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# GLEANINGS IN BEE CULTURE

VOL. 34

DEC. 1, 1906

NO. 23.



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

# BEE-KEEPERS

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

## Toledo

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

## Queens! Queens!

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

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

## Griggs Brothers

523 Monroe St. : Toledo, Ohio

# APICULTORES

De Espana, Portugal y Colonias.

Pidan catalogos de las colmenas, extractores, prensas para cera, ahumadores, zinc perforado, escape de abejas, velos, cuchillos, maquinas para hacer base de panales, y todos otros articulos utiles en apicultura manufacturado por la celeberrima casa de

## A. I. Root Company,

la fabrica la mas importante del mundo. Precios muy modicos a los subagentes por mercancias puestas en nuestros talleres.

## EMILE BONDONNEAU,

Agente Générale

POR TODA EUROPA Y COLONIAS,  
142 Faubourg SAINT DENIS, PARIS. 10me.

# CENTRAL AND NORTHERN PENNSYLVANIA

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

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

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

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

Beeswax taken in exchange for supplies.

# E. E. PRESSLER, WILLIAMSPORT, PENN.

Headquarters for

# Bee - Supplies.

"Root's Goods at Root's Factory Prices."

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

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

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

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

## Beeswax Wanted!

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

# C. H. W. WEBER,

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

Cincinnati, - Ohio.

## Honey Markets.

### GRADING-RULES.

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

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

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

**No. 3.**—Must weigh at least half as much as a full-weight section. In addition to this the honey is to be classified according to color, using the terms white, amber, and dark; that is, there will be "Fancy White," "No. 1 Dark," etc.

**NEW YORK.**—We are having a good demand for white comb honey, particularly fancy stock, and same finds ready sale at 15 cts. per lb.; 13 to 14 for No. 1 white. Receipts up to date have been quite numerous, but we expect that from now on they will be lighter, as the bulk of the comb honey, we believe, has been marketed. No. 2, white, amber, and buckwheat, are in fair demand, with sufficient supplies to meet the same. We quote at from 10 to 12, according to quality. Extracted honey is in good demand, principally California stock, and strictly white sage is now selling at 7½ to 8; light amber, 7; amber, 6½. Extracted, near by, New York State amber and buckwheat at 6 to 6½ per lb., with a fair demand. Southern, in good demand at 55 to 65 cts. per gallon, according to quality, for good average stock; 75 for fancy. Beeswax finds ready sale at 30.

HILDBRETH & SEGELKEN,  
265-267 Greenwich St., New York.

Nov. 19.

**SCHENECTADY.**—We report a very active market, with advancing prices. Our stock of both clover and buckwheat is much reduced, and we would advise producers who still have their honey on hand to forward the same, as the demand always decreases at holiday season. We quote fancy clover, 15 to 16; No. 1, 14 to 15; mixed grades, 13 to 14; buckwheat, 11 to 12½. Extracted, light, 7 to 7½; dark, 6 to 7.

CHAS. MACCULLOCH,  
Schenectady, N. Y.

Nov. 20.

**ST. LOUIS.**—The receipts of comb honey are exceedingly small in this market, with a good demand. We quote: Fancy white comb honey, 16; No. 1, 14 to 15; light amber, 13 to 14; broken and inferior, less. Extracted, light amber, California, firm at 7 to 7½; Spanish needle, 7½ to 8. There is very little white-clover honey on this market; also barrel honey is scarce, and quotable at 5½ to 6 for choice Southern. Beeswax, 29 ½ to 30; all impure, and inferior, less.

R. HARTMAN & CO.,  
14 So. Second St., St. Louis, Mo.

Nov. 19.

Honey and Wax Wanted and For Sale.

**CHICAGO.**—The market is active, taking all that is offered, at the following prices: No. 1 to fancy white comb honey, 15 to 16; off grades, 1 to 2 cts. less; amber grades are irregular, ranging from 10 to 14; extracted active at 7 to 8 for white and 6 to 7 for dark and amber grades, according to quality, flavor, and package. The demand for beeswax is active at 30.

R. A. BURNETT & CO.,  
199 So. Water St., Chicago, Ill.

Nov. 19.

**TOLEDO.**—The market on comb honey remains about the same as last quotations, but has been coming in much more freely, as bee-keepers seem to be very anxious to get rid of their stock. Fancy brings, in a retail way, 16; extra fancy, 17; No. 1, 15; buckwheat, 15. Extracted white clover in barrels brings 7 to 7½; cans, the same. Beeswax, 26 and 28.

Nov. 19.

GRIGGS BROS., Toledo, Ohio.

**ZANESVILLE.**—Little attention is paid to distinctions in grading of honey either bought or sold on this market, but better grades only are offered at the present time. Fancy white brings \$3.85 to \$4.00 per 24-section case, and No. 1 about \$3.75. There is a pretty good demand for comb, and more calls for extracted in glass packages. Beeswax, 27 to 30.

Nov. 23.

