  
The Influence of Weather Conditions on the Sense of Sight, therefore on the Ability to Orient.  
Influence of Color on Bees.  
Some Further Contributions to the Natural History.  
The Flight of Bees into a Room.  
The Behavior of Robbing Bees.  
The Origin of Hostile Conduct.  
The Vanishing of Instincts with the Decrease in the Strength of a Colony.  
Reactions toward Flight.  
The Formation of the Honey-comb.  
The Play Instinct in Bees.

#### USING TWIN NUCLEUS HIVES, TWO-STORY, FOR GETTING HONEY FOR TABLE USE, ETC.

On page 1107 Dr. Miller makes two "jabs" at his old friend A. I. Root. Now, doctor, my motive in playing with a toy hive, as you call it, was to see how much could be done with them by women, children, and old people in the way of getting honey for the table, as well as enjoyment and amusement. As I grow older I get impatient with complicated unwieldy things. A big hive with supers, etc., is too much; but this toy hive as I used it in Northern Michigan has nothing about it but a hive-body and frames; and I suggested that, for a limited amount of comb honey for use on the table, we could dispense with sections entirely and let the bees put the surplus in the frames in the upper story. The plan worked so well that on several occasions when my two boys expressed a wish for some honey I would pick up a plate and a knife, and go out and get it while they were seated at the table. I suppose we could put in some foundation or foundation starters where we cut out the chunk of honey put on the plate; but if we expect to cut it right out again as soon as the bees get it full, what difference does it make, except that they would get along faster with foundation? and even if they should build drone comb in these little frames in the upper story, provided such comb were cut out *again* for the table when capped, would that do any harm? and is not drone comb really better in the sections than worker comb? There is less wax for the amount of honey contained. By the way, I got results so quickly from the bees in those little hives I rather think that, if I were to stay only a month in one locality, if in a month when honey was coming in, I could start a little hive and get honey for the table, and at the same time have the most attractive thing in the way of a curiosity for the juveniles of any thing that can be gotten up. Now, doctor, you had better get some twin hives and then invite the little folks of your Sunday-school to come over and see them, and see how easily they can be operated with a race of gentle bees.

\*By the way, doctor, we still make and sell drone foundation purposely for section boxes, and we have quite a few customers who insist on having the drone.



#### THE NATIONAL COMING TO TEXAS.

The National is now coming to Texas.  
 Off it was tried to attract their attention,  
 But Texas was so far away  
 We didn't have the convention.

Then 'twas promised for nineteen-five;  
 But did they come to Texas? Nay!  
 For a yellow-fever scare was on,  
 Although yellow jack was 500 miles away.

But the National's now coming to Texas,  
 For it has been mentioned loud,  
 And the Texans are making preparations  
 For taking good care of the crowd.

A lengthy program has been made,  
 A day at the fair for those who wish,  
 And for the "tender feet" will be prepared  
 A supper of many a Mexican dish.

There will be busy sessions too,  
 And then a "busy-bee" trolley ride;  
 Speaking, and stereopticon views,  
 And many other things besides.

Yes, the National is coming to Texas,  
 And it's hoped for a great big meet;  
 For the Texans welcome you, brethren,  
 With a welcome that's hard to beat.

Broomweed (*Gutherezia Texana*) is in bloom in most parts of the State where rains prevailed during the summer months. In some localities the lack of rain caused the broomweed to dry up, although there was a good stand in the spring. This plant furnishes a good amount of honey in the late fall months, blooming from September until frost during favorable seasons. The bees store up from it for winter a golden honey, but strong-flavored, sometimes tasting quite bitter.

Fall increase has been practiced by me in preference to any other, although some increase is made in the spring when desired. But during the broomweed flow in September or October it's necessary to take out only one of the shallow sections of my divisible-brood-chamber hives containing the old queen and brood, place it with bottom and top on a new stand, and add an empty shallow extracting-super with empty or partly drawn combs over the lower section. Then stuff the entrance with moss, green weeds, or grass, to hold the old bees for a few days. On the old stand leave the rest of the sections with brood, and introduce a laying queen. If only one section remains on the old stand, place a shallow extracting-super with empty or partly drawn combs over it also as the other. Try it.

A short crop in Texas for 1906. Bountiful rains helped to improve conditions in the

late summer and fall. Bees in North Texas had to be fed for weeks until a light flow from mesquite in June relieved them. Other portions of the State where mesquite prevails have fared a little better, while bees outside of mesquite range, and without any other source, were starving. Horsemint yielded and helped out pretty well where there was a stand this year, and even in some localities rains during its bloom cut that crop short. Bees have been working on cotton since July; but the Mexican cotton-boll weevil cuts this source off about August 1, as the increased numbers, puncturing the "squares" or buds of the cotton-plant, causes them to drop off before they develop far enough to secrete nectar. Broomweed is now in bloom in most localities, and bees are storing up for winter pretty well so that not very much feeding will have to be done. All in all, however, the crop is short for this State.

Reports from the Southeastern States are to the effect that the honey crop has been good for that section of the country—"the best in years" in some localities. Georgia has had a favorable season, from reports that were sent me from correspondents in that State. Several localities in other South Atlantic States were reported from very favorably. The Western States fared less favorably. New Mexico prospects were good; but grasshoppers were numerous in some localities. For Arizona, prospects were fair only; Nevada not very good, while Utah reports were for fair and very good prospects. As a whole, the South has a scant supply, and honey commands a fair price. Texas market quotations are one cent higher at present than last season, and the demand for honey is good.

In connection with the above it will be well to take into consideration the fact that there was also a short supply of fruits and other materials for preserving purposes in many localities, which generally indicates an increased demand for honey and syrups. Some honey is being shipped into Texas from other Western States, mostly extracted.

#### PREPARATIONS TO ENTERTAIN THE NATIONAL AT SAN ANTONIO.

The committee on arrangements of the Texas Bee-keepers' Association recently met in San Antonio for the purpose of making plans for the entertainment of the National Bee-keepers' Convention, November 8, 9, 10, during the International Fair. Those present were Prof. H. P. Atwater, Industrial Agent of the Southern Pacific; Judge I. M. Pascal, of San Antonio; W. O. Victor, President Texas Bee-keepers' Association; Udo Toepperwein, its Vice-president; Edward W. Knox, President Texas Nurserymen's Association, while Louis H. Scholl, Secretary-Treasurer of the Texas Bee-keepers' Association, being still confined in his bed in Santa Rosa Hospital, in San Antonio, was called upon by a special committee for his advice



and suggestions concerning the matter of entertaining the National.

Lengthy discussions took place, and a partial program was arranged, which, however, will be sent to the General Manager of the National Association to be further considered and completed. The plan as suggested, subject to change or rearrangement, is about as follows:

#### FIRST DAY, NOV. 8, A. M.

Address of welcome by President of Texas Bee-keepers' Association.

Address of welcome to San Antonio.

General program. Routine business.

#### NOON.

The afternoon on the fairgrounds, on account of "bee-keepers' day" at the fair.

#### SECOND DAY, NOV. 9, A. M.

Morning and afternoon sessions; 4 P. M., free trolley ride for bee-keepers; 6 to 8 P. M., Mexican supper served by the Texas Bee-keepers' Association; 8 P. M., evening session, including an address by Judge Pascal, on "The Bee-keeping Resources of Texas."

#### THIRD DAY, NOV. 10.

General program. Adjournment.

There were several other suggestions and matters brought up for discussion relative to making the entertainment a creditable one; and as soon as the program is completed it will be given in its entirety for the benefit of the readers. It will be noted that the subjects for discussion have not been inserted yet in the above brief outline.

One day preceding the convention there will be a foul-brood inspectors' meeting.

#### SHAKING BEES OFF COMBS.

Quite numerous have been the discussions of late about the handling of frames when shaking bees off combs. Editor Hutchison, in *Bee-keepers' Review*, wants all wood frames with thick long top-bars, or frames with "long ears" as he calls them, to allow for a good hold when shaking bees. Dr. Miller has wide flat-top-bar projections that allow finger-room for two fingers below; and Editor Root takes hold of the frames by the top-bars inside of the end-bars, and others have still other ways. My attention was first called to this in one of Mr. Doolittle's articles several months ago, with an illustration showing how he takes hold of the ends of the top-bars, as shown in Fig. 1. This method was used by myself for a number of years; but the accidents connected therewith, as shown in the drawing, turned me toward something better. Too many heavy combs would go down with the bees; and this with both Hoffman and the old-style all-wood frames. In the former the ends would split off if the grain of the wood ran in that direction, and with the latter the ends would break off at the intersection of the top and end bars. Then there were the shortened staple-spaced ends of the top-bars of the latter Hoffman frames. A good hold could not

be had on them, as the ends were so short in the first place; the staple underneath these was in the way of the fingers, and to this

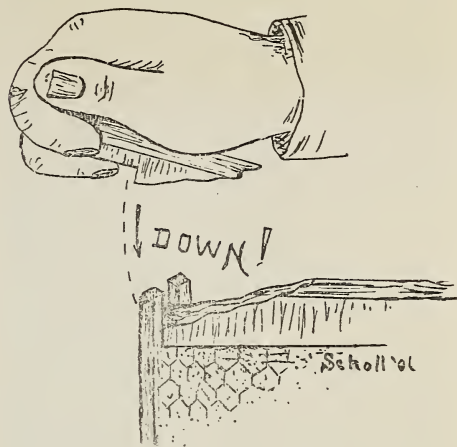


FIG. 1.—THE OTHER FELLOW'S WAY.

could be added the danger of the ends splitting off.

Mr. E. R. Root partly solves the problem by taking an inside hold; but this was tried

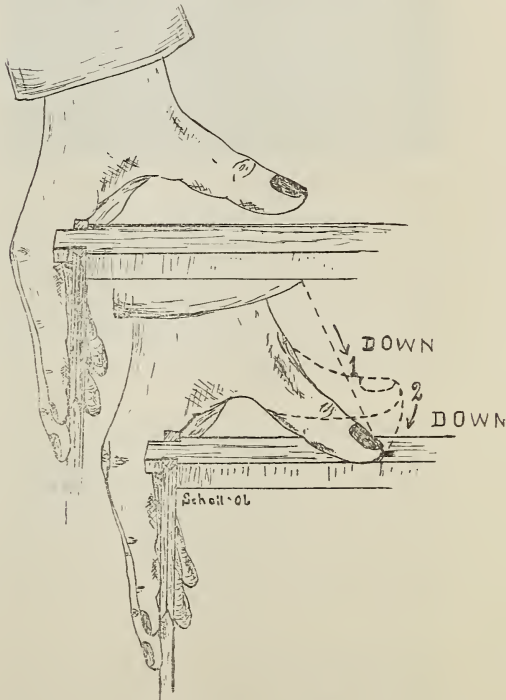
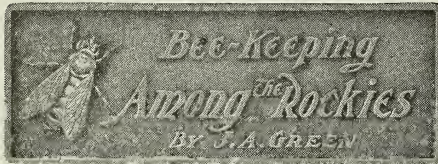


FIG. 2.—SCHOLL'S "GRAB" WHEN SHAKING COMBS.

by me several years ago without satisfaction. Bees are generally clustered quite densely at these points; and if combs are bulged along

the top-bar it makes the handling of them "a nasty job."

It was found that the number of clustering bees was very much less outside of the combs, on the outside of the end-bars, between these and the wall of the hive; so here was a good place to put your fingers, and a firm hold is obtained. The hold is not only a safer one, but it does not cramp the fingers. In shaking, it allows the frames to be held much steadier than any other way in which more or less wobbling of the frame takes place, or an extra amount of strain must be exercised upon the already cramped fingers to prevent it. As shown above, the frame balances easily. The question with me was to adopt *one* way of handling *all* kinds of frames, which I already had, rather than to find a frame with "long ears," wide top-bars, or any other form. I have tried *all* the different "grabs" given, and on all kinds of frames. It would be impracticable to use all these methods, and to use them on the different styles of frames I have, as several kinds are often in one hive. Buying bees from others brings this about, and with the proper method of holding *all kinds* of frames there is no trouble in shaking bees off the combs.



Score another for sweet clover. The honey yield was very light here in the fore part of the season; but in August the sweet clover began to give down, and since then some localities have secured a very good crop, a few a really exceptional crop of nice honey from that source. At this date, Sept. 13, the flow still continues good.

Dr. Miller, I should have said that, when I have a lot of supers empty easily, I use very much the same plan you do, simply putting them on the bench upside down and loosening the sections by dropping the super an inch or so. But they do not always come out so easily. In that respect your T supers are probably ahead. Still, doctor, you could not persuade me to go back to the T super, although I once used a great many of them.

Last month I spoke of the great difference between localities only a short distance apart. Since then some additional facts have come to my notice. One man with about fifty colonies of bees reports that he will not have a case of honey to market. About three miles away from him in one direction a good crop is reported, and about the same distance in

the opposite direction a man reports a very good average crop, some of his colonies making five cases apiece. I know of apiaries that will average more than double the yield per colony secured in apiaries inside of a mile and a half away.

Dr. Miller is right in saying that sweet clover is not a desirable lawn grass, and the editor is probably right in the belief that it could hardly get started on a lawn that was properly cared for. It is remarkable, though, what a dwarf can be made of the plant by close pruning. I have seen places where the roadside cattle had kept it closely nipped, where the ground was covered with a close mat of it not over two or three inches high, yet blooming profusely. A lawn of it kept in that condition would be really pretty. But one would hardly recognize it as a relation of the six or eight foot stuff that grew where it was unmolested.

The idea of using turkeys to get rid of grasshoppers is all right so far as it goes; but it does not come within a hundred miles of solving the grasshopper problem. Mrs. Green has a flock of about fifty fine turkeys that, up to Sept. 1, had not eaten over about a dollar's worth of feed, making their living entirely from grasshoppers, and they had never been off our ten-acre place. Yet the grasshoppers did us a great deal of damage, especially in the vineyard and further corner of the alfalfa-field. Very few here are so situated that they can raise turkeys successfully without a great deal of expensive fencing or more expensive watching, as the coyotes that come down from the hills a few miles away are very fond of turkeys.

#### FOUL BROOD.

In GLEANINGS for Aug. 1 I made a statement that was not exactly what I meant. It would appear from that that I considered the McEvoy plan the only cure for foul brood that has ever proven practical and effective. What I should have said was that no cure has proven practical and effective that was not based on the theory that the disease is conveyed through the medium of the honey, and that when bees have rid themselves of the infected honey they may have carried from the old hive they may be considered cured. I have used with much satisfaction and success a plan given by that veteran bee-keeper, M. M. Baldrige, in the *American Bee Journal* last year. The principle of the plan, which may be used in various ways, is that undisturbed bees leaving their hive do not carry any honey with them, and consequently are incapable of transmitting the disease. The bees leave the diseased colony through a bee-escape; and on their return, being unable to enter their own hive, go into a healthy colony placed alongside. I have used it principally in connection with the McEvoy method, and so far without a failure.



## HONEY VINEGAR.

I believe that a great many bee-keepers might very profitably engage in the manufacture of honey vinegar, at least to the extent of working up their waste and off grades of honey. I know that many have tried it without satisfactory results, and have given it up in disgust in consequence. Indeed, it is not so long since I made a failure myself of my attempts to make honey vinegar. I think it is quite possible that a knowledge of what *not* to do is of quite as much importance to many as any further instruction in processes. If you have decided to make vinegar, the first step is to get something to make it in. Usually the best and most convenient receptacle for this purpose is a barrel, and here is where the first mistake is usually made. Nine out of ten people in getting a barrel to make vinegar in will select an old vinegar-barrel, with the idea that something is necessary to start the vinegar-making process. To understand why this is wrong we must glance briefly at the chemistry of vinegar-making.

Ordinarily the process of vinegar-making consists of two distinct steps. In the first, sugar in some form is by fermentation changed into alcohol. In the second, this alcohol is by a somewhat similar fermentation changed into acetic acid. The alcoholic fermentation must always precede the acetic, and should be allowed to become complete before the acetic fermentation begins. They may be carried on together, but it is usually at the expense of both time and quality, as the presence of acetic acid in even a small quantity greatly retards the alcoholic fermentation, and sometimes a degenerative fermentation sets in and spoils the entire product.

Accordingly, your barrel should be one that has never contained vinegar. A whisky or wine barrel is good. If it is necessary to use a vinegar-barrel it should be scalded out very thoroughly before it is used. For a small quantity of vinegar a jug or jar is all right.

Next comes the question of the proper strength of the mixture to be made into vinegar. While this may vary considerably I think the best results will be obtained when there is not less than a pound and a quarter or more than a pound and a half to the gallon of water. If you have the honey in bulk, simply measure your water and add the proper amount of honey or *vice versa*. Usually, though, the bee-keeper will want to use the rinsings of cans or the honey soaked from cappings, etc., and for this some means of testing the strength of the solution must be used. A hydrometer is best and most convenient for this. One made for the purpose can be bought for about fifty cents. A photographic hydrometer can be had for half this. Any hydrometer will do, but you may need to test it by a solution of known strength, as they are graduated differently for different purposes. Mine was made for testing silver solutions, and on it a pound of honey to the gallon registers 20 degrees on the scale; and a pound and a half, which is the strength I

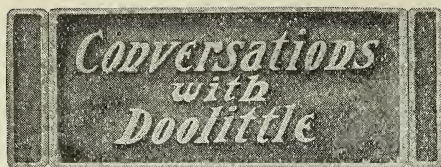
prefer, 30 degrees, which makes it easy to judge of the amount of honey or water that must be added to make the solution the right strength. You can make a hydrometer of a homeopathic vial, or any tall bottle, corked and weighted so that it will stand upright in the solution. Mark with a file where it stands in a solution of known strength. Or make a ball of beeswax with a small piece of lead imbedded, so that it will just float in a solution of the right strength. Or you can use a fresh egg, which should float, or show a spot not larger than a dime above the surface. I have always used rain water, and this is usually recommended.

Put your barrel in a place where a temperature of as near 80 degrees as possible will be maintained. If the place is too hot, alcohol is wasted; but if too cool, fermentation is retarded.

Never add fresh solution to vinegar partly made. I think this is a very common cause of poor success. If you want to make additions to your vinegar stock, keep them by themselves until they have passed through the alcoholic fermentation.

For the alcoholic fermentation a barrel with one head out is best; if a closed barrel is used, there should be a hole in each end, and the barrel should not be quite full. All openings, of course, must be covered with cheesecloth or very fine screen, to keep out insects and yet admit as much air as possible. If fermentation does not begin promptly, add about a quarter of a cake of yeast, softened in warm water, to a barrel of stock. When the alcoholic fermentation is finished, which should be in from two to six weeks, you can use your old vinegar-barrel to good advantage. Or it will be well to add a few gallons of good vinegar, containing a little mother if you have it. Usually this is not necessary, but it hastens matters and insures good results. Give it plenty of air, keep it as nearly as possible at the right temperature, and you should have good vinegar inside of a year. When the vinegar is strong enough, pour it off from the mother and bung it up tightly, otherwise a degenerative fermentation may set in that will spoil the vinegar entirely.

I have just received from the Arizona experiment station a bulletin on the subject of honey vinegar, in which some ideas that are new to me are advocated. The writer, Prof. A. E. Vinson, considers hard water preferable to soft, if not too salty. He likewise thinks that fermentation is greatly aided and hastened by the addition of small amounts of ammonium chloride and potassium phosphate. In place of the latter, which is rather hard to procure, as well as somewhat expensive, we may use sodium phosphate and potassium sulphate. As the latter is likewise sometimes hard to get, we may use potassium bicarbonate in its place with nearly as good results. The formula he recommends is as follows: Honey, 40 to 45 lbs.; water, 30 gals.; ammonium chloride, 4 oz.; potassium bicarbonate, 2 oz.; sodium phosphate, 2 oz.; yeast,  $\frac{1}{4}$  cake.



HANDLING BROOD-COMBS IN LOW TEMPERATURES; POLLEN AS FOOD.

"My name is Robinson. Is this Mr. Doolittle whom I meet?"

"Yes, this is Doolittle."

"Glad to meet you. I have wanted a little talk with you for some time through GLEANINGS, but I see that your department is always full, so have waited for my turn to come ever since last May."

"Too bad I could not get to you sooner; but others seemed just a little more anxious than you. What can I do for you to-day?"

"I want to know about handling bees on cool or cold days. In how low a temperature can brood be handled without injury?"

"Well, that depends on two things. First, how long it is to be kept out of the hive; and, second, whether the wind is blowing."

"Does the wind make the temperature run any lower?"

