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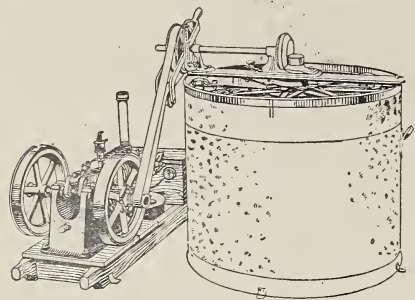


# Cleanings in Bee Culture



# ROOT'S POWER EXTRACTORS

## for the LARGE PRODUCER for 1914



The late W. Z. Hutchinson, when asked as to what would combine best with beekeeping, said, "The best thing to go with bees is—more bees." If more bees is the slogan, then the best equipment should be installed. This would be an outfit that will handle advantageously the product of 200 or more colonies with a minimum of time and labor.

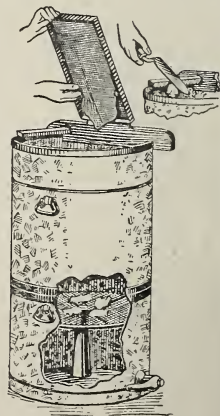
**POWER EXTRACTING OUTFIT.**—The value of this cannot be gauged entirely by the number of days it is used during the season. It should be remembered that it displaces a large amount of extra equipment in the way of extra supers and combs. The extracting must be done quickly in order to hold in check the swarming that is sure to follow unless room is given when needed. The amount thus saved, including reduction of labor and time, will materially reduce cost of production.

**ENGINE.**—This should not be selected without due examination. There are certain types of gasoline-engines that are not fitted for driving honey-extractors. Machines requiring to be started and stopped an endless number of times during the day require an engine of special construction, and the beekeeper will do well to investigate thoroughly these points before purchasing. Our new engines, the "BUSY BEE," are selected for and are exactly adapted for just this kind of work.

**CAPPING-MELTER.**—No extracting house is complete without one. We have a number of styles and sizes to select from. Illustrations of all these will be found in our large catalog. The smaller sizes are intended to be used with wax-presses, which also are shown.

**HONEY-KNIVES.**—For rapid and easy work our new steam honey-knives can't be beat. Extra tubing is furnished when ordered. Send for our new 34-page book, "Power Honey-extractors," describing these fully.

These equipments are supplied by various dealers throughout the country. Information as to nearest dealer on request.



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

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## "ROOT" "PEIRCE" "ZANESVILLE"

Three words that unlock the possibilities of successful beekeeping.

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ZANESVILLE, the metropolis of eastern and southern Ohio—is the logical distributing-point for the beekeepers of Ohio, West Virginia, and western Pennsylvania; and those more remote can be served with a large degree of satisfaction on account of the superior shipping facilities of this city.

Our 1914 Catalog of Beekeepers' Supplies and Introduction to Beekeeping is now being sent to those on our mailing-list. If you have not already received or do not receive it soon, a postal-card request will insure your receiving it without delay.

Prospects for the coming season are unusually bright, and both prudence and economy would suggest the early placing of your order.

**E. W. Peirce, Zanesville, O.**

Airdome Bldg., South Sixth St.

It turns over an important "new leaf" beginning with the January number.

## The Guide to Nature Several New Features

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29 years' experience in making everything for the beekeeper. A large factory specially equipped for the purpose ensures goods of highest quality. . . . Write for our illustrated catalog and discounts today.

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## 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 retail merchants. 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.

### NATIONAL BEEKEEPERS' ASSOCIATION GRADING-RULES Adopted at Cincinnati, Feb. 13, 1913.

Sections of comb honey are to be graded: First, as to finish; second, as to color of honey; and third, as to weight. The sections of honey in any given case are to be so nearly alike in these three respects that any section shall be representative of the contents of the case.

#### I. FINISH:

1. *Extra Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections to be free from propolis or other pronounced stain, combs and cappings white, and not more than six unsealed cells on either side.

2. *Fancy*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white, and not more than six unsealed cells on either side exclusive of the outside row.

3. *No. 1*.—Sections to be evenly filled, comb firmly attached to the four sides, the sections free from propolis or other pronounced stain, comb and cappings white to slightly off color, and not more than 40 unsealed cells, exclusive of the outside row.

4. *No. 2*.—Comb not projecting beyond the box, attached to the sides not less than two-thirds of the way around, and not more than 60 unsealed cells exclusive of the row adjacent to the box.

#### II. COLOR:

On the basis of color of the honey, comb honey is to be classified as: first, white; second, light amber; third, amber; and fourth, dark.

#### III. WEIGHT:

1. *Heavy*.—No section designated as heavy to weigh less than fourteen ounces.

2. *Medium*.—No section designated as medium to weigh less than twelve ounces.

3. *Light*.—No section designated as light to weigh less than ten ounces.

In describing honey, three words or symbols are to be used, the first being descriptive of the finish, the second of color, and the third of weight. As for example: Fancy, white, heavy (F-W-H); No. 1, amber, medium (1-A-M), etc. In this way any of the possible combinations of finish, color, and weight can be briefly described.

#### CULL HONEY:

Cull honey shall consist of the following: Honey packed in soiled second-hand cases or that in badly stained or propolized sections; sections containing pollen, honey-dew honey, honey showing signs of granulation, poorly ripened, sour or "weeping" honey; sections with comb projecting beyond the box or well attached to the box less than two-thirds the distance around its inner surface; sections with more than 60 unsealed cells, exclusive of the row adjacent to the box; leaking, injured, or patched up sections; sections weighing less than ten ounces.

#### NEW HONEY-GRADING RULES ADOPTED BY THE COLORADO STATE BEEKEEPERS' ASSOCIATION, DECEMBER 13, 1911.

**FANCY WHITE**.—Sections to be well filled, comb firmly attached to all sides and evenly capped except the outside row next to the wood. Honey, combs, and cappings white, and not projecting beyond the wood; wood to be well cleaned; no sections in this grade to weigh less than 13½ ounces.

**No. 1**.—Sections to be well filled, combs firmly attached on all sides and evenly capped, except the outside row next to the wood. Honey white or very slightly off color. Combs not projecting beyond the wood; wood to be well cleaned; no section in this grade to weigh less than 13½ ounces.

**CHOICE**.—Sections to be well filled; combs firmly attached; not projecting beyond the wood, and entirely capped, except the outside row next to the wood. Honey, comb, and cappings from white to amber, but not dark; wood to be well cleaned; no section in this grade to weigh less than 12 ounces.

**No. 2**.—This grade is composed of sections that are entirely capped, except row next to wood, weighing from ten to twelve ounces or more, also of such sections that weigh 12 ounces or more, and have not more than 50 unsealed cells all together, which must be filled. Combs and cappings from white to amber in color, but not dark; wood to be well cleaned.

**EXTRACTED HONEY**.—Must be thoroughly ripened, weigh 12 pounds per gallon. It must be well strained, and packed in new cans. It is classed as white, light amber, and amber.

**STRAINED HONEY**.—This is honey obtained from combs by all other means except the centrifugal extractors, and is classed as white, light amber, amber, and dark; it must be thoroughly ripened and well strained. It may be put up in cans that previously have contained honey.

**BOSTON**.—We quote fancy and No. 1 white comb honey at 15 to 16; fancy white extracted honey in 60-lb. cans, 11. Beeswax, 30.

Boston, Feb. 19.

BLAKE-LEE CO.

**DENVER**.—Our local market is well supplied with honey, and our jobbing quotations are as follows: Strictly No. 1 white, per case of 24 sections, \$2.70; choice, \$2.57; No. 2, \$2.43; extracted white, 8 to 9 cts.; light amber, 7 to 7½. We are in the market for beeswax, and pay 30 cts. per lb. in cash, and 32 in trade, delivered here.

THE COLORADO HONEY-PRODUCERS' ASSOCIATION,  
Denver, Col., Feb. 19. FRANK RAUCHFUSS, Mgr.

Honey reports continued on page 5.

**JUST  
OUT!**

## New 1914 Catalog--"Everything for Bees"

Lay your plans for the new season now. Send for the 1914 Muth Catalog of Beekeepers' Supplies. It's just off the press. In it you will find full information about the remarkable MUTH SPECIAL Dovetailed Hive. Drop a postal card at once—sure!

### THE FRED W. MUTH CO.

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P. S.—Ship us your old combs and cappings and let us render them for you. Our process extracts the last drop of wax from the slumgum. This means money for you. Write for full particulars.

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During this month we shall double our usual efforts in points of delivery and service. We carry nothing but the Root make, which insures the best quality of every thing. We sell at factory prices, thereby insuring a uniform rate to every one. The saving on transportation charges from Cincinnati to points south of us will mean quite an item to beekeepers in this territory. We are so located that we can make immediate shipment of any order the day it is received.

## New 64-page Catalog

Our new 1914 catalog contains double the pages of former editions and requires extra postage. It is filled from cover to cover with complete lists of goods in every line to meet every requirement of beekeepers. If you haven't received a copy when you read this, be sure to ask for one. It will save you money.

## New Features for 1914

Few radical changes have been made this season. It should be noted, however, that we will send out with regular hives, unless otherwise ordered, the metal telescopic or R cover with super cover underneath. The side rail for the bottom-board will be extra length so as to overcome the difficulty experienced by some last season. Improvements have been made in extractors. We shall carry a very heavy stock so that orders may be filled with our usual promptness. Write us your needs.

---

**C. H. W. Weber & Co.**

2146 Central Avenue

Cincinnati, Ohio

# Gleanings in Bee Culture

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*Honey reports continued from page 2.*

**CINCINNATI.**—There is no demand for either comb or extracted honey at the present time. Nevertheless we would sell comb honey at \$3.75 per case for fancy and No. 1, and 7½ to 10 for our white-clover extracted honey; for our amber honey, from 5½ to 8 cts. per lb., according to the quantity and quality. These are our selling prices, kindly observe. For bright yellow beeswax we are now paying 32 cts. per lb. delivered here.  
Cincinnati, Feb. 17. THE FRED W. MUTH CO.

**KANSAS CITY.**—The supply of comb honey is large, demand light. Supply of extracted honey is fair, as is the demand. We quote No. 1 white comb, 24 sections to the case, \$2.50 to \$2.65; No. 2 ditto, \$2.00 to \$2.25; No. 1 amber ditto, \$2.25 to \$2.50; No. 2 ditto, \$2.00 to \$2.25; extracted white, per lb., 8 to 8½; extracted amber, per lb., 7½ to 7¾. Beeswax, per lb., 25 to 30.  
C. C. CLEMONS PRODUCE CO.  
Kansas City, Mo., Feb. 16.

**ZANESVILLE.**—While there are some calls for honey, the demand is far from brisk at this time. We quote number one to fancy white comb at 16½ to 18½ in a jobbing way; wholesale, 18 to 20. Best white extracted in 60-lb. cans, 9 to 10. These quotations are for white-clover honey; alfalfa and other western honeys rule about a cent less. The price of beeswax is largely arbitrary. At this writing, producers are receiving 32 cts. cash, 34 in trade.  
Zanesville, Feb. 17. EDMUND W. PEIRCE.

**CHICAGO.**—Sales have improved in volume during the past thirty days; prices, however, are unsatisfactory in that they have a lower tendency, and some of the comb honey shows granulation, which renders it unfit for table use. Fancy grades sell in small quantities around 15 cts. per lb.; but the off grades are difficult to place at uncertain prices. Extracted honey, consisting of white clover and basswood, are rather firmly held, and sell at from 8 to 9, according to quality and package; but the western and southern grades of white are very dull, and sell at from 1 to 2 cts. per lb. below these figures, and is most difficult to move in quantities. Beeswax sells upon arrival at from 31 to 32, according to color and cleanliness.  
Chicago, Feb. 16. R. A. BURNETT CO.

**ST. LOUIS.**—Our honey market is decidedly dull, and the demand the past few weeks has fallen off to a great extent, especially on comb honey. Southern extracted honey is in lighter offerings; but the demand also is rather dull. We are quoting to-day, in a jobbing way, as follows: Southern extracted and strained bright amber honey in barrels, 6½ to 7; in five-gallon cans, 7 to 7½; dark, ½ to 1 ct. per lb. less; comb honey, fancy clover, 14 to 16; light amber, 12 to 14; amber, 10 to 12; dark and inferior, 8 to 10; comb honey by the case, fancy clover, \$3.00 to \$3.50; light amber, \$2.50 to \$3.00; amber, \$2.00 to \$2.25; dark and inferior, \$1.75 to \$2.00. Beeswax very firm; prime, 32½ per lb. Impure and inferior, less.  
St. Louis, Feb. 18. R. HARTMANN PRODUCE CO.

**NEW YORK.**—Our market remains in the same condition dull and inactive. As to comb honey, there is some little demand for No. 1 and fancy white, while off grades, mixed, and buckwheat are almost unsalable. During the past few weeks we have received several shipments of the last-mentioned grades, which we would rather not have sent to us at all. The honey is more or less candied, combs poorly filled, and as the season is practically over, with no demand to speak of, it will be hard work to dispose of these goods. We can not encourage shipments of off grades of comb honey, mixed, or buckwheat at this time, for we feel sure that we can not make sale in a reasonable time, nor satisfy the shippers, and therefore would rather not handle these grades at all. As to extracted honey, the only grade for which there is a demand at this time is fancy quality white clover, which is selling at from 8½ to 9. All other grades are in poor demand. Beeswax is steady at former prices.  
New York, Feb. 18. HILDRETH & SEGELKEN.

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DEPOSIT BANK CO.  
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Letter of endorsement to us from The A. I. Root Co.:

Medina, Ohio, Feb. 6, 1914.

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THE A. I. ROOT CO.,  
 by E. R. Root, Vice-president.

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**The Penn Co., Penn, Mississippi**

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Select Tested . . . . .	2.75 straight			2.50 straight		

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- |               |              |
|---------------|--------------|
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| SWEET CLOVER, | LIGHT AMBER, |
| WHITE CLOVER, | DARK AMBER,  |
| BASSWOOD,     | BUCKWHEAT.   |

Several of the last cars of comb honey which were shipped us in 1913 contained a large number of cases of broken comb honey, caused by the cars being badly handled in transit.

We are obliged to regrade all shipments; and in every case where we found broken combs we melted them up. All the combs that are slightly cracked or have the cappings broken, we put into other cases; and these cases of cracked comb honey, which is practically all produced from white clover, we are offering at a special low price and at prices which we believe will certainly be of interest to you; and we know that, if you will send us in an order, you will be pleased with the honey at the prices we are asking for it.

We have other choice grades of Fancy and No. 1 white comb honey, as well as Fancy and No. 1 amber comb honey, and during these months we are making special prices to our regular trade.

A request will bring special prices.

**The A. I. Root Co., Medina, O.**

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Reference, The American Exchange Bank of this city.

Prices—Untested, single, \$1.50; 6 for \$6.00; 12 for \$10.00; in lots of 25 or more, 75 cts. each. Select tested, \$3.00. Breeders, \$5.00 and \$10.00.

**A. B. Marchant, . . Apalachicola, Florida**

## Queens from Caraway's Prize-winning Stock. . . .

Ready for Shipment  
after March 20 . . . .

Book your early orders now! Send cash when you want the queens. Prices of tested queens till May 1: One for \$1.25, six for \$6.00; of untested, before May 1, one for \$1.00, six for \$5.00; breeding queens, \$5.00 each. I will breed the Golden also this season; can send Golden after April 15 at same prices as the three-banded Italians. . . . Entire satisfaction guaranteed on every queen purchased from me.

**B. M. CARAWAY, . . . MATHIS, TEXAS**  
Queen-Breeder

**BEE SUPPLIES** Send your name for new 1914 catalog out in January.  
Dept. T, CLEMONS BEE SUPPLY CO.,  
128 Grand Ave., Kansas City, Mo.

## Goldens that are Golden

I have disposed of business in Philadelphia, and will raise all queens that I possibly can the coming season, and will fill all unfilled orders first. Queens are getting better each year. Prices: Select untested, \$1.50; tested, \$3.00; breeders, \$5 to \$10. . . . Send for booklet.  
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# ANNOUNCEMENT

We announce the installing of complete  
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Resulting advantages to UTAH, IDAHO, COLORADO,  
NEVADA, and MONTANA beekeepers:

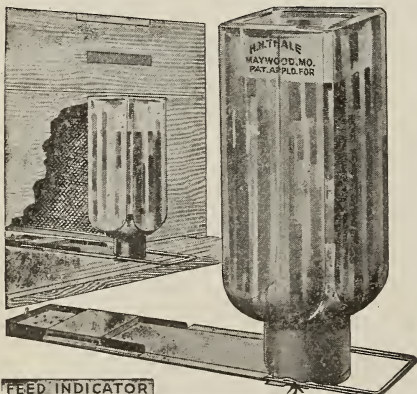
SPECIAL PRICES and LOWER FREIGHT RATES on foundation.  
HIGHER NET PRICE and QUICKER SETTLEMENT on beeswax shipments.  
Get our prices for working your beeswax into foundation.

Remember we are headquarters for "ROOT" bee supplies and "American" honey-cans.  
1914 cars now arriving. Write for prices. Honey and beeswax  
accepted in payment for goods.

Superior Honey Co., Ogden, Utah  
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For special information address us at Ogden, Utah

## Thale's Regulative Vacuum Bee-Feeder!



**M**OST PERFECT STIMULATIVE FEEDER ever constructed. It feeds inside underneath the cluster, and will fit any hive made. To fill feeder lift off empty bottle and set on full one. It is so regulated by the slide from the outside of the hive to feed any amount you may want the bees to have in one day. If you set it on one-half pint in one day the bottle of feed will run four days and nights and can be increased or decreased from the outside of the hive without disturbing the bees or moving the feeder. It feeds continuously, thereby imitating a natural honey flow, and will produce more brood with less cost than any other feeder made, and can be filled any time of the day without causing robbing or excitement. Queen-breeders especially can not afford to be without this feeder, as hundreds of valuable queen-cells are torn down and destroyed by the bees annually on account of improper and poor methods of feeding. With this feeder you control the flow; it feeds continuously, and will produce more cells, better cells, and the bees will not destroy any. Try this feeder. It will more than pay you. Send for feeder circular and bee-supply catalog. I carry a full line of Lewis Beeware and Dadant's Foundation. One of my Vacuum Bee Feeders complete with two bottles FREE with every ten-dollar order. Send me a list of your wants—it is no trouble to answer letters.

### TERMS, CASH WITH ORDER

Sample Feeder, with 2 bottles complete, mail postpaid,	55c
Ten Feeders, complete with 1 bottle, freight or exp., each,	35c
All orders over ten feeders, each, only	30c
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**The New Model on Ten Days' FREE TRIAL**  
I will ship you as many feeders as you may want on ten days' free trial in your own apiary; and if they do not work as represented you may return them at my expense, and your money will be refunded. Send for free trial offer. Address FREE TRIAL, Dept. G 194.

**H. H. THALE, INVENTOR AND MANUFACTURER** Box G 25, MAYWOOD, MISSOURI

Eastern Buyers Send Orders to Earl M. Nichols, Lyonsville, Mass.  
For Sale by B. H. Masters, Edison, Ohio

# Beeswax Wanted!

We Expect to Use  
**SEVENTY TONS**

of beeswax during the next **SIX MONTHS**, and we have on hand less than twenty tons. We offer for good average wax, delivered at Medina, 33 cts. **CASH**, 35 cts. **TRADE**. If you have any good wax to sell write to us or ship it by freight. Send us shipping receipt, giving us gross weight also net weight shipped. Be sure to mark your shipment so we can identify it when received.

## Beeswax Worked into Foundation

If you want your wax worked into foundation we are prepared to do this for you at prices equal to those made by other standard manufacturers. Write for price if interested.

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

# Are You Interested.....

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In securing a crop of honey this coming season? Send us your name and address for 1914 catalog, and make selection of the hive and appliances. You should have a good year if you are prepared as the honey yield begins.

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**The A. I. Root Co., Syracuse, N. Y.**  
1631 West Genesee Street

"If goods are wanted quick, send to Pouder."

ESTABLISHED 1889

## Bee Supplies

Bees in this zone are in winter quarters with a bounteous supply of natural winter stores, and I believe that no other feature is quite so important as regards safe wintering as an abundance of wholesome stores. The fall flow was so profuse that in some instances brood-rearing was curtailed early on account of crowded condition, and some strong colonies were weakened on this account. A few losses may result from this condition. The white clover in this zone is in good condition with the exception of a few counties which suffered from drouth. Conditions for ensuing year are very encouraging for both beekeeper and the supply-dealer. The last year will be remembered as a most excellent honey year, and with it came the best demand for honey that has ever been known. I am receiving more inquiries and orders for Root Bee Supplies than ever before during midwinter, and some discounts for early orders are still available. The policy of this house as to prompt shipments and a fair and satisfactory deal will be maintained as heretofore, and I hope to deal with you in a way that will justify your recommending my goods to your neighbor.

WALTER S. POWDER:—*I am more than pleased with your promptness. Kentuckians are generally credited as being quick with a gun, but I do not think the fastest in that line can equal the speed a certain Indiana man uses in shooting out the goods. Those paper honey-jars are certainly the trick for local trade.*

Louisville, Ky.

Yours truly,  
OTTO F. RECKTENWALD.

I should like to place in your hands my catalog with 1914 revised prices on bee supplies. Or send a list of your requirements, and let me see if I can not create a saving for you by quoting an estimate. This will place you under no obligations, and it will be one of my pleasures.

I can use more beeswax, and am now paying 31 cents cash or 33 cents in exchange for goods.

Walter S. Pouder  
873 Mass. Ave., Indianapolis, Indiana

# Indicate on a postal which of the catalogs named below you are interested in ——— They are Yours for the Asking.

- CATALOG A.—BEE-SUPPLIES, listing every thing a beekeeper needs for his bees. Our goods are all "Root Quality," and we can save you time and freight expense in getting them. Let us furnish you with an estimate on your needs for the season.
- CATALOG B.—BEES AND QUEENS. Mr. M. H. Hunt has charge of our queen-rearing apiary. We specialize in choice Italian queens, three-banded and golden, and bees by the pound. Orders filled in rotation as received.
- CATALOG C.—BERRY SUPPLIES. We carry a full stock of standard quart baskets and 16-quart crates. BEESWAX WANTED.

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Patent Practice in Patent Office and Courts

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## Are Your Bees Short of Stores?

We have candy in large paper pie-plates just right for late winter and early spring feeding. Write for prices. We carry a full line of supplies at all times.

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# AUTOMOBILES! 500 USED AUTOS

Guaranteed by the owners. Write for list.

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## Beekeepers' Supplies

Our 1914 64-page catalog ready to mail you free. . . Can make prompt shipment of regular-stock goods, as we have a good supply of The A. I. Root Co.'s goods on hand. The rush season will soon be on hand. Our freight facilities are good. Small packages we can rush through by parcel post. Express rates are much lower now also. Let us quote you. Let us hear from you. Beeswax taken in exchange for supplies or cash.

**JOHN NEBEL & SON SUPPLY CO.**  
High Hill, Montgomery Co., Mo.

# "Griggs Saves You Freight" TOLEDO "Griggs Saves You Freight"

New goods arriving permits us to fill orders same day as received, and this, with direct lines to your door and low freight rates, makes TOLEDO the best place to order your goods from.

Our NEW ILLUSTRATED CATALOGS for 1914 are here and being mailed out. Send your name for one.

Send us list of goods wanted and receive our SPECIAL PRICES for quantity orders. BEESWAX is in great demand. Send it in now. We pay 32c cash, 34c in trade. Shoot it in.

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"Griggs is Always on the Job"

# When You Buy Lewis Beeware

. . . You Get . . .

**LEWIS QUALITY.**—Which means that all Lewis Hives are made out of clear white pine, and Lewis Sections made out of fine white basswood. Material in these goods is the best obtainable, selected by experts.

**LEWIS WORKMANSHIP.**—The Lewis Factory is equipped with the latest improved machinery, constantly watched over by experts. The Lewis head mechanic has 36 years of bee-supply experience; the superintendent of bee-hive department 30 years; the superintendent of sections 29 years. These and many other skilled men have a hand in all the Lewis goods you buy.

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**LEWIS SERVICE.**—Years ago all goods were shipped direct from the factory with attending high freight-rates and delays during the honey season. NOW Lewis Beeware can be obtained almost at your own door. Over 30 Distributing Houses carrying Lewis Beeware by the carload are dotted all over the United States and foreign countries. Write for the name of the one nearest you.

Our New 1914 Catalog is Now Out. Send for One

**G. B. LEWIS CO.,** Manufacturers of BEEWARE **Watertown, Wis.**

Send for Our Prices on

# BEE SWAX

We are paying higher prices than ever before at this season. WHY? Because of the tremendous demand for

## Dadant's Foundation

Write at once. . . We will quote prices F. O. B. here or F. O. B. your station.

**DADANT & SONS**  
HAMILTON, ILLINOIS.



# Gleanings in Bee Culture

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## Editorial

As reported by our California correspondent, Mr. P. C. Chadwick, in his department for this issue, the conditions for the honey-flow continue favorable in California. While in many localities there was but little rain in February, yet the general rainfall for the winter is far above the average. All reports indicate that the bees are bringing in pollen, and breeding up rapidly.

GLEANINGS has just been enjoying a visit from Morley Pettit, Provincial Apiarist of Guelph, Ont., Canada, and his sister, who stopped at Medina a part of one day on their way home from the National convention at St. Louis. Miss Pettit has almost entire charge of practically 300 colonies, and is an experienced beekeeper in the fullest sense of the word. She makes use of a power extracting outfit, and is an expert in the handling of extracted honey.

Mr. Pettit has been doing some splendid constructive work in Ontario, and he deserves the good wishes of all, whether on this side of the line or on the other. So far as beekeepers are concerned, this "line" is becoming more and more imaginary.

Mr. Pettit desires to correct the statement made in an editorial in our Dec. 15th issue. While a frequent contributor to the *Canadian Horticulturist and Beekeeper*, he is not the editor of the apiarian department.

### DEATH OF F. B. CAVANAGH.

OUR readers will be greatly shocked to learn of the very sudden death of F. B. Cavanagh, of Hebron, Ind. Mr. Cavanagh had been ill for several months, but no one was prepared for his death, which occurred on the morning of February 12th. Mrs. Cavanagh has the sympathy of the entire GLEANINGS force. We understand that the entire outfit of bees, etc., is to be sold.

Mr. Cavanagh was a successful beekeeper and one who was rapidly becoming an authority on many topics connected with our pursuit. He was a frequent contributor to these columns, and his articles bore the stamp of accuracy inspired by an intimate

knowledge of the subject acquired through personal experience. His opinions were really the result of his own experiments, and he rarely proposed untried theories.

When we visited him in July, 1911, he seemed to have any amount of physical strength and endurance. It is hard to believe that our friend has been thus suddenly cut off from finishing his work here.

