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1508

Gleanings in Bee Culture



APIARY OF AMERICAN HIVES IN NEW JERSEY

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Vol. XXXVI

November 1, 1908

No. 21

17 Cents a Day Buys an Oliver

This amazing offer—the New Model Oliver Typewriter No. 5 at 17 cents a day—is open to everybody, everywhere.

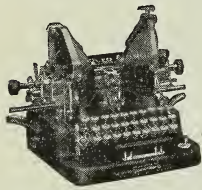
It's our new and immensely popular plan of selling Oliver Typewriters on little easy payments. The abandonment of long-hand in favor of clean, legible, beautiful *typewriting* is the next great step in human progress.

Already—in all lines of business and in all professions the use of *pen and ink* is largely restricted to the writing of *signatures*.

Business Colleges and High Schools, watchful of the trend of public sentiment, are training a vast army of young people in the use of Oliver Typewriters.

The prompt and generous response of the Oliver Typewriter Company to the world-wide demand for *universal typewriting*, gives tremendous impetus to the movement.

The Oliver, with the largest sale of any typewriter in existence, was the logical machine to take the initiative in bringing about the *universal use* of typewriters. It *always* leads!



SAVE YOUR PENNIES AND OWN

The

OLIVER Typewriter

THE STANDARD VISIBLE WRITER

This "17-Cents-a-Day" selling plan makes the Oliver as easy to own as to rent. It places the machine within easy reach of every home—every individual. A man's "cigar money"—a woman's "pin money"—will buy it.

Clerks on small salaries can now afford to own Olivers. By utilizing spare moments for practice they may fit themselves for more important positions.

School boys and school girls can buy Olivers by saving their pennies.

You can buy an Oliver on this plan at the regular catalog price—\$100. A small first payment brings the machine. Then you save 17 cents a day and pay monthly.

—And the possession of an Oliver Typewriter enables you to *earn money to finish paying for the machine*.

Advantages

The Oliver is the most highly perfected typewriter on the market—hence its 100 per cent efficiency.

Among its scores of conveniences are:

- The Balance Shift
- The Ruling Device
- The Double Release
- The Locomotive Base
- The Automatic Spacer
- The Automatic Tabulator
- The Disappearing Indicator
- The Adjustable Paper Fin-
gers
- The Scientific Condensed
Keyboard

Can you spend 17 Cents a day to better advantage than in the purchase of this wonderful machine?

Write for Special Easy-payment Proposition or see the nearest Oliver Agent.

The Oliver Typewriter Co.
103 Dearborn St. Chicago.

Service Possibilities

The Oliver Typewriter turns out more work—of better quality and greater variety—than any other writing machine. Simplicity, strength, ease of operation and visibility are the corner stones of its towering supremacy in

- Correspondence
- Card Index Work
- Tabulated Reports
- Follow-up Systems
- Manifolding Service
- Addressing Envelopes
- Working on Ruled Forms
- Cutting Mimeograph Sten-
cils.

Why Do You Remain

in a section where the climatic conditions are so against you, where it is necessary to battle with the rigors of a long winter?

Wouldn't You Like

to be permitted to carry on work out-of-doors throughout the entire year? A location in our southern territory offers many opportunities and advantages, and makes life a pleasure the year round. The lands can be obtained at reasonable prices, they are equally as productive as yours, prices as good, if not better, for your crops, and no long winters of ice and snow to contend with.

The Seaboard Air Line Railway

through its Industrial Department, is anxious to assist you in bettering your present condition. Literature will be sent free upon request. Ask for copy of "FRUIT and VEGETABLE GROWING" in the Land of Manatee, written by a western man, containing descriptive data, profits derived from various crops, etc.

Special Rates

November 24th

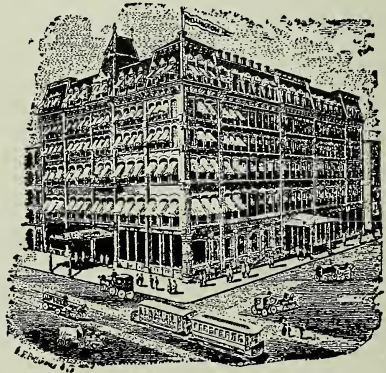
The lowest rate ever offered for the benefit of prospectors and homeseekers will be in effect from certain points on Nov. 24th. Let us help you take advantage of this opportunity to make a trip of investigation at very little cost. Write for full particulars.

J. W. WHITE
General Industrial Agent
SEABOARD AIR LINE RAILWAY
Portsmouth, Va.
Dept. F

The Wellington Hotel

Cor. Wabash Ave. and Jackson Boulevard

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One of the most unique Dining-rooms in the country.
Our famous Indian Cafe.

Noted for service and Cuisine

McCLINTOCK & BAYFIELD, Props.

**OUR
GRAND 1908
OFFER**

NEW LUMBER

**FIFTY MILLION FEET
AT REDUCED
PRICES**

Bought at Forced Sales from Manufacturers. It makes us Headquarters for Thousands of Genuine Bargains in Lumber and Building Supplies. We save you money.

**BIG
SPECIAL
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SAVE 30 TO 60 PER CENT. BUY DIRECT. BUILDING SUPPLIES OF EVERY KIND

The Chicago House Wrecking Co. Purchased at forced sales, 50,000,000 feet of new lumber. We are making special concessions to those who buy at once. Our prices today are far lower than prices have been for years. Order now for immediate or future use. Quick action will save you big profits. Remember prices elsewhere which are even now high, are bound to rise. We can quote you 30 to 60 per cent better prices for the same lumber than your local dealer. We guarantee every carload to be exactly as represented. Closest inspection of our lumber stock invited.

Call at our warehouse and yards at Chicago and see the lumber we are offering and you will recognize that it is all we say of it. Make your own selection and see it loaded. It is not necessary to come to Chicago, however, unless you wish to. We can fill your order by mail with just what you want and guarantee you absolute satisfaction. Ours is the largest direct to the

consumer lumber headquarters in the world. We sell millions of feet annually. Orders filled from every part of the United States. No matter where you live you can save money by supplying your building wants here.

We do not figure fancy prices, but quote figures that command your patronage. Whether your order is large or small we can save you money on it. Our tremendous business of millions of dollars annually is your best guarantee of complete satisfaction of every purchase made from us. In our enormous stock of new lumber of every kind we have just what you need for every purpose. Don't buy a stick of material until you get our prices. We offer you everything in the lumber and building supply line needed for residences, farm homes, stores, cauchers, barns, outbuildings of every kind, sidewalks and fencing. In short any kind of a structure requiring lumber, at from 30 to 60 per cent less than your local dealers or lumber yards ask for it.

IMPORTANT! Send Us Your Lumber Bill For Our Estimate

Make up a list of what you need. Send it to us for our price. If you are putting up a building of any kind whatsoever let us figure with you. Our prices talk louder than words. Have your carpenter or contractor send us your list of what is needed if he has charge of your building. Don't pay exorbitant prices to the lumber trust with their long line of lumber yards all over the country. Don't let the local dealer soak you with his heavy profit. Remember: Chicago House Wrecking Company buys millions of feet at a time under circumstances of forced sales which means sacrificed prices and enables us to sell even as low as cost without loss. You take no chances in dealing with the Chicago House Wrecking Company. Whether for \$1 or \$10,000 your order will be filled carefully. Our lumber and supplies are guaranteed exactly as represented. If you have no need for a whole carload yourself get your neighbors to club in with you. By buying a carload you can save all kinds of money on freight charges.

We have railroad trains running through our main warehouses and buildings and can load a car to good advantage to you. You can include in this same car, pipe, plumbing material, roofing, wire, fencing, furniture, hardware and merchandise of every kind.

We also furnish you building and barn plans absolutely free upon request. Write us for any information or advice you want and we will have our staff of architects answer every inquiry promptly. Our free book of plans is sent if you mention this paper. We simplify your building proposition.

Our business demands quick action. We must keep our stocks moving. This means prompt shipment—no annoying delays. Let us help you lay out your plans. We will relieve you of every detail. That is what our Special Builder Service is for. Be sure and send us your lumber bill for our estimate. Feel free to write for anything you want to know along the line of building supplies, furnishings, etc.

WE PURCHASE OUR GOODS AT **Sheriffs' and Receivers' Sales**

Hundreds of Big Money Saving Bargains for Every Builder. Don't Build Your House, Barn, Store, Corn Cr-lbs, Church, Etc., without getting Our Big Lumber Offer. Lowest Prices on Millwork Supplies, Roofing, Water Supply Outfits, Paints, Plumbing Supplies, Hardware, Heating Outfits, Furniture, Carpets, Linoleum, Etc.

DOORS 40c WINDOWS 20c



1,000 good doors, various sizes, secured by us in connection with dismantling operations, most of them with hardware. Prices range from 40c up. Fancy front doors, all designs, \$1.50 up. 10,000 window sash, 20c up, all sizes. Complete line of everything in mill work. All brand new, best quality. Barn sash, 6 sizes, 25c up. Cellar sash, 37c up. Clear window sash, 25c per 100 ft. up. Porch columns, 54c up. Stair newels, \$1.78. Stair rail, 10c per ft. Pilaster casing, O. G. base, 1-3-4c per ft. Base blocks, 4c each. Quarter round, 25c per 100 ft. Hardwood thresholds, 4c. Porch brackets, 3c. Porch spindles, 4c. We handle everything in the Building Supply Line, including light and heavy hardware. Send us your lumber bill for our estimate. Ask for our new special mill work catalog. It prices everything needed for building purposes. Sent free.



Rubberized - Galvo Roofing

\$1.25 per sq. Easy to put on. Requires no previous experience. Can be put on over shingles without removing them. Weather-proof and fire-proof. We furnish with each order sufficient cement to make the laps and large head nails. Price is per sq. of 108 sq. ft. 1 ply, \$1.25. 2 ply, \$1.40. 3 ply, \$1.75.



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Send me free of all cost your 500-page Catalog. Address

OUR NEW 500-PAGE CATALOG NO. 688 FREE.

This Wonderful Bargain Book is just out and ready to be sent to you at once. It is a book such as every shrewd buyer must have. 500 Pages with thousands of items of the very best merchandise and supplies bought at the Sheriffs' and Receivers' Sales. It will pay you to keep it handy. Its pages contain a full record of what we still have on hand from the wonderful St. Louis World's Fair. Merchandise, Machinery and Supplies, articles for every one. You will find it useful in the home, in the workshop or in the office. Write today. Cut out coupon in corner. Fill in answers to questions. Sign your name and address in full and mail to us. We will send you our Catalog free upon receipt of coupon and answers to questions.

**CHICAGO HOUSE WRECKING COMPANY,
35th and Iron Streets, CHICAGO, ILL.**

Chicago House Wrecking Co., Chicago

Honey Markets.

The prices listed below are intended to represent, as nearly as possible, the average market prices at which honey and beeswax are selling at the time of the report in the city mentioned. Unless otherwise stated, this is the price at which sales are being made by commission merchants or by producers direct to the retailer. When sales are made by commission merchants, the usual commission (from five to ten per cent), cartage, and freight will be deducted, and in addition there is often a charge for storage by the commission merchant. When sales are made by the producer direct to the retailer, commission and storage, and other charges, are eliminated. Sales made to wholesale houses are usually about ten per cent less than those to retail merchants.

EASTERN GRADING-RULES FOR COMB HONEY.

FANCY.—All sections 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 one, the outside surface of the wood well scraped of propolis.

A 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.

NEW COMB-HONEY GRADING-RULES ADOPTED BY THE COLORADO STATE BEE-KEEPERS' ASSOCIATION.

No. 1 WHITE.—Sections to be well filled and evenly capped except the outside row, next to the wood; honey white or slightly amber, comb and cappings white, and not projecting beyond the wood; wood to be well cleaned; cases of separated honey to average 21 pounds net per case of 24 sections, no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 1 LIGHT AMBER.—Sections to be well filled and evenly capped, except the outside row, next to the wood; honey white or light amber; comb and cappings from white to off color, but not dark; comb not projecting beyond the wood; wood to be well cleaned.

Cases of separated honey to average 21 pounds net per case of 24 sections; no section in this grade to weigh less than 13½ ounces.

Cases of half-separated honey to average not less than 22 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 23 pounds net per case of 24 sections.

No. 2.—This includes all white honey, and amber honey not included in the above grades; sections to be fairly well filled and capped, no more than 25 uncapped cells, exclusive of outside row, permitted in this grade; wood to be well cleaned, no section in this grade to weigh less than 12 ounces.

Cases of separated honey to average not less than 19 pounds net.

Cases of half-separated honey to average not less than 20 pounds net per case of 24 sections.

Cases of unseparated honey to average not less than 21 pounds net per case of 24 sections.

INDIANAPOLIS.—While prices are not high, the demand for honey has never been better—a fact that can be attributed to the quality of goods now on our market. This is a white-clover district, and our market is almost free from honey from other sources. Producers are offering fancy white comb at 12½; No. 1 white, 12; white clover, extracted, in five-gallon cans, 7. Some amber honey is being offered, but the demand is not sufficient to establish a price. Beeswax is steady at 28 cts. cash, or 30 cts. in exchange for merchandise.

Oct. 18. WALTER S. POWDER, Indianapolis.

BOSTON.—White fancy comb honey, 16 to 17; No. 1 ditto, 14 to 15; No. 2 ditto, 12 to 13; extracted clover, white, 10 to 11; extracted light amber, 8 to 9; extracted amber, 7; fancy to choice extracted honey in barrels, 6 to 7.

Oct. 18. BLAKE-LEE CO.,
4 Chatham Row, Boston, Mass.

PHILADELPHIA.—Honey has been arriving quite freely during the last ten days; but owing to the quantity kept back by the producers the markets are somewhat unsettled. We quote: Fancy white comb honey, 15 to 16; No. 1 white, 14 to 15; amber, 13; fancy white extracted in 60-lb. cans, 8 to 9; amber, ditto, 6 to 8 according to quality and flavor. Beeswax, 28.

Oct. 25. WM. A. SELSER,
Philadelphia, Pa.

KANSAS CITY.—The market is pretty well supplied with comb honey. On account of the warm weather the demand has been light; but with the advent of cold weather we look for a much better demand. The receipts of extracted honey are very light, but the demand is good. We quote No. 1 white comb honey, 24 sections, \$3.00 to \$2.75; white extracted, 8; amber, 7 to 7½. Beeswax, 28.

Oct. 22. C. C. CLEMONS PRODUCE CO.,
Kansas City, Mo.

BUFFALO.—The demand is improving on the better grades of comb honey. The market is scatter than usual, and all No. 1 stock is bought up at good fair prices. Stocks of all kinds are light in the dark, and we look for an advance in price before long. Big buyers are looking for white-clover extracted, but there is hardly any here in the market. No. 1 to fancy white-clover comb honey, 14 to 15; No. 2 ditto, 10 to 12; No. 1 dark comb honey, 12 to 13; No. 2 ditto, 9 to 10; white-clover extracted, 7 to 8; dark, 6 to 7. Jelly-tumblers, white extracted honey, 85 to 90 cts. per dozen. Beeswax, 28 to 30.

Oct. 23. W. C. TOWNSEND,
Buffalo, N. Y.

ZANESVILLE, OH.—If any change, the market here shows a little better tone as regards demand, though there is a tendency on the part of some commission men to cut prices. No. 1 to fancy comb should bring on arrival about 13 cts.; extracted, 7½. No. 1 to fancy comb sells to the grocery trade at 15 to 16½. 1 quote clover extracted in five-gallon cans at 1½ to 10. For beeswax of good quality 1 offer 28 cts. cash or 30 in exchange for supplies.

Oct. 20. E. W. PIERCE,
Zanesville, O.

CHICAGO.—Beginning with this month, and up to the present writing, there has been a fair movement of honey, both comb and extracted; but it may be the weather, or a combination of causes, for the volume of business is not equal to preceding years at this time, despite the fine quality of nearly all the consignments received here. We are hoping that the winter consumption will be much above the normal, because of the superior quality. A No. 1 to fancy comb sells at 13 to 14; No. 1 at about 12½, and other grades from one to three cents less. Extracted honey is steady at from 7 to 8 for the light grades, and 6 to 6½ for the amber; dark grades, according to body, flavor, and package. Beeswax is meeting with ready sale at 30 for yellow, free from impurities.

Oct. 17. R. A. BURNETT & CO.,
Chicago.

ST. LOUIS.—Since our last, of Oct. 5, the honey market has continued in the same condition. The demand for all grades of honey is limited, and quotable as follows: Fancy white comb honey, 12 to 12½; choice amber, 11 to 12; dark amber, 9 to 10; broken or leaking honey sells at considerably less. Choice amber honey in barrels and half-barrels, 5½ to 6; in five gallon cans, 6½ to 7; dark and inferior grades rule at less. Beeswax, 28½ for choice pure.

Oct. 17. R. HARTMANN PRODUCE CO.,
St. Louis, Mo.

ALBANY.—Steady receipts are increasing somewhat; also consumption as the weather grows cooler. We quote: Fancy white, 16; A No. 1, 15; No. 1, 14½ to 15; buckwheat, 13 to 14; extracted, white, 7½ to 8; buckwheat and mixed, 7. Beeswax, 30 to 32.

Oct. 22. H. R. WRIGHT, Albany.

DENVER.—The local market on honey has continued weak. During the past two weeks we have had unusually warm weather, which may partly be the cause for it. Demand for comb honey in car lots is better than expected. We quote No. 1 white comb honey, per case of 24 sections, \$3.15; No. 1 light amber, \$3.00; No. 2, \$2.85; strained and amber extracted, 6½ to 7½; light amber, 7½ to 8½; white extracted, 8½. We pay 24 cents for clean yellow beeswax delivered here.

Oct. 17. THE COLORADO HONEY PRODUCERS' ASS'N.,
Denver, Col.

CINCINNATI.—The market on comb honey is more active, and there are some large lots moving. There will be no big prices, due to the fact that there is considerable old honey left over from last year. No. 1 white comb honey is selling at 14 to 15 in small lots. Dark or off grades of honey are not selling at any price. There is practically no demand for it. Amber honey is in good demand at 6½ to 7. White-clover honey is selling at 8 cts. in 60-lb. cans; water-white sage, fancy, 9. Beeswax is in fair demand, selling at 30. The above quotations are what we are selling at.

Oct. 22. C. H. W. WEBER,
Cincinnati, O.

Extracted Honey Wanted

We are always in the market.

If you have any to sell, mail small average sample to

**NATIONAL
BISCUIT COMPANY**

Purchasing Department,
Washington Blvd. & Morgan St.
CHICAGO, ILL.

If your honey crop is short, and you need something fine to supply your customers, write to us, for we have it.

FINEST Water-white Mountain-sage Honey (extracted).

BEST White-clover Honey (extracted).

WATER-WHITE Sweet-clover Honey (extracted).

All in crates of two 60-lb. cans each.
Also FANCY COMB HONEY.

**WRITE US
FOR PRICES**

THE FRED W. MUTH CO.
The Busy Bee-Men
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HONEY WANTED

both
Comb and Extracted
of all kinds.

No shipment too large for us. Send samples, and state best price delivered here. We remit as soon as goods are weighed in. Best of references furnished. Don't sell until you quote us price; it will be to your interest. Large stock of Root's bee goods carried constantly on hand. Greatest shipping center in the United States—both rail and boat. Try us.

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WE WILL BUY AND SELL

HONEY

of the different grades and kinds.

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We are always in the market for WAX at highest market prices.

HILDRETH & SEGELKEN,
265-267 Greenwich St. 82-86 Murray St
NEW YORK.

Established since 1876

For 30 years we have been recognized headquarters for

Comb and Extracted HONEY

and you can readily see where it is to your advantage to consign your honey to us if you want to realize top prices for your product. Liberal cash advances made on arrival of honey.

References, First National Bank, Chicago.

S. T. FISH & CO.

189 South Water St. CHICAGO, ILL.

GLEANINGS IN BEE CULTURE

Established
1873.
Circulation
32,000.
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Semi-
monthly.

Devoted to Bees, Honey, and Home Interests.

Published by THE A. I. ROOT CO., Medina, Ohio.
J. T. CALVERT, Business Manager.

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3 years, \$2.00.
5 years, \$3.00.

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Fourteen lines to inch.

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One-half page 25.00
One page 50.00

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Preferred position, inside cover, 50 per cent additional
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CAN YOU IMAGINE A MORE INTERESTING HOME QUARTETTE ?

Our Special Price

Four great journals for **ONE-FIFTY**. Here they are:

Regular Price

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PICTORIAL REVIEW (monthly) one year, \$1.00
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LADIES' WORLD (monthly) one year . . .50
GLEANINGS IN BEE CULTURE, 1 Yr., 24 issues, 1.00
WE WILL SEND THE ABOVE QUARTETTE FOR \$1.50. \$3.00

PICTORIAL REVIEW.

A monthly beautifully illustrated. A few of the many departments and features: Home Care for Common Ills; Marketing for the Month; Kitchen Step-savers; Labor-saving Suggestions; House-building Plans; Millinery Lessons; Flower Gardens. Special Articles: Newest Fashions; Styles for Children; Home Dressmaking Lessons; Recipes; Home Furnishing; Entertaining and Etiquette; How to Earn Money at Home, etc.

LADIES' WORLD.

A monthly; an ideal publication for women and the home. A thoroughly practical household magazine, and treats of every subject of interest to women. Clean and wholesome, elevating in tone and entirely free from sensationalism. An up-to-date dressmaking and pattern department.

MODERN PRISCILLA.

A monthly devoted to all kinds of needlework. Recognized as the leading fancy-work magazine of America, the authority on all kinds of embroidery, knitting, crochet, lace, costumes, lingerie, and home decoration. Gives practical patterns and instructions in all kinds of needlework.

GLEANINGS IN BEE CULTURE.

A semi-monthly. The leading bee-magazine of the world. A glance at its pages will convince any bee-keeper that it is a magazine he can not afford to be without. The information it gives on all questions relating to the subject are invaluable to the bee-keeper, whether he has one colony or hundreds, and even if you are not a bee-keeper you will enjoy reading the paper. Interesting home and garden departments.

No substitutions of other publications can be made in this offer. Present subscribers to this paper can have GLEANINGS sent to some bee-keeping friend, and the other three papers to their address.

THE A. I. ROOT COMPANY, : : : MEDINA, OHIO

Convention Photo.

The Detroit convention of the National Bee-keepers' Association has been equaled in numbers only twice—at the World's Fair and at the Los Angeles convention. There were probably over 250 in attendance—at least, a group containing 238 members was photographed, and it is never possible to choose a time when every member is present. I employed a local photographer who is an expert in taking groups of this kind. He makes a specialty of this class of work, and has all of the necessary paraphernalia, including an 18x22 camera and set of seats like those used in a circus-tent. These seats are loaded upon a dray, hauled to the spot and set up, thus allowing of the posing of the members in rows, one above the other. I selected the location and the time of the day when the light would be the best, and the result is a magnificent photograph of a convention group, such as has never been equaled, and probably will never be even approached. There was a combination of circumstances: First, the gathering together of the leading bee-keepers; then the seats upon which to group them in a mass so that the camera could be set up close to them; then the camera of large size, and a man who knew how to use it; and last, but not least, the proper lighting conditions. The artist who took the group told me he had taken probably 500 groups of this kind, but never one that was more nearly perfect than this one in every respect—not a person moved—every face is as bright, sharp, and clear as though taken in a gallery. Then the large size of the camera allowed the faces to be made of good size. I paid the photographer \$25.00 to make the negative, and consider it money well spent, as I have a group-picture of the leading bee-keepers of this country that has never been approached in size or execution. I am proud of it, and shall have it framed and hung in my office by the side of my desk, where, in the intervals of my work, I can sometimes glance at the faces of those friends with whom I have passed so many delightful hours. Just think of having, all upon one sheet, nice clear pictures of such men as N. E. France, Geo. W. Root, A. I. Root, E. R. Root, Huber H. Root, L. A. Aspinwall, Fred W. Muth, R. F. Holtermann, T. F. Bingham, Wm. McEvoy, R. L. Taylor,

W. L. Coggsball. O. L. Hershiser, Prof. E. F. Phillips, E. M. Hunt, W. D. Soper, A. G. Woodman, H. C. Ahlers, J. L. Byers, J. E. Hand, F. J. Miller, E. E. Coveyou, E. B. Tyrell, and Chalon Fowls; but there is little use in mentioning names, as there is no stopping-place. Another thing: Many of these men were accompanied by their wives, and some by their children, all of whom appear in the group.

But I have not yet mentioned the crowning feature. There is not much satisfaction in looking over a group of this kind if you can recognize, perhaps, only half a dozen faces, but I spent one whole day in securing the names and addresses of those in the group, giving each person a number. In other words, the members are numbered from 1 to 238, the numbers being placed upon the shoulder of some part of the person; then the list of members, together with their postoffice addresses, are printed and placed below the group, and the corresponding of proper number placed in front of each name. For instance, if you wonder who is No. 83, look in the list and it is H. G. Sibbald, Claude, Ontario. In this way every member can be identified—you can see exactly what kind of looking man is some one whose writings you may have followed for years.

The picture is printed upon a semi-mat carbon paper that gives beautiful soft tones in black and white, and mounted upon the very heaviest ash-gray mount, 20x24 inches in size, packed between two sheets of cellular board, and sent by express, prepaid, safe arrival in perfect condition guaranteed, for only \$1.50; or for \$2.00 I will send you the picture and the Review for 1908 and 1909. Send for sample copies of the Review, and a circular giving some of the principal topics that have been discussed in 1908.

One more point: After you receive the picture, if you should not care to keep it, feel perfectly free to return it, at my expense, when your money will be returned. Get this photo; have it framed, hang it in your home, and I am sure there is no picture that you will look at more often or with more pleasure. As a bee-keeper and a photographer I am proud of it.

W. Z. HUTCHINSON, Flint, Mich.

HONEY-JARS

from
New York City

We consider the No. 25 jar with solid metal cap and waxed liner the best jar made for honey.

Gross crates . . . \$5.00; 5 gross, \$4.75 per gross.
12-oz. screw-cap jar . . . 4.50; 2 gross, 8.25 per gross.
1-lb. sq. jar with cork . . . 5.00;
Italian queen . . . 1.00. Catalog free.

Apiaries, Glen Cove, L. I.

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CHAS. ISRAEL & BROS.

486-490 CANAL ST., NEW YORK

WHOLESALE DEALERS AND COMMISSION MERCHANTS IN

Honey, Beeswax, Maple Sugar and Syrup, etc

Consignments Solicited. :: Established 1875.

Honey Quick.

Must go by Nov. 15—100 cases white and light-amber comb honey. Fancy, \$1.50 per case. No. 1, \$3.25 per case. No. 2, \$3.00 per case.
GEO. H. REA, REYNOLDSVILLE, PA., RT. 2.

SAVE EXPRESS! by ordering
SAVE FREIGHT! your supplies
SAVE TIME! in
---Boston

H. H. JEPSON,
182 Friend St. Phone Haymarket 1489-1

A Year's Work in an Out-apiary

or, How to Control Swarming with Any Hive,
Either for the Production of Comb or Extracted
Honey. By C. M. DOOLITTLE.

Price 50 cts. postpaid.

This is the long-promised volume, just issued from the press of The A. I. Root Company. It contains 60 pages the size of this journal, describing Doolittle's system of comb-honey production, and how he managed to control swarming in particular. He has been writing on the subject of bees for over forty years. During all of that time he has made his bees pay, and pay handsomely. Just how he has been doing this is fully explained in this work.

The regular price of this work is 50 cents; but to introduce it among our readers we offer it in combination with one year's subscription to GLEANINGS for the regular price of the journal; namely, \$1.00, providing all arrears are paid, if any; and \$1.00 for one year in advance. Those whose subscriptions are about to expire should renew at once, for the condition of our offer is that the subscription money, \$1.00, must be received before the expiration of your subscription. As there have been only a limited number of copies of the book printed, if you desire to secure one you had better renew at once, even if your subscription has some time to run, so as to be sure to get one.

GLEANINGS IN BEE CULTURE, MEDINA, O.

GLEANINGS IN BEE CULTURE

E. R. ROOT
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H. H. ROOT
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THE BEST FENCE.

There can be no doubt as to what constitutes the best fence for all kinds of domestic animals. It is the woven-wire fence as now made by the best manufacturers in America. Animals are totally prevented from getting out, yet at the same time they can not hurt themselves as they used to do with some of the other fences. For instance, the barbed-wire fence injured a great number of animals during the year, and even now it still injures a good many. Enormous numbers of cattle had their hides lacerated by the barbs, with the result that their hides, when sold, brought much less money. It was and still is a barb-arous contrivance for controlling stock. The woven-wire fence is now so cheap and effective that there is but little excuse for any farmer putting up any thing else to control his stock. Moreover, it is neater and more sightly in every way than almost any other form of fence unless it is a hedge. One of the best makers of this kind of fence is the Coiled Spring Fence Co., of Winchester, Ind., who make a splendid article, galvanized, etc., to make it last for many years. They are always glad to correspond with any one having a fence to put up. They are a good reliable concern.