"Perhaps not by the thermometer; but it does make a difference where animal heat is to be retained, as you very well know, else you would not resort to a fan on a very warm day."

"Ah! I see. Excuse my thoughtlessness."

"In my experiments along this line I have found that brood can be handled as safely on a still day with the mercury standing at 45° as it can on a day with a high wind at 65, or 55 with a moderate wind. In fact, with a high wind I do not practice handling brood, if it can be avoided, with a temperature less than 70°."

"Then your idea is that the wind blows right through the bees that adhere to the combs when they are out of the hive, and by the current of air continually striking the comb of brood the brood is chilled as quickly with a temperature of 65° with the wind as it would be with a temperature of 45° with no wind?"

"That is it exactly; and to overcome this matter I have built a light windbreak to carry with me when I must handle bees in windy weather, as the queen-breeder often has to do in carrying out the many parts of the matter which can not be delayed."

"Well, that is quite a scheme. How is such a thing constructed?"

"I simply took three inch-square pieces of pine, five feet long, and to these I nailed quarter-inch stuff, of the length required, nailing on two sides of one of the pieces, so as to form a corner post to set facing the wind. This would send the wind angling each way from me and the hive when at work at the same, so the bees and I would

have a cozy little nook in behind this windbreak, as calm as a summer morning."

"But would not the wind upset such a light affair?"

"Yes, if no precaution were used."

"What precaution did you provide?"

"I drove, slanting, down through the bottom of each of the three inch-square posts, a piece of stiff wire flattened at the end, which was to stay in the post, so it would not turn around when the part which stood out beyond the post was bent anchor fashion, so they could be pushed into the ground when the break was placed where I wished, and shoved a little the way the wind was blowing; and should the wind blow by gusts, each gust that was hard enough to move the break at all would only push the anchors just that much further into the ground, so it would hold that much firmer."

"Well, you have overcome that part of the matter, surely. But you have not yet told me how low a temperature it will be safe to handle brood in."

"I handle brood as little as possible when the temperature is less than 60 degrees in the shade, with the sun shining at the time I am doing the work. But where I have only a frame or two to lift from the hive for only a moment, to see if some queen is laying, or something of that kind, I often do it with a temperature as low as 45; but no hive having much brood in it should be kept open for any length of time when the mercury stands much lower than 60 degrees."

"Thank you. But there is another question I wish to ask you. Do the old bees eat any of the pollen they gather, or do they feed it all to the young bees?"

"Pollen is gathered for the young bees; or, as I suppose you mean by 'young bees,' bees in the larval form. Old bees do not eat pollen. By 'old bees' I mean bees after they have emerged from their cells, no matter whether they have been out of the cells an hour or forty days."

"But how can the larval bees eat pollen unless the old bees feed it to them?"

"They can not."

"Then the old bees must eat it, or at least a part of it when they feed the larvæ."

"Not necessarily. I am not a chemist (have many times wished I were), so can not explain matters to you except in my homespun style; but, as I understand it, a certain amount of pollen, honey, and water, is taken by the nurse bee and partially digested, or in some way formed into chyle by this nurse bee, something after the plan the dove or pigeon takes wheat and turns it into the 'milk' the young pigeon is fed on while it is in the nest; and this chyle is fed to the larval bees by these nurse bees, pollen being used only for this purpose of chyle or chyme, in a more or less modified form, to suit the age of the larvæ."

"Then you think that old bees can not exist on pollen when there is no honey in the hive?"

"I not only so think, but *know* that they can not."



"On what is that knowledge based?"

"Through experiments in giving colonies which I did not care to save, combs of pollen with a very little honey in them, enough to last a day or two, and in every case the bees starved to death as soon as the honey was all consumed."

"Then you would not believe what some people say, that bees die in winter if they have no pollen to eat with the honey?"

"No. There is a little difference between the way of treating pollen by the bees. The larger part of the pollen which comes into the hive is packed in the cells, and the mouths of the cells left open until the pollen is used for brooding purposes, this being nearly always the case during the first half of the breeding season each year. But pollen intended for rearing the first brood during February, March, and April of the next year, in this locality, after being stored in the cells till they are from half to three-fourths full, is covered with honey, and the honey sealed over, the same as if no pollen were under it; and thus this pollen is preserved in good condition till it is wanted for early spring use, at which time there is no pollen to be had from the fields. This is the 'bee-bread' that our fathers and mothers of the forties, fifties, and sixties used to tell us (then children) about."

"Then you think that I can safely tell my friends that old bees never eat pollen?"

"Yes. And yet I am led to believe there are exceptional times during the spring of the year when colonies are kept from starvation, for a day or two, by pollen in the chyle form."

"How is that?"

"We have times when the bees gather just enough nectar, after all the old honey in the hive is used up, to keep brood-rearing going on nicely, and yet not enough to store much in the combs. At such a time, after all the honey in the hive (together with pollen and water (has been taken for chyle, and a few days of storm have occurred, so the bees are just on the verge of starvation, this chyle is fed by the nurse bees to those bees out of the cells, and this, together with the juices that they can obtain out of the brood, will carry the colony a day or two longer, so they do not die of starvation, if a good day comes before the chyle is all used up which is in the stomachs of the nurse bees. If the weather continues bad too long, then they must all die, as no chyle can be prepared from pollen and water, no matter how abundant, without the honey to mix with it."

"That looks reasonable as you see it, and it may be you are right. I do not know."

"Thank you. If I am not right, I am willing to be set right. But so far as I have talked with learned men, none have been able to give me a better explanation than this on these things. There is very much still to be learned about some of the mysteries which our little pets hold very largely locked in their own bosoms."



## DISPOSING OF THE HONEY CROP.

Sell Early; Keep the Old Customers; Advertise; How to Utilize the Honey in Cappings.

BY E. W. ALEXANDER.

This is a very important part of our business—one which we should look at from several different points. First, we should take special care in producing either comb or extracted honey so that it will be of the very best quality; and we should put it up in the most convenient and salable package possible. Then we should have it ready for market as soon as the market is ready for it.

Here is a point that many are very negligent about. They have other work to attend to, and think their honey can wait until they can do their odd jobs, and foolishly they try to make themselves believe the price will rise, and they will get more later on. I have never known this to be so. On the contrary, the price is sure to decline until it is hard to sell at any price. Now, *don't* allow valuable time to slip by, leaving your honey on your hands, and then complain that there is no money in bees. Just watch a successful manufacturer or merchant and see how he is ever on the alert for any thing that can be turned to advantage; and if you expect to succeed as they do you must also watch these points.

In regard to sending your honey to commission men to sell for you, I must say that many times their returns are far from satisfactory. When you find a square commission man it is a very good way to dispose of your crop. But I pity you if you are caught as I have been by different parties. Before we commenced to sell our honey direct to dealers I thought seriously of going out of the business, as we could not produce extracted honey for the returns these men sometimes made. One lot in particular, of about four tons of as nice clover honey as I ever saw, he claimed to have sold at four cents per pound. Another lot of nearly a carload to another party brought us only three cents net, and I have good reasons for believing that each lot in question was sold for a good price. So from past experience my advice is to be careful where you send your honey. If you are a little short of customers, just advertise it in our bee journals and you will soon have chances to sell at a fair price; then you will know what you are to have, and when to expect it; and, as a

general thing, you will be better satisfied with the result.

Another important part is, don't try to sell your honey for more than it is worth in the common markets. Here many make mistakes. Some years ago we made this mistake, and lost a customer who had for several years bought quite a large amount. This time he paid us one-fourth cent per pound more for nearly five tons than he could get for it, losing about \$25.00 thereby, where he expected to make that amount, and we lost a customer who at that time was worth nearly as much annually to us. If you can sell your crop in a small retail way I can see no reason why you should not have the same price as any other retailer. But when you sell in large quantities to parties who sell to those who have to retail it out in small packages, then remember that they must have a margin of profit to induce them to invest their money in it. This matter of holding a customer is well worth our consideration.

No man in business can afford to lose one if he can help it. Since we have given this part of our business especial attention we have had no trouble in selling our honey at a fair price early in the season. We think this a better way, and have the money soon on interest, than to hang on trying to squeeze out the last cent from a dealer who will never buy from you again if he can help it. I always like to have a pleased customer, for such are sure to buy another year. We have been censured many times by some honey-producers for selling our honey at the price we do; but I like to see the summer work all finished up before bad weather comes, and know that every thing is prepared for winter; then we can turn our attention to other matters for a few months.

During this winter season is a fine time to visit distant friends and make our plans for the coming summer. I think it does man good to have a rest from hard labor and mental anxiety. In natural law nearly every thing has a rest during part of the year except poor man, and he toils on until the worn-out body is lowered into the grave. But I will stop my sermonizing, and call your attention to another part of our business.

It is the caring for the cappings when extracting. I see many recommend rinsing them so as to save the honey that will not drain out, and then make this sweet water into vinegar. I used to try this plan, but I could never make a vinegar but that had an unpleasant odor and taste, and was nowhere when compared to cider vinegar. Then later we used to let the bees clean them up; but this had its bad features, and we were glad to adopt the following way of handling them: We now use an old honey-extractor with the baskets and reel taken out for an uncapping-can. We put in the bottom a screen of coarse open wire cloth for the honey to drain through, which keeps the cappings back while the honey goes out at the open faucet into the same pipe that con-

veys our honey from the extractor to the tanks. When this can is full we empty the cappings into a tight barrel and set them away until spring; then when we wish to feed our bees we turn boiling water on to these cappings until they are melted, and the wax rises to the top, which we remove, and then use the sweetened water to feed. Sometimes we add a little granulated sugar if we have used water rather freely, and it makes the finest feed to stimulate early breeding that we ever tried. In this way you save every bit of the honey from the cappings, with but very little trouble. I think if you will try this another season you will never again set out your cappings for your bees and your neighbors' bees to clean up, nor go to the trouble of making (to my mind) a very poor substitute for vinegar. I will admit that honey vinegar is sour enough, but I for one can not go that unpleasant taste.

Still another subject I wish to speak of is this: During those cold stormy days of winter, when time hangs heavy on your hands, and especially winter evenings, get out a lot of those old back numbers of bee-journals and look them over. You will be surprised to see how many good ideas you can pick up from them, especially the summer numbers that came when you were so hurried about your work that you hardly took the necessary time to read them, and still less time to remember and put those good points into practice. To sum it all up in a few words, don't waste any time in worrying about good or bad luck, but put yourself at the head of your business and realize that it is according to your skill and intellect that you either succeed or fail.

Delanson, N. Y.

[The method of disposing of the dripping cappings is excellent. I do not remember that it has been given before.

The advice to sell the honey as soon as the market is ready for it is also good. Too bad that there are so many who either don't believe it, or else are so dilatory that they put off getting their honey to market until it is too late to get a good price.—Ed.]

## BEE-KEEPING FOR BEGINNERS.

### Double-walled Hives; Storm-doors; Grading Sections.

BY E. E. WAITE.

I have written you once or twice before, regarding bee-keeping in this section of the country on a small scale. There are a good many people here who keep only a few bees, and many things that apply to the professional don't hit the small fellow. So any thing that I may say is in reference to the small bee-keeper who "raises" comb honey.

In regard to wintering in this section, while most folks use the single-walled hive unprotected, with very good success, I think the double-walled hive more than pays the difference in cost.



I noticed that you recommend a one-inch entrance if it would not get clogged with dead bees. Last winter was a very hard one here, the thermometer reaching 15 or 20 below zero; but in my double-walled hives there were not 50 dead bees on the bottom of the hive at once, and most of those were at or near the back of the hive. I know, for I looked by reflecting the sun into the hive with a mirror. I never have any trouble with double-walled hives, though single-walled hives do sometimes bother that way. I have often cleared the front of the hive with a small stick or wire, scraping out the dead bees. This should be done on a warm day, if possible, so that, if the bees are disturbed, they will not be harmed.

I have invented a storm-door which I shall use this winter. Perhaps some one else would like to try it, so I will tell you how I make it. All of my hives have a wide alighting-board, which is necessary to get the best results with it. Take a piece of one-inch board,  $1\frac{1}{2}$  or 2 in. wide, and cut it just long enough to go clear across the front of the hive. Drive a small nail one inch from the end, so that it sticks through  $\frac{1}{4}$  in. or so. Next with a saw and chisel or drawing-knife make a cut  $\frac{1}{4} \times 2$  in., or less if you wish, in the middle of one of the *wide* sides, so as to make an entrance two inches deep or more. This can be stuck on the front of the hive, and removed, or replaced at any time without pounding on the hive. The entrance can be made to suit the owner's idea of size.

In regard to grading section honey, I have always graded by weight. I find a good full-looking section will weigh 14 oz. or more. There are some very nice-looking sections that will not go a bit over 14 oz., so that is my "pound." I get 25 cts. each at the house for all such. If they weigh more, I get the same. I usually put the heavy ones, say  $15\frac{1}{4}$  oz. or more, and the light ones, say 14 or  $14\frac{1}{4}$  oz., together and sell them to people who want more than one section. All under 14 oz. I sell in proportion to their weight. I have prepared a scale of prices ranging by  $\frac{1}{4}$  oz. down to 8 oz. It amounts to about 1 ct. to every  $\frac{1}{4}$  oz. Any one who has any "head for figures" can easily make a price list. Then all I have to do is to put the section on the scales, glance at the price list, and mark the price on the top of the section. All weighing 15 oz. or more are marked A, and those under 15 and over 14 are marked B. A pair of spring scales is the handiest to use. Of course, this is the retail price. Where one sells by wholesale he can sell at so much per cent less than the retail prices. The dealer knows just how much he will get for the honey, so can figure closer and pay better prices. The customer knows that he is getting the same amount (nearly) for his money, whether the section is full or only partly so.

Mystic, Conn.

[I would not now recommend a one-inch entrance, full width, all winter. I do not remember whether I ever advised such in

years gone by; but if so I am wiser now, for experience has shown that too wide an entrance is almost as bad as one too narrow. For outdoor wintering in this climate we get the best results with an entrance about  $\frac{3}{4}$  by 8 inches long. A very strong colony would stand  $\frac{3}{4}$  deep by the whole width of the hive.

A storm-door over an entrance I believe would be a good thing. Something to shut off piercing winds and yet allow a perfectly free circulation of air in and out of the hive would be desirable.

Your scheme of grading and selling by the piece certainly could not be objectionable to any one. Most of those who sell by the piece grade by weight as well as by filling, the heavier weights being sold, of course, for more than the lighter ones.—ED.]

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## AN OLD BEE-BOOK.

BY EUGENE SECOR.

[One of the strangest things to an outsider is the enormous number of books which have been published on the honey-bee—more than have ever been written about any other animal. Some of them "are as old as the hills," but good reading withal. Some are written in verse, and at least two of them are classics. To collect such books requires the same instincts as are required in an art or bric-à-brac collector, and patience and perseverance are required to find them; but there is a lot of pleasure in making a "find."—A. L. BOYDEN.]

Through the kindness of Mr. A. L. Boyden, of The A. I. Root Co., I have had the pleasure of examining a book entitled "The Bees," written by an Englishman, John Evans, M. D., and published a hundred years ago. It is said to be very rare and expensive. It is in the form of a poem. It treats of many subjects other than bees, however, thrown in, probably, for variety or ornament. It is well written, by a real poet, and the book is a valuable contribution to the literature of apiculture.

It is interesting as showing the state of the art at that time, and permits us to see the progress made since, both in the science and practice of apiculture.

The book is well printed, and gotten up in a style that would not disgrace the printer's art, even to-day. It is liberally supplied with notes explaining more fully many references in the text. They add greatly to the interest and value of the work.

The spelling indicates the gradual evolution of the English language—quite as remarkable as the growth of the art of which the author treats.

He appears to have been a naturalist of wide observation. Botany and horticulture are familiar subjects, and often introduced either by way of variety or to popularize them. History and literature are freely drawn on. The literary treatment of every thing he touches evinces much taste and skill.

While it is likely that not so many of the common people a hundred years ago knew so much about bees as now, yet it must be confessed that some close observers had learned many of the secrets of the hive.

This is the more remarkable because of the inconvenient hives then in use. The present advanced knowledge of apiculture is due largely, I believe, to the movable frame introduced by father Langstroth. Scientific queen-rearing would have been a long time developing to its present advanced stage had it not been for the ease with which Langstroth's invention made it possible to manipulate the brood.

The functions of the queen were pretty well understood by Mr. Evans, and he speaks of her development by reason of the special royal food which the workers did not receive; but with no movable frame then in use, and the observatory hives being mostly full-colony hives with glass on the outside only, observation was difficult and required a good deal of patience. It is not to be wondered at, then, that the queen was clothed with royal authority and power, as the following quotation would indicate:

But mark, of royal port and awful mein,  
Where moves, with measured pace, the insect queen!  
Twelve chosen guards with slow and solemn gait  
Bend at her nod and round her person wait.

And again:

The pregnant queen her dutious slaves attend,  
With plausive air the high-arch'd dome ascend,  
Cling in fond rapture round the genial bed  
And o'er her form a living curtain spread.

In explanation of the last two lines a note says:

"When she enters the royal cell to deposit her eggs, a number of bees, clinging to one another, hang before her a living impenetrable veil. On her return, a small white egg is discernible in the cell, and her courtiers still attend her with the same appearance of respect and homage."

Mr. Evans had some correct notions respecting drones. Beautifully he describes their lack of the necessary equipments for labor:

Their short proboscis sips  
No luscious nectar from the Wild-thyme's lips,  
From the Lime's leaf no amber drops they steal,  
Nor hear their *grooveless* thighs the foodful meal;  
On others' toils, in pampered leisure, thrive  
The *lazy* Fathers of th' industrious hive.

The line commencing "From the Lime's leaf" is explained as honey-dew.

But here's a use for drones that some beekeepers of this latter day do not fully endorse:

Yet oft, we're told, these seeming idlers share  
The pleasing duties of parental care,  
With fond attention guard each genial cell,  
And watch the embryo bursting from its shell.

The poor drone, though, enjoyed only a brief day of idle pleasure:

While love and pleasure thus your hours employ,  
How short, vain flut'ners, is your dream of joy!  
Ere the fourth moon unyoke her silver car,  
For you the Fates their deathful woof prepare,  
No widowed matron mourns your hapless doom,  
Nor drops the tear of duty on your tomb.  
Each kind affection turned to deadliest hate,  
Springs the fierce female on her once lov'd mate:  
Or, darting from the door, with terror wild,  
The father flies his unrelenting child,  
Far from the shelter of their native comb,  
From flow'r to flow'r the trembling outcasts roam,  
To wasps and feathered foes an easy prey,  
Or pine, mid useless sweets, the ling'ring hours away.

Of the workers he writes:

Yes! light-winged labourers! still unwearied range

From flow'r to flow'r, your only love of change!  
Still be your envied lot, communion rare,  
To wreath contentment round the brow of care!  
No nice distinctions or of rich or great,  
Shade the clear sunshine of your peaceful state;  
Nor Av'rice there unfolds her dragon wing,  
Nor raked ambition feels the scorpion sting;  
Your temper'd wants an easy wealth dispense,  
The public store your only affluence:  
For all alike the busy fervor flows,  
Alike ye labour, and alike repose;  
Free as the air, yet in strict order join'd,  
Unnumbered bodies with a single mind.  
One royal head, with ever watchful eye,  
Reins, and directs your restless industry,  
Builds on your love her firm-cemented throne,  
And with her people's safety seals her own.

Preparation for swarming and the piping of the queen are described:

At close of day when in her twilight robe  
Grey Eve envelops half the weary globe,  
O'er the still sense a deep'n'ing murmur grows,  
And busy preparation mocks repose.  
Hark! the shrill clarion sounds! Full arm'd for flight  
The fresh-plumed monarch waves her pinions light,  
Pants for the morn, and chides the tardy night.

Now morning has come, and "ripening Phœbus warms the tempered air:"

Mounts the glad chief! and to the cheated eye  
Ten thousand shuttles dart along the sky,  
As swift thro' ether rise the rushing swarms  
Gay dancing to the beams their sun-bright forms.

\* \* \* \* \*  
High poiz'd on buoyant wing the thoughtful queen  
In gaze attentive views the varied scene,  
And soon her far-stretched ken discerns below,  
The light Laburnum lift her polish'd brow,  
Wave her green leafy ringlets o'er the glade,  
And seem to beckon to her friendly shade.  
Swift as the falcon's sweep, the monarch bends  
Her flight abrupt; the following host descends,  
Round the fine twig, like clustered grapes, they close  
In thickening wreaths, and court a short repose.  
While the keen scouts with curious eye explore  
The rifled roof, or widely gaping floor  
Of some time-shattered pile, or hollow'd oak,  
Proud in decay, or cavern of the rock;  
Insidious Man, with specious friendship, forms  
A straw-built cot to shield them from the storms,  
Which many a prop to fix the future comb,  
And scents with charming sweets the vaulted dome.  
Swept from the branch, he bids whole myriads fall,  
By kind compulsion, in th' inverted stall,  
Drives with dank fume the loit'ers from the spray,  
And wards with leafy bough the noon's fierce ray.