E. W. PEIRCE, Zanesville, Ohio.

**INDIANAPOLIS.**—Fancy and A No. 1 white comb sells for 18 to 17, and demand is good; fancy amber, 11 to 12, with slow demand; No. 1 white, 13 to 14, demand not good. Best grades of extracted honey in 60-lb. cans bring 8 to 9, and demand is good, but higher prices will retard the market; amber extracted bringing 6½. Good average beeswax sells here at \$33.00 per 100 lbs.

Nov. 19.

WALTER S. POWDER,  
513 Mass. Ave., Indianapolis, Ind.

**ATLANTA.**—The honey market is quiet with us at this writing. We quote: Fancy white comb, 12½ to 14; A No. 1, 11 to 12½; extracted, white, 7 to 7½; extracted, dark, 5½ to 6. Beeswax, 28.

Nov. 21.

JUDSON HEARD & CO.,  
Atlanta, Ga.

**ST. PAUL.**—Fancy No. 1 white-clover honey, per lb., 15 to 16; No. 2 white-clover honey, per lb., 13 to 14; extracted white clover, in 60-lb. cans, per lb., 9 to 10.

Nov. 22.

W. H. PATTON,  
Sec. Bd. of Trade, St. Paul, Minn.

**MILWAUKEE.**—This market is in good condition as touching the best qualities of honey, either comb or extracted. Values are steadily firm at quotations. The supply is only moderate, and receipts meet quite ready sale when in good order and quality pleasing to the eye as well as the taste. We feel justified in advising shippers to send forward their good honey, and feel sure the next 60 days will show satisfactory results. We continue to quote honey in cases, 1-lb. sections, fancy, 16 to 17; 1-lb. sections, mixed, 15 to 16; extracted in barrels, cases, and pails, white, 8 to 8½; ditto dark, 7 to 8. Beeswax, 28 to 30.

Nov. 20.

A. V. BISHOP & CO.,  
119 Buffalo St., Milwaukee, Wis.

See Classified Ads. on pages 1465-1466.

## BEESWAX WANTED

We are paying 29c. per lb. cash delivered here, for

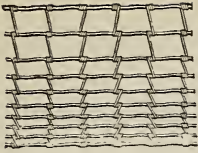
### CHOICE YELLOW BEESWAX

Send us your shipment now.

**MONEY BACK THE DAY SHIPMENT ARRIVES.**

## THE FRED W. MUTH CO.

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**WIRE FENCE 29c**  
 48-in. stock fence  
 per rod only  
 Best high carbon coiled steel  
 spring wire. Catalogue of  
 fences, tools and supplies  
 FREE. Buy direct at whole-  
 sale. Write to-day.  
**MASON FENCE CO.,**  
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 486-490 Canal St., New York  
 Wholesale Dealers and Commission Merchants in  
**Honey, Beeswax, Maple Sugar and Syrup, etc.**  
 Consignments Solicited. Established 1875.

**FOR SALE--**Extracted honey, strictly  
 pure, buckwheat, 6½c; clover mixed,  
 7c in 60-lb. cans and 150-lb. kegs.  
 This State production; best flavor.  
**H. R. WRIGHT,**  
 Wholesale Commission, Albany, N. Y.

**COOKS WITHOUT FIRE!!**  
 Saves 80 per cent of time and fuel. No odors nor  
 discomfort. Food more nutritious and palatable; can't  
 burn or dry up. **THE MARVEL OF THE AGE!** We  
 furnish full directions for making a \$15.00 fireless  
 stove out of home materials and include our new  
 illustrated **FIRELESS COOK BOOK** for only \$2.00,  
 or for 10 cents, will send photo and pamphlet "C 3"  
 Approved and used by U.S. Army. Agents wanted  
**Fireless Cookstove Co., Oakland, Cal.**

The Danzenbaker Twentieth Century Smoker

Awarded Highest Prize  
**A GOLD MEDAL**  
 at the World's Fair.  
 St. Louis, 1904.



**BEST,  
 COOLEST,  
 CLEANEST,  
 STRONGEST.  
 CHEAPEST.**

**Largest Smoker Sold for a Dollar.**

We Send Direct from Factory to Buyer when the  
 Nearest Supply-dealer Does not Keep it.

It has a side grate that strengthens the fire-cup,  
 and holds a removable metal and asbestos lining that  
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 valves to get out of order or snout to clog.

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

**ALL THAT IS CLAIMED.**—The General Manager of  
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I have given your Twentieth Century a thorough  
 trial. For convenience in lighting, durability, and  
 long time one filling will last and give ample smoke.  
 I find it all you claim. In the spring I shall want  
 several. I always want the best.

N. E. FRANCE, Platteville, Wis.

Price \$1.00; three for \$2.50.  
 By mail add 25 cents for postage.  
 Send for circular giving fuller details.