THE HONEY MARKET.

We are taking special pains this season to get complete and accurate accounts of the state of the honey market in every center of trade in this country, and to some extent, also, in Europe. If our honey-producers will carefully study these reports we think such a thing as a glut of honey at any one point can be avoided. Before shipping, carefully consider all the facts. You will note some places seem to have an oversupply right now, while at others there is a shortage. A careful study of the market conditions would be a benefit all round at the present time, we firmly believe. It would also be well to scan the advertisements of the honey-buyers who use our columns. It is needless to say we consider them reliable or their announcements would not appear in GLEANINGS. The largest buyers of honey in the world are now using these columns—a fact which speaks for itself as showing the desire of buyers to get in close touch with the actual producers. It is an acknowledgment, also, that the men who read GLEANINGS are not only large producers, but also turn out honey of the highest grade, for it is abundantly evident that the buyers can handle the highest grade of honey to much greater advantage than any other kind. We desire to see both producer and buyer prosper, and we hope, by presenting the true state of the market, to help both.

4%	A request on a postal will bring you our free booklet	Established 1892

BANKING BY MAIL

Deposit your savings here, pending permanent investment.

The advantages offered are—

Unquestioned safety and four per cent interest, compounded semi-annually.

Write to-day for booklet explaining our convenient banking-by-mail system.

Resources \$800,000.

THE SAVINGS DEPOSIT
BANK COMPANY

MEDINA, OHIO

**"If goods are wanted quick, send to Pouder."
Established 1889**

A STORY WITH A MORAL

By the Bee Crank

Professor Bonnier, of the Institute of France, in a recent article states that the remarkable intelligence of bees in finding their way home is taken advantage of by a custom among the Indians. They discover a bee-tree in this way: They catch a bee which has alighted on a flower, and, having carried it some distance, let it go, carefully observing the direction it takes. A little further on they repeat the same thing with another bee. They are sure to find the tree at the point of the angle formed by the course taken by the bees, because it is a well-known fact that a bee will return to its home by the straightest line.

MORAL.

If you will intercept a number of shipments of bee supplies, and note the direction from which they came, and draw straight lines on a map to represent these directions, you will find that nearly all of these lines



converge in Indianapolis. When a bee-keeper wants supplies he does not want them to reach him by a roundabout route; he prefers to have them come straight. Indianapolis is well called the "Pivot City," because it is the center from which radiate electric and steam railway lines to every point of the compass. This natural advantage has been improved by

me by the adoption of every business method which will insure prompt and careful packing and immediate shipments. I do not wait until orders are received before sending for a stock of goods with which to fill the orders, but carry at all times a full stock of Root's goods, which are sold at Root's prices, less five per cent for cash orders received during November.

BEESWAX. I have an outlet for a large quantity of beeswax, and I pay the highest market prices, 28 cts. cash or 30 cts. in trade delivered here.

My illustrated catalog of bee supplies is free.

Walter S. Pouder,
513-515 Massachusetts Avenue, Indianapolis, Ind.

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THE YOUTH'S COMPANION.

This famous weekly magazine again makes its usual autumn announcement to the readers of GLEANINGS. It almost seems a superfluity to recommend this great paper to our readers, for everybody who makes any pretensions to being anybody has a good word to say for *The Youth's Companion*. It is a necessity in a family of boys and girls as much as a writing-desk or a piano. We can all well remember how we anxiously looked forward to the weekly visits of *The Youth's Companion*, and how disappointed we felt if for some reason it was not on time to the minute. To read it is to become a boy again, and there are many middle-aged people who do read it most assiduously, for its reading-matter is of the very highest order. The greatest writers of our age write for it and great statesmen, generals, ambassadors, doctors, travelers, and others equally eminent delight to contribute to its pages. We can not praise it too highly.

"OFF FOR FLORIDA"—SEABOARD AIR LINE RAILWAY.

Some time during the month of November, Mrs. Root and I expect to "migrate" to Bradenton, Fla. In reply to the many kind friends who are making inquiries with the view of escaping our northern winters, I suggest taking the special trip ("the lowest rate ever offered") mentioned on the cover of this issue, by the Seaboard Air Line Railway. As a rule I would say, do not think of making an investment in real estate in Florida or anywhere else until you have gone and looked over the locality yourself.—A. I. R.

BUYING A TYPEWRITER.

Elsewhere in these columns we print the very interesting advertisement of the Oliver Typewriter Co. This company recently decided to take the public into their confidence, and propose to sell their famous typewriters direct to the consumers on the easy-payment plan. This is one of the greatest concerns of the kind in existence, and, though relatively a very young firm, it has been phenomenally successful in selling its typewriters. It might be supposed from this that their machines are of a cheap kind. On the contrary, they make nothing that is not of the highest grade, and all the typewriters used in the offices of The A. I. Root Co. are Oliver's. This will serve to show our opinion of them better than words can express. They are in use by thousands of large commercial houses of the highest standard throughout this country, which we consider to be ample proof that the statements of the Oliver Typewriter Co. are well founded. In our opinion there is no better typewriter made than the Oliver.

RHODES DOUBLE-CUT PRUNING-SHEARS.

One of the best farm tools we have ever seen is Rhodes' double-cut pruning-shears, made by a company of the same name in Grand Rapids, Mich. Anybody who has much heavy pruning to do would appreciate these shears very highly. The handles give a great leverage in cutting; but in addition they cut from both sides, which materially reduces the strength required to do the work. This method of cutting obviates bruising the bark as other shears do, and this is quite a feature with careful fruit-men who desire to give their trees the best treatment. Taking these valuable features into consideration we think many will find it profitable to enter into correspondence with the Rhodes Manufacturing Co. Their address is simply Grand Rapids, Mich.

AN IMMENSE BUSINESS.

One of the sights of Kalamazoo, Mich., is the great plant of the Kalamazoo Stove Company. It is a monument to the enterprise and courage of its great promotor, Mr. Wm. Thompson, one of the wisest business men in the Wolverine State. To sell an immense output of stoves, ranges, and heaters by mail is no small task which would entitle the manager to very great fame, but also to superintend every detail of manufacture as well, is something of an achievement such as few men can claim the credit of.

There is, however, a considerable advantage in working along this line. The stove manufacturer comes into closer touch with the consumers, for thousands of letters reach him every day during the busy period of the year. He knows exactly what is wanted. He requires no army of expensive traveling salesmen to get orders. Neither are stores and warehouses in the cities and towns required. It is a simple system.

All middlemen are cut out completely, and producer and consumer do business without the intervention of an agent who would want a greater profit than the maker of the stove. This is quite an achievement to say the least.

It goes without saying, that Mr. Thompson, the manager of the Kalamazoo Stove Co., is a man of unfinching integrity or he could never have built up this immense business. Of course, he believes in the square-deal principle, without which no great mail-order business can long exist. It is almost needless to add that this company tries to make a friend of every purchaser of a stove, for in this way they are able to sell several stoves right in the same locality, and will keep on selling as long as mankind requires stoves.

If you have it in mind to purchase a stove, it would be a good thing to write for a copy of their catalog. The complete address and advertisement is on the cover.

A COMPARISON: First and Third Places in List of Ten Papers.

Of course, we were gratified to read the letter below, coming to us unsolicited, and we know our readers will be pleased too, for it is by their kindness in patronizing our advertisers that such favorable showings are made for us.

Arthur Howard Hill

Dundee Nurseries
Dundee, - Illinois

GLEANINGS IN BEE CULTURE,
Medina, Ohio.

Gentlemen:-

We thought perhaps you would be interested in the results which we have secured from advertising in GLEANINGS the past season, which are as follows:

Standing on list D as regards cost per inquiry

First

Standing on list D as regards actual business resulting

Third

There are 10 publications in class D.

Yours very truly,

August 31st.
Dundee, Ill.

THE DUNDEE NURSERIES.

A. H. Hill

Our readers, we believe, are very generally pleased with the treatment accorded them by our advertisers, and we desire that none but the most trustworthy shall find space in our paper. If, inadvertently, any one not entirely reliable should find space in our columns, please report it to the

ADVERTISING DEPARTMENT GLEANINGS IN BEE CULTURE, MEDINA, OHIO.
The Little Magazine with a Big Field.

Hammer Free!

With Every Order of Supplies of \$5.00 or Over.



This is the handiest tool for nailing up hives, frames, and all parts, or for opening up hives. Made of steel, nickeled.

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

Rock-bottom Prices

.. ON ..

Root Quality Bee-Supplies

Together with the very best shipping facilities over some thirty odd railroads and steamboats is what we can offer bee-keepers north, east, south, or west of St. Louis. Simply send us a list of goods wanted, either for immediate or future delivery, and we will quote you our best special cash price, either delivered at your station or on board cars at St. Louis.

Every day delayed, now counts.

BLANKE & HAUKE SUPPLY CO.

1009-11-13 LUCAS AVE.
ST. LOUIS, MO.

ORDER EARLY

Secure
the
Benefit
of
Discount
on
Fall Orders

For November, 5 per cent discount.
For December, 4 per cent discount.

THE A. I. ROOT CO.
SYRACUSE, . . NEW YORK

APICULTEURS

des pays de langue Francaise
Nous vous informons que.

L'Apiculture Nouvelle

Revue mensuelle illustree,

est tiree de:

Gleanings in Bee Culture

augmentee et completee par des collaborateurs Europeens, reconnus comme Apiculteurs eminentes.

L'abonnement d'un an est envoye franco pour tous pays de l'Union Postale, contre l'envoi par mandat poste de frs. 6.50 ou \$1.30.

Un numero specimen, ainsi que notre catalogue francais de tous les articles de la

A. I. ROOT CO.

est envoye gratuitement sur simple demande, adressee a

Emile Bondonneau,

Agent General pour l'Europe et les Colonies
de A. I. ROOT CO.,

142 Faubourg Saint Denis 142, Paris (10e),
France.

L'edition Francaise de l'A B C de l'Apiculture est egalement parue.

“Practice Makes Perfect.”

A little girl sat on her father's lap, looking into the mirror, and inquired if God made both her father and herself. Being assured that he did she remarked that he was doing better work than he ever did before.

It is simply the old adage over again, and it is true of *The A. I. Root Co.'s* Bee-keeping Supplies; and while perfection can never be attained they are as near perfection as improved machinery and years of practice can well make them. If you have never seen them, or if you have, and have not a catalog, send at once for my 40-page catalog, illustrated profusely, and giving prices of every thing used in the apiary. *It is free for the asking.* Special price list of shipping-cases, and all kinds of honey-packages—wood, tin, and glass. Send a list of what you will need at any time and let us tell you what they will cost you delivered at your station.

Cash or goods for wax at all times.

George E. Hilton
Fremont, . . . Michigan

WESTERN Bee-keepers

.. will ..

SAVE TIME AND FREIGHT

by ordering **ROOT'S GOODS**
from **Des Moines, Iowa.**

A FULL LINE OF

Shipping-cases, Honey-extractors,

and all other **seasonable goods now on hand.**

We are also prepared to supply goods for next season's use at special discounts.

Estimates cheerfully given. Send us a list of your wants, and get our net prices by letter.

JOS. NYSEWANDER
565-7.W.7th St., Des Moines, Ia.

5%

Cash
Discount
for
November
orders
for
“Root
Quality”
Bee-supplies
for
next
season's
use.

Beeswax wanted for cash
or exchange

M. H. Hunt & Son
Lansing, Mich.

What Would You Do?



If Your Hens Stopped Laying? If Your Horse Got the Colic? If Your Best Cows Were Ailing?

These are but a few of a thousand problems that may arise any day and cause you loss, trouble, and expense. Do you know how to solve them all? Jacob Biggle tells you in his handy Farm Library, and gives you, besides, a host of other useful facts and pointers that every person on the farm should know. His books—ten in all—are a treasury of reliable information based on practical, every-day experience, not on theory. Each of the books covers its subject exhaustively—authoritatively—and is written in a delightfully readable and interesting style. Jacob Biggle has for 30 years been a constant contributor to the Farm Journal, and, like this best-liked, most widely read American Farm Paper, his books are concise, comprehensive, up-to-date, profusely illustrated, four of them with handsome colored plates.

The Horse Book covers the subject thoroughly—health and disease, history, training, care. 55,000 copies sold.

The Sheep Book tells which breeds are most profitable, etc. It will put you right on the sheep question.

The Poultry Book is tremendously popular—by far the best handbook for the farmer's flock. Sixth edition. Sixteen colored plates.

The Cow Book tells how to make dairying pay; full of cow wisdom; condensed, and accurate. Don't wait until the cow is sick.

The Swine Book—breeding, feeding, fattening, and

marketing, with chapters on the diseases. The whole story.

The Orchard Book is crowded with new fruit facts and fine illustrations. By an expert. Twenty fine colored plates.

The Garden Book tells how the author made money in the business—a remarkable record.

The other books are like these—stuffed to bursting with facts, advice, and practical ideas.

The Berry, Pet, and Health Books are fine, every one. Each book is a handy size to slip into the pocket and consult during day's work. They cost only 50 cents per volume, postpaid; \$5.00 for the set of ten.

OUR SPECIAL OFFER

The regular price of the Biggle Books is 50 cents each, \$5.00 for the complete library. The subscription price to the Farm Journal is 75 cents for five years. For a limited time you can get one of these books and a five-years' subscription to the Farm Journal for \$1, also an opportunity to secure the other nine volumes of the Biggle Library—Free of Charge.

THE FARM JOURNAL contains more helpful money-making suggestions for the farmer and his family than any other farm paper published. That is why it has so many readers—more than any other farm paper in America, and more than all other farm papers of foreign countries combined.

Mrs. Ollie C. Krieger, of Jamestown, Pa., wrote us that the information secured from the Farm Journal helped her to make clear in cash \$137.

Thousands of our subscribers voluntarily write and tell us how they have made money from reading the Farm Journal. Following are a few of the bright, timely, and interesting articles that will help our readers get more profit and pleasure out of their farm this year. These all appear in the November issue, but every other issue is equally full of good things.

High Farming at Elmwood—Saving the Potato Crop. Money in Hogs—How to Get it Out of Them. The Farm Horse in Cold Weather. Raising Pigeons for Profit. Law for the Farm. Troublesome Insects—the Way to Deal With Them. Keeping Farm Accounts. A Woman Luther Burbank. Farmer's Problems—How to Solve Them. How to be Happy Though Unmarried—Prize Article. Family Doctor—Report of Tuberculosis Congress. Diversions for Young Folks—Games.

Let Us Send You a Biggle Book on Approval

The Farm Journal will be worth as much to you as it is to 550,000 other subscribers. In order to prove it we will send you on approval any one of the ten Biggle volumes and a sample copy of the Farm Journal.

If, after you have looked them over carefully you don't honestly feel that a visit from the Farm Journal every month for five years and one of these handy volumes is the biggest dollar's worth you ever saw, send the book right back and we will return the postage, if you wish.

If you think it is a good offer—and 999 out of every 1000 do—send us \$1.00, keep the book, and we will enter your subscription to the Farm Journal for five long years.

DO NOT DELAY

Problems are arising every day that the Farm Journal and these books will help you solve and thus earn their cost many times over. Don't send us any money; just fill out the coupon in the lower left-hand corner and send it in to-day. We will send the Biggle Book and the sample copy of the Farm Journal on approval, and, furthermore, we will tell you how

Book

Pub.
Farm
Journal,
Philadelphia,
Pa.

Please send me on approval your Biggle

If satisfactory will send you \$1.00 for the book and a five-years' subscription to the Farm Journal, otherwise I will return book inside of 10 days.

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GLEANINGS IN BEE CULTURE

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STRAY STRAWS

DR. C. C. MILLER

BEE-KEEPING is mentioned, p. 1279, as "probably the oldest human occupation under the sun." I wonder, now. Adam was a gardener. Did he "probably" spend some time at bee-keeping before he began gardening?

MY GRANDSON, 11 weeks old, is now here on a visit from Washington, D. C. When I realize what interest is awakened by that single lump of humanity, I wonder how it can be with A. I. Root with his full outfit of grandchildren, assorted sizes.

"WOULDN'T it be fair for the buyer of honey to allow the producer half price on the can?" asks Dr. Lyon, p. 1245. Isn't the answer on the next page, where the editor says, "He pays the producer half a cent more per pound for the honey because it is in tins?" [Y-e-s; but after all we suspect that would not quite answer Dr. Lyon.—Ed.]

FOR UNCAPPING, there is suggested, page 1244, "a straight-handled tool on plain work, and another knife, with an offset handle, in places which can not be reached with the straight knife." Are not those "places" depressions, and would they not be better reached with a straight handle and a curved blade? [Quite likely. Who knows by experience?—Ed.]

UNCLE JOE CANNON denounced by the Rock River Methodist conference for opposing temperance legislation, p. 1274. Oh, my! that's not the only pebble on the beach. Can't recall them all; but there are other Methodist conferences doing the same thing; also the Methodist bishops (isn't the M. E. General Conference also on the list?) besides Baptist bodies, Quaker—oh! I don't know what all. Fact is, moral issues are forcing politics into the church, and the leaders are beginning to use plain talk.

FORMIC ACID, according to that quotation from U. S. Bulletin 110, page 1254, "is supposed to be introduced into the honey by the bee just previous to capping the cell." Why not add that the bee drops it into the cell from its stinger? But does any intelligent bee-keeper nowadays believe that the acid is added "just previous to capping the cell"? [You seem to have in mind the old sting-trowel theory, long since exploded and discarded. Why can not the bees introduce the formic acid in some other way than with their stings? The author of the bulletin mentioned, we do not think, had in mind the sting-trowel theory.—Ed.]

THAT POINT that W. K. Morrison makes, p. 1248, as to the dryness of honey compared with other foods, is good. It struck me almost as something new. But I would not like to insist before a promiscuous audience that "Actually, honey improves with age." Put in that general form I'm sure it would be met with the answer, "I know that isn't true, for 'new honey' is always best, and the longer we keep it the poorer it gets." Even if, under proper conditions, it may improve with age, there's a limit, I think, to that age.

A NUCLEUS with the full two-inch space under bottom-bars had become so strong that the cluster of bees hung an inch below bottom-bars. On a hot day I lay for some time on the ground in front of the hive watching the bees enter. They had no fixed rule. Some lit directly on the cluster, some on the floor, and some on the side of the bottom-board. Then I watched the bees flying out. Some started directly from the cluster, and some jumped down on the floor and walked out. [We have watched the bees in the same way, and found they fly out and return exactly as you describe.—Ed.]

GLAD TO SATISFY the curiosity you express, Mr Editor, p. 1243. I had 129 colonies, spring count, from which I took 19,480 sections. Although that's short of what I expected, it's better than I could have done 25 years ago. Probably three reasons for the improvement: Forage better; bees better; bee-keeper better. [This is 151 sections of comb honey to the colony. As you use $1\frac{1}{2}$ by $4\frac{1}{4}$ square sections this would make a little less than 140 lbs. of comb honey per hive. The record, while not a breaker, is good for that number, and you are to be congratulated. While the season was excellent we must give the man and his management some credit.—Ed.]

"FOR OUTDOOR-WINTERED colonies we recommend about 25 lbs. of sealed stores," page 1245. While that may be all right at Medina, I'd feel safer here with 30. And a good way south of Medina, don't bees use more? [Where it is very cold the bees will consume more stores than where it is only moderately so. If the other extreme is reached, where the bees can fly almost every day in the winter, then there will also be a larger consumption, but at an increased ratio. In our locality we would estimate that there would be less stores consumed than in any point north or south of us. If 30 lbs. would be about right for Marengo, then 25 lbs. would be a safe figure for a locality somewhat milder.—Ed.]

W. M. JANES wants me to give some of the most easily seen points in appearance by which I can decide that a queen is old. I can recognize

John Smith at a glance; but to tell you just how I recognize him so that from my description alone you can recognize him at a glance, is probably beyond me. In the same way it is easy to recognize an old queen, but not so easy to tell how. And yet it's a fair question, so I'll make a stagger at an answer. An old queen is darker and more shiny in appearance, due to loss of plumage, probably. She does not move over the comb with the vigor of a younger queen, but more slowly and feebly. In many cases she seems to lose her footing, and acts as if about to fall off the comb. Now, that doesn't seem to tell much, but I'm not sure I can do any better. I'll be glad, Mr. Editor, if you or any one else will improve upon it. It is only fair to say that even the few signs I have given are not infallible. A queen that has been balled may look black and shiny while still young. Again, I have seen a queen which looked not very old, and yet my record told me she was three or four years old. [You have given the general characteristics that go to show an old queen; but there is a certain indescribable *general* appearance which is at once recognized by the veteran queen-breeder, and which to him is almost infallible.—Ed.]

EDITORIAL

By E. R. ROOT.

THE DETROIT-CONVENTION PICTURE.

ELSEWHERE a picture taken of the members who were in attendance at the National convention at Detroit is advertised by Secretary Hutchinson. We have seen this, and unhesitatingly pronounce it by all odds the best photo of a collection of representative bee-keepers we have ever seen. Every face is clear and distinct, and, what is more, shows a natural likeness. It is 18×22, and can not be reproduced in half-tone on the pages of any of the bee-papers. It will probably be many years before another collection of as many representative bee-keepers as are in this one will be seen again.

THE FOREST FIRES OF NORTHERN MICHIGAN.

WE have just received word from Mr. Geo. E. Hilton, of Fremont, Michigan, stating that "the forest fires are making sad havoc in the bee industry of this State. To-day's papers state that over fifty dead bodies have been found, and scores are yet to be accounted for." This will mean, of course, the absolute destruction of all bee flora within the territory involved, as vegetation of every kind will be destroyed, root and branch. The sympathies of all bee-keepers will, we feel sure, go out to those who have suffered from this terrible affliction.

THE PAPER PLAN OF UNITING BEES.

AFTER reading our editorial on page 1178, Oct. 1st, setting forth the various methods of uniting bees, several write us, saying we had omitted one very important plan—namely, putting a sheet of

newspaper between the upper and lower stories of the two forces to be united. Several of these writers pronounce the paper scheme far ahead of any other method, because the bees will gradually unite after gnawing through the paper, and because they will not return to their old stand.

We remember that this paper scheme has been given before in our columns; but at the time of preparing the editorial mentioned we had forgotten it.

PHOTOGRAPHS OF APIARIES FOR ILLUSTRATED WORK FOR GLEANINGS.

WE are getting a large number of snapshots of bee-yards that we can not use. A mere picture of an apiary, showing a collection of hives of *ordinary* pattern, with *ordinary* surroundings, does not convey any new information; nor does it illustrate any trick of the trade. Photos that we use most contain some distinctive feature. Those that show methods of work in handling bees or hives, are, as a general rule, very acceptable, for these convey an object-lesson that the reader can take in at a mere glance. A view of a bee-yard with a pretty background, or one with hives artistically arranged is also acceptable, because it stimulates the artistic sense in one's nature; and when it costs no more to have the surroundings neat and pretty, others are inspired to beautify their apiaries. Photos of prominent bee-keepers or of scientific subjects, or of practical appliances are always available.

In a word, any photo that we use must contain some distinctive feature that is either artistic or educational. They must in some way carry a message of some sort. For example, in the Aug. 1st issue the half-tone plate on p. 942 shows an apiary with good tiering up of the hives that are home-made; page 943 shows how just enough shade may be secured from a shed; page 944 depicts excessive clustering out on a hot day, and proves that some very good shade-boards did not serve to stop it; 945 represents a yard, not artistically arranged, but that has yielded a good revenue to its owner, and, incidentally, a hive-carrying wheelbarrow is shown in the background. So on, each picture will have some feature that makes it available for these columns.

QUEENS STOP LAYING IN THE FALL.

ON the approach of fall every year we have to answer many inquiries from beginners as to why their queens do not lay and have not laid since along in August. For the benefit of such we will repeat that, as a rule, Italian queens, at least, will stop laying after the main honey harvest in August in the Northern States. They may begin laying again if there is a fall flow; but as soon as it stops there will be no eggs and but very little brood, which will be mostly in the sealed form. The reason of this is, the queen and the bees are slow to rear brood when there are no new stores coming in, either from the fields or from a feeder. If the colony is not strong it is always advisable to practice stimulative feeding early in the fall so there will be a large force of young bees to go into winter quarters. About the time this journal reaches most of our readers it will be too late to practice this.

In such cases the colonies, if weak, should be united with the others according to any one of the methods mentioned on page 1178 of our issue for Oct. 1.

HOW TO CONTROL THE RAVAGES OF FOUL BROOD IN STATES WHERE THERE ARE NO FOUL-BROOD LAWS; THE VALUE OF DIPLOMACY.

THE question is often asked what to do when foul brood is in one's locality, and there is no State legislation covering that disease. Where one has considerable invested in bees in any such State, he can not afford to allow the disease to exist within a few miles of his locality. Indeed, he can better afford to inspect all bees within ten miles of him, and administer cures, if need be, at his own expense. The only thing to do in a case of this kind is to use diplomacy and moral suasion. Good bee-inspectors tell us that they rarely have to bring the law to bear on any recalcitrant bee-keeper. If an inspector is made of the right stuff he can generally get along without any trouble, and the same is true of the bee-keeper without a law back of him. All he needs to do is to cultivate the acquaintance of all beekeepers within ten miles of his apiary. If there are many of them, let him call together a bee convention to discuss methods of management, prices of honey, and last, but not least, bee diseases and their cure. After getting them together in a friendly way it is very easy to volunteer assistance.

But suppose there are only one or two beekeepers in the locality. Take a horse and buggy, and on arriving at, we will say, Mr. Jones' home, address him something after this fashion:

"Mr. Jones, I am a bee-keeper at Blankville. I understand that you have been having a little difficulty with some disease or malady among your bees. Thinking that I might be able to help you, I drove over this morning. I should be glad to examine your bees; and if you have what is known as foul brood I will cure it for you free of charge." If he receives you kindly your task is easy.

In the back end of the buggy should be extra frames of foundation; and if Mr. Jones is the right kind of person he will be willing to pay the cost of them. If he is a little "offish," give him the frames outright, on condition that he will permit you to burn the combs and the brood.

In all cases of this kind, make careful inquiry of all these Mr. Joneses to ascertain whether they are hard to get along with. If they are of the other sort, get some one who is a good friend of both of you to go with you.

We will guarantee that, in ninety-nine cases out of a hundred, if you use the right kind of diplomacy you will be able to banish the disease from your locality, and it will not cost you nearly as much as to spend several days at the State House trying to get the members of the legislature to pass a foul-brood bill. While every State *should* have a foul-brood law, one can not afford to allow the disease to exist in his locality in the absence of such law without making some intelligent effort to combat it. If there is no law, there is no legal way in which one can compel a beekeeper to treat foul brood if he has it. He must coax him into it by showing him that it is to *his* interest to cure it.

THE DETROIT CONVENTION.

THE meeting of the National Bee-keepers' Association at Detroit, Oct. 13—15, was a success in every way. It was estimated there were between 300 and 400 in attendance. Bee-keepers came from the east, north, south, and west, and from Canada. There was not only a big attendance, but a large number of representative beekeepers, well known either from their writings or because of their large interests in bees and beekeeping. Detroit has well earned the reputation of being an ideal city for a convention of beekeepers.

The convention was held in a large hall—in fact, it was *too* large to enjoy the best acoustic properties. Unfortunately some carpenters were at work on the building, and at some of the sessions the sound of hammers made hearing difficult if not impossible. When it became intolerable the members were allowed to retire to an adjoining hall in the rear. But even there the carpenters could be heard.

This convention was remarkable in another way, in that there was no bitterness or personalities indulged in, either on the floor or between sessions. Every one, apparently, came with the view of receiving and imparting.

There were many exhibits, and a number of good prizes carried off. The program, which was most carefully prepared by Secretary Hutchinson, came off with very little hitch.

In our next issue we hope to give one or two of the papers, and in the mean time we present here a report of one of the sessions by A. I. Root, who was present.

"TURNING WINTER LOSSES INTO PROFIT;" ALSO HOW TO FREE A LOCALITY FROM DISEASE.

TAKING it for granted that our readers will, at least the greater part of them, have access to the stenographer's report of the National convention at Detroit, I will not attempt to give a write-up. Perhaps I ought to add, however, that I do not think I ever before met so many people who wanted to shake hands with your humble servant. If I attended the different sessions of the convention, and avoided talking while some speaker occupied the floor, it was about all I could possibly do to shake hands and make each one tell his name and address. In that way I could locate and identify many of them. A dozen times or more I said to myself, "I must go back and hunt up that dear brother or *sister*, and have a talk." My name was called by many voices at the close of the first evening session; but as it was already bedtime, I decided to give my little talk the following day; but the program was so full, and the speakers were so able, that there did not seem to be any chance for me to return even a friendly greeting. I hope the women-folks especially will accept my apology for replying so briefly to their many kind words of appreciation—especially the expressions, accompanied by a pleasant look, in regard to the Home papers. I am going to try hard to keep well and to live long for the sake of the wives and mothers if for no other reason.