The following lines describe what was the common belief at the time if a swarm lost its queen after hiving, even after the lapse of several weeks:

Nay, such the strong-linked chain of sweet controul,  
Which binds to one fair head th' accordant whole,  
E'en when a second moon serenely bright  
Sheds on the infant realm her silver light,  
Their widow'd throne in frantic mood they wail,  
And cast, depending, down the moulded scale,  
Their young deserted, rifed each full comb,  
Loaded with sweets, they seek their long-left home.

But they had learned from the experiments of Huber and others that a new queen could be introduced and save the colony. He quotes Huber as being able to introduce a queen to a hive that had lost its queen twenty-four hours after the loss, but not sooner.

Another strange belief is mentioned in a footnote:

"When the bees of a crowded stall lie out through great part of the summer without swarming, or build combs on the outside, this will always be found to arise from the want of a second queen to lead them forth," as though it were the young queen that led the first swarm.

Continued.



46

## THE BEES.

B. 1.

Each link, they trace in animation's round,  
Dashes their poison'd chalice to the ground.

If, in the Insect, REASON's twilight ray 565

Sheds on the darkling mind a doubtful day,  
Plain is the steady light her INSTINCTS yield,  
To point the road o'er life's unvaried field ;  
If few those Instincts, to the destin'd goal,

With surer course, their straiten'd currents roll. 570

Though soon the short-liv'd Bee submit to fate,  
And SEVEN fleet summers fill her utmost date,  
Still, if we count the strokes of Time's light wing,  
As swift, or slow, the fresh ideas spring,

And labour crouds the closely written page, 575

Those few, fleet summers lengthen to an age ;

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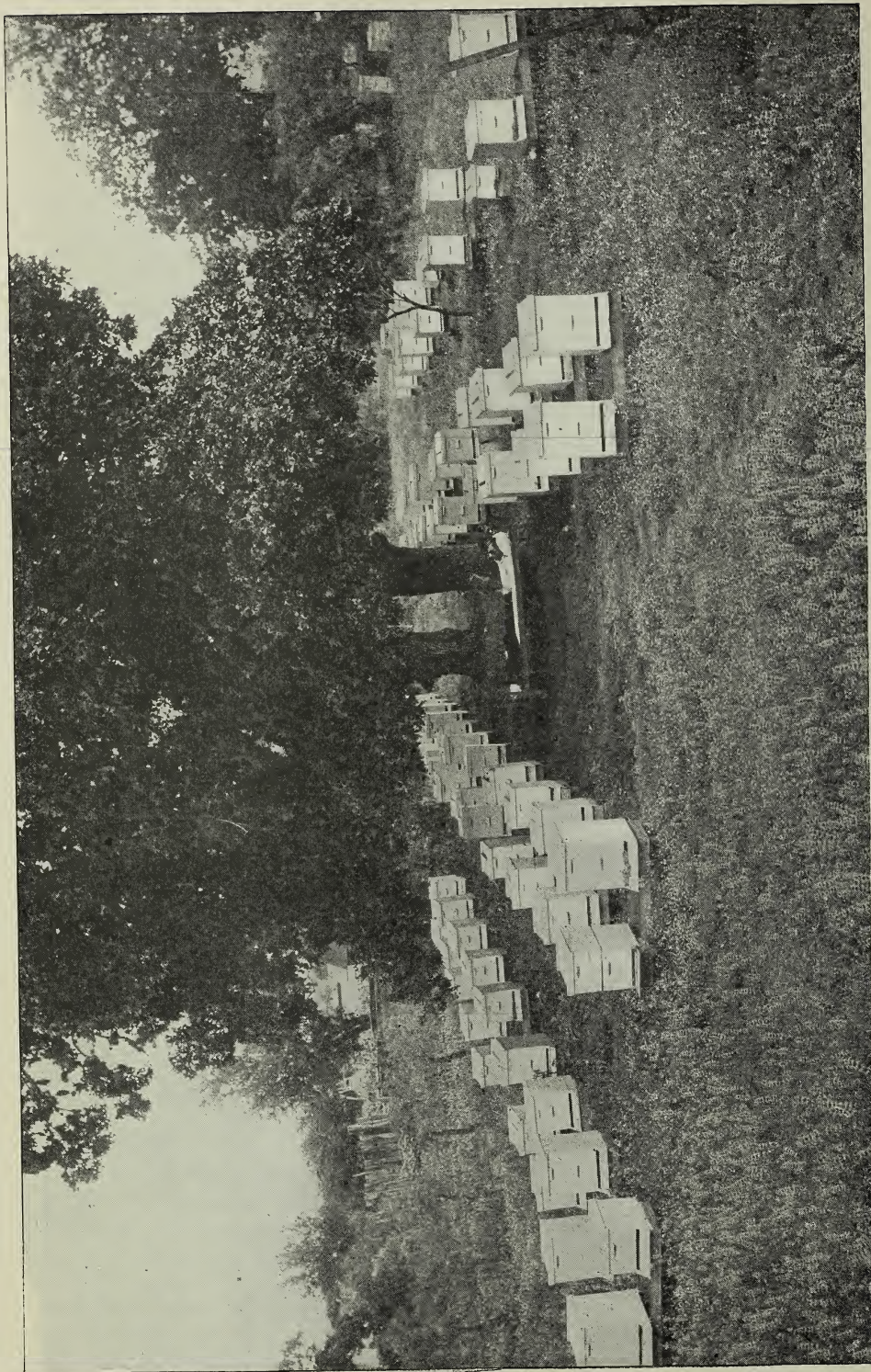
572. *Seven fleet summers*] " Neque enim plus septima ducitur ætas !"

VIRGIL.

See ADDITIONAL NOTE XI.

574. *As swift, or slow*] " It is certain that the natural measure of time depends solely on the succession of our ideas. Were it possible for the mind to be occupied with a single idea for a day, a week, or a month, these portions of time would appear to be nothing more than so many instants. Hence a philosopher often lives as long in one day, as a clown or a savage does in a week or a month spent in mental inactivity, or want of thought." SMELLIE'S *Philosophy of Natural History*, Vol. I. p. 519.





[This is the apiary of J. C. Peterson, of Devine, Texas, an A B C scholar who has made a very pretty start. He writes us that he has purchased a ten-dollar breeding queen, and is expecting to requeen his whole yard with the improved stock. As he enjoys the cot, he is probably indulging in a day dream amid the happy hum of the bees, and of the crops of honey he is going to get—but which he didn't get this year. By the way, there is no sweeter music than the hum of bees on a bright day. No wonder Mr. Peterson is taking "solid comfort."—Ed.]





ALTHEA, OR ROSE OF SHARON.

### ALTHEA AS A HONEY-PLANT.

BY A. I. ROOT.

In one of our dooryards there is an ornamental shrub that has attracted so many bees we had a picture of it taken. Althea, or "rose of Sharon," is a very beautiful shrub, even if it is quite common. You can now get them at the nurseries in a great variety of colors, double as well as single, and some of the little trees are so handsome I often stop my automobile to go inside a dooryard to get a better view from all sides of unusually fine specimens. The plant is very hardy, grows on all soils, and, after being once started, it almost seems to take care of itself year after year. You can get plants of all the different colors for five cents each or less of my good friend G. W. Park, La Park, Pa.; and these small plants, with a little care at the start, will grow two or three feet high in a single season. Big plants of this size *usually* cost 25 cents or more.

The shrub here shown was covered with bees during the time it was in bloom, which lasted for several weeks.

### THE BETSINGER WIRE-CLOTH SEPARATOR.

The Device Tested in the Apiary of Vernon Burt, near Medina.

BY E. R. ROOT.

It will be remembered that Mr. F. A. Salisbury, of Syracuse, New York, after having seen the beautiful fancy comb honey produced by Mr. S. D. House, of Camillus, N. Y., with the Betsinger wire-cloth separator, wrote us that this was a device the merits of which the Root Co. might well consider. After he had tested it one season he was even more enthusiastic, for every section was fancy. A year or two ago when I visited him he showed me two lots of honey—one produced with the ordinary Danzenbaker fence and the other with the Betsinger wire-cloth separator, and asked if I could see any difference in the filling of the two lots. Most assuredly I could. One lot was all fancy, and the other was fancy and No. 1. "The fancy," said Mr. Salisbury, "was produced with the Betsinger separator." It will be remembered that Mr. House had been carrying off first prizes for comb honey

at the New York State fair. This he attributed largely to the Betsinger separator.

Accordingly we made up a set of supers and sent them down to our neighbor Mr. Vernon Burt. These he tested out this last season, and the results were far from satisfactory. His bees seemed to amuse themselves by sticking patches of burr-comb on the wire cloth, and building from that to the section in a most fantastic fashion. He asked me to come down and look over the honey and let the lot speak for itself.

Accordingly, with camera I appeared on the scene. We opened two supers, when, sure enough, the wire-cloth separators were pretty well patched up with comb. The accompanying photograph shows how some of them looked. Then Mr. Burt held up one of the supers that had not yet been opened, in front of me, in such a way that the light could stream through it. Plainly enough I could see the patches of wax connecting the nice comb honey with the wire cloth all through the super—see Fig. 2.

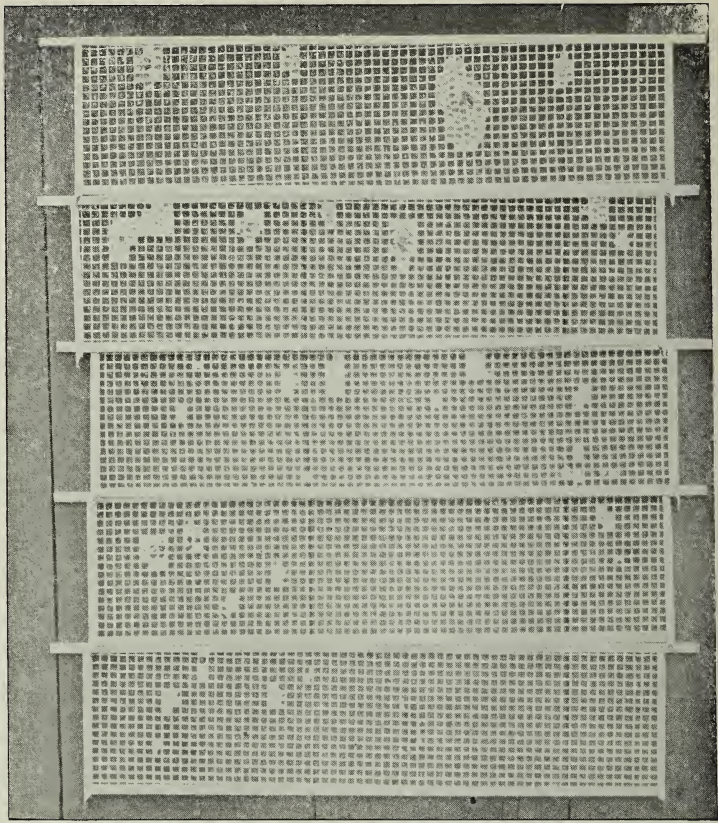


Fig. 1.—The Betsinger wire-cloth separators as they appeared after being taken from a super from the apiary of Vernon Burt.

Then we took some of the sections and piled them up, one on top of the other. A few of them are shown in Fig. 3, where the burrs of wax were torn loose.

Mr. Burt's bees did not fill out the combs any better than they had done next to plain

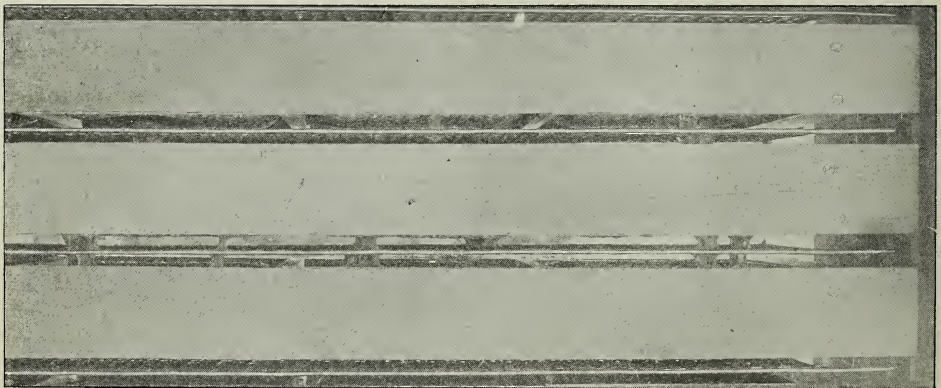


Fig. 2.—A peep through a super having wire-cloth separators, showing how the brace-combs were attached to separators and comb faces.



sections; and the fact that almost every separator had an attachment to some one section was rather discouraging.

I asked Mr. Burt if he had not overcrowded these hives and supers; but he thought not more than he had crowded the other hives with fence separators. I endeavored to explain to him that possibly this was a peculiar season—that another year he would get better results. But he shook his head. If the season had been at all a good one he would expect that the brace-comb attachments would have been even more numerous. When Mr. Salisbury visited us a few days ago I called his attention to the poor results secured by our neighbor, Mr. Burt, with the Betsinger separator. "Very strange," he said, for he had only recently looked over several thousand pounds of S. D. House's honey—as pretty honey as one ever saw, and not a burr-combed separator or section in the lot.

It will be remembered that Mr. C. H. Dibbern, of Milan, Ill., reported how he had results about the same as those here shown by Mr. Burt, and that he cautioned bee-keepers against pinning their faith on the wire-cloth separator. Years ago, when this wire-cloth separator was first brought out, there was complaint that bees were inclined to make brace-comb attachments to it and it was condemned.

This difference in experience we may have to attribute to locality, for I certainly saw as pretty fancy comb honey at Mr. S. D. House's apiaries two years ago as I have ever seen anywhere; and yet in our own locality, at least last season, with the same device and separator, the results were any thing but satisfactory. Perhaps management is also a factor; if so, possibly Mr. House could show where the trouble is.

### SWARMING—THE CONTROL OF IT.

What Can be Expected from Some of the Recent Plans Described.

BY E. F. ATWATER.

Perhaps Mr. Doolittle is claiming too much for his method of swarm control. It will and does prove a failure in some localities. The beginner had better go slow before adopting any method on a large scale until he proves that the method can be used successfully in his locality. Shaking on empty combs, combs of honey, or full sheets of foundation, is too often a failure here, as the

bees soon prepare to swarm again. Shaking on starters *does* control in nearly all localities. Nor will plenty of room *in the comb* at any or all times prevent swarming. That idea is one of the most commonly credited fallacies before the bee-keeping public. A colony headed by a young queen reared in the same colony that season is not safe from swarming.

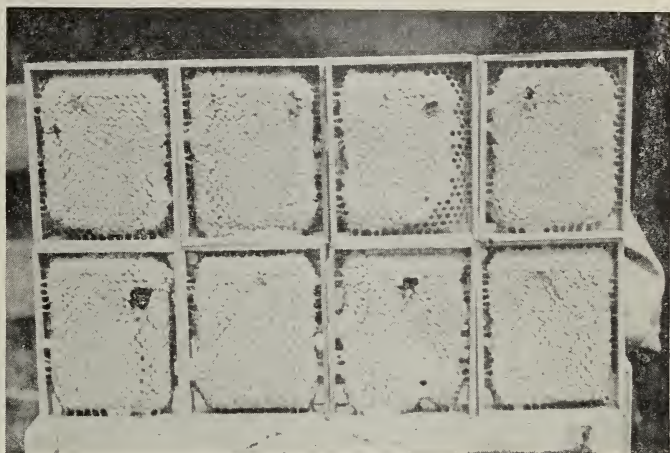


Fig. 3.—Some of the comb honey taken from a super using wire-cloth separators; the bare spots show where the burr-combs were torn loose.

A colony treated on the Alexander plan of increase may send off a swarm from the old stand. A colony tiered up on the Alexander plan of queen-mating may swarm from one or more of the bodies, or one or more may abscond.

The Aikin system of alternating, "stretching," or interchanging cases will too often only delay, not prevent, swarming. The Simmins non-swarming system is of little value here. Our queens and bees will extend their brood-nests *upward* very readily, but are reluctant to go *down* with brood, or for honey-storage or comb-building. When conditions are very favorable for breeding up, as they were here this spring, none of these mildly persuasive methods will control. Either the Alexander method or the Doolittle method of shaking on combs will hold them until the flow arrives. What would have happened to Doolittle's colonies if the season had been such that his queens would be *seriously crowded* if confined to 16 to 20 L. frames? Such are the conditions which we have been compelled to meet in four of our eight apiaries this spring. Even in *extracting-yards* our usual methods of shaking on combs or full sheets *there*, would only delay swarming about three weeks. If the Doolittle treatment were combined with requeening it is *possible* that it might then be successful.

Meridian, Idaho.

[You do not offer much encouragement on swarm control. This is a case where locality has a large influence.—Ed.]



The veteran Henry M. Twining, after he had "hived" an artificially made swarm on his arm; demonstration at the Jenkintown field-day meet on June 26.

### CELEBRATION OF THE GOLDEN ANNIVERSARY OF A VETERAN BEE-KEEPER.

Held under the Auspices of the Philadelphia B. K. A. at Logan, Pa., Sept. 22.

BY W. A. SELSER.

[Our readers will remember that we promised to show a picture of the veteran, Henry M. Twining, who made a shook swarm cluster on his bare arm at the Jenkintown field day, June 26. The editor's camera failed to catch him while he was going about among the crowds with this swarm. But, fortunately, another kodak caught the act, and the picture was kindly placed at our disposal, and we take pleasure in presenting the same herewith. Very recently a unique convention was held at Logan, Pa., to celebrate the golden anniversary of this same Mr. Twining's experience as a bee-keeper. As this comes in very appropriately here, we are glad to place a report of the meeting right here.—Ed.]

Meeting called to order by President, Dr. Henry Townsend; Secretary, F. Hahman.

After routine business, Mr. Twining was called upon to give his first experience in bee-keeping, in 1856, fifty years ago.

He said in part that his father kept bees before him, and all the people in that day sulphured the bees to get the honey. In the spring of 1856 he was living in the upper part of Bucks Co., and learned that a man by the name of Johnson, living at Attleboro, had received the right for sale of the Langstroth hive for that vicinity. He visited him

and received the individual right to make the hive for \$5.00, and a hive of bees for an additional \$5.00. His father then gave him a colony of bees, which he transferred. He then sold the hives to a number of people and went all over the neighborhood, taking honey out of the box hives for the people in the fall, and getting the comb and bees for his trouble. He took the bees home in a covered box and transferred them into Langstroth hives. He said there were three things that man

Can not drive—  
Women, hogs, and bees in a hive.

He lost only one hive bought in this way after they had been fed up with sugar syrup.

In 1867 he sold five queens to one man, introduced them, and got \$50.00 besides his expenses when he finished the work. About that year he sold a colony of bees to a man in Florida for \$25.00, and sold a number of queens for \$15.00.

Mr. Wm. A. Selser was then called on by the President to make the presentation speech of a gold-banded cane, a present of the Philadelphia Bee-keepers' Association. In part, Mr. Selser said:—

"This is a most notable occasion in many respects, and probably not any of the present bee-keepers will pass through this happy experience of reaching the fiftieth year in bee-keeping. Our younger men are compelled to live too strenuous a life to live to such an age, although that is in the hands of the



Lord. There are probably not over 20 per cent of the births of this age that live to see their fiftieth year; and yet you have not only lived to see your 87th year, but fifty of it have been spent in continuous bee-keeping; and remarkable, also, is the fact that, in the last few years, so clear have been your faculties that you have gone out repeatedly for the Root Company and requeened large apiaries, and have done considerable work in the different apiaries throughout the country at good wages, etc.

"It gives me great pleasure, on behalf of the Philadelphia Bee-keepers' Association, to present to you this solid ebony cane, suggestive to me of your upright walk for so many years—this solid ivory head suggestive of the clear bright head that has guided your course this half-century of bee-keeping, and which has made your advice much sought by your fellow bee-keepers—this solid gold band engraved with your name and the name of the Association, suggesting your true heart that has drawn you to all your fellows, and made you loved by all. It can be truly said you have not an enemy."