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New crop honey, comb and extracted, in any quantity. If you  
 have a crop to dispose of, write us fully as to quality, quantity,  
 style of package, etc., and you will have our answer by return  
 mail. If we should fail to come to an understanding as to price,  
 we may arrange to handle your crop on consignment, feeling con-  
 fident that we can do you justice in every respect.

**WE WILL SELL**

to Bee-keepers whose crop is not large enough to supply their  
 trade, various grades of honey. Let us know your wants and we  
 will do our best to satisfy you.

**BEESWAX.** We are in the market to buy beeswax at  
 any time of the year. Write us when you have any to sell.

**HILDRETH & SEGELKEN,**  
 265-267 Greenwich St., **NEW YORK, N. Y.**

# Gleanings in Bee Culture

*Devoted to Bees, Honey, and Home Interests*

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

J. T. CALVERT, Business Manager  
A. L. BOYDEN, Advertising Manager

POSTAGE IS PREPAID by the publisher for all subscriptions in the United States, Hawaiian Islands, Philippine Islands, Guam, Porto Rico, Tutuila, Samoa, Shanghai, Canal Zone, Cuba, Canada, and Mexico. For all other countries in the Postal Union add 48 cents per year postage.

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DISCONTINUANCES.—The journal is sent until orders are received for its discontinuance. We give notice just before the subscription expires, and further notice if the first is not heeded. Any subscriber whose subscription has expired, wishing his journal discontinued, will please drop us a card at once; otherwise we shall assume that he wishes his journal continued, and will pay for it soon. Any one who does not like this plan may have it stopped after the time paid for it by making his request when ordering.

HOW TO REMIT. Remittances should be sent by Draft on New York, Express-order or Money-order, payable to order of The A. I. Root Company, Medina, Ohio. Currency should be sent by Registered Letter.

AGENTS. Representatives are wanted in every city and town in the country. A liberal commission will be paid to such as engage with us. References required.

## Foreign Subscription Agents.

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Find enclosed.....for which please send me Gleanings in Bee  
Culture.....months, and.....as per offer.....

Please continue sending Gleanings until otherwise ordered.

Name.....

Postoffice.....

County..... State.....

Date.....

If you want Gleanings discontin- ( )  
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# Advanced Bee Culture!

One of the most difficult tasks of my life is that of writing an advertisement of **ADVANCED BEE CULTURE**. Be as modest as I can, it still smacks of egotism—sounds like a parent praising his own child. If the book had been written by some other man, the writing of an advertisement would be comparatively easy. However, even at the risk of laying myself open to ridicule, of becoming a laughing-stock, I am going to *forget for once* that I am its author and publisher, and write as though of another's work.

When 18 years old I visited an apiary in swarming-time; saw bees hanging in great golden-brown clusters from the swaying boughs of the old apple-tree; saw the snowy white combs growing as by magic; saw the waxen cells filled with nectar, and inhaled that *sweetest* of all perfumes—the odor from a bee-hive in harvest time. I was filled through and through with enthusiasm. Here was a business that was most truly

## The Poetry of Life.

I was that day born a bee-keeper. There was no longer any doubt as to what should be my life occupation. I at once began buying bee books and journals, and visiting bee-keepers, and studying the business from every possible standpoint. It was six years later before I was able actually to engage in the business, but I then possessed as thorough a theoretical knowledge of bee-keeping as does a young physician of medicine when he begins to practice.

All this was 30 odd years ago; and, since then, I have

## Run the Whole Gamut

of bee-keeping, time and time again. I have practiced all sorts of methods for artificial increase. I have battled with the difficulties of natural swarming; I have produced tons and tons of comb honey; have tried my hand at extracted-honey production; I have reared and sold thousands and thousands of queens; I have exhibited bees and honey for 15 consecutive years at from one to half a dozen State fairs, I have wintered bees in all sorts of ways, out doors and in, in cellars and buried in clamps; I have attended nearly all of the conventions of a National character;

## Visited Hundreds Bee-keepers

in their homes, scattered from ocean to ocean and from the lakes to the gulf. I have read all the books and journals; for nearly twenty years I have published the *Review*, enjoying the confidence and correspondence of bee-keepers scattered all over this country; in short, I have been a wide-awake, enthusiastic, practical, actual, work-a-day, bread-and-butter bee-keeper all of these years, making a living for myself, wife, and little ones, *out of bees*.

**ADVANCED BEE CULTURE** is the

## Ripened Fruit

of all these years of varied experience; it is the crowning effort of my life. I look upon it as the best piece of work that I have ever done, or, perhaps, ever will do. It is written from a bread-and-butter stand-

point. It teaches how to make a living—yes, more than that.

## Make Money out of Bees.

From all of these sources I have mentioned, from my own experience, and that of the men with whom I have associated, I have described the most advanced, the *best* methods, of keeping bees for *profit*. I begin at the opening of the year, and go through the season, step by step, touching briefly but clearly and concisely, upon all of the most important points, showing their relationship one to the other, and how, joined together, they make a perfect whole. If I could have had this book twenty years ago, and followed its teachings, I might now have

## Been a Rich Man.

I say it fearlessly, because I *know that it is true*, that no practical bee-keeper can afford not to read it. The courage, enthusiasm, and inspiration alone will be worth more to him than the cost of the book, to say nothing of the more practical instructions. Many a man falls from a lack of these very useful qualities, and the perusal of **ADVANCED BEE CULTURE** will do much to help him in this respect.