### DEATH OF A NEW YORK BEEKEEPER.

WE are very sorry to be obliged to chronicle the death of Mr. Chas. L. Wardwell, of Union Springs, N. Y. He was one of the vice-presidents of the Cayuga County Society, and an expert in comb-honey production. At the time of his death he had over 100 colonies, which he had packed for winter on the summer stands. He put his honey into cartons, and secured the best prices.

Mr. Wardwell died very suddenly in December. He would undoubtedly have become a comb-honey specialist of note.

### A CORRECTION.

THE following will explain itself:

In your editorial in the Feb. 1st, issue I note one point which may be a trifle misleading. On page 83, second column, second paragraph, first line, the word "apiaries" is used where "colonies" was evidently intended. All the experiments mentioned in bulletin No. 158 were made in one apiary, and, indeed, such experiments would not be worth much unless they were in one and the same apiary. Colonies side by side are under the same conditions as regards the supply of available nectar, and as regards weather conditions, but comparisons could not be made between colonies in different apiaries, as there would be practically no possibility of conditions being the same in the different yards.

WILMON NEWELL.

College Station, Texas, Feb. 13.

### PROSPECTS IN FLORIDA—E. R. ROOT'S TRIP, BY TELEGRAPH.

THE general cold in the North has made it colder than usual in Florida. In the northern part of the State there were some frosts, but not enough to do any damage. The weather has turned warm again (Feb. 20), and the abundant rains throughout the State give promise of a good crop of honey.

In the region of Bradentown the penny-

royal has started brood-rearing, so that the bees are in excellent condition. The palmetto and orange promise a good yield. The cool weather in Florida about the 13th, when I arrived, made it seem better to do the South first, and then take in Apalachicola, where our bees are. Later reports show that they are building up rapidly so that we shall soon make increase.

In our next issue I hope to give a full report. Next week I expect to visit the region of Stuart, on the east coast, where Poppleton and Selser are. At that point we expect to take a launch, and tour the inland waterway a short distance.—E. R. R.

#### KEEPING BEES WITHIN CITY LIMITS.

SELDOM have we been so deluged with copy for a special number as we have been in case of this number—the special on beekeeping in cities. We have not been able to use all which we received by any means; and in order to get in a representative lot of experiences from all types of city beekeepers we were obliged to condense quite a number of articles that we did use.

There are some drawbacks which we believe should be mentioned at this time. As several of the writers in this issue point out, at times there may be trouble with neighbors who have not made a careful investigation, and who do not know very much about the subject. In several instances that have come to our notice in the past, a beekeeper having a few colonies in his back lot has been asked to move his bees outside the city limits. The beekeeper in question obligingly did so; but the one complaining has found, somewhat to his surprise, that there were just as many bees "biting his grapes" as there were before. The point is this: Bees are not observers of local ordinances; and unless *all* colonies are moved some two or three miles outside the city limits there probably are just as many bees found inside the city as ever. But since there are likely to be bees in trees, etc., near the city, it is next to impossible to prevent bees from flying about inside.

In another way, however, bees within city limits may sometimes prove to be a nuisance. We refer to bees kept in such a place that the natural line of flight is across some street or alley. In this case passersby are likely to be stung occasionally; and if one person is stung more than once he is pretty likely to make a vigorous complaint, which complaint is really justifiable. In our opinion, if a place for the bees can not be found where they will be compelled by surroundings to fly pretty well into the air when they leave the hive, or where they will

have a natural line of flight away from thoroughfares or other places where there are likely to be people passing back and forth, it would be better to make no attempt at keeping bees at all. Nearly always, however, the hives may be placed where the bees will molest no one. Oftentimes if they are located on a roof, even in a crowded district, their presence will hardly be known.

The beekeeper should select gentle bees, also, and he should be very careful not to stir them up during a time when they are naturally a little irritable, as during a honey-dearth, when they are inclined to pry into everybody's business but their own.

Summing up the whole matter we may say that it rests entirely with the beekeeper as to whether his bees are a nuisance or not. By taking some thought as to the location of the hive, to the selection of the bees, and to the time and manner of manipulation, he can avoid all trouble. Carelessness regarding any of these points invites trouble.

#### ARE CITY BEEKEEPERS A MENACE TO THE INDUSTRY IN GENERAL?

Frequently some of our professional beekeepers deplore the existence of the large army of beginners in beekeeping; first, because they produce considerable honey and contribute to the overstocking of city markets, thus lowering prices; second, because disease is likely to get into their yards, so that other bees are in danger.

To the first of these points we should like to say that the average beginner, for a number of years at least, produces more enthusiasm and interest than he does honey. In other words he creates a much larger market for honey than he can possibly supply himself. Furthermore, the average beginner gets a better price for his small crop than most professional beekeepers do. It seems to us, therefore, that fears along this line are groundless.

As to whether a beginner allows his bees to become diseased, thus endangering the health of the other colonies in the vicinity, we should say that this depends upon the beginner. In our opinion, trouble along this line is more apt to come from careless or overworked farmers who really have no interest in the bees at all, and who keep them merely because their fathers used to keep them, or because they are able to hive occasionally a stray swarm. A beginner who is interested in his bees is not likely to foster disease. In case of city beekeepers especially (at least those who are as bright and as up-to-date as the writers of the articles used in this special number) we believe we have very little to fear from foul brood or other bee disease.

## Stray Straws

DR. C. C. MILLER, Marengo, Ill.

My first start in beekeeping was in the very center of a place now a city (Marengo), with an apiary of one colony in a whole sugar-barrel.

"As the soil, so the honey," is the caption of an item in *Leipz. Bztg.*, 125, in which it is stated that analysis of soil from Ramboulliet shows 30 per cent more iron than soil from Bid; and honey from Ramboulliet contains 75 per cent more iron than Bid honey.

MESSRS. Doolittle and Root agree that bees may be hauled with no inconvenience in hives with entrances open. Certainly this mode of transport would not be tolerated in Europe.—*L'Apiculteur*, 32. I think Doolittle and Root hardly commend it as a general practice.

*The British Bee Journal* has uniformly opposed beet sugar for bees. I never knew just way. But now I find, p. 510, that it is difficult to purify beet sugar and to get rid of all the potash salts. "These salts cause fermentation, and it is principally for this reason that cane sugar is to be preferred."

DR. A. LUDDEN thinks my bees were cross last summer in anticipation of a partial stoppage of the flow. At Elwha, Wash., he says it is "the rule that 24 to 48 hours previous to closing of a honey-flow they get hostile, and 'tis not safe for any one to go into the yard, and honey coming in at a good clip too." I wonder if it can be possible.

For the first time in many years I had some combs filled last summer, for extracting. They were extracted in January, of course after warming up. It went better than I expected, but I don't recommend January as the best month for extracting. I have an up-to-date extractor; and what fun extracting is, compared with extracting years ago with the ancient Peabody!

THAT able authority, D. M. Macdonald, says, *British Bee Journal*, p. 478, "I do hold that with us blacks live longer than Italians, the latter being here a softer race." No doubt that canny Scotchman had a vision of a lot of American beekeepers jumping on to him; hence the cautious "with us" and "here." Yet he may not be entirely safe from some of his own countrymen.

Nos. 29 and 59 stood back to back. June 10 queen-cells were killed in 29 and its queen removed. June 16 No. 59 swarmed and returned, its clipped queen not being found.

Within 15 minutes No. 29, whose queen had been removed, swarmed out, and a clipped queen was found in front of the hive. It was the queen of No. 59, which had entered No. 29 while the swarm of 59 was in the air, and then ordered a walkout in No. 29.

THE few hundred pounds of extracted honey I produced last season I put on the home market in 5-pound friction-top pails. I determined I wouldn't have any worry taking it back to liquefy it or to explain because it candied after customers got it. I made sure it wouldn't candy in the hands of customers by letting it candy before selling it. If they don't want candied honey they don't have to buy it. But it sells all right, and I've heard no complaint.

ALLEN LATHAM is making trouble. He wants to know, Mr. Editor, on what ground you base your disbelief in the fanning of bees in the midst of winter cluster. He says we should not disbelieve simply from ignorance—fuller information may change belief—hard to prove a negative—and more of that sort. Jan. 13, 14, mercury hovering around zero, and wind howling, he went to his hives and all were noisy, some buzzing almost as much as in a summer nectar-flow—no bees at entrance, no warm air issuing, and he wants to know what's wrong with thinking the noise came from inside the cluster. Here's the way it has always seemed to me: We are told that when very cold the bees shrink into an incredibly small cluster, and when crowded thus close what room is there for fanning? Still, just to accommodate A. L. I'm ready to change my belief on later and fuller information, and leave you, Mr. Editor, to say why you disbelieve. [We know that outdoor bees sometimes set up a roaring in very cold weather: but we always supposed the condition was abnormal. When bees in a compact ball are in a state of semi-hibernation or hibernation, if you please, in which they seem to go into a dead sleep, without a tremor of motion except a slight tremble of the wings when the hive is opened, there could be no buzzing or fanning. On the other hand, if we open up an outdoor colony in the dead of winter and find the cluster scattered over the frames, and buzzing, we feel sure that that colony will die very soon, even though it be the strongest stock in the yard. Yes, doctor, we are in line with you, but we are willing to change our belief if necessary on fuller information.—ED.]

## Notes from Canada

J. L. BYER, Mt. Joy, Ont.

Normal winter weather here in Ontario since last Notes were sent in; and to-day, Feb. 10, we have about 6 inches of snow covering the clover that we hope to get some honey from next year. We had much more snow, but the rains took it away. Bees are wintering nicely so far—last flight Nov. 23.

\* \* \*

### THE SHORT COURSE AT GUELPH.

The writer spent two days at Guelph during the "Short Course" in apiculture. As I fully expected would be the case, there was a bumper attendance—probably about 100 in steady attendance for the different sessions. One of the best things in connection with the different lectures was a series of demonstrations on queen-rearing by Mr. J. A. McKinnon, of St. Eugene, Ont. Mr. McKinnon is more at home in the real work of producing good queens than he is before a big crowd of students, but nevertheless anybody could see that he was thoroughly practical and fully understood this very important part of beekeeping. Mr. McKinnon is one of our younger men in the business, and one of the very few who make a speciality of raising good queens for sale here in Ontario.

\* \* \*

### DIFFERENCE IN VARIOUS STRAINS OF BEES IN RESPECT TO CAPPING HONEY.

Dr. Miller speaks in last GLEANINGS about Italians for capping comb honey, and says that his compare favorably with other breeds in that respect. Certainly there is a wonderful difference in strains of this breed so far as capping goes, as one good breeder, so far as his stock is concerned in other respects, has Italians that would not do for comb honey at all, if fancy sections were to be produced. Invariably, when bringing in combs to be extracted, the helpers in the honey-house notice the dark-looking cappings and say, "Some more honey from Mr. —s' bees." However, as a rule these bees are good stock, and for extracted-honey production their habit of placing cappings so close to the honey makes no difference.

\* \* \*

### CO-OPERATION; THE TRUTH IN REGARD TO THE COMMITTEE APPOINTED TO ADVISE ON PRICES OF HONEY.

Much is being written on co-operation, and just at present, no doubt, many are wishing that we had some good system in operation. The writer has always been in

favor of the principle of co-operation, but he is not even yet convinced that we can successfully operate such a system when we have so many difficulties to overcome. Beekeepers are so widely scattered over the country, so differently situated in the matter of being large or small producers, and there are so many different qualities of honey produced, etc., that the more I consider the subject the more herculean the task seems when we try to devise ways and means of forming a co-operative association. One of the serious questions in a matter of this kind is the financing of such a project to start with; but one of the *most serious* obstacles of all, as I see it, is the fact that among beekeepers, as in other callings, there are always a lot who are selfish and unreasonable. This leads me to remark that I had not much thought of co-operation in mind when I started to write this note, only in so far as a matter of comparison as to what we might expect if we were trying to run a co-operative society.

\* \* \*

### PARCEL POST IN CANADA.

To-day, Feb. 10, Canada at last starts out in giving us a parcel-post system. A glance over the proposed system as now in force seems to suggest that there is lots of room for improvement before it will interfere much with the express companies which have things pretty much their own way at present. As in the United States, the zone system is used; but the regulations now in force, except in a very few instances, are not nearly as liberal as those across the line. The worst feature is that the first zone takes in a distance of only 20 miles. For that distance the first pound is 5 cts., each additional pound 1 cent extra. The second zone takes in the limits of any one province in the Dominion, and the rates are about double those of the first zone. In other words, it would cost me as much to send a parcel to Toronto, which is 22 miles from my home, as it would to send one to Port Arthur, on the north shore of Lake Superior. However, we are now committed to the principle of parcel post, and with lots of judicious kicking, we shall get something that will make the express companies take notice.

All together, six zones are arranged for, and for the longer distances small parcels can be sent quite a bit cheaper than by express. One of the first changes that will be sure to be asked for is that the first zone be extended to 50 miles at least.

# Beekeeping in California

P. C. CHADWICK, Redlands, Cal.

## SEASON PROSPECTS TO DATE.

January was liberal with us in the matter of moisture, an average rainfall of eight or more inches having fallen during the month. At some places the fall was excessive, doing much damage. At Santa Barbara eleven inches was recorded for the storm, while at other points there was even more. Beekeepers are generally much encouraged at the prospects, very substantial advances in reasonable conditions having come with the rain. The ground is wet deeper than it has been for two years, with warm weather, early breeding, and excellent growth of honey-plants to encourage us still more. We are not yet assured of a honey crop, however; but an occasional good rain during February and March, with showers in April, and continued warm, should bring us an old-fashioned bumper crop for the season of 1914.

Feb. 12.—No rain so far this month. Bees coming on fine.

\* \* \*

## BEEKEEPING IN THE CITIES.

The back-lot or back-yard beekeeper is the future keeper of hundreds or perhaps thousands of colonies. In a recent issue of the *Country Gentleman* I read this: "The best way to become a successful dairyman is to grow up in the business." With the bee business it is equally true. In fact, I believe there is no branch of agriculture that requires as intimate a knowledge to make it a success as does the bee business. At any rate, the back yard is the incubator of future beekeepers. I wonder what per cent of our beekeepers of to-day had their start in this small way. My guess would be that fully 95 per cent start with a few colonies. I know of a few men, however, who started at the top, and are working down; and they are coming down faster than many of us went up. The small beekeeper is not looked upon with favor in this part of the world, as he is considered a nuisance on account of disease spreading more rapidly with him than with the large beekeeper, who usually looks after his colonies a little more closely than the beginner. Be that as it may, we have the small beekeeper here, and he will be ever bobbing up while time lasts, so the inspector may as well give him a show. I enjoy the little fellows, and I like to converse with them, tell them of foolish things I did years

ago and hear them confess to laughable mistakes.

## THE CITY BEEKEEPER STIMULATES THE HONEY MARKET, AND THUS HELPS THE PROFESSIONAL BEEKEEPER.

The small beekeeper is a better advertiser than the large one, for the large one does not have time to go and hunt a market, but looks for a wholesale house to take his crop, while the little fellow goes out and sells to his neighbors and teaches them to use honey. Then when the little fellow has a crop failure his patrons hunt a market elsewhere, and thus they remain permanent users of honey. Many of the advances that have been made in bee culture are not due to discoveries in large apiaries, but are the result of inquisitive experimenting by the small beekeepers. My knowledge of the bees is very largely gained by keeping a small number of colonies always near my door where they can be watched daily.

Five years ago I decided to start in the bee business in a small way on the back of my city lot, my plan being to buy a few colonies and work up just as though I had no apiary at another place. So I purchased three colonies and went to work just as if I had my first colonies. I have now increased them to such an extent that I have 30 colonies in my back yard, to say nothing of ten that were taken to the apiary three years ago. From them I have taken considerable honey, done much experimenting, and, best of all, have enjoyed their presence for the pleasant sounds they make and for the additional inspiration they have supplied me.

\* \* \*

I fear Mr. Foster is figuring wrong with his poultry expense. He counts his time at twenty cents per hour, which I think should be added to the other side of the ledger. In the summer I put in from three to five hours on weeks days with my cows, chickens, bees, and garden in general, in addition to my regular day's work of eight hours. If I figured this time I should be losing on an average of \$2.00 a day, and should soon be bankrupt. But my view of the matter is that I am salvaging that much time that might otherwise be an entire loss. When my time is worth full value, Mrs. C. or one of the children gets the job of feeding the chickens. There is a lot of time in agricultural pursuits that is figured at very much more than it is worth.

# Beekkeeping Among the Rockies

WESLEY FOSTER, Boulder, Col.

## WILD FLOWERS IN THE FOOTHILLS IN APRIL.

Bees located near the mountains have the advantage over those out on the plains. The wild flowers are in bloom in the foothills during the fore part of April, and the bees that reach this bloom are well supplied with pollen, and breed up faster.

\* \* \*

## RYE GRAHAM FLOUR FOR BEES.

I would urge every beekeeper whose colonies may cause the neighbors trouble in the spring to put out rye graham flour. Many farmers hold a prejudice against bees because they frequent watering-troughs, feed-stalls, etc. The beekeeper owes it to his neighbors to cause them just as little inconvenience as possible. One of the marks of a good neighbor is neighborliness; and the beekeeper can manifest this spirit by keeping the bees so well supplied with the best water easily obtainable near the apiary that they will not frequent other places; and by putting out flour or meal the bees may be kept away from the sheep and cattle feeding-bins of the farmers. Put out the flour and water *before* the bees get to frequenting other places.

\* \* \*

## SLOW GERMINATION OF SWEET-CLOVER SEED.

The interest in sweet clover is uncovering some important facts regarding the plant, one of the most important of which is the slow germination of the seed. That this is not understood generally has been shown to me by the letters received from prospective customers and from others who have bought seed. One man wrote to me, asking if I could guarantee 80 per cent germination of the seed. The chances are that very little seed (if any new seed) will test that high. Old seed seems to germinate better than new. The amount of seed required to sow to the acre could be greatly reduced if the germination percentage were higher the first year. The slow germination is caused by the hard seed coat that is so impervious to water that the seed can not sprout readily. All who are intending to sow sweet clover should thoroughly post themselves upon the characteristics of the plant, and the seedsmen should furnish all possible help also. The sweet-clover bulletin by J. M. Westgate, published by the Department of Agriculture, Washington, will be of great help to those interested.

## HOME-MADE BEE SUPPLIES.

Mr. W. L. Porter differs with me on the question of home-made bee-supplies. It is probable that, if we both had the same set of facts placed before us, we would agree. The average beekeeper can keep bees just as well in a box or home-made hive as in a factory-made hive; and as he makes no profit to speak of from his bees he is better off than if he had them in factory-made hives, because he has less money invested. However, the readers of *GLEANINGS* or the *Review*, where my article originally appeared, are not average beekeepers. I believe from my observation and acquaintance among beemen that the majority of up-to-date beekeepers have been well satisfied with their results in making some of their supplies. No one beekeeper is so situated that he can make *all* his supplies, and this was stated in my original article, I believe. I would distinguish between the average beekeeper and the average *reader* of the bee journals.

Most of the western beemen who make any of their supplies have them made at a planing-mill, so that they are only partially home-made. In the actual making of home-made goods there is little of it done; but by having hand or power saw the beekeeper will find it a wonderful convenience. The way the sun warps lumber in the West soon makes factory and home-made hives look much alike, both requiring constant re-nailing and painting.

Quite a large proportion of our most successful beemen figure that it pays to have some supplies made at home to their order. Several beekeepers I know, who count their colonies by the hundreds, make their own and their neighbors' foundation. One of them who made up several hundred pounds of brood foundation last winter told me it was his first experience, and that it was about as difficult as turning a clothes-wringer.

Personally I do not want any home-made frames or section-holders or other inside hive furniture; but I am using some hive-bodies, super-bodies, covers, and bottoms that are giving me as good satisfaction as any factory-made goods I ever owned. I have made mistakes, and always shall; but the man who can not correct his first mistakes will not make a beekeeper.

## Conversations with Doolittle

At Borodino, New York.

### WHEN TO SET BEES FROM THE CELLAR.

"Will you tell when the bees should be set from the cellar in the spring? Do you think it would be any advantage to set them out the latter part of February or the fore part of March if there is a good day?"

The time of setting out may depend a little upon the time of their last flight in the fall. If you set your bees in the cellar the 15th of November, and they had a good flight the 14th, they would be likely to remain in the cellar in good condition two or three weeks longer than if their last flight had been on Oct. 22, as was the case in this locality several years ago. One beekeeper said that he knew that, if bees had a good flight as late as November 15, they could stand the confinement necessary from that time till the fore part of April. I do not feel so sure about this.

My experience has taught me that the time of putting in and setting out, within reasonable bounds, has very little to do with success; and this I say after having set the bees in as early as November 3 and as late as December 18, and having set them out as early as March 5 and as late as May 2. I think I can tell what the results will be as early as January 20—how the bees are going to come out in the spring, and this at a time when I am without any knowledge as to what the length of the confinement is to be. Some years I am sure that, if spring were to open by the middle of February, as it does generally in May, and the bees were set out then, there would be spring dwindling, with many colonies too weak for the first surplus, while at the same time other years I am sure that they could bear confinement in the cellar till May 1 and come out bright and strong for the harvest from white clover. If, on November 15, I could be informed as to the character of the stores which the bees have in their combs, the age of the greater part of those going into their winter repose, together with the temperature and moisture of the air in the cellar, I could tell pretty nearly how they would come out. But these are things which we are not always sure about, as a cool wet season is likely to give inferior stores and bees with a low vitality, while an open winter makes the control of temperature and moisture much more difficult.

Some say that, where bees seem to be wintering poorly in the cellar from any cause, they should be set out the latter part

of February, or on any favorable day there after, for a flight, and at night returned to the cellar: but from years of experience along this line I do not find that they are profited thereby enough to pay for the labor required. Others advocate setting all colonies out when any are so treated; and where any colony is so "sleepy" that the bees do not seem inclined to wake up we are told to pound on the hive while it is still inside the cellar, so as to stir them up so they will be ready for their purifying flight before the cool of the evening draws on. Locality may make a difference in this matter; but somehow I doubt it. Here in central New York, when the bees sleep very quietly in the cellar, as they are doing to-day (Feb. 6), they do not need a flight at all. And when we are likely to have spring dwindling, they are so restless that they will run out and spot the hives in front before this time, and, if moved at all, will rush out pell-mell with scarcely any reference to the temperature. At such times as this last, it would seem that a flight might do some good, and for a few days after setting in they do seem more quiet; but when the time of surplus comes, colonies set out prove no better than those left in, or not enough so to pay for the labor spent in getting them out and back in again. On the other hand, if they are left out they all generally perish.

I used to try to convince myself that the time to set bees out is when the blossoms of the soft maple and the elm open, and once wrote that, when the bees can come in with pollen obtained from these flowers an hour after setting out, one bee with its fellows can rear and bring on the stage of action three other bees, while an earlier setting-out would mean that three old bees would be required to raise one young one. I verily thought this was just as it should be; but from careful watching and experimenting, I am free to admit that the best results are obtained by setting out somewhat earlier than this, or when the buds of these trees begin to show their expansion by the separating of the outer covering which has protected them during the winter. In this way brood-rearing has gotten a little headway by the time the bloom opens, and then the pollen coming in is of greater value by pushing a greater volume of brood through the activity resulting from the scramble in preparing chyle for that already in the cells. The temperature should be 50 degrees F,

## General Correspondence

### A BEE FARM ON A ROOF IN NEW YORK CITY

BY HARRY HIRSCH

Country, town, or city, it's all the same—you can keep bees anywhere. If you have a back yard or a back porch, that will do. And if you have only a flat roof with a vista of chimneys and house-tops, that site is as good as any.

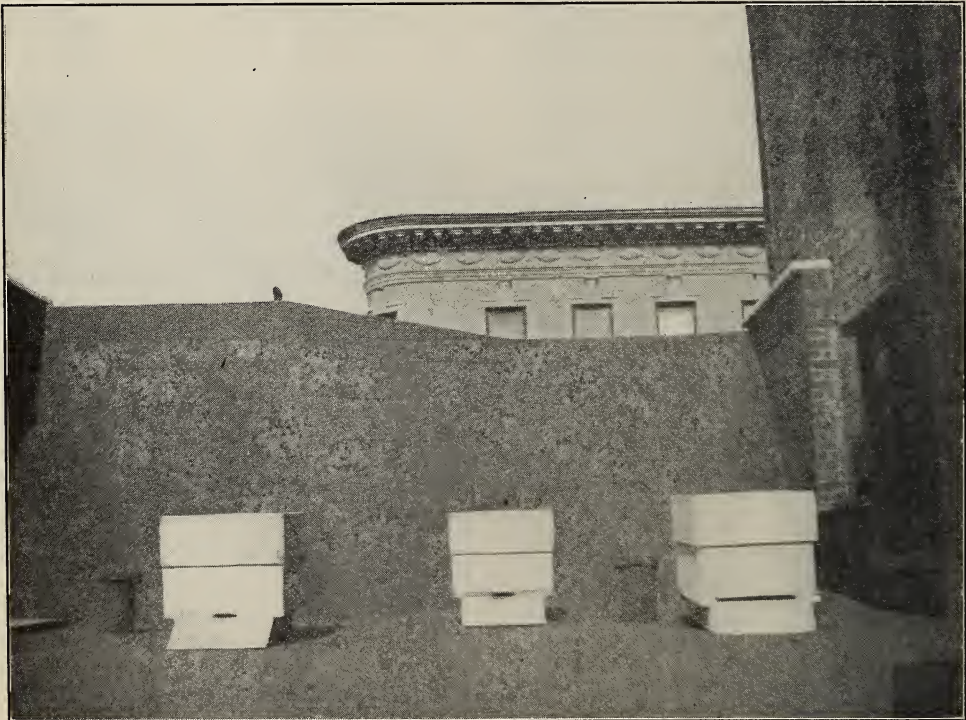
In my estimation the most important factor in city beekeeping is the careful selection of stock. Bees inclined to viciousness and swarming will not be tolerated in a crowded city. There is only one strain of bees fit to cope with the exciting conditions governing a city apiary, and that is the Italian.

So gentle and unobtrusive are my Italians, that, although I have been keeping them on the roof for three years, neighbors who live in the surrounding apartment-houses will not credit the assertion that there are thousands and thousands of bees living just beneath their windows. "Why," they exclaim, "we never see them; and, besides,

we never hear of any stings in the neighborhood." Then I usually hasten to explain that an experience based upon several years' acquaintance with bees has convinced me that stings are never heard but felt. Always a lover of nature I seek to set right my fellow-beings on matters as pointed as these.

Italian workers, besides being perfect ladies while "out shopping," as one little neighbor has so aptly described it, are also remarkably tractable when bearded in their den. This trait is of prime importance; for to get in touch with nature without getting touched by it is a delicate problem in bee-dom.