Mr. Twining arose to reply, but was entirely overcome with delight and surprise. After some reminiscent remarks on the part of President Townsend, telling of the formation of the Society in 1882, twenty-four years ago, Dr. Townsend being President and Mr. Hahman Secretary ever since, the bee-keepers adjourned after a fine collation.

### ANOTHER FAMILY WHOSE PICTURE IS A PROOF OF THE VALUE OF HONEY AS A FOOD.

#### A Father and Mother who have Reason to be Proud.

I saw the picture of the Gaul family in the June issue, and was not surprised at the statement made; but I think we are not a whit behind, as we are a family of ten children, the oldest of which is now thirty and the youngest twelve. I am twenty-one, and do not remember ever having to do without honey, and we have had all the honey we wanted every meal; but mother says there was one time for several weeks when we had not honey, and that was the only time for thirty years. You can see that we have an abundance of good health, as there never was serious sickness in the family. There is no doubt about the healthfulness of honey.

I. Good.

Marion, Ind.

*Mr. Root:*—In addition to what my son has written I will add, for the benefit and encouragement of my old friend A. I. Root, whom I always have admired, and have read every thing he has written for GLEANINGS from the beginning, and have tried to profit by reading the excellent advice he has given, that the family of children of your humble servant have all attended Sunday-school from their youth up. The one on the ex-



A PERMANENT PROOF OF THE HEALTHFULNESS OF HONEY.

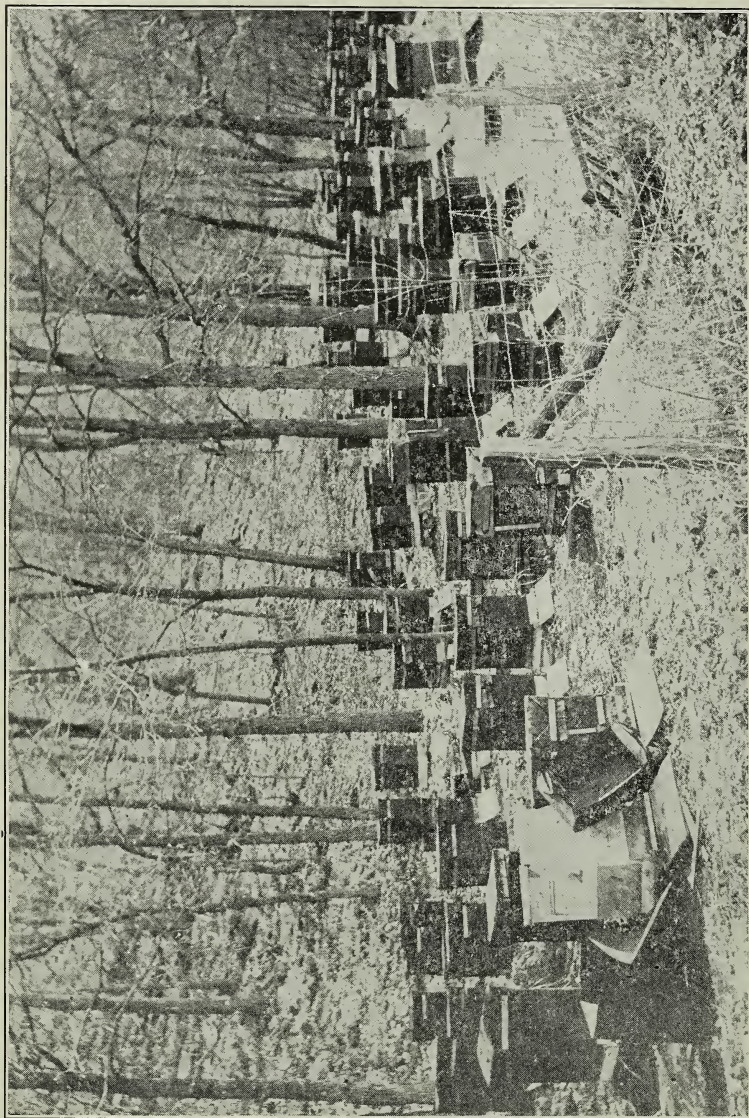
treme right is your namesake. He was Sunday-school superintendent at about the age of eighteen. The one in the center is now Sunday-school superintendent of the largest Sunday-school in Marion. The one wearing glasses is a student and Latin teacher in the Indiana University at Indianapolis. The

so you see my life has not been an entire failure.

I. R. GOOD.

Marion, Ind.

[Many thanks, friend Good, or I might say my "Good friends," for your picture, your son's explanation, and your own kind



AN APIARY IN A PROTECTED LOCATION WITH EACH HIVE WRAPPED IN BUILDING-PAPER.  
From annual report of National Bee-keepers' Association.

one on the left is our first born, and is the father of as nice a pair of twin boys as you ever saw. Not one of the children uses tea, coffee, or tobacco in any form. All are temperance workers. The two smallest boys were the last two of the family, last winter, to be converted and unite with the church;

words. I shall have to explain to the younger ones that away back, years ago, when the Root children were little folks as well as the Good children, friend Good's name became almost a household word by suggesting and telling us how to make what was known as the "Good candy," for supplying queen-



cages and feeding bees in the winter. It looks to us now like quite a simple matter to work up sugar and honey together so as to make a sort of dough that will not daub the bees and queen, and yet give them sufficient liquid so they will not need the little bottles of water that we had been supplying queen-cages with before the Good candy came out. But I tell you it took a lot of experimenting and a deal of talking it over to get the queen-cage candy *just right*.

Friend Good, you and your good wife have given the world just double the number of good men and women that belong to the Root family. You have done your duty; and if there were more to follow your example I think our nation would not be in the predicament it is now in some respects. No one can accuse you of not doing your part to prevent "race suicide;" and I think we shall have to submit this picture to our good President for his approval and encouragement. There are too many educated people—people who have abundant means to give their children every opportunity—who seem to think no obligation rests upon them to rear good-sized families in the fear of the Lord. May God continue to be with you and your good wife and that promising flock of children.

The good Book says, "Be fruitful, and multiply, and replenish the earth." Again, "As arrows are in the hand of a mighty man, so are the children of the youth. Happy is the man that hath his quiver full of them."—A. I. R.]

### WINTERING BEES.

#### The Value of a Protected Location; a Beecellar in a Sand Hill; Spring Care.

BY N. E. FRANCE.

In the Northern States successful wintering of bees is quite a problem. The more I study this as I visit apiaries, the more I believe the bee-keeper is to blame for losses. How, then, can they be prevented?

1. I want, early in July, more sealed honey in the brood-combs than is necessary to winter the colony. The unused honey in the spring will all be used to feed early-hatched brood, and I often find weak colonies or dead ones, as I go over the State in the spring, that are starved or nearly so. Starving colonies in spring are seldom profitable. This shortage also causes the bees to eat too much pollen, and dysentery will follow.

2. During the latter part of the honey harvest I remove every queen, and at the same time replace, with new queens, either those which I buy or some raised in the apiary for the purpose. This will leave the hives soon after the honey-flow with fewer old bees to feed during the fall, that would die before winter any way, thus saving winter food. The new queen will fill the hives in the fall with young workers that will live through the trying months to maintain heat and care for early brood in the spring. In this north-

ern climate, where winters are hard, I do not dare to winter queens twice, for they are liable to die in the spring, leaving queenless colonies that are of little value.

3. The location of the apiary often decides success or failure, especially if bees are wintered outside. The apiary should be well sheltered from cold winds, the hives provided with young queens and an abundance of young workers, and well filled with honey in the fall. It is well to allow a free flight of bees twice during the winter, on warm days; the hives should be protected from the outside air with heavy building-paper, or by an outside casing. If the above conditions are met I would rather winter the bees on summer stands. It is much less work, and the amount of extra food consumed (not over 10 lbs.) will not pay for the extra labor. The illustration shows such an apiary of over 100 colonies, protected with building-paper, in a sheltered location; the winter loss, including spring dwindling, is never over 2 per cent. The hive in the foreground has the outside paper removed, showing the brood-chamber and the super of sealed combs for winter food.

As I go among hundreds of apiaries inspecting bees I find a large portion of the apiaries are not so located as to be protected, and outside wintering results in heavy loss. Cellar wintering, then, must be resorted to. Good results are obtained where the bees are wintered in a so-called root-cellar, dug back into a sandy hillside. Some bee-keepers wall up the sides with good stone, leaving every thing covered with soil for protection. Others stand posts near together to keep the sand from caving in. The ceiling is built of heavy sound timbers; over this, at least 3 feet of sand or soil, then a foot of straw under the board roof, which conducts all storms away. There should be a ventilating-tube at least a foot square from near the bottom of the cellar, with a damper that can be closed any time. This tube should extend above the roof, with an elbow on top, so as to point downward.

It is a good thing to have a thermometer in the cellar where it can be read frequently, and the temperature kept uniformly at 45°. Double tight-fitting doors at the entrance are necessary, and should swing out. In the spring if the cellar gets too warm, and the bees restless, I open the doors at early evening, closing them early the next morning. If frost is creeping in, and the room getting too cold, a small stove can be put in between the doors; and when the air is warmed there, the inside door is swung open. Well-built cellars will keep about the same temperature without all this manipulation.

The more the cellar is back in the bank, the better. There is a perfect wintering-cellar in Wisconsin, made by blasting out the sand rock, forming a cave the size and shape wanted, there being several feet of stone and soil above for the roof. A cellar under a dwelling-house is often the place for a farmer to keep his bees, if what space is wanted for the hives is partitioned off so it can be

kept dark and undisturbed. This cellar can be easily ventilated, if necessary; but the frequent going in and out, opening doors above, often gives all that is necessary.

Noise above the bees does not seem to disturb them much. I know of a successful cellar within a few feet of a railroad where trains are frequently passing. The bees get used to it.

Again, if I could have all my desires granted for an outside cellar I would want a dug-out cellar in a sandy hill, with a stream of spring water running through to purify the air and keep it the same temperature. If mold gathers on a cut piece of potato in the cellar it means that ventilation is needed in some way. Have the bottom of the cellar covered with sand or dry sawdust; and if air gets bad, some air-slacked lime on the floor may help it.

But wintering with many is not half the problem. To keep the colonies gaining every day after being taken from the cellar is often the trying question. Let me suggest that such parties try to protect each hive as it is set on its summer stand, with some heavy building-paper, keeping it there until settled warm weather. If you have not tried it, do so. Also soon after placing the bees outside in the evening of a cool day, some time, weather permitting, open each hive just long enough to know the amount of honey; if short, mark it at once on whatever record you keep of each hive, and see to it that each gets some feed. I prefer sealed combs of honey; but if out of those, I have used freshly filled combs from the bee-house. If the bees need feeding later, use something that can be given in a wholesale way. I now use gallon syrup-pails or friction-top pails, with cover punched full of small holes, like a pepper-box lid. Set it on top of the brood-combs and place for a day an upper story around it to protect it from robbers, covering the vacant space around it with cloth. The gallon or more of feed will be taken into the combs inside of a day, with no robbing or exposure of brood. The pails can be used later with new covers to sell honey in, thus costing one cent for each gallon feeder.

Platteville, Wis.

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### CELLAR WINTERING.

The Value of Young Bees in the Fall; an Ideal Cellar should be Provided with Vestibled Entrance and some Means for Ventilation; Mid-winter Flights Unnecessary.

BY C. A. HATCH.

#### LOCALITY AND WINTERING.

The location makes all the difference when it comes to the wintering problem. To treat all alike from Texas to Michigan would be absurd and the height of folly; so to a certain extent each one must solve his own problem, or at least be guided by others living in the same latitude.

#### METHOD OF WINTERING.

Having tried almost all methods of wintering, such as packing in straw, chaff hives, burying, outdoor cellars, and cellars under dwellings, I am convinced that, all things considered, a good roomy cellar under a house with people living above is the very best place for our bees. Why it is so has never been so clear. May be it is the better ventilation they get, or the closer attention during the winter.

#### A SPECIAL REPOSITORY.

But conditions may be such that we can not have a cellar under a dwelling-house for our bees. The next best thing is a bee-cellar.

#### LOCATION OF CELLAR.

This should be near the bees, and, if convenient, should be so all carrying of bees into the cellar will be down grade, or at least on a level. A bank or side hill is preferable, so as to leave the entrance on a level rather than down steps. Better to move the bees to a good location for a cellar than to try to make a poor location work.

#### ENTRANCE.

This should face the east if convenient, so as not to get the sun in the hottest part of the day, from 11 o'clock to 3 P.M. This is important, but not essential, for experience teaches it is easier to control the cold and keep it out than it is to keep the heat out on warm days toward spring. A southern exposure is the least desirable of all, for this reason; and happy is the man who can have a hill at the northwest of his location for both bees and bee-cellar, to protect him from cold northwest winds during winter and spring.

#### DEPTH.

Seven feet below the ground level is the least to be thought of, and eight is better. The greater the depth the more even the temperature, and the greater the influence of the earth's temperature. A shallow cellar, or one above ground, is of all things to be shunned.

#### SIZE.

This should depend on the number of colonies to be put in. The actual room occupied by a ten-frame L. hive is approximately 3 sq. ft., and there should be room to walk all around the hives between them and the walls of the cellar—a space of at least 2 ft. A cellar 12×16 ft., inside measure, would be ample for 100 colonies of ten-frame L. or 120 eight-frame L., allowing for a support of 1 ft. at the bottom, and hives 5 deep—a double pile through the center of the room. I think it would be better to build two cellars rather than put many more than this number in one place. Economy of construction would point the same way.

#### MATERIAL FOR CELLAR.

Of course, stone, cement, or some lasting material is best for the walls; but walls made by setting well-seasoned posts of oak at the sides, and oak plank, will last several years, and, so far as usefulness is concerned, are just as good as any.



## THE ROOF.

This is the point where so many fail by not getting it frost-proof and water-tight. These two things are of all things to be avoided—a leaky roof and one so poorly made as to let in frost. After seeing in use and using various styles of covering for a bee-cellar I am of the opinion that a good shingle roof made to project well over the side walls is the best. Joists should be placed on the walls, and ceiled up overhead, and the whole space from this to the point of the roof well packed with some non-conducting material like forest leaves, chaff, or straw—leaves to be preferred. The joists should extend out to the outer side of the side walls, and a board nailed to their outer end, so that the packing would come clear out as far as the walls go.

## DOORS.

Entrance to cellar should be large enough to admit a wheelbarrow, and there should

greatest use of a ventilator is in controlling temperature; but it should not be ignored as a means of purifying and changing the air.

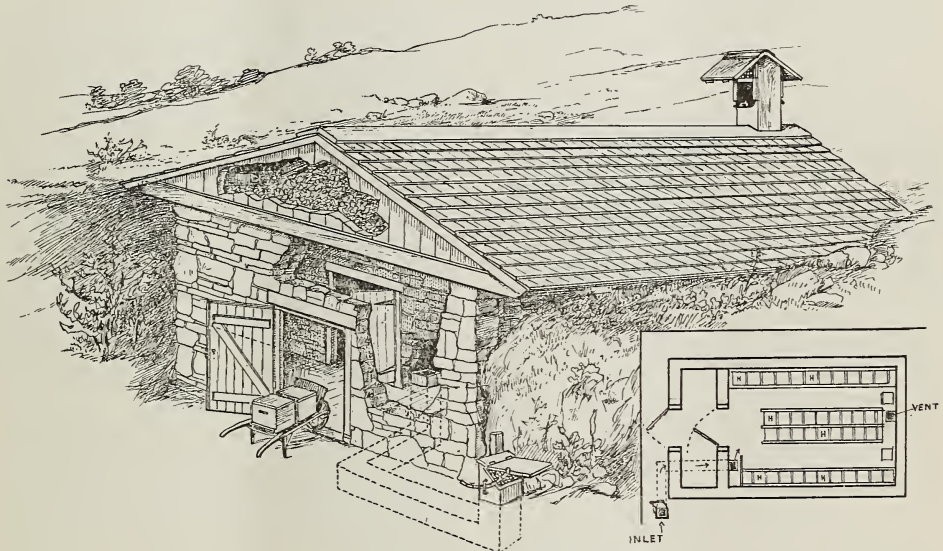
Toward spring and during warm spells in winter, when bees get to roaring, all ventilators and doors should be left wide open during the night and tightly closed during the day.

## TEMPERATURE.

As even a degree as possible is best. A temperature of  $45^{\circ}$  is ideal, but a rise of  $5^{\circ}$  toward spring seems to do no harm, and a fall to  $40^{\circ}$  does no great harm if not continued more than 24 hours.

## ESSENTIALS TO SAFE WINTERING.

Good food, proper temperature, and bees not too old are the three cornerstones of good wintering. It might seem that, after knowing what are the essentials, then getting them, there would be no uncertainty about the matter; but getting these conditions is where comes the rub. If all years



C. A. HATCH'S PLAN FOR A BEE-CELLAR.

Dimension of Intake, 6x8 inches; of Outlet, 8x10 inches; Space between Ceiling and Roof filled with Leaves.

be two doors with space enough between so that one could be closed before the other is opened—a room  $4 \times 4$  ft., or, if more convenient to build, it might be 4 ft., and the width of the cellar; or, in other words, an ante-room cut off from the out end of the cellar.

## VENTILATION.

Notwithstanding all that has been said and written about ventilation I am strongly in favor of it—not too much in coldest weather, but some at all times; but it should be arranged so as to be under perfect control, both the intake and the outlet. It is a mistake to try to ventilate a cellar with only one ventilator. Provision must be made for taking in air as well as letting it out. The

were just alike, or if bees gathered always the same kinds of honey, then it would be comparatively easy; for after trying a certain kind of honey for winter food, and finding it poor, all we would have to do would be to reject that kind; but, unfortunately, no two seasons are alike, and bees gather sweets some years from sources before unknown; and a kind of honey that would be excellent food if weather conditions were right might prove disastrous under other conditions. Some have solved the problem by giving the bees only sugar syrup for winter food. There is no question but that this is the safest food to give them; but the labor and expense of taking away the natural stores and substituting the sugar is no small

item; and, taken through a series say of ten years is of doubtful economy, for they would ordinarily winter just as well seven years out of the ten if proper precautions are taken; besides, it gives a bad look to the business for a honey-producer to be using sugar by the ton. An outsider would think he had proper evidence of fraud and adulteration.

#### YOUNG BEES FOR WINTERING.

Bees to winter well, and be strong and vigorous in the spring until others are raised to take their place, must not be too old when put in the cellar or they will either die there or soon after setting out in the spring. Controlling this essential is the easiest of all the three named; for if nature does not furnish nectar enough to keep the queen laying, then it behooves the bee-man to supplement nature by daily feeding of some pure honey or sugar syrup. I like outdoor feeding best where other people's bees do not interfere. The amount of feed should be just enough to stimulate the queen to work, say  $\frac{1}{4}$  lb. to each colony for ten days during September or even later if weather is not too cold.

#### FEEDING IN THE CELLAR.

This should never be done except as a necessity, and then only with combs of honey or cakes of candy hard enough so it will not run. Liquid feed should never be used, as it gets too cold, and chills the bees to death to fill up on it. In feeding frames of honey they should be put as close to the cluster as possible, and candy should be either molded into a frame so as to hang next to the cluster or be laid just over it under the quilt.

#### WHEN TO PUT IN.

After various experiments I have come to the conclusion that November 20 is about the proper time to put bees in the cellar, preferably when the weather is dry and cold, and I would let them remain there with as little disturbance as possible until settled weather in the spring, which is usually here between April 1 and 10.

#### WINTER-FLIGHTS.

To take bees out of the cellar and return them so as to break the long confinement into two short ones seems all right in theory, but experience has caused me to think it does actual harm unless it is deferred until they can be set out for good in at least 15 or 20 days. If your bees are uneasy and dying, it seems only to aggravate the trouble after a few days, and the best thing to do is to wait until there is something for them to gather pollen from before disturbing them. I know it seems hard to see your pets dying by the thousand, and do nothing; but better do nothing than something which does no good. There are winters, even in this latitude, when bees properly packed would winter just as well out of doors as in a cellar, but one can never tell beforehand what the winter is going to be; and with a hard winter bees with poor stores would be cut off from flight as much out of doors as in a cellar; and for all years indoor wintering is

safest, and the less amount of feed consumed in the cellar will always pay for carrying them in and setting out. As to the exact amount in pounds saved, I am unable to say; but I think 8 lbs. would not be too high a figure. I have yet failed to see any difference in the condition of bees due to wintering in a cellar or packed out of doors. I have had success with both ways and failure with both; but poor honey has caused me more loss than all other things combined. Moral—give sugar, perhaps.