One more point: A dozen years ago I took up photography as a hobby, as a pastime. I have studied it just as you have studied bee-keeping. I have read journals and books on the subjects, attended the conventions, etc. I have lugged a large camera along with me all over the United States and Canada, and used it with loving care. **ADVANCED BEE CULTURE** contains the

## Gems of this Collection

of all these years—a collection that is simply unapproachable in the line of apiculture.

The book is beautifully printed with clear large type, on heavy enameled paper. It is bound in cloth of a bluish drab, and the front cover embellished with a green vine of clover, a

## Bee of Gold

sipping nectar from the snowy-white blossoms of the clover. Taken all in all, it is a beautiful book.

If the advertising that I have done in the past has not convinced you that you need the book, then the fault is in the *advertising*, and, for this once, I have curiosity and said just what I think of the book, just as I would of some other book—I may never do it again.

Price of the book, \$1.20, or the *REVIEW* one year and the book for only \$2.00.

## Special Offer.

Just at present I am offering all of the back numbers of this year free to all who send \$1.00 for 1907. In other words, you can get the *Review* for 1906 and 1907, and this book for only \$2.00! I know of no way in which you can get so much helpful, practical, valuable apicultural information for so little money.

# W. Z. HUTCHINSON, FLINT, MICHIGAN

## Ohio and West Virginia BEE-KEEPERS

— Order —

Root's - Goods - from - Zanesville

Nine railroads, Muskingum and Ohio River steamboats, and all express companies, insure a saving of freight and time. Write now for catalog and special discounts.

E. W. Peirce, Zanesville, Ohio

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about good wheels and good wagons that will save you a lot of work and make you a lot of money—the

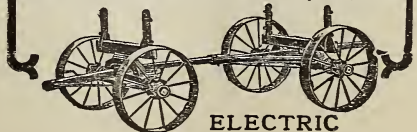
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By every test, they are the best. More than one and a quarter millions sold. Spokes united to the hub. Can't work loose. A set of our wheels will make your old wagon new. Catalogue free.

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**ELECTRIC**

# Gleanings in Bee Culture

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Laws, W. H.....	1532	Stahl, George H.....	1525	Storrs & Harrison Co.....	1523

# At St. Louis

On a  Line

to all points in the South and Middle West.

Send for our free illustrated catalog of

## Root's Bee-supplies

We sell at factory prices, and are allowing a four per cent cash discount during December. Send us a trial order.

**Beeswax Wanted.**

### Blanke & Hauk Supply Co.

DEPT. B.

202-204 Market St., St. Louis, Mo.

Manufacturers and Jobbers of Dairy, Creamery, Ice-cream, and Poultry Supplies.

# Northwestern Bee-keepers!

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

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

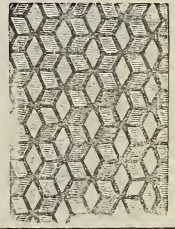
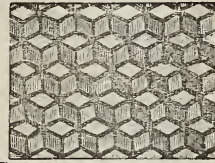
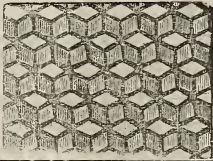
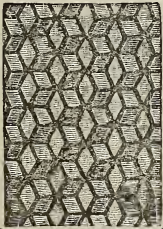
Secure a catalog at once.

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

### The A. I. Root Company

H. G. ACKLIN, MANAGER

1024 Mississippi Street, St. Paul, Minn.



They

Balance



Every inch of our foundation is equal to every other inch. Why not secure your foundation now for next season? On all orders for December there is a discount of 4 per cent.

THE A. I. ROOT COMPANY, Syracuse, N. Y.

## A Page with Our Readers and Advertisers.

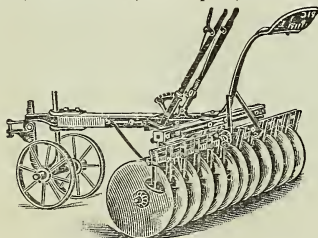
### A GREAT OPPORTUNITY.

Last year we had many letters from advertisers expressing regret that they were not able to have their ad's inserted in our special number for Dec. 15. We will again issue a Christmas number, which will, in several ways, exceed that of 1905. The greatly increased circulation and interest taken by our subscribers in this number makes it of unusual advertising value. Our old rates, based on 20,000 circulation, will remain in force. Send in copy for new or additional space at once.

SASH, DOOR, AND MILLWORK BARGAINS, WRITE GORDON VAN TINE & CO. FOR CATALOG, AND BUY GUARANTEED BUILDING MATERIAL AT 50 PER CENT SAVING—QUALITY AND SAFE DELIVERY GUARANTEED.