The only adequate hive for a busy city man is the double-walled chaff hive. To it I must ascribe my success, as it not only conserves the heat during winter when every icy wind has full play across the exposed roof, but has great cooling qualities during summer when the tin-roof, under the action



The sweetest spot in New York. A sheltered place on a roof is an ideal location for bees in a city. These colonies have been on this roof for three years.





Smoking 'em up. Although on the roof of a tall building in the largest city in the United States, the colonies have averaged nearly thirty pounds of honey per season.

of the sun, deludes itself into the belief that it is an oven in full blast whose sole duty is to bake both the hives and the bees so unfortunate as to alight on its surface.

In addition to these commendable features of the double-walled hives, the amount of labor they take off the hands of the city beekeeper at the approach of winter must not be overlooked. There is no need of packing, nailing, throwing the bees in a tumult, and creating a general mess of excelsior, hay, shavings, roof-paper, newspapers, and a thousand other improvised odds and ends, as is customary with single-walled hives. The following spring, there is no fuss in unpacking, with the risk of chilling the brood in the hives by the sudden cooling of the single walls. With double-walled hives all is calm and tranquil with the beekeeper. Peace reigneth in his soul and in his hives.

A city man is a busy man. A city man's hobby must not encroach upon his regular occupation. It must not tend to cause him anxiety during business hours nor enforced labor out of them. The moment it does this, it ceases to be a hobby and becomes a responsibility and a bore.

Now, the conditions governing my apiary are peculiar. It is situated in the center of the largest and busiest city of America. Miles and miles of dwelling-houses surround it, with no open country for a long distance off. Where, then, do the bees obtain their honey? Why, from a city park — Central Park. Is there enough nectar to keep three hives going? you ask. Going! Why, it's all I can do during June and July to keep the enthusiastic inmates of the hives from moving over to the park *en masse* and staying there. Central Park is an unusual park. Within its one and a quarter square miles it contains trees

and shrubs from practically every part of the world. The sylvan paths of this urban arcadia present a bewildering array of alien visitors. We discover a Chinese pagoda-tree growing by the side of a Norwegian maple; a Manchurian barberry nestling in the shade of a pine from the far-off Himalayas, while in the distance the dark foliage of a Crimean linden serves as a background for a swaying bamboo-tree. Basswood (linden), the standby of honeydom, is well represented here. Louis Peet, in "Trees and Shrubs of Central Park," gives the varieties of this tree as seven, mostly European. There are fully thirty-five specimens of the linden in the park, though whether they are all honey-producers I am unprepared to say. In addition to the strange collection of native and foreign flora, Central Park contains a large botanical garden where tropical plants such as bananas, cotton, oranges, etc., are kept under shelter. During the hot days of



Taking a dare.

summer the doors and windows of the green-houses are kept open, and the place is visited by a constant stream of bees.

In short, variety rather than quantity of bloom is the predominating feature of the nectar pasturage in Central Park. This explains why my honey embraces more different varieties of flavors, fragrances, and colors than is dreamed of in the philosophy of the rural beekeeper. Frequently have I emptied a pollen-cell of its little pellets and found them of so varied a hue that, if arranged in a row, they would go far toward giving a fair example of a spectrum.

Extracting is out of the question with so few hives. I merely run them for section and comb honey in shallow frames. I use the Danzenbaker super, and place sections and shallow extracting-frames into it alter-

nately. Whatever bait sections I may need (and I find them indispensable) are secured by inserting six sections of foundation in an empty Hoffman frame. The sections can be made to fit snugly with the aid of match-sticks. The frame of sections is then placed in the hive-body to be drawn out. When the sections have been drawn out about a quarter of an inch they are removed from the frame and distributed in the supers. During the honey-flow I practice severe contraction of the brood-frames. I know that this is condemned by most beekeepers; but the end justifies the means, and a nice array of sections at the end of the season covers a multitude of sinful contractions. By contraction and a judicious use of bait sections I have averaged 16 section boxes and 12 lbs. in extracting-frames from each hive.

Swarming must be carefully guarded against. Eternal vigilance and clipped queens are the price of peace in a crowded city.

In the very few cases of stinging in the neighborhood during three years, investigation showed that the bees were invariably only on the defensive. A child returning from school in the afternoon perceives a "golden fly" resting on the window-sill, or perchance perched on an iron paling industriously cleaning itself. Only a few minutes before, the teacher has inoculated the child with the "swat-the-fly" theory, and the child now bubbles over with suppressed excitement as happy fortune places before her an opportunity to reduce theory to practice. With hand poised for a blow, little does the victim (I refer to the child) anticipate with what swift retribution her ignorance of entomology will be rewarded.

There is much to be derived from bees be-



Lee Essenhower's bees on the roof of a department-store building in Reading, Pa. A large tank of water keeps the temperature nearly constant.



A "house apiary" on a roof 100 feet above the street. The colonies are located inside a tank house.

sides honey or stings. What a wholesome relaxation we experience from the every-day sordid cares of the narrow cramped world when we delve into the mysteries of the hive! A mere lifting of the cover of a hive, and we are transported into an enchanted city where our woes and cares are forbidden to enter. We wander through the fascinating streets, we draw into our nostrils the fragrance of perfumed treasures, we gaze

into golden enchanted palaces; and when we at length reluctantly depart, and the cover is replaced, we feel better, happier, and (may we say it?) purer for our little journey into the charmed city.

Beekeeping with Italian bees in a double-walled chaff hive is the nearest approach to a non-worrying, joy-giving, business-relaxing hobby I can think of for a city man.

New York City.

## AN AVERAGE OF 60 POUNDS PER COLONY, 100 FEET ABOVE THE SIDEWALK

BY LEE ESSENHOWER

My bees are practically 100 feet from the sidewalk, on the roof of C. K. Whitner's department-store building. On May 25, 1911, this building was destroyed by fire, and in 121 days was rebuilt. At this time the thought struck me that the roof would be a good place for bees, and they were put there as an experiment. Last summer I took 360 lbs. of honey from six colonies, and built up the others so that now there are eleven colonies.

The hives are in the lower tank house, or the house where the pressure-tank is kept. There are, in fact, two tanks in operation—one simply a gravity tank and the other a

large iron tank 16 x 8 ft., under a pressure of compressed air of 80 lbs. pressure, holding 60,000 gallons of water, ready for any emergency. In this house the bees are kept. Strange to say, the water holds the temperature pretty even all the year round, and makes ideal winter quarters for the bees.

High winds, to some extent at least, decimate the colonies; but despite this fact we have all along secured good crops. The bees have about two miles to go before coming to any real pasture for surplus honey. Our pasture consists of melilotus mostly, though we have a great deal of linden along our



A view of the hive entrances on the other side of the tank house.

sidewalks; in fact, we have a good linden field. I wish to say in this connection that I was the main instigator in introducing the melilotus many years ago, when the country seemed to be in an uproar for fear that bee-

keepers were introducing an obnoxious weed; but still I kept silent, and continued to spread the seeds. I have been more or less interested in bee culture since 1877.

Reading, Pa.

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## A CITY MAN'S BEES PAY HIS TAXES

BY HARRIS T. KILLE

If any of the readers of GLEANINGS should ever have occasion to visit New Brunswick, N. J., and take a walk out on Jones Avenue, they would surely stop and take a second look when coming opposite the house owned by the subject of this sketch. It is as much different from the ordinary run of houses as a queen-bee is different from a drone; and if the reader should be so bold as to step upon the broad colonial porch and ring the door-bell he would find a man as different from the ordinary run of men as the house is different from the ordinary run of houses. Measured by linear or avoirdupois your host would not grade very high; but if you should apply to him the scale for the measurement of genius you would have to use more than your ordinary pocket-rule, and it would not make the result of your estimate any the less accurate if you shove the decimal point over

three or four places to the right after you have made your most accurate calculations.

The name of this genius is Henry Mills. His business is that of stock jobber for railroads. But one might just as well call him a carpenter, blacksmith, mechanic, or what not. He's a veritable Jack of all trades; and if we call him by that name we can say that he lives in "the house that Jack built;" for he built that neat house (Fig. 1) all himself, at odd times, without interfering with his regular work. He made his own cement blocks—made every thing, in fact, except the doors and windows. He has not quite finished it, but he has been living in it for more than a year, and he started to build it only two years and a half ago. He showed me over the house; and the rooms that are finished and furnished are certainly beautiful.

In the back yard, not fifty feet from a

neighbor on one side, and almost bordering the street on the other side, are his bees. He has 19 colonies. He made all his frames and hives himself. His hives are built much on the principle of the Danzenbaker, but have frames one inch deeper. "The bees," said he, "winter much better on these than they do on the standard Danzenbaker size, which is entirely too shallow for good wintering unless two stories are used. However, if I were starting in again," he continued, "I would use nothing but the standard ten-frame L. hive. Then if I wanted to sell out at any time I could get somewhere near the original cost of the hives."

To the question, whether his bees sting the neighbors, Mr. Mills replied, "I have never had any trouble from their stinging the neighbors, for I manage so as to do no work among them when they are gathering no honey, or when manipulation would be apt to enrage them. I have had, however, some trouble in the spring, because we invariably have warm days when the bees take their cleansing flights, even on Monday, wash-day. The neighbors at first thought that the spots on their clothes were caused by sparrows; but my mother told them that the bees were responsible, and ever since then I have had more or less trouble." Moral.—See that your truth-loving mother does not tell all she knows.

A product of Mr. Mills' genius, with which he seemed better pleased than he did with his make of hives, was a honey-extractor. He had made it practically himself, although he had to have a little assistance from a local blacksmith in making the gearing. For the tank he used an ash-can which, by reason of corrugated strips extending from the rim to the bottom at regular intervals about the outside, has much greater stability than many factory-made extractors. The revolving framework inside was built for service. It was made of iron straps 1



FIG. 1.—Home of Henry Mills, New Brunswick, N. J.

inch wide by  $\frac{1}{4}$  thick. The photo, Fig. 2, shows the construction of the inside framework and comb-baskets. The gearing was also built for hard usage. If our manufacturers could combine the strength of this built-for-service extractor with the lightness, reversibility, and ease of running features of their extractors, we beekeepers would not have to deduct from 10 to 20 per cent for deterioration every year from our net earnings.

Although we do not have very severe winters here in New Jersey, Mr. Mills believes in giving his bees protection. As will be seen from Fig. 3, Mr. Mills' bees are located on a knoll overlooking the town. They receive the full force of the cold northwest winds which sweep over the town, so that it is only by packing his bees well that he is able to winter them successfully. He uses an outside winter-case made of unplanned half-inch lumber. This is so constructed that, when set down over the hives, it leaves an inch space all around the outside and extends two inches above the top of the hive. It is prevented from obstructing the entrance by the extension of the cleats on the bottom-board on which the hive-body rests. To the lower inside front edge of the case

an inch strip is nailed the full length of the case. This prevents the sawdust and planer shavings (which he packs in the space between the hive and case) from obstructing the entrance. Around the lower edge of the other sides he wedges a layer of coarse shavings, on top of which he pours sawdust until the space is completely filled. Mr. Mills always leaves his excluders on

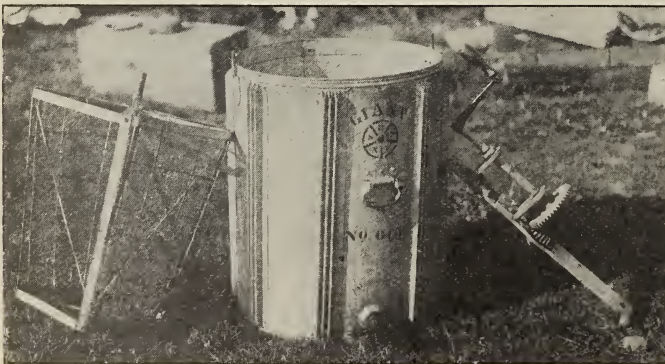


FIG. 2.—Henry Mills' home-made honey-extractor.



FIG. 3.—Mr. Mills' apiary on a knoll overlooking the town of New Brunswick, N. J.

top of the hives so as to give the bees space in which to pass from frame to frame, up over the cluster where it is warm. Over the excluder he spreads a burlap bag or enamel cloth, and fills in the two-inch space above with sawdust and planer shavings. Mr. Mills thus has the advantage of a double-walled hive for wintering, and at the same time has

his light single-walled hives for summer manipulations. His winter case is shown in Fig. 4.

Whenever Mr. Mills has had colonies light in stores he has fed them successfully during the winter by placing a slab of hard uncrystallized sugar candy a space above the brood-frames, and covering the same with burlap and sawdust to retain the heat of the cluster.

To the question as to how much his bees paid him, Mr. Mills replied, "It varies with the season. Some years the bees do surprisingly well, while other years they don't store much surplus. I don't have a very good location here, for the bees get practically nothing from clover. However, I can usually count on a fall flow of dark honey. This dark honey sells here among my neighbors just as well as the best clover honey—in fact, better; for



FIG. 4.—Winter case for holding packing material around regular single-walled hives.

one year I had enough clover honey to sell, and the customers came back stating that they wanted some of that black thick honey such as I sold them last year. But, even though I have not as good a location as some," he continued, "I manage to get enough from the bees to pay my taxes. My taxes amount to over \$40. I always lay my

honey money aside for that purpose. Every year I have enough to pay my taxes, and some years I have considerable left over." Not so bad, I thought, for a city man who keeps bees for the fun and recreation he gets out of the business rather than for the financial gain.

New Brunswick, N. J.

## OVER TWO TONS OF HONEY A YEAR FROM A CITY APIARY

BY GEORGE ZAUTNER

[Another picture of our correspondent's apiary appeared on the cover of our Oct. 1st issue.—Ed.]

I have been interested in beekeeping ever since I was a little boy, though we have always lived in the city. My father bought his first hive of bees about 42 years ago. When he built his home it was on the outskirts; but now the city has grown so large that it extends a mile or more beyond us. I always helped father when he was working with the bees, and I became very much interested in them. The first comb honey we produced was in a square box that held about five or six pounds of honey, with glass on two sides. In those days we were satisfied if we got two or three such boxes from each hive. Now all is different. The improvements in beekeeping are something wonderful. We now have the modern hives and all the necessary equipment for up-to-date beekeeping.

The honey season is very short in this section. It begins about June 15 and ends about July 20. We never get any surplus from fruit-bloom. The bees use for brood-rearing what they get from that source. We depend on clover for our crop. When the clover is gone, that ends the season. So you can see we have to get our bees in prime condition by June 15.

We have two large city parks quite near us, and I think we get most of our honey from that source.

We must give our bees the best of care in order to get them in condition for the honey-flow. In early May, when a queen has her hive well filled with brood and bees I open the hive, put her with a frame of brood in another hive, filling the rest of the space with drawn combs, and set it on top of the other hive without an excluder. In three or four weeks I have two hive-bodies filled with bees and brood.

About June 15 I take eight of the best frames of brood and the queen, and put them below with an excluder on top to keep the queen below. Then I put on the first super and set the other hive-body of brood on top. This makes the upper hive queenless, and

the bees will start queen-cells every time. But in five or six days I open the upper hive and cut out every queen-cell. This operation will keep the bees from swarming for the present. When the first super is about half filled I put another one under the first one so as to give them plenty of room to work.

In about fifteen days from the time I put the first super on I take off the upper brood-nest and set it on a new stand. Most of the brood will have hatched by this time. I leave it on the new stand for a day or two, when all the field bees will have flown back to the old hive. A splendid way to make increase is to give this hive a young queen. Or it may be set on top of another hive that is run for extracted honey.

In order to produce fancy section honey one must have his hives overflowing with bees. All our queens' wings are clipped. If a swarm comes out the queen will drop in front of the hive in the grass (I keep the grass short to prevent the queen from getting lost). I cage her in a wire cage made for that purpose, remove the hive to the rear, and put an empty one in its place. Then I place the queen in the cage on the alighting-board of the empty hive. When the bees in the air discover their queen is not with them they come back, looking for her. When sufficient bees come back to protect her I release the queen, when she will run in the hive, and all the bees follow her. Toward evening I open the hive that the swarm issued from, and cut out all queen-cells. I then set the swarm to one side and put the hive that the swarm issued from on its old stand, shaking the swarm back in front of the hive that it came from—bees, queen, and all. After this I add another super to give them more room. This operation of cutting out the queen-cells and shaking the swarm back takes only about ten or fifteen minutes. The next morning, before the bees begin to fly, I set the hive on a new





Home and apiary of Geo. Zautner, Albany, N. Y. Though located right in the city, the bees practically paid for the house shown.

stand in a different part of the yard. This seems to satisfy them.

We have no trouble with our bees stinging the neighbors. When bees are cross, and are inclined to sting, I believe it is due to rough handling more than any thing else.

Our average crop of honey is about 4200 lbs., and the average number of hives 65. I find ready sale for all the honey we can produce. We never have enough to supply the demand.

Beekeeping is only a side issue with me. I work in the shop every day, and take care of my bees in my spare time. I also have quite a large garden. We raise all our own vegetables and all the fruit we can make use of and to spare.

Beekeeping goes a long way toward reducing the cost of living. The home shown in the picture has practically been paid for with the proceeds from my bees.

Albany, N. Y.

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## HOW I BECAME AN OUTLAW

BY THE OUTLAW

This is *sub rosa*, you understand—just between you and me. The fact is, I am a beekeeper. As being a beekeeper is not a crime *per se*, I shall have to explain further that there is a certain city ordinance in force here to the effect that no bees are to be kept within the bounds of the city. The ordinance is, in effect, as follows:

Be it ordained by the common council that it is hereby declared to be unlawful for any person or persons to conduct or carry on the business of rais-

ing or producing honey from bees or keep or maintain an apiary or any hive or hives of bees, within any portion of the city.

That any person violating any provision of this ordinance shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished with a fine not to exceed \$200, or by imprisonment in the city jail for not exceeding one hundred days, or by both such fine and imprisonment.

But I did not become a beekeeper and violator of the city ordinance with malice aforethought—no, nothing like that. I am

just a victim of circumstances, merely doing that which has been decreed by fate.

It happened this way: One Sunday morning, about the first of June, I encountered a small after-swarm of bees in the act of settling on the branch of a pepper-tree in front of the house that constitutes my domicile. Under such circumstances what could I do but hive the swarm? It would certainly not be right to leave a swarm of bees hanging on the branch of a tree, above the sidewalk of one of the principal streets of the city. The hiving was easily done with the aid of a borrowed clothes-pole, and on the end of this pole was attached a small basket.

Just think of it! walking along the street with my mind busy on matters that would come up in the office on the morrow, and then, ten minutes later, walking along the same street with a swarm of bees in a basket. The basket of bees was duly hung on the clothes-line, while I proceeded to alter into a hive a certain box which the grocer had delivered with groceries the evening before.

The alterations of the box sufficient for the time being took about ten minutes. The bees were then dumped into the hive, and the next moment I found myself the owner of a colony of bees, and also the violator of a certain city ordinance, and subject to a fine or a jail sentence, or both.

But before taking up with you my experience as an outlaw it might be well to lay the foundation for my acts. But remember I am telling you this biographical junk so that you will be in the proper frame of mind to understand and follow me through my acts as a practical outlaw beekeeper, working under an adverse city ordinance. That is my honest reason. Of course, if you in your own narrow-minded way think it mere *ego* on my part—why, I will not quarrel with you—just let you retain your opinion, and risk your calling up the chief of police.

To commence at the beginning, early environment forged the first link by reason of my father being an apiarist on a city lot. Stings were part of my early education. Then the wanderlust claimed me, with the result that one bright summer day, following the termination of the American occupancy of Cuba, I stepped ashore at Havana, and there among that band of pioneer beekeepers who followed the army of intervention I met the greatest of them all, the "Rambler."\* Rambler was one of nature's aristocracy. He was a man who cared little for money and less for dress. He always

associated the idea of a new suit of clothing with a ten-dollar bill. But as a man he stood the acid test. He was one who saw through every sham of life; smiled quietly at the various subterfuges and artifices which he encountered in others and ever remained as a nugget of pure gold among the pebbles. By reason of his rambles and observations, coupled with an inventive turn of mind, the result was that his brain had become a storehouse of those little matters generally spoken of as kinks. And while he had for years freely given his ideas to the beekeeping world through GLEANINGS, yet when he breathed his last there in the lee of Principe Hill, agriculture lost a thousand thoughts that were on record only in Rambler's brain.

Then there were the months I spent in the locality of where was situated the first apiary of bees in frame hives located on the island. I wonder how many of those who read this have been on the spot. How many, like myself, have cut their names in the trunk of that old royal palm-tree just above the well? For several years I led an ambulatory existence, to and from, over and around, the island of Cuba, at that time the greatest bee country in the world.

So, now, having turned for your inspection the foregoing page of the past, I trust that all those who are true apiarists at heart will understand and forgive my acts as an outlaw.

In answer to those who raise the question as to why I did not remove my colony of bees outside the jurisdiction of the ordinance, I will say that on one side of the city is the ocean and on the other is the desert; that the past season has been one when the desert flora refused to yield honey, with the result that, during all the time when I have had my colony of bees, the apiarists outside the city have had to practice feeding in order to keep their bees alive. Here in the city, matters are different. There is an abundance of pepper-trees and eucalyptus along the streets of the residence district, and in the public parks are thousands of eucalyptus of every variety besides thousands of other trees and shrubs. So here there is a continuous flow of honey, somewhat similar to the summer in western Cuba. The result has been that my little swarm of bees, without foundation, not even for starters, has been able to build on an average one frame each week.

Perhaps the question may arise in the minds of some as to the legality of the city ordinance under which I am an outlaw. To such I will state that it is my own personal opinion that the ordinance is valid; that the courts would sustain it under what is known

\* J. H. Martin, who was one of our most valued correspondents about 15 years ago.—Ed.



H. C. Young's apiary in the country, 15 miles from Buffalo.

in law as the police power. As most bee-keepers are not lawyers, I will say that what is known in law as the police power is the internal regulations of a State that have in view the preservation of good order, good health, good manners and morals, and the general health of the public. Chief Justice Shaw, of the Supreme Court of the United States, in the slaughter-house cases, stated "That upon it depends the security of social order, the life and health of the citizens, the comfort of the existence in a thickly populated community, the enjoyment of private and social life, and the beneficial use of property. Police power, as defined by Blackstone, is 'the due regulation of domestic order of the kingdom, whereby the inhabitants of a state, like members of a well-governed family, are bound to conform their general behavior to the rule of propriety, good neighborhood, and good manners, and to be decent, industrious, and inoffensive in their respective stations; that by the general police power of a state, persons and property are subject to all kinds of restraint and burdens in order to secure the general comfort, health, and prosperity of the state.'"

The courts of the various States and of the United States have continually sustained and upheld legislation that was enacted for the public welfare, health, or comfort, even though such legislation worked injury or

inconvenience to innocent parties, even though it violated some organic law, holding that such legislation was valid under the police power of the State. For example, the constitution of the United States provides that full faith and credit shall be given by the various States to the laws of the sister States. Very well; in Illinois is a statute that provides conditions under which a person can practice medicine. A doctor, after complying with the laws of Illinois, in going to California, for instance, will there find that California pays no attention to the law regulating physicians to practice, and requires that an examination be taken; and, believe me, it *is* some examination—in fact, such that very few physicians care to take it. But the California courts hold that such legislation, even though it is prohibitive, as in effect it prohibits the Chicago doctor from practicing medicine in Dogtown, is valid under the police power, as it tends to protect the general public from inefficient doctors.

So, under the circumstances, I have no defense to offer, as I do not think a valid defense exists. I am just like any other educated lawbreaker. Being fully aware of the position occupied in society, I take every precaution to avoid being caught in the toils of the law that is being willfully broken.

*To be continued.*

## OVER 200 POUNDS OF SURPLUS HONEY PRODUCED BY ONE COLONY ON A VERANDA IN THE CITY OF BUFFALO

BY H. C. YOUNG

Having had no experience in keeping bees—in fact, never having had a good look at a bee, I started to read *GLEANINGS* in October, 1911, and studied the A B C and X Y Z of Bee Culture. The following spring, in May, I received my beginner's outfit, consisting of one hive of bees, extra hive, etc.

As I live on a corner of a prominent business street in Buffalo, I decided to keep my bees on the veranda on the second floor of my home, which is very close to the sidewalk. Hundreds of people pass daily, and thousands of bees fly overhead.

Without the aid of an experienced bee-man or any one else, I would open the hive three or four times a week or oftener, without the use of a smoker, veil, or gloves, and pull out frame after frame. I had no difficulty in picking out the queen, drones, and workers; also the drone and worker cells, and later I discovered the queen-cells.

About 11:30 A. M. on the 4th of July my bees swarmed, clustering on a poplar-tree about 25 feet from the hive, and they remained there until about 2 P. M. With the aid of my three brothers we set out to hive the swarm. Imagine the crowd of curious city people attracted by this undertaking. Our first thought was to cut down the branch with the cluster and place it before the empty hive. Not thinking about the weight of the bees, we began sawing, and soon there was an unexpected cracking noise, and the branch snapped off, throwing the cluster of bees to the pavement, about twenty feet below. In a few seconds the air, like a blinding snowstorm, was filled with live bees. The terror-stricken people scattered, and ran in all directions for shelter. In order to convince them that there was no danger I hurried to the street with head and arms bare, scooped up the bees in my hand, and shook them into the hive without receiving a sting. Soon the frightened ones regained their nerve and returned to satisfy their curiosity.

About a week later I found a new queen in the old hive, which evidently became mated with a black drone. I soon noticed the difference in the disposition of her bees, as photo No. 1 will show. The old queen and her bees in the swarm have maintained their very mild disposition to the present day.

The following spring, May, 1913, I purchased five more colonies. I kept one colony

in the city and sent all the rest to the country, about fifteen miles away. Starting that year with seven colonies, and with the capture of one stray swarm in the city, I increased my apiary to fifteen colonies during the summer, and secured about 500 lbs. of honey.

From my limited observation I am led to believe that a few colonies do better in the city than in the country. During a drouth bees find little or no nectar in the plants of the meadow or mead; while the warmer, the drier, and the more arid the weather, the more the city folks sprinkle their gardens and lawns, thus keeping the honey-flow normal. I noticed during last summer, while we had a long drouth, the bees in the country were not gathering any honey, while those in the city during the same dry weather were busy working filling up cells day



H. C. Young, of Buffalo, N. Y., showing the result of his first experience with hybrid bees.

after day. This one colony in the city produced a surplus of over 200 lbs., which was nearly half of my entire crop.

I desire to impress upon your readers that, far beyond the profits arising out of my short experience in bee culture, I have

had pleasure of the highest order. The bee is one of God's most remarkable creatures, and a study of it has enlightened me as to his vast wisdom, and will, I trust, make me a better if not a greater man.

Buffalo, N. Y.

## A HOUSE APIARY FOR CITY BEEKEEPERS

BY C. S. NEWSOM

The photograph shows my house apiary, every one of the sixty colonies which it contains being within 4 feet of my work-bench in the center. When the picture was taken I neglected to open the doors in each side. After building the house I sawed out large openings and put hinges to the doors which swing upward. The doors are held up by a two-foot stick with a screw-eye in the end, engaging with another one in the door. All these openings make considerable light; and any bees inside soon disappear through them. The cupola is also arranged for large openings for still more light if needed.