The marked event of the convention (to *me*) was the address of W. J. Manley, of Sandusky, Michigan. The subject was the title of this article—"Turning Winter Losses into Profit." By

the way, friend Manley is not only a comical genius, but he is a first-class humorist. It would not do to say that he held his audience "spell-bound," for, on the contrary, they were hooting and yelling a good deal of the time at some of his sallies of merriment and huge jokes. In fact, had not the good president gently told him that he really *must* stick to his subject I fear he might have occupied nearly the whole forenoon with his queer speeches and antics. When he first started out I feared he was not going to be able to handle his subject; but, oh dear me! what a revelation when he "got down to business!" It was worth the whole trip there to see him and to hear his talk; and yet both Ernest and Huber missed it entirely. They were both continually called on to explain about the large display of implements and other things connected with bee culture. By the way, this exhibition of bee-keepers' supplies ought to be in a room by itself; and the president should lock this room up during the hours of the convention — at least it looks that way to me.

Mr. Manley said there were many winter losses in his locality. When questioned closely he said he thought it was likely owing, to a great extent, to the aster honey that is gathered clear up till freezing weather. This honey is unsealed, and, of course, not ripened. It gives the bees dysentery, and in many apiaries the bees are all dead by the time blossoms open in the spring in his locality. He said he thought it very likely that taking this poor honey away and giving some stores of sugar syrup would save the bees. But how are you going to make them take the sugar syrup when there is honey to be had in the fields? He said he thought it very probable that taking away all combs outside of the cluster containing unsealed stores, and replacing them with combs of good sealed honey, or, better still, sugar syrup fed and sealed up early in the season, would make a success of wintering. But this was a good deal of trouble, and many found it very much "easier" to let the bees take care of themselves; so that, year after year, when spring-time came, there were hives of dead bees all over the land.

One spring a few years ago he told his wife he did not believe there were live bees in a dozen hives, out of a hundred or more that were covered up with snow. When somebody asked why he did not put them in an up-to-date bee-cellar I can not remember exactly what his reply was; but I think it was to the effect that, in his locality, where bees *can* winter outdoors they are generally ahead of those wintered in the cellar. Well, last spring he told his wife that a hundred colonies or more were dead. She was bright enough and wise enough to suggest that it did not matter very much any way, as it would give them a good chance to start over again with things in better shape; and in due time he and his wife went to work to get the wax and honey out of those empty hives. The combs were mostly old and heavy, and he got so much wax out of them that they had one of their "happy surprises." The honey was also saved, and sold to good advantage. If I remember correctly, some of it went to the baker's. But his greatest success came by changing his whole apiary over into modern hives with the bees all on frames of

wired foundation. The advantage of working with new up-to-date implements compensated, or more than that, for the value of the bees that died. Of course, this change might have been made with bees that did not die; but had they all lived they probably would have worked along in the old-fashioned way.

Well, after friend Manley and his wife had really gotten into the business he thought he would see how low he could buy the hives and combs of his neighbors where the bees had died. He found them generally glad to have them take the things off their hands at his own figures; and he finally scoured the whole country, gathering up the hives that would probably breed moth-millers or perhaps, in some localities, foul brood. By the way, friend Manley's scheme of clearing up the remnants of "blasted hopes" throughout the country all roundabout is one of the best remedies, both in the way of prevention and cure of foul brood, and he made money by it too. And his neighbors *also* made money. He said they were always glad to see him, because he took a disagreeable job off their hands. I have not the figures in dollars and cents that he gave us; but when you come to see them you will be astonished.

Now, here is a point that was brought out by his talk: He suggests, if I have it right, that it would pay any bee-keeper to melt up his combs, especially the brood-combs, every four or five years, and fill the frames with new sheets of wired foundation. If there has ever been any foul brood in the region the frames and hives should be treated in boiling water to banish effectually all traces of the contagious disease.

A report of friend Manley's plan of getting out the wax will be found on page 1313 of this issue; however, as this article was written some time ago, we think friend Manley will give us something for our pages that will bring the matter fully up to date.

I do not know of any subject of more importance to bee-keepers than this very thing that friend Manley has opened up to us. Old, dilapidated, run-down apiaries are a curse to any community or neighborhood; and friend Manley goes about through all his region doing missionary work in "gathering up the fragments that nothing may be lost." The man who has sold out every thing clean, and gotten rid of his old traps, will be very much more likely to start anew with nice up-to-date fixtures than he would if the old traps were left lying around loose. By the way, would it not be a fine thing if some such missionary would go around and buy up the old implements and other truck lying around in the corners to disfigure many farm homes? Years ago T. B. Terry astonished the people of Northern Ohio by having every thing unsightly cleared away from around his home and even from around the barn; and I did not understand how he did it until one day when I went over the hill back of his house. Every thing unsightly was carried off to a sort of "boneyard" back of the hill. Friend Manley has been doing for bee culture exactly what Terry did for the average farm home. The *women*-folks will enter into this work most heartily. In fact, Mrs. Root will hardly let me go to sleep nights with unsightly rubbish left around in sight, especially in the front yard.—A. I. R.

CONVERSATIONS WITH DOOLITTLE

PLURALITY OF QUEENS; WHEN PROFITABLE AND WHEN NOT.

"I have been reading Mr. Alexander's article on page 1135 of the September 15th number of GLEANINGS, and I wish Mr. Doolittle would tell us in his department just what he thinks or knows of this matter.—SUBSCRIBER."

I have tried the plural-queen system extensively, though my experiments have doubtless been fewer than those of some others. All through these discussions of the past I have looked for *one* thought in that connection which interests those in the white-clover belt above any thing else; and that is, "Can this plurality of queens be made profitable to us who desire all the surplus from the white clover possible?" So far it has been but meagerly touched upon, and that in only an indefinite way, no one having given figures to show that two or more queens in a hive prior to the blossoming of the clover are of profit. In the absence of these I wish to give a little experience of my own in this matter. I have often had a mother and daughter under supersedure circumstances in one hive during the basswood flow or later; but one spring, soon after setting the bees from the cellar, I found two fine queens in one of my strongest colonies. A scientist offered me \$25.00 for this colony, but I would not part with it, as I wished to see what I could make from it, believing that these two queens would give me double the bees for the harvest that one could. The next time I looked into the hive I found many cells occupied with two and three eggs, just as we often find in small colonies having a queen capable of laying more eggs than the bees can cover, or bring to maturity early in the year. This convinced me, as have other trials since, that, unless I double up the colonies so as to get bees enough to mature all the eggs two queens can lay early in the season, there is no more advantage with the two queens than with one, so far as securing workers for the early harvest of white clover is concerned; for, as a rule, any one of my queens will produce all the eggs that the bees can mature to be of advantage in the white-clover honey harvest. We must bear in mind that, when any colony is in a normal condition, it takes 37 days from the time the egg is deposited in the cell by the queen before the bee coming from that egg enters the fields as a laborer; and as the white clover comes into bloom about June 15 in this locality, the eggs for our laborers in that harvest must be deposited in the cells from May 5 to 12. Now, up to May 15 even an average of my queens can and do lay all the eggs that the bees of their colonies can cover and mature; hence, to go through with the work of introducing two or more queens to any colony prior to this date would be altogether unprofitable and useless, to say the least.

Let us now go back to the two-queen colony. It appears that the queen laid at least one-third more eggs than the bees could mature prior to May 15; but after that time the bees began to cover more and more of the eggs and mature them, so that about June 1 to 10 the hive was

completely filled with brood. However, as this brood developed into bees during the period of partial or complete dearth which we have upon the waning of the clover, just before the opening of basswood, these bees became consumers of the honey already gathered, rather than producers, and therefore did not add to the crop of clover honey. In other words, it took honey from the colony to produce them, and then again to keep them alive after the honey harvest from clover was past, so they were not a profitable investment with the exception of those that lived only into the basswood bloom. And even then this colony gave no greater yield from basswood than did others which had only one good queen. In looking up the history of the larger share of those who are championing the plural-queen system I find that the majority of them are interested in the fall crop of honey more than any other; and to such as these, where a plurality of queens can be successfully worked so as to bring a *great army* of bees on the field of action just when the thousands of acres of buckwheat or other late honey-producing flora are at their perfection, there can be no doubt about the practicability of the plan. But from all of my experience in this matter *one good queen* will lay all the eggs that the bees can brood so that the bees from these eggs will be of advantage in the *white-clover* harvest.

But I hear Dr. Miller saying, "*I am all interested in this matter because the bees do not swarm with two or more queens in one colony.*" But, doctor, this colony *did* swarm; and not only this one, but enough of others which were used with two queens, separated with queen-excluding metal, to make me see that the non-swarming part of it can not be depended upon. Over half of the colonies used with two queens have swarmed; but I will acknowledge that swarming seemed to be delayed to quite an extent; and when delayed long enough so that the honey-flow began to wane, such colonies did not swarm, just as colonies having only one queen do not swarm when, for any reason, they are delayed till the honey harvest is nearly over.

Then I hear another one say, "By the use of perforated metal we can keep two queens over winter in one colony, so that we can have queens to replace any poor ones in the spring, give to queenless colonies, or to sell, so that here is a profitable part of this plural-queen system." I really hope he is right, and that others may prove it so, for this would be something of great value to the queen-breeder in our Northern States; but my experience all points to the fact that, *as a rule*, only *one* queen remains in any colony when spring opens up. The colony alluded to, having the two queens when set from the cellar, is the only colony which I ever knew that had two good laying queens to begin the season with, no matter whether perforated zinc was used or not. To be sure, two queens can be wintered in one hive, the same having a thin partition of wood or some other thin substance to divide the bees into two separate colonies, but such can hardly be said to be along the line of the plural-queen system. After finding the two queens in one colony I thought I could have two queens in as many colonies as I desired in early spring; but in this I have only failure to record.

But the most serious part of this whole matter is that the majority of our every-day practical bee-keepers do not seem to succeed in keeping two queens (to say nothing about several) in any colony for any length of time, at any time of the year, except on certain occasions, and those occasions do not come oftener than once in three or four years. I have read over and over the third, fourth, and fifth paragraphs in Mr. Alexander's article on page 1135, in which he set forth the ease and certainty of this plural system, and asked myself the question, "What is the reason that Doolittle and others do not find the thing a success as Alexander did?" As a rule, the first thing the bees in the upper story do is to persecute the queen which we desire they shall consider on the same terms they do the one in the lower hive. I have not only used one excluder, but two and three, these latter being separated from one-half to one inch apart; but nineteen out of every twenty queens so tried are killed or balled, and persecuted till they are of no value. This plan would be most valuable for making nuclei could it prove in the hands of the rank and file a thing of ease and certainty. At the time "Scientific Queen-rearing" was published I thought it was no trick at all to get queens fertilized from upper stories with laying queens in the hives below, as I succeeded to my perfect satisfaction during the basswood flow of 1888; but twenty years of trial since then has proven that I have to record nineteen failures to one of success, taking the score of years together. The many private letters I receive also show that I am not alone in these failures.

NOTES FROM CANADA

By R. F. HOLTERMANN.

In the *Bee-keepers' Review* for October, page 304, a writer whose name is not given, but whose letter is well worth reproducing, makes the following statement in regard to shade for hives:

"Again, it has been said by some one that bees were better with hives right out in the sun. Some of our hives stand in the sun; some have shade part of the time, and some shade all the time. Now as to present results: Some of the hives that are in the shade all the time show the best yields of honey."

The above is my experience. If it can be arranged, sun in late spring and autumn is all right; but I can get the best results by having the hives shaded during the swarming season.

In regard to Italian bees, this same writer says:

"Have you not said a good deal in favor of the 'Superior' stock? My apiary here was originally all black, the kind that I don't like—little nervous devils that are so hard to handle. Two years ago I introduced queens from Moore and Laws. This spring the yard would run about half and half. We have had a very good crop of white-clover honey, and we tied up until near the end of the flow. Now, as we go through the yard we should expect the Italian stocks to show some superiority in amount of honey stored; but they don't. Some of the biggest stacks are

on the pure black colonies. However, I am killing the black bees off as fast as I can."

To these remarks editor Hutchinson adds the following, which my experience confirms in the fullest manner when comparing black and Italian bees:

"I have known for a long time that, in a good honey-flow near home, as is often the case in white clover, no strain or variety of bees can surpass the pure blacks; and when the harvest begins to wane, when the nectar must be sought for far and wide, then the Italians hang on while the blacks do practically nothing; all things considered, the Italians seem to be the best bees for this country."

I am rooming here at the National convention at Detroit with Mr. W. D. Wright, one of the New York State Inspectors of Apiaries. Wide experience has taught Mr. Wright that, where disease is at all prevalent, it is better to have Italian bees. I have noticed far more ordinary dead brood in black colonies than in the Italian or Carniolan; in fact, such is rare with Italian or Carniolan bees.

The attendance of Canadians at the National convention is excellent—probably greater than at any previous convention of the organization, and the attendance of all at the opening session is, I believe, greater than at any in its history, and so said George E. Hilton, the president, in his opening remarks.

CAN A SWARM TRAVEL LONG DISTANCES?

I recently met two fishermen who related to me an incident of great apicultural interest. These men stated, and there is abundant evidence to corroborate it, that, while sailing on Lake Erie, a large swarm of bees was seen coming from the North. The swarm passed the searchlight some three miles from Erie city, and landed at that place, where it was hived and is now located. I was asked where the bees came from, and I unhesitatingly stated, as had others, that they must have started from the Canadian shore of Lake Erie, traveling right across the lake. Granting that the bees came from the extreme end of Long Point, they would have to travel 46 miles over water. Bees would never leave the United States shore to travel out a distance and then return, as they would have to do in case they came from the United States; and a bee-line or any thing like it from Erie to the searchlight, and then continued, would lead to the Canadian shore.

I recently related the above to Jas. Armstrong, Cheapside, and he told me the following incident:

Some thirty-three years ago a man by the name of E. Harrison, township of Walpole, county of Haldemand, Ontario, cut a tree on Peacock Point, which runs out into Lake Erie, and the tree contained a colony of fine Italian bees. At that time there were no Italian bees in the district that either Mr. Harrison or Mr. Armstrong knew of, and both gentlemen believed that this swarm had crossed the lake from the United States—a distance of over 50 miles. It is rather singular that two such facts should come under a bee-keeper's notice within a few weeks; and, being so reliable, they are well worth recording in apicultural history, and they pretty well prove that a swarm can travel a long distance.

GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

BLUEING IN BEET SUGARS.

Bee-keepers will read with peculiar interest the following excerpt from the October issue of a recognized authority on the subject of beet sugar:

Most manufacturers who resort to blueing of sugars use ultramarine blue for the purpose. Of late it has been proposed that indathrene be used instead. It is claimed that it has all the advantages and none of the disadvantages of the ultramarine blue, which frequently decomposes with the production of sulphureted hydrogen. When the sugar is heated and contains traces of acid, it may be said that this chemical action is a great disadvantage, as certain jam manufacturers refuse to use blueed sugar in the preparation of their products. The indathrene blue contains no sulphur and undergoes no change, even when boiled with acid syrups. Alkalies are without action on this product. It is claimed that blueed indathrene sugars have excellent keeping powers and resist all action of light and moisture. It has been apparently demonstrated that no physical harm can possibly be derived from eating sugars blueed with indathrene.—*The Sugar Beet.*

FRUIT-TREES FOR HONEY.

Most of the northern fruit-trees are good for bees; but this is not so true of the tropics, where some of the leading fruits are unnoticed by bees. This is true of bread-fruit, sour-sop, cherimoyer, sugar-apple, pineapple, mangosteen, durian, and some others of less value. On the other hand, some equally important are honey-yielders. For example, the mango, which is the apple of the tropics, yields some honey, as also the banana family. That exquisite fruit, the avocado, is a fair yielder, and so are star-apple, sapodilla, golden apple, Malacca apple, guava, rose-apple, and a number of others not so well known. The cocoanut yields well, and nutmegs supply nectar every day in the year. The date is a heavy yielder. A well-known wild fruit, the hog-plum (*Spondias lutea*), yields heavily for five or six weeks. Coffee and tea are both honey-plants, but cacao, or chocolate, is indifferent.

BEES PUNCTURING FRUIT.

Mr. Peirce, the bee-man of Zanesville, O., has had an experience the past summer which tries men's souls. One of the local papers made the statement that grape-growers in a certain section of the city were having their grapes destroyed by the attacks of bees. It was not difficult to tell whose bees were meant. Mr. Peirce replied to this in a rival newspaper belonging to a different political party. He showed that bees notice only injured fruit, and that, so far as bees being a menace was concerned, the opposite was the case, since they are the chief agents in fertilizing the blossoms. He followed up this argument by stating that the courts have repeatedly upheld the bee-keeper when his right to do business was attacked. The latter was delivered as a sort of clinching argument. In any event, he has heard nothing since.

But we must be careful, for this is an age when everything is "regulated." It is a good thing to keep the soft side of the local editor.

L'ABEILLE ET LA RUCHE.

Mr. Dadant has gotten out a new edition of the above work. Of course, most of my readers

will understand that it is the revised version of Langstroth's great book, "The Hive and the Honey-bee," written in the language of France. It looks very much like the English edition in every respect, except that it seems a little better executed as regards paper, printing, and binding. The publisher is Burkhardt, of Geneva, Switzerland. So far as as I can see by a rapid examination, the translation is as accurate as it can possibly be. The book is so well known to bee-keepers all over the world that to praise it would be a work of supererogation. In French Canada, Louisiana, the West Indies, and elsewhere on this side of the Atlantic, "L'Abeille et la Ruche" should have a large sale among bee-keepers. It is a complete guide to bee-keeping, written by two great masters in bee culture — accurate, scientific, and up to date. It is sold at a very reasonable price, so that French-speaking bee-keepers have no excuse for not owning a copy.

FOOD VALUE OF SUGAR AND HONEY.

There is a widespread idea that sugar is only a condiment and not a food. It is very difficult to combat such fallacies, as they are ingrained and form part of the personal character. The latest authority to try to stem the torrent of public opinion is Prof. Landouzy, dean of the medical faculty of the University of Paris, whose opinions on the subject are being given wide publicity by the newspaper press, both here and on the continent of Europe. He says sugar is not a condiment, and recommends it for the army as a strength-producer, as it has the advantage of being used up by the system almost instantly. Laboring men are advised to use it as a food, not merely as a condiment in tea and coffee. Of course, what he says applies with double force with regard to honey, as it stands ahead of sugar in the rapidity and ease with which it is used up by the human system. Formerly we were taught that the carbohydrates are useful only as heat-producers. The new school has thrown away that idea. In the next war the soldiers will make forced marches on a diet of chocolate creams made of honey, chocolate, and sugar.

PARCELS POST MISREPRESENTED.

An editorial in *The Shoe and Leather Gazette*, opposing parcels post, is being widely published by the papers favoring the present system. It is a gross misrepresentation. It says: "The uniform-rate would not work equitably. It would enable a big manufacturing concern in one part of the country to swamp or crush out local competitors all over the country. It would help build up the great retail mail-order houses. It would enable them to reach all parts of the country and undersell the local merchants because it would cost them no more to deliver their goods 1000 miles away than it would cost the local trader within his own village." This is a gross misrepresentation, for the facts are entirely to the contrary. The Postmaster-General proposes to allow local dealers to mail 11 pounds for 25 cents to persons on rural routes in the same locality. For long-distance packages the rate would be \$1.32, which is quite a difference. *The Shoe and Leather Gazette* can rest assured the farmers of this country are not stupid men. They can see clearly the tremendous opposition to parcels post

comes from people who have an ax to grind, namely, the express companies. The mail-order concerns are not anxious for parcels post.

*
ALFALFA FOR HORSES.

Mr. Joseph E. Wing, that prominent authority on alfalfa culture, says that for feeding to horses alfalfa should be allowed to grow till it is fairly *mature* before being cut. Sometimes it does not quite agree with them when first fed; but they soon become accustomed to it, and they are actually better for it. They take on flesh, work better, and feel better.

The last crop of alfalfa he does not think should be fed to horses, as it is not mature. The coarser crops grown earlier in the season are better. Neither horses nor mules should be fed all the alfalfa hay they will consume, as it is too rich a feed, and they do not need so much of it. This knocks the bottom out of the argument that alfalfa should be cut before it blooms, and "Joe" knows what he is talking about. He also says there should be no mold on the hay. That is an excellent point. There is only one remedy, and that is to cure the alfalfa under hay-caps in the field. When finally put into the hay-mow it will not mold or rot, because it has been thoroughly "sweated" already.

*
NEW BEE-KEEPING TERRITORY IN THE FAR SOUTHWEST.

If the Imperial Valley will hold no more bee-keepers until Harriman waters that small matter of 1,500,000 acres we must look around for other fields to conquer. There is some room at Yuma, on the government reclamation project, which will soon be ready. Then there is the great Salt River Valley project; but probably this will be fairly well occupied by bee-keepers now on the spot. There will be 300,000 acres of irrigated land at Parker, Arizona, where some one is building a great bridge over the Colorado River. There is a considerable body of irrigated land at Needles, on the Colorado, and more will be reclaimed. There are 40,000 acres available at Palo Verde, on the California side of the Colorado. The U. S. Reclamation Service has in mind an immense project on the Colorado, embracing Utah, Arizona, and California, which will cost in the neighborhood of \$40,000,000. That's some money to spend on a dam. This would completely dwarf the great Assouan dam on the Nile, and make a great paradise for bee-keepers, as alfalfa, dates, and oranges would be the leading crops. The date is a fine honey-yielder, excelling alfalfa, in my opinion, and, of course, the blossoms are not cut.

New Mexico, too, is forging ahead, and ere long will cut a figure as one of the important honey States. When the immense Elephant Butte dam is completed, a great stretch of land will become available for bee-keepers. Around Deming, pumping-plants are doing wonders in bringing lost rivers to the surface, and probably large areas elsewhere can be reclaimed. Southern Utah (Utah's Dixie) holds much in store for bee-keepers. Even oranges will grow, and the date is harder than the orange. Southern Nevada, too, is making headway, and for fruit culture they claim to have California "licked," whatever that

may mean. Oranges grow there also, but figs are in their glory and so are grapes.

Date culture will help bee-keeping, and I opine Texas will stand an excellent chance in this respect. Florida might cut quite a figure in date-growing, and probably the Sea Islands of Georgia and South Carolina. Dates do well in Bermuda and the West Indies, and it is amusing to see the bees at work on the blossoms. They simply crawl over the blossom as they do on a feeder until they fill up.

*
THE LORE OF THE HONEY-BEE, BY EDWARDES.

At last we have a rival to Mæterlinck, who not only writes well but knows bees and bee-keeping with certainty. It is evident that Mr. Edwardes is a bee-keeper, and keeps himself well informed on the latest developments in practical bee-keeping. For example, on page 96 he says, "If, therefore, the new system of plurality of queens both justifies and establishes itself, the near future may see a revolution in all ideas relating to beemanship. All that can be said for certain at present is that as many as five queens have been induced to occupy the same hive in peace and quiet together; but whether this portentous state of affairs can remain a lasting one is still to be proved.

"A curious and (to the expert) a startling outcome of these efforts to break down an old and almost universal custom in bee-life is that the successful establishment of several mother-bees in a single hive appears to lessen the swarming impulse. Hives so treated do not send out a swarm, so far as is known."

He is also at home on the physiology of bees, as his remarks on the morphology of the queen will show. On page 100 he says, "If the egg deposited in the queen-cell be removed, and an egg taken from any one of the thousands of worker-cells in a hive be put in its place, the worker egg will always produce a fully developed and accoutered queen-bee. On the other hand, if an egg be taken from a queen-cell and placed in a worker-cell it will infallibly hatch out into a common under-sized worker. It would be sufficient tax on the credibility if the differences of queen and worker were only those of degree. If the queen were nothing but a large-sized worker-bee, on which certain organs—which were atrophied in the worker—had received their full development, it would be a fact within comprehension; but the queen differs from the worker, not only in size and the capability of her organism, but also on several important points of structure. And how can mere food and air and circumstance produce structural change? The worker has many bodily appliances—special members ingeniously adapted to her daily tasks, of which the queen is wholly destitute; while the physical organism of the queen varies from that of the worker in several important degrees.

"Some of these must be enumerated. The abdomen of the worker is comparatively short and rounded; that of the queen is larger and longer, and comes to a fairly sharp point. The jaws of the queen are notched on their inner cutting edge; the worker's jaws are smooth like the edge of a knife. The tongue of the worker has a spatula at its extremity, and is furnished with sensitive hairs; the tongue of the queen is shorter, the

spatula is smaller, while the hairs show greater length. The worker-bee has a complicated system of wax-secreting discs under the honey-plates of its abdomen; in the queen these are absent, nor can the most elementary trace of them be discovered. In their nerve-systems the two show difference, the queen possessing only four abdominal ganglia, while the worker has five. The queen's sting is curved, and longer than the worker's; the sting of the worker-bee is perfectly straight. On their hind legs the workers have a curious contrivance which bee-keepers have named the pollen-basket. It is a hollowing of the thigh, the cavity being surrounded with stiff hairs; and within this the pollen is packed and carried home to the hive. In the queen, both the cavity and hairs are absent. Her color, also, is generally different from that of the worker bee, her legs in particular being a much redder brown.

"Here is a problem for our great biologists—a problem, however, at which the plain every-day man may well flinch; for we seem to have come face to face with new principles of organic life—facts incompatible with the accepted ideas of the inevitable relation of cause and effect. The irresistible tendency at this stage is to hark back—to repeat the experiment of the transposed eggs, and see whether no vital, initial circumstance has been overlooked. But the result is always the same. Nor can the most careful microscopical dissection of the eggs themselves reveal any differences. In this mystery of the structural variance between queen and worker, it would seem that we are forced to accept one of these alternatives: Either the egg contains two distinct germs of life, one developing only under the stress of hard times; the other, only the call to luxury; or we must go back to mediæval notions, and believe that the worker-bees give or withhold some vital principle of their own during nurturing operations; or we must give up the problem and decide that creation works on lines very different from those on which we have hitherto grounded our faith."

Here the author does a distinct service to bee-keeping by calling attention to a weak point in our knowledge of bee-life. Why can't we solve the riddle? Dickel and Kuckuck, in Europe, are trying their hand at it. Our theory of parthenogenesis is defective. Who will give us a better one? The parthenogenesis of the bee is different from that of most other insects and animals, and for that reason we can not apply to the regular biologists for an answer to our questions.

I make these citations to show the author is a deep student of bee-life. We want more writers like him. We want men who can get us out of the rut and keep us out.

On p. 125 the author commits one error in supposing no one has seen a queen lay in a queen-cell. She certainly does, and has been seen doing it. If he wants certain proof that a queen will lay in queen-cells, let him get a copy of Mr Pratt's book, "Forcing the Breeding Queen to Lay in Cell Cups." He can try the experiment himself.

Our author hazards a guess that bees may have senses we do not possess. For example, he surmises they can transmit thoughts without the aid of speech by means of their antennæ; or they

may go further, and transmit thoughts through space by means of a sort of wireless telegraphy. It seems reasonable.

I think the quotations given will show "The Lore of the Honey-bee" is an eminently readable and instructive book. It is about the same size as Mæterlinck's book, "The Life of the Bee," and is on the same general plan. Mr. Edwardes has an advantage over Mæterlinck in making statements true to fact, while the other is often imaginary. The Belgian, however, makes up the difference when we come to consider the elegance of diction and subtlety of expression; in fact, no man living quite equals him in fine writing and pure eloquence. Both books are worth owning if one likes good reading. There are several very fine half-tones in "The Lore of the Honey-bee." The printing is excellent. It would have been better to have a nicer binding, in keeping with the rest; but that is a small matter. The publishers are Methuen & Co.

BEE-KEEPING AMONG THE ROCKIES.

By WESLEY FOSTER.

HONEY PRICES.

Producers on the western slope in Colorado have sold comb honey in single-tier cases at \$2.25 to \$2.50. This is somewhat below the price secured on the eastern side of the mountains, on account of the higher freight rates, and because the honey was not graded according to the new rules, which allow for a No. 1 light-amber grade, the quality of most of that honey.

Several producers have sold to dealers and buyers at \$2.30 to \$2.60, but this honey was not graded strictly according to the new rules, but was good weight. Honey graded and packed according to the new rules sold from \$2.60 to \$2.80 per case in double-tier cases. White extracted can be had at 7 to 7½ f. o. b. cars in several places in Colorado. None of my honey has been sold for less than \$3.15 for No. 1 white, and most of my No. 2 has been at \$3.00 per case, put up in double-tier shipping-cases of 24 lbs. each.