Gordon Van Tine & Co., of Davenport, Iowa, are the largest manufacturers in the world of sash, doors, millwork, and building material. Their catalog tells all about their own timber lands, their own sawmills, their factories, their enormous capacity, their guarantees of quality and safe delivery, and shows why they save 50 per cent over dealers' prices, no matter where you live. They sell by mail order only, and guarantee safe delivery and quality.

To get the benefit of this saving, whether you are a contractor, carpenter, or individual user, or whether you want a \$5 or a \$10 order, whether you are going to build a handsome home or put storm windows in the old home—first write for the catalog to Gordon Van Tine & Co., Station A 83, Davenport, Iowa.



This catalog is so simple you can order every thing by letter and save 50 per cent.

The catalog is illustrated, and one of the main features is a set of pictures and complete architect's plans for five houses of moderate cost, which in itself saves many a builder the expense of having plans drawn.

In fact, the Gordon Van Tine & Co. catalog is such a complete one that it has become a standard reference book in thousands of country homes, to be consulted whenever any building is to be done. Write today and get your order in before prices go up.

### A QUEEN-BREEDER'S OPINION.

The surest indication that a paper is read and appreciated is in the manner its advertisements are answered. That GLEANINGS pays its advertisers is forcibly presented by a recent letter from Mr. Simmons.

Gentlemen:—My ad. in GLEANINGS has brought me more business than I can attend to. It always brings a rush of orders with every issue. My ad. in your paper brings us great results.

E. A. SIMMONS.

Greenville, Ala., Sept. 24.

One of the most welcome farm papers received at our office is the old *Farm Journal*. This magazine seems to have the personality of some dear farmer friend who speaks the plain simple truth, and whose advice is always heeded. We wish our readers would look over the ad. found on page 1536. Some very attractive offers are made. If you are not familiar with the *Farm Journal*, GLEANINGS assures you that there will be no disappointment in the receipt of the first number, and that every succeeding issue will become more valued.

Study your own advertisements more and your opponents' less.—*Burba's Barbs*.

### WINTER EGGS.

If you are interested in this subject, write the F. W. Mann Co., Milford, Mass., Box 37, for their book entitled "Worms and Bugs."

WANT A POCKETBOOK? YOU CAN GET ONE FREE WITH YOUR NAME PRINTED ON IT.

Charles E. Ellis, publisher of the *Metropolitan and Rural Home*, offers to give away 5000 pocketbooks, as explained in his advertisement on page 1386 of Nov. 1 issue. His offer is to send, on receipt of a small amount, stated in his announcement, one of the pocketbooks and a year's subscription to his publication. After the three months have expired, if you order the *Metropolitan and Rural Home* discontinued to your address, Mr. Ellis will return the money paid him; if you like the publication and ask him to continue it, the amount you have paid will pay for a year's subscription; the pocketbook will be yours, and you will enjoy a high-class rural monthly magazine. The pocketbook is a very attractive, substantial article that looks like a bargain in connection with a year's subscription to the paper. Mr. Ellis explains his proposition in a straightforward talk. It is worth investigating. When writing him, be sure to mention Gleanings.

The October issue of the *American Wire Rope News* has reached our desk. It is issued quarterly, and, we judge, is sent free. At any rate, if you are interested in such matters ask Mr. F. Baackes, Sales Agent, American Steel and Wire Co., Cleveland, O., to send you a copy. If you mention GLEANINGS we are sure he will do it.

### ADVERTISING - RATES

Twenty cents per agate line flat.  
Classified columns—bona-fide exchange or want ads.—20c a line.

Discount for cash in advance, 5%; if paid in 10 days, 2%.

No objectionable advertising accepted.  
Forms close 10th and 25th of each month.  
Guaranteed circulation per issue, 30,000.

GLEANINGS IN BEE CULTURE  
MEDINA, OHIO

# SOMETHING NEW for BEE-KEEPERS.

JUST THE THING TO CALL ATTENTION TO THE USE OF HONEY.

## A SOUVENIR POSTAL CARD IN FOUR COLORS

We have secured a somewhat comic Souvenir Postal Card for bee-keepers, printed in four colors (on the same card)—red, yellow, blue, and black. At the left end the following are pictured: An old-fashioned straw bee-hive with bees circling around and above it; a sad-eyed bear with his "hands" over his sweet-loving heart; a jar and a section of honey; also a spoon with a card attached, reading, "Come, let us spoon awhile." At the bottom of the card, and at the right, are these words: "Eat thou honey because it is good."—Prov. 24:13. At the left of the bear's head, and encircled with bees, is this sentence: "I can not BEAR to lose you;" and at the top, and at the right of the bear's head and bees, is this stanza:

"Oh! won't you BEE my HONEY,  
And cheer this lonely heart?  
For I would hug you all the time,  
And we would never part"

PRICES, postpaid: 1 card, 5 cents; 3 for 10 cents (stamps or silver); 10 for 25 cents; or 25 for 50 cents. There is a blank space on the card about 2x2½ inches in size for writing.