When my bees hang out in front of the hive as they did in the sweltering sun last season, I propose scooping them into hives of comb foundation with a frame of brood added, and a queen; and those scooped will be darkened in the house a day or so; then the hive will be set up on the frame for my new swarms. Then I shall have a new swarm, and the old hive not molested nor

even disturbed, and the work will go right on. The bees that cluster on the outside of the hive are mostly young ones hardly able to fly, and they can just as well have more room and a chance to do something. I think the plan will retard swarming. Hereafter at the close of the season I do not expect to have a great lot of unfinished and uncapped sections. The bees can work at night in the warm room. Breeding will also begin earlier in the spring, and will keep up later in the fall, insuring strong colonies.

The wall of the building around each entrance is painted a different color to enable the queen or the bees to return to the right entrance.

Athens, Ohio.

[While house apiaries are used considerably in Germany and other parts of Europe, especially where outdoor room is scarce, they have been abandoned largely in this country, chiefly on account of the expense.



C. S. Newsom's house apiary located in the city of Athens, Ohio.

There is no other great objection, provided there are suitable openings in the side which will give sufficient light for finding queens, say, and for permitting any bees that have the combs, when they are being looked over, to get outdoors at once.

In our opinion, scooping up bees that

cluster outside because of the heat or overcrowded condition of the hive, and forming a new colony with them, would give rather uncertain results. We think it would be much better to make the increase in some other way, for the cluster outside may be composed of field bees largely.—Ed.]

## A DRUGGIST'S EXPERIENCE WITH BEES IN INDIANAPOLIS

BY H. D. HOPKINS

I am one of the many who have the bee fever, and I have had it for about 18 years. I keep my bees in the central part of the city in a thickly settled district within half a block of a schoolhouse. Occasionally I loan the teachers my observation hive to teach the children the habits and industry of the bee.

I always winter about five colonies on their summer stands well covered with leaves, and protected by a shed. I have



H. D. Hopkins' ornamental hive for a city lot.

never had a winter loss.

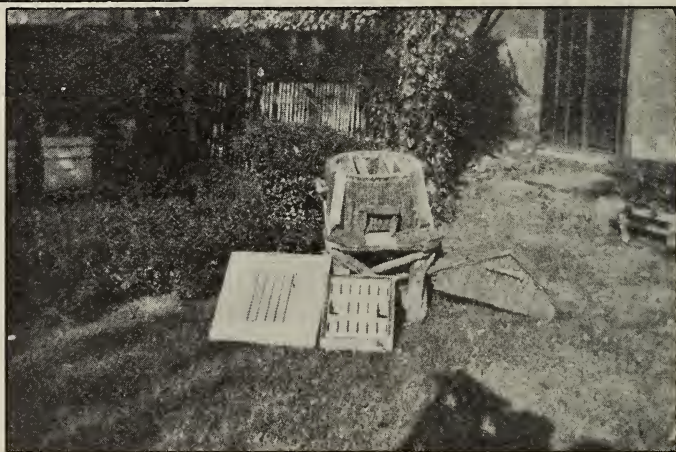
I am a druggist, and have little time to look after the bees; but I enjoy keeping them for the recreation. I have a neighbor three doors below whom they bother a little by making use of her well-sput for a drinking-fountain. They have to pump out the bees before they get water. I make my peace with them when I take off the honey.

The bees also object to the lawn-mower next door, and sting the man or lady behind it, so that requires more honey to keep peace with my neighbors.

Last year I sold the increase, which was six colonies. I took off 120 lbs. of No. 1 white-clover honey. I have no trouble in disposing of it among my neighbors at 20 cts. I should like to keep more bees; but there is not enough pasturage in the city for them. I have tried chickens and pigeons; but for real pleasure, profit, and little work, give me bees.

### AN OLD-FASHIONED BEE-GUM REMODELED.

While visiting my brother's apiary this summer in Putnam County I found an old abandoned bee-gum. I requested him to send it to me, for I thought it would be a curiosity. After it reached me I decided to modernize it, so I made six brood-frames to fit and hang on tin brackets. I cut down an eight-frame super to hold three of the D section cases. The frames and sections can be removed and replaced at any time. I covered the log with bark and gave it a roof of bark, so I think I have quite an ornamental as well as a useful hive. It stands



Cover and super removed, showing the combs in the brood-chamber.

4 feet high, and has an 18-inch brood-chamber 12 inches wide in the center.

Indianapolis, Ind.

[It is true that bees kept in a city are sometimes troublesome about outdoor pumps or watering-troughs. This trouble may be partially prevented by providing

water close by, for they must have it at times. Adding some salt to the water often helps, as the bees seem to prefer it for some reason. At times it is also very important to place artificial pollen where the bees can get it, to keep them away from nearby barns, etc.—ED.]



F. A. Connor's jumbo hives in Worcester, Mass.

## JUMBO-DEPTH HIVES FOR CITY BEEKEEPING

BY F. A. CONNOR

My small apiary of Carniolan bees is located in the suburbs of this city. I am a great advocate of jumbo hives. The picture shows my extracting hives. I might mention that these hives consist of two regular dovetailed jumbo bodies, Hoffman  $11\frac{1}{4}$ -inch-deep frames, metal-roofed covers, Danzenbaker bottoms. I have found, after an experience of about 20 years as a beekeeper, that this is the ideal hive for extracting, especially with Carniolans.

I am constantly meeting with severe criticism when I advocate this style of hive; but there are several important advantages in using this hive. One can adopt the jumbo hive and still keep on using the standard Langstroth ten-frame hives and supers. In my judgment it is of great importance to have a hive which standard supers and cov-

ers will fit, and one adapted to bottom-boards. The queen rarely goes out of the chamber she is in, as the brood-chamber is of sufficient capacity for the most prolific queens; hence queen-excluders are not necessary. As a non-swarmer, or practically so, when operated for extracted honey, I have found this hive the best I have ever used.

Possibly I have given too much praise to this hive; but let me say here that one should study his locality very carefully before deciding on what size of hive to adopt as his standard.

In this locality bees are unable to gather nectar for more than six months in the year, and colonies must necessarily be kept strong throughout the season.

Worcester, Mass.

## BEEKEEPING FROM A CARTOONIST'S VIEW POINT

BY J. H. DONAHEY

[The writer of the following is the cartoonist of the *Cleveland Plain Dealer*, who, as we mentioned editorially in our Dec. 1st issue, is an enthusiastic beekeeper. Mr. Donahey is in Egypt at present; but when he returns he is going to furnish GLEANINGS some cartoons depicting the joys and sorrows of the beekeeper. A more extended notice of these will appear later.—ED.]

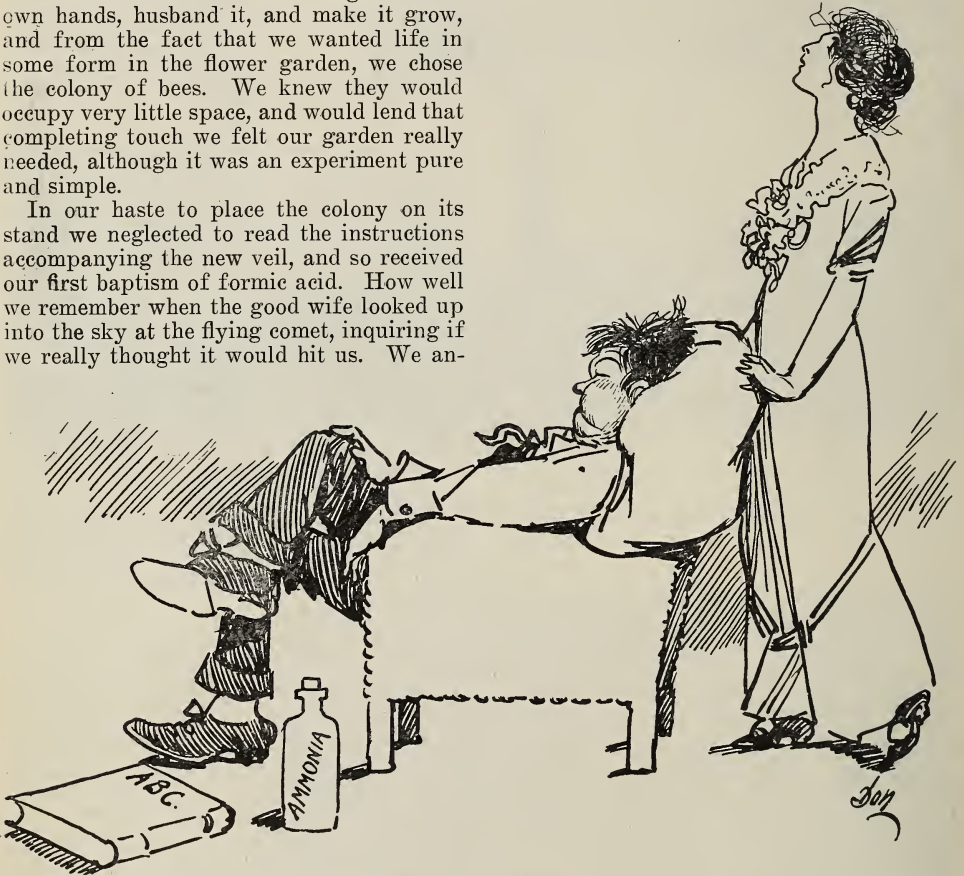
Three years ago, on the evening that Halley's comet was supposed to strike the earth and demolish us, our first colony of bees arrived. They were hybrids, very cross, and in a single-walled eight-frame hive. We had never kept bees before, and knew practically nothing about their care beyond a faint memory of the old-fashioned box hive that used to stand under the apple-tree in the country village.

With a desire to do something with our own hands, husband it, and make it grow, and from the fact that we wanted life in some form in the flower garden, we chose the colony of bees. We knew they would occupy very little space, and would lend that completing touch we felt our garden really needed, although it was an experiment pure and simple.

In our haste to place the colony on its stand we neglected to read the instructions accompanying the new veil, and so received our first baptism of formic acid. How well we remember when the good wife looked up into the sky at the flying comet, inquiring if we really thought it would hit us. We an-

far greater than we had ever hoped or dreamed.

The next year, during our absence, a colony concluded to swarm. Mrs. Donahey, who had never handled bees, tried a new trick, and one we had never heard of before. Knowing we could not get home in time to hive them, she secured the lawn hose lying near, and, turning on the water, directed the stream on the bees as they were pouring out



We did not care one whit whether it did or not.

swered that we did not care one whit whether it did or not.

We have had many enjoyable experiences, and have had to hasten to our volume of the A B C and X Y Z of Bee Culture very often; but with it all we have found a pleasure

of the entrance. She explained later that she had read somewhere that bees do not swarm when it rains, and she concluded to try a summer shower on them. They went back into their hive that day, but they did it all over the next morning, but we were



there to put them right into their new home. Our first hive, after being requeened with an Italian, has grown to fourteen, and last season we took off one thousand pounds of very fine comb honey, and the clover secretion was as white as any we have ever seen produced in the country.

The bees are kept in the double-walled Buckeye hive, and are wintered out of doors. They are on the side of a hill that is covered with some timber overlooking a stream, facing the southeast, and in the rear of our home. The little workers come and go all day long without our neighbors ever knowing they are there, unless we by chance present them with a toothsome bit of honey, or invite them over to inspect the busy homes.

To the city man or woman who loves nature, and who has but a small back yard, the bee offers many advantages over any

other form of outdoor amusement or recreation for profit. We know of no occupation better adapted as a diversion to any one who deals in the abstract. The little bits of wisdom picked up from the insect world, the messages they bring as their tired little wings carry them in from the fields laden with honey, the lessons they teach us in their patience and perseverance, all tend to create a stronger feeling and a better love for our fellow-man, to say nothing of the dividends received in golden nectar.

We have learned many things from the bees, and look forward to the time when we shall understand them better; for we long ago gave up hope of ever getting them to understand us. But the knowledge we have already acquired is far greater than we expected to attain in one small back lot in the city.

Cleveland, Ohio.

## BEEKEEPING A SIDE LINE AND FOR THE FUN OF THE THING

*Read before the Second Annual Convention of the Iowa Beekeepers' Association at Des Moines, Iowa, December 11, 1913, by Hamlin B. Miller, Marshalltown, Iowa.\**

My subject to-day is of such a nature, and my beekeeping experience of so short a duration, that I must confine myself to personal experiences more or less, in order to make my remarks of sufficient length and interest. I don't presume in this effort to teach you old-time beekeepers any thing. I am just going to be satisfied if I can only entertain you a little, and perhaps take you back to your beekeeping youth.

It tickles me every time I think of the funny things I have read in Dr. Miller's "Fifty Years Among the Bees." I am not related to Dr. Miller, the pioneer beeman, that I know of; but I have experienced some of his early and peculiar symptoms of bee troubles in my own bee-work infancy. I often congratulate myself upon the fortunate escapes I several times have already made, and fully appreciate the many hints and experiences that others have given in the bee-journals that have helped me to avoid many pitfalls and needless humiliations that I otherwise would have fallen heir to in spite of my already fast accumulating experiences in bee culture or "bee smartness." Right here I do not wish to forget to mention that I owe the greater part of my bee knowledge to the bright, up-to-date, and resourceful bee-journals.

After I really started, I was going some. I couldn't stop long enough to eat my meals. My physician had ordered me to go on a diet. I even overworked that. I fasted. I

didn't eat at all, seemingly, and soon lost thirty-five pounds of flesh with my fasting and "bee fever." But then, it did me good—have regained part of my flesh, but have never been able to break the fever.

Now, every man has (or at least should have) a hobby. Some think a hobby means chasing a golf-ball for hours over a forty-acre field. Others think it is to travel on foot twenty miles or more over the roughest localities, carrying a heavy gun and ammunition, just to get a chance to see a flock of ducks too far away even to hear a gun.

My physician having ordered me to stay out of the printing-office, adding that I must rest from the nervous strain I was carrying, I immediately landed on my neglected lawn with a lawn-mower, a rake, and a spade. It was fun—never had really enjoyed it before, because I did not know I possessed another talent besides the acquired printing-office habit. Then my wife also landed on me for flower-beds and various other yard improvements. It just seemed as though she would sidetrack my hobby for hers, she was so industrious about it; but I was too far gone to lose out on the bees.

While all these new-found pleasures were becoming settled upon me, a new neighbor in the meantime had moved in next to me, and he had two colonies of bees. I was just a

\* On account of our lack of space in this special number we have not been able to use quite all of the paper.—Ed.

little bit leary of the pesky things, for the sight of a bee had always affected me just the same as it does the majority of mankind. I was never unprepared to make my getaway.

It wasn't long before my neighbor was making an awful smudge and monkeying with those bees. By tip-toeing around and peeking over, I saw it all. Standing on somewhat higher ground I was astonished as I beheld him actually putting his hands down in that hive, *right among those bees*. The cold chills ran relay races up and down my nervous body as I watched him lift out the frames covered with the yellow-banded fellows and dozens of them running over his hands. "Hello! George! What are you doing?" I asked, in as calm and possessed a manner as I could muster up. Without lifting his eyes he said, "I'm trying to see what these little fellows are doing."

His calm answer and the seemingly indifferent manner with which he turned those frames of comb and bees over and around, all the while critically examining them, captivated me, and *I was stung with the "bee fever"*. May be you think it strange; but the fever has not yet abated.

Well, my confidence soon grew bolder, and I was finally near enough to peek over into the hive. *Wonderful! delightful! entrancing!*

But, horrors! He asked me to hold a frame for him while he did something or other that needed attention. My nervous chills immediately changed to "shiverinos." My teeth would have chattered themselves loose had I not set my jaws firmly together; and (would you believe it?) when some of those varmints ventured to run over my hands the water seemed to ooze off from me in a manner that would put a Turkish bath to shame. After it was all over I went home, weak as a cat, and lay down to ruminate, resuscitate, and recover, for I had experienced a drenching equal to any Turkish bath I have ever had administered to me.

I couldn't rest. I wanted some bees; and their not stinging me was one of the best reasons I should have them; and then, again, I had never before in all my life had enough honey to eat.

My neighbor was Mr. George Belt. I asked him to find me some bees. He did. We soon became fast friends, just because we had found true pleasure in the same hobby. My wife soon called me "nutty." George and I were both fatally afflicted with the malady. Many an hour we ruminated on the possibilities and the pleasures we had discovered in the yellow-banded friends,

growing more "nutty" every day. Ever after we hailed each other as "George B." and "Hamlin B."

I soon secured three colonies, brought in from the country in home-made hives. Gee! but I was afraid of them just the same. Setting them on boxes in the back yard I carefully pulled off one of the cleats that kept them in the hives, and ran away to a safe distance. They were so overjoyed at the fresh air I had let in that the whole yard seemed to be full of bees and their music, which I did not understand, as they played in and out of the hive. As soon as their enthusiasm had waned I stole up and liberated another hive. Now, "George B." did not see this or he would have laughed.

My wife also became interested at this juncture, and began handing out advice as to how I should conduct myself and manage the newly acquired backyard friends. Many have been the fool things we thought of and experienced during the past three years.

This was in the fall of the year, and I put those three stands in the cellar, and *shut the cellar up tight* from the air as well as light. Every time I went down cellar I hurried out again. My wife always made me go down for vegetables and canned fruit. I had to be bold, of course, but I was really afraid, just the same. The bees would come out and fly around. The floor was becoming thickly covered with them. I was awfully worried. I knew they would all be dead on the floor before spring. They got so noisy at times, and so bold, that I put off taking them out of doors until after the middle of the following April; and when I did grow bold enough to do so I had another case of chills; for while carrying out the second and third hives the other bees took especial delight in settling on me as the most likely object and place in the whole back yard to rest, and they actually turned my hat and clothes into a brown spring suit. It made me somewhat disgusted; but my wife wisely remarked, "You can't expect much else from bees." She knew all about it, of course. Well, there were less than one million bees in those three hives after all had died in the cellar that wanted to die there.

We harvested (or, rather, stole) sixteen pounds of bulk honey from one of these colonies that fall, but had to feed two colonies all winter. The other colony fell dead on the hive bottom three days before I put the others out the following spring—starved, of course. "Fool trick," my wife said. "I know it," was my response. I pined for thirty days—never felt more uncomfortable in all my life, for I really thought they had

enough to live on until it was time to put them out.

Things began to go better. I had ~~six~~ strong colonies the next fall. Took out 150 nice sections of honey. I ate honey all winter and sold the rest at 25 cents a section.

I wintered the six colonies perfectly. I had a thermometer in the cellar, and kept the cellar windows open nearly all the time, but darkened the opening with a long heavy curtain. I discovered that every thing else also kept better in the cellar with the temperature around 45 degrees.

During the past summer I increased to eleven colonies. Lost two of my queens, and then consolidated three stands into one, leaving me nine. I'll tell you how it was. The colony that had up to this time made me 108 sections of fine honey did not swarm until the last day of June. I was lounging in the yard swing, watching half a bushel or so of the tenants hanging on the front of the hive, when all at once they came out of that hive like a cloud rose in the air, and left like a roaring tornado. I was mad. I never before had had nerve enough to clip a queen. My wife was excited also. More advice was given me as to how I could have prevented such a blunder. I got out my tools, jerked the supers off from that hive, and found the queen. I think now she was a virgin. Then I slipped the scissors under her wing and clipped her; also clipped the queen of another colony that had just swarmed. After it was all finished, I repented what I had done, as my book knowledge had then had time enough to soak through and leak out, and I realized what I probably had done. The next day I found one of those clipped queens balled on the front steps of the next-door hive. I sprinkled water on the ball. She emerged and ran into that hive before I had time to stop her. Something happened to that colony as it became queenless. So did the other hive where I had clipped the queen. I don't know about the colony with the runaway swarm. They kept on working. But I do not know yet whether it still has a queen. I presume I shall find out next spring—another fool notion, I suppose. I presume my wife will tell me about it at that time.

I harvested 247 nice sections of honey that year, much of it No. 1 fancy, and all selling at 25 cts. per cake. I weighed ten sections that I sold to one party for \$2.50, and the scales showed ten pounds and four ounces—25 cts. per pound, you see, and the customer wanted more.

If there ever was a hobby to get a man's mind off from every thing else, *the bee is it*. They say fish and cabbage are foods for the brain. Well, I do believe the bees are the emergency brakes in cases of overwork and brain-fag. I have wasted thirty-five years of pleasure and fun, as well as profit and better health, by not having discovered the interesting and industrious bee as my friend.

There would not be so many broken-down business and professional men if they had taken time to become interested in a few colonies of bees. I also believe the outdoor treatment of bee culture, taken early in life by the average individual, would eliminate many cases of the white plague commonly called tuberculosis, not to mention other ailments that the outdoor life would benefit.

God made the bees for us. He has heralded the praises of honey in the book of holy writ. Man makes sugar and molasses by chemical processes. The bees make honey by the process provided by God himself, who never patented the process, and never has changed, nor invented a better way than he started the bee out with at the beginning, notwithstanding all the theories that Dr. Bonney and the many other wise and learned fellows are continually contending about in their endeavors to make over the bee and its habits.

Do you know I have learned to appreciate and love, more and more, God's outdoors since I got this bee trouble? I had never seen the sun rise since I was a little boy on the farm until the bees gave me the morning boost. I have got so I can't successfully night-hawk it any more, and neither can I lie in bed in the morning while the bees are out and at it. But I have never been able to get out so early but that I have seen them coming home as well as going out.

My health is better, I feel better, and really am better, because I have learned to love the bees.

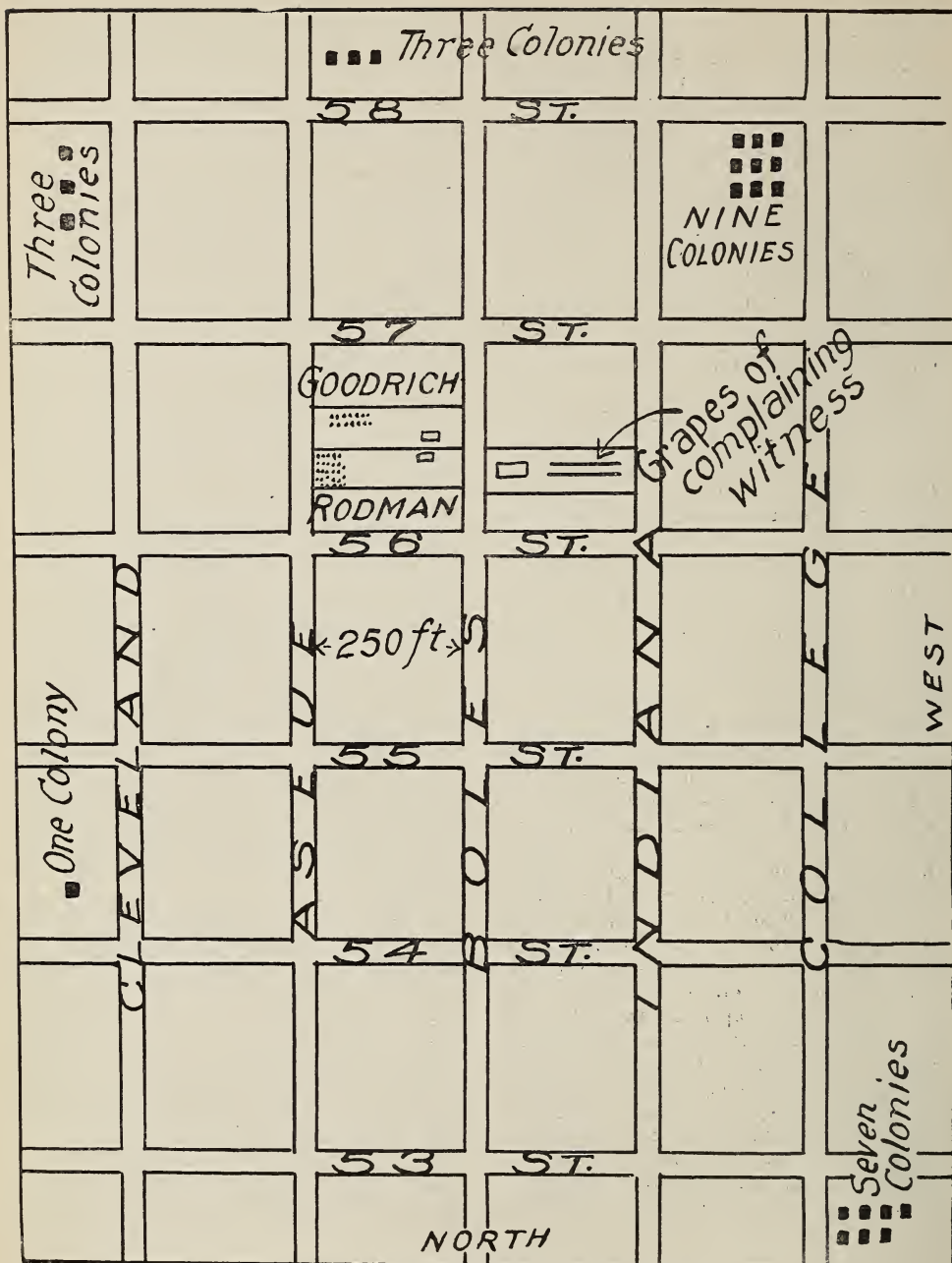
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## ARRESTED FOR KEEPING BEES

BY A. T. RODMAN

I have decided to tell my troubles to the readers of GLEANINGS. During the summer of 1912 my neighbors across the street informed us that our bees were destroying their grapes. The facts were that we had

had a dry season just as the grapes were maturing, and then, just as the grapes ripened, a heavy rain. This caused a rush of sap into the grapes: and as the skins had been hardened by the dry weather they



Map of the part of the city in which the trouble arose.

burst open. The results were that the bees commenced to hull them out. We explained to our neighbor the cause of the trouble, and told him to pick his grapes at once.

The season of 1913 was different. It was

dryer than the season before, and there was a scarcity of insects for the birds. This caused them to turn to the ripening fruits for food. My neighbor again complained about the bees. I told him that, if he would keep the birds away from his fruit, the bees

would not be there. You see I had been watching the birds feeding on his grapes before he was out of bed. However, he came over one Sunday to inform me that he was going to make a test case of it, and intended to swear out a warrant for me the next day. I tried to reason with him, and took him to see my grapes. I also read of several cases to him as published in the A B C and X Y Z of Bee Culture. I also told him that he would likely beat me in police court, but I would defeat him in the end in a higher court. Before he left he said he was going to leave it to somebody else to prove that bees damaged fruit, and that he was going to drop it. I thought the trouble settled, and invited him over again.