HONEY EXHIBIT AT THE COLORADO INTER-STATE FAIR.

The exhibit at the Colorado Inter-State Fair, held in Denver, Sept. 7 to 12, was very good, for the size of the honey industry. There were few exhibitors, but they made up for this in the size and quality of the exhibit. The prizes were liberal, and paid the exhibitors well for the time and expense, besides advertising their goods in a very effective way. Bees in observatory hives drew the crowds, as did the demonstrations with live bees each afternoon by Pres. Collins, of the State Association. Mr. Collins' talks were very instructive and interesting, and he took a prize too, as a partial reward for his time. The real reward, however, will come in the added consumption of honey, which he strongly urged.

The ventilating-holes in the bottom of an observatory hive soon fill up with dead bees, and

are rendered useless. They should be on the end of the case instead of on the bottom. There is a marked difference in the length of time that bees live in the confinement of an observatory hive. A one-frame hive of Italians played out in about two weeks, even with frequent flights, while another one-frame hive of Italians have been in the glass hive in confinement most of the time for seven weeks, and still preserve the spirit of a well-ordered community.

An exhibit of bees and honey which my brother Wilbur put into a grocery in Boulder elicited so much interest that he was asked to give a talk with the observatory hive to the schoolchildren. This he did, and the attention and interest of the children were marked. The teachers questioned the children the next day, and found that they remembered every thing that was said.

Bees and honey are much more fruitful subjects than breakfast foods, and we should use as much energy in pushing our goods as the shredded-corn and toasted-oat manufacturers.

THE PAST SEASON'S CROP IN THE WEST.

Northern Colorado had a failure so far as shipping honey is concerned, only one car so far being sent out. The average yield per colony would not amount to more than seven or eight pounds.

Logan County, in Northeastern Colorado, had a fair yield, several cars being produced.

The reports from Southern Colorado and the Arkansas Valley are better, though no big yields have been recorded.

Western Colorado, or Delta, Montrose, and Mesa counties, have generally reported a good crop; several say it is better than that of 1907.

No report has come in from Montezuma Co., in the southwestern corner of the State; but in Northwestern New Mexico, which is just over the State line, no surplus has been secured from the parties answering inquiries.

Southwestern New Mexico has produced a good crop—much of it mesquite honey.

Arizona also has turned out quite a quantity of alfalfa and mesquite.

Nevada reports some honey. It is likely that the men who have honey answer the inquiries, and those who have none do not answer.

Utah is from good to bad, the Uintah country producing nothing for shipment, and the reports coming from north of Salt Lake, around Logan, are good.

Idaho had a fair yield, as did Wyoming, where there is sufficient alfalfa. One sample of Wyoming comb honey which I saw was very fine, and showed that the district from which it came had enjoyed a good yield.

Honey-dew was plentiful in several districts in Northern Colorado. The trees in Boulder dripped with it, and the bees literally covered the leaves. This lasted for fully two months, and what bees were close to the mountains and in the older settled parts suffered worst.

OBJECTIONS TO THE SINGLE-TIER CASE.

Comb honey is not wanted by the dealers in single-tier shipping-cases. Several cars of comb honey could be sold in the next week if the honey were put up in double-tier glass-front cases,

and there are several cars of comb honey in Colorado packed in single-tier cases, some without glass, and also lacking drip-sticks, and it would have paid the producers to study the market requirements more, and paid less attention to the few cents saved on a case. The objections are as follows:

First, in handling a carload of honey in single-tier cases one will feel twice as tired as after handling the same amount in the double-tier. One can not get the hand-hold as close to the edge as with the double tier, and there is less room for the fingers.

Second, if a case is picked up by the corners it will often twist enough in carrying to break or crack some of the honey. This is almost sure to occur if one carries two cases at a time and does not grip them just right.

Third, the top of the sections is flush with the top of the sides of most of the single-tier cases, making breakage almost sure. In shipping, expressmen and freight-handlers drop the end of one case in the middle of another case on the pile; and if they do this at all roughly the breaking of comb is certain. Cases are stepped on often, and a single-tier case simply will not stand this usage, while a double-tier case with half the surface is safe, provided there is an eighth-inch space between the cover and the top of the section.

Fourth, from the grocer's standpoint, the glass in a case is for showing the goods; and the more goods that are shown, the better the impression, and the more honey sold. Furthermore, it is a guarantee that at least a fourth of the honey is all right if a double-tier case is used.

Fifth, a single-tier case takes up twice as much room on the counter, showcase, shelf, or floor; and since one can not put any thing on top of it and still get honey out of it, the saving of half the floor space by the use of the double-tier places it far in the lead.

The objection brought against the double tier is that broken honey will leak on to the section below. Leaky and broken honey should not be cased for shipment any way, and experience shows that this objection is not worth considering.

There was a time when the production of the Rocky Ford melon was nothing. Several wise heads among the growers got together and decided on a plan of action. First, they had to teach the growers how to raise melons; then they united on the pony and the standard crate; and when they got the farmers so they could produce a good melon put up in the best crate obtainable they sent several carloads east and gave them away—making the people eat them. They had to have cars made right to carry off the gas from the melons and ventilate the car.

Bee-keepers must take much the same course. They must learn to use separators and honey-boards in place of sack covering for sections. No man but an expert with a fast flow can raise good honey without them; and who can positively foretell a fast flow? A uniform case, the double-tier glass front, has been adopted by Colorado bee-keepers. Let all use it, and grade strictly according to the rules.

Comb honey produced, packed, and pushed with the energy devoted to the Rocky Fords can meet with the same success.

GENERAL CORRESPONDENCE

EXTENSIVE WAX-RENDERING.

Buying the Combs from Dead Colonies to Render for Wax; the Manley Wax-press.

BY E. D. TOWNSEND.

Two familiar figures at our State convention for the last few years are the Manley brothers, of Sandusky, Sanilac Co., Michigan. They are the parties who apparently turn failure into success; and I think I can not do better than to tell of some of their experiences as they have told it at our State conventions; then the reader will better understand what I have to say about their wax-press and method of rendering wax, and how they secure the material.

Sanilac County is low, level, and very fertile, quite a considerable portion of it being on the swampy order. Years ago, when the country was new, it was swept with forest fires until there was not much of the natural forest left. Later, in this burned district came clover, willow, and asters—the latter, sometimes, in a favorable season, yielding a large quantity of surplus honey. This aster honey is what makes the trouble, for during the winter after a season when the asters yield honey, nearly every colony of bees in this locality dies, sometimes only two or three colonies being left out of a yard of between 100 and 200.

A little incident illustrating how much confidence the bee-keepers in this location have in their ability to winter bees came out at our State convention at Saginaw last fall. A bee-keeper of this district having a yard of about 100 colonies, sold the lot for an average price of \$1.12½ per colony. This price was based on the value of the hives, combs, and honey, the bees not being considered, as they die early in the winter. Whole yards are often dead in February, and the honey left amounts to considerable.

The Manley brothers are farmer bee-keepers, and after the winter loss they scour the country for miles around, picking up wax material. They pay about 25 cents a set for the combs, and something also for the honey. A galvanized steel tank is taken along, as well as some large boxes. The empty combs are cut out into the boxes, and the honey-combs into the tank. This honey is afterward melted and strained, and sold to the bakeries. In this way they have no trouble in buying nearly every lot they come to, for most of these combs would be left to the moths, and the owner would receive nothing for them.

At our State conventions in years back the Manleys have been asking for instructions to make a wax-press that would render wax economically, as they were in the wax business extensively, and could not tolerate the slow-working presses on the market. They had tried the plan of working several presses at a time, which help-

ed matters somewhat; but they were not satisfied, as they wanted something that would handle a large quantity of old combs, but there did not seem to be any. At our last convention at Saginaw, Mr. W. J. Manley reported very good success with a press which they had gotten up; by request he describes it here:

There is nothing original about this press as I stated at Saginaw. It is a sort of combination of the Hatch, Root, and Hershiser ideas, and the press is only one feature of the process. However, I have experimented extensively, and it is the best thing I have found yet. I rendered over 1500 lbs. of wax with it last spring, and was very much pleased with it. It is not perfect; but I can take the oldest, blackest brood-combs and turn out 20 to 25 lbs. of fairly good wax per hour, and make a thorough job of it too.

The press is a built-over Root-German—in fact, it is all Root-German except the can. The new can is built of heavy galvanized steel, is 15 inches in diameter, and 18 inches high. Two inches from the bottom a spider is riveted, for the perforated basket which contains the combs to rest upon. This arrangement provides for plenty of water to circulate under the cheese, on the Hershiser principle of the washing-out of the wax, as will be explained later. We transferred the Root screw and plunger, with oak cross-arm, into our press, and also the perforated iron basket. We had to reinforce the follower with a plate of iron on top to keep the wood from warping; also the oak cross-arm, to keep it from springing. We had trouble until we did this. The two lugs were riveted to the top rim of the tank for the burrs on the cross-arm bolts to slip under, as on the Root-German.

A large-mouthed sack, like a potato-bag, is the best thing we have found to hold the combs, when the top is cut off to the desired length. The combs can be more securely held than in a square piece of burlap, especially when they are being submerged. Besides, it does not require so many square feet of burlap, which is important. We press only one cheese at a time. As we use two boilers we do not attempt to melt all the combs that could be melted in each one, but simply fill each boiler in its turn with dry combs tramped in moderately tight. If the combs are old, hard, and black, we find about two eight-frame Langstroth brood-chambers furnish enough material for a batch; if only moderately so, four or five sets of combs can be run in a batch.

We then pour in water until it comes up two-thirds of the way in the boiler. This will all go into the press nicely in one batch, and furnish plenty of water to make a thorough job of it. The contents of the boiler are kept stirred, and, when melted, are dipped and poured into the sack previously arranged in the press. The top of the sack should be straightened up, and held in this position until the free wax and water work out into the press-can; then the top of the sack is rolled or folded down, the plunger put in, and pressure applied. In handling the hot sack gloves are worn.

In the washing-out process we raise the plunger usually twice by unscrewing it a little and allowing time for the slumgum to become saturated with water; then screw down again. This part of the process does not take more than ten minutes; for where there is only one cheese, and that not over one inch thick at the most, the wax can escape readily into the water in every direction as pressure is applied, and the work is soon done. We have never tried more than one cheese in this press; it is too slow and fussy. We have tried putting the slumgum through the second time, but it does not pay since using this press.

When through pressing, while the plunger is still screwed down tight, the hot water and wax in the press are emptied into a wash-tub provided for the purpose. We use but one tub for this purpose, and also use this same hot water for the next batch. There is a little knack in cooling the inch or so of wax that is on top of the water in the tub, without cooling the water underneath to any great extent. It is accomplished by splashing on cold water in sheets, thus causing the wax on top of the water to congeal, so it can be removed immediately. This is very quickly done with a common ten-cent sieve dipper, such as house-keepers use for straining soups. Repeating this operation every few minutes in such a thorough manner constitutes the chief merit of this system; thereby we can turn out a large quantity of wax of good grade, in a short time. We have rendered in the last four years nearly 10,000 lbs., but we have used this press during only a part of the last season, and have rendered out about 1500 lbs. with it. An eight-frame Langstroth brood-chamber yields with us about 2½ lbs. of wax on a general average, and extracting-combs from 2¼ to 3 lbs.

We have spent considerable money and time experimenting on the wax-rendering proposition; and this plan of melting the combs in boilers, and turning every thing out into a press that is operated a few feet from the heat of the stove, and down where we can get at it to work, is the most thorough and expeditious of any thing we have found yet. We use the tank of the Root press to remelt this wax, and get it in shape to mold. Our stove is large enough to hold the two boilers and this Root tank all together; and as soon as we get a 5 gallon can (with top cut out)

full of wax in the rough we dump it into the Root tank, cover it over, and as fast as it melts it runs out of the spout into one of those gravity separating pails described in GLEANINGS three or four years ago by Mr. Aikin. In this way a sort of "perpetual motion" is kept up; and when through rendering the wax it is ready for the market.

W. J. MANLEY.

We have rendered our wax this year in one of the new Hatch wax-presses. The wax was handled as near to the Manley plan as possible. Instead of setting the press down near the floor, it was elevated so a wash-tub could be put under the spout. We dip the melted combs from the boiler into the press with a large dipper, continuing this until only enough water and wax are left in the boiler, including what there is already in the press, to fill the press-can within about an inch of the top. Previous to this the wax and water were allowed to run out of the bottom of the press as usual; but now the outlet at the bottom of the can is corked, and enough water and wax retained to fill the can of the press as I have explained. The edges of the burlap should be brought together and twisted, and the pressure applied. The screw is then loosened two or three times to saturate the slumgum with water, on the Hershiser plan. Then on the Manley plan, when the screw is down tight, the water and wax are turned from the top of the can into the tub.

The can of the Hatch press is large enough to hold sufficient slumgum to make a cheese an inch thick, as the Manleys recommend; and by leaving the press open until there is only enough material left to fill the can, the rest is retained to keep the slumgum hot, and more particularly to secure the Hershiser "washout" principle. We succeeded in this way in getting a larger per cent of the wax out of the slumgum than by using the press in the usual way, because, ordinarily, there is some wax that congeals on the burlap, while with the washout principle the burlap comes out of the press clean of wax. Whether the slumgum with this washout principle will need to be run the second time to free it from the wax, I can not tell, having tried it in such a limited way. Ours was run the second time, and it looked as if the second trial would pay; but I am not ready to say it will pay, without more experience. The Manleys make a good point in using two inches of water under the cheese, and lots of it above; the less amount of water used in the Hatch press may make it necessary to run the slumgum through twice, while once is all that seems necessary with the Manley press. One thing I am sure about with the Hatch press worked on the washout principle, in running the slumgum in particular, there was not a particle of visible wax sticking to the burlap, and somehow I felt as if there was less wax left in the slumgum than usual.

I have always used the square Hatch-Gemmill press; but after using the new Hatch press I am sure that the round form is better. The whole cheese can be brought nearer the center, which means that there is less strain on the screw and other parts. Then the round form, with a follower that fits out close to it, prevents any part of the cheese from slipping out at one side, so that it is not pressed. There are also no corners to cool, etc.

Where there are large quantities of old combs to render, or where one is in the wax business as extensively as the Manleys, something larger

than the Hatch press will, perhaps, be needed; but for the ordinary bee-keeper having 100 colonies or less, with the wax material as it usually comes from a yard of bees in normal condition, the Root-Hatch press will be satisfactory if worked by directions that come with the press. Then if the slumgum is run through the second time on the Hershiser washout plan as I have given above, there will not be a very large amount of wax left, and the work will not be so very tedious after all.

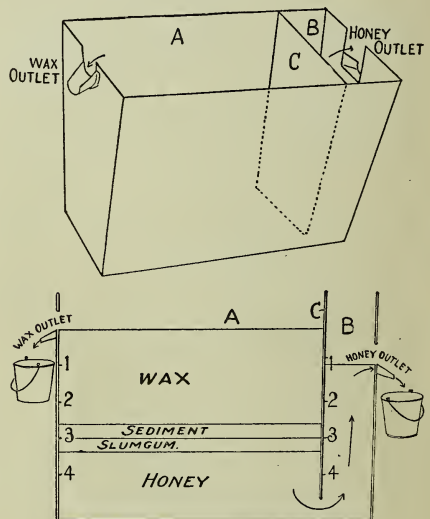
Remus, Mich.

[The process of rendering as described by Mr. Manley is quite similar to the Sibbald method illustrated on page 210, Feb. 15. Mr. Townsend's article was written last March, and at that time Mr. Manley had probably been using the method as described, for over a year.

About two years ago we tried the hot-water plan in connection with the Hatch press; but at that time we felt that the use of the water did not facilitate matters. However, some may find that the plan suits their convenience better. We should be glad to have reports from any others who have used the Hatch press in both ways.

We believe Mr. Manley is right in pressing only one cheese at a time. Where the water can be kept hot, as in the Hershiser plan, so that the intermittent pressing can be kept up for some time, a number of lots of comb can be pressed at once.

For the convenience of our readers we herewith reproduce the engravings illustrating the wax-separator as described by Mr. Aikin in the Jan. 15th issue for 1902, which is probably the separator to which Mr. Manley refers.



We should be afraid that the average person would find it rather difficult to cool the wax on top of the hot water. We have found it a good plan to leave the wax floating on top of the hot water until the work is done. When hot water is wanted, it may be drawn from the bottom of the can through a faucet or gate.—Ed.]

IS DENSE SHADE OBJECTIONABLE?

Bees Return to Hives from Miller Escapes;
How to Grade Honey Properly.

BY J. C. DAVIS.

I thought that the shade might be getting too dense in my apiary, so I trimmed the trees. The upper view shows the yard as it was, and the lower one as it looks now. At the time I did the trimming I was not sure that I was doing the right thing, and I am not sure yet whether the shade was any disadvantage. The best colony in this yard in 1906 was No. 6 in the back row, where the shade was the most dense. The same colony was the second best in 1907. There were about 150 colonies when the photos were taken, September, 1907. The colonies in the front

rows get more sunshine, and they winter (or, rather, spring) a little better, and the surplus averages a little more from them. Since doing the trimming however, there is very little difference. The trees are second-growth oak, hickory, and elm.

As may be seen, there is a Miller escape on top of one of the hives in the lower view of Fig. 1. I use both Porter and Miller escapes, and I find them both good. If I have plenty of time I use the Porter; if not, I use the Miller. I have watched closely, and I think that the bees all return to their own hives from the Miller.

Fig. 2 shows section honey as I grade it. I always sell by the case, and the grocers prefer to have it that way when *so graded*. They often sell other ungraded honey by *weight* at the same time.

This has been a very poor season here—about 10 or 15 per cent of a crop from the best strain of Italians, and a total failure from the blacks.

Bethlehem, Iowa.

[We believe there is no question but that *too* much shade is too much of a good thing. An ideal shade is that which spreads over the hives only during the middle hours of the day in hot weather; but at all other times it is best not to have any shade, although where one uses natural shade, that is a matter difficult to control, ordinarily. If one uses shade boards, and applies them just as soon as hot weather comes on he will have to put himself to considerable expense and trouble—that is, the trouble of putting them on in the first place, and then more trouble every time a hive is opened, especially if he uses a 15 or 20 pound stone to hold the shade-board down. But the ordinary shade-boards, unless made very elaborate, do not furnish any adequate shade in the hottest weather. The bees are not fully protected, and swarming is aggravated.

It was the late E.

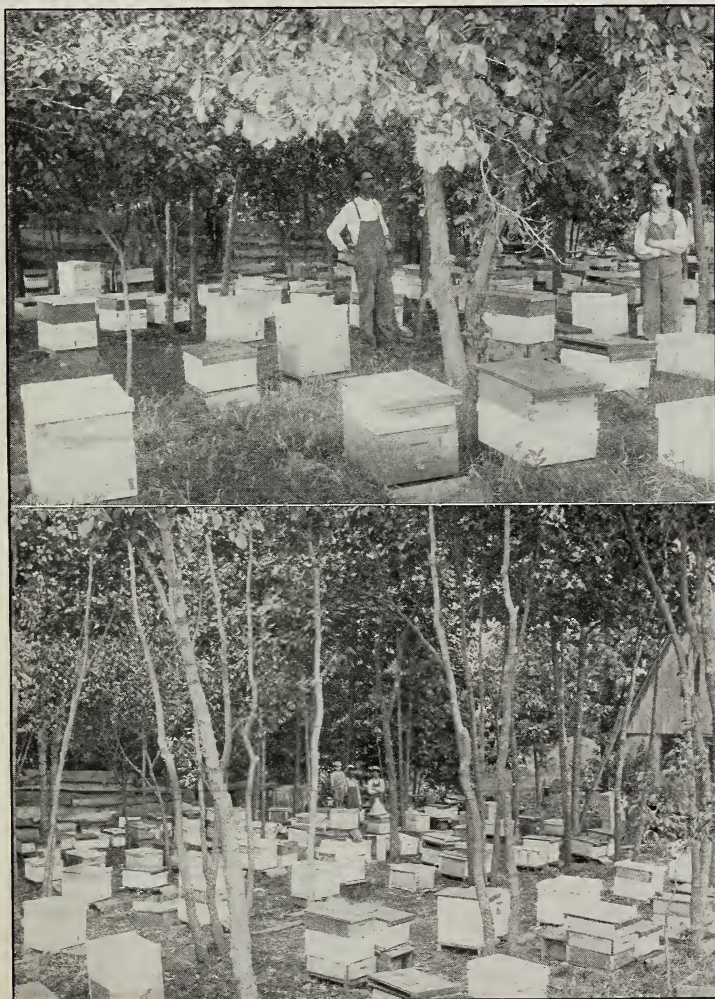


FIG. 1.—J. C. DAVIS' APIARY BEFORE AND AFTER TRIMMING THE TREES. Mr. Davis did not notice any material difference in results after getting rid of the dense shade.

W. Alexander who said he conducted some experiments along the line of natural shade for a number of years, and generally found that a hive continuously shaded did not do as well as one that had less shade. Others have reported something similar. Still, to settle the question beyond peradventure, we wish that all who are in position to know would state their observations.

The illustration showing three gradings of comb honey is certainly very interesting. We should say, according to the Eastern grading-rules, published at the head of our Honey Column, that the top case would really rule extra fancy, while the middle one would run fancy, and the lower one No. 1 and 2. The tendency, however, is rather to boost the gradings, putting them in a little higher than they rightfully deserve. A comb is regarded "fancy" nowadays when all the cells are sealed and white, except the rows next to the wood. If all or nearly all the cells are sealed, then the grades would necessarily be "extra fancy," but it is very difficult to get sealing clear out to the wood; and it is a question whether the extra price secured would warrant the extra cost in proportion. Such forcing to get all the cells sealed is likely to induce swarming. It has been claimed that more money can be secured by producing a strictly No. 1 comb honey than by attempting to run for an extra-fancy—that is, combs white and all sealed. We should be pleased to have some discussion on this point.—Ed.]

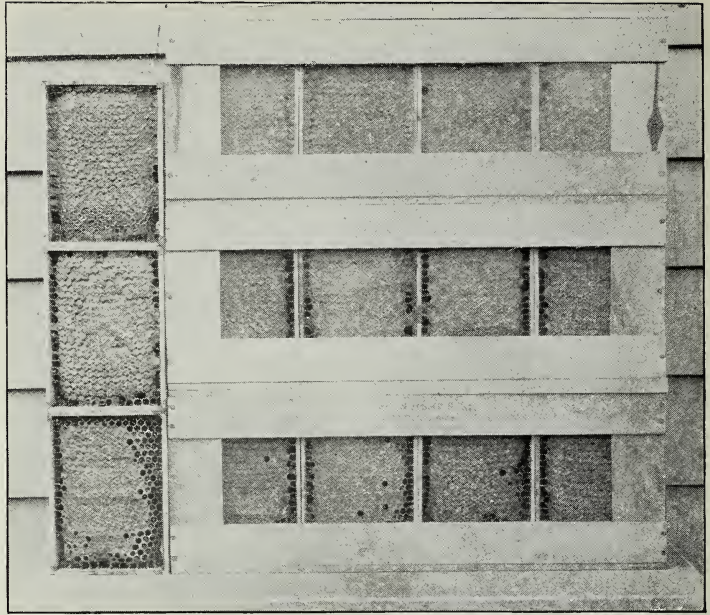


FIG. 2.—PROPERLY GRADED HONEY.

Honey that is carefully and honestly graded may be sold by the case.

enough to keep weather changes from affecting the temperature. I have also a ventilator 12×12 inches in the center of this cellar, with a shutoff at the bottom, which I keep closed within half an inch during the time I keep the bees in the cellar. Last winter the temperature in the center of this cellar stood 45 degrees all winter. I keep a thermometer hanging in the center of this cellar so I can see at a glance what the temperature is.

Before putting colonies in the cellar I first get them to rear brood as late in the fall as I can so as to have as many young bees as possible to go into winter, then I see that each colony has sufficient stores to carry them through. On the first day during the last week in November, when it is too cold for bees to fly, I put them in. I pile the hives one above the other with a six-inch stand under them on the ground, nothing between hives excepting lids, bottoms left on with full-width entrance $\frac{3}{8}$ deep. I examined the bees every two weeks last winter, and found them perfectly quiet on each visit. I set them on their summer stands April 7, without loss. I locate the hives with the entrance toward the wall, but far enough away so I can pass in front to clean out the dead bees occasionally.

I keep all of my bees in modern self-spacing movable-frame hives, all swarms hived on frames containing full sheets of wired brood foundation. Each super is provided with full sheets of foundation, enabling the bees to build comb quickly, thus giving them more time to store surplus. The swarm shown was cast from a colony that produced 180 pounds of comb honey this season.

Before I proceed further I shall have to tell you about my experience at the fairs. I procured one

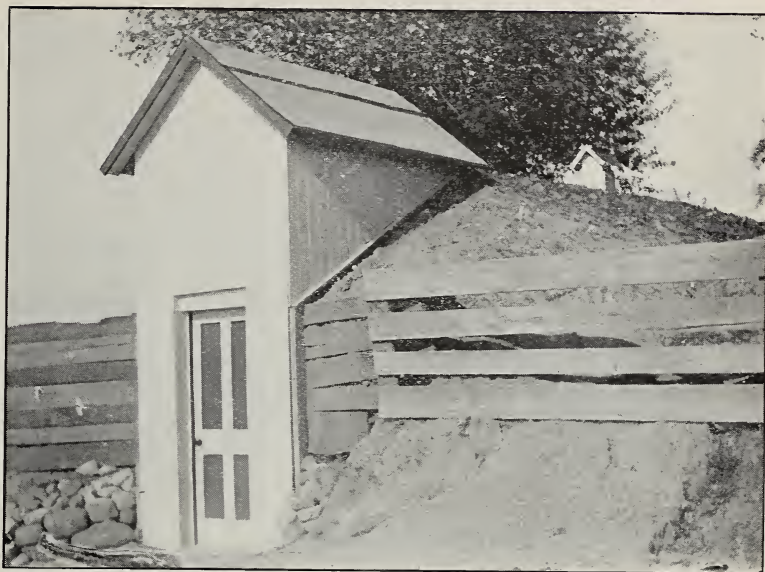
A CONCRETE BEE-CELLAR.

Good Management Means Good Yields.

BY J. W. DAVIDSON.

My bee-cellar is built in a northwest slope. The main room is 7 feet deep, 15 feet long, and 10 feet wide. I have a vestibule with double doors at entrance. This cellar is constructed of concrete made of the best Portland cement mixed in the proportion of one part of cement to six parts of sand. The walls are 5 inches thick, and they contain a considerable amount of broken stone. I use a ground floor. For the roof I have two thicknesses of inch oak boards covered four feet deep with clay well tamped to make it absolutely weather-proof. That is, it is covered deep

of your observatory hives and put some of my nicest bees in it on a frame well filled with honey, and also had the super on with nice white honey in it. Then I had, near the side of the hive, a case of comb honey and another containing two extracting-frames of honey, and I do not think that any one passed this exhibit without seeing it, and the first thing they would want to know was how much honey I



DAVIDSON'S CONCRETE BEE-CELLAR.



THIS SWARM OF BEES ISSUED JUNE 7 FROM A COLONY THAT PRODUCED 180 POUNDS OF COMB HONEY THIS SEASON.

got this season. I would tell them, and also explain my method of management by showing the hive with the super so convenient for the bees to store in.

I found a number of bee-keepers who still used the box hive without frames, with simply a hole in the top of the box for the bees to go through to store surplus. They said they had a good yield, but nothing to compare with mine, and then I explained the difficulty of bees having to enter the super through a small hole in a box as compared with a hive and super such as I used. This got me into business, and I have booked 60 colonies to transfer next spring if they winter.

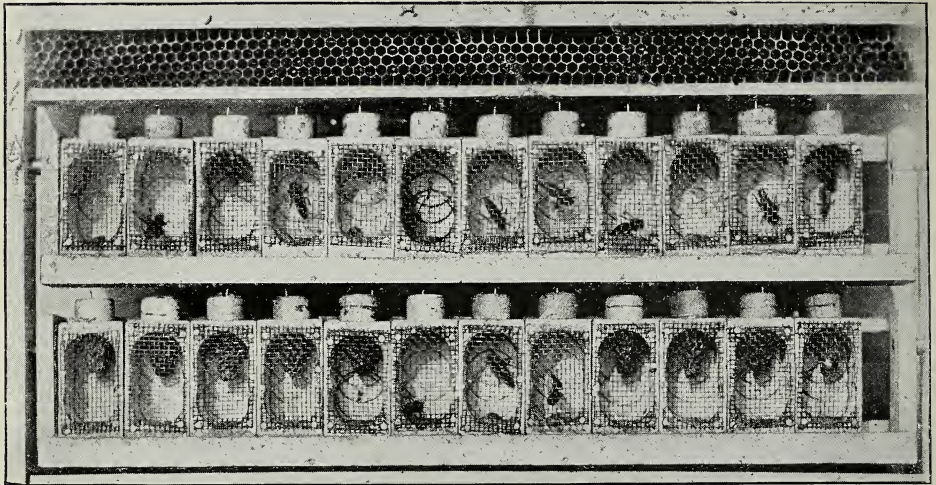
Yorktown, Ind.