Or we will send to a *new* subscriber 10 of these Souvenir Postal Cards and the *Weekly American Bee Journal* from the time the order is received to the end of 1907, for only \$1.00. This is a great chance to get a good trial order of these Postal Cards and also the only weekly bee-paper in America. Or a "trial trip" of 3 months and 2 souvenir cards for 20 cents. Sample of the Bee Journal FREE on request. Address

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



## You Want This Free Book

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

### Stromberg-Carlson Telephones

which are made in the largest independent telephone plant in the world. These are the best instruments for farmers' lines, because they have been constructed by experts for this particular purpose. They are described in detail in the booklet, together with full information on the organization of farmers' lines, the manner in which they are built, cost of material, etc. You want this book, F38 "How the Telephone Helps the Farmer." Write for it today.

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

## Mr. Beeman, what do you get for your money?

That's the question to consider when buying your bee-supplies.

Simply because you have bought from some other firm for years and years, and because you perhaps think that you are satisfied is no reason why you should not look around to see if you can't buy from a better firm.

You don't know what satisfaction is until you get it.

By a better firm we mean a firm selling better goods in better packages, giving better service; a firm who can and will do not only better by you than the concern you have been doing business with, but who will do the best of them all.

"I bought fifty Lewis hives from a fellow in our town last year, and I never saw nicer, whiter, better-fitting bee-hives in all my life. I have always bought my supplies from \_\_\_\_\_ so I had no idea you made such fine goods until I stumbled on to them by mistake. Now I want Lewis Beeware and nothing else."

The above is only a sample of what bee-keepers think and have to say about Lewis goods. Thousands of our customers come to us in just this way.

They come to stay.

Now, we are going to ask you to buy just five Lewis hives and five hundred Lewis sections—even less, if you do not care to run that risk—just to see what they are. We leave the decision entirely with you. If after getting a sample you are not convinced that Lewis goods are the goods for you—we don't ask your business. That's fair, isn't it?

AGENTS EVERYWHERE.

**G. B. Lewis Company, Watertown, Wisconsin.**

# GLEANINGS IN BEE CULTURE

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

Vol. XXXIV.

DEC. 1, 1906.

No 23



FRENCH SCIENTISTS have determined that the digestive organs of the larvæ of the wax-moth can destroy the bacilli of tuberculosis. Whether any practical use can be made of this interesting fact is doubtful.

CELLARED bees Nov. 19. Sorry to say they had no flight after Nov. 9. [We have not yet put our bees in the cellar, and it probably will be the first of December before they go in—a difference in locality.—ED.]

HONEY SELLING in Great Britain at 48 cts., p. 1418. Shouldn't those figures be doubled or halved, or something? [No. If my information is correct, the price at which the best grades of comb honey sell for in England is 48 cents, or 2 shillings.—ED.]

EDITOR HILL expresses doubt as to whether I know enough to know that Cuba will not be annexed. Rather unkind to awaken doubts as to one of the few things I thought I knew. But say, Harry, didn't Uncle Samuel promise that Cuba shouldn't be annexed, and isn't Uncle Samuel a man of his word?

EMPTY COMBS need more care to protect them against the ravages of mice than combs containing honey. I said that once to an experienced bee-keeper, and the reply was, "No, indeed; they prefer the combs with honey every time." That's just it. Give them combs with honey and they will eat the honey, chewing the combs very little; whereas if no honey is present pretty much all the combs will be chewed up into little bits. The value of the honey they consume is much

less than that of the combs they will destroy if no honey is present.

DR. BRUENNICH declares the view of Reidenbach, that formic acid is developed in brood-cells, utterly untenable. Planta's carefully conducted investigations clearly show its origin in the blood. One fact that knocks out Reidenbach is that no acid is found in nectar in the flowers, but it is found in nectar in the honey-sac.—*Schweiz. Bztg.*

ISN'T THAT AD. of fireless cook-stove, p. 1467, a little strained? Would you call an old trunk and an armful of hay a \$15.00 stove? And to be on a level with it I am afraid that cook-book is rather small for \$2.00. [No, not "strained" if the book describes a fireless stove that is worth a good deal more than an old trunk and a bundle of hay.—ED.]

MAJOR VON HRUSCHKA, the inventor of the honey-extractor, born in Moravia, was an officer of the Austrian army at Legnano, Italy. His leisure was occupied with bee-keeping, and one day he sent his little boy to the house with a comb of honey on a plate in a hand basket. The boy whirled it about to get rid of robber bees. The lower side of the comb was emptied, and the honey-extractor was born. After the peace of 1866, von Hruschka left the army, lived a while at Dolo, and then at Venice, where he ran a big hotel. This swamped him financially, and in May, 1888, he died a poor man, forgotten by most bee-keepers. This little tribute is to awaken in the minds of the younger members of the fraternity a feeling of warm regard for one to whom we owe so much.