Contrary to his promise he went the next morning and swore out a warrant for my arrest. He also put out sweetened water and scalded the bees, and poured coal oil on them and killed them in every way possible. I notified the humane officer, and he put a stop to the slaughter at once. However, he swore on the stand that he had killed half a peck of bees. They also made a pretense of being afraid of the bees. This caused me to have some pictures taken to show that bees do not sting when in search of food unless squeezed in some way. My neighbor (if he can be called such) is a politician; and when he found out I had taken the pictures he said it would not make any difference—as much as to say he had the judge “fixed.” The facts are that the judge is a friend of his.

In order to make his case good he went all over the neighborhood and found out all the children that had been stung by stepping on bees. He had their parents subpoenaed and brought into court as witnesses against me. His next-door neighbor, who had some hard feelings against me, swore that he could not sit on his front porch of evenings till bed time on account of the bees. Just think of it, brother beekeepers! what an industrious strain of bees I have, flying around at night and driving my neighbors in at a distance of 315 feet from my apiary!

Another stated that her children were afraid to pick the peaches on account of the bees. That same boy came to my house and looked through eleven colonies of bees while I was away. But when his mother wanted him to pick peaches he was afraid of being stung!

As the trial progressed, everybody thought that I was sure to be discharged. No one could swear that the bees the children stepped on were my bees—in fact, no one could say that the bees that were on the fruit were

my bees. I also proved that my next-door neighbor had bees as well as many others; in fact, I had only about one-fourth of the bees in that district.

I also exhibited fruit that had been in the hive for 58 hours, and not a grape was damaged. After all the evidence had been introduced the judge rendered the following decision:

“There has been a great deal of expert testimony introduced that proves that bees do not injure fruit. On the other hand, there has been more convincing testimony that people have been stung by the bees. However, I want you to get a decision in a higher court, and I will find the defendant guilty, and place the amount of his fine at \$100, which is the minimum amount.” I was placed under arrest at once, and detained in the police station for a time. I gave a \$200 bond, and was released. Strangers to me, when they heard the decision, left the courtroom in disgust. One man was heard to say, as he shook his fist, “Politics! politics! d—d politics!”

Then I got busy preparing for the higher court. There was no law prohibiting the keeping of bees in the city limits. I took several photos of other apiaries, some of which are shown on the map. I live on a plot of ground 125 x 250, and control two other plots of the same size adjoining me on the north. I had 22 colonies. I found one apiary of 100 colonies on a fifty-foot lot in a congested residence district. The picture will show how close the houses were on each side. Does it not look a little strange that I should be fined \$100 for keeping 22 colonies on 2¼ acres while others could keep 100 on a 50-foot lot?

When the trial came up in the criminal court I was well prepared. Mr. J. F. Diemer, of Liberty, Mo., who is also secretary of the State Beekeepers' Association, was present and volunteered his assistance. Mr. Austin D. Wolfe, of Parkville, Mo., also was present as a witness with fruit to introduce as evidence. I had an observatory hive of one frame of bees with a lot of grapes inclosed, as well as a pear and a peach to show that the bees did not damage sound fruit. When my case was called, my lawyer did something that I did not altogether approve of, and without my knowledge. He produced the city ordinance that I was charged with violating, and showed that the city had not proceeded according to law against me, as I had not been notified as required by the ordinance; also that I had not violated the ordinances cited in the complaint.

After Judge Latshaw examined the law he promptly dismissed the case. Many of

my friends who keep bees in the city were present, and what a hand-shaking time we had!

Of all the beekeepers in my neighborhood I am the only one who is really making anything out of bees. The people never see any one else carrying away honey as I do. They also see me on the street cars with bundles of queens in mailing-cages; therefore they seem to forget that there are any other bees than mine; so if a bee gives anybody any trouble it's always mine, and I hear about it.

I use up-to-date methods in caring for my bees, to which I attribute my success. I have supplied my beekeeping neighbors with queens, so it was impossible to identify my bees.

Many of my neighbors were willing to testify for me, and some came and offered their services. I shall always feel very grateful to them for their assistance. While

I should very much have preferred to settle the case on the strength of the testimony, it possibly was better to have it dismissed.

The man who had me arrested stated that he would have an ordinance passed prohibiting the keeping of bees in the city; but we have beat him to it, and the prosecuting attorney has stated that it would likely be unconstitutional.

I have also learned something. The next time any one threatens me with prosecution I will go and see the prosecuting attorney at once, talk the matter over with him in a reasonable way, and that will end the trouble. Any one who is likely to get into trouble should remember that attorneys are ignorant in regard to beekeeping, and are likely to issue a warrant through ignorance, and put one to a lot of trouble and expense in defending himself.

Kansas City, Mo.

## HIGGINS VS. VAN WYE; A MAN WHOSE BEES GOT INTO COURT

BY W. A. H. GILSTRAP

The above action was called in the Superior Court of Stanislaus County, at Modesto, Cal., about 10:40 o'clock, Oct. 24, and was concluded after sunset the same day. The case was of special interest to the beekeepers of the county, and of passing interest to many others.

Mr. Higgins, in his complaint, said that Mr. Van Wye's bees were located near his home on the land of another person (Mr. Garver), and that they came to his pump and trough in great numbers, stinging his stock, his family, his hired help, and himself, causing suffering and loss of service; that he wanted the bees removed, and called for \$400 damages. Mr. Van Wye denied it all.

The case had been thrashed out at the meeting of the beekeepers at the Oct. 7th session of the county club, and Mr. Van Wye was strongly advised to move his bees and avoid a suit. He in turn insisted that we should help him in the suit, as it was ours as much as his; for if he could be made to move his bees when some one wanted him to, others would have to do so, and there would be no place left to keep bees.

During the trial it was clear that Judge Fulkerth wanted to get at the exact facts and the proper remedy for the trouble. At a remark from an attorney the judge said in substance, "Bees are lawful property, and beekeeping a good business. What the court must determine is what the conditions in this case are." He asked more vital questions than the lawyers, perhaps.

The plaintiff said he fought the bees with his hat till he was exhausted; that they stung him and made him so nervous he could not sleep; that in striking at a bee with an oiler he struck near his eye and made a bad wound on his face; that he thought he would be in the insane-asylum in three months if the bees stayed there. The bees were located there in June, 1912, and he had offered the defendant a location on his place further from his house, where they would not bother him so much, but defendant would not move them. When questioned he admitted his health was poor before the bees were there.

Mrs. H. said she was stung three times the day before the trial; that the bees scared her by getting in her hair and clothes, agreeing with Mr. H. that their little girl had been laid up by beestings, but denied that Mr. Higgins was made nervous by the stings, saying she was the "nervous one."

A man 25 or 30 years of age, perhaps, was the best witness for the plaintiff. He lived near, and was stung on the temple while working for Mr. H., and lay unconscious for some time in the alfalfa. He had been stung on previous occasions without serious results, and supposed the results of that sting were from the place it struck him. The bees were thicker at Mr. H.'s place than where the witness (I forget his name) lived, but at the latter's place they were quite an inconvenience. He was so candid and fair in his statements that a person would have to believe what he said.

Willis Lynch, our county inspector, and J. G. Gilstrap, who had tried hard to keep the case out of court, gave long testimony about the location of the bees, their management, variety, what should be done with them, etc. The apiary was about 590 or 595 feet from the well, 100 feet from Mr. H.'s hog-corral. The only water provided for the bees when the case came to trial was a tub about a third full, in which was a grain sack on a float of some kind, probably a redwood board. The water was stale, and unfit for bees. There were no trees or other screen between the apiary and the well, except a partial screen of weeds part of the year, while the bees were located on ground too high to irrigate.

Several witnesses not mentioned were called to the stand, and several more present did not testify, as it was late, and the evidence was sufficiently clear.

When all the evidence was in, the judge said it was clear that the bees were an inconvenience, and they would have to be moved; that the plaintiff was unnecessarily

nervous, but had suffered no financial loss, and the court could grant no damages; that he did not wish to work any unnecessary hardship on the defendant, and wished to know how soon he could conveniently move the bees. Mr. Van Wye would not answer directly, as he did not know that he could get another place for them. The judge informed him that bees are entitled to protection, but human habitation is of first importance, and suggested 30 days as the limit. The defendant preferred a rainy day late in the winter if they had to be moved. Then the decree came that the bees must be moved far enough from the plaintiff so that they would not annoy him, by Nov. 15.

Judge Fulkerth said, in summing up the case, that such little cases should not come into court, but should be settled as neighborhood affairs. He warmly commended J. G. Gilstrap for trying to keep the case out of court. Mr. Van Wye has the costs to pay. He had a Modesto lawyer, also one from San Francisco.

Modesto, Cal.

## BEEKEEPING FOR PROFESSIONAL FOLKS IN CITIES

BY W. M. COPENHAVER, M. D.

It is very important and very necessary that all who are closely confined by office work of various kinds find, sooner or later, some outdoor attraction, be it some of the various athletic sports or some such work as gardening, chicken-raising, etc.; and the more intensely interesting such livelihood may become, and at the same time proving a source of profit to the participant, the more likelihood will there be of its remaining a source of recreation. In the undertaking of almost any enterprise in life, it seems natural for one to consider the profit to be derived therefrom, and few of us care to undertake any work without the belief that there will be some return for the labor and energy expended. This seems to be human.

After considerable thought and study directed toward the choosing of a side line or "hobby," if you please, suitable for one of sedentary habits, one that would afford opportunity for considerable study, and at the same time bring one in touch with outdoor life, and because of its adaptability to life in a city, I have chosen that of beekeeping.

There are few cities, large or small, where a few colonies of bees may not be kept with more or less profit and a great deal of pleasure.

Dwelling briefly on the profit side of our

hobby, I might say that, for the amount of capital invested, the returns from beekeeping will often show a larger profit for the expenditure than from almost any other enterprise; and as proof of this statement I may say that I started with one colony in the spring of 1908, which was my first year with bees, and increased it to nine colonies, and received 50 lbs. of fancy comb honey as surplus.

In my present location, a town of 16,000 people, where bees had never been kept, two miles from nectar-secreting plants, from one colony, bought the spring of 1912, I made an increase to four colonies, and took 108 lbs. of fancy comb honey.

During the year 1913 these four colonies gave a return of \$15.00 per colony, spring count, with increase to 17 colonies, and \$20 in prizes at the Montana State Fair. This shows in a small way what can be done on a back lot in the heart of a city, and proves the statement that, besides pleasure, there is also profit in keeping bees.

But there is the more important side of beekeeping for the individual of sedentary habits than that of profit. I refer to the thoroughly absorbing subject of the study and manipulation of these very interesting inmates of the hive. One can not become interested in the study of the habits and life

of the honeybee without also becoming interested in plant life; for the life of the bee is so intimately associated with that of the flowering plants, especially those that produce honey and pollen, that the study of the former enlarges into that of the latter.

When weary with office cares and the ills and woes of others, how quickly one forgets himself and all else while manipulating the busy bees and studying the many wonders of the hive. So absorbing are their activities that one gains thorough relaxation, and returns to his work refreshed through this relaxation, and exhilarated by the enthusiasm which bee culture inspires. I have found the subject of beekeeping very fascin-

ating, and an ever increasing interest seems to accompany its study. It seems to be specially suitable for professional folks, because the work connected with it can be performed at odd times, and does not need constant attention. If one must be away for some time the bees move quietly about their duties, regardless of our absence.

The subject of beekeeping is not all written as yet. New problems and new conditions are continually arising, and many surprises are in store for the apiarist. All in all, the student will find it a fascinating study, and much recreation and relaxation in it from office toil.

Helena, Mont.

## BEEKEEPING IN THE LARGEST CITY IN THE WORLD

BY D. M. MACDONALD

Perhaps London is about the last place in the world in which successful beekeeping might be looked for; yet it is an undoubted fact that, within a few miles of the very center of the city, it has been made to pay. I have seen small apiaries on the flat roofs of buildings, one in a beehouse, and several in observatory hives fixed in windows, and I have been informed of scores of apiaries all over the metropolis.

In some respects London is the Mecca of beekeeping in the British Isles. A very large proportion of the honey grown finds its way to its markets. Our leading appliance manufacturers and dealers are located there. Our monthly and weekly bee journals are published there. Three of the leading shows are held within its boundaries—the dairy, the grocers', and the confectioners'. To these all the best samples of honey which have stood first at local and county shows gravitate as a natural center for final adjudication. Our new Government Apiary and Lecture Rooms, carried on under the Development Grant, are located at the Zoological Gardens, Regent's Park. The British Beekeepers' Association has its library, reading room, and offices in the Strand, where all the business is transacted, and there country visitors interested in apiculture call, when in the capital, to talk bees.

No large apiaries exist within the metropolitan area, but countless small ones are carried on for either pleasure or profit. A single hive may, under exceptionally favorable circumstances, yield from 100 lbs. upward, and I am able to cite one case where 180 finished sections were obtained, and sold for 24 cts. each, thus yielding a return of \$43.75. It is more interesting still to learn that right in London, only 3½ miles from

Oxford Street, a fair-sized apiary can be carried on over a series of years, and that it can be made to pay. One beekeeper with two hives had a total return of all but 1000 lbs. in eleven years, and he would have exceeded it but that in the last two years he had foul brood. He had an average of 51 lbs., leaving out this period. On three occasions he had 100 lbs. surplus.

Mr. Baden-Powell keeps bees at Hyde Park Corner, in the very heart of London, and they not only keep themselves, but secure some surplus. Some of the hives over the metropolitan area are of the observatory type, and are kept in the drawing-room window where they are a center of interest to the lady owner as well as to numerous visitors, who very much enjoy seeing the bees and their wonderful works.

Bee lectures are frequently given in various parks in the metropolis, and of late the cinematograph has been considerably utilized to spread a knowledge of bees (and, incidentally, of honey) in places where the bee and its product were perhaps never before heard of. Recently 2000 children from twenty metropolitan elementary schools came with their teachers, in batches of about fifty, and had half-hour lessons on the bee. The observatory hives shown proved intensely interesting. Seeing the queen was a delight; observing the bees' tongues sipping up syrup was much enjoyed, and hearing of that marvelous weapon the sting proved very fascinating to the youngsters. The *Telegraph* and the *Daily Mail*, two of London's leading dailies, devoted a large amount of space to bees and beekeeping a year or two ago. They even kept hives on the roofs of their offices, in the very center of the city, and issued daily bulletins in the season



of the bees and of their doings. In this way they did much to popularize honey, and drew the thoughts of many to the marvels of the hive interior. Very many suburbanites started apiculture, and a beekeeper who went out and in among these, reports records of 60 lbs. of sections; 108 well-finished sections, and a host of 40 to 50 lbs. surplus. Swarming was not troublesome, as special precautions were taken to avoid it.

These crops were obtained near Tooting Common, some miles from Epping Forest, Nimbledon, East Ham, Hyde Park, South

Kensington, Battersea, etc., and most of it was gathered from lime, plane, and fruit trees and bushes; but a good share was from mixed sources. Racks of sections were taken off perfectly completed, in some cases, in May. Queens have been mated in the city, and turned out quite prolific mothers in the early days of June. Proposals have been made from time to time to start apiaries in the public parks; but the initial cost, and the difficulty in finding qualified care-takers prevented the idea from bearing fruit.

Banff, Scotland.

## SOME DRAWBACKS CONNECTED WITH BEEKEEPING IN A CITY

BY HENRY REDDERT

There is no difficulty in keeping bees in or around a large city, provided the beekeeper is democratic and diplomatic. By democratic I mean that he should assure the same rights to his neighbors that he himself would demand if he were in their place. It goes without saying that bees at times will cause trouble to the surrounding population. Here is where diplomacy comes in. The beekeeper should be ready with adequate explanations for any trouble, however great or small, that causes discontent among his neighbors. I have had sufficient experience along these lines to know whereof I speak. I have often read something running like this: "I never have any complaints about my bees from the neighbors;" or, "My bees never sting any one in our neighborhood," and similar remarks. Notwithstanding these assertions, the fact remains that bees do sting the neighbors sometimes, especially during the honey harvest. Some people being stung are too modest to complain; others set up a yell like a stuck pig. But just let them be sweetened with a pint or so of honey, and all is well. In due time the neighbor will begin to ask questions about bees, honey, etc.; and if the beekeeper is a good conver-

sationalist he'll soon have them on his side, and glad to know all about bees and the good they do to humanity.

I once had a neighbor who complained that my bees were puncturing all his pears. The fact is, he never had such fine pears before my bees pollinated the blossoms of his trees. This he admitted. After I explained the causes that led to the punctures (birds or hornets), and the good bees do in pollinating the blossoms, he said, "Let the bees come over as much as they please."

I do not approve of keeping bees in an attic, tower, or housetop. The least scent coming from the windows of adjoining buildings during fruit and berry preserving time brings them by scores around the windows, trying to get in, consequently annoying the inmates, which finally leads to condemnation. These and similar circumstances should be considered when one embarks in the bee business. With this in mind, and a fair knowledge of the nature of bees from text-books and bee-journals, with nerve thrown in, I don't see why any man or woman who loves nature should not keep bees.

Cincinnati, Ohio.

## THE CITY BEEKEEPER CREATES A LARGER DEMAND FOR HONEY THAN HE CAN SUPPLY

BY L. D. MARTINE

Some of the professional beekeepers may feel that this special number will do them an injustice by encouraging beekeeping in cities, as that is where they expect the demand for their product. Others, no doubt, will feel that it does not affect them, as they sell to the jobber. Both, however, are mistaken; for what affects one in this case will also affect the other, as it is the demand

made by the consumer that regulates the price received. The question is, "Will the city beekeeper increase the demand, or merely help supply what already exists?"

At present, the consumers depend on the grocers mainly to supply them with honey, so these grocers are the agents, either direct or indirect, of the honey-producers. He places the honey on the shelves with other

supplies, and awaits the demand for it. He knows it is honey, and that is the limit of his knowledge regarding it. The patrons who buy it know very little more, and recognize it merely as a sweet. These are the conditions that have existed for many years; but a rapid change is now going on, and this is due to the progressive city beekeeper.

The best advertisement he has is his bees, and he can make a great deal more by working them to create a demand for bees and honey than he can by producing honey. There is better material for him to work on than there is for his bees. Almost any one living in the city becomes deeply interested when told some of the wonderful habits of the bee, and will appreciate an invitation to the city beekeeper's yard where the latter explains every thing about the bees, and also about the honey—the way it is gathered, the process it is put through which makes it easily digested, etc. The beekeeper in this way creates a desire for honey that never before existed; and since the bees are shown

to be not "savage little creatures," he is apt to make a beekeeper, a honey-eater, or at least a good advertiser out of each visitor. He will then find a demand for his honey.

A good grade of honey in the homes of the people he has educated to its food value is highly appreciated, and the honey-eating habit is encouraged. It is wonderful to note how much such homes will consume, as it proves both economical and healthful; and the city beekeeper will be making sales to many he has been recommended to; and before he realizes it he will find himself in a profitable independent business as a side issue.

No doubt many beekeepers in cities have never realized these opportunities that are open to them. Others will think it too good to be true; but it is being worked out successfully by the writer, who feels that the city offers greater opportunities for beekeeping as a side issue than the country does as a profession.

Cleveland, Ohio.

## FROM ONE COLONY IN A CITY TO A SERIES OF THREE APIARIES

BY J. P. MARTINE

In 1904 my health was such that my physician advised me to give up my court work—official court reporter—for a time, and take a complete rest, which I did. After a rest of four months he told me I could take up my court work if I would get interested in something that would give me outdoor exercise and take my mind completely off my court work each day after leaving my office. Following a friend's advice I purchased a colony of bees; but having no yard space I placed the hive upon a shed. The part of the city in which I live is thickly populated. My bees swarmed within two weeks after I got them; but I hived them, and they gave me between thirty and forty pounds of honey that season. I spent considerable of my spare time watching and studying the bees, and my health improved from the time I got them.

My bees continued to increase each year until I had eight colonies on the shed, and they never failed to give me considerable honey each season. In 1910 I had had such success in getting and disposing of my honey that I concluded to increase my bees enough so that I could devote my entire time to the bee and honey business. I therefore increased and purchased bees until I had 35 colonies in an outyard I had started 12 miles above the city. In 1911 I made arrangements to handle bee-supplies, and in 1913 my business had grown to such an

extent that I resigned my position as official court reporter, rented a store in the central business portion of the city, and am now devoting my entire time and attention to the supply business and bees and honey.

I now have three beeyards, and handle the three-banded Italians exclusively. Every Saturday during the summer I have from fifteen to twenty-five persons at my middle yard—just inside the city limits—and demonstrate to them the manner in which the bees are handled and how the honey is produced, taken from the hives and extracted, and I never fail to have an appreciative audience. I have also taken out whole classes of schoolchildren. I still keep bees on my shed, and while they have to go quite a distance to get to the clovers, when it comes to gathering honey they hold their own with bees in either of my outyards.

Louisville claims a population of 275,000; and I am personally acquainted with quite a number of persons who keep bees—some of them in the very center of the city—and their bees will average as much honey as the colonies in the country. They are kept in attics, stable-lofts, on sheds, and in yards, by professional men, merchants, and mechanics, and seem to do about as well in one place as another. I have completely recovered my health, and my physician says it is principally due to my working with the bees.

Louisville, Ky.

## Heads of Grain from Different Fields

### 650 Pounds from Four Colonies in Detroit

The past season has been a good one. I increased from 4 to 10 colonies, and have 650 lbs. surplus. The honey is mostly from sweet clover.

Detroit, Mich., Oct. 27. FRED KOEPPGEN.

### A Large Yield in a City of 100,000

I have 13 colonies in the rear of my city lot; and while I had a very good crop of honey last year I could have sold twice as much if I had had it. The buyers come to the house to buy, without my making any effort to sell. They seem to think that honey produced in a city is a great novelty.

Youngstown, Ohio, Nov. 28. J. R. MCCURDY.

### Bees to Educate Three Boys

I had seven colonies in the spring, and took off over 500 lbs. of comb honey, and increased to ten colonies. I bought ten more hives for next year. I am absent from home two and three weeks at a time; but by shaking my colonies I did not lose a swarm this year. I hope to make the bees educate my three boys. I am glad I have been led into such a pleasant and profitable avocation.

Brownstown, Ind., Nov. 18. D. F. RANKIN.

### Four Colonies on a City Lot 75 by 120 Feet

I will try to tell about my success last season. Last spring found me with twelve strong colonies in fine condition on a city lot 75 x 130, four squares from the courthouse on one of the main streets. From these twelve I took 1307 sections of honey made from white clover, sweet clover, and buckwheat. This was all sold to the local trade, without advertising, at 20 cts. per lb., which netted me \$210.25. Besides this I sold \$34.50 worth of bees. I consider this doing very well, taking into consideration the small amount of time I had to give to them, which was in the morning before going to work, and after six o'clock at night.

Columbia City, Ind. FRANK LANGHOR.

### Increasing 3 Colonies to 17 in Two Years, and Securing 2100 lbs. of Honey, all on a City Lot

We live in the city on a lot 40 x 120. We have a chicken-coop on the back of the lot, with a good-sized yard to it, and in this yard we keep our bees. A year ago last fall we put five colonies in the cellar and lost two of them. The other three were in pretty good shape, and that summer we took off 500 lbs. of comb honey and got 8 new swarms. I put the eleven colonies in the cellar in the fall, and last spring we carried out the eleven, all in good condition, and this fall we quit with 17 swarms, and I took off 1600 lbs. of honey—800 lbs. comb and 800 of extracted honey. We had one little after-swarm come to us the latter part of June. I built it up and took 106 lbs. of comb honey from it, and the bees had plenty left to winter on.

Madison, Wis. F. D. JOHNSON.

### What can be Accomplished in Four Years

Perhaps it would be interesting to know that, four years ago next spring, I placed an advertisement in GLEANINGS, seeking a position on a honey-ranch. I landed here at Elso with just \$50 in my pocket. I went into partnership with Henry Willis of this place, and bought 50 stands of bees, he furnishing the capital. Last fall I bought out his half interest, and I now have, all my own, about 250 stands of bees

which produced nearly 20,000 lbs. of alfalfa honey the past season; about 200 extra hives, frames with full sheets of foundation, 1000 supers, both extracting and comb—the former with either full sheets of foundation or combs drawn out; one bee-cellar, one honey-house, large power extracting-outfit, one I. H. C. auto truck, and one 50-horse-power Springfield roadster for joy-riding. Last, but not least, I have a honey market which will take at least 40,000 lbs. of honey a year. Can any one beat that?

Elso, Mont., Jan. 24. A. H. BELL.

### 807 Sections from Six Colonies, in Auburn, N. Y.

The inclosed report is from my notebook, telling the date and number of sections taken from each hive. The sections were all fancy, No. 1, and a few No. 2. I also have over 100 unfinished sections that I expect to use for baits. Hive No. 6 is a stray swarm that clustered on our hospital porch June 14, to which I gave all brood from the other hives, using Doolittle's plan described in "A Year's Work in an Out-apiary."

Hives	1	2	3	4	5	6
July 4, sections.....		32	42	20	70	
July 12, sections.....	36	26	35	26	50	43
July 20, sections.....	21	48	22	36	15	
August 23, sections....	40	42	37	30	42	44
September 20, sections..		20	10		12	8
		97	168	146	112	189

Total, 807 sections from 6 colonies.

Auburn, N. Y. MRS. JOSEPH RAESLER.

### Castor Beans for Shade for Bees on a City Lot

I am only a backlot beekeeper, located here in a city of 30,000 inhabitants. Here one has many things to contend with that the man out in the country is free from. In the first place, we must not place the bees too near the house or the walks in the yard, or the "boss" of the house is liable to put in a vigorous protest. The neighbors have to be taken into consideration also; and to keep peace with all, and have the bees well located as to sun and shade is no easy problem with the limited space at hand.

I keep my bees in a small house, 6 x 10 ft. This provides the required shade; but in the house the light is poor and one can't see to work with the bees to advantage. Last summer I planted some castor beans sent me by a friend from the Botanical Gardens, Washington, D. C. I planted the seeds about five feet south of the fence on the north side of the lot; and when the plants started to grow, "Jack and the Beanstalk" were distanced a mile. The growth was very rapid and strong; and when the trees came to maturity they were from 6 to 8 feet tall, and some of the leaves were 2 ft. across.

I had a bracket on the fence to place a hive of bees on. The trees shaded this stand very nicely, and made an ideal place for one colony. The shade suggested to me that this would be a good opportunity to use the plants for other than ornamental purposes, and also an easy manner to get the desired shade when the hive-stands are in exposed positions. The plants can be trimmed from time to time; and as the season advances, if more sun is needed, say in September, cut the trees down.

I call the plants "trees" for the reason the ones I had were trimmed just as one would trim a shade-tree. I have promised to furnish seed to a friend out in the country about ten miles. He has 100 colonies of bees, and very little shade for them in the beeyard.

La Crosse, Wis., Jan. 17. THOS. D. BUDD.