TWO METHODS OF QUEEN-REARING.

BY E. R. ROOT.

Mr. Pritchard, who for some time has reared queens at our north yard on contract, says it is more economical for him, and he thinks he gets better queens by so doing, to give cells, just as they are about to hatch, to nuclei rather than to introduce virgins one, two, or three days old. He found the bees would tease a percentage of the latter, killing some and maiming others to an extent that he lost quite a number of perfect queens; so during last summer he pursued the plan of giving only cells to the nuclei.

Our Mr. J. W. Bain, who has charge of the home yard, has been working gradually toward the other policy, that of introducing one-day-old virgins at the entrance of full colonies and nuclei. He says he has no trouble if his virgins are strong and vigorous, and they are allowed to run at the entrance when *not more than one day old*. When one, two, or three days old a few will be teased



THE BAIN NURSERY CAGE AND ITS USE AT THE ROOT HOME YARD.

or rejected. He accordingly has all his ripe cells attached to wooden cups let down into a wooden cage that he has devised, see illustration, so that, when a virgin hatches, she is in a little wooden box with wire cloth on one side. Within 24 hours she is allowed to run in at the entrance of the hive that is to receive her. To accomplish this the cage is opened so that the mouth of it is directly in front of the entrance of the nucleus or hive, as the case may be. Soon she will crawl out, but may have to be "steered" with a spear of grass until she gets her nose pointed toward the entrance, when she will likely run in. Mr. B. says the fingers must not or better not come in contact with the queen. She must have no foreign odors clinging to her. The younger the queen the quicker she will crawl into the entrance. If too old she will be timid, and this has a bad effect on the bees.

One advantage of introducing young virgins instead of giving cells is that it allows one to select the best queens and discard the others; whereas, when a cell is put into the nucleus, if the hatching virgin is not what she ought to be, time is lost. While she may be removed and another cell given, the whole process has to be repeated.

Another and very important advantage in this virgin plan, says Mr. Bain, is that the cells clear up to the exact moment of hatching, are incubated in strong colonies where colony temperature will always be right. This insures large vigorous light-colored queens all hatching at almost the same hour; whereas, he says, a cell given to a nucleus may suffer a reduction from the proper temperature, and this will necessarily affect the queen within the cell.

In large queen-rearing operations it will happen, however, that it will not be possible to have in readiness a queenless nucleus or a hive for every queen before she is 24 hours old. Then one will have to introduce in the regular way, taking his chances on having the queen injured.

The illustration accompanying shows a batch of 24 cells, in as many cages, all of which hatched

a queen save those where the cell is seen projecting down, and from which the queens had not emerged. All of these queens were exceptionally large and a bright yellow. They were so beautiful, indeed, that we could not resist the temptation to take a photo of them; but we regret that the reproduction here does not begin to convey the relative sizes and beauty of the queens. They were as handsome a lot as we ever saw, hatching within an hour of each other.

The cage is one that is preferred by Mr. Bain and of his design. It is a simple $\frac{7}{8}$ -inch block $1\frac{1}{4} \times 2\frac{1}{4}$ with one side chambered out as shown. This is accomplished by boring three one-inch holes nearly through the wood. Both ends are then bored out, one to receive a cell and the other a feed cup; after which the open side is covered with wire cloth. Mr. Bain prefers to have one side of solid wood so that the virgin has a secure resting-place clear from the reach of any hostile worker that may be in the nursery hive. By having a hole through both ends of the cage a queen that is not disposed to go out can be pushed out.

A SWARM THAT SENT SCOUTS TO THE WALL OF A HOUSE.

BY FRANK C. PELLETT.

Last summer we were remodeling our house, and a large portion of the weather-boarding was taken off one side, and sheeting and building-paper put on. This was left partially unfinished for some time, and we noticed a large number of bees going in and out of an opening for several days as though they had taken up their residence there. Finally a very large swarm came and went at once into the opening. I was ready for them, and filled up my smoker and drove them out at once, when they clustered on a limb of a large apple-tree near at hand, and were soon hived. A few days later we again noticed bees at work there, and they continued to do so for several

days, when a swarm came on as before. This time I was not at home, but Mrs. Pellet saw them going in. After coming home I tried again to smoke them out, but met with poor success, as they had become pretty well established and would return as soon as the smoke let up. After considerable difficulty we reached the swarm through a hole in the partition wall inside of the house and drove them out, only to have them return as soon as we stopped the smoker, so we gave it up. I think, however, the queen was killed in the mix-up, as the bees stopped work and loafed around, disappearing entirely in a few days.

While we had bees ourselves I am satisfied that these came from a distance, and there is no question in my mind but that the advance agents fixed up the quarters to suit their requirements.

About the last week in April I noted a commotion in front of ones of the hives in our bee-yard, and went to see what was the matter. In front of the hive on the alighting-board was a bunch of bees making a big fuss over something. I carefully brushed them aside, only to find a queen badly disabled, but I can not make up my mind whether the bees were driving her out to be replaced by a younger one or whether she was a stranger that had made the mistake of entering the wrong hive. Unfortunately the hive is one in which the combs are built crosswise, so that we could not investigate the conditions within, so are entirely in the dark. I took the queen

away from the bees, but she was not able to walk, so was of no value. Will some one with wider observation please tell me the cause of this commotion?

Atlantic, Iowa.

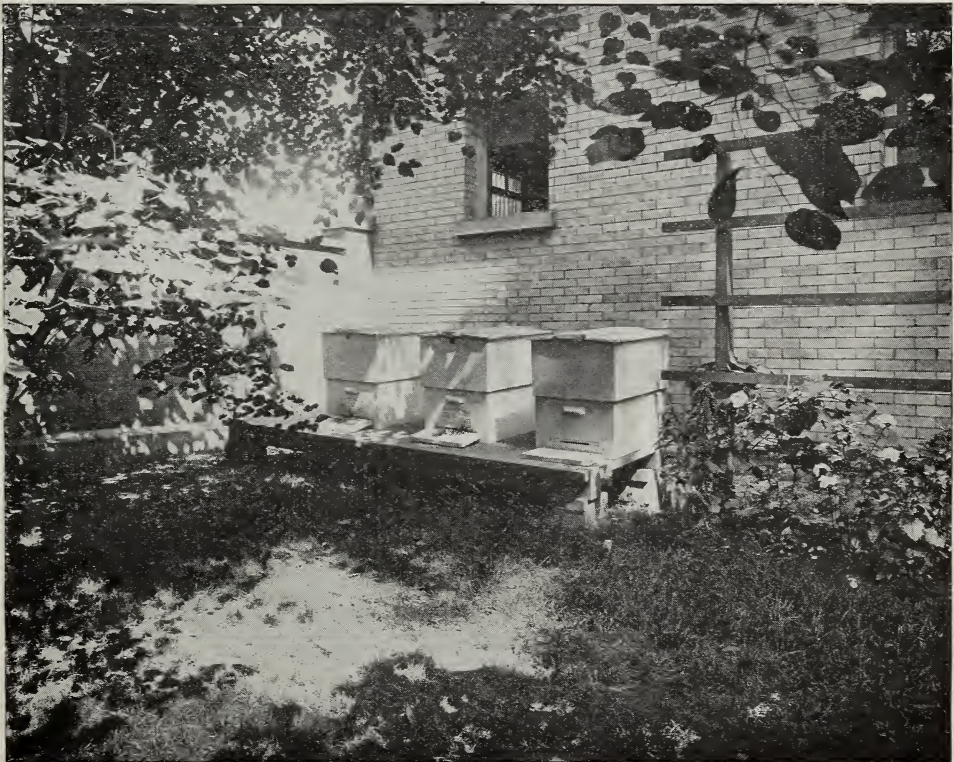
[It is quite likely that the queen on the alighting-board was one which was returning from a flight, and had mistaken the entrance.—Ed.]

A BACK-LOT BEE-KEEPER; BEE-KEEPING FOR PLEASURE AS WELL AS PROFIT.

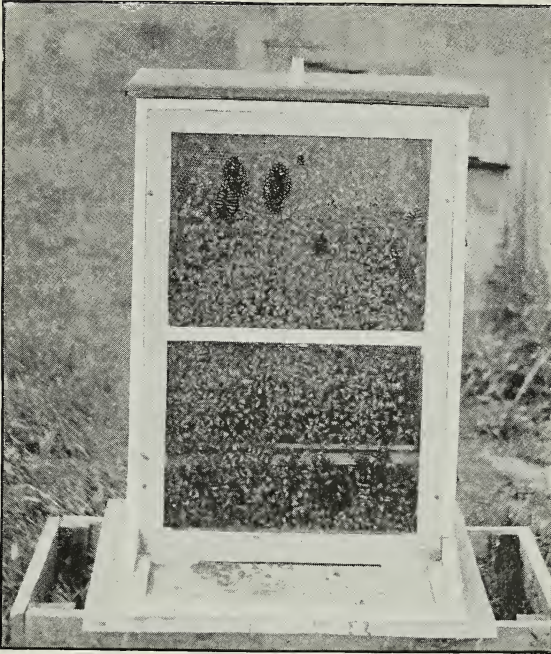
BY WALTER S. POWDER.

The engraving below represents the little home apiary of Dr. Henry Jameson, of Indianapolis, and is a fair example of what pleasures can be acquired by keeping a few hives of bees in large cities as a pastime and a change for recreation. The doctor derives a great deal of pleasure from his flower-gardens, one of old-fashioned flowers, and the other of up-to-date flowers, and also from his motor car; but I will venture that nothing has given him more pleasure this summer than taking care of his bees.

He began his first experience on the 23d of May, with two three-frame nuclei in chaff hives and an extra hive to be used in case a swarm should issue. By spreading brood and adding



APIARY OF DR. HENRY JAMESON, INDIANAPOLIS, INDIANA.



RICH'S OBSERVATORY HIVE; BROOD SIDE.

fences also. Next to the brood-frames are the fences, then holders with sections, and another row of fences and holders with sections complete the hive, making forty 4x5 sections in all. The hive is opened by removing four screws through the sash. To exclude the light I have a frame covered with rubber roofing that hooks in place over this sash. The spots on the glass show the brace-combs. The photo was taken at a time when there was but little honey in the hive.

Trezevant, Tenn.

[The method here shown is something like the plan used in Germany. The hives are not *top* opening but *side* opening. It is a very slow, tedious process, perfectly permissible in an observatory hive, but intolerable in a hive for general honey production. Of course, some of our German cousins may think otherwise. But it seems like a lot of work to take out every frame to get out the frame on the far side, or half the frames to reach one in the middle. They claim a hive with a movable roof is unhygienic because it allows the natural heat to escape too freely; at least that is the claim made by Berlepsch and Dzierzon.—Ed.]

frames with full sheets of foundation he soon had them ready for the supers, and on July 10th he had removed 111 sections of honey from the two hives, and 48 unfinished sections still remain, with a prospect of being finished with a fall flow.

The report is a good one, and shows what can be accomplished when a man is determined to excel in his work, and this is Dr. Jameson's method in all which he undertakes.

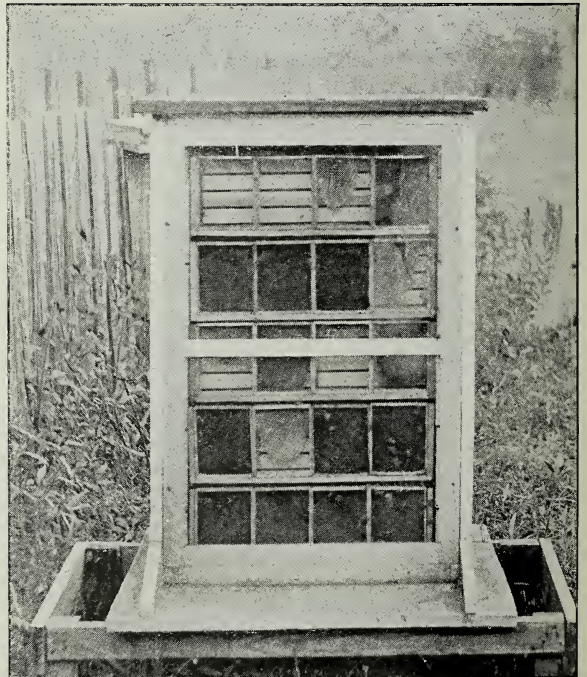
Indianapolis, Ind.

OBSERVATORY HIVES.

A Side-opening Hive that is Useful as well as Ornamental.

BY GEO. W. RICH.

The illustration shows the front and back of my observatory hive, which is not only nice for observatory purposes but as good for comb honey as any other hive. The front is four frames high and two deep. The frames are made after the Hoffman pattern, but are only 7 inches deep. The cleats that support the frames go across to hold the section-holders and



RICH'S OBSERVATORY HIVE; SURPLUS SIDE.

TRANSFERRING FROM BOX HIVES.

A Quick Way of Doing the Work Without Greatly Disturbing the Bees.

BY J. J. WILDER.

Prepare as many hive-bodies, using full sheets of foundation in the frames, as there are box hives to be transferred; and in early spring, or as soon as the first honey-plant begins to bloom, turn a box hive so that it rests on its back. Then, with a hatchet or ax, split the front side, which is now the top, in pieces about 2 inches wide, and remove the one which has the least comb attached to it, working it out carefully so as not to tear up any comb. A long-bladed knife can now be used to cut the comb from the rest of the strips, and remove about 12 inches of the wood in the middle, leaving just enough at either edge so that the prepared hive when set on top will have a good level foundation to rest on. If the box hive is narrower than the new one, nail straight-edged strips on either side, flush with the top.

If the bees have not rebuilt the comb in the top of the box hive since it was robbed, fill the space with straw, hay, or burlap sacks, or any thing the bees will not gnaw away. If this is not done the bees will fill it with new comb, and the work in the new hive will be retarded. If the comb in the box hive was removed to a depth of over 6 or 8 inches, and not rebuilt, reverse the hive so the top will be about where the entrance was, and remove the cover and nail it on the bottom end so the end of the new hive will rest on or against it.

The front end of the box hive (the bottom when the hive was standing) can be left open; but the rear should be closed so no cool draft can pass through it during changeable weather.

Now set the prepared hive-body on the box hive, making sure that there are no cracks at the sides or back, and place a short piece of plank over the portion of the box hive in front, which the new one does not cover. (See illustration.) It is best not to close up the opening in front to a small entrance, unless the apiary is large or robbers bad; for the queen would then occupy more of the old comb, and delay the establishing of the brood-nest in the new hive, which she should do as soon as the foundation is sufficiently drawn out. After all the box hives in the apiary have been thus treated, and work is under headway in the new hives, put on supers as fast as they are



WILDER'S METHOD OF TRANSFERRING FROM BOX HIVES.

needed, so the queens will not be crowded out of their new quarters.

An apiary in this condition can be operated for honey or increase, and better stock can be introduced at the same time, and at the close of the season or late in the fall all the bees should be driven up, and the new hives set down on bottom-boards. If any bees remain in the box hives they should be jarred in front of the new hives, and the old hives set a few steps away. As soon as the bees remove all the honey from these old hives they should be taken away and the comb rendered into beeswax. At this time of the season there is little if any brood lost.

If colonies in box hives are weak at the time of transferring, it is best to unite several of them, which can best be done by preparing one hive as above for every two or three hives to be united. Then all colonies should be disturbed so the bees will fill themselves with honey, and cluster on some part of the hives, when they may be dumped into the one prepared for them.

I have been troubled but little with swarming in apiaries managed in this way, and the colonies have not failed to harvest a good crop of honey when seasons were favorable.

Cordele, Ga.

[In most localities a steady honey-flow could not be relied upon, and robbing would surely begin during the first honey dearth, if the combs at the bottom of the old hive were left exposed. In such cases we would advise the Heddon short method—viz, drumming two-thirds of the bees up into a box placed on top.—ED.]



The only reliable, ever-ready, self-adjusting hive-lifter. It is adapted to all localities, is easily and quickly placed in position, and easily managed. Every lady bee-keeper should have one.—J. L. ANDERSON, Harvard, Ill.

THE UNIVERSITY OF CALIFORNIA.

What it is Doing for Apiculture.

BY RALPH BENTON,
Instructor in Entomology.

We are interested in observing the general movement in the direction of apiculture in our agricultural colleges and experiment stations. This subject in the University of California was first taught during the academic year of 1893-'4, and since that time it has formed a part of the regular instruction in this institution. The present instructor in entomology in charge of apiculture came in touch with the work in California in the spring of 1905 when serving as Assistant in Apiculture in the Montana Agricultural College, where, under the direction of the entomologist, he has been in charge of the teaching and experimental work in apiculture since the year 1901.

The past three years have witnessed a distinct advance in the amount and scope of the work being done in apiculture. The number of courses offered, from two repeated twice a year, has been augmented to seven, three of these being repeated twice a year, and two being capable of election indefinitely without repetition of work as research courses. The distinctly apicultural courses are now announced separately from entomology, giving apiculture a recognition and permanence coordinate with entomology as a sub-department under agriculture such as has never before been given to this subject in any institution of higher learning in America. It is now not only possible for a student to get his B. S. degree in apiculture, but increased facilities are being provid-

ed for research work looking toward higher degrees for those qualified for such studies.

The University apiary numbers forty colonies, and has representatives of each of the six varieties of bees of economic importance. There is now available equipment for thorough instruction in comb and extracted honey production, wax production and manipulation, queen-rearing operations, and bee disease investigations. Apiculture will from the first form a part of the school work on the University farm at Davis, where instruction is to be begun this winter. In connection with this instruction work on the farm there is to be established a well-appointed experimental apiary with an apiarist in charge. There are also three out-apiaries with the owners of which the University has made arrangements for co-operative tests of methods of practice and varieties of bees on a more extensive scale. Arrangements have been made with several more of the larger commercial apiaries of the State for advanced students to spend their summers in practical experience in apiary management.

Whether this work of the past fifteen years, culminating in the more recent rapid advances, is to be permanent or ephemeral, as has been the case in every other institution in this country where apiculture has received attention, remains largely with the bee-keeping public. The authorities have been responsive. This has been true in some instances elsewhere. But there seems to be a normal limit to the amount of work that State institutions are willing to do in these untrodden lines, without precedent, merely upon the suggestions and recommendations of those personally engaged in the work. The rank and file of bee-keepers must plead their case incessantly and concertedly if they would finally triumph.

EUROPEAN NOTES.

German Ideas Regarding Heather and Dandelion Honey.

BY J. A. HEBERLY.

The details of bee-keeping are dictated to the expert by climate and flora. Only a thorough knowledge of the time of the honey-flow enables him to obtain the best possible results. For this reason I should have thought that on account of the time at which the various plants and flowers begin to yield nectar and pollen, and the length of time any flower in a particular locality secretes nectar, would be more frequently met with, as this would be interesting for comparison.

Regarding heather honey, I will say that your correspondent is misinformed, at least as far as Southern Germany is concerned, because heather honey is here considered inferior; but I infer that in Northern Germany it is also considered inferior, since I frequently see such honey advertised at nearly half the customary price. This honey is from *Erica vulgaris*, and is so viscous that it can not be extracted—at least not in the ordinary way. The flower opens here Aug. 10—12, but in other parts earlier.

Another heather, *Erica carnea*, ling, which does not grow near here, blooms in early spring, and yields nectar and pollen when old snow may be near by in quantity. I do not know, but I believe that honey from *Erica carnea* is much finer, but none is to be found in the market.

Dandelion grows here in abundance, opens about May 15, and lasts two weeks. The honey from it should be extracted as soon as the flow ceases, because it will break the combs later on when trying to extract it. It is of a deep-yellow color, and crystallizes, after extracting, in a week or two. It is rich in ethereal oils, and on this account people accustomed to mild honey find it too strong. Some consider it rank; most get to like it. It keeps well, and seems to improve with age. Owing to its viscosity and the tendency to crystallize so rapidly it would not be a desirable winter food. Since it is the first honey early in the season, I think none is left in the fall to make the bees "thirsty" in winter; but if any is left it is so far from the center of the brood that it won't be reached until the bees can fly again.

I wish to state that my opinions and observations are based on experience here, and may often fail to be reliable in your country, owing to the different conditions. Honey from the dandelion is the only variety of which I know that should be extracted as soon as the flow ceases. All the other honey should be capped—at least any frame two-thirds to three-fourths full before being extracted, because uncapped honey is unripe and inferior to capped honey from the same source. I was amazed to see plans discussed for ripening honey artificially. Such honey would be inferior to that ripened in the hive; but where an excess of aroma is present it might do, because a slight loss of ethereal oils might then mean no harm. I do not see why bee-keepers want to extract unripe honey. They save a little time, not having to uncup much; the yield is increased just a little; but these are only seeming advantages, because the inferior quality of unripe honey will

mean a greater loss in price. Whenever honey is sold according to quality it gives more trouble to sell, and should be sold rather early, because it won't keep so well; in fact, there is a possibility that it might become unsalable while ripe honey may be kept, under favorable conditions, for years. Besides all the advantages—yes, even if it were a slight disadvantage to extract only ripe honey—I think the bee-keeper should have so much pride and moral courage that he will offer only the best honey that he or any one else in that locality can produce, in a clean, neat, and attractive package.

Regarding sugar feeding (cane sugar is identical with beet sugar), it is best here to feed early. One to one or just a little more is deemed best. By late feeding, as much as two to one may be used. Speculative feeding should be commenced in August. In spring it is not advisable, because the bees become excited, and fly out when the temperature is so low that large numbers are unable to return. Here not more than 5 to 7 lbs. should be fed unless the locality produces honey unfit for wintering, such as from Scotch or silver fir and honey-dew. Sugar should be fed only in the fall—never in the spring—because brood-rearing does not progress so rapidly as with honey; besides, there is danger of some sugar syrup or invert sugar being carried up into the extracting-super later on when making room for the queen. This may also happen when feeding very large quantities of sugar in the fall. The natural food for bees is honey—not sugar.

I would never recommend any kind of acid to invert the cane sugar, but let the bees do the inverting. I am inclined to think the acid might be injurious—more so than the work of inverting. The bees might be injured, and the bee-keeper never know of it. It may shorten the life, lessen the energy, and escape completely our observation.

SPRING LOSS.

We have had verandas (cloisters) for years. These should exclude light and provide shade, and should not interfere with the exchange of air. On no account should the bees in warm weather be confined. As soon as they find that they can not get out they become alarmed, excited, and may with their dead bodies prevent the entrance of fresh air, and thus endanger the colony. These verandas provide about a cubic foot of space, and are valuable where bees are kept during the winter on their summer stand. During winter, when there is no danger that the bees will fly, the door of the veranda is shut. No mouse, bird, rain, wind, or snow will trouble the bees. In spring, however, when it gets warm, the door of the veranda must be opened. If a shade over the entrance is provided, it will save many bees. Mr. Weber's entrance-controller would, according to my experience, be much improved if he would leave out the wire cloth; as it is, it would be dangerous here; then the bees can get out if they want to. No harm will be done, and at the most dangerous time fewer bees will fly out then without it, and therefore fewer get lost. Mr. Halter's storm-door will do about the same. If the bottom-board is sufficiently long, a combination of the two might be an improvement; but instead of the $\Delta\Delta$ notches I would suggest putting a small block or stick

on the bottom-board so the board or storm-door would be raised sufficiently for the bees to enter. This arrangement needs no attention, while veranda doors must be opened and closed frequently in the spring if any good is expected from them. If in the spring the doors are not opened when they should be, the loss or danger might be as much as or more than if the hive had been left to itself with no protection. I find the verandas at least as valuable in winter as in spring. If I were in America in a location protected from the north by forest or mountains, so the north wind could not bother the bees much, or in a locality that is not troubled with north winds, I would turn the hive entrance of a part of my colonies to the north; then the bees would fly only in weather that would not be dangerous. I think the danger is greater here than in most locations in America, because bees are kept in bee-houses with the hive entrance to the south. The sun shining on the building has more power to entice bees out in spring when the air in the field is cool enough to chill many of them. I am inclined to think most damage is done when the weather changes rapidly at noon or in the afternoon. The bees are out, and not able to return; but no protection will avert loss from such a sudden change of temperature.

Stoetten a. A., Bavaria, Germany.

TROUBLES OF A BEE-INSPECTOR.

Some Problems that Confront Inspectors in their Work; Some Suggestions in Regard to Inspection and to the Laws Controlling it.

BY C. A. WURTH.

This is a subject that is rarely touched upon in the columns of any bee-journal, and it may appear to be a little out of the ordinary to present some of the following suggestions to intelligent bee-keepers; but I am of the opinion that GLEANINGS numbers among its subscribers not a few parties who have no knowledge of bee-diseases, being so ignorant of this important subject that they lose their bees by one disease or another, and never guess the cause.

In my experience as a bee-inspector I find parties who question the existence of bee-diseases, and it is a hard job to convince them that they are wrong, as it usually occurs that a person so ignorant as to question the existence of a contagious disease among bees is conceited, and all of the evidence brought to bear is of no avail. The best way to convince such people is to bring action against them in the court; for, although they may not be convinced they can be convicted of violating the law, and, after once being compelled to pay for their stubbornness, they will yield to the wishes of the inspector on the next occasion. I do not advise indiscriminate prosecution of any one; but when it is necessary I believe in penalizing to the limit. It is folly to let any one maintain a position whereby he disputes facts, established by scientific analysis made in our government laboratories by qualified men who devote their energies to the study of just such diseases.

A bee-inspector is often placed in very embarrassing circumstances. A person capable of fulfilling the duties of inspector should be a competent and well-informed bee-keeper; therefore if he is an apiarist, owning bees near where his services are required, he is placed in a position whereby he can be accused of using his authority to further his own interests. For instance, if it is necessary to destroy some colonies, the owner at once takes this view. Of course, this accusation is fostered solely by parties who are either ignorant of the consequences of the disease when left to itself or by those who are trouble-makers. I have confidence in mankind enough to think that, where the inspectors are apiarists, with the right kind of feeling toward this great and interesting industry, not one in twenty will be found who is doing this inspection for the material benefits derived. An inspector who does his duty is sure to find opposition. In all civilized countries we find neighbors who do not get along together. Sometimes each of these two parties owns bees in an infected district. The inspector may find one apiary contaminated, and order it destroyed, while the other is in splendid condition. This at once leads the first to accuse the inspector of being partial in his methods. Of course, circumstances like the above are rare, but still they exist.

In my opinion the worst hardship the inspector is confronted with is the enforcement of the law when opposed by some influential person. It is not a pleasant duty to start proceedings or legal action against an offender of the statute, as it necessarily calls into court parties as witnesses who rather shrink from the duty, thinking that, perhaps, they may create an enmity with the one they testify against, as often happens.

If any party owning bees does not know the character of the disease supposed to exist in the hives, and after an examination by the inspector still doubts or questions the ability of the inspector in determining what is wrong, and requests that he be allowed to retain a sample of the diseased comb to submit to the government experts for an analysis, he immediately blocks any possible attempt of the inspector to do him an injustice. This kind of test would at once vindicate or convict the inspector of unfairness; and it is not expensive nor unfair to the inspector. I for one gladly submit to such a test. There is a possibility that, in some cases, it might be unfair; but in most instances I believe that it would be of material benefit to the inspector; for, after a few such tests, it could easily be shown that the inspector is either using unlawful and malicious methods or giving a square deal.

It is my further opinion that a State law, providing for a State inspector, whose salary and expenses would be paid directly out of the State treasury, would have a tendency to eliminate a lot of the prejudice against bee-inspectors, as it would do away with all county or district lines, and the duties of the inspector would not be confined to his own immediate vicinity or neighborhood.

I do not believe in drawing the party line when it comes to bee-inspectors, as I consider it poor policy to mix politics with so important an issue as the eradication of foul brood. A bee-inspector should be selected and appointed upon his merits and knowledge of the diseases of bees, and

not upon his political influence. I believe Wisconsin has the best and most efficient law relative to this subject, and the bee-keepers of that State should be proud of the law and proud of their capable and splendid inspector.

College View, Neb.

BEE-KEEPING IN JAPAN.

A Description of the Bees, the Climate, and of the Sources of Honey.

BY J. J. HOBO.