Richland Center, Wis.

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### CELLAR WINTERING OF BEES.

**A Vestibule Containing a Stove Necessary; the Advantage of Specially Designed Bottom-boards Providing an Enclosed Space Under the Hives.**

BY O. L. HERSHISER.

The three most essential requirements in successful wintering of bees in the cellar or special repository are, even temperature at about 42 degrees F.; pure and moderately dry air, and good and sufficient stores of honey.

To obtain the proper temperature the cellar may be built entirely beneath the surface of the ground; or if above ground, wholly or in part, that the walls above the surface be of sufficient thickness to resist the influence of the outside temperature. It is difficult to construct a cellar or repository in which there will be absolutely no variation of temperature. If the variation amounts to but few degrees and is gradual, requiring a long time to make a slight variation, the bees will adjust themselves to such slight change without serious consequences.

There should be little or no difficulty in maintaining a pure and sufficiently dry atmosphere in a cellar built in dry sandy or gravelly earth where the drainage is perfect. Such earth, being porous, the air makes its way into the cellar fast enough to meet the requirements of the bees. It is likely, also, that such loose porous earth absorbs much of the impurities of the cellar air arising from the respiration of the bees. It is assumed that the retaining-walls will not be built so tight below the outside level of the ground as to resist the passage of air through the crevices. There seems to be a diversity of opinion as to whether a specially constructed ventilator to admit fresh outside air is necessary or desirable, but probably all authorities will agree that pure and wholesome air is necessary to good wintering. When the bees are in the most quiescent and dormant state, respiration (and consequently the consumption of air) is the slowest; and the quieter the bees are kept in the proper temperature, the longer will the air remain fresh and pure. Cellars under dwelling-houses usually have the chimney built up from the bottom of the cellar with an opening near the cellar floor. Whenever the chimney is



in use, which is almost constantly in the fall, winter, and spring months, there is a gradual but constant draft of air from the cellar, the fresh air from every little opening coming in to take the place of the air that has been drawn out through the chimney. That portion of the dwelling-house cellar where bees are wintered should be separated by a partition so constructed that it will resist heat and cold so thoroughly that the temperature of the other part of the cellar will not influence that of the bee-apartment. Especially should such a partition be made if there is a furnace in the cellar. Matched lumber and building-paper are good materials for such purpose, making the partition with an air-space, if necessary, to resist the influence of the outside cellar air. House cellars need no special ventilators to admit pure air, especially where there is a furnace in the cellar to heat the house. Almost any good house cellar can be made an ideal repository for bees. If such a cellar is subject to too much variation in temperature the bee-room should be tightly partitioned off, ceiled on the joists above, with a packing of four or five inches of planer shavings over the ceiling. This packing will sufficiently reduce the influence of the temperature from the rooms in the house above the bee-apartment, and deaden the sound of tramping and moving about on the floor over the bees. If the cellar walls above ground are so thin or insubstantial as to cause variations in temperature from that source, an inside wall of matched material and building-paper may be constructed at comparatively slight expense. The walls above ground may be banked on the outside also.

In constructing a special repository the location should be carefully selected. Nothing could be better than a sand or gravel bank with good drainage, and where the construction could be such that the bees could be carried in and out on level ground, thus avoiding the laborious operation of carrying heavy hives down and up a flight of stairs. A clay bank with good drainage would be almost as good as the sandy or gravelly ground, but harder to work. After excavating such space as is desired, a good cement or stone retaining wall should be constructed, surmounted by a roof or ceiling of sufficient strength to sustain the covering of 2½ to 3 ft. of earth, over which a roof should be built to keep the rain from soaking through. The walls should be beneath the surface, or, if built partly above ground, should be heavily banked. In such special repository a good-sized ventilating-shaft should be provided, passing from the ceiling up through the roof, so constructed as to be easily regulated. At the entrance to the cellar should be constructed a vestibule, which should be of sufficient size to accommodate a stove, and be provided with a chimney of strong draft. The vestibule would prevent drafts of cold air from coming in contact with the bees, and a fire in the stove with the inside door slightly open would gradually change the air whenever desirable to do so. Artifi-

cial heat to raise the temperature of a cold cellar or dry the air of a damp one is an advantage, if without it the bees would suffer; but the stove should never be in the same room with the bees, but in an adjoining room where the door can be used to regulate the heat in the bee-room. If the desired conditions can be secured without artificial heat, better results will undoubtedly obtain.

It has occurred to the writer that stone lime slacked in a damp cellar might be efficacious in drying it out; and if it were so constructed as not to become damp as fast as it is rendered dry this might be a cheap and effective means of drying and cleansing the air. There should by all means be a cement floor in the bee-cellar, especially if it is built in clay ground.

Where a good spring of water is available the same might be piped through the bee-cellar with good effect in maintaining an even temperature. While bees will winter with a pool of open water in the cellar, or even if the floor is covered with water, I have obtained better results in a dry cellar. Where there is a furnace in the cellar, however, open water in the bee-room might be a positive advantage.

By careful experiment I have found that the average consumption of honey of over 100 colonies in four months of confinement was a little less than 7 lbs. However, it is unwise to attempt to winter bees on the minimum amount of food they will consume. It is not always practical to feed in the early spring, on account of frequent and lengthy cold spells. Bees will frequently starve when there is one or two combs of honey in the hive if they happen to be clustered on the opposite side and away from the food. I do not feel that the colony is safe with less than 18 lbs. of honey, and 20 to 25 is better, as it gives the bees a good stock to work on in the spring. The saving in honey by cellar wintering, according to my best observation, no actual test having been made as to the amount of stores consumed by the colonies wintered outdoors, would amount to from 5 to 8 lbs. per colony. Feeding should be completed before the bees are placed in the cellar. Another important advantage is that a weak or nucleus colony which would surely perish outdoors may be safely wintered in the cellar.

The best cellar-wintering conditions obtain where, in addition, to the three essentials outlined above, noise, light, and direct drafts of air are avoided. These disturbing influences arouse the bees to activity, induce abnormal consumption of food, resulting in the rapid lowering of their vitality and consequent lowering of their numerical strength.

All requirements to successful cellar wintering being faithfully observed, the colonies will come up to the clover harvest fully as strong as those wintered outdoors; and, on the average, for a series of years, a much larger percentage of colonies will safely winter.

Good effects have been obtained by opening the cellar-door and windows at evening

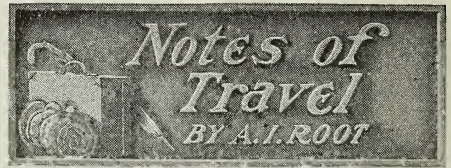
and closing them at morning to admit cool air to lower the cellar temperature. This is a matter that requires good judgment. The opening should be at some distance from the bees if possible, so as to avoid bringing the cold air directly upon them. If the cellar is at a high temperature a small opening will cool it quite rapidly if the air is cold outside. If the air is about as warm outside as in the cellar, and the object is to admit fresh air, larger openings are advisable. Last winter the temperature of my cellar rose to 70 degrees F., and remained at about that point for three days. The bees became very active, so that their roaring could be distinctly heard in the living-rooms above. Doors and windows to the cellar were freely opened to admit fresh air, as the outside and inside temperature were about the same. This free admission of fresh air afforded much relief to all but a few over-active colonies which were carried out for a flight. Such protracted periods of warm conditions in the cellar are very exhaustive to the bees, and this experience has emphasized in a practical way the importance of having the cellar so constructed as not to be influenced by warm conditions outdoors or from the part of the cellar where the furnace is located.

Undoubtedly midwinter flights are beneficial to bees when they become uneasy and remain so any considerable length of time; and especially if they are soiling the hives; but far better is it to have the cellar so constructed that fresh air is present at all times, and the temperature practically uniform at about 42. With the ideal conditions for cellar wintering I believe that the bees are better off not to be disturbed until taken out to stay. In this climate, weather conditions during the winter are not always such as to favor a winter flight. We do not always have a "January thaw," and often February is equally cold. I favor setting the bees out as soon as we have warm days after the middle of March. Such conditions often do not obtain until well into April.

To the apiarist who has 100 colonies of bees to winter, the chief advantage of cellar wintering over that of wintering out of doors is the saving of from 600 to 800 lbs. of honey, or about \$50.00 in value; and the saving in wintering a greater or less number would be in like proportion. Another advantage is the greater uniformity of results; or the nearer approach to perfect wintering; and closely allied to this is the fact that weak or nucleus colonies may be wintered in the cellar when it would be impossible to winter them outdoors. Our heavy lake winds are very hard on the bees in the warm days of winter, and I am of the opinion that these moderately warm days with raw damp air are hard on the bees in every locality. According to my best observation, my bees have wintered, on the average, about 15 per cent better, as to the number of colonies successfully wintered, in the cellar than those wintered out of doors, so that, in addition to the saving of food, there is the saving of the value of 15 colonies in every 100. It is plain from my

experience, that it is highly profitable to build a good cellar, or alter the house cellar to meet the desired requirements, and winter at least a part of the bees in such repositories. Double-walled chaff-packed hives, of course, are not intended for cellar wintering.

*Concluded in next issue.*



#### THE BLACK HILLS OF SOUTH DAKOTA.

I greatly enjoyed a ride through the big cornfields of Iowa and Nebraska. I enjoyed it all the more after having heard Mr. Holden's corn talk; and just at present South Dakota also is showing some of the handsomest cornfields that can be found in any State. I am told by people who live there that for the last five years they have been having quite frequent rains. In my trip through South Dakota some years ago I told you they had the most beautiful roads, with little or no expense, of any place on the face of the earth. The black soil pounds down hard, almost like an asphalt pavement; and when water falls on these roads it not only runs off quickly, but I have seen rain water standing in puddles in the road, looking as clear as spring water, even after the buggy-wheels had been in and out of the puddle. This is because the surface gets hard, and impervious to water. In addition to this the prevailing high winds blow the dust off the roads about as well as you could sweep them with a broom. Now, this hard crust, so impervious to water, is not confined to the roads. When the country was first settled, the rain ran over this hard surface crust down into the creeks and rivers, and away off without moistening the soil. After the crust was broken to get in the crops, the rainfalls soaked into the ground; and tilling the soil has gradually had the effect, so it is claimed, of giving a moist atmosphere that is productive of or essential to rainfalls in the summer time; and many people think the distressing drouths of former years are, for the most part, things of the past. I do not know how true this explanation is; but I do know there are some most beautiful-looking farms all through South Dakota; and I do know, too, that the farmers are getting to be well-to-do. This is attested by the pretty farm homes, nicely painted, with attractive dooryards now to be seen more or less all over that State.

There do not seem to be many bees kept in South Dakota as yet; but I think there is a good show for that when the farmers get over being so busy with their regular farm



crops. I found the Rocky Mountain beeh-pant growing along the sides of the railway, and out into the fields over miles of territory.

We approached the region of where the Black Hills commence, a little after daylight, and you may be sure I was up and dressed, and on the watch for the first appearance of any thing in the way of mountains. The transition from rolling land to hills, and from hills to mountains, was so gradual that it was impossible to tell where the one ended and the other began. The most noted change was when we changed cars at Buffalo Gap to take a special train for the hot springs. As we approached the springs I noticed the track winding between the hills along a little stream. As we got further up, and really into the mountains, I noticed steam rising from the stream, indicating that it was hot water instead of cold; and just below the springs there is a volume of hot water sufficient to furnish power for mills and for other purposes. This hot water starts out almost everywhere in the town, from over a hundred springs, all giving more or less volume of water of different temperatures. I was able to find only one spring of cold water in the region. I believe the general opinion is that the water becomes hot in consequence of the different chemicals it meets and dissolves in its way to the outlet. I think there are few if any of these springs that are hot enough for a real Turkish bath; but several of the sanitariums have a heating-plant to raise the temperature up to the desired point. Bath-houses and swimming-pools are some of the finest I ever saw in any land or any city. The water is so transparent that, even at a depth of clear up under your arms, you can look down and see the sparkling pebbles mixed with the white sand that covers the bottom of the pool. The water is pure and clean because of the great volume that constantly goes in and comes out.

Some of these swimming-pools belonging to the great bath-houses are from 100 to 150 feet long, and perhaps half as wide, and inclosed with glass, something after the fashion of greenhouses, so they can be used winter and summer; and I assure you it is exceedingly pleasant to be able to take a bath, where both the air and water are just right to be comfortable, at any season of the year. But before I tell you any thing more about the baths I shall have to digress a little.

There are some magnificent buildings in Hot Springs, made of native stone quarried from the mountains. Some of these are as handsome buildings, in fact, as one will find in almost any town or city. But they are not all as handsome inside as out. I did not patronize the highest-priced hotel, for I usually get comfortable quarters for \$2.00 or \$2.50 a day. I dislike to find fault, but I almost always get the blues, even if I do not get sick, when I am given a room where the bed looks as if a thousand people had slept in it, and some of the blankets smell as if five hundred of the thousand had been users of tobacco. I told you in our last issue that I was troubled with my old malady, malari-

al fever. Well, I hoped the health-giving medicated springs of the Black Hills would fix me up; but I felt sure I should not get fixed up very fast if I stayed in *that* hotel, and I was thinking of some good excuse for leaving after I had had just one meal on the premises. By the way, I almost always get more or less homesick when I am first dumped entirely into a strange town where I do not know a man, woman, or child. I know this feeling is wrong, and it often brings up that little prayer, "Lord, help! Lord, help me to be of some use to *this* people." I think I said almost out loud something like the foregoing as I crossed one of the beautiful bridges right in the center of the town. My first move was to hunt up some place where they would be likely to sell honey, and I had gone to almost every grocery in the place without finding any honey at all, when I saw some in a window. They said it came from Denver, so that did not help me to find a bee-keeper. By the way, the proprietor of this place would have his crate of honey standing on the floor so the sections lay horizontally, just as they do when you put your honey on a plate. I tried to explain to him that he should tip his case over and lift out his sections edgewise; but he thought he knew his own business. Just as I went out I asked him if he was sure there was no one who kept bees anywhere in that region. He replied:

"Why, Huebner, who lives up on the hill, used to keep quite a lot of them; but I guess he let them go, because he has so much other business."

"What is his other business, pray?"

"Why, he keeps a sort of hotel or place for resorters."

"There," said I to myself, "if that man has ever kept honey-bees he knows something of our people; and I shall have a good excuse to tell them at the hotel that I have found an old friend," etc."

I climbed the beautiful curving road that led up to the top of a hill overlooking the city. Mr. Huebner was indeed a busy man; but his face brightened up when I told him who I was. But he looked troubled when he informed me that his hotel or building was already full.

"But, Mr. Huebner, you *must* find a place for me somewhere. I am sick and homesick; but if I get up here with you people I am sure I shall be well."

Just then a merry party was starting off to a bath-house. I got in with the crowd; and when I offered to pay my fare the driver said it was not any thing if I was going to take a bath. The hotels and bath-houses together furnish free transportation to their customers. Now let me finish what I have to say about hotels.

At that great handsome hotel that looked so nice on the outside I paid \$2.00 a day. At friend Huebner's it was about half as much. My room was small, but it was as clean and sweet as you will find things in our best country homes. There was not a great amount of style, and no colored waiters at

the table. But there was a great abundance, and a good variety of wholesome food. Friend Huebner is a German, as you might infer from his name. His guests, I believe, are mostly German people. In fact, the German language is spoken a good deal there. But they are about the kindest and most friendly sort of people I ever came across. When I had my chilly spells, as I almost always do in August and September (that is, if I am in a region where there is malaria), I was made quite at home and quite welcome up close to the big cook-stove, where I could help myself to hot water from the spacious tea-kettle.

Friend Huebner has made his humble home handsome with flowers, fruit-trees, and little simple ornamental work all around the premises. At different places in the doorway there are pyramids of mineral curiosities—samples of petrified wood, etc., for instance. In fact, petrified wood is so plentiful and common there that one may see it lying loose in the streets. Beautiful hitching-posts are made of broken fragments of petrified wood. You might think it was an old rotten log until you tried to jab the blade of your knife into it, and then you would find out your mistake. I saw a rotten log by the side of the road, or at least I supposed it was; but when I came to hit it a clip I found it was beautifully veined agate. I wondered that these petrifications are not collected and sold in regions where they are not so common.

#### THE HOT SPRINGS AND HOT-SPRING BATHS.

Right in the center of the town there is a spring called The Kidney Medical Spring. Drove of people are constantly going there to drink. Something like a dozen cups are provided, belonging to the spring. But many of the people carry their own cups. They will get a cupful, sit down on the benches, and drink it slowly. I had hoped it might be a benefit to me in my malady, like the springs of Agua Caliente, Arizona, that I wrote about three years ago; but as I had had some sad experience with medical springs in the past, I sipped the water a little cautiously. It had a faint sulphurous odor that warned me; and I soon decided it would not do for me at all. Some big doctor has said "the best mineral waters are those that contain the *fewest* minerals;" and I have often found it so in my case. When I wanted some different water to drink, I found it was a pretty difficult matter to get it. Thousands of people come to this region to seek their health, and I concluded to make something of a study of the methods of baths and bathing. Let me digress a little:

Almost all through my life I have been a victim at times of severe colds. Sometimes I can ward them off for a year or more by being careful of my diet and of the water I drink, etc.; but at other times they come like a thief in the night, and I can not tell for the life of me what brought the trouble on. Just about as I was embarking from Cuba on my homeward trip, by carelessness in regard to my attire while riding my

wheel, or something else, I caught a severe cold. It settled in my throat, and I was so hoarse I could hardly speak. I began wondering if it is in the power of our physicians of the present day to break up such a cold, especially with myself; and in thinking over the sad experience I had gone through, especially in doctoring with all sorts of medicines, and I might say with all sorts of doctors, I rather decided it is not in the scope of medicine to break up a cold after it has gotten such a hold as mine had. I went on board the ship, and prayed with unusual earnestness that God would in some way show me (in a way so I could teach my fellow-men) what to do to break up a cold. A swift answer came to that prayer. It not only came in an unexpected way, but it made me think of the old adage that the remedy *may* be worse than the disease. When we got out of the still water into the great ocean I became violently seasick. The sweat just oozed from every pore like rain. I was drenched through and through with perspiration; and it was not only perspiration, but every thing else movable in my digestive apparatus seemed to make haste to get out of the way. I wiped my weeping eyes (and nose), and realized at the same time that my prayer was answered. The soreness in my throat was all gone, the ague in my face had disappeared, my nostrils were perfectly cleansed, and the earache gone. I stayed in my berth till we arrived at Miami, and then walked out in the beautiful sunshine—I was going to say, clothed and in my right mind, and thanking God. A tremendously big sweat did the business.

I gave you a few months ago an illustration of the same thing when I spoke of tramping along with the surveyors in Northern Michigan. Well, at Hot Springs I had a glimpse, I think, of another way yet of getting rid of a sudden attack of severe cold in the head and all over the body. I told them at one of the bath-houses I wanted to go through the program and see just how they managed to cure people. They put me in a bath-tub filled so full that I could get entirely under water without any trouble. The temperature was raised as high as I could stand it; and I was told to remain in under the water (head and all at intervals) twenty minutes, and to add hot water whenever I could stand a little more. In twenty minutes I began perspiring all over. I am not prepared to say that this treatment took the place of the sweating I had on the rolling steamer, nor, perhaps, at the time when I took such severe physical exercise in climbing the hills with the surveyors; but it was an important remedy, along in the same line as producing a sweat by means of the health cabinet so much advertised, and perhaps amounts to the same thing, or may be a little better. The bath-tub, however, it seems, is less machinery where you have an abundance of hot water. The minerals in this hot water at the Black Hills may have some value. Very likely they do have. Some of you may remember the story of the Missouri woman



who went to a celebrated sanitarium and regained her health. A year later her health failed in the same way, but they had not the money to send her a second time to a sanitarium. She told her husband she believed the water out of their own well at home would do just as well if used in the same way. So they rigged up a home-made sanitarium, and they were delighted to find it answered every purpose. Now, I do not say this to discourage people from visiting the Black Hills. A change of scene and a change of air, or a change of one's habits, often has much to do with getting over old troubles.



Even so it is not the will of your Father which is in heaven that one of these little ones should perish.—  
MATT. 18:14.