### Sources of Honey around Portland, Oregon

I am not as yet a beekeeper, even on a small scale; but I hope to get a few colonies next spring. My work is very confining, and I shall not have a great deal of time to devote to bees, nor can I have room to keep very many of them; but with, say, five colonies (as I plan to start with five) I should be able to get some increase as well as a fair surplus of honey.

The part of the city in which I live should furnish good bee pasture, as there are lots of wild flowers in addition to dandelions, dogwood, and white clover. On the hills above us are myriads of dogwood, wild blackberries, thimbleberries, wild strawberries, wild peas, and numerous other flowers that I know no names for. In addition there are hundreds of acres of hazel brush that I suppose would furnish pollen enough for all the bees in the State.

On the open places on the hillsides, and down on the lower lands, including lawns, white clover and dandelion grow in profusion; so it looks to me as though I am admirably situated for keeping a few bees. We also have a kind of thistle here which bears a (matured) burr similar to the cocklebur (the blossoms are of a kind of shaving-brush shape, of the ordinary thistle), which must be a good honey-plant; for during the summer I noted one plant on which bees were working; and while I can not say how many of them, I would venture a guess at about fifty.

Portland, Ore., Oct. 17.

D. C. MILLICAN.

### Bees in an Attic

I have a large attic in my house some 10 feet high in the center, and 36 feet wide, with sloping roof. It is perfectly dry. The house faces the north and south. I have been told that this would be a good place to keep bees. It is in a good residential section where there are plenty of white-clover blossoms all summer. Any assistance you may be able to give me will be greatly appreciated.

Cleveland, Ohio, Nov. 8.

W. D. FRASER.

[There is no reason why you can not start beekeeping in your attic as you suggest. About the only objection to the plan is that it is a little inconvenient to take supplies up and down, and it is also a little difficult to manipulate the bees without having a good many of them fly out around the room; and as they can not find their way back they become lost.

The first objection named need not be a serious one if the work is planned as it should be; and the second objection can be overcome if the hive or hives can stand by a window, which, during the summer at least, is removed entirely. In the fall you can replace the window, allowing the bees only a small entrance, and the colony will winter very nicely, since the hive is well protected.

If your attic has a south window this would be the window in which to locate the colony of bees, for it pays to select a sheltered window if possible.

A great advantage in having the bees located in the attic is that they are up so high that very few persons will ever know you have any bees, and no one is likely to be troubled by them. There is hardly a city in the country that does not have a number of colonies of bees located in attics.—ED.]

### If a Beekeeper Wishes a Larger Income Let Him Get More Bees

I have just read Mr. O. L. Hershiser's article, p. 29, Jan. 1. To a beekeeper who wishes to make the most out of his bees I would say that I would not advise him to take on another line in connection

with the bees. About two years ago I went into the machinery business as a side line, and thought perhaps that with a helper I could attend to the bees and at the same time make good with the machinery. Before I took on the machinery end of the deal I was averaging from \$4.50 to \$6.00 a colony per season. Owing to the honey-flow and weather conditions I run mostly for extracted honey, but have found that since I have been doing both the bees have not averaged me over \$4.00 per colony, because they have not had as good care. I find there is always something to do around the beehouse or apiary at all times for the betterment of the bees as well as to the profit of the keeper.

Any one who wishes a larger income than at present, and who has a few hundred dollars more to invest, will do well to put on a few more colonies of bees. He will be better satisfied in the end, and will have more dollars in his pocket.

I have seen king-birds eating bees by the hundreds when there were no drones in the yard to speak of. I also have shot these birds at different times, and found worker bees in their crops in great numbers. If these birds are allowed to hang around the apiary in great flocks, as I have seen them, they will weaken the working force of every colony.

Haskinville, N. Y.

M. C. SILSBEE.

### A Good Record from Kansas

About May 1, 1913, I bought four colonies of Italian bees, paying \$20.00 for the four, and \$3.00 extra for fixtures. I brought them home and set them on places I had provided for them to stay all summer. The hives were in fairly good condition as to strength when I got them. About June 1, or with the commencing of white-clover bloom, I worked them according to the Alexander plan of increase, leaving the queen with one frame of brood and nine frames of foundation in the body below with queen-excluder over them. I set the old body with brood on top, then let them alone for nine days. On the ninth day I looked through them. The brood was all capped over, and three of the four had plenty of nice queen-cells capped over.

One hive had not started any queen-cells, so I let them stay as they were. One of the hives I did not think quite strong enough to divide. I cut out all queen-cells and let them alone without making any division. From the two other hives I set the top body off on new hive-stands. So you can see my increase in that way was from four hives to six. However, I formed a nucleus later on and built it up to a fairly strong colony by cold weather.

I worked the bees for extracted honey; but the drouth cut down the white-clover and sweet-clover crop about half, if not a little more than that. The season was so dry we did not have any fall honey—only a little which they got from the river bottoms, which are about two and a half miles from my place. However, my bees made a living after the clover gave out, but nothing more, up until frost. I know they got it from the river bottoms, as there were no live flowers nearer to my place for about a month or longer before frost. They gathered some surplus during a part of June. I sold \$28.00 worth of extracted honey, and kept three gallons for home use. I sold it at 50 cents per quart, the parties furnishing the vessel into which they put it. My honey weighed full 12 pounds to the gallon. This surplus was nothing to brag about; but the price was good—16 2-3 cents a pound.

This is where the city beekeeper has the advantage of the beekeeper who pays freight, commission, and then gets a low price for his honey. I had customers who came back for more, but I had to refuse them or do without myself.

Kansas City, Kan.

W. A. DILLON.

# Our Homes

A. I. Root

Lay up for yourselves treasures in heaven, where neither moth nor rust doth corrupt, and where thieves do not break through nor steal.—MATT. 6:20.

Seek ye first the kingdom of God, and his righteousness, and all these things shall be added unto you.—MATT. 6:33.

Let us not forsake the assembling of ourselves together.—HEB. 10:25.

They that feared the Lord spake often one to another.—MAL. 3:16.

I have told you how eagerly I questioned every beekeeper and every one I could get hold of who knew any thing about bees when I was first attracted by that runaway swarm. After I had gotten hold of the book "Langstroth on the Honeybee" I became still more entranced with my new hobby. I hired a horse and buggy and hunted up the beekeepers in our immediate locality, but they all had box hives. Some of them had *heard* of such a thing as a queen, but they did not know for sure. At length I heard of an old farmer east of town who actually had his bees in Langstroth movable-comb hives. You can hardly imagine with what haste and anticipation I went over to his place. There they were, sure enough, in his dooryard—a dozen or more hives, just such as I had been reading about in that wonderful book. I can not quite recall, but I think he opened a hive and showed me a queen. Then we two all at once became fast friends.

I soon had some hives made, using one of his for a pattern, besides following the directions in the book. After I had my colony transferred to this Langstroth hive I ordered that \$20.00 queen I have told you about. He asked me several times if I had got them in good shape to winter: "for," he added, "it would be a sad thing to lose a queen that cost so much money, besides being the first Italian bee brought to this region." Finally he went down to my home and declared my poor weak colony of Italians would not *hold out a month*. You see I had experimented with them, making them raise queen-cells, etc., until there were really not very many bees left. By his instructions I purchased a good strong colony and got my queen safely introduced.

At the time of which I am speaking I was manufacturing jewelry, and doing quite a good business. This friend of mine, Mr. George Thompson, was a devoted Christian, and one of the leading men in our nearby Congregational church. As I made progress with the Italians he used to drop in quite frequently to find out how I was getting along with the bees. After we had become quite well acquainted he came into the store one day and said:

"Mr. Root, you are beginning to have considerable property here."

He glanced around at our establishment, and then continued:

"I suppose you have it well insured?"

I replied in the affirmative.

"You have your home insured also?"

I assented as before.

"And your *life* is insured also?"

When I replied as before, he added something like this:

"Mr. Root, I am glad to know it. It has been remarked to me that, although you are making wonderful progress in your work, you are a careful and prudent business man. That is right and good. Now may I take the liberty to question a little further?"

I laughingly replied, "Go ahead, friend Thompson. I am glad to see you interested in my welfare, and I shall take great pleasure in answering any question you choose to ask."

I think that, up to this point in the conversation, I had no intimation of what he had in mind. So far as I can recall he said something like this:

"Mr. Root, you are managing admirably for the things of this world, but what 'insurance' have you for the world to come? What provision have you made for 'the home over there.'"

He pointed up as he said this.

I thanked him, and he hurried away; but although a very busy man at the time with bees and the little factory, watch-repairing, selling goods, etc., his remark kept ringing in my ears. The thought kept coming up like this; and let me put it in language as my good friends down south might say it—"Right smart" of the things of this world, but how about that "home over there"—the unseen world to which we are all hastening? What have you done about treasure in heaven? What progress is being made in *that* direction?

I was forced to admit that a frank and honest answer would have been, "Nothin' doin'." It would really have been true at that time, dear friends, that I paid little or no attention to what was going on in the world outside of bees and business. I was keeping track of the boy Edison, reading the *Scientific American*, and the farm papers that touched on bees; but I did not go to church nor to Sunday-school; and yet at the very time a prayer-meeting was being held in one of the upper rooms of my store. I used to drop in and take a back seat for a

little while, sometimes; but as I was not particularly interested I did not seem to catch on. I presume it was a little later—perhaps two or three years—that our two children, a boy and a girl who went to Sunday-school as regularly as the rising of the sun (thanks to the good mother), began to inquire why *papa* never went to church nor Sunday-school. I have already told you something about how it happened that I “woke up.” I remember vividly one particular Sunday of going to Sunday-school. The superintendent put me in the men’s Bible-class. My friend Thompson was the teacher. I remember wondering how it was that I had never before become intimately acquainted with the members of that class. They were good and bright men, and my heart warmed toward them all. In fact, it was at a time when I was just beginning to love humanity and God the great Creator. I do not think I ventured to take any part in the exercises that day. It was all too new to me. At the close of the lesson the teacher took out a little book and “called the roll.” It seemed at that time (close to forty years ago) that it was the custom in the report to give the number of regular attendants and also the number of visitors. My good friend had his pencil raised from the book a little, and said, “Mr. Root, shall I enroll you as a regular attendant of our class, where you know you will be most welcome? or shall I put you down as a visitor to-day?”

How well I remember the kindly look he gave me. I hesitated a little. It was a crisis in my life. God only knows how *grave* a crisis it was. Years of anxiety and years of turmoil, contrasted with years of joy and happiness hung on my decision. You know, dear friends, I am impulsive, and have been all my life. I finally replied, a good deal under the sudden impulse, and said:

“Friend Thompson, you may put me down as a *regular attendant*; and, God helping me, I am going hereafter to Sunday-school every week in my life.”

I do not know what he wrote down in that little book. It is probably lost by this time; but I *do* remember I felt troubled about it right away afterward. Not only my good friend but toward a dozen others heard my declaration; and above all, and incomparably *more* than all, *God* heard it. I called on him to witness my pledge or vow, if you choose to call it so, that I was going to Sunday-school from that time on, every week of my life. I not only had stepped through, but I had put up the bars behind me. There was no retreat. I could not well ask him and the good friends I met on that momentous Sunday to let me *recall* those

hasty words. There was nothing to do but to push forward; and as I pushed forward my footsteps grew lighter and happier every day of my life. I soon learned there was a weekly prayer-meeting, and my pledge seemed to include that prayer-meeting also. To be consistent it also included the preaching service, morning and evening; and pretty soon it began to be remarked that, if no one else were present, *A. I. Root* was sure to be unless he was too sick and hence could not go. My punctuality has been commented on wherever I have been; and as of late I am really obliged to get up nearer to the teacher or preacher, my invariable presence is more conspicuous. Please do not think, dear friends, that it was only a hobby of mine. A good pastor away out in California once said that, during all his life, he had noticed that those who are crowded up close to the sacred desk are the ones who got the most good; and accessions to the church always come from that part of the audience nearest the speaker. Our pastor has of late been urging at times—yes, vehemently urging—the members of the church to come up in front, and to leave the back seats vacant for strangers or those who do not go to church very often. I can not understand why so many good people crowd into the back seats, away off from the front, when it is such a pleasure for me to get up close to the speaker. There have been spells during all of these forty years when I was too sick to go to church; and sometimes I have ventured to go when the rest of the family remonstrated, and I always feel better after going to church, Sunday-school, or prayer-meeting, and it *is* a good thing for the *health* to meet with God’s people. I feel sure it has been the means of prolonging *my* life—my regular habit of being on hand at religious worship. Out in California, away up in Michigan, and one time down in Florida, my friends informed me that there was no Sunday-school; but in all three places I managed to have at least a sort of Sunday-school when the time came around; and in at least two of the places a church has been built up where I started a Sunday-school. Assembling with God’s people on his holy day *is* laying up treasures in heaven. Giving your money and your time to the cause of temperance, repressing gambling, the white-slave traffic, and all such evils, *is* laying up treasures in heaven. If men do not tell you so, the Holy Spirit will. What do the baubles of this earth amount to compared with “treasures” laid up “where moth doth not corrupt and where thieves do not break through nor steal”?

## High-pressure Gardening

### HAVING THE GROUND ALL OCCUPIED.

After our "high-pressure" soil has been carefully tile-drained, worked up fine, with all trash plowed or spaded under, manure and fertilizer worked in, it is of the utmost importance that we have a plant of some kind, wherever there is room for a plant. Down here in Florida sometimes *one hundred* dollars' worth of fertilizer is applied to a single acre. Now just think what folly it would be to have "missing hills" or spaces where nothing is growing in the rows! worse still where only weeds are allowed to grow. I have recently spoken about saving your own seed so as to have every kernel of corn that is planted come up; but this can not always be done. I have also spoken of planting field corn, not only the second time but even the third; but this last planting usually gives only fodder, which is better than nothing. I have also told you about what a crop of white beans we secured, with no cost except the price of the seed and the labor of planting them when the corn failed, or when the crows pulled it up. One season we raised several bushels in this way, and they were sold to our factory help for a good price as soon as they ran out from the thrashing-machine.

Well, in truck-gardening there have been many attempts to grow something of value wherever there happened to be missing hills, or perhaps a space to get in a *row* of something. Cabbage-plants are often put in; but, as is the case with white beans, when the main crop is off, the cabbage or beans, or something else, may not be ready to harvest. Let us consider a moment the importance of having another crop occupying the high-priced ground the *very day* the first crop is removed. I remember, years ago, telling Mrs. Root one morning to take a good look at a fine patch of Early Wakefield cabbage. Said I, "Sue, before sundown every cabbage will be off, and the ground covered with growing strawberries." We did it; and by the aid of a transplanter I had invented, scarcely a strawberry plant wilted. The above illustrates finely the advantage of filling vacant spaces with something that can be all cleaned off the "minute" the main crop is harvested. Here comes in, "gentle reader," my latest "new discovery." Dasheen will fill the bill, for it is *always* ready to harvest, the easiest thing to transplant, and, if you want further proof of the value of growing shoots for food, read the following from a bulletin just issued from the Department of Agriculture by our good friend Prof. Young. I

have already spoken of the difficulty of keeping the large central corms after being dug, and this solves the problem. The bulletin is entitled "The Forcing and Blanching of Dasheen Shoots," and contains five beautiful cuts. I quote as follows, omitting the cuts:

As the growing of the dasheen as a tuber crop begins to assume commercial proportions, it seems desirable to make available to growers and others who may be interested the details of a special treatment of the corms (large spherical tubers) by which a delicate fresh vegetable for winter use may be obtained. Credit is due to Mr. P. H. Dorsett, of the Bureau of Plant Industry, for the original suggestion of raising the shoots in this way. Other workers associated with the bureau have also contributed helpful suggestions during the process of the experiments. Acknowledgment is also due to Dr. J. H. Kellogg, Battle Creek, Mich., for carrying out the extensive greenhouse-bench experiments illustrated in this paper.

The young blanched shoots of the dasheen make a very tender and delicious vegetable and are used much like asparagus. The flavor is delicate and is suggestive of mushrooms.

### CULTURE.

To obtain the shoots, corms, weighing 2 to 3 pounds or more, are planted in a fairly warm place in very moist sand or sandy soil. A half-and-half mixture of sand and ordinary potting soil has given good results. Wet sphagnum moss has also been used, but the sandy soil is probably better. The corms are just covered, the terminal bud being at the surface. Provision must be made for keeping the shoots in total darkness from the time they begin to grow. Water should be supplied often enough to keep the sand or soil continuously moist.

Several ways of forcing and blanching dasheen shoots have been tried, and all have been successful in that satisfactory shoots were grown. In any instance, however, in which the raising of shoots is to be undertaken, the method best adapted should be selected. In the first experiments made by the Department of Agriculture, both sand and sphagnum moss were used in which to plant the corms. In one of these, blanching was accomplished by keeping the shoots covered with sand, while in the others a frame covered with several thicknesses of burlap was used. The boxes in which these experiments were carried on were placed in a warm greenhouse on a bench that was supplied with bottom heat.

Neither of the foregoing methods is adapted for use where the production of shoots on a large scale is desired. For such a case, provided the weather is not too cold and a suitable greenhouse is available, a bed may be prepared under a bench. The space may be darkened by hanging several thicknesses of heavy paper or burlap from the sides of the bench. This plan is suited to the spring of the year, while those methods by which bottom heat can be applied may be used at any time after the corms become available, in the late fall or early winter.

The method which is probably best for large-scale production is to use a raised bed provided with bottom heat. A cover practically light-proof and with sides 18 to 24 inches high, is required. The temperature inside this should be about 70 degrees Fahr. The soil (or sand) should be a little warmer, say 80 degrees. To obtain this temperature it is best to enclose partially the space beneath the bed.

The first crop of shoots is usually ready for cutting in 35 to 40 days after planting. From 6 to 10 cuttings can be made at intervals of 10 to 14 days, depending upon temperature and the size of the

corns used. The shoots are cut close to the corm, and, as far as practicable, before the leaves begin to expand. They will then usually be 8 to 16 inches long.

After the corns become exhausted, which is indicated by the weak growth of the shoots, they are discarded.

Out of doors in a warm region, as in Florida, the corns may be planted in rows in sandy soil, and the shoots blanched by ridging up the soil as growth progresses. Instead of ridging the soil, boards may be used, as in blanching celery, but the shoots must not at any stage of their growth be exposed to light for any considerable length of time.

Our readers of last year will recall that these bleached shoots were frequently mentioned. Well, in digging our dasheens in November it was rather difficult to get out every small tuber, and, as a consequence, they are all the time coming up here and there. As the garden was spaded pretty deep, many of these "volunteers" have long bleached shoots before they get up to daylight, so we have the "asparagus dash-een" for just digging them out.

About two weeks ago neighbor Rood said some stable manure would help my stuff on the new ground, and I bought a load (\$3.00). Well, after it was well worked in with a hand cultivator we had a very heavy rain, and this manure, in addition to the commercial fertilizer, just "hid" the buried dasheen tubers, and their ivory-white shoots are now sticking out all over the garden.

#### NORTHERN-GROWN SEED POTATOES FOR THE FLORIDA TRADE.

In order to give you just a little glimpse of the traffic in growing seed potatoes for the Florida truckers I clip the concluding paragraph from a letter from a very good friend of mine.

Florida is planting an immense acreage to potatoes this season. Our potato sales into Florida for planting alone must exceed 50,000 bags of 150 lbs. each, since Nov. 1, 1913. I am keeping my eye on the dasheen, and expect to be selling them (southern grown, of course) within two years at least. Our seed-potato trade includes Texas, Florida, Louisiana, North and South Carolina, Georgia, Alabama, Virginia, New Jersey, and Delaware.

Malden, Mass., Feb. 6. EDWIN E. HARRINGTON.

One of the first things we did when we got here in November was to plant some potatoes in the garden, and we have been planting more and more as fast as the ground was ready; and if you could call on us *now* (February 10) I would show you the finest-looking potatoes I ever saw, and the new ones we are now digging are as fine as they look.

#### FROM PRODUCER TO CONSUMER.

The following hits so many nails squarely on their respective heads, we clip it entire from *Farm and Fireside* of Nov. 22:

#### SELLING HIGH CLASS HONEY

By K. E. Hawkins

"George, I'll give you fifteen cents for all the honey you'll bring me this year," remarked the groceryman to a steady farmer customer.

"Not on your life," was the ready reply. "Why should I sell it to you for fifteen cents when I can get twenty for all I have, and more too?"

There is the rub with the farmer beekeeper. The storekeeper, the commission man, and a dozen others fleece him out of half he might make in the honey line, and it's usually his own fault. This man sells his honey to private customers, getting the best retail price for it, instead of turning it over to the storekeeper at five cents less a pound. True it means a little more work, but work brings its reward.

#### PURE HONEY HAS A DEMAND.

When your honey crop is ready ask your wife to put a case or two in the buggy when she goes to those private customers with the butter and eggs. They are always glad to get honey the purity of which is assured. Then, too, they always pay top-notch prices, as they do for the good butter. I know one farmer's wife in Illinois who makes one trip to Joliet every week of her life with butter and eggs. Her husband has nine swarms of bees, and this very year the product of the bees has been over one thousand sections of marketable honey. Nearly every private customer, and they have many, in Joliet, has ordered a case of honey from the sample she showed along with the butter and eggs. Nearly every customer had a neighbor or two who bought some of the product when they saw it, and were told about it by their friend.

"After I got home last night wife made hot biscuits, and we had some of that honey you gave us. Say, it was good. Can't you send us twenty pounds by parcel post?" might well be the text of a letter to a farmer from a friend. The new rate would allow the sending of twenty pounds for fifteen cents within 150 miles from the farmer's postoffice. Every farmer has many relatives and friends he can drop a line to, and sell a great deal of honey this way. In fact, I know of an Iowa farmer who has already shipped some five hundred pounds this way, solely on orders got from letters written to friends who knew by experience the value of his products.

#### WHERE THE MAN HIMSELF IS IMPORTANT.

The whole thing is marketing it yourself, saving the middleman's and several other betwixt men's profits on your own goods. Get a small rubber stamp, and stamp your name and address on each section. You will be surprised at the number of orders it will bring. Be sure your honey is clean, and that the surface of the sections is cleaned. Appearance forms an important price in grading, and grading makes the price. Don't sell combs which are broken and leaky. Poor honey on the market lowers the price of all other honey there. Most people will buy any thing because it is cheaper. Poor honey is always put out at a lower price.

I am pleased to note there seems to be just now an unusual movement to get *producer* in touch with *consumers*. Even the manufacturers of poultry-netting and fencing are offering to send fencing direct to farmers, and, more still, no pay until 30 days' trial. The Kitselman Fence Co. (see advertisement) send their fencing anywhere, and if not satisfactory in price and in every other respect they pay the freight back again. Send to Muncie, Ind., for their elaborate catalog.

#### "TERRY AND TEMPERANCE."

*Friend Root*:—I shall be 77 years old next February, and have practiced Terry's methods for years, and do almost as much work now as I did 40 years ago.

Doesn't it do you good to see how the drys are gaining? We have a real President at Washington now.

Belleville, Ill., Jan. 26.

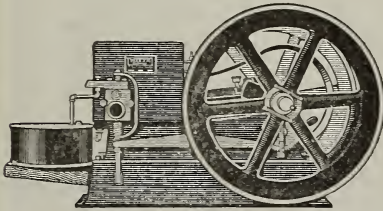
E. T. FLANAGAN.



# Now! Let me send you a WITTE Engine to earn its own cost while you pay for it.



**D**ON'T break your back or waste time doing an engine's work. Iron and steel are cheaper than muscle; and kerosene oil, cheaper than time. I furnish the power of 10 men's work for 3½¢ an hour; 30 men's work for less than 80¢ a day, cost of engine included.



## WITTE ENGINES

### Kerosene, Gasoline and Gas

Made in sizes 1½, 2, 4, 6, 8, 11, 12, 15, 20, 25, 30 and 40 H.P. Stationary, Portable, Skidded and Saw-rig Styles. Standard the world over for all shop and farm power uses. Over 27 years ago I made my first engine and gave it my name, and ever since I have kept the active building of every WITTE engine in my own hands. I know every engine I ship, inside and out, and am making lower engine prices than this country has ever seen, while delivering engines that can't be beat.

### 60 DAYS FREE TRIAL

#### 5-YEAR GUARANTY

Why take chances on a poor, or an unknown engine for any price when the WITTE is so cheap; when it is sold on any easy reasonable payments; and under a stronger money-back guarantee than any manufacturer has ever yet dared to sign?

### SEND COUPON for MY BIG OFFER

Let me send you my Free Book, the finest in the whole engine business. Learn the cost of past high prices, and why I can undersell the whole field, and giving unmatched quality. Let me tell you by return mail how easily you can own a WITTE.

**Ed. H. Witte, Witte Iron Works Co.**  
1932 Oakland Avenue, Kansas City, Mo.

Ed. H. Witte, Witte Iron Works Co.  
1932 Oakland Avenue, Kansas City, Mo.

Without obligation on my part, send me by return mail, **Free**, your New Book; and tell me how I can own a WITTE engine so it can earn its own cost while I am paying for it.

Name \_\_\_\_\_

Address \_\_\_\_\_

## FARM FENCE FROM FACTORY TO FARMER

Made of **OPEN HEARTH STEEL WIRE**. Proven by tests to be the most durable wire produced. Heavily Galvanized with **PURE ZINC**. Sixty different styles and heights, each a satisfying-quality fence.

### WE SELL DIRECT TO THE FARMER AT DEALER'S PRICES.

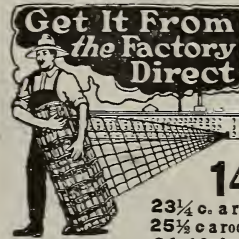
Be your own merchant and put the Dealer's Profit in your own pocket where it belongs. The following are a few of our big values:

- 26-inch Hog Fence, . . . 14c. per rod.
- 41-inch Farm Fence, . . . 21c. per rod.
- 48-inch Poultry Fence, . . . 22½c. per rod.
- Special Barbed Wire, \$1.40 per 80-rod Spool.

Sold on 30 DAYS FREE TRIAL. Get in with the shrewd buyers by sending for our big free Catalogue. It's full of fence bargains. Write for it today.

**COILED SPRING FENCE CO.**  
Box 101 Winchester, Indiana

## KITSELMAN FENCE



We make you the same price we would make the Dealer or Jobber. That is why we can save you money. Look at these very low prices.

**14 CENTS A ROD** for 26-in. hog fence

23½ c. a rod for 49-in. farm fence

25½ c a rod for 60-in. poultry fence

\$1.40 for 80 rod spool of Ideal

Barbed Wire. Large free Catalog showing 100 styles of Farm, Poultry and Lawn Fence.

**KITSELMAN BROS. Box 21 Muncie, Ind.**

## The "BEST" LIGHT

Safe, powerful, brilliant, steady and cheap—five reasons why you should replace expensive electricity, unpleasant oil, and wasteful gas with the most efficient of all lights—the "Best" light. Agents wanted everywhere. Write for catalog today showing over 200 different styles.