The oldest record on bee-keeping in our history brings us back to the reign of Emperor Kogyokee (600 A. D.), when Prince Yoha, of Corea, came over to our country and let his four hives of bees fly at Mt. Miwa, in the province of Yamato. This is the first historical record we find on bees; but it is not clear whether we had bees before that. Bees in Corea are said to be a little smaller than ours, and those of Manchuria to be a bit larger. Perhaps all kinds of bees in the far East are from the same original race.

From time immemorial people have practiced bee-keeping in different provinces. The most noted ones are Kii, Shinano, and Kyushu provinces. So the hives kept and honey produced in these regions were considerable. But the way of keeping bees is not improved at all. They use empty boxes or casks to put the swarm in, with no design of conveniencing the bees. In the autumn they open these, cut off the combs, put them into bags, and squeeze out the honey contained. The poor bees brushed off are left with no stores for winter. Often they leave some part of the combs for the bees. It is the habit of the Japanese bees not to store pollen for the winter; and as their queens cease to lay late in autumn the honey squeezed out does not contain so much juice of pollen and brood; yet the color is very dark, with a disagreeable flavor. Some practice what they call a better way—cutting off the combs and setting them out in the sun, which will melt the wax and let the honey run out. Some cut off a part of the comb with honey only, and press them in bags. These are considered fine honeys, and sell high.

We do not use honey as food, except farmers living in mountains too far from any villages to get sugar. Our people consume honey in medical use largely. Most of our people do not know honey as food nor sweets on the every-day table.

Though bee-keeping is in such a state, it is quite interesting to know that the bee-keepers in the province of Kii have practiced migratory bee-keeping for ages, keeping extra queens to replace the unprolific ones. Movable frames were known to some of our people more than twenty years ago; but the nature of our bees didn't fit the improved hives, and poor results followed everywhere, and the use of them stopped generally. There are nearly 100,000 hives in our country, with an average of from 10 to 15 pounds of honey.

Mr. K. Aoyagi and others saw the defects of the native bees, and the necessity of importing European bees to our country to make bee-keeping succeed. But their idea did not work well until Mr. Aoyagi succeeded in importing Cyprian

bees. About 40 of them were scattered from his hand in different parts of the empire, besides 35 colonies which he is wintering now. Through his efforts people began to see some profit in the so-called improved bee-keeping. Some of our rich men and nobles began to be interested in it. Among them are Count Matsukata's son, Baron Iwasaki, Dr. Nagoyo, and others. In the near future our people will see the value of honey as food and take interest in bee-keeping. The Beekeepers' Union, Tokyo, under the supervision of Mr. Aoyagi, has at present about 250 members. The Union is making steady progress, making the highways in bee-keeping by publishing a monthly journal, explaining improved bee-keeping to the members.

Let me explain something about Japanese bees. They are gentle, but reckless and timid, getting up a stir whenever we handle them. This is one of the principal reasons why they are not fit for the removal of frames; because as the hives are easily opened, every time they get into a tumult a poor result ensues. They love their queens too much, and like to be gathering too much. This is the reason the use of supers is decidedly impracticable to them. They are very sensitive, too, so they work well as far as the condition of hives is all right; but if they find something in the hive they do not like they cease to work, and run away. They are a hardy race for winter, but fear the heat in summer; they are weak in defending themselves against moth; so if we neglect this in summer, or in case of too much moth trouble, they leave the hives. They never accept foreign queens, and this is the reason of our difficulty in improving bees. The cells are a bit smaller and the walls weaker than those of European bees, so the foundations we get from your country are not liked by them, and sometimes they build drone combs on your worker foundation. The queens are quite prolific, but good swarmers; and when they swarm they gather on trunks of trees 15 to 20 feet high, giving us trouble in catching them.

These are the principal defects of our bees, and it is the cause of the unprogressive state of bee-keeping here. We find it impossible to get a good result in bringing forth a great income from our native bees—simply too much trouble and too little gain. If I could give fine points on our bees it is their gentleness, as we never use a smoker, veil, or gloves, and their diligence and quickness of flight.

THE CLIMATE.

As you know, our country stretches along from southwest to northeast, with the Pacific on the southern side and the Japan sea on the northern. Formosa, the southernmost island, is very hot, while Hokkaido and Sagalien are cold, with deep snow and ice during their long winter. But the mainland, with the two great islands of Kyushu and Shikoku of our island empire, is in the temperate zone, is moderate in winter, which is comparatively short except in those parts facing the Japan Sea, where snow comes deep in winter. Hakone, where Mr. Aoyagi has his apiary, is the summer and winter resort, both for foreigners and natives. Surrounding mountains and hot springs everywhere in the ranges make the place more charming. The winter we have here is very moderate—with only a little snow occasion-

ally during winter, and the thermometer rarely goes lower than 32 (indoors). The province of Kii, noted for its bee-keeping from olden times, is warmer than here. So you can see that we are much favored in our bee-keeping so far as the climate is concerned.

THE PLANTS AND FLOWERS.

As for the honey-plants, we can not say which is the principal one, like clovers and basswood in America. Each province or region has its own trees and plants cultivated, such as apples, pears, peaches, oranges, persimmons, buckwheat, beans, and others. Moreover, as our lands are so thoroughly cultivated for different plants and vegetables we are not able to plant a honey-field on such a large scale as you do. But besides these cultivated plants we can have a great quantity of wild ones along the mountain ranges which run from one end to the other as if they were a backbone to our long island empire. So when we go to Kii, Shinano, and some part of Kyushu, we find many old-style bee-keepers who have colonies by hundreds. Generally speaking, our country is abundant in flowers and fruit-trees as well as plants and grasses. From nearly all of them we can have a honey harvest.

The time will soon be here when you will find a bee country in the far East among its beautiful sceneries. We hope, in the near future, to have our people of every class tasting honey at tables. We are praying for the time to come very soon when thousands and tens of thousands may enjoy this high, peaceful, profitable, and interesting business. May these little busy angels reveal the mysteries of His mighty works, and enlighten the spiritual darkness of the heathen nations of the East.

Hakone, Japan.

HEADS OF GRAIN

FROM DIFFERENT FIELDS

FULL PARTICULARS ON HANDLING BEES BEFORE AN AUDIENCE.

I should appreciate it very much if you would describe the handling of bees in a wire cage, before an audience, from the time the operator enters the cage until he leaves it. How do you scoop them out of the dishpan without being stung? I tried scooping them off a sheet, as I was hiving a swarm this summer, and I never had any desire to repeat that trial. What would be a fair price to ask for performing this in a local vaudeville theater—that is, how much for each performance?

What is the largest crop of comb honey that you know to have been secured from a single colony, any locality? also extracted? Where was each secured?

L. R. HENLINE.

Towanda, Ill., Aug. 8.

[The secret of handling bees by the handfuls before an audience depends on three things: First, the bees must be thoroughly frightened—that is, forced into a state of panic. This may be effected by blowing a little smoke over the top of the hive, removing the frames in the regular way, and then shaking the bees off the frames

into a large dishpan. The pan should then be shaken something like a corn-popper, causing the bees to be mixed up in endless confusion. In this state they are thoroughly frightened, or, perhaps, to put it more exactly, the colony spirit and thought of defense have been thoroughly taken out of them.

The next important requirement is absolute fearlessness on the part of the operator; and the last is the quiet, gentle moving of the fingers under the bunch of bees in such a way as not to cause any pinching. The hand must be moved so slowly that it will gather up the bees in such a way that the movement will be almost imperceptible to the audience. One can then scoop the bees up by the handfuls, scatter them all over the bare arms, and on top of his head. It seems to make but very little difference what the strain is. But throughout all of the demonstration the operator must be exceedingly careful not to pinch or rudely push a single bee or he will suffer for his carelessness.

At a demonstration given at our home yard before a company of 200 schoolteachers we showed how the bees could be handled like kittens. One of our men, observing how easily we performed these stunts, attempted to do the same thing. He pushed his hand into the cluster of bees and received nearly fifty stings. But he had good nerve, and went through the "performance." On questioning him afterward we found he pushed his hands into the cluster too rapidly, rudely brushing and shoving the bees. If one shoves his hands through the bunch fast enough to crowd the bees unduly he may get stung very severely.

If we remember correctly, 400 pounds is the largest amount of comb honey taken from a single colony, but we do not now know the locality. Probably 750 lbs. is the largest amount of extracted honey from a colony, and this was produced in Texas.—Ed.]

WHY DID THE QUEEN FAIL?

We have just removed one of our own bred queens that commenced to lay June 16, laying all worker eggs only. To-day we find no unsealed brood at all, but sealed worker and sealed drone brood in worker-cells, the latter predominating. The queen, when removed, was small, with no trace of eggs when killed. The colony had been well stimulated when the queen commenced laying. This is a rare exception with us; and although queens will occasionally degenerate into drone-layers, having laid worker eggs previously, it could, perhaps, be obviated if the cause were known. Do you think a slight sting from a worker would cause the destruction of the laying organs? The queen mentioned was destitute of a foot on the second right leg.

Hemlock, O., Aug. 22.

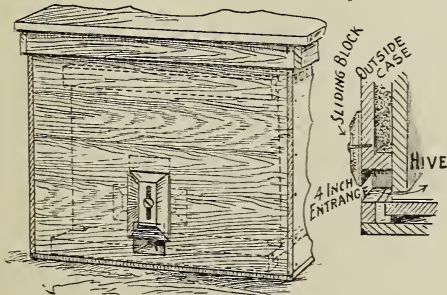
P. BIESEMAN.

[Some of our best queens will turn drone-layers. In rare instances a queen will lay worker and then drone eggs exclusively, and, after a month or so, lay worker eggs again. In the last-mentioned case there must be some functional difficulty. In the other, where the queen turns drone-layer, and stays so, she may have at one time been chilled; she may have been pinched, or she may at the time have been fertilized by an impotent or poor drone. A microscopic examina-

tion of her after she has been dissected might reveal the cause. A long journey through the mails sometimes makes a drone-layer out of a good queen. As a general thing, we can only guess at the cause.—Ed.]

AN ADJUSTABLE STORM-DOOR.

Mr. E. R. Root.—After reading your article, p. 353, in regard to storm-doors, I should like to call your attention to my chaff-hive storm-door attachment, which I think is far better than the Halter arrangement. Briefly speaking, I have an inset about 4 inches square and 3 deep in the front of the chaff hive. On the outside of this inset is the adjustable storm-door. This door is cleated and beveled on top. In the center of this door is cut a slot 2 inches long for a big-headed screw, so by shoving the door up or down we may have a space 2 inches by 1 inch by $\frac{1}{2}$ inch, or close up entirely. Just give the screw a turn, and it will hold the door in any place, or turn it bottom up and it is out of the way entirely. My



hives are mostly packed in winter boxes, but I bridge over the projection of the bottom-board 4 inches high, which makes the inset. Two of my hives were closed up all winter. I opened them March 12, and the bees came out with a rush all in good order, and ready for business. I lost no bees last winter. I usually winter about 100 colonies.

E. N. WOODWARD.

Hillsdale, Mich.

[One objection to your adjustable storm-door is that it provides a square opening through which mice may enter unless it is closed nearly down. It would be much better to have the opening only $\frac{1}{4}$ inch deep, by a maximum of 8 inches wide, say, but adjustable as to the width. This would prevent the entrance of mice, either when it is wide open or nearly closed.—Ed.]

SEALED COVERS PREFERRED.

On page 369, March 15, L. E. Scherer says that absorbent cushions are better than sealed covers. I agree with the editor. When I packed my bees last fall I packed half with a Hill device on or over the frames, and an absorbent cushion on top, and the other half with a honey-board right over the frames for the bees to seal down, with about eight inches of fine straw or chaff on top.

When I was out among the hives to-day (Mar. 23) I could plainly see the difference. All the colonies that had a sealed honey-board started to work, while the bees with a piece of burlap over

the Hill device, with the same amount of chaff on top, were not active.

The reason I wanted to try this experiment was that, the winter before, I found that the chaff on top of the burlap would hold moisture, and freeze. This has a tendency to keep the bees back, even when warm weather does come. With the sealed covers the chaff stays dry.

Could I wire my brood-frames if I use starters only? Will the bees imbed the combs as they work down?

WALTER M. ADEMA.

Berlin, Mich.

[Your experience in regard to sealed covers and absorbing cushions is quite in line with reports that we received from many bee-keepers some few years ago when these experiments were being conducted. There are times when the absorbing cushions seem to give a little better results; but taking one year with another, in the average locality, the sealed cover with dry packing on top will give better results. Yes, you can wire frames, using only starters.—Ed.]

DOES HONEY FROM POISONOUS PLANTS KILL BROOD?

In the fore part of this summer, bees near Joliet, Ill., were very badly affected by dead brood. We have some of it here also, commencing about the middle of May and lasting about eight weeks. About one-third of the brood (mostly in colonies of a dark strain) dies when about half grown. Would the honey gathered from a poisonous plant be likely to poison the brood? The plant itself and the fruit are poisonous.

I have devoted five colonies this summer to finding the cause. I have taken their brood-combs away three times, and still one colony is a little affected. Can you give us the cause?

Niles, Mich.

C. B. FRITTS.

[Honey from a poisonous plant that does not kill the adult bee will often kill brood; in fact, the brood will die in various stages long before the bees are affected.

Sometimes the liquids that are used to spray fruit-blossoms kill the brood and not the bees; at other times the spraying-liquids kill both bees and brood.

Next year, when this poisonous plant begins to yield nectar, send us some flowers, stalks, and leaves, and we will investigate.—Ed.]

INTRODUCING QUEENS BY PLACING THE CAGE AT THE ENTRANCE.

In reply to the first Straw, Aug. 15, I will say that during the last eight years when I introduced queens I moved the brood-chamber with all the brood to another stand, and placed the second story at the bottom on the old stand, and put the queen-cage on the bottom-board at the entrance, and set a board leaning against the front of the hive to keep rain off. This gives the bees a chance to get at the candy at once.

I have never lost a queen in this way. I introduced two this year to weak colonies when there was no honey coming in. By every other way I have tried I have lost more or less. I lost as many as five queens at one hive, and then I smoked the bees till four quarts fell on the bot-

tom-board as though they were dead; but they accepted the queen after that.

WILLIAM C. PETERSON.

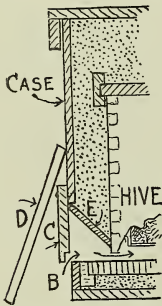
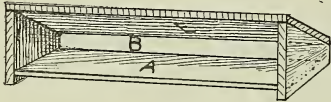
Canaveral, Fla., Sept. 9.

[Entrance introducing can be practiced during warm weather. There is no merit in the plan except convenience. The fact that you lost queens when you introduced in the center of the cluster was due to some other cause than to the position in the hive. It is a waste of time and money to attempt to introduce to a colony that has killed two queens in succession. Make sure it is queenless and has no laying workers by giving a frame of unsealed brood; then give it a ripe cell.

In the case cited where you lost five queens, the bees must have had something that they recognized as a queen. When you smoked them nearly to death you probably killed that freak queen, and, of course, after that you succeeded in introducing a good queen.—ED.]

VESTIBULED ENTRANCES FOR WINTER.

I notice the vestibuled entrance described by Mr. McIntyre, page 97, Jan. 15. The drawing gives an idea of the kind of bridge I use for this purpose. It is set in, without nailing, between the hive and the case, with the high or open side next to the case, and the low side to the hive. There is an opening four or five inches deep, and the width of the entrance, in the case, and the front of the bridge is made a little deeper than this. The opening at the back of the bridge,



which is placed against the hive-entrance, is made an inch deep—a little more if desired. This arrangement allows the packing to come down close to the entrance, and leaves room to work from the outside.

To protect the entrance a board with the lower edge cut away, or rabbeted, is hung over it with the rabbeted side next to the case, and just high enough to leave about 3/8-inch passageway. Mice can not turn this corner—can not even chew at it—and it allows air and bees to go through, and shuts out drafts and light. When snow comes, a board is leaned up against the front of the hive.

I might mention that Mr. Storer, of Lindsay, Ont., makes a hole 3/4 inch or one inch in diame-

ter in the center of the front of all his hives, and a corresponding hole in the case, with a connecting tube or some other arrangement to prevent the packing blocking the aperture. This is in addition to the regular entrance. It looks like a lot of entrance, but he claims he has not lost nearly as many colonies in winter since adopting the plan. It certainly does away with danger arising from entrances clogging.

Richards Landing, Can.

J. R. HAND.

[The arrangement you show we consider to be very good, especially as it allows the live bees to get rid of the dead ones very easily. But this kind of storm-door should be put on very early in the fall so as not to confuse the bees on the first warm balmy day when they take a flight either in the fall or spring. To put it on after cold weather sets in would cause trouble.—ED.]

HOW TO CLOSE HIVES FOR MOVING; GETTING RID OF ANTS.

Wishing to move some of my bees, I have been puzzling how to make the bottoms secure with as little trouble as possible. A very simple solution of the difficulty finally occurred to me. My hives are fitted with the metal-roofed cover and super cover. Having already tacked screen wire over the tops of the hives, I removed the bottom-boards and substituted the super-covers. That made the hives as tight as a box. Then, turning the metal-roofed covers upside down, I set the closed hives in them, and dropped in blocks to keep the hives from slipping on the super cover. They were then perfectly secure for the whole trip. To shade them from the sun and to give ventilation I laid sticks across, and on them old window-shutters.

When I opened the first hive at the destination I learned that the bees were suffering for water—a contingency I had overlooked. I sprinkled the other hives before opening, thus both giving the bees a drink and cooling them off somewhat. The next time I move bees I will take along a jar of water and a rag, and give them a chance to drink along the road. All that will be necessary will be to soak the rag in water and lay it on the screen wire that covers the tops of the hives.

When ants get to bothering a hive I mix some powdered borax in strongly flavored honey in a saucer. Cover the saucer with coarse wire netting so as to exclude the bees, and set it under the front-board of the hive. That settles the ants in short order.

B. C. AUTEN.

Carthage, Mo., July 28, 1908.

[It is always advisable to carry water on hot days when moving bees. Where the bees cluster very closely over the wire cloth so as to shut off ventilation from the others, sprinkle them. This will drive them back, cool them, and prevent suffocation. A wet cloth laid on is not as good as a spray thrown on.—ED.]

PAPER-COVERED HIVES.

I have been using paper the past two seasons, and find it good for this locality, though we have not had much zero weather here for the past two winters.

J. L. VAN BUREN.

Madison, Ind.

OUR HOMES

By A. I. ROOT

I the Lord am a jealous God, visiting the iniquity of the fathers upon the children of the third and fourth generation of them that hate me.—EXODUS 20:5.

Let me repeat just once more (the thought first mentioned in our issue for Sept. 1, and again Oct. 15) what I said about marriage being the most sacred and solemn event between birth and death in the life of a human being. Although I have lived, and observed humanity for nearly seventy years, I did not know until recently that breaking God's holy command not to commit adultery frequently sends men and women to insane-asylums—at least I did not know, or had not considered, that even a *young man* may in three years become a *raving maniac* simply by transgressing the law of God and also the law made by man. Many young people seem to think it a light thing, or a thing of not so *very much* importance, that they should live pure chaste lives, and that, as only marriage sanctifies this holy union between man and woman, there should be no trifling in the matter. The world demands that a woman shall be pure; and may God help us in a like manner to demand that the young man who proposes marriage shall *himself* be pure.

In a recent issue of the *Cleveland Press*, one of our regular dailies of a great city, I was startled by an editorial that I believe should have world-wide publicity. Read it over; and when you get through it, read it again. Yes, I wish every man, woman, and child could read it and ponder over it a dozen times. You may be tempted to think it is an extravagant statement; but after you have read it and considered it, look out on humanity and then pray over it, and *then* I think you will conclude it is just right. Here it is:

REAPING WILD OATS.

Can you imagine what would happen to a man if he were pointed out on a crowded street and a voice cried loudly, "That man has just taken a white-hot wire and put out both the eyes of his day-old boy?"

Suppose a man did such a thing—with a white-hot wire. No voice would be raised to ask mercy. If he escaped a rope at the hands of a mob you may be sure the judge and jury would see to it that he got the limit of punishment allowed by law.

Away back when the world was young, human beings toiled patiently to work order and civilization out of chaos. One of the first things attempted was to throw the safeguards of social convention, religion, and even superstition about the marriage relation. Chastity in a woman became as vital to her as a member of civilized society as life itself. And woman accepted the decree as wise and just, and she has, a million times, defended her chastity at the cost of her life. And man, having worked out the self-evident proposition that the life of the human race depends upon the sanctity of marriage and the purity of its participants, had shown himself again to be higher than the other animals—no longer a beast, but a man. Then man rejected his own wisdom, and permitted himself and his son to relapse to the level of the beast while insisting that his wife and his daughter, as they value their lives, maintain the high position that reason and intelligence point out.

In the old days the male human was a queer mixture of a thinking creature and a brute. His new-developed mind thought out and laid down rules and laws—for other people—and his animal instincts (the instincts of a bull moose) guided him largely in his own conduct.

The man made the women-folks accept the decree of chastity; himself he absolved. The lord of the manor made his tenants and vassals toil; himself he indulged in idleness. The king enforced economy and prudence upon his officers; himself he permitted luxury and extravagance. The great captain enforced sobriety upon his soldiers, and in many cases the *great general* of early history was the *great drunkard*.

Then the phrase "sowing wild oats" was invented. It was coined as an excuse for the inexcusable; a cloak for the naked truth; a cowardly bluster to hide craven conduct. "Sowing wild

oats" was accepted and acceptable in the state of society in which it was coined; but it's as much out of date now as is chain armor or curing disease by witchcraft. The thing we want to know about now is *reaping* wild oats. Whose is the harvest? and by what right is such a harvest sown for an innocent reaper? and what is that harvest? Listen:

One out of three of the babies who are blind at birth, or whose little eyes flicker and go out in the first few days of life, are reaping their fathers' wild oats.

Two out of three of the women who lie under the surgeon's knife for operations peculiar to women are reaping their husbands' wild oats.

One-half the homes in which no baby's voice will ever be heard are sterile because of the husband's wild oats.

Countless thousands of babes are born dead, and the little life is the toll of father's wild oats.

Millions of babies, of boys and girls, youths and maidens, men and women, go through life sickly, miserable, unsound in body and mind, and they are reaping their father's wild oats.

Oho! We mustn't talk about such things in public? Well, then, let it be known that the phrase "Hush! such things must not be talked about," is of the same cowardly stamp as the apologetic "sowing wild oats." These things must be talked about until we realize that a pure girl deserves a pure man. No young man "must have his fling" if that "fling" takes toll of his future wife's health or his baby's eyes.

Not talk of it! Think of a baby groping its way in the eternal darkness of the blind; think of the young wife poisoned at the very altar of marriage; think of the cost of that crop of wild oats, and then say whether the subject is a proper one to discuss.

Does not the father ask if his daughter's suitor is able to support her? Does he not ask if his mind is clean, and fit for fatherhood? Then why not ask, and insist on knowing, if his body is clean?

When I was in Florida two years ago I experimented considerably with a cheap incubator. It brought out some chicks, but a good many of them were crippled. Mrs. Root said at once that the Humane Society should stop people from using an incubator that brings *cripples* into the world. She said nobody should be permitted to curse deliberately even the dumb brutes by bringing into the world a lot of cripples, and I agreed with her. I think that, at the time mentioned, I said something about human beings being permitted to people the world with human cripples. That figure of putting out the eyes of a "day-old" baby with a hot-wire startles one. It is too horrible to think of. Of course, we have asylums in our land (and may God be praised for them) to take care of those who are born blind; and we have also asylums for those who are crippled in other ways; but I must confess again, old as I am, that I have never noticed statistics particularly in regard to this matter from those who are blind or crippled from birth, and how it came about.

When this writer in the *Press* told us that one out of three babies that are blind at birth are so as the result of their fathers *sowing wild oats*, I thought it could not be true. Again, everybody has wondered why women require so many more surgical operations than men; and I wonder if it can be really true that it is the fault of the men (or of the wretches who *call* themselves men) who marry these good pure women.

Then, again, just recently my attention has been called to so many childless homes that I began thinking it must be a severe cross—yes, we might say a *terrible* cross—for both husband and wife to go through the world having no children to gladden and brighten their home. This writer says *half* of these cases are occasioned by the husband's stupid folly, or, better still, *criminal* folly, and that the world is peopled with crippled beings because of the awful selfishness and greedy spirit of men who have never learned to control themselves, or, better still, to control their passions.

Several times in our Home papers we have had a little talk about overcoming. There is a whole string of promises in the book of Revelation concerning those who overcome. Here are some of them: "To him that overcometh will I give to eat of the hidden manna;" again, "He that overcometh, and keepeth my works to the end, to him will I give power over the nations;" again, "He that overcometh, the same shall be clothed in white raiment;" again, "Him that overcometh will I make a pillar in the temple of my God;" and, finally, "To him that overcometh will I grant to sit with me in my throne, even as I also overcame and am set down with my Father in his throne."

I once heard a minister say, up in the backwoods of Michigan, that this last promise meant that God wanted a lot of good men to counsel with him in regard to the affairs of the universe. Every man who occupies an important position in this nation of ours has about him, or ought to have, some good wise men to advise him and counsel with him; and this backwoods preacher had the audacity to say that even *God* needs help and counsel from human beings; and he said that those who had learned to overcome all selfish and wrong feelings were going to sit with God on his throne, and receive a commission from him to *help* him do his work. Now, you can take the suggestion for what it is worth. One thing we know is that God does need the help of good men in this world of ours. I do not know as yet what he will want us to do in that great unseen and unknown world.

While I was considering whether that statement in the *Press* could be absolutely true, our Medina people were favored by a lecture from Dr. N. C. McCormick, of Bowling Green, Ky.—a physician of world-wide reputation. Well, this doctor gave us the statistics and illustrations from all over the world, corroborating every point made by the editor of the *Press*. He said that the sin and suffering and pain and death of the present age are due, at least to a very great extent, to brutes in human form, many of them, it would seem, who never ought to be permitted to live.

May God be praised for the temperance wave now spreading over the whole world, that promises to eliminate such hellish work and stop to a great extent this matter of bringing cripples into the world, and children born blind.

Now, do not think that I am condemning everybody else, and holding myself up as a pattern of what a man should be. God forbid. When I was a boy (I am ashamed to tell it) my boyish mind was poisoned by evil associates to some extent, and by bad books to some extent. Thank God, that, through Anthony Comstock's indefatigable labor, bad books have been mostly banished. Mind you, I do not say my *body* was poisoned, for my good father and mother watched over me too closely for that; but when I was getting toward marriageable age I rather enjoyed the fun, as I called it then, of persuading—that is, to a greater or less extent—any bright girl whom I came across to think (perhaps in pleasantry) that *she* was to *me* the center of the universe, or was at least for the time being. It was what we used to call at that time "having fun with the girls." Some of us had fun with several different girls at a time. When I became ac-

quainted with Mrs. Root, however, she gave me to understand that, if I proposed to call on her regularly—that is, in a way that would attract the attention of people to the matter—that I could not at the same time keep up similar relations with other girls. She said I was, of course, at perfect liberty to do as I pleased; but if I continued to call on her as I had been doing, I would have to make a choice. Now, I remember distinctly of thinking at that time that I would rather not get married, even if I *was* of marriageable age. I thought I could have more fun, and get more enjoyment out of the world, without being "hitched up for life" to *any* special woman. May God forgive me for letting such a thought come into my mind.

By the way, friends, let us consider this thing a minute; and I wish to speak now particularly to men say between twenty-five and forty years of age. Why did God send you into this world? Was it to get all you can out of it for your own particular *self*, to have *fun* with every thing, say with some pretty girls or some nice bright intelligent woman and all the rest? If so, you do not deserve a human life; and if you follow out that selfish course you will never find any *true* happiness. It is the people of that class who commit suicide. Ernest has often laughed at me for my fashion of asking every bee-keeper, or anybody else with whom I become acquainted, if he is married and has a family. But I still think I am right, that every good man *should* be a married one. A minister has no business being a preacher, and I do not think he ever *becomes* very much of a preacher in God's sight (and I hope he does not in the sight of humanity), until he is married to some good woman or has some good woman in view, and lets everybody know that he *expects* to be a married man. I do not care who this hits, for I am sure I am right about it. And the same thing is true of a doctor. There are some greater reasons why a *doctor* should be a married man than perhaps any other professional man in the world. How can a doctor take up his work of helping humanity as he *ought to do* until he has a wife and children?

The article that I quoted from the *Press* tells us that it is the fault of the men themselves in half of the childless homes for having such homes.

Let me put this matter of going through life without marriage in another way. I recently met an old friend of many years ago—a good man and an able one—and yet he is not a married man. I said to him, as I stood before my two sons, Ernest and Huber, "Mr. A., I regret to know that you are still unmarried. Now, suppose I had done as you have done, and yielded to that selfish temptation to go through life without marriage; then these two good men who supply reading-matter for our journal (I am sure our readers will excuse me when I say this) would never have had an existence."