HOW COULD increasing the size of bees possibly increase the number of laying workers, p. 1417? The largest hive bees I ever knew any thing about were those that Dr. J. P. Murdock had some years ago. They made worker-cells that measured 4 to the inch, with drone-cells correspondingly large. I

think I sent a sample of the comb to Medina. If large size favors laying workers, certainly laying workers should have been plentiful in that stock; but if so, I think Dr. Murdock would have mentioned it. The colony I had showed nothing of the kind, but they were not a fair test. [I am referring this to W. K. Morrison for a reply. It was he who made the statement that an enlargement of the honey-cells would result in an excess of laying workers.—ED.]

A GOOD BIT of nonsense about that second item, p. 1418—"No manufacturer or dealer desires to hold any office in a honey-producers' organization." How do you know that, Mr. Editor? And would it be a capital offense if he did? A worse bit of nonsense is the idea that a law is needed to debar certain classes from office. I don't think a man that can't hear should be elected president; but it would be foolish to pass a law to that effect. The National is made up almost entirely of bee-keepers; and if they don't want to vote for a supply-manufacturer they don't have to. They are not a lot of soft-heads, but a set of bright men who know what they want, and what they don't want, and it sounds foolish to make a law to prevent them from voting for a thing they don't want. [The number of supply-dealers and manufacturers is very small compared with the aggregate number of honey-producers or bee-keepers. While I do not think the dealers or manufacturers that have been or may be now on the list of officers have abused their privileges while in office, yet as a general proposition I believe it would be better if they were not eligible to any official position.—ED.]

The *Irish Bee Journal*, referring to a Straw, p. 1228, thinks it was not changing to a lighter but to a cleaner shirt that prevented further stings—that it might be "not the color, but the smell that caused the second and subsequent stings." Not the least doubt that bees are sensitive to odors, but that does not in the least disprove their sensitiveness to colors. It so happened that the colored shirt had just been put on clean, and it drew the first sting—the white shirt didn't. Editor Digges "uses a black felt hat, and never had a sting in it." At different times I have used a black felt hat, and had it well peppered with stings. I've changed from light to dark clothing the same day, and had more stings. I've changed from dark to light, and had less or no stings. I've worn dark clothes and my assistant light ones—I was stung severely and she wasn't. These things, happening not once, but a whole lot of times, through a whole lot of years, furnish "a whole lot of positive proofs" that are at least satisfactory enough to me to make me prefer not only light but white clothing.

My assistant adds the following suggestions: There can certainly be no odor to the black glass head of a hat-pin, and yet it has been funny to see at least a dozen bees at a time dabbling viciously at it, following it for half a day. When Huber Root was here he visited the apiary, with a black felt hat on.

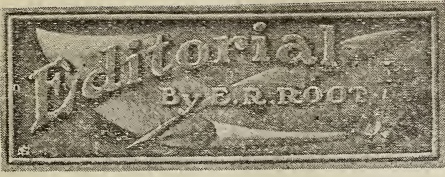
In a very short time it was *literally* decorated with stings. Huber was very much interested, and, to make sure that it was the color and not the felt that was the trouble, he went to the house and donned a gray felt hat, and came back. Not a sting did he get. He carried that black hat, with the stings in it, home, to convince Ernest. [Huber reported this incident to me at the time, showing the hat in evidence. There has been so much proof adduced on this point that I do not see how the fact can be questioned.—ED.]

RALPH I. HALE had a thousand acres of clover in full bloom within five miles, yet no surplus, and wants to charge the failure to an insect, p. 1445. I had perhaps as much clover here, and certainly as much failure, but I don't charge the failure to any insect. The clover blooms and blooms and blooms, all right in appearance, but the bees just don't get any honey. Seasons of this kind occur with painful frequency, and I wish somebody could tell us what the trouble is. [Is it true that these off seasons of clover are coming with more painful frequency than formerly? Is it not rather true that there is less of clover owing to intensive agriculture than twenty or thirty years ago? When a season comes along that is unfavorable to the clovers, for secreting nectar, the very greatly decreased acreage makes the shortage much more pronounced. There is less pasturage for cattle and consequently less clover for bees. Twenty years ago there was comparatively little beef raised in the West; but now a great deal of western beef is shipped in. While our population has increased, I am of the opinion that the actual figures would show that we have less of pasturage for cattle per 1000 population than we had before irrigation was opened up in the West. If that be true we have less clover; but that is not all—we have more bees and bee-keepers for that same population.]

Do you think it is possible that nature has changed in any way during the last twenty years in the amount of nectar secured from clover for a given acreage? Is it not rather true that there is less of that acreage, and hence a noticeable shortage—a shortage that would not have been apparent when there was a larger acreage of clover?