**THE BEST LIGHT CO.**  
306 East 5th St., Canton, O.

## BROWN FENCE

Direct from factory, freight prepaid. Over 150 styles for every purpose, all Double gate varieties. 13c per rod up. New Bargain Catalog and Sample to test. **ALL FREE.** Mail postal NOW, to **THE BROWN FENCE & WIRE CO.** Dept. 91 Cleveland, Ohio

## MASON SAVES YOU MONEY FENCE

Lowest Prices, Highest Quality. Largest stock & quickest service. Everything in fences and gates direct from our factory. Money-back trial, 60 days. Can you beat it? Write for **FREE CATALOG.** **MASON FENCE CO., Box 88, Leesburg, O.**

## —Let the Winners of Eight World's Championship Hatching Contests Tell You How To Succeed

In my great Free Book "HATCHING FACTS" the winners of the Belle City's Eight World's Championship Hatches tell the story of their money making, prize winning success with the Belle City in their own words. The book has scores and scores of success stories by Belle City owners. More than a quarter of a million poultry raisers use my



Write for My Great Book, "Hatching Facts," A Postal Brings It

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It describes and illustrates in actual colors my Eight Times World's Champion Belle City hatching outfit—the kind used by the U. S. Government, and leading agricultural colleges—the kind that makes world's championship prize winners. With the free book, I will send you my low price. It's a bargain. Write for the book today. It contains valuable information of interest to every member of the family. Shows how to make big money on a small investment. Write today Address Jim Roban, Pres.

Belle City Incubator Co.  
Box 69  
Racine, Wis.



## YOUR HENS YOUR FARM YOUR MONEY

and Hens for Market or Show, contains Pictures of 30 Poultry Houses; tells cost to build; describes AMERICA'S LARGEST LINE OF INCUBATORS AND BROODERS—\$2.25 to \$48 each. Write today. Robert Essex Incubator Co., 81 Henry St., Buffalo, N. Y.

Farmers and Fanciers should get the FREE POULTRY BOOK and Catalogue written by ROBERT ESSEX, well known throughout America, After 25 Years With Poultry. It tells How to Make Most From Eggs

## Your Name Please?



### So Johnson Can Send You the Old Trusty Book

Johnson wants you to get from it the same ideas that helped half a million other people make big profits with chickens.

It will show you how easy it is to get started and how simple the work is with the Old Trusty Hatcher.

There is no mystery about chicken raising once you get acquainted with the Johnsons, and that's easy—just your name and address on a postal will do.

## OLD TRUSTY

Makes biggest average hatches in coldest or warmest weather—over 80 per cent guaranteed—in every state, everywhere.

Now used by three or four times as many people as those who use any other. The reason is—the Old Trusty is simple and easy to operate and always sure of success. No highfalutin' instructions needed.

It's the highest grade hatcher made. But Johnson's direct factory price is low because he operates the largest incubator factory in the world. Every buyer saves about \$5 because of this big factory.

Write your name today—get the book so you can give your income a good big boost with chickens.

Johnson pays freight and ships immediately.

JOHNSON, Incubator Man, CLAY CENTER, NEBR.



## Poultry and Bees Biggest Profits

This is the year to add poultry to your bee business. Enormous demand for chickens and eggs, on account of meat shortage, boosts prices highest ever. Let out great Free Service guide you. Free for the asking. Start right with

### CYPHERS INCUBATORS and BROODERS

World's Standard. Self-regulating, self-ventilating. Fireproof, insurable. Highest records for big, continuous hatches. Get Cyphers Co.'s 24-page catalog and poultry guide before you buy. 8 vitally helpful chapters. We will send you facts about Free Bulletins and Personal-Letter Service.

Cyphers Incubator Co. Dept. 69. Buffalo, N. Y.



## FREE

GUIDE. Collins' 1914 Garden and Orchard Guide includes only practical, proved varieties of fruit trees, small fruits, vegetable roots, and decorative plants. Over 150,000 peach, pear, and apple trees alone. Explains unique money-saving Sales Plan. Saves money—shows how to make more money. Free. Write to-day for your copy. Arthur J. Collins, Box 42, Moorestown, N. J.

Get today our new Sales Plan

**TERMS TO SUIT** **FREE TRIAL FOR 30 DAYS** **NON-CRANKING** **KEROSENE ENGINE**

Write for Catalog A-14

*"The Masterpiece of the Largest Makers of Two-Cycle Engines in the World."*

The astounding success of Bessemer two-cycle kerosene engines is based upon the perfect Bessemer Universal Fuel Feeder, controlled exclusively by us.

### Bessemer Kerosene Engine

This perfect fuel feeder has sounded the death knell of carburetors, and is the only thoroughly successful device for feeding kerosene, gasolene, distillate, etc., without change of equipment. It is revolutionizing the engine business. Bessemer two-cycle engines are simple—only three moving parts—are constant and steady as clocks. 2 to 350 H.P. Immediate shipment. Fuel and crude oil engines up to 165 H.P. Write for Catalog A-14.

**THE BESSEMER GAS ENGINE CO.**  
132 Lincoln Ave., Grove City, Pa.

Pays for itself in fuel saved




## 20 Reasons Why You Should Investigate the SANDOW Kerosene Stationary Engine

It runs on kerosene (coal oil), gasoline, alcohol or distillate without change of equipment—starts without cranking—runs in either direction—throttle governed—hopper cooled—speed controlled while running—no cams—no valves—no gears—no sprockets—only three moving parts—portable—light weight—great power—starts easily at 40 degrees below zero—complete, ready to run—child iron operate them—5-year ironclad guarantee—15-day money-back trial. Sizes 2 to 20 horsepower.

Send a postal today for free catalog, which shows how Sandow will be useful to you. Our special advertising proposition saves you one-half cost of first engine sold in your county. (184)

**Detroit Motor Car Supply Co.**  
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Helps his wife to plan her table in busy times. Saves work and his worry, saves buying so much meat, gives better satisfaction to the help. A good garden will be almost impossible in your busy life without proper tools. They cost little and save much hard work.

## IRON AGE WHEEL HOES AND DRILLS

will sow, cultivate, ridge, furrow, etc., better than you can with old-fashioned tools and ten times quicker. A woman, boy or girl can do it. Can plant closer and work these hand tools while the horses rest. 38 combinations from which to choose at \$2.50 to \$12. One combined tool will do all of the work.

Ask your dealer to show them and write us for booklet, "Gardening With Modern Tools" and "Iron Age Farm and Garden News" both free.




**BATEMAN MFG CO.**  
Box 1202  
Grenloch, N. J.

## Three Minutes Sharpens Dull Ax

"Took just 3 minutes to put very dull ax in perfect order," writes J. A. Sudan, of Newark, Del. DIMO-GRIT, the new artificial diamond sharpening wheels, quickly and easily sharpen plow points, saws, discs, sickles, ensilage knives, and all farm tools.

### LUTHER DIMO-GRIT GRINDER

Metal frame, enclosed shaft drive, dust-proof bearings, runs easy as sewing machine. 25 times faster than grindstone, 10 times better than emery. Will not draw temper. Special attachments: forge, milk tester, jig saw, rip saw, lathe, drill, etc. Fully guaranteed. Write for free book on tool grinding and liberal free trial offer. Luther Grinder Mfg. Co. 846 So. Water St. Milwaukee, Wis.



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in each town to ride and exhibit sample 1914 model. Write for Special Offer. Finest Guaranteed 1914 Models \$10 to \$27 with Coaster-Brakes and Puncture-Proof Tires. 1912 and 1913 MODELS \$7 to \$12 ALL OF BEST MAKES..... \$7 to \$12

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All makes and models, good as new \$3 to \$8 Great Factory Clearing Sale. We Ship on Approval without a cent deposit, pay the freight & allow 10 Days' Free Trial

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5000 bushel crop 1912 Tested and sure to grow. Finest quality. 20 leading varieties. Also Seed Oats, Barley, Grass Seed, Potatoes, etc. Samples on application. 1100 acres. Be sure to get our new catalog. Write today. W. N. Scarff, Box 67, New Carlisle, O.



Write for Factory Prices You save middlemen's profits. We ship, freight prepaid, our

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**The A. W. Straub Co.,** Dept., R 3748-50  
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## New Easier Better Spraying

Write For Free Book How to save money, labor, time, banish blight, disease and insects from orchards, etc. Use Brown's Auto Spray Style shown has gal. capacity—non-clogging Auto pop Nozzle. 40 other styles and sizes—hand and power outfits.

**E. C. Brown Co.,** 20 Jay St., Rochester, N.Y.



## WHITENING AND DISINFECTING WITH THE NEW "Kant-Klog" Sprayer

gives twice the results with same labor and fluid. Also for spraying trees, vines, vegetables, etc. Agents Wanted. Booklet free.

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Telling the Plain Truth about BURPEE-QUALITY SEEDS, is mailed Free of Cost to Gardeners everywhere upon Application to W. ATLEE BURPEE & CO., Burpee Buildings, Philadelphia

## Roses, Plants, Seeds,



Bulbs, Vines, Shrubs, etc., by mail, postpaid. Safe arrival and satisfaction guaranteed. 60 years of fair dealing. Hundreds of carloads of Fruit and Ornamental Trees. 1200 acres, 60 in hardy roses—none better grown.

46 greenhouses of Palms, Ferns, Begonias, Geraniums, etc. Immense stock of Superb Cannas, the queen of bedding plants. Large assortment of hardy Perennial Plants, which last for years.

192-Page Catalog FREE. Send for it Today. The Storrs & Harrison Co., Box 241, Painesville, Ohio.

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The one absolutely sure spray for San Jose is "Scalecide." Used in the best orchards everywhere. Endorsed by Experiment Stations. Will keep your trees clean and healthy and make them yield number one fruit. Better than lime sulphur. Easy to handle. Will not clog or corrode the pump or injure the skin. "Scalecide" has no substitute. OUR SERVICE DEPARTMENT furnishes everything for the orchard. Write today to Department 6, for new book—"Pratt's Hand Book for Fruit Growers" and "Scalecide" the Tree Saver. Both free.



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## GOOD SEEDS

BEST IN THE WORLD  
Prices Below All Others

I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.

Big Catalog FREE

Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.

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Yes, ABSOLUTELY FREE! This is simply to introduce our wonderful Productive Strawberry Plants

Produce great crops of fine, extra large, delicious strawberries all summer and fall. Fall bearing strawberries are in great demand. Here's your chance to get 12 nice, thrifty plants, also our Three Color Catalog, FREE. Your name and address on a postal will bring them. Plants sent prepaid in proper planting season.

BRADLEY BROTHERS  
251 Main St. Makanda, Illinois



## PURE SWEET \$6.00 CLOVER 6 Per Bu.

**BIGGEST MONEY-MAKER KNOWN—INVESTIGATE**  
The greatest forage plant that grows. Superior to all as a fertilizer. Equal to Alfalfa for hay. Excels for pasture. Builds up worn-out soil quickly and produces immense crops, worth from \$50 to \$125 per acre. Easy to get started, grows everywhere, on all kinds of soil. Don't delay writing for our Big 76-page free catalog and circular giving full particulars. We can save you money on best tested guaranteed seed, Sample Free. Write today. A. A. BERRY SEED CO., Box 266 CLARINDA, IOWA



**40 ACRES** solid to Superb, Progressive, American and other best everbearers. Get acquainted offer for testing. Send us 10c for mailing expense, and we will send you 6 high quality everbearing plants (worth \$1) and guarantee them to fruit all summer and fall, or money refunded. Catalogue with history FREE if you write today. THE GARDNER NURSERY CO. Box 130 OSAGE, IOWA

## 450,000 TREES

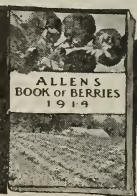
200 varieties. Also Grapes, Small Fruits, etc. Best rooted stock. Genuine, cheap. 2 sample currants—10c. Desc. price list free. Lewis Roesch, Box K, Fredonia, N. Y.

### GROW BIG, LUSCIOUS STRAWBERRIES

You can raise large crops of delicious berries from a small piece of ground if you start right—with hardy, prolific, carefully grown plants selected from ALLEN'S TRUE-TO-NAME VARIETIES

All standard early and late strains for every soil and climate requirement. WRITE FOR 1914 BERRY BOOK. Allen's Berry Book is full of valuable information on how to grow berries and small fruits profitably. It lists and describes Strawberries, Blackberries, Raspberries, Grapes, Currants, Asparagus, etc. Copy sent FREE upon request.

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# The New Bingham Bee Smoker

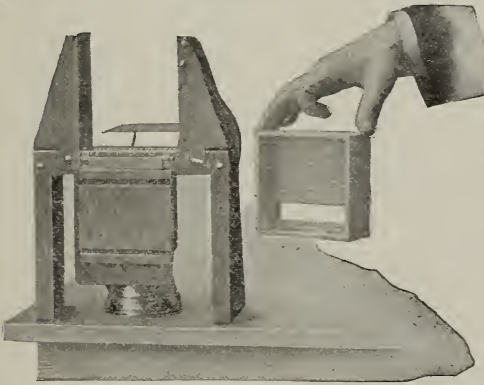
the all-important tool of the most extensive honey producers of the world. This illustration shows the remarkable steel fire-grate which such men as Mr. France, Mr. Rauchfuss, the Dadants, and others say is the best on the market. The Smoke Engine grate has 381 holes for air and draft—equal to an opening two inches square. Buy the large sizes and be pleased. For sale at your dealers or direct.

- Smoke Engine, 4-inch stove, wt. 1¼ lbs. . . \$1.25
- Doctor, 3½-inch stove, wt. 1½ lbs., . . . . .85
- Two larger sizes in copper, extra . . . . .50
- Conqueror, 3-inch stove, wt. 1½ lbs. . . . .75
- Little Wonder, 2½-inch stove, wt. 1 lb. . . . .50
- Two largest sizes with hinged cover.

**A. G. WOODMAN CO.**  
GRAND RAPIDS, MICH.



**NEW BINGHAM**  
**BEE SMOKER**  
Patented



## WOODMAN'S SECTION - FIXER

A NEW MACHINE of pressed steel for folding sections and putting in top and bottom starters, all at one handling. A great time-saver, and a good job assured with ease. With top and bottom starter the comb is firmly attached to all four sides—a requirement to grade Fancy. Increase the value of your crop this season by this method. We want every one to try this machine. We guarantee satisfaction. Adjustable to any width—4¼x4¼ or 4x5 section. Model received with much favor by recent Detroit and Chicago beekeepers' conventions. Price \$2.50 f. o. b. Wt. 5 lbs. Send for special circular showing large illustrations.

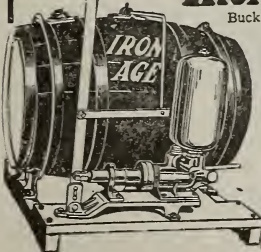
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## SPRAYERS Are a Necessity and Benefit

Outside Pumps, Bronze Ball Valves, Hopp. Packing. Easy to get at.

They save your crop, increase the yield and improve the quality. Our Spray Calendar shows when to spray and what materials to use. Our "Spray" booklet shows 70 combinations of

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Bucket, Barrel, Power and Traction Sprayers for orchard and field crops and other uses. Built complete or in units—buy just what you need. Ask your dealer to show them and let Uncle Sam bring you the rest of the story and the spray calendar. Also "Iron Age Farm and Garden News" free.

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White Leghorns, Barred Rocks, Buff Orpingtons Reds, Minorcas, R. C. Br. Leghorn, Wyandottes. 24 years' experience guarantees safe arrival. High quality at low prices. Catalog free.

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## MAKE HENS LAY

By feeding raw bone. Its egg-producing value is four times that of grain. Eggs more fertile, chicks more vigorous, broilers earlier, fowls heavier profits larger.

### MANN'S LATEST MODEL Bone Cutter

Cuts all bone with adhering meat and gristle. Never clogs. 10 Days' Free Trial. No money in advance.

Send Today for Free Book.  
F. W. Mann Co., Box 37, Milford, Mass.



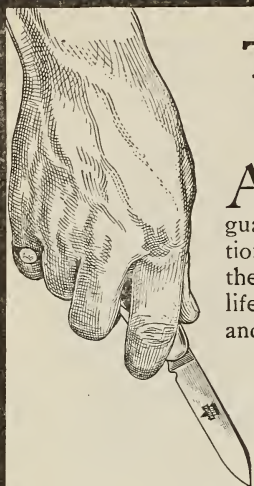
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There is money in Bees if you know how. Make a good living from Bees or keep down the high cost of living. Always a good demand for men who know Bee Culture. Just the opportunity you have been wanting **learn at home**. You can make your spare time count and finish this course this winter by beginning now. This excellent course prepared by **E. R. Root**, the foremost exponent of scientific Beekeeping. Also splendid correspondence courses in General Farming, Truck—North or South, Poultry, Fruit, Flowers, Greenhouse, Soils, Dairying, Farm Management, Farm Book-keeping, Farm Veterinary. Writing for the Farm Press, Mushrooms, Ginseng, etc. Original and largest school devoted exclusively to teaching farming by mail. Write to-day for **Free Booklet "How to Make the Farm Pay More"**, also temporary low rate, easy terms, full particulars. (Which course interests you?) (No agents.) Free sample lesson from General Farming Course on request.

**American Farmers School, 474 Laird Building, Minneapolis, Minn.**

## The Keen Kutter Pocket Knife

ANY Keen Kutter pocket knife is the king bee of quality. It is guaranteed for *that*. It has the gump-tion and finish, the live, strong steel and the capacity for hard work and long life that puts all Keen Kutter cutlery and tools in a class by themselves.



# KEEN KUTTER

on a knife, scissors or tools means satisfaction every time, as you define the word. It means that you must get what you want out of it. The Keen Kutter trade mark means that the dealer is authorized to return your money for any article that bears it. Try a Keen Kutter pocket knife and you'll say it's a first-rate knife.

*"The Recollection of Quality Remains  
Long After the Price is Forgotten."*

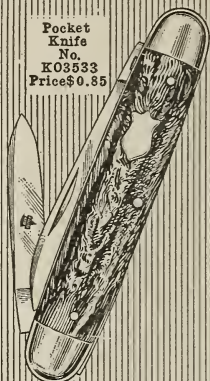
Trade Mark Registered.

—E. C. SIMMONS.

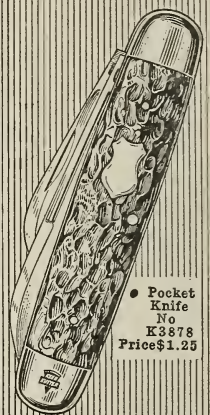
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**SIMMONS HARDWARE COMPANY**

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Pocket Knife No. K03533 Price \$0.85



Pocket Knife No. K3878 Price \$1.25



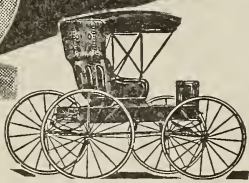
H. C. Phelps, President

# Phelps' Book Is Yours For The Asking

Every Buggy Sold on 30 Days' FREE Trial Absolutely Guaranteed for 2 Full Years

It Shows You How to Save \$25.00 to \$40.00

Don't doubt this! Send for this book and prove it to yourself! Do that today! It costs you nothing. 200,000 men know by experience that this is so! They saved at least \$25.00 to \$40.00 on every buggy they bought after they got Phelps' book. And they got the best buggies made—just as you will. Buggies made of the finest Second-growth Hickory split, not sawed. Phelps make the famous—



## SPLIT HICKORY Buggy



Think of getting a fine buggy—better than others your friends pay \$25.00 to \$40.00 more for. A buggy that will make you the envy of all your fellows. Think of getting it to try out on the road free for 30 days and guaranteed for two years! Write for this book today.

And Phelps offers you the choice of an immense number of 1914 buggy styles to choose from. More than 40 local carriage shops "rolled into one" could ever show you. Address H. C. PHELPS, President, THE OHIO CARRIAGE MFG. CO., Station 293, Columbus, Ohio.

## 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

See our special sale of honey on advertising page 7 of this issue. THE A. I. ROOT CO., Medina, Ohio.

FOR SALE.—Choice extracted honey in new 60-lb. cans at 9 cts. per lb. J. P. MOORE, Morgan, Ky.

FOR SALE.—Finest quality buckwheat honey in cans and kegs. Clover honey all sold. C. J. BALDRIDGE, Kendaia, N. Y.

FOR SALE.—3000 lbs. of fine extracted honey in 60-lb. cans, 7 1/2 cts. per lb. GEORGE RAUCH, Orange Mountain Bee Farm, Guttenberg, N. J.

FOR SALE.—Aster, goldenrod, yellow-top honey-blends, fine quality, 5 1/2 cts. per lb. JOE C. WEAVER, Cochrane, Ala.

FOR SALE.—No. 1 buckwheat comb, \$3.00 per case, 24 sections to case. JOSEPH M. ELSBREE, Waverly, N. Y.

FOR SALE.—Several tons of raspberry-milkweed honey (mostly milkweed) in new 60-lb. cans (two in a case), a very fine honey. Write for price. Small sample free. P. W. SOWINSKI, Bellaire, Mich.

FOR SALE.—White-clover honey, none better. In 10-lb. pails, six in a case, at \$6.50 per case; 5-lb. pails, 12 in a case, at \$7.00 per case; 1/2-lb. glass jars, 24 in a case, at \$2.80 per case. Sample, 4 cts. Also in 60-lb. cans, very nice amber honey. HENRY STEWART, Prophetstown, Ill.

FOR SALE.—Blended raspberry, buckwheat, and goldenrod honey; has a thick body and a strong and very rich flavor. Put up for sale in new 60-lb. tin cans. Price \$5.00 a can. Sample by mail, 10 cts., which may be applied on an order for honey. ELMER HUTCHINSON, Pioneer, Mich.

FOR SALE.—No. 1 white comb, \$3.25 per case; No. 2 white, \$2.75. No. 1 fall comb, \$2.75 per case; No. 2 fall, \$2.50 per case. All cases have 24 sections to case, and six cases to carrier. Amber extracted, 8 cts. QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

### HONEY AND WAX WANTED

WANTED.—Comb, extracted honey, and beeswax. R. A. BURNETT & Co., 173 So. Water St., Chicago.

WANTED.—Comb honey and beeswax. State what you have and price. J. E. HARRIS, Morristown, Tenn.

WANTED.—Honey, extracted and comb. Will buy or handle on commission. Beeswax—will pay highest price. HILDBRETH & SEGELKEN, New York, N. Y.

### FOR SALE

For bees, queens, or material—typewriters, violins, printing-press, write E. C. BIRD, Boulder, Col.

FOR SALE.—A full line of Root's goods at Root's prices. A. L. HEALY, Mayaguez, Porto Rico.

FOR SALE.—Full line of Root's goods at factory prices. E. M. DUNKEL, Osceola Mills, Pa.

Beekeepers, let us send you our catalog of hives, smokers, foundation, veils, etc. They are nice and cheap. WHITE MFG. Co., Greenville, Tex.

New crop of extra-fine quality alfalfa seed, \$6.50 per bushel; sacks, 25 cts. extra; also some sweet-clover seed. R. L. SNOODGRASS, Augusta, Kan.

FOR SALE.—Empty second-hand cans, two cans to the case; good as new; 25 cts. per case. C. H. W. WEBER & Co., Cincinnati, Ohio.

FOR SALE.—Better hive for less money. Beekeepers' supplies and standard-bred Italian bees. Write for catalog. A. E. BURDICK, Sunnyside, Wash.

The best of bee goods for the least money. Send for new catalog. Satisfaction guaranteed or money refunded. H. S. DUBY & SON, St. Anne, Ill.

FOR SALE.—Root's goods and Dadant's foundation at factory prices. SPENCER APIARIES, Nordhoff, Cal.

FOR SALE.—500 lbs. yellow biennial sweet-clover seed at \$14.00 per bushel of 60 lbs., hulled seed. R. L. SNOODGRASS, Harrisburg, Col.

FOR SALE.—Root's goods at factory prices. Fresh stock and prompt accurate service. Let's get acquainted. L. W. CROVATT, box 134, Savannah, Ga.

FOR SALE.—New 7 H. P. twin cylinder Indian motorcycle, 1913 model. Will trade for bees or supplies. Address J. E. HEBERT, Bad Axe, Mich.

We are among the largest growers of alsike clover in this country, and offer good clean seed. Bushel, \$11.00; half bushel, \$5.75; peck, \$3.00. C. J. BALDRIDGE, Homestead Farm, Kendaia, N. Y.

FOR SALE.—40 second-hand 8-frame dovetailed one-story hives with Hoffman frames; 96 supers for the same, complete with slotted separators, slats, and springs, for 4 1/4 x 1 1/2 sections, all in good condition—some hives never used. No disease. Price \$60.00 for the lot if taken soon. CURTIS SMITH, Superior, Neb.

The Beekeepers' Review Clubbing List: *The Review and Gleanings* one year, \$1.50. *The Review and American Bee Journal* one year, \$1.50. All three for one year only \$2.00. Dealers or those wanting to buy honey kindly ask for a late number of the *Review* having a list of 100 producers having honey for sale. Address THE BEEKEEPERS' REVIEW, Northstar, Mich.

The National Beekeepers' Association now buys supplies for their members. Send us your order, enclosing the same money you have to pay others, and we will buy them for you on the co-operative plan. If not a member we reserve the right to retain \$1.50 from the profits on your first order to pay your membership dues and subscription to the *Review* one year. Sample copy of the *Review* free. Address NATIONAL BEEKEEPERS' ASSOCIATION, Northstar, Michigan.

### REAL ESTATE

Virginia orchards pay handsome profits. Good fruit lands in the famous apple belt \$15 an acre up. Easy payments. Send names of two friends interested in Virginia and receive our beautiful magazine one year free. F. H. LABAUME, Agr'l Agt. Norfolk & Western Ry., Room 246, N. & W. Bldg., Roanoke, Va.

Facts About the Southeast. Farm lands average less than \$17 per acre. Beef, pork, dairying, and poultry make big profits. Large returns from alfalfa, cotton, corn, truck, fruits, and nuts. Good local and nearby markets. Ample rain, mild winters, enjoyable summers. Industrial openings everywhere. "The Southern Field" Magazine and State booklets free. M. V. RICHARDS, Land and Industrial Agent, Southern Ry., Room 27, Washington, D. C.

## WANTS AND EXCHANGES

WANTED.—250 colonies of bees, from a location free from disease. BOX 3770, GLEANINGS, Medina, O.

Will buy bees. Myself examine, pack, and ship. Write F. A. ALLEN, Philipsburg, Que.

WANTED.—Bees in lots of 25 to 300 colonies, preferably within 250 miles of Detroit, Mich.  
A. W. SMITH, Birmingham, Mich.

WANTED.—Ten hives of bees in ten-frame Langstroth hives in or near Chicago, Ill.  
ROBERT KROSCHEL, 3226 Osgood St., Chicago, Ill.

WANTED.—To buy bees for June delivery, standard L. hives or three-frame nuclei.  
WM. R. GANTLEY, 113 State St., Binghamton, N. Y.