I have mentioned elsewhere the great wheatfields in the far West, and the fact that for three or four years past the abundant rainfall has given a much larger yield than formerly. Well, now, these great wheatfields, the wheat standing almost as high as your head, have proven to be not altogether an unmixed blessing. Children have got lost in those great fields, and sometimes it has been a difficult matter indeed to find them. Not many weeks ago a girl four years old wandered out into the wheat. When the mother failed to find her she called on the neighbors. I presume likely they had telephones, and soon something like 200 people gathered to find that little girl before nightfall. But they utterly failed. They did what they could during the night by the use of lanterns; but when morning came, nothing had been accomplished. Finally one good man who had more sense than the rest of them said, "Friends, this child will die while we are wasting our time. We have just tramped over the same ground, and looked into the same places, and accomplished nothing. We must organize."

In a little time he had the 200 people present divided off into squads with a leader, and then they marched through a field just far enough apart so the child would be seen wherever they passed through. In a couple of hours she was found; but I am sorry to say she was so worn out and used up by fright and exhaustion that she died within fifteen minutes after she was placed in her mother's arms. Here is a lesson for us in regard to what may be gained by organization. Had they decided on it the day before, the child might be still living.

Last Sunday was rally day in the Sunday-school of our church. I told them this story;

and to make it more realistic I asked a little girl four years old to stand with me on the platform. Other little girls and boys to the number of 100 or more were down in the seats in front of me. I said, "Children, if this little girl were lost in the wheat, how many of you would volunteer to help find her? Raise your hands."

When the hands were all up, young and old, to the number of perhaps two or three hundred, I said:

"Now, don't you think likely, friends, that not only our whole Sunday-school but the whole town of Medina would turn out just for one little girl?" They seemed to think it quite probable. I went on:

"Children, how much is this little girl worth? How many dollars could we afford to spend rather than let her die out in the wheatfields?" The children looked from one to another, evidently puzzled at the thought of putting the matter on a money basis. Finally when I suggested that the little girl I held by the hand was worth a million of dollars, several of the children nodded their heads approvingly. I then suggested that, if this were true, there was quite a lot of property—yes, exceedingly *valuable* property—in that Sunday-school of ours. In closing, I read them the text at the head of my talk to-day to show what God thinks of the value of our children. Governor Hanly, of Indiana, is not only a great orator, but he is a great reformer. He has been teaching the whole world some valuable lessons in regard to the importance of enforcing law. Here is a clipping from one of his speeches, which I clip from the *Ohio Messenger*:

"I would rather have the beaming smile of one boy saved from the dens of iniquity by my law enforcement than the combined vote of the beverage-liquor traffic and its sympathizers."

It was my good pleasure to listen for something like two hours to an address by Governor Hanly, only a few weeks ago. I did not get tired a bit; and I am glad to inform you that he is to make the opening speech before the great meeting of the Ohio Anti-saloon League, to be held in Columbus, Nov. 12, 13. Just now Ohio is going through a crisis. One town after another is holding an election to see whether it shall be saloon or no saloon. A good many business men are afraid to come out and show their colors. They will own up that saloons are detrimental to business, without any question; but they will not permit you to use their names on the list so that all the world may know they are going to work for temperance and vote dry. Many political men are cowardly in the same way; but not so with Governor Hanly. Just read that extract again. He would rather have the beaming smile of one boy *saved* than the combined vote of the entire liquor-traffic and its sympathizers. But Governor Hanly is not going to lack support when he comes out like that, neither will any other good man.

Just now we are preparing for a Beal election-law contest here in Medina. Eight years ago we had a vote along the same

line, which I mentioned in these pages. At that time the argument of the wets was that we had the traffic but did not get any revenue. Some went so far as to say there was as much beer and whisky sold as if we had had open saloons. Well, since that time the Ohio search-and-seizure law has been passed. By the way, I rejoice to tell you that the author of that law is a resident of our town, and a personal friend of mine. I am proud of Medina that such a man grew up here. Mr. Frank W. Woods drafted the law, pushed it through, and within the past few days it has been the means of cleaning out the two speakeasies that have cursed our town for years past. Something like thirty or forty kegs of beer were found secreted on their premises, and I am told that the traffic in beer here in a dry town has amounted to many thousands of dollars annually. Since that business has been completely broken up, however, they and their sympathizers and patrons have evidently decided their only hope is to outvote the temperance people (our Sunday-schools and churches), and make the town wet; and unless we are up and dressed, and do our duty, the enemy will defeat us. It is a sad fact that even a few towns and cities here in Ohio have gone back to wet after years of prohibition. The millionaire brewers are helping every way in their power, just as a drowning man catches at straws. They themselves admit that, if the Anti-saloon League is allowed to push on in the way it has been doing, it will eventually carry every thing before it. And this state of things is not only here in Ohio, but it is all over the land. It was a terrible thing when that little girl was allowed to die from exhaustion in that wheatfield. I think I forgot to tell you that she was found fully two miles from her home. That is a pretty big trip for a girl four years old to make. Yes, it was all the sadder because a little forethought on the part of the kind friends and neighbors might have saved her life. But, dear friends, the loss of that child in the wheatfield is not to be compared with the loss of the boys and girls in our Sunday-schools who are constantly being led away and lost by a certain class of tradesmen who are trying every thing in their power to "create an appetite" for strong drink. The brewers care nothing for the children providing they can sell beer to them. The little girl in the wheatfield suffered bodily death; but those who are led away by Satan's wiles are lost, body and soul. Jesus said, "Fear not them which kill the body, but are not able to kill the soul." And, again, he said, "The Son of man is come to seek and to save that which was lost."

Catarrh Treatment. *Worst* is the manufacturer's name, not an adjective applied to his treatment, but it fits his method of deceiving the public. The following appeared in a religious paper published in Syracuse, N. Y., on March 29, 1906:

THE E. J. WORST CATARRH TREATMENT THE ONLY SUCCESSFUL TREATMENT FOR CATARRH ENDORSED BY THE UNITED STATES HEALTH REPORT. READ WHAT THEY SAY.

Washington, D. C., Oct. 30, 1900.

We are constantly receiving letters from all over the country asking for information on the subject of catarrh and the air-passages of the head. We have been asked time and again to recommend some remedy which can be used with good results, for these diseases.

To benefit the public at large, and to answer their questions, we have recently commissioned our Board of Experts to investigate the subject of catarrh and its cure, to find some remedy which would successfully meet the conditions, and be easy and simple of application. The report of the Board of Experts has been handed in, and, as a result, we are pleased to recommend a treatment which is manufactured by the F. J. Worst Mfg. Co., Ashland, Ohio. Mr. Worst has developed the idea of medicated-air treatment very successfully, and has designed the neat and efficient little instrument which is becoming so well known as the E. J. Worst Catarrh Mediator.

As a result of this investigation we are pleased to extend to E. J. Worst's catarrh treatment the unqualified endorsement of the *United States Health Reports*.

A. N. TALLER, Jr., M. D.,

Washington, D. C.

I sent the advertisement to Dr. Harvey W. Wiley, chief of the Bureau of Chemistry at Washington, D. C. Dr. Wiley has had charge of the analyses of medicines made by the United States Government. His response reads:

"*Dear Madam:*—I do not know of any United States Health Reports of the kind mentioned in the advertisements which you enclosed. The advertisement is evidently fraudulent in respect to this."

A note to the editor of the religious paper referred to elicited a promise to be very chary henceforth of medical advertising.

No excuse of careless or mendacious agents can account for this species of testimonial.

Why, the above is about as cheeky as the Duffy Malt Whisky people—in some respects probably even more so, as they pretend that the heads of our great nation gave them an indorsement. Just notice the words, "To benefit the public at large;" and again, "We have recently commissioned our Board of Experts to investigate." One might also think that President Roosevelt himself, out his love for humanity, had asked to have an investigation made. Do you say that anybody of good common sense should know at once that our government was in no such business? Well, I think I shall have to admit that I myself saw the advertisement in the *American Issue*, our Anti-saloon periodical. I sent for the medicine; but when I found on faithful trial it did not do me a particle of good I reported the case to Worst, who promptly returned my \$2.00. I say this to his credit; but it is certainly no excuse for pretending that his remedy is indorsed by the "Department at Washington."

#### FAKE TESTIMONIALS FOR PATENT MEDICINES, ETC.

We clip the following from the *Union Signal* for Sept. 27:

Perhaps the worst case of fraudulent testimonial is one that appears in the advertisements of the Worst

#### HUMBUGS AND SWINDLES IN THE POULTRY BUSINESS; SELLING SECRETS, ETC.

I have felt pained a good many times to notice so many of the poultry-periodicals accept advertisements of secrets to be sent for from 25 cents up to five and sometimes



ten dollars; and I have felt sad to find so many good people who defend this sort of business, asking several dollars for information printed on a small piece of paper, etc. Well, the Maine Experiment Station has issued an exceedingly valuable bulletin in regard to the experiments made in connection with poultry-keeping. One of them hits a clip at the \$10.00 secrets, and I have thought best to give it here, especially as it contains matter of considerable value aside from the exposé:

#### METHODS OF SELECTING BREEDING STOCK.

The only reliable method of selecting breeding-stock is by aid of the data secured by the use of trap-nests. It is, however, only investigators, large operators, and breeders who make a business of producing birds and eggs for breeding purposes, for sale, who can afford the equipment and expense of operating trap-nests. Most poultry-men and farmers who carry small flocks are usually too busy to give the regular attention required by any reliable and satisfactory trap-nest. They can better afford to buy the few males required each year from some one who makes breeding stock by trap-nesting a specialty.

There are one or two concerns that advertise to teach how to pick out the pullets that are to be good layers, and how to pick out the hens that have laid well. The price for the system is \$10.00 by one of the concerns, with a bond of \$1000 to keep the secret. The warm friends of both systems tried them on some pens of trap-nested birds at the Station, with known records, and both parties went away sorrowing at the results of their work. Their systems were unknown to the writer; but it does not matter, for both were completely valueless as applied here.

Two others came to show that it was not necessary to use trap-nests. One claimed to be able to tell the laying capacities of the pullets by the position of the pelvic bones; while the other was sure he could tell the yields for the coming year, to within eight or ten eggs, by the length and shape of the toe-nails. Another was sure that large combs are infallible indications of great egg-laying capacities.

There are eighty birds in one yard at the Station, each one of which has laid from 200 to 251 eggs in a year. So far as can be discovered, they differ from each other sufficiently to upset any theory of selection thus far put forward. One feature is common to all these hens—they all have strong constitutions.

The above only verifies what our experiment stations in all the different States have told us—that no good thing has ever yet been found coming out under the guise of a \$5.00 or \$10.00 secret. The bond of \$1000 to keep the secret is a new wrinkle. Throw all such proposals into the fire; and if one of the "promoters" comes into the dooryard, set the dog on him. If you are in doubt in regard to any such investment, just submit the matter to the experiment station of your own State. They are well posted, clear up to date, and will give you honest and unbiased advice.

#### Convention Notices.

The annual meeting of the Ontario Bee-keepers' Association will be held in Toronto, November 7, 8, 9, 1906, at the same time the Ontario Horticultural Society will hold their exhibition of fruit, flowers, honey, and vegetables. A cordial invitation is extended to all American bee-keepers to attend. We hope our program will be one of the best. W. COUSE, Sec.  
Streetsville, Ont., Sep. 29.

In behalf of the Texas Bee-keepers' Association and the bee-keepers of Texas in general, I wish to extend to every member of the National Bee-keepers' Association an urgent invitation to be present at the meeting of the National, to be held at San Antonio, Texas, Nov. 8, 9, 10. We Texans are looking forward for that meeting to be a great "love-feast" of bee-

keepers. And I wish to say to all bee-keepers of Texas that if you do not avail yourself of this opportunity to attend this convention, from a bee-keeper's point of view you have missed the opportunity of your life.

W. O. VICTOR,  
Hondo, Texas, Oct. 6. Pres. Texas B. K. A.

#### PROVISIONAL PROGRAM OF INSPECTORS' MEETING, SAN ANTONIO, NOV. 12.

Demonstration of bacteria of bee diseases. Dr. G. F. White, U. S. Dept. of Agriculture, Washington.

History of bee-disease inspection in Wisconsin. N. E. France, Inspector of apiaries for Wisconsin, Platteville, Wis.

General discussion of existing bee-disease laws; an examination of laws now in force, and suggestions for most effective legislation.

The introduction of European foul brood into Michigan. W. Z. Hutchinson, Inspector of apiaries for Michigan, Flint, Mich.

The inspection of European foul brood in New York. Charles Stewart, Inspector third district of New York, Sammonsville, N. Y.

Foul brood on the Pacific coast. F. A. Parker, former Inspector Santa Barbara Co., Lompoc, Cal.

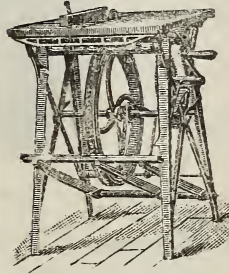
The present status of the investigation of bee diseases. Dr. E. F. Phillips, United States Department of Agriculture, Washington, D. C.

Reports of inspectors from the various States and countries on the progress of inspection.

This program is subject to such changes as may be necessary, but it will indicate the character of the meeting. All persons interested in bee-disease inspection are urged to attend. A number of persons prominent in this work have agreed to be present.

E. F. PHILLIPS,  
Acting in Charge of Apiculture.

#### BARNES' HAND and FOOT POWER MACHINERY



This cut represents our combined circular saw, which is made for bee-keepers' use in the construction of their hives, sections, etc.

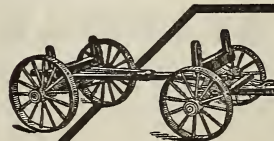
#### MACHINES ON TRIAL

Send for illustrated catalog and prices. Address  
W. F. & JNO. BARNES CO.  
545 Ruby Street,  
ROCKFORD, ILLINOIS.



#### LAWN FENCE

Many designs. Cheap as wood. 32 page Catalogue free. Special Prices to Cemeteries and Churches. Address  
COILED SPRING FENCE CO.,  
Box 448 Winchester, Ind.



A low wagon at a low price. Handy for the farmer. Will carry a load anywhere a horse can travel.

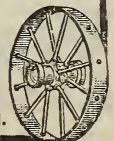
#### Low Down Wagons

soon earn their cost on any farm.

#### Steel Wheels

for farm wagons. Straight or staggered spokes. Any size wanted, any width of tire. Hubs to fit any axle. For catalogue and prices, write to

Empire Mfg. Co., Box 91 H Quincy, Ill.



**"If Goods are wanted quick, send to Pouder."**

**Established 1889**

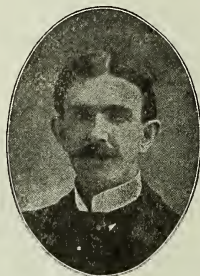
# Bee-Keepers' Supplies

Distributor of Root's Goods from the best shipping-point in the Country. My prices are at all times identical with those of The A. I. Root Company, and I can save you money by way of transportation charges.

### Special Notice!

During this month (October) I am offering a special discount of six (6) per cent for cash orders for Bee-supplies for next season's use. After November 1st the discount will be 5 per cent.

**New Metal-spaced  
Hoffman Frames  
are Here in Stock**



**Headquarters for the  
Danzenbaker  
Hive**

**Dovetailed Hives, Section Honey-boxes,  
Weed-process Comb Foundation,  
Honey and Wax Extractors, Bee-smokers,  
Bee-veils, Pouder Honey-jars, and,  
in fact, Every Thing used by Bee-keepers.**

## BEESWAX WANTED!

I pay highest market price for beeswax, delivered here, at any time, cash or trade. Make small shipments by express; large shipments by freight. Always be sure to attach name to package.

If you wish to secure finest grades of Honey with which to supply your neighbors, write for my market Quotations of the Indianapolis honey market, free.

**Catalog Free**

**Walter S. Pouder**  
513-5 Massachusetts Av., Indianapolis, Ind.



# At St. Louis

A complete line of Root's Bee-keepers' Supplies. Unexcelled shipping facilities for reaching the Middle West.

ADDRESS

**Blanke & Hauk  
Supply Co.**

202-204 Market Street  
St. Louis, Mo.

ALSO MANUFACTURER OF AND DEALER IN

**Dairymen's  
and Poultrymen's  
Supplies**

Low freight. . . Prompt shipments.  
Factory prices. . . Write for catalog.

**Send Us Your Order**

# 10<sup>per</sup> cent Discount During October!

In order to liven up business during the dull months we will give ten per cent off all supplies, in the catalog, wholesale or retail, during October for goods for next year.

Jobbers for  
**Central : Pennsylvania**  
— for —  
**ROOT'S GOODS**

Now's the time to save money on goods for next season. Send for catalog. Best shipping facilities in the State.

**Frank W. Prothero**  
Dubois, : : : Pennsylvania

# Northwestern Bee-keepers!

We are headquarters for the ROOT supplies for the States of Montana, Minnesota, the Dakotas, and Western Wisconsin.

You can save freight by ordering from this branch. A complete line of bee-keepers' supplies always in stock.

Secure a catalog at once.

BEES and QUEENS.—Your orders will be attended to.

**The A. I. Root Company**

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.

The Prosperous Bee-keeper will order

**Dittmer's . . . . .**

**. . . . . Foundation**

which is best, while they are offering a liberal discount of 6 six per cent during October. . . . .

Working wax for cash a specialty. . . Beeswax always wanted.

**Gus Dittmer, Augusta, Wis.**

# BEE-SUPPLIES

We manufacture every thing needed in the apiary, and carry a large stock and great variety. We assure you the best goods at **LOWEST PRICES**, and our excellent freight facilities enable us to make prompt shipment over fifteen different roads, thereby saving you excessive freight charges as well as time and worry in having goods transferred and damaged. We make the Alternating, Massie, Langstroth, and the Dovetail hive.

Our prices are very reasonable; and, to convince you of such, we will mail you our free illustrated and descriptive catalog and price list upon request. We want every bee-keeper to have our catalog. **SPECIAL DISCOUNTS** now. Write to-day. Address

## Kretchmer Mfg. Co., Council Bluffs, Iowa.

Muscatine Produce Co., Muscatine, Iowa.  
Trester Supply Co., Lincoln, Nebr.

Shugart-Uran Seed Co., Council Bluffs, Iowa.  
T. B. Vallette & Son, Salina, Kansas.

Established 1881

**YES!**

Same Place 1906

## THIS IS THE MAN

WHO HAS HANDLED ROOT'S GOODS ALL THESE YEARS

and is now selling at wholesale and retail at Root's catalog prices. He has carloads of the finest sections, of all kinds and sizes; the Danzenbaker hive, the best single-walled comb-honey hive in use; all kinds of single-walled hives shown in catalog, and supers that match; the Hilton double-walled hive, of which more are used in Michigan than any other. It has stood the test for thirty years. We can't name them all, but send for his 36-page illustrated catalog, and that will tell it all and give prices. Cash or goods in exchange for beeswax at all times of the year. ♡ ♡ ♡ ♡ ♡

**Geo. E. Hilton, - Fremont, Mich.**

# We Manufacture

the finest, whitest, no-drip basswood **SHIPPING-CASE** on the market to-day. Covers and bottoms are of **ONE PIECE**. Everything is **POLISHED** on both sides, and a better case can not be had at any price. We can furnish them in single or carload lots to fit any number or style of section. Large quantities of all the standard sizes on hand. . . . As a special offer we will sell you 25 cases to hold 24 sections, complete with **NAILS, PAPER, and GLASS** at \$4 00. Write for prices on larger quantities. Furnish corrugated paper if desired. We can furnish you with any thing you need in the apiary. Our catalog is free. . . . **PROMPT SHIPMENT and SATISFACTION GUARANTEED.**

**Minnesota Bee-supply Company**  
Nicollet Island, No. 20, Minneapolis, Minnesota

## BEE - SUPPLIES

Best of every thing needed.  
Big Discount from now to  
April 1st. . . . Catalog free.

**C. M. Scott & Co., Indianapolis, Ind.**  
1004 East Washington Street

## PATENTS.

Twenty-five Years' Practice.

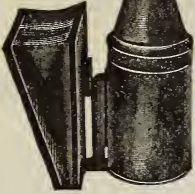
**PRINDLE & WILLIAMSON,**

Second Nat'l Bank Bldg., Washington, D. C.

Patent practice in Patent Office and Courts.  
Patent Counsel of The A. I. Root Co.



**BINGHAM**  
 • Original  
 Direct Draft  
 CLEAN  
 Bee Smokers



PAT'D 1878, '82, '92 & 1903

# Long Advertising

Twenty-seven years ago the first patent bee-smoker surprised bee-keepers. The Bingham Smoker patented improvements are dated 1878, 1882, 1892, and 1903. They always please: they always sell. For October orders we discount 6 per cent; any number, any size, delivered any time.