The editor of the *Press* spoke about burning out the eyes of a day-old babe with a hot wire, and we shudder at the thought; and I believe all mankind agree that it is a crime, and a *terrible* one too, in the sight of God and man, to murder these little innocents even *before* they are born. Well, how about the man or woman who refuses to give these little innocents even a *chance* to live?

A good friend of mine, who at that time lived

in the city of New York, said people who live in flats do not have children. The proprietors of these places for homes will not rent them to a family with children, for they do not want children around. Suppose George Washington's parents had decided they could have more "fun" by not getting married at all. May God be praised that Washington's parents were not of that stripe; and, to come down to the present time, suppose the parents of *Orville and Wilbur Wright* had decided they did not want the trouble and care of a family. President Roosevelt has many times reminded us of the consequences of being content with childless homes or living unmarried. He calls it "race suicide." Do you say that the illiterate foreigners, or even the shiftless people of our own land, will furnish children enough? Yes, so they will, probably; but who will furnish the money to build the asylums and jails and prisons to care for these children?

Here is another clipping that I wish to give you, from the *American Issue*:

SCIENTIFIC TEMPERANCE SCHOOL CHARTS.

A number of scientific temperance school charts, which are being used in a large number of the public schools of the United States, have aroused a storm of protest on the part of the liquor fraternity because of the terrific arguments against the use of intoxicating liquors which these charts set forth. The charts were carefully prepared by scientific experts; and the facts which they set forth are, while startling, the results of the most thorough scientific investigations.

Dr. T. Alexander Nicholl, of New York, prepared the statistics on heredity, which are shown on these charts with telling effect. The records show that one French and English family of moderate drinkers, in well-to-do circumstances, had 33 descendants. Of these, only 3 were normal; 2 of the remaining 30 were suicides; 3 had suicidal mania; 3 were confirmed drunkards; 4 were prostitutes, and 18 had tuberculosis.

Another record, of 76 families of moderate drinkers, with 236 descendants, shows that only 50 were normal. Eight of the remaining number were insane; 21 were confirmed drunkards; 8 were idiots, and 149 had organic disease or neurosis.

Still another record shows that in 24 families of hard drinkers, with 113 descendants, only 20 were normal. Of the remaining 93, 16 were drunkards; 7 were epileptics; 8 were dwarfs; 7 were idiots, and 55 had organic diseases.

The other statistics which these charts show, secured by the investigations of Dr. Demme, show that of ten temperate families, with 61 children, 50 were normal, 5 died in infancy, and only 6 had organic diseases.

Another investigation shows that of 31 families of abstainers, with 116 descendants, 96 were normal, 19 had organic diseases, and one was a drunkard.

The mortality figures shown by these charts are also very interesting. The investigation shows that, of 100,000 moderate drinkers, 44,000 reached 70 years of age, and 45,000 died before 70. Life-insurance companies figure that the lives of beer-drinkers are shortened from 40 to 50 per cent.

The charts further show that 88 per cent of the manufacturers of the United States demand total abstinence on the part of their employees, and that about 1,000,000 of the railroad men of the country are compelled to be total abstainers from both fermented and distilled liquors.

As a further illustration of the preceding we copy the following from the "Anti-saloon League Year Book" for 1908:

DESCENDANTS OF A DRUNKARD.

Pellman, of the University of Bonn, tells of a very notorious drunken woman who died in 1800. A scientific investigation made regarding herself and her descendants has brought forth the following astonishing facts:

The total number of her descendants was 834. Of that number, 709 have been traced, with the result that the record shows that 7 were convicted of murder; 76 were convicted of other crimes; 142 were professional beggars; 64 lived on charity, and 181 of the female descendants were prostitutes. It has been estimated that the cost to the government of the crime and pauperism of this one line of descendants has been \$1,250,000.

And also the following from Dr. J. H. Kellogg's "Handbook of Rational Medicine: "

Dr. S. G. Howe attributed one-half of the cases of idiocy in Massachusetts to intemperance, and he is sustained in his opinion by the most reliable authorities. Dr. Howe states that there

were seven idiots in one family where both parents were drunkards. One-half of the idiots in England are of drunken parentage; and the same is true of Sweden, and probably of most European countries. It is said that in St. Petersburg most of the idiots come from drunken parents.

Perhaps I should state that Dr. Kellogg makes the above statements as a quotation from Dr. Willard Parker, of New York—one of the ablest writers on this subject the world has produced.

In closing, May God grant that this Home paper may be the means of waking up good men, and I hope you will excuse me for saying some good women as well, to the importance of doing what they can to fulfill God's command to humanity away back in the beginning of the world—"Be ye fruitful, and multiply, and replenish the earth."^{*}

Perhaps some of you may suggest that, if you get married, it might be the means of bringing crippled children into the world as I did with my chickens in the cheap incubator. God forbid. If there are such whose eyes rest on these pages, or any who think that ill health unfits them for marital responsibilities, then go to work this minute, and *make* yourself well. T. B. Terry is telling us how it can be done, and thousands are coming forward as witnesses. This learned doctor who gave us that talk said it is a disgrace to have typhoid fever in any community, and that the time is fast coming when the same can be said of tuberculosis—that the great white plague is going to be fought out and banished; and I am sure there are very few men or women who read these pages but can, if they take sufficient pains, in a few years succeed in securing a degree of health that will permit them to think of raising a family with a very small liability of bringing *cripples* into the world. We are going to have a better "strain" of men and women than the world has ever yet known, and we are going to improve on the human family just as much as we improved on our horses, cattle, pigs, and chickens. God help us. My good friend Terry has finally yielded to my importunity, and is going to write a book this coming winter. May God guide and direct him, and give him health and strength to do it well.

TEMPERANCE

OUT OF THE DARKNESS AND INTO THE LIGHT;
TURN ON THE "SEARCHLIGHT."

I hardly need tell our readers that just at this time Ohio is in the heat of the battle that righteousness may prevail over iniquity. To give you a little illustration of the brazen cheek and effrontery of the enemy, let me mention the fact that our neighboring county of Lorain has just had a vote on county option. Oberlin is in that county, and Oberlin is known the world over as a great center of learning and a radiating source of moral reforms. A big part of Lorain County

^{*} I clip the following from the *Farm Journal*, of Philadelphia:

They say that happiness is found only in the dictionary; but it seems to us that an honest young man, married to a healthy, happy, truly Christian girl who loves her home, comes just about as near human happiness as ever mortal gets; and such a man will not be so ungrateful as to swear, get drunk, or do a cruel or mean act.

To all of which I wish to give a hearty *amen*.

was thoroughly canvassed, and we were abundantly satisfied that a fair vote would make the county unquestionably dry. Imagine our surprise, however, to have it reported *125 wet*. Careful investigation now reveals the fact that the little town of Avon, that contains only about 300 legal voters,* cast a vote of *510*. In many other small towns we find a similar state of affairs. These extra votes were made up of men employed by the brewers to come in and reside a certain length of time. The matter is coming up before the courts; and the question is, "Shall our laws be made by the brewers with their money, instead of by honest votes?" We need the prayers and sympathies of the whole wide world. The outcome of this fraud in Lorain County will probably influence the result in the whole State of Ohio; and Ohio just now stands up before the rest of the United States as an object-lesson. As Ohio goes, so may the rest of the States; and, finally, as the United States goes in this matter of temperance, so may the rest of this world of ours. May God help us to demonstrate to the surrounding nations that God still lives, and hears our prayers, and that there is even *now* "a God in Israel."

Just as the above was dictated, a business letter was put into my hand from our good friend Murray—the man who has for many years made the pictures in GLEANINGS. I want to give you the concluding part of his letter:

I am sorry Lorain Co. was off color, and went *wet*, as it somehow seems to hurt our county (Cuyahoga). We had every hope that the good march would continue. I have fought the cursed rum traffic all my life, and in my early days was in the chair of both the Good Templars and Sons of Temperance, and even in the Grand Lodge of such organizations. I have even been shot at by its enemies, and was clubbed insensible by a saloonist who was afterward sent up for a year and a half—in Massachusetts. My early life and opportunities were clouded by the evil, so you need not wonder at the hatred I have for the thing.

You will excuse me for introducing such matters in a business letter; but I feel strongly on all such subjects—not against the individuals in the business of liquor-selling, but on the thing itself. It is from hell, and produces hell. The harder the brewers kick, the worse it will be for them.

Cleveland, Ohio.

R. V. MURRAY.

Up to date, Oct, 28, 37 counties in Ohio have voted dry and only 4 have gone wet. One of the latter is being contested on the ground of fraudulent voting.

TEMPERANCE AMONG BEE-KEEPERS.

At our recent convention in Detroit our good friend G. W. York, whose head is always level, and who loves righteousness and hates iniquity, gave us a grand address on temperance among bee-keepers. You will doubtless get the whole of it in the *American Bee Journal*. Well, now, here is something in the same line. It is an advertisement clipped from the *Zanesville Signal*:

It's not a question of high taxes or low taxes, good business or bad business. It's a simple question of right or wrong.

No man who has a drop of manly blood in his veins will, for any business consideration, vote to retain in our midst the home-wrecking, soul-destroying saloon.

PEIRCE'S HONEY—made by the bees.

Friend E. W. Peirce is not only a successful agent for the Root Company's goods, but he is a bright young man, and I am told he is en-

* After the above statement (which I clip from the *Cleveland Plain Dealer* for Oct. 22) was in print I was informed that there are considerably more than 300 legal voters in Avon. I make this explanation because God knows we would not knowingly misrepresent or exaggerate in a matter of this kind.

gaged to be married to one of the brightest young ladies in that whole region. It was my pleasure to see her and shake hands with her, and so I think there can be no mistake in the matter. Any man who puts his name at the bottom of an advertisement like the one above is *sure* to make a good husband and to build up a good home.

HEALTH NOTES

THE ART OF LIVING LONG.

I hold in my hand a good-sized book of over 200 pages, written principally by a man who lived to be 102 years old; and the very best chapter in the whole book was written when he was 95 years old. Louis Cornaro was born in 1464 and died in 1556. It now seems that there have been for years past persons here and there who have been learning the great truth about controlling our selfish and sensual appetites. At the age of 40, Cornaro was a used-up man. He had wealth, ease, and leisure; but after the doctors told him they could give him no help he started in as did T. B. Terry. His first discourse was written at the age of 83. Permit me to make an extract from it, page 41:

O wretched and unhappy Italy, canst thou not see that intemperance kills every year amongst thy people as great a number as would perish during the time of a most dreadful pestilence, or by the sword or fire of many bloody wars? And these truly immoral banquets of thine, now so commonly the custom—feasts so great and intolerable that the tables are never found large enough to accommodate the innumerable dishes set upon them, so that they must be heaped, one upon another, almost mountain high—must we not brand them as so many destructive battles? Who could ever live amid such a multitude of disorders and excesses?

Please notice what he says about "innumerable dishes;" and may God forgive us as a people for having continued this suicidal fashion up to the present day. At the age of 86 he wrote his second discourse; and at 91 his third discourse, and at 95 the last and best of all. He was not only brighter when he neared 100, but a happier man, and perhaps a more useful one, than he had been at any time in his life. Let me make an extract from page 111:

Who could ever find weariness in a lot so truly blessed and happy as the one I enjoy? Yet this happiness would be the portion of every man if he would but lead a life similar to the one I have led. And, assuredly, it is in every man's power to lead such a life: for I am nothing but a man and not a saint, only a servant of God, to whom the orderly life is well-pleasing.

Now, the most wonderful part of it all is that he said in his first treatise, at the age of 83, that he expected to live to be 100 years old, and he repeats it several times, and he *did* live to be 102.

The book does not give very much direction in regard to diet—that is, he does not specify exactly *what* food we should eat. He was not a vegetarian, although I think his food was mostly along that line. He strongly emphasized the importance of a busy outdoor life, but urges at every step *moderation*, especially in having only a limited number of articles of food at each meal, and stopping when we have had just enough so the digestive apparatus can handle it easily and well. Like Terry, he said it is truly wonderful what a small amount of food can sustain life; and he strongly emphasizes the fact that *elderly* people, especially when they give up hard work,

should be exceedingly careful about overeating. A great lot of us, when we get to be sixty or more, propose to "take life easy" and let the younger folks attend to the duties of life. Then if we happen to be so unfortunate as to have little or nothing to do, we get into the habit of eating between meals of this, that, and the other, because we have nothing else to occupy our attention; and the result is a loss of health and perhaps a loss of life.

Besides the Cornaro treatise there is a selection from Lord Bacon and several others along the line of long life. There is an introduction by Joseph Addison, from the *Spectator*, dated 1711.

Here is something more in the same line, which I clip from the *Medina Gazette*, on what is called "Monday sickness."

A bulletin of the Indiana State Board of Health contains some pointed remarks from a teacher concerning the regular "Monday sickness" in the public schools. She said: "More school-children are ill on Monday than any other day of the week. By Wednesday or Thursday the attendance and condition of the pupils are up to the standard, and they stay so the rest of the week. Inquiry showed that every family had an elaborate dinner on Sunday, and that the children and parents ate more on that day and exercised less. Fourteen of twenty-seven children were found to have been 'Monday sick' almost every Monday. Acting upon the idea that the Sunday big dinner was the cause of the trouble, ten children were selected, and the parents were requested to set the ordinary dinner for two consecutive Sundays. The result was, all of the children came to school on the following Mondays, bright, and quite free from the symptoms heretofore detailed."

I may add to the above that one of the teachers of our Medina schools told Mrs. Root that there is more trouble on account of absence or sleepy children on Monday than on any other day of the week, and the cause is no doubt explained in the above. I have long maintained that, if there is any day in the week when the good wife should be excused from getting a regular dinner, that day is Sunday; and yet, be it said to our shame and disgrace, nine out of ten of our homes get up a more elaborate spread for Sunday than any other day, and I am afraid that, on top of that, the children (and may be the parents too) eat a lot of things between meals because they have nothing else to do.

I think I have before mentioned a good woman, a relative of mine by marriage, who did all the cooking for Sunday dinner the day before; and not only the inmates of the home, but any visitor who happened to be there, was obliged to put up with a cold meal on Sunday, and I hope there was nothing very elaborate about it. May God help us to climb out of our bad habits, especially when we remember that the ladder that takes us up stands on earth and reaches toward heaven.

A few days ago I suggested to friend Terry that he and I would be expected to demonstrate the correctness of our own teachings by living to be 100 years old; and I also suggested that we ought to get to work and see which will live the longer. I do not mean, dear friends, simply prolonging existence, but, on the contrary, like Cornaro, do our best for the world and for humanity when we are along in the nineties and close up to a full century. Perhaps you would like to know what Terry says about it. Here it is:

Barring accident, friend Root, you can gradually become ideally well in every way—able to do a full man's work, and keep so for many years. I intend to, and have no limit set in my mind; leave that to God after doing my part. I intend to be young at 100. By the way, let us spend the days together when we reach the 100-year mark. There is not the slightest joke in any of

this. I am seriously in earnest. It doesn't seem possible; but I shall be younger and better in every way ten years from now than I am to-day, judging from past experience. You notice Cornaro found it the same. T. B. TERRY.
Hudson, O., Oct. 15.

Mrs. Root suggested that she fears we two old men will have to run the latter end of the race without our wives if we expect to get to the 100 mark. I replied that friend Terry expects to take his wife along with him, and that, if Mrs. Root did not get contrary, I should greatly enjoy her company too up to the 100 mark. Now, we are not at all exclusive. If there are any among our readers who wish to "join the procession," come right along. The more the merrier.

P. S.—I would suggest that we "old fellows" spend our winters in Florida, providing I can persuade friend Terry to go along with me. We can thus be outdoors all day long, and I am sure *he and I* can find something to be busy about, and something to be *happy* about, even if we are over 90.

THE VALUE OF RAW APPLES.

The following, which I heartily indorse, was sent us by J. L. Peabody, of Denver, Col. I am unable to give the name of the periodical from which it was taken, but it was probably some Denver paper.

Many persons fancy that raw apples are indigestible, and endurable only in the early morning. Doubtless the old adage that fruit is gold in the morning, silver in the middle of the day, and lead at night is to some extent answerable for this erroneous impression. Dietitians say that raw ripe apples contain more phosphates in proportion to their bulk than any other article of food, fish not excepted. A recent writer on this point boldly declares that in this lies the secret of healthful longevity. They correct biliousness, and act as a sedative upon the racked nerves, and allay insomnia.

"Eat uncooked apples constantly, although, of course, in moderation, and drink distilled water only, and years will be added to your life, while the evidences of age will be long in coming."

This argument is based on the supposition that, as age advances, the deposits of mineral matter in the system increase, and that aging is little more than a gradual process of ossification. Phosphoric acid contains the least amount of earth salts, and for that reason is probably the nearest approach to the elixir of life known to the scientific world.

If you wish to live long, retain your youth at the same time, and to increase your brain tissue, eat plenty of apples, drink only distilled water, and eat as little bread as possible. Tart apples are far more wholesome than sweet, and all, like potatoes, should be fully ripe when eaten.

SELLING SECRETS, ETC.

We are still at it, friends, like the Irishman who had six wives. He said, in explanation of his conduct, "Plase yer honor, I was thyring to get a good one;" and we are still sending out money for secrets in order "to get a good one." E. H. Palmer, of Alfred, N. Y., says in his circular that his wonderful secret of selecting laying hens is worth \$50.00. But out of the sympathy and generosity of his heart he is selling it for only 50 cents. Before you can have this wonderful information, however, you have to sign your name to a pledge not to divulge any thing contained in the booklet. There are two agreements, and both must be signed by the purchaser; and the matter is so valuable, and his "profit" so small, that he adds: "Personal check or draft will positively not be accepted unless 15 cents is added for exchange."

Well, I sent on my 50 cents, but I did not sign any agreement whatever. But I got the book all the same by the very first mail, as I always do. In fact, I have *never failed* so far to

get a secret, even if I did neglect to sign any contract. This wonderful book contains just four pages about the size of a postal card, and it is the old lingo right over—see page 43, Jan. 1st.

There is one funny thing about this secret business. There seem to be a good many fellows who have not brains enough to originate any thing, and so they copy some other man, thinking that these other fellows, Hogan and Potter, for instance, are making so much money in the secret business that there is no reason why they should not have some of it. Just see how many are copying the secret regarding sprouted oats—the best food in the world for chickens, costing only 10 to 15 cents a bushel. And now somebody advertises it at only 8 cents a bushel, and every time it turns out to be sprouted grains. But every man claims this as his own invention. He would not be guilty of copying (no, no) or stealing a secret from somebody else.

Let me say once more, 50 cents is a *big price* for a book of only four little pages. Mr. Palmer also advertises his great "profit-paying" White Leghorn chickens and eggs in this same *fifty-cent book*.

PRESIDENT ROOSEVELT AND BIRDS.

In the last issue of GLEANINGS is a clipping in which a boy, when remonstrated with for shooting birds, says, "President Roosevelt does it." The President does sometimes shoot a few game birds, but does not shoot song or insect-eating birds, and he has probably done more to preserve bird as well as animal life than any other man in the country by setting aside reservations where they are protected all the time by the Audubon Societies. By sending 20 cts. to the Macmillan Co., Harrisburg, Pa., for a copy of the October number of a magazine called *Bird Lore*, you can find out more about some of the reservations.

Wall Lake, Ia.

JOHN A. SPURRELL.

I am glad to give place to the above, friend S.; and since you mention it we ought to know that the President would not practice or encourage the slaughter of song birds or any other birds not fit for food, or which are not detrimental to fruit and crops. There are certain birds that ought to be gotten rid of. The English sparrows are not only consuming the grain provided for our chickens, but they fill our eavespouts with their excrement, and scatter it over our walks and porches unless we continually fight them away. If we are going to have pure drinking-water we do not want guano mixed in with it every time it rains. Notwithstanding all this, I feel pained when I see young boys around with bird-guns. I hope and pray that birds detrimental to crops and health may be destroyed in some other way.

ALFALFA.

I hope you are trying a little alfalfa—a patch big enough for your chickens if nothing more. It does not make any difference where you live: it can be made to grow all the way from Maine to Florida. Here are the directions boiled down, which I clip from the *Ohio Farmer*, written by Willis O. Wing, the great authority on the subject of alfalfa:

Please do not make a mystery of alfalfa-growing any longer. It is such a simple matter that one can write all the rules needed in small space. Here they are: Drain the water out; let the air into the soil; fill the land with lime if nature did not do it; get humus into it—stable manure or some vegetable matter to rot and promote the life of bacteria there. Put in plenty of phosphorus. Sow good seed, with a little inoculated soil. Lime brings alfalfa. Alfalfa brings corn. Corn brings money, homes, pianos, and education for farm boys.

THE WRIGHT BROTHERS' AND OTHER FLYING-MACHINES.

We are pleased to note that Wilbur Wright has so far recovered from his recent accident that he is going back to his home in Dayton, and probably is there at the present writing. The broken bone has made a very quick and satisfactory mend. The following, which we clip from the *Cleveland Plain Dealer*, indicates that the Wrights may soon have competition in their own town. The clipping was dated Oct. 27, and comes from Dayton.

Frank J. Heinfelt to-day made a successful flight of 1500 feet with an aeroplane materially different from that of the Wright Brothers. In this machine the single-plane principle is used, while the Wright machine has double plane surfaces. Although hitherto unknown in the aeronautic world, Mr. Heinfelt has built three machines, paying his expenses out of his salary as a stenographer. His motor was given him by a friend who took it out of an old automobile. The flight to-day was terminated by a lack of skill on the part of the manipulator, who brought the machine to the ground too suddenly and broke one of the wings. Repairs will be made at once. The flight was witnessed by several persons.

A. I. ROOT, AND HIS DEPARTMENT IN GLEANINGS.

I have been considerably worried of late, dear friends, for fear that I might, perhaps, unconsciously, as I get along in years, be taking more space in these pages than is really wisest and best. I have often heard it said that, as ministers of the gospel get older, they become lengthy and tedious in their sermons. Now, whenever that thing happens in my case I hope some good friend or friends will be frank enough to say so. The foregoing was suggested by a letter just put into my hands. Here it is:

I do not keep bees now, but can not do without GLEANINGS, as the Home talks are worth more to me than I can name in dollars and cents. Long live A. I. Root! He can not write too much. Tell him to write an A B C poultry-book.

Somerville, N. J., Sept. 26.

L. B. THATCHER.

Many thanks, my good friend T., especially for the sentence that reads, "You can not write too much." Of late I have been using five to six pages in each issue of GLEANINGS; but when I get down in Florida, where I have no stenographer to talk to, as I do to my old and tried friend W. P. Root, it will be a harder task for me to occupy so much space.

Another thing that troubles me is that I don't seem called upon just now to say very much in regard to bee culture; but it may be that others fill that department so capably that it is not necessary for me to talk on bees. I should dearly love to write an A B C book on poultry while my mind seems to run so much in that direction. Of course, I have not had any great experience, even though I have kept chickens most of my life; but I have visited and am in touch with many of the largest and foremost poultry establishments in our country.

Now, if there are some of our readers who do not agree with Bro. Thatcher that the originator of GLEANINGS can not write too much, especially in his old age, I hope they will be equally frank and outspoken. There is one class of people who, I am well aware, are not particularly well pleased with my department; and these are the dear brothers (and I hope they will let me call them brothers) who are or have been heretofore in the saloon business; for I am and shall be, while God permits me to hold the breath of life, fighting every thing that is unrighteous.

BOOKS FOR BEE-KEEPERS

The Swarthmore Library.

A series of booklets on bee subjects by E. L. Pratt, of Pennsylvania, known to the bee-keeping world as "Swarthmore." These books are full of the most valuable information. The Swarthmore method of queen-rearing is spoken of as the most important innovation in bee-keeping of recent years:

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No. 2. **INMATES OF THE HIVE.** We often hear, even at this late date, about the "King Bee." This book is intended to correct such erroneous ideas.

No. 3. **HONEY-COMB.** This is a little book showing the construction and development of the honey-comb, and is alike useful and interesting.

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No. 13. **BEE DISEASES.** There has long been need of a better book on this subject. The book is written by Mr. E. R. Root, after long comparison and careful study of the writings of leading bee-keepers on the subject.

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No. 27. **DOVETAILED HIVE AND ITS USES.**

No. 28. **DIVISIBLE-BROOD-CHAMBER HIVE.**
No. 29. **MOVING AND SHIPPING BEES.**
No. 30. **THE BEE-KEEPER AND THE FRUIT GROWER.**

Popular Works on Bee Culture.

The list of books below are for the most part by writers of well-known literary ability, and are very interesting indeed, and are greatly valued by bee-keepers and others for their literary merit, and the popular style in which bee-keeping is depicted and we are very glad to have the opportunity to offer them to bee-keepers and others. The description of each work will give a fair idea of the same, but a pamphlet giving an extended view of these and the practical books on bee culture listed in the preceding columns will be sent on application.

THE HONEY-MAKERS. By Miss Margaret W. Morley. This is the story of the life of the bee, told in very interesting style—how it lives, gathers honey, and all about it. While clothing the general subject with an air of poetry, it seems to be entirely within the limits of known facts while attempting to deal with them. We believe it will give all thoughtful bee-keepers a greater liking for their business to read it. Probably it has more to do with the curious traditions connected with bees than any other book of the kind. Price \$1.50 postpaid; by freight or express, 10 cents less.

THE LIFE OF THE BEE. By Maeterlinck. This is a masterpiece of fine writing by a modern Shakespeare. The words fly from the pen of this writer like sparks from a blacksmith's anvil, the result being a glorification of the honey-bee. Maeterlinck is considered by many to be the finest writer now living, and any thing from him is sure to be worth reading. He is, to a certain extent, familiar with bee-keeping, but the truth about bees does not interest him so much as the romance of the queen and the drone and the swarming instinct. The book itself is well bound and beautifully printed. Cloth bound, 42 pages. Ed. 1903, price \$1.40 postpaid; by freight or express, 10 cts. less.

THE BEE PEOPLE. A book on bees, especially for children, from the pen of Margaret W. Morley. Including its elegant illustrations, it is, in some respects, the prettiest bee-book in existence. It has 177 pages, very coarse print, the reading being ingeniously interwoven with the illustrations showing the parts of the bee. The story of bee-life is told in a fascinating manner, and is well calculated to get the casual reader, as well as children, interested in this useful insect. The cuts go just enough into detail to explain fully the lesson taught, without confusing the mind with other things. We think the book well worthy a place in every bee-keeper's home. Fittingly designed cover. Price \$1.50 postpaid; by freight or express, deduct 10 cents.

THE SWARM. By Maurice Maeterlinck, author of the Life of the Bee. This is a book of 113 pages, prettily bound in cloth. Price \$1.20 postpaid; by freight or express, 10 cents less.

THE BEE-MASTER OF WARRILOW. Tickner Edwards. Cloth bound, 64 pages; 57 cents postpaid; by freight or express, 7 cents less.

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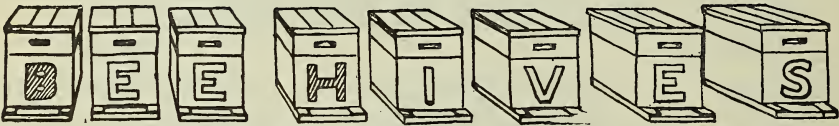
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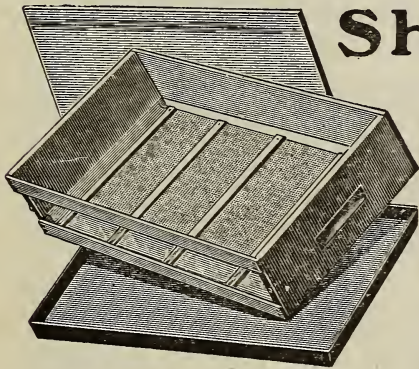
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SPRAY PUMPS Double-acting, Lift, Tank and Spray

MYERS PUMPS

Store Ladders, Etc. HAY TOOLS

Glass Valve

of all kinds. Write for Circulars and Prices.

Myers Stayon Flexible Door Hangers

with steel roller bearings, easy to push and to pull, cannot be thrown off the track—hence its name—"Stayon." Write for descriptive circular and prices. Exclusive agency given to right party who will buy in quantity.
F. E. MYERS & BRO. Ashland, Ohio.

THE BEST LIGHT

2 C AWEEK

MAKES and burns its own gas. Produces 100 candle power light—brighter than electricity or acetylene—cheaper than kerosene. No dirt. No grease. No odor. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog. Do not delay.