Precisely the same condition holds true in a locality now overstocked which formerly had comparatively few bees to gather the nectar. Bee-keepers in the great West are beginning to feel the influx of Eastern bee-keepers into their territory, and the result is they have every now and then poor seasons—something they never knew of years ago. It is not that nature is less lavish than she used to be in secreting nectar, but, rather, that there are either too many bees for the pasturage, or, to put it another way, too little pasturage for the same number of bees that, twenty years ago, gathered a good crop of honey. When we remember that nature during centuries makes no noticeable changes in the character of its species, we are almost forced to conclude that clover per head yields as much nectar as ever.—ED.]





OUR last issue was a little late, owing to the fact that we are preparing to move into our new quarters. Some paper that we had ordered for our new press had not arrived.

OUR Christmas number is going to be a beauty. The entire number will be issued from our new publishing house, and a large portion of it will be printed on our mammoth new press. Of its kind it is within two sizes of being the largest and most expensive that is built. This will enable us to triple our output.

IN the Australian *Commonwealth Bee-keeper* is a notice of a eucalyptus which is claimed to be hardy. As it grows naturally on the mountain-tops of Tasmania there is some chance of this being so. It grows only as a shrub, and flowers very young. Our bee-keepers in the Gulf States ought to investigate this proposition, as such a bush is likely to be popular. It might grow also in North and South Carolina, Georgia, Tennessee, and Arkansas.

THE Rev. Paul Schönfeld, who was pastor of a church in Teutschel, Germany, for 42 years, and one of the brightest bee-keepers this world has ever produced, died recently at his home in Lieguity. He was born in Lower Silesia. We are indebted to him for most of our knowledge of chyle food and royal jelly. Practically all our knowledge as to the functions of the chyle-stomach of the bee we owe to him. He was an expert on the anatomy and physiology of the honey-bee—probably the best we ever had. He was 85 years of age when he died.

#### BEES FOLLOWING THEIR OWNER TO HIS GRAVE.

OUR readers have doubtless seen a news item going the rounds of the press, to the effect that a bee-keeper in or near Des Moines, Iowa, who recently died, was followed to his grave by his bees. The item even goes so far as to state that, when their owner died, they became immediately very uneasy, and swarmed out and hung around the trees in the cemetery. Quite a number of our subscribers have asked what this all meant. It does not mean any thing. The weather may have been warm on the day of the funeral; and on such days after a cold spell bees are likely to make themselves particularly numerous *everywhere*. That they swarmed out and hung on the trees in the cemetery is

utter nonsense. The statement probably originated in the brain of the reporter, who was writing to fill up space and make a general sensation.

#### HONEY-SUCKLE APIARY AT MALTABEND, MO.; A BEE-YARD CONVENTION OR FIELD MEETING.

ON the front cover page of this issue will be seen a very pretty apiary belonging to E. G. Guthrey, at Maltabend, Mo. This yard contains something like 100 colonies, and, as will be seen, it is very neatly arranged and especially fitted for the entertainment of visitors.

Mr. Guthrey, the owner, is Vice-president of the Saline Co. Bee-keepers' Association—an organization which had a field meeting at his apiary on the 14th of July last. Mr. R. G. Robert is President, and M. E. Tribble is Secretary. The county association is a sort of club of bee-keepers that meets every six or eight weeks, or at least that was the plan of the organization.

Apparently this journal is in good favor with the members or the owner, for there is a tent at the left-hand corner with the word "Gleanings" across the top of it. Then there is another tent or booth on one side of the apiary, where the members, after they finish their field work, can assemble and discuss their work, and talk as only a lot of bee-keepers can. On an occasion of this kind, with only a small gathering the discussion is probably informal, all taking part. It is just such free-for-all conversation that brings out valuable hints, and why? Because everybody can and will talk.

Mr. Guthrie reports that last year was a very poor one; but nevertheless he had one colony of hybrids that stored 259 lbs. of first-class extracted honey on full sheets of foundation.

The Saline Co. Bee-keepers' Association has worked up a great deal of interest and enthusiasm on bees—so much so that it recently entertained the Missouri State Bee-keepers' Association at Marshall, the county-seat of Saline County, about ten miles from where Maltabend is located. The effect of these field meetings at Mr. Guthrey's yard, which many have attended, has been such that there was a large attendance of the State Association. The members report that they were highly pleased with the entertainment that they received from their hosts.

Among the subjects were foul-brood inspectors, queen-rearing, uniting weak colonies, foul-brood laws, etc. There was a fine display of honey, beeswax, and bees in an observatory hive.

The following officers were elected: J. W. Rouse, President, Mexico; E. G. Guthrie, Vice-president, Maltabend; Robert A. Holcamp, Secretary and Treasurer, St. Louis. Mr. H. is a director in the National Bee-keepers' Association, and an enthusiast on bees.

GLEANINGS will be glad to encourage any of these field meetings, as it believes that discussion accompanied with field demon-

stration is a most effective way of disseminating information. To know how to do a thing theoretically can not be compared to seeing the thing done practically. What one sees he remembers, while what he reads or is told he may forget.

#### THE 37TH ANNUAL CONVENTION