**T. F. Bingham - Farwell, Mich.**

## Third Photo Contest

We want bright interesting photos to illustrate GLEANINGS. Send in those you think suitable, and you will stand a chance of one of the prizes below.

### PRIZES

Class A.—Photos of general interest, excluding swarms and apiaries. Prizes: First, \$5.00; second, \$3.00; third, \$2.00; fourth, A B C, cloth.

Class B.—Photo of swarms. Prizes: First, \$3.00; second, \$2.00; third, A B C of Bee Culture; fourth, GLEANINGS one year.

Class C.—Photo of apiary. Prizes: First, \$3.00; second, \$2.00; third, A B C of Bee Culture.

Special.—Photos that do not win prizes but which we can use will be awarded a prize of \$1.00 each.

### CONDITIONS

Contest closes November 1st.

All photographs should be marked "For Contest," and have name and address attached. Prize-winning photos become our property. No photo returned unless stamps are sent. We prefer unmounted prints toned to a light-red-dish color on solio paper.

## The A. I. Root Company

Photo-contest Department  
 Medina, Ohio, U. S. A.

## Swarthmore Books!

**BABY NUCLEI** (2d ed.)—The second edition of this popular treatise is off the press. This book thoroughly covers the field of small mating under management. The experience of twenty years in mating young queens in baby nuclei is given. A delightful little book—good printing, enjoyable reading, and easy understanding. Price 25 cts. postpaid.

**SIMPLIFIED QUEEN-REARING.**—A revised edition of this book just out. It tells the honey-producer how to rear queens by the very simplest method ever published. Good queens for little money and little trouble, in just an effective and economical plan for the bee-keeper who works for profit. Price 25 cts. postpaid.

**INCREASE.**—Don't depend entirely upon swarming for your increase. It's too slow and uncertain. Swarthmore tells of a way in his delightful little book entitled "Increase"—a natural way, simple and safe, no labor, little trouble. Colonies formed on this plan will work like prime swarms, and store a surplus. Price 25 cts. a copy postpaid.

**CELL-GETTING.**—The plan that has revolutionized queen-rearing throughout the world. The entire process is fully explained and illustrated by photos from actual life. Price, postpaid, 50 cts.

**SWARTHMORE QUEEN-REARING TOOLS.**—Complete outfits or separate parts. Write for price list.

FOR SALE BY

**The A. I. Root Company**

ALL BRANCHES AND AGENCIES

## Northeastern and New England BEE-KEEPERS

Order goods now. Don't delay. Have them ready when you need them. We keep a full line in stock at Medina prices. Save both time and freight by ordering of us. Beeswax wanted. Bees and queens furnished in season.

**J. B. Mason, Mechanic Falls, Maine**

MANAGER OF THE A. I. ROOT CO.'S N. E. AGENCY

## HONEY-JARS

No. 25, with burnished cap, heavy clear glass, per gross, \$5.00; 3 gross, \$13.50. 11-ounce nickel-cap jar, gross, \$4.00; 3 gross, \$11.00.

1-lb. square jar with cork, gross, \$5.00. Heavy cartons, \$5.50 per M.

Italian queens, 75c. Catalog free.

**I. J. Stringham**  
 105 Park Place, N. Y. City  
 Apiaries at Glen Cove, L. I.

# Banking by Mail

4 : per : cent : Interest

**N**EARLY every man has a little money that he would like to have safely invested outside of his business, but in such a way that it would give him no worry, would be readily available should he need it, and at the same time earn a fair rate of interest.

Deposits of \$1.00 and upward are accepted by mail or in person, and interest allowed at the rate of 4 per cent, compounded every six months.

Our booklet describes our methods and management, and explains the advantage of our simple banking-by-mail system. Write for the booklet to-day.

Assets over One-half Million



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E. B. SPITZER, Cashier.

## COILED SPRING FENCE

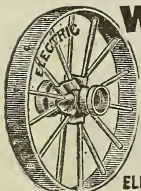


Closely Woven. Can not sag. Every wire and every twist is a brace to all other wires and twists full height of the fence. Horse-high, Bull-strong, Pig-tight. Every rod guaranteed. **30 DAYS FREE TRIAL** and sold direct to farmer, freight prepaid, at lowest factory price. Our Catalogue tells how Wire is made—how it is galvanized—why some is good and some is bad. Its brimful of fence facts. You should have this information. Write for it today. Its Free. **KITSELMAN BROS.,** Box 21 MUNCIE, INDIANA



## FENCE Strongest Made

Made of High Carbon coiled wire. We have no agents. Sell direct to user at factory prices on 30 days free trial. We pay all freight. Catalog shows 37 styles and heights of farm and poultry fence. It's free. Buy direct. Write today. **COILED SPRING FENCE CO.,** Box 101 WINCHESTER, INDIANA.



## WAGON SENSE

Don't break your back and kill your horses with a high wheel wagon. For comfort's sake get an

## Electric Handy Wagon.

It will save you time and money. A set of Electric Steel Wheels will make your old wagon new at small cost. Write for catalogue. It's free.

**ELECTRIC WHEEL CO.,** Box 95, Quincy, Ill.

# JOSEPH HORNE CO.

Pittsburgh, Penn.

## Elastic Cotton Felt Mattresses

The mattress which is best thought of to-day is the Elastic Felt Mattress. There has been considerable mystery thrown about the manufacture of this mattress on the part of certain manufacturers. We will be frank and tell you that a felt mattress is simply one in which the cotton is felted in by layers instead of being put in promiscuously.

Our Elastic Cotton Felt Mattresses are the equal of any on the market to-day, and they are all sold for popular prices. All weigh 45 lbs.

Of course we guarantee the mattresses we sell, and pay the freight on any of the following to any point east of the Mississippi River.

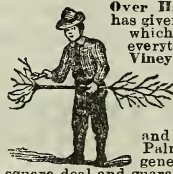
J. H. Co.'s Special Elastic Felt Mattress	\$15 00
"St. Regis" Elastic Felt Mattress	: 14 00
"Ritz" Elastic Felt Mattress	: : 12.00
"Savoy" Elastic Felt Mattress	: : : 8.50

We have an excellent cotton mattress—not a felted mattress, but a thoroughly good article—filled with the best grade of picked cotton, full double-bed size, for which we ask only \$6.75.

# Fruit Growers and Farmers.

Thousands of the best fruit-growers and farmers read the **Southern Fruit Grower** because they find it the most helpful fruit paper published. Contains 24 to 40 pages of valuable fruit and farming information every month. 50c a year. Send 10c and 10 names of fruit growers and get it six months on trial. Sample free.

The Southern Fruit Grower, Box 1, Chattanooga, Tenn.



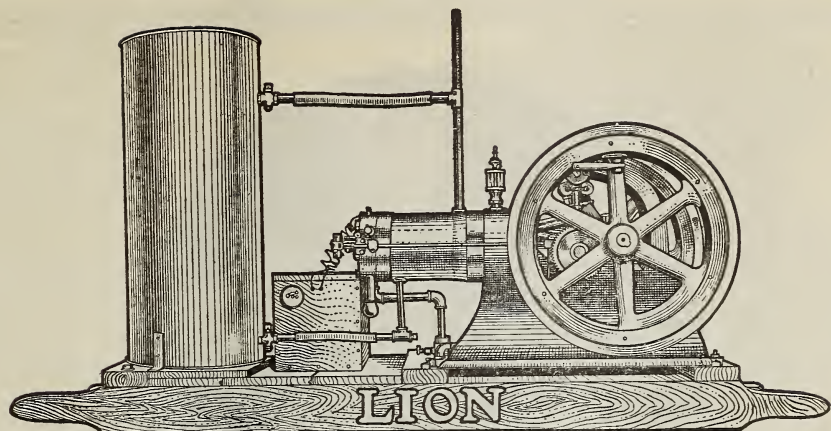
Over Half a Century of Fair Dealing has given our products that prominence which merit deserves. We still offer everything of the best for Orchard, Vineyard, Lawn, Park, Street, Garden and Greenhouse. Catalogue No. 1 free to purchasers of Fruit and Ornamental Trees. No. 3 free to buyers of Holland and other Bulbs, Hardy Plants and Vines, Roses, Ferns, Araucarias, Palms and Greenhouse Goods in general. Try us. Will give you a square deal and guarantee satisfaction. Correspondence solicited. 63 years; 44 greenhouses; 1200 acres.

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# 850,000 GRAPE VINES

100 Varieties. Also Small Fruits, Trees, &c. Best rooted stock. Genuine, cheap. 2 sample vines mailed for 10c. Descriptive price-list free. **Lewis Roesch, Fredonia, N.Y.**





## IT'S READY TO OPERATE

There's no firing-up—no waiting for steam with a **Lion Gasoline Engine**. It is **always ready to operate**, Easily started—no engineer necessary—a boy can operate it. Can be used with perfect safety in any building and is very **economical** in the use of fuel. If you want a reliable, practical, durable and powerful power producer get

# *The Lion Engine*

It is **not** an experiment but an engine that has **made good** wherever used. On the farm it proves especially valuable for operating feed grinders, wood saws, cream separators, corn shellers, pump, etc. It furnishes ideal power for operating machinery used in mills, shops, printing offices, private electric-light plants and water-works. Speed can be changed from 100 to 600 revolutions per minute while engine is running—a very desirable feature.

**We sell direct from factory to buyer**, thus saving you all middlemen's profit. Lion engines are so simple and practical in construction that with the explicit directions which we send with each engine, it is unnecessary to have an expert come to your place to set it up and start it for you. Get a **Lion** engine and increase your profits with much less labor and time devoted to the work. Write now for catalog giving full information and illustrations of the **Lion** engine. It is free if you mention this paper when you write.

**Lyons Engine Company**  
**LYONS, MICHIGAN**





# The Youth's Companion

250 Capital Stories; 2000 One-Minute Stories;  
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*As much reading in the year as would fill twenty 400-page novels or books of history, science or biography, ordinarily costing \$1.50 each.*

*Send for Free Sample Copies and Illustrated Announcement for 1907 Free.*

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# USE CONCRETE

The **Cheapest, Best** building material on earth.

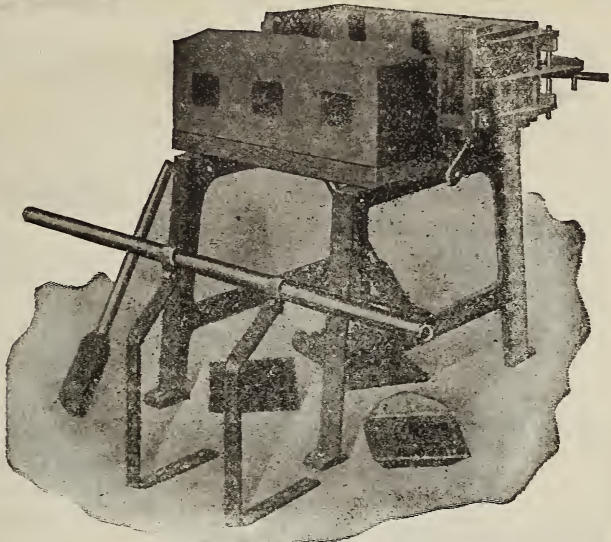
By the use of this machine one can make concrete building blocks, either solid or hollow, smooth or rock face, any width to 8 inches and any length to 24 inches.

The rock-face plate is an exact reproduction of a beautiful piece of hand-chipped "Berea sandstone." With it we include the tampers, carrying-hooks, cut-offs, etc., and every thing necessary but the boards on which to carry the blocks away.

It's **Just the Machine** for one to have who has any building to do the **Coming Season**. Make your blocks this winter in the basement of a barn or any place that can be kept above freezing.

**This is the Machine** we have advertised and sold for years for \$50.00. We have a few of these **Old Reliable "No. 1 Handy"** machines on hand that we want to move at once in order to make room for a large stock of heavier machinery for the spring trade.

Send us \$32.50 and we will send you one of them; or, if you prefer,



we will send it with draft and bill of lading attached so that you can see what you are getting before you pay for it.

**Don't Wait a Moment.** Send in your order. Our stock of these machines is not large.

## Medina Concrete Company, 22 Court St., Medina, Ohio

We are Furnishing the Blocks being Used in the Construction of The A. I. Root Co.'s new Concrete Office Buildings.

# The Whole Family Group

**T**HIS is the greatest magazine offer ever made. The four magazines, each at the head of its class, cover the reading-matter for the whole family. These sixty numbers cover about 6000 pages of the best literature and art by famous writers and artists, including nearly 500 pages of newest things in fashion and tasteful color printing. No such chance has occurred for years, and it is not likely to be repeated at this price. **HERE IS THE OFFER**

**GLEANINGS IN BEE CULTURE.** 24 issues (semi-monthly) one year..\$1.00  
**The DELINEATOR.** Twelve numbers at 15 cents each would cost..\$1.80

The recognized international fashion and literary magazine, greatly enlarged and improved, and a full-sized 15-cent magazine with many colored plates. *Yearly subscriptions must not be taken by any agent or added to any club at less than \$1.00 net.*

**McCLURE'S MAGAZINE.** Twelve numbers at 10 cents each would cost..\$1.20

A subscriber writes: "We have taken McClure's since it began, and the articles are always interesting, always timely, and always dependable; the fiction is always good literature, always good morals, and always in good taste, and my family would be lost without McClure's Magazine. *Yearly subscriptions must not be taken by any agent or added to any club at less than \$1.00 net.*"

**The WORLD'S WORK.** Twelve numbers at 25 cents each would cost..\$3.00

This magazine, edited by Walter H. Page, is for the men who do things. It tells with cheerful optimism of the inspiring things which are going on in this work-a-day world. It is profusely illustrated from photographs of actual people and places. *Yearly subscriptions must not be taken by any agent or added to any club at less than \$3.00 net.*

**OUR PRICE IS . . . . . \$7 00**  
**\$3.75**

**The A. I. Root Co., Medina, Ohio:**

For the enclosed \$3.75 send me The Whole Family Group for one year.

NAME..... CITY.....

ADDRESS..... STATE.....

This may be your last chance to get

# QUEENS

of Quirin for this season, so hurry in your orders.

Grade of Queens	1	6	12
Select Queens.....	75	\$4 00	\$7 00
Tested Queens.....	1 00	5 00	9 00
Select Tested Queens.....	1 50	8 00	15 00
Breeders .....	3 00	15 00	
Straight Five-band Breeders	5 00		

Safe delivery and satisfaction guaranteed of all queens. Any queen not satisfactory may be returned any time inside of sixty days and another will be sent gratis.

Address all Orders to

**Quirin-the-Queen-Breeder,**  
Bellevue, Ohio.

## When a Thing Needs Doing

NOW is the time to do it. How about those worthless queens? Will you tolerate them for another season, when the best of stock can be obtained so readily? Laws' bees and queens are bringing the best of reports. I could fill many pages of testimonials, but give you only one. Mr. T. P. Robinson, of Bartlett Texas, says: "Dear Sir.—The car of bees shipped June 20th are now all safely landed, and I have overhauled the entire lot. The bees are from 25 to 40 per cent better than contract, and you ought to hear my wife's exclamations of delight at seeing those fine yellow bees so quietly nestle between the combs at the very approach of smoke. I can certainly recommend you. . . ."

Leather and Golden Italians, Holy Lands, and Carniolans—single queen, \$1.00; six for \$5.00. Quantity lots, prices on application.

I also manufacture the Hoffman frames, both new and old style, at \$16.00 per M; single-story eight frame hive complete, 75c; 1½-story for extractor, \$1.00. Price list on application.

**W. H. Laws, Beeville, Bee Co., Tex.**

**Queens!** During October I will sell warranted purely mated Italian queens at 50 cts. each; selected warranted, 75 cts. each. If these are not the equal of anything you can buy in the country for honey-gathering you can have your money back. Satisfaction guaranteed. Queens by return mail.

**L. H. ROBEY, Worthington, W. Va.**

## Yellow from Tip to Tip!!!

My Adel bees and queens are very handsome. Every queen a breeder, and guaranteed to produce Golden queens and beautiful bees; non-swarmers, very gentle, and hustlers for honey. Single queen, \$1.00; three queens, \$2.50; six, \$4.50, or \$8.00 per dozen. Large select breeding queen, \$2.00 each. Every thing guaranteed.

**H. ALLEY, - - - Wenham, Mass.**

## Same Old Place

is where you get the best of queens; untested, \$1.00; \$4.25 per 6; \$8.00 per dozen. Tested, \$1.50; best breeders, \$5. Absolute satisfaction and safe arrival guaranteed. Carniolans, Cyprians, Holy-Lands, Italians.

**The JENNIE ATCHLEY CO.**

Box 18, Beeville, Bee Co., Tex

## MOORE'S - STRAIN - OF - ITALIANS

as Red-clover Workers.

Wm. S. Slocum, Newport, R. I., writes: "My friend, W. O. Sweet, West Mansfield, Mass., asked me about two years ago where he could get good queens, and I referred him to you. To-day he called on me and said he noticed the colonies with your queens were storing much faster than others. He went immediately to his red-clover field, and saw bees working there freely."

Untested queens, 75c each; six, \$4 00; dozen, \$7 50. Select untested, \$1.00 each; six, \$5.00; dozen, \$9.00. Safe arrival and satisfaction guaranteed. Descriptive circular free.

I am now filling orders by return mail, and shall probably be able to do so until the close of the season.

**J. P. MOORE, Morgan, Pendleton Co., Ky.**

## Superior Queens!!!!

(Before June 15) (After June 15)

Italian and Carniolan	Before June 15	After June 15
Untested.....	75c; \$8.00 per doz.	60c; \$6.50 per doz.
Tested.....	\$1.00; 11.00 per doz.	75c; 8 00 per doz.
Select Tested...	1.25; 12.00 per doz.	1.00; 11.00 per doz.
Caucasian		
Untested.....	\$1.00; \$11.00 per doz.	75c; \$8.00 per doz.
Tested.....	1.50; 16.00 per doz.	1.00; 11.00 per doz.
Select Tested...	2.00; 20.00 per doz.	1.25; 12.00 per doz.

Write me a postal card for my circular.

**Chas. Koeppen, Fredericksburg, Virginia**

## Queens at Cost!

To dispose of the balance of our queens quickly, for the next thirty days we offer them as follows:

- One hundred select tested Carniolan queens at \$1.00 each. All were raised this year, and would cost you \$3.00 each next spring.
- Fifty tested Carniolan queens at 75 cts. each. Worth \$1.50 each next spring
- Fifty untested Carniolan queens at 50 cts. each. Worth \$1.00 each next spring.
- Fifty tested Italian queens at 75 cts. each. Worth \$1.50 each next spring.
- Fifty untested Italian queens at 50 cts. each. Worth \$1.00 each next spring.

**Satisfaction and Safe Arrival Guaranteed.**

**F. A. Lockhart & Co.**  
Lake George, N. Y.

## Fire Sale Bee and Poultry Supplies

Come or send, and save 25 to 50 per cent on slightly damaged goods. NEW LEWIS GOODS at factory prices by return freight. Golden Italian or Red-clover queens by return mail. Untested, 75c; select untested, \$1.00; tested, \$1 25; select tested, \$2.25. Full colonies in up-to-date hives, and nuclei.

Six per cent Discount for October Orders

**H. M. Arnd, Propr. York Honey & Bee Supply Co. (Not Inc.)**  
Long Distance Telephone, North 1559. 191 and 193 Superior St., Chicago, Ills



### Golden Queens.

My goldens are yellow from tip to tip. Every queen is worth a dollar, but I have a large number of them and offer them cheap. One, 65 cts.; 3 for \$1.95; 6 for \$3.75; 12 for \$7.50. No finer or better queens can be had at any price. They are reared right. Have had 35 years' experience in rearing queens. I insure satisfaction in every particular. Try at least one of my all-golden queens, and see how promptly I can serve you. Send for circular. It's free.

Daniel Wurth, 1111 North Smith St., San Antonio, Texas.

### IMPROVED

### Red - clover Italians

for honey-gathering, hardiness, and non-swarming can not be surpassed. I breed for business the bees that will fill your hives with honey. Untested queens, 50 cents each. Safe arrival and satisfaction always guaranteed.

H. C. Clemons, - Boyd, Ky.

### ITALIAN : QUEENS !

I am offering choice queens of the Italian race at 75 cts. each. Golden or leather-colored daughters of an imported mother. Make your choice. Write to-day.

Robt. B. McCain, Rt. 3, Yorkville, Ill.

### MOORE'S LONG-TONGUES and GOLDENS

Select untested queens, 75c; six, \$4.00; twelve, \$7.50. Tested, \$1.25; six, \$6.00. Twelve, \$11.00. Best breeders, \$2.50. Safe arrival guaranteed.