THE BEST LIGHT CO.
306 E. 5th St., Canton, Ohio

FENCE Strongest Made

Made of High Carbon Double Strength Coiled Wire. Heavily Galvanized to prevent rust. Have no agents. Sell at factory prices on 30 days' free trial. We pay all freight. 37 heights of farm and poultry fence. Catalog Free.
COILED SPRING FENCE CO.
Box 101 Winchester, Indiana.

CUTS USED IN THIS MAGAZINE ARE FROM
THE MUGLER ENGRAVING CO.
MUGLER BLDG. CLEVELAND, OHIO.

The Rochester Radiator will

SAVE HALF YOUR FUEL or give you double the amount of heat from the same fuel, if you will give it a trial, or we will refund the money paid for it. Write for Booklet on heating homes.
ROCHESTER RADIATOR CO.
50 Furnace St., Rochester, N.Y.

Prices from \$2 to \$12
For hard or Soft Coal wood or gas
Fits any Stove or Furnace

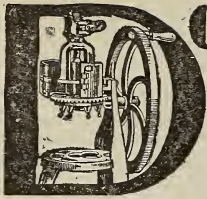
PATENTS.

Twenty-five Years' Practice.

CHARLES J. WILLIAMSON,

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

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



DOUBLE YOUR EGG YIELD

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.

F. W. MANN CO., Box 37, Milford, Mass.

FIX YOUR ROOF

5c Per Square.—We will guarantee to put any old leaky, worn-out, rusty, tin, iron, steel, paper, felt or shingle roof in perfect condition, and keep it in perfect condition for 5c per square per year.

Roof-Fix The Perfect Roof Preserver, makes old, worn-out roofs new. Satisfaction guaranteed or money refunded. Our free roofing book tells all about it. Write for it today. The Anderson Manufacturing Co., Dept. 24 Elyria, Ohio.

15 Cents a Rod



For a 22-inch Hog Fence; 16c for 26-inch; 19c for 34-inch; 23 1/2c for 34-inch; 27c for a 47-inch Farm Fence, 50-inch Poultry Fence 37c. Lowest prices ever made. Sold on 30 days trial. Catalog free. Write for it today.



KITSELMAN BROS., Box 21, MUNCIE, IND.



DON'T WORRY OVER MONEY MATTERS but send for sample copy of Inland Poultry Journal and let us tell you how to make money out of poultry. Two full pages in color, reproductions from oil paintings that cost us \$1000.00. They are FREE.

Inland Poultry Journal Company
15 Cord Building, Indianapolis, Ind.

MICHIGAN LAND

for fruit, stock, and diversified farming. Write S. S. Thorpe, 10 McMullen Bldg., Cadillac, Mich.

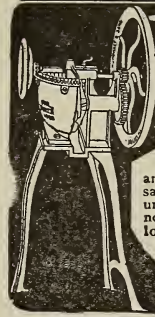


\$50 CASH

buys a \$500 25 acre poultry, fruit and vegetable farm. New 3 room cottage like cut. Best climate, water and markets in Sunny Virginia. Other lands \$10 acre up. Send for beautiful pamphlet, maps and rates.

F. H. LA BAUME, A. & I. Agt., Norfolk & Western Ry., Box KQ, Roanoke, Va.

WINTER EGGS



Feed cut green bone; save half your grain and double your egg yield. The

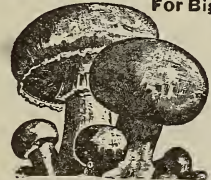
Humphrey

Green Bone & Vegetable Cutter, the only open hopper machine, is guaranteed to cut more bone, with less labor and in less time than any other. Money back if you are not satisfied. It's the one hand cutter, fed under operator's control at all times, no complicated parts. Send for catalogue and special Trial Offer.

HUMPHREY,
Nine St. Factory,
Joliet, Ill.

Grow Mushrooms

For Big and Quick Profits
Small Capital to Start
A Safe Business
I am the largest grower in America. Ten years' experience enables me to give practical instruction in the business worth many dollars to you. No matter what your occupation is or where you are located, here is an opportunity to acquire a thorough knowledge of this paying business. Send for Free Book giving particulars and information, how to start, cost, etc. Address
JACKSON MUSHROOM FARM
3366 N. Western Ave., Chicago, Illinois



Fashion Book Free!

I want to send you my handsome new book showing over 400 of the latest styles with illustrated lessons on cutting and dressmaking. I will agree to sell you all the patterns you want for 5 cents each. They are the same patterns you have always paid 10c and 15c for at the stores, made by the same people, and correct in every detail.



HOW I DO IT.
I publish **The Home Instructor**, an illustrated woman's magazine and I want your name on my subscription list. **The Home Instructor** is bright, entertaining, clean and instructive—just the sort of a paper you should have in your home. It has departments for every feature of home life, and prints the choicest fiction every month. Every issue has several pages devoted to the latest fashions, fully illustrated.

My Special Offer.

Send me 25 cents and I will send you **The Home Instructor** for two years and will send my big fashion book to you free. I will also agree to sell you any pattern you want thereafter for 5 cts. I can sell them for 5 cents because I buy them by the thousand and don't make any profit. I don't want the profit, I want your subscription to **The Home Instructor**. You will save many times the cost of my offer in a year. Write to-day
A. OTIS ARNOLD, Dept. B Quincy, Ill

CLASSIFIED ADVERTISEMENTS

Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and 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.

Honey and Wax for Sale

FOR SALE.—To reduce stock I offer for sale as follows; 26 cases of stock No. 40, and 40 cases of stock No. 44 at \$10.80 per case of two 60-lb. (new) cans. This is a raspberry-basswood blend, and is the cream of two apiaries; being extracted from select all-sealed upper stories. A third of a century's experience in the production of fine extracted honey. Ask for my little circular "A Word about Extracted Honey;" this will explain why it pays to buy this delicious stock.

E. D. TOWNSEND, Remus, Mich.

LISTEN!—The two cases of honey are received, and I am greatly pleased with it. I don't think I ever saw finer honey in my life.

E. W. PRICE, Zanesville, Ohio.

You will be just as well pleased with your honey as Mr. Peirce if you send your order to JAY NORTH, of North Adams, Mich. One 60-lb. can, 8½ cts.; two 60-lb. cans, 8½ cts. For larger orders write for prices. Sample free.

FOR SALE.—My new crop of white-clover extracted honey. Honey has been left in full charge of the bees for three weeks after harvest, and is rich, waxy, and of fine flavor, and is as good as a specialist can produce. Price is 8c. per lb. by the case of 120 lbs. or for the entire crop. Cash to accompany order.

LEONARD S. GRIGGS, 711 Avon St., Flint, Mich.

FOR SALE.—Comb honey, amber, buckwheat, and No. 2 white, at \$2.75 per case of 24 sections; in 25-case lots, 5 per cent off; light amber extracted (three-fourths clover), in 60-lb. cans, two to case, at 8 cts. QUIRIN-THE-QUERN-BREEDER,

Bellevue, Ohio.

FOR SALE.—Write for prices on clover, basswood, and buckwheat honey in 60-lb. cans and kegs; also comb honey and beeswax, all guaranteed to be pure.

W. L. COGGSHALL, Grotton, N. Y.

FOR SALE.—Choice extracted honey for table use, gathered from clover and basswood—thick, well ripened, delicious flavor. Price 9 cts. per lb. in 60-lb. cans, two to case. Sample, 10 cts.

J. P. MOORE, Queen-breeder, Morgan, Ky.

FOR SALE.—I have some extracted honey, well-ripened, fine, clover and basswood, in new five-gallon round cans, at \$5.50 a can; sample free; delivered f. o. b. cars here; ought to suit anybody.

MATHILDE CANDLER, Cassville, Wis.

FOR SALE.—Three thousand pounds of fine buckwheat honey in new cans. Send for sample and prices.

EARL RULISON, Rt. 1, Amsterdam, N. Y.

FOR SALE.—Clover, amber, and buckwheat extracted honey. Table quality. Write for prices, stating your needs.

C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—Honey, clover, or buckwheat, comb or extracted. Write for price. Sample of clover extracted free. State quantity and quality desired.

C. B. HOWARD, Romulus, N. Y.

FOR SALE.—Choice extracted honey, mostly clover and raspberry mixed; also light buckwheat. Price on application. Sample 10 cents.

JAMES MCNEILL, Hudson, N. Y.

FOR SALE.—8 tons of raspberry and basswood extracted honey, thick and very fine flavor, in new 60-lb. cans, 2 in case, at 7½ cts. f. o. b. cars here.

J. N. HARRIS, Mancelona, Mich.

FOR SALE.—2½ tons clover, also light amber; new crop, ripened on hives, new 60-lb. tins; 8½ to 10, f. o. b. Sample 10 cts.

E. L. PRATT, Queen-breeder, Swarthmore, Pa.

FOR SALE.—Well-ripened clover and buckwheat honey, in small or large packages; ask for sample and what you want.

D. H. COGGSHALL, Grotton, N. Y.

FOR SALE.—Fine extracted honey, 5-lb. cans up to barrels.

JULIUS GENTZ, Shawano, Wis.

FOR SALE.—Fancy and No. 1 white-clover comb honey.

ANTON G. ANDERSON, Holden, Mo.

Honey and Wax Wanted

WANTED.—Comb, extracted honey, and beeswax. State price, kind, and quantity.

R. A. BURNETT, 199 South Water Street, Chicago, Ill.

WANTED.—25 tons of fancy comb honey. Write, stating particulars, to C. M. CHURCH, New Kensington, Pa.

Real Estate for Bee-keepers

PECOS VALLEY of New Mexico lands are coining \$50 to \$65 net per acre per year from alfalfa. Forty-five thousand acres of alfalfa in bloom five times a year, surrounding Artesia, means honey for the bee-keeper. Live in an ideal fruit country, where the largest artesian wells in the world constantly pour out their wealth. Artesia, the future Rose City, already has the famous "Mile of Roses." Homeseekers' excursions the first and third Tuesdays of each month. Agents wanted, to accompany parties. Write to-day to R. M. LOVE, General Agent, Artesia, N. M.

FOR SALE.—Delaware farm, public road; good buildings, good water; fruit, wood; rural delivery; school, churches, stores, mills, railroad depot, canneries, blacksmith shops, all convenient; an ideal place for bees, poultry, fruit, and trucking.

L. A. LUDWIG, Maryland, Md.

FOR SALE.—Small homestead, first-class buildings, fully equipped apiary, in one of the most desirable locations to be found; will sell for less than the improvements can be replaced for. This was the home and the apiary of the late B. Taylor at Preston. Write for particulars. ALF. A. ZIEMER, Waltham, Minn.

FOR SALE.—California foothill ranch, San Diego Co., 160 acres, twenty-five in cultivation; house and barn; three acres orchard; 100 hives of bees; one span of horses; bee material and farming tools, \$1800.

AUSTIN E. WHITE, Fallbrook, California.

FOR SALE.—Excellent location for apiary in the white-clover belt of Northern Wisconsin. Basswood, goldenrod, dandelion, and willow, abundant; 8½ acres, dwelling, telephone, R. F. D. Clear title. Price \$800, half cash, balance one and two years time on secured notes.

ARNT ARNESON, R. 5, Rice Lake, Barron Co., Wis.

FOR SALE.—Eleven acres, new house, 180 stands of bees, household goods, 2 horses, wagon, top buggy, pigs, chickens, tools, vinegar; including every thing on the place; cheap, \$1800. Write for particulars.

L. W. BLIZZARD, Sunny Side, Cal.

For Sale

FOR SALE.—A full line of bee-keepers' supplies; also Italian bees and honey a specialty. Melilious (sweet clover) seed for sale at 8 cts. per lb. Write for catalog and particulars.

W. P. SMITH, Penn, Miss.

FOR SALE.—About 1300 or 1400 cases, two five-gallon cans each, practically free from nail-holes, and were new tins when originally shipped to us. Make us an offer.

CLEVELAND HEALTH FOOD CO., Cleveland, O.

FOR SALE.—Beautiful long-haired Persian and Angora cats and kittens; solid whites and various colors; none better. Send stamp for written reply.

KENSINGTON CATTERY, Marion, Ohio.

FOR SALE.—Shipping-cases, the no-drip kind; overstocked; get our special prices.

A. G. WOODMAN CO., Grand Rapids, Mich.

FOR SALE.—Sweet-clover seed, 15 cts. per pound, postage extra. Root's supplies. ANTON G. ANDERSON, Holden, Mo.

Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.
STAPLER'S, 412-414 Ferry St., Pittsburg, Pa.

FOR SALE.—Indian Runner ducks, great layers, cheaper than ever, \$2.00 each; \$3.50 per pair, \$5.00 per trio. Circular free.

KENT JENNINGS, Mt. Gilead, Ohio.

Wants and Exchanges

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

WANTED.—Bees. Spot cash prices. All letters answered F. B. CAVANAGH, Springfield, Mich.

WANTED.—Bees on shares or lease for season of 1909; Pacific States preferred. C. A. WURTH, 640 Levee St., Fayetteville, Arkansas.

Bees and Queens

FOR SALE.—Moore's strain and golden Italian queens, untested, \$1.00; six, \$4.00; twelve, \$7.00. Carniolan, Banat, and Caucasian queens, select, \$1.00; six, \$5.00. Tested, any kind, \$1.25; six, \$6.00. Choice breeding queens, \$3.00 each. Circular free. W. H. RAILS, Orange, Cal.

I will sell or lease to a good bee-keeper 1000 hives of bees. These bees are in good locations in the Mesilla Valley, New Mexico—finest climate in the world; no cold winters; never been a failure in the honey crop in this valley; bees averaged 150 lbs. of extracted honey to the hive in 1908. MRS. L. C. HARRIS, Mesilla Park, New Mexico.

FOR SALE.—Italian bees and queens now ready. Untested, \$1.00; tested, \$1.50. Bee-keepers' supplies, Root's goods. Send for prices. Eggs from Silver-laced Wyandotte poultry. N. V. LONG, Biscoe, N. C.

FOR SALE.—100 colonies of bees, finely equipped for comb honey in the famous clover and buckwheat districts of Seneca Co., N. Y. Good chance for out-apiaries. B. F. HOWARD, Union Center, N. Y.

FOR SALE.—Italian bees. Write for bargains in bee-supplies. Barred P. Rock, White Wyandotte cockerels, each, \$1.00. H. S. DUBY, St. Anne, Illinois.

Help Wanted

WANTED.—Capable man 30 to 40 years of age, married, to take charge of small farm in Ohio. State experience, salary wanted, date could begin, and give names of references. Address JOHN SMITH, Gleanings in Bee Culture, Medina, O.

Situations Wanted

WANTED.—Situation. My bees failed me this season. I wish employment for winter; might arrange to work for longer time. Am 34 years of age, single, strong, and well, free from bad habits; a hustler; am well versed in bees, poultry, and incubators; also care of stock. Can furnish most satisfactory reference. FRED G. MASON, Fab.us, N. Y.

WANTED.—Situation by practical bee-keeper, or bees on shares in Porto Rico or Jamaica. B. F. HOWARD, Union Center, N. Y.

Bee-keepers' Directory

I no longer club a queen with GLEANINGS. W. T. CRAWFORD, Hineson, La.

Bee-keepers' Supply Co., Lincoln, Neb. We buy car lots of Root's goods. Save freight. Write.

No more queens for sale this fall. A. W. YATES, 3 Chapman St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00. A. L. AMOS, Comstock, Nebraska.

GOLDEN yellow Italian queens—my specialty. Price list free. E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog. D. COOLEY, Kendall, Mich.

Mott's long-tongues by return mail, also goldens—hardy, yet gentle, but little or no smoke. E. E. MOTT, Glenwood, Mich.

Well-bred bees and queens. Hives and supplies. J. H. M. COOK, 70 Corlandt St., New York City.

For bee-smoker and honey-knife circular send card to T. F. BINGHAM, Farwell, Mich.

ITALIAN BEES, queens, honey, and Root's bee-keepers' supplies. ALISO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready. W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free. GEO. S. GRAFFAM & BRO., Bangor, Maine.

QUEENS.—Improved red-clover Italians, bred for business, June 1 to Nov. 15, untested queens, 60 cts.; select, 75 cts.; tested, \$1.00 each. Safe arrival and satisfaction guaranteed. H. C. CLEMONS, Boyd, Ky.

Improved Italian queens now ready. Nuclei and colonies May 1 to 10. Over twenty years a breeder; 500 colonies to draw on. Free circulars and testimonials. For prices see large advertisement in this issue. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

ITALIAN BEES AND QUEENS. I breed three-banded stock only, and use the finest breeding stock to be had. For prices, see display advertising columns in this issue. Send for price list. Twenty-five years' experience. F. J. WARDELL, Uhrichsville, O.

TENNESSEE QUEENS.—Best that experience can produce. Untested three-band and goldens, \$1.00 each; 6 for \$5.00; 12 for \$9.00. Caucasians, \$1.25 each. Write for circular; order goldens from Ben G. Davis; others from John M. Davis, Spring Hill, Tenn.

Breeding queens of pure Caucasian and Carniolan races—price \$3.00. Order from A. E. Titoff, Expert in Apiculture, with Russian Department of Agriculture, Kieff, Russia. Remit with orders. Correspondence in English.

Honey Market reports continued from page 1202.

COLUMBUS.—The demand for honey shows some improvement, and we believe that a steady demand will be in evidence the rest of the season. The market to-day on strictly fancy white, 15; No. 1 white, 13½ to 14; No. 2 white, 12. Amber honey is very drabby, the top price being about 10 cts. per lb. Oct. 20. EVANS & TURNER, Columbus, O.

NEW YORK.—The demand for honey is good, particularly on fancy white-clover and buckwheat comb honey. Ship now to obtain best prices. The following are the prices we are getting: Fancy white clover, 15 to 16; No. 1 ditto, 13 to 14; No. 2 ditto, 11 to 12; white extracted, 7 to 7½; light amber, 6½ to 7; buckwheat, 6½ to 7; fancy buckwheat comb honey, 12 to 12½; No. 1 ditto, 11 to 12; No. 2 ditto, 10 to 11.

CHAS. ISRAEL & BRO., 486 Canal St., New York.

NEW YORK.—The demand for comb honey is fair, but not up to that of former years. Receipts are sufficient to meet demands. There is no overstock, however, and prices are holding firm. We quote: Fancy white, 15; No. 1, 13 to 14; No. 2, 12; dark and amber, 10 to 11, according to quality and style of package. Extracted is in fairly good demand, but supplies are large. We quote: California white sage, 8½ to 9; light amber, 8; white clover, 8 to 8½; amber and dark, 6½ to 7; Southern, in barrels and half-barrels, 60 to 75 cents a gallon, according to quality. Beeswax is dull and declining. We quote nominally 28 to 29.

HILDRETH & SEGELKEN, 265 Greenwich St., New York.

SAN FRANCISCO.—Prices quoted by the packers here are steady to firm as formerly given. Small lots are still coming forward from the growers, and the demand is fair, with considerable of the better grades moving east. We quote: Water-white comb, 16 to 17; white, 15; water-white extracted, 8 to 8½; light amber, 7 to 7½; dark amber, 5¼ to 5¾; candied, 5¼ to 5¾.—*Pacific Rural Press*, Oct. 17.

SPECIAL NOTICES

By Our Business Manager

HALF-POUND TUMBLERS.

We have a new supply of half-pound tumblers in our branch offices at Chicago, New York, and Philadelphia, the same size as No. 12 in our honey-package catalog. These came from another factory, whose number for them is 50. They are packed 4 dozen to the case and 30 dozen to the barrel. We make a special price for a short time as follows:

Half-pound tumblers, 4 doz. to case, 90 cts. per case.

Half-pound tumblers, 30 doz. to barrel, \$5.50 per barrel.

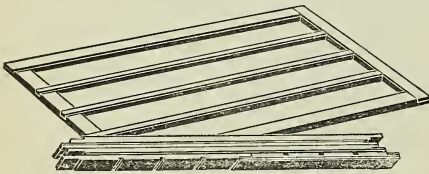
Six cases or more at 85 cts.; 25 cases at 80 cts.; 5 barrels or more at \$5.25 per barrel. Barrels of 32 dozen may, in some cases, be substituted at 25 cts. each more than above prices.

These prices are not subject to early-order discount, but are special, good for only a short time.



A BARGAIN IN SQUARE JARS.

In order to reduce a surplus stock we are prepared to offer a special bargain in square jars of small size. These are put up 100 to the crate, and, including corks, we offer them as follows: 5-oz. square Poudre jars, including corks, \$2.00 per 100; 1/2-lb. square Poudre jars, including corks, \$2.25 per 100. In 500 lots you may deduct 5 per cent, and in 1000 lots 10 per cent from above prices. To make a really neat and attractive finish, tinfoil caps should be added. We will include these at 25 cents per 100 extra, either size. This is a much handsomer package than a tumbler or jelly-glass, and at these prices it costs little if any more. Our stock offered at this price is limited, and the price holds only while the stock lasts. Shipments can be made only while the stock lasts. Shipments can be made only in Medina, at which point only are these jars in stock.



COLD-FRAME SASH.

As cold weather approaches, truck-gardeners are making plans for protection to the plants. We are prepared to furnish not only the regular cold-frame sash, 3 ft. 4 in. by 6 ft., but we also make special sash to order. The regular sash are usually shipped knocked down. Price 90 cts. each; 5, \$4.75; 8, \$8.00 for 10. If put up, 10 cts. each extra, without paints; add 10 cts. for each coat of paint and \$1.00 for glazing, making the sash complete, with glass and two coats of paint, \$2.10 each. Our sash are made of cypress, 1 1/8 thick, and as regularly furnished they are grooved for glass to be butted together. If preferred we also rabbet the bars so glass can be lapped and set in putty. Regular sash take four rows of 8x10 glass. We make on order other styles and sizes. Enquiries and orders solicited.

Special Notices by A. I. Root

BASSWOOD-TREES FOR FALL PLANTING.

We have for years sent out little trees in both fall and spring; but of late the evidence seems to be considerably in favor of spring planting. We are still prepared to furnish trees, by mail or express, as we have in former years, but I should be glad to know how many have, in former years, succeeded in planting basswoods, especially in the fall. A brief report on a postal will be sufficient. If you wish to risk fall planting, the prices will be as follows: Trees one foot or under, 10 trees, 50 cts.; 100 trees, \$2.00. The above by mail, 10 trees, 35 cts.; 100, \$2.25. Larger trees, one foot to five in height, by express, 10 trees, 75 cts.; 100, \$5.00. We can ship them any time before the ground freezes. We would not advise fall planting during a very dry spell of weather. Our trees have passed Government inspection.

BATTERY-TESTERS TO ASCERTAIN THE STRENGTH OF DRY BATTERIES.

Everybody who has any use for dry batteries should certainly have one of these testers. One battery may do twice as much work as another one, or more; and it is very important to be able to pick out the weak ones and use the strong ones as long as they will last. With my automobile I carry with me only one or two new batteries. When the current becomes weak I can pick out the poorest one in a few minutes and replace it with a brand-new one. Without this battery-tester you would have to carry a full set and then throw away your old sets, when some of them might be almost as good as new. We can mail them anywhere for \$1.00. Full directions go with each instrument.

POULTRY-BOOKS AND POULTRY-JOURNALS.

Every little while somebody is asking to be advised in regard to the best book or journal on poultry. This is a hard matter to decide. It depends a good deal on the branch of business you are going to take up; and it depends on whether you make it a side issue to keep a few chickens in your back yard or whether you wish to give your whole time and attention to it. On page 965, August 1, I gave a list of some of the very best books that we have in stock, that are offered to the readers of GLEANINGS at just half price. I do not know of any better books than these; and as none of these books are sold out but one, I advise you to turn back to that number and read the list over again. These books are all nicely gotten up, and offered at half the regular publishers' price to any one who sends a dollar for GLEANINGS or to any one who has paid up for GLEANINGS for one year or more ahead.

Convention Notices.

The annual meeting of the Middlesex Bee-keepers' Association will be held in the City Hall, London, Ontario, on Saturday Nov. 7, commencing at 10 o'clock. A good program is arranged, and all will be welcome. E. T. BAINARD, Sec.

BEE-KEEPERS' CONVENTION AT YORK, PA.

The Pennsylvania State Bee-keepers' Association will hold its annual convention at York, in the Court-house, on Thursday and Friday, November 12 and 13. The program is not completed; but as it now stands it may be announced to begin at 1:30 P. M., Thursday, with an evening session; and two sessions Friday forenoon and afternoon. Dr. E. F. Phillips will speak on one or both of the following subjects: A general discussion of apiculture in the United States, and the treatment of bee diseases. Professor Surface will speak on hay and honey-plants. Mr. E. R. Root will be present, and will probably speak on some phase of bee-keeping. A. F. SATTERTHWAIT, Sec.

MEETING OF MASSACHUSETTS BEE-KEEPERS.

The Massachusetts Society of Bee-keepers had a delig tful field meeting July 18, at the camp of Mr. F. H. Farmer, in Littleton, Mass. The weather was delightful, the invited guests from Worcester were in their most genial mood, and the camp was an ideal place for such a meeting.

Among the speakers for the day were Mr. Hixon, secretary of the Worcester Society; Mr. Britton, of Canton; Mr. Cooper, of Stoughton; Mr. Byard, of Marlboro; Mr. Barrett, of Hyde Park; Mr. Blake, of Ashby, Mass., and Mr. Taylor, of Southboro.

All sorts of subjects pertaining to honey and the care of bees were discussed, and a practical lesson given in the transferring of a colony from a box hive to a frame hive, by Mr. Farmer and Mr. Lamb.

Our basket lunch was supplemented with ice cream and coffee through the kindness of our host.

The slight shower in the afternoon did not dampen the ardor of the society in the prosecution of its work, and the appointment of a legislative committee to work with the Worcester committee for legislative aid against foul brood testified to the earnestness of the society. There were about 75 present, and some new members were taken into the society. Mr. Robbins had a fine specimen of honey in section boxes—a rack all nicely filled. Mr. E. C. Britton, of Canton, Mass., a member of the society, had a very fine specimen of apple-blossom honey in one of the Danzenbaker frames. He informed us he had seven more at home, equally good. I was fortunate enough to secure one of these frames, so I can vouch for the quality of the same. I never saw nicer. All this was from the Adel queen. If I am not mistaken, these queens can now be obtained of Mr. A. D. Tuttle, 114 Portland Street, Haverhill, Mass.

Our next meeting will be November 7, 2:30 P. M., Ford building, corner Ashworth Place and Bobourdin Street. The speakers will be Prof. Paige, Amherst College, Mass. The subject of foul brood and how to treat it will be given. Other speakers are expected on other subjects. X. A. REED, Pres.

Belmont, Mass., Oct. 14.

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No bee-keeper's library can be at all complete without a copy of this magnificent apiarian work. It has reached a sale of over 100,000 copies already, being the most largely sold book on bees in the world. Better send to us for a copy to read during the long winter evenings.—*American Bee Journal*.

This work of 536 pages is, as its name implies, a complete cyclopædia of everything pertaining to bees and bee-keeping. It was originally compiled by A. I. Root, who in the 1877 preface, after stating his indebtedness to Langstroth, Quinby, and others, says that "A great part of this A B C book is really the work of the people, and the task that devolves on me is to collect, condense, verify, and utilize what has been scattered through thousands of letters for years past." Since the first copy of this work appeared, now thirty-one years ago, it has undergone many revisions, and has had many additions, both of letterpress and illustrations, while the rapid advancement in bee culture has made it necessary in many cases to remove whole articles and rewrite them entirely. The revision has been ably carried out by E. R. Root, the present editor of *GLEANINGS*, who has had the assistance of a number of well-known and able men. In the preface the names of the writers of the different articles are given. For instance, we find Dr. C. C. Miller writes on honey-comb and out-aparies; Dr. E. F. Phillips on the eye, parthenogenesis, and scent of bees; E. R. and H. H. Root on wax and wintering, both of these having carried out a number of experiments on these subjects. There are also articles by W. K. Morrison and Mrs. Comstock. It seems almost superfluous to say any thing about a book of which already 100,000 copies have been sold; the simple fact speaks for itself that it fills a want, and is an attestation of its worth. Among the articles that have been revised we find the new methods of queen-rearing described, so that the practical bee-keeper will have the latest and best ideas on the subject before him for reference. The new methods of wax-production are treated in an exhaustive manner; and as this subject is of more importance than formerly, greater space has been devoted to it. We have nothing but good words for this work, and recommend our readers to get a copy of the 1908 edition. The work is profusely illustrated and beautifully printed, and is a credit to the publishers.—By T. W. COWAN, Esq., editor of the *British Bee Journal*. Mr. Cowan is the author of two first-class books on bees and bee-keeping, "The Bee-keeper's Guide" and "The Honey-bee."



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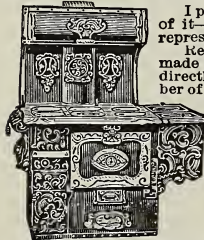
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