WANTED.—To furnish every beekeeper within 500 miles of Boise, Idaho, with the best and cheapest bee supplies on the market, *quality considered*. Send me your order or a list of your requirements for 1914. Our catalog and price list will be mailed to you free. Order early and get the discounts.  
C. E. SHRIVER, Boise, Idaho.

WANTED.—A partner for one-third undivided interest in a 240-acre tract of heavy hammock land on the Indian River, Fla., a few miles below Daytona, Volusia Co. Ideal citrus land; flowing wells can be had anywhere on property; a mile and a quarter river front, with beautiful building sites on Key. Write if interested. EDWIN G. BALWIN, DeLand, Fla.

## BEEES AND QUEENS

Phelps' Golden Italian Queens will please you. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—50 to 200 colonies, eight-frame, first-class.  
E. F. ATWATER, Meridian, Idaho.

Am booking orders now for three-band Italian queens.  
J. I. BANKS, Liberty, Tenn.

Pure Italian bees or their hybrids, in L. 10 frames, wired, full foundation, 1 or 100.  
JOS. WALRATH, Antioch, Cal.

FOR SALE.—150 colonies or carload of Italian bees in ten-frame Langstroth hives, in Missouri. Address R. F. HOLTERMANN, Brantford, Ont., Can.

Golden-yellow Italian queens my specialty. Untested, \$1.00; tested, \$1.50. Ready April 1. Safe arrival guaranteed. E. A. SIMMONS, Greenville, Ala.

FOR SALE.—200 colonies of Italian bees at \$5.00 per colony.  
G. H. ADAMS,  
Spring and Central Ave., Troy, N. Y.

California Golden queens produce the bright workers, equal to any. Tested, \$1.25 to \$2.50; mated, 75 cts.; 12, \$8.00; 50, \$32; 100, \$60.  
W. A. BARSTOW & Co., San Jose, Cal.

FOR SALE.—Golden Italian queens that produce golden bees; for gentleness and honey-gathering they are equal to any. Every queen guaranteed. Price \$1.00; 6 for \$5.00. WM. S. BARNETT, Barnett's, Va.

Italian bees in pound packages and on comb our specialty; 30-page catalog giving beginners' outfit free; also queens.  
THE DEROY TAYLOR CO., Lyons, N. Y.

1914 QUEENS.—Moore's strain of leather-colored Italians in April at 75 cts. Also bees by the pound, nuclei, tested queens. Write for prices on nuclei. Address OGDEN BEE AND HONEY CO., Ogden, Utah.

FOR SALE.—Several yards of bees on five years' time and easy terms of payment. No disease, and best of locations. All we ask is that you help us work these bees for several months this year to show your ability to manage them. Further particulars on request. SPENCER APIARIES CO., Nordhoff, Cal.

Phelps' Golden Italian Bees are hustlers. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—20 colonies, eight-frame hives, two supers to hive, heavy with stores. Delivered on car Carlisle or Mt. Sterling, Ky. \$5.00 per colony.  
RAYMOND SMATHERS, Sharpsburg, Ky.

FOR SALE.—500 hives of bees located in five different yards in the Kankakee swamp. Full equipment of everything needed in bee business. Write for particulars. MRS. F. B. CAVANAGH, Hebron, Ind.

Save those queenless colonies by ordering a tested three-banded Italian queen. One for \$1.25; six for \$6.00. These queens are guaranteed to please you, or your money refunded.  
B. M. CARAWAY, Mathis, Texas.

Queens ready in May. J. E. Hand strain of three-band Italian, bred for gentle honey-gathering, and wintering. Write for price list and free booklet, "How to Transfer, Get Honey and Increase."  
J. M. GINGERICH, Arthur, Ill.

Phelps' Golden Italian Queens combine the qualities you want. They are great honey-gatherers, beautiful and gentle. Mated, \$1.00; six, \$5.00; tested, \$3.00; breeders, \$5.00 and \$10.00. C. W. PHELPS & SON, 3 Wilcox St., Binghamton, N. Y.

FOR SALE.—250 colonies of bees, 100 sets empty combs, 540 supers, sections, foundation, bait combs, extractor, and tanks. Every thing ready for business.  
J. H. WARNER & SON,  
Middleburg, Schoharie Co., N. Y.

Queens and Bees for Sale.—See our large advertisement elsewhere in this journal, and read The A. I. Root Co. letter to us regarding our queens. Write at once for large bee and queen circular.  
THE PENN CO., Penn, Miss.

FOR SALE.—Italian queens, bees by pound. Descriptive list free. Apiaries under State inspection. Leaflets, "How to Introduce Queens," 15 cts.; "How to Increase," 15 cts.; both 25 cts.  
E. E. MOTT, Glenwood, Mich.

Golden Italian queens that produce golden bees, the brightest kind, gentle, and as good honey-gatherers as can be found. Each, \$1.00; six, \$5.00; tested, \$2.00; breeders, \$5.00 to \$10.00.  
J. B. BROCKWELL, Malvern Hill, Va.

Queens bred from Moore's and Doolittle's best Italian stock; untested, 60 cts. each; \$6.60 per doz.; \$50.00 per 100. Tested, 90 cts. each, \$10.20 per doz.; \$90.00 per 100. Delivery guaranteed. Book orders now. Nuclei, any quantity, two-frame, \$1.50; three-frame, \$2.00. Add price of above queens wanted. SPENCER APIARIES CO., Nordhoff, Cal.

Goldens and three-band Italians, ready March 1. They have been bred for three points—prolificness, gentleness, and honey-gathering qualities. Select untested, each, 75 cts.; 6, \$4.25; 12, \$8.25; 50, \$32.50; 100, \$60.00. Tested, \$1.50; select tested, \$2.00; three-banded breeders, \$4.00; golden breeders, \$5.00.  
GARDEN CITY APIARY CO.,  
Rt. 3, Box 86, San Jose, Cal.

FOR SALE.—Swarms of bees in packages. Replace your winter losses and strengthen weak colonies with young, healthy Italian bees: ½-lb. packages, 90 cts. each; 1-lb. packages, \$1.25 each; 2-lb. packages, \$2.45 each. Young, untested, three-banded Italian queens, 75 cts. each. We guarantee satisfaction and safe arrival. Write for circular and complete price list.  
BROWN & BERRY, Hayneville, Ala.

EARLY QUEENS.—Those who desire early queens can be supplied by sending orders to us. Only three-band Italians stand the severe test against diseases, and our bees are clean. Untested queens, \$1.00 each; \$4.25 for six; \$8.00 per dozen. Always safe arrival and satisfaction to everybody. If you desire queens in large lots early, better let us book you as soon as convenient, and money can be sent when queens are wanted. Your check is good, or any way you wish to remit.  
THE RIALTO HONEY CO., Box 73, Rialto, Cal.



Dunn's Golden Italian queens, bred strictly for business, that produce a strong race of honey-gatherers, March 1 to Oct. 15: One, mated, 75 cts.; 6, \$4.25; 12, \$8.25; 50, \$32.50; 100, \$60.00. Tested, \$3.00; breeders, \$10.00. L. J. DUNN, Queen-breeder, Box 337G, Rt. 6, San Jose, Cal.

FOR SALE.—Three-banded Italian queens, nuclei, and bees by the pound. March 15 to June 15, untested queens, each, 75 cts.; 6, \$4.25; 12, \$8.25; tested, each, \$1.25; 6, \$7.25; 12, \$14.00. Bees by pound: 1-lb. package, \$1.25; 6, \$7.25; 12, \$14.00. If you wish a queen with bees by the pound add price of queen. Write for circular and complete list. BROWN & BERRY, Hayneville, Ala.

FOR SALE.—California Italian queens, Golden and Three-banders by return mail after March 15; select untested, 75 cts.; 12, \$8.00; tested, \$1.00; breeders, \$3.00. Bees by the pound a specialty, ready April 1; 1 lb., \$1.25; 2 lbs., \$2.25; large lots, less. Booking orders now. Deliveries and satisfaction guaranteed. Correspondence solicited. Circular free. J. E. WING, 155 Schiele Ave., San Jose, Cal.

GOOD QUEENS.—Good queens are a real necessity in any apiary if best results are to be expected. The old leather-colored three-band Italians have proven themselves to be the best general-purpose bee extant. These I can supply in any quantity you may wish. Untested, \$1.00 each; \$4.25 for six; \$8.00 per doz. Safe arrival and satisfaction. All orders will have prompt attention. E. J. ATCHLEY, Bloomington, Cal.

FOR SALE.—Early swarms at fall prices; ½-lb. bees, \$1.00; 1 lb. bees, \$1.50. Add price of queen if wanted. Untested three-band Italian queens, 75 cts. each; tested Italian queens, \$1.25 each. These are bred from best honey-gathering strain. No disease. Safe arrival and satisfaction guaranteed. This is undoubtedly the best way for Northern honey-producers to increase and improve their stock. Delivery begins about April 5. Capacity, 40 swarms per day. W. D. ACHORD, Fitzpatrick, Ala.

Dixie swarms direct to you in April. Stop and think for half a minute what a small package of bees or nuclei would do if put on those unoccupied combs early in the spring. The cost is just a drop in the bucket, and your 1914 honey crop may be doubled. Bees by the pound, nucleus, and queens shipped during April. Carefully selected stock. Excellent express and mail service. Prices low. Save money by writing at once for our price list and estimate on your order. CONNEAUT LAKE BEE CO., Meldrim, Georgia.

Many men of many minds; but the minds of practical beekeepers are turned toward the old reliable three-band Italians. We have them in their purity, new blood, new importation. Untested queens from March to June, \$1.00 each; \$4.25 for six, or \$8.00 per dozen; safe arrival and satisfaction to all customers. Write for prices on large quantities. You do not have to return dead queens to us—just state it so on a postal card, and queens dead on arrival will be replaced promptly. THE GOLDEN RULE BEE CO., Riverside, Cal.

**POULTRY**

Rhode Island Reds. Strong baby chicks for sale. Write me. E. O. WALTZ, Medina, Ohio.

Eggs for hatching, S. C. White Orpingtons. Mating list free. JAMES R. LAMPSON, box B, Medina, O.

Silver-pencilled Wyandotte eggs from exhibition pens, \$2.50 per setting of 15. FRANK CLARK, Ridott, Ill.

Stock and eggs for sale, all leading varieties; also geese and Belgian hares. Catalog free. LEVI STUMB, Richland Center, Pa.

Pure-bred Indian Runner ducks, snow-white eggs, 15 for \$1.00; 100 for \$6.00. J. C. WHEELER, 921 Austin Boul., Oak Park, Ill.

Silver Campines are money-makers. I offer first-class stock, \$10; \$12 per trio. ELMER W. PALMER, Catskill, N. Y.

Pure white and fawn and white Indian Runners, Pekins. Catalog free. White-egg strains. THE DERBY TAYLOR CO., Lyons, N. Y.

Eggs for sale. Rhode Island Reds and Barred Rocks, \$1.00 per 15. H. J. ROSENBERG, Rt. 4, Metropolis, Ill.

LEGHORNS.—Eggs for hatching. S. C. W. Leghorns, \$5.00 per 100; \$1.00 per 15. Send for catalog. WOODWORTH FARM, Wilton, Ct.

Eggs.—20 for \$1.00; leading varieties prize poultry, pigeons, hares, etc. Booklet free. Large illustrated catalog, 10 cts. F. G. WILE, Telford, Pa.

Corning strain direct, S. C. W. Leghorn eggs and day-old chicks for sale. The strain that weigh, lay, and pay. Also B. P. Rocks at farmers' prices. F. J. ARMSTRONG, Nevada, Ohio.

Kellerstrass Crystal White S. C. Orpingtons. Eggs for hatching, \$3.00 per doz. Shipped same day order is received from prize-winners. Trained Capons for sale and stock. Write for prices. Eggs tested. ACHURCH, Charleston, S. C.

Rhode Island Reds, Partridge Wyandottes, Mottled Anconas, White Leghorns, White Cornish; Pekin, Rouen, Fawn and White Indian Runner ducks; also pure-white Indian Runners and White Call ducks. Line-bred stock for sale. Eggs to set. Prices reasonable for high-class stock. L. G. CARY, Trimble, Ohio.

**MISCELLANEOUS**

Belgian hares, breeders, and youngsters. List free. HARVEY L. STUMB, Quakertown, Pa.

Yorkshire Swine Monthly Magazine, 50 cents per year. YORKSHIRE SWINE PUBLISHING CO., Franklinville, N. Y.

FOR SALE.—Dahlia roots, 2 cts. each and up—green flowering, and 100 other colors. Soy beans, Thornless raspberry. Circular free. JACOB MCQUEEN, Baltic, Ohio.

Runner Duck Eggs.—Fawn, white-egg strain, \$1 per 12 eggs. Single-comb R. I. Red eggs, and day-old chicks, Tompkins strain. SARAH WIDRIG, Rt. 29, Burt, N. Y.

Pigeons! Pigeons! Thousands, all breeds; lowest prices; satisfied customers everywhere. Start with our \$\$\$-making Jumbo Squab-breeders. Large, free, instructive, illustrated matter. PROVIDENCE SQUAB CO., Providence, R. I.

**HELP WANTED**

WANTED.—Another young man of good habits, who is interested, to work with bees and on farm for coming season. Have nearly 1000 colonies. N. L. STEVENS, Venice Center, N. Y.

WANTED.—Man (married preferred) experienced in queen-raising; employment by the year on a salary and percentage. OGDEN BEE AND HONEY CO., Ogden, Utah.

WANTED.—A young man of good character to work in our honey-producing yards and queen-raising department. Please state experience and wages expected in first letter. We furnish board. BROWN & BERRY, Hayneville, Ala.

Serve a season's apprenticeship with a well-known firm. E. D. TOWNSEND & SONS, Northstar, Mich., can use a "green" hand during the season of 1914; 39 years in the business; 7 yards for extracted honey. Board, and perhaps more to an adept student. Commence April 1. Write us.

WANTED.—Single young man with some experience for season of 1914, beginning about the middle of May; must be strictly temperate, industrious, and willing to work hard in the busy season. State age, experience, and wages expected, with board supplied, in first letter. Give references.

EWART MCEVOY, Woodburn, Ontario, Can.

## BEEKEEPERS' DIRECTORY

If you need queens by return mail send to J. W. K. SHAW & Co., Loreauville, Iberia Parish, La.

Nutmeg Italian queens, leather color, after June 1, \$1.00. A. W. YATES, Hartford, Ct.

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

QUEENS.—Improved red-clover Italians bred for business, June 1 to Nov. 15, untested queens, 75c. each; dozen, \$8.00; select, \$1.00 each; dozen, \$10; tested queens, \$1.25 each; dozen, \$12.00. Safe arrival and satisfaction guaranteed.

H. C. CLEMONS, Boyd, Ky.

Quirin's famous improved Italian queens, nuclei, colonies, and bees by the pound, ready in May. Our stock is northern-bred and hardy; five yards wintered on summer stands in 1908 and 1909 without a single loss. For prices, send for circular.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, Ohio

## SPECIAL NOTICES

### BEE SWAX.

Market on beeswax still continues firm, and supplies limited. While we have received a goodly number of shipments we could use it in still larger quantities, as it takes over 20,000 pounds a month to keep our wax-room going and meet the orders which come. We will pay, till further notice, 33 cents cash, 35 in trade, for average wax delivered at Medina, with a premium for choice yellow; 1 cent a pound less delivered at branch offices.

### "ANSWERS TO 150 QUESTIONS COMMONLY ASKED ON BEES"

is the title of a new booklet in the press of The A. I. Root Co. The preliminary announcement of it in our general catalog has made an enormous demand for it already; but we have decided to send it to all subscribers who send in \$1.00 before their subscriptions expire, free. The booklet contains 71 pages, and is packed full of useful information. It has an elaborate index so that one can locate just the precise information he is seeking. These answers are taken largely from letters from our subscribers, and cover a very wide field. Some of the information given is not comprised in our text-books. The book will be ready to send out by March 1st.

### SWEET-CLOVER SEED.

Since our last report we have received a lot of choice unhulled white seed from Oregon, and have on the way from Nevada another shipment of hulled white. We have also secured a supply of hulled biennial yellow for our stock here as well as in Des Moines, Iowa. We have sold out on the lot of mixed white and yellow unhulled, and have no more of that to furnish. We still have some of the mixed white and alfalfa which we can supply while it lasts, at prices quoted in former issues. Present prices on sweet clover are as follows:

	Prices in lots of	1 lb.	10 lb.	25 lb.	100 lb.
<i>Melilotus alba</i> , biennial:					
White sweet clover, unhulled	.23	\$2.10	\$5.00	\$19.00	
White sweet clover, hulled	.30	2.80	6.75	26.00	
<i>Melilotus officinalis</i> , biennial:					
Yellow sweet clover, unhull'd	.21	1.90	4.50	17.00	
Yellow sweet clover, hulled	.28	2.60	6.25	24.00	
Yellow sweet clover, annual	.14	1.20	2.75	10.00	

### ALSIKE AND MAMMOTH CLOVER SEED.

The market on clover seeds seems somewhat easier than it has been, and we quote choice alsike seed at \$23.00 for 2 bushels; \$11.75 for one bushel; \$6.00 for ½ bushel; \$3.25 for 1 peck; 25 cts. per lb., not prepaid.

Mammoth or Peavine: \$19.00 for 2 bushels; \$9.75 for one bushel; \$5.00 for ½ bushel; \$2.75 per peck; 22 cts. per lb., not prepaid; bags included in each case.

### SAN FRANCISCO OFFICE.

To handle correspondence with our Pacific Coast customers more rapidly, and to serve their interests better, we have opened an office in the Holbrook Building, 58 Sutter St. (near Market St., and only a few blocks from the Ferry). The office will look after the interests of all classes of our trade, retail, wholesale, and export, and we request every one interested in any way in Root's goods to avail themselves of the facilities offered by this Pacific Coast branch. From San Francisco we can often direct beekeepers to nearby dealers at various points on the Coast where certain of our goods may be had, thereby saving long delays and high transportation, etc. This office will at all times be fully informed on all matters relating to Coast business from the home office, such as movement of cars to various distributing dealers, etc.

### STOCKS.

In addition to the stocks carried by dealers in various points on the Coast where our goods may be obtained a fair assortment of standard goods from our catalog will be carried in San Francisco available for the beekeeper and dealers alike. Particulars regarding stock on hand in San Francisco furnished promptly at any time.

### SECOND-HAND FOUNDATION MILLS.

We have to offer the following list of foundation machines which have been used, but are in fair condition. In many cases they will answer as well as a new machine where you have only a moderate output. Send for samples of any mill in the list which may interest you.

No. 0139, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0140, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0142, 2½ x 6 hexagonal thin-super mill, in fair shape. Price \$10.00.

No. 0153, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0154, 2½ x 6 hexagonal thin-super mill, in very good condition. Price \$14.00.

No. 0156, 2½ x 6 extra-thin-super mill, fair. Price \$10.00.

No. 0165, 2½ x 6 hexagonal extra-thin-super mill in fair condition. Price \$12.00.

No. 0176, 2½ x 6 extra-thin-super mill in fair condition. Price \$12.00.

No. 0180, 2½ x 6 hexagonal thin-super mill, in fair condition. Price \$10.00.

No. 0183, 2½ x 6 hexagonal thin-super mill, very good condition. Price \$14.00.

No. 0207, 2½ x 6 hexagonal cell thin-super Dunham mill in good condition. Price \$10.00.

## SPECIAL NOTICES

A. I. ROOT

### DASHEEN TUBERS BY MAIL, ETC.

In our issue for Feb. 1 I spoke of parcel post, while the fact is, dasheen for planting come under the heading of seeds, and can go anywhere for only 8 cts. per lb. postage; and unless it is for nearby zones, the rate will be less than by parcel post. On nearby zones, however, parcel-post rates will be much cheaper. Until recently the limit on packages of seed was 4 lbs., but now it is raised to 11 lbs. Your own postmaster should be able to give you the lowest rate on whatever you send out or send after; but I find postmasters are not all as well posted as they should be.

## Alsike - Clover - Seed

Small Red, Large Red, White, Yellow Sweet Clover; Alfalfa, Timothy, Blue Grass, Millet, Rape, etc. Good Seed Corn in varieties. Seed leaflet and apiary-supply catalog free.

**F. A. SNELL, . . Milledgeville, Illinois**  
Carroll County

### Three-banded Italian Bees and Queens!

Guaranteed safe arrival and satisfaction. Untested queens, 75 cts. each; \$7.50 per dozen. Tested, \$1.50. Choice breeders, \$5.00. Nuclei, \$1.25 per frame, good supply of bees. Half pound bees with queen, \$2.00. One pound bees with queen, \$3.00, full weight. Full colony in eight-frame hive with queen, \$6.50; in ten-frame, \$7.50. Best mail and express service in the South. Only 12 hours to St. Louis, Mo.

**THE STOVER APIARIES, MAYHEW, MISSISSIPPI**

# FRENCH'S

THE ORIGINAL POULTRY MUSTARD IN AMERICA

Write to us for information.  
Booklet and circulars free.

**THE R. T. FRENCH COMPANY, Mustard-Makers**  
ROCHESTER, N. Y. Department D.



### RAIN OR SHINE

Stevenot's Weather Cottage foretells weather changes 8 to 24 hours in advance. This little weather cottage is carefully made with thermometer, modeled stag-head and bird on front of building and birdhouse on roof.

The action is based on scientific principles, and is very accurate. In bad weather the man, with raised umbrella, comes out, and in fair weather the lady appears. Interesting to the entire family.

Every cottage fully guaranteed. Size 7 1/2 in. high. Sent parcel post prepaid in U. S. or Canada for \$1. Your money back if dissatisfied.

**FRANK H. STEVENOT CO.**  
Dept. 6, Cooper Union, New York City.

## NON-SWARMING

and its application to Out-apiaries is fully outlined in the new booklet "The Management of Out-apiaries."

This is the new title of "A Year's Work in an Out-apiary," written by G. M. Doolittle, of New York, and again revised this past season. The writer has incorporated all of the new ideas that he has successfully worked out this past season, and we are now able to offer you the best there is at this time on the subject of running a series of yards with the least amount of time and labor. If you haven't any thing on this subject you ought to have a copy of this fourth edition. . . Price 50 cents postpaid.

Order now from the publishers.

The A. I. Root Co., Medina, O.

# This Washer Must Pay for Itself

**A** MAN tried to sell me a horse once. He said it was a fine horse and had nothing the matter with it. I wanted a fine horse. But I didn't



know any thing about horses much. And I didn't know the man very well either.

So I told him I wanted to try the horse for a month. He said "All right, but pay me first, and I'll give you back your money if the horse isn't all right."

Well, I didn't like that. I was afraid the horse wasn't "all right," and that I might have to whistle for my money if I once parted with it. So I didn't buy the horse although I wanted it badly. Now this set me thinking.

You see I make Washing Machines—the "1900 Gravity" Washer.

And I said to myself, lots of people may think about my Washing Machine as I thought about

the horse, and about the man who owned it.

But I'd never know, because they wouldn't write and tell me. You see I sell my Washing Machines by mail. I have sold over half a million that way.

So, thought I, it is only fair enough to let people try my Washing Machines for a month, before they pay for them, just as I wanted to try the horse.

Now, I know what our "1900 Gravity" Washer will do. I know it will wash the clothes, without wearing or tearing them, in less than half the time they can be washed by hand or by any other machine.

I know it will wash a tubful of very dirty clothes in Six Minutes. I know no other machine ever invented can do that, without wearing out the clothes.

Our "1900 Gravity" Washer does the work so easily that a child can run it almost as well as a strong woman, and it doesn't wear the clothes, fray the edges, nor break buttons the way all other machines do.

It just drives soapy water clear through the fibers of the clothes like a force pump might.

So, said I to myself, I will do with my "1900 Gravity" Washer what I wanted the man to do with the horse. Only I won't wait for people to ask me. I'll offer first, and I'll make good the offer every time.

Let me send you a "1900 Gravity" Washer on a month's free trial. I'll pay the freight out of my own pocket, and if you don't want the machine after you've used it a month, I'll take it back and pay the freight too. Surely that is fair enough, isn't it?

Doesn't it prove that the "1900 Gravity" Washer must be all that I say it is?

And you can pay me out of what it saves for you. It will save its whole cost in a few months, in wear and tear on the clothes alone. And then it will save 50 cents to 75 cents a week over that in washwoman's wages. If you keep the machine after the month's trial, I'll let you pay for it out of what it saves you. If it saves you 60 cents a week, send me 50 cents a week till paid for. I'll take that cheerfully, and I'll wait for my money until the machine itself earns the balance.

Drop me a line to-day, and let me send you a book about the "1900 Gravity" Washer that washes clothes in six minutes.

Address me this way—H. L. Barker, 1127 Court Street, Binghamton, N. Y. . . If you live in Canada, address 1900 Washer Co., 355 Yonge St., Toronto, Ontario.

# Satisfactory Service and the Best Bee Supplies

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That is what we give our customers, and what we can give you if you will give us the chance. We keep a large and complete stock of Root's goods constantly on hand, and our largely increased facilities for handling goods make it possible to give every order the most prompt and careful attention. San Antonio is the shipping center of this section of the country. We can save time and freight, and get goods to you in better condition than to send to some more remote or less centrally located point. We base our claim for service, and the quality of our goods, not alone on what we think we can give you, but what our customers have had from us for years past. Just recently a letter comes to us as follows:

As I have been using your supplies since March, 1903, I do not hesitate to commend you and the supplies you handle. Mistakes, a few have been made, but were cheerfully corrected. As I have nearly 500 colonies, I should know.

We have many more letters with equally good reports.  
Catalog on request, also quotations made on large lists.

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## Weed Process Foundation

We are running our new plant day and night, and are able to supply the very best grade of foundation very promptly, and at prices which we are sure will please you. A customer writing a day or two ago about this says:

The foundation you worked for me has been received.  
Your work is perfect, and in those cartons it is so convenient for the retail trade.

We can use your wax at current prices if you have more than you want worked into foundation for this season's use.

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## Booklets on Beekeeping

For the benefit of students in beekeeping who want to make a practical start this year we have arranged to distribute a number of helpful booklets, all nicely printed and illustrated, all free. Send in your name, or the names of a few neighbors or friends, and we will mail copies to them. Much information on outfits for beginners and advanced beekeepers is given in these booklets. They are well worth reading.

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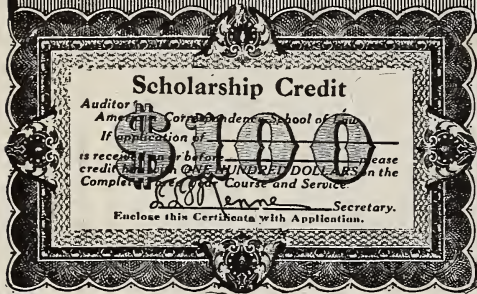
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