W. H. Rails, - - - Orange, Calif.

### Queens from 50 Cents Up !

Bred from Root's Imported Italians. Write for prices, stating wants.

C. M. Church, Arnold, Pa.

### Boston Headquarters

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### Bees-Queens-Supplies

H. H. Jepson, - 182 Friend St.

### Marshfield - Hives - and - Sections

kept in stock; none better. DITTMER'S foundation and all kinds of bee-keepers' supplies sold right. Thousands of shipping cases, 24-pound, 13 cts; fancy white basswood, 16 cts, HONEY and BEESWAX wanted. Send for free list, and save 20 per cent on your order.

W. D. Soper, Route 3, Jackson, Michigan

### BEE-KEEPERS OF

### NORTHERN NEW YORK

Buy your shipping-cases, etc., of

A. H. Reeves, Perch River, Jefferson Co., N. Y.

and save freight charges, and time. A complete stock on hand ready for shipment. Comb honey wanted in non-drip cases; also beeswax.

## BEES and QUEENS

BY RETURN MAIL.

The Three-banded Long-tongued Strain of Italians.

We are breeding exclusively the above strain of bees, as from years of experience we consider them the best all-round bees that can be had. We have been making, from time to time, very careful selections for the following

### Superior Qualities.

Honey-gathering, size of bees, non-swarming docility, uniform markings.

Our selection of bees awarded diploma at the PAN-AMERICAN EXPOSITION for being the best bees there. And we guarantee them the equal of any bees anywhere at any price

### Quality Our Motto.

1300 colonies to select from.

Untested queens,..... 75c; 6, \$4.25; 12, 8 00  
Select untested queens,.... 1.00; 6, 5.00; 12, 9 00  
Tested queens,..... 1.00; 6, 6.00; 12, 11.50  
Select tested queens,..... 1.50.  
Breeding queens, \$3.00 to \$5.00

Yours for best service,

The Victor-Knolle Apiary Co.,  
Hondo, Texas.

## ITALIAN QUEENS

bred from best of honey-gatherers, either three or five banded or Golden races. Unte-ted, 65c each, 3 for \$2.00, 6 for \$3 75, 12 for 7 25; tested, \$1.00 each, 6 for \$5.00, 12 for \$9.00; select tested, \$1.50 each; breeders, \$300 each.

J. W. Taylor, Beeville, Bee Co., Texas

## Something New in Honey-jars...

Cook's Square Jar combines a new feature that improves the package and reduces the cost, and is the best and cheapest one-pound glass package made. Send for circular and full catalog of hives, bees, and useful implements.

J. H. M. COOK, 70 Cortlandt St., New York

The Oldest Supply-house in the East, and only Reliable goods sold. 10 cents brings sample jar by mail.

65c for 25 NAMES—for names and P. O. of 25 farmers and 15c (stamps taken) we will send for 2 years the Farmer's Call—regular subscription price, 40c a year. F. C. is a weekly, 25 years old; 1300 pages a year; sample free. Farmer's Call, Quincy, Ill.

## Classified Advertisements.

Notices will be inserted in these classified columns at 20 cents per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

### Wanted, Situations.

WANTED.—Work handling bees. Seven years work in apiaries. DOUGLAS STONER, Strasburg, Va.

WANTED.—For 1907, employment in an apiary by a young man of good habits, having experience with bees. References. LEONARD GRAPER, Plymouth, Iowa.

### Help Wanted.

WANTED.—Auctioneer to sell stock of bee supplies at San Antonio, Texas, during coming national convention. W. H. PUTNAM, River Falls, Wis.

WANTED.—To correspond with young man who wishes to work with bees next season. Steady work the year round to the right party. CHAS. ADAMS, R. F. D. No. 4, Greeley, Colo.

### For Sale.

FOR SALE.—400 acres choice citrus fruit land. ALBERT GUNN, Cespedes, Camaguey Prov., Cuba.

FOR SALE.—Telephones. First-class, slightly used Standard phones, less than half price. G. A. WATT, Bellevue, Ohio.

FOR SALE.—Smith Premier, Hammond, and Oliver typewriters. Prices from \$25 up. Will exchange for wax or honey. THE A. I. ROOT CO., Medina, O.

FOR SALE.—Twenty acres of choice corn, potato, and strawberry land; fair buildings; forty colonies of bees in good location. F. MATTHEWS, Route 6, Ithaca, Mich.

FOR SALE.—Thirty acres good soil on main road; never-falling spring at barn; good seven-room house; fair farm buildings; good bee-keeping location. HENRY SCHWARTING, Ovid, Seneca Co., N. Y.

FOR SALE.—160-acre farm in Phillips County, Kan. Well improved, well located, 5½ miles from good market; fruit, pasture, and farm land, alfalfa. Clear title. Price \$5000 cash. Box 344, GLEANINGS.

FOR SALE.—If you want an illustrated and descriptive catalog of bee-keepers' supplies for 1906 send your name and address to FRANK S. STEPHENS, (Root's Goods.) Paden City, W. Va.

FOR SALE.—Till Jan. 1, best Wisconsin sections per 1000, \$4.00; No. 2, \$3.40; plain, 25c less. Seven per cent discount for October, 6% for November, on Root and Danz. hives and other Root goods. H. S. DUBY, St. Anne, Ill.

FOR SALE.—Forty-acre ranch, fenced but unimproved except small frame house; fine spring near house; good soil, no alkali, fine alfalfa and fruit land. Also for sale, 100 or more colonies bees. Location very good for alfalfa and sweet-clover honey. Good reason for selling. R. S. BECKTELL, Grand Valley, Garfield Co., Colo.

FOR SALE.—Angora and Persian cats; mostly all colors. Persians pure white with blue eyes. Everybody admires these beautiful pets. Women make money raising them. Good profits. Cats and kittens for sale at moderate prices. Also have ferrets for sale. Send stamp for circular. MRS. J. F. SKEES, Marion, Ohio.

FOR SALE.—4000 ferrets; some trained. Prices and book mailed free. N. A. KNAPP, Rochester, Ohio.

FOR SALE.—Fine grain and stock farm in Central Michigan; 120 acres clay loam, good buildings, two flowing wells. For particulars address P. MCGRATH, Rt. 3, Shepherd, Mich.

FOR SALE.—Seeds of honey-plants—seven-head turnips, motherwort, catnip at 5c a package, postpaid; still a few sections at reduced price; 24-lb. shipping-cases, complete, 14c. H. S. DUBY, St. Anne, Ills.

FOR SALE.—Will sell my valuable ten acres of fruit and truck farm for one-half what it is really worth. One mile to center of good town of 7000; best market known for fruit, truck, and honey. Write for price and description. Great bargain here. J. B. DOUGLAS, Mena, Arkansas.

### Bees and Queens.

FOR SALE.—Apiaries or colonies to suit in new State of Oklahoma; range and market unsurpassed. Address J. T. HAIRSTON, Salina, I. T.

FOR SALE.—Eighteen colonies in modern hives and fixtures very cheap. W. A. LAWRENCE, Rt. 3, Wayland, N. Y.

FOR SALE.—Twenty colonies of fine Italians from \$3.00 to \$5.00 each. Bees in Root hives. COLLEGE OF INDUSTRIAL ARTS, Denton, Tex.

FOR SALE.—400 colonies pure Italian bees in lots to suit. Write for prices. F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—I am old, and tired of caring for 180 hives of bees, and want to dispose of them to some good financial bee-keeper. Address C. A. GREENFIELD, Rt. 1, Caro, Tuscola Co., Mich.

FOR SALE.—200 colonies of Italian bees in Baldwin 2-story hives for comb honey. Bees are in fine condition, plenty of stores, etc. R. L. TUCKER, Lock Box 60, Independence, Mo.

FOR SALE.—200 colonies of bees, with fixtures; ten-frame extracting hives, Hoffman frames, \$3.50 per colony. Address 1506 Arapahoe St., Los Angeles, Cal. H. G. NUTTER.

FOR SALE.—75 colonies in good shape for winter. A bargain. Also spare combs and supers, hives, extractors, etc. Must sell this fall. Write for list and details. W. R. ANSELL, 274 Midway Ave., St. Paul, Minn.

FOR SALE.—Brightest Golden in the world—priceless breeders; Italian, Caucasian, Banat, Carniolan, Cyprian—pure imported mothers. Swarthmore outfits and books. Circular free. E. L. PRATT, Swarthmore, Pa.

FOR SALE.—500 colonies of bees located in the best sweet-clover belt in the U. S. Will take \$1500 for the outfit. Reason for wanting to sell, too much other business. If I do not sell shall want a good man to run them next season. W. N. CANNON, Greenville, Ala.

FOR SALE.—An out-Apiary of about fifty colonies of Italian bees in large non-swarming hives cheap. I never saw bees swarming from these hives in the last twenty years, not even in the production of comb honey. G. H. ADAMS, Mill St., Bellevue Sta., Schenectady, N. Y.

FOR SALE.—To highest bidder, 15 colonies of bees in 10-frame hives, 22 extra hives with foundation, 27 supers, 36 Porter bee-escape boards, 9 queen-excluders, 1 Alley's queen-trap, 1 Daisy foundation-fastener, 1000 L frames, 100 division-boards, 50 double hive-stands, 1 Root queen-rearing outfit, 13 twin mating-hives, 1 Globe veil, 1 4-inch smoker. All hives are nailed and painted, and made by The A. I. Root Co. JOHN C. FRANK, R. F. D. 42, Earlville, Ill.



ITALIAN BEES, queens, beeswax, honey, and beekeepers' supplies. M. E. TRIBBLE, Marshall, Mo.

FOR SALE.—Queens. I breed a superior strain of fine golden-all-over Italians. Untested, 75c; tested, \$1.00. T. L. McMURRAY, Ravenswood, W. Va.

## Poultry Offers.

FOR SALE.—Choice poultry. Ten leading varieties for the farmer or the fancier. Circulars free. A. H. DUFF, Larned, Kan.

FOR SALE.—Rose Comb R. I. Red, Buff Wyandotte, and Plymouth Rock cockerels; few Barred Rock and Buff Wyandotte pullets; about a dozen untested Root R. C. queens at 50c. A. H. KANAGY, Milroy, Pa.

## Wants and Exchange.

WANTED.—A Barnes second-hand foot-power saw, J. R. MINTLE, Glenwood, Ia.

WANTED.—Early American and foreign books on bee-keeping. A. L. BOYDEN, Medina, Ohio.

WANTED.—Bee supplies in exchange for 300 colonies bees. Ad. elsewhere. Manufacturers write if interested. LEO F. HANEGAN, Glenwood, Wis.

WANTED.—Photos for our third contest. For particulars see ad. on page 1323. THE A. I. ROOT CO., Medina, Ohio.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price. OREL L. HERSHISER, 301 Huntington Ave., Buffalo, N. Y.

WANTED.—To exchange a ten-inch foundation-mill for a 12 or 14 inch mill, wax, cash, or supplies. P. W. STAHLMAN, West Berne, N. Y.

WANTED.—A few copies of the *Bee-keepers' Review* for August, 1904. If you have a perfect copy we will send GLEANINGS three months in exchange. THE A. I. ROOT CO., Medina, Ohio.

WANTED.—To exchange small stock of Swarthmore queen-rearing goods, mating-boxes, etc., for bees, queens, honey, wax, hive-fixtures in flat, or any thing I can use; to close present limited stock only. E. L. PRATT, Swarthmore, Pa.

## Honey and Wax Wanted.

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity. R. A. BURNETT, 199 S. Water St., Chicago, Ill.

WANTED.—Fancy white comb honey, also extracted honey in barrels. Send samples, and name best price delivered here. GRIGGS BROS., Toledo, O.

WANTED.—20,000 pounds pure clover honey. Send average sample and state best price. J. E. CRANE & SON, Middlebury, Vt.

WANTED.—To buy for cash, fancy comb and extracted honey. ROBT. A. HOLEKAMP, 4263 Virginia Ave., St. Louis, Mo.

WANTED.—Comb and extracted honey. Must guarantee pure and of best quality. State price and how put up. Cash paid. C. M. CHURCH, Arnold, Pa.

WANTED.—No. 1 and fancy white comb honey (un-glassed), Danz. sections preferred. THE A. I. ROOT CO., Medina, Ohio.

WANTED.—Beeswax. We will pay 30 cts. per pound for pure yellow beeswax delivered in New York until further notice. CHAS. ISRAEL & BROS., 486 Canal St., New York City.

WANTED.—Choice white comb and extracted honey; clover preferred. B. WALKER, Clyde, Ills.

WANTED.—Comb and ext'd honey. State kind and lowest price. CHAS. KOEPPEN, Fredericksburg, Va.

FOR SALE.—Buckwheat honey in 60-lb. cans, at 6c per lb. C. J. BALDRIDGE, Homestead Farm, Kendaia, Seneca Co., N. Y.

FOR SALE.—Fancy buckwheat comb honey in 3½x5 plain sections at 13c per pound. GEO. SHIBER, Randolph, N. Y.

FOR SALE.—600 lbs. of white clover honey. Extracted from all sealed new combs; 60-lb. square cans, f. o. b. here, \$5.00. Sample 5 cts. B. HOLLENBACK, Spring Hill, Kansas.

WANTED.—Immediately, honey in large and small lots for spot cash. Only dealer in Utah selling Root's goods at factory prices. Write us. SUPERIOR HONEY CO., Ogden, Utah.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of. HILDRETH & SEGELKEN, 265-267 Greenwich St., New York.

WANTED.—Honey, steadily from September 1 to April 1. Prices given on application. Suggestions and advice about packing and shipping honey cheerfully given from long experience, close study, and observation. H. R. WRIGHT, Albany, N. Y.

## Honey and Wax For Sale.

FOR SALE.—A quantity of fine buckwheat honey in 60-lb. cans at 7½c net, f. o. b. Goderich, Ont. A. E. BROWN, Port Albert, Ont., Can.

FOR SALE.—If you are in the market for white comb honey address C. C. CLEMONS & Co., Kansas City, Mo.

FOR SALE.—3000 lbs. of white-clover and locust honey, in 20-lb. no-drip cases. Fancy, 15c; No. 1, 13c.; f. o. b. Nice article. H. W. BASS, Front Royal, Va.

FOR SALE.—Five tons of comb and extracted honey in lots to suit purchaser. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—2000 lbs. fancy white and amber comb honey in 24-lb. cases. Prices: White, per lb., 15c; amber, 14c; f. o. b. here. W. I. HARBOUGH, Kernstown, Va.

FOR SALE.—Well-ripened fancy extracted clover and basswood honey in 60-lb. tin cans, two in a case, at \$10.00 a case, f. o. b. here. Sample on request. ERNEST W. FOX, Hillsboro, Wis.

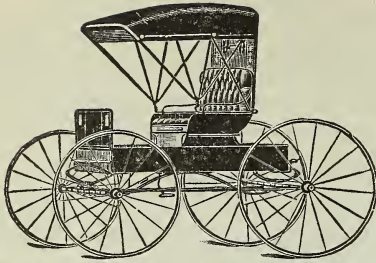
FOR SALE.—10,000 lbs. of clover and buckwheat honey at 8c per lb. for clover and 7c for buckwheat, in 60-lb. cans. G. H. ADAMS, Mill St., Bellevue Sta., Schenectady, N. Y.

FOR SALE.—Light extracted honey, good quality; two 60-lb. cans, 8½c per lb., barrel at 7½c; amber, 60-lb. cans at 7½c, barrel at 6c; sample, 10c. We pay 29c for beeswax. I. J. STRINGHAM, 105 Park Pl., N. Y.

FOR SALE.—Choice ripe clover and basswood honey, two 60-lb. cans, per case, 8½c, f. o. b. here, cash with order. Also 40-acre farm N. W. Missouri. ELIAS FOX, Hillsboro, Wis.

FOR SALE.—Buckwheat extracted honey; 6000 lbs.; not extracted until the combs were all sealed-ripe, rich, and thick; 60-lb. tin cans, two in a case, at 6 cts. a pound. Sample sent upon request. W. Z. HUTCHINSON, Flint, Mich.

FOR SALE.—Fine alfalfa honey in large or small lots and at a very low price. Dealers and others wanting a fine table honey should write for free samples and prices to THE DELTA APIARIES, Delta, Colo.



**NOW IS JUST THE TIME TO BUY THAT NEW BUGGY**

In the Fall of the year, after the hard Summer's work is over, the weather settled, and the roads are usually good, it's a fine time to have a new buggy.

The Ohio Carriage Manufacturing Company of Cincinnati, Ohio, manufacturers of the celebrated Split Hickory vehicles, say that you will be surprised to know what a splendid Fall business they have on their made-to-order Split Hickory vehicles.

They say that a few years ago they did not receive many Fall orders, but that now people have commenced to realize that the Fall of the year is a fine time to get in their new buggy, on account of the good roads, and the fact that people seem to use buggies later in the season than they used to.

The Ohio Carriage Manufacturing Company is one of the largest manufacturers of high-grade vehicles in the country, and they sell the product of their entire factories direct to users by mail. They issue a fine catalogue, and their prices on vehicles, quality considered, are very low.

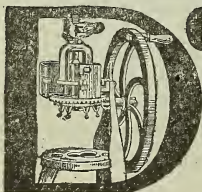
If you think you would like to have a nice new buggy this Fall, why not write to the Ohio Carriage Manufacturing Company now, and get their free catalogue at once? If you have never seen it, you will be surprised to know what a fine buggy book this concern issues, how reasonable their prices are, and how liberal their methods of doing business. Their address is the OHIO CARRIAGE MFG. COMPANY, Station 293 Cincinnati, O.

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 Make poultry keeping profitable. Cut green bone is a real money-making poultry food easily prepared with this machine. Small size, \$8.80; large ones more. Made by responsible concern. Ask for free catalog, prices and Trial Plan. Standard Bone Cutter Co., Milford, Mass.



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**Humphrey Green Bone and Vegetable Cutter**  
 will double your egg yield and cut your feed bill in half. Guaranteed to cut easier and faster than any other. Trial offer and catalogue free. Humphrey, Mine St. Factory, Joliet, Ill.

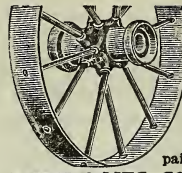



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Fresh, raw, green bone contains over four times as much "protein" and other egg-making materials, as grain. It takes the place of worms and bugs in fowls' diet; that's why it gives more eggs—greater fertility—stronger chicks—earlier broilers and layers—larger market fowls, and bigger profits. You

can cut it most easily, rapidly and best with **Mann's Latest Model BONE CUTTER**. Automatically adapts cutting to your strength. Never clogs. Cuts all adhering meat and gristle. We send it on **10 DAYS FREE TRIAL**. No money in advance. Catalogue free.

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 Conkey's book on poultry diseases contains just the information you need to keep your flock strong and healthy—and that means to **Get Paying Results**. The regular price of this valuable book is 25c, but we are offering it free for a limited time to those who will send 4 cents for postage and give us the names and addresses of two other poultry raisers. Write for it today.  
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of the very latest type, and we are now ready to work up wax for western beekeepers at low prices. . . . We want several thousand pounds of beeswax at once, and will pay top market price for same. Let us hear from any one having wax to offer. . . .

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By sending for our forty-page catalog. It gives full particulars about scores of different hive-combinations and other supplies that we always keep in stock. We have handled  
ROOT'S GOODS for twenty years. They are the best. Don't fail to write us about your wants for next season's use.

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I would like to talk to you *personally*.

First, I want you to know about my supplies. I handle Root's Goods, of course; for I believe in giving my customers complete satisfaction—for that's *better* in the long run than low prices. My place of business is on the S. A. & A. P. Ry., just opposite the passenger depot, where I have built a warehouse 40×250 feet, and I have filled it full to the brim, for I handle Root's goods by the carload. This means I can furnish you supplies with the utmost promptness.

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My can business is increasing by leaps and bounds. That is because of the quality of the goods. It will save you dollars to get my prices. Better write for them to-day.

Nothing pleases me better than for bee-keepers to make their headquarters at my office when at San Antonio. You are *always* welcome. I have fitted up my office with plenty of desks and chairs, with writing material, a reading-table, and all the bee journals on hand. Consider yourself invited.

If you haven't my catalog just drop a postal.

I can supply Red clover and Golden Italian queens promptly.

I am now paying 23c cash and 26c in trade for average clean beeswax delivered here. Save your slumgum. I will buy it. Let me know how much you have, in what condition the slumgum is, and in what kind of an extractor it was rendered, and I will make you price I am paying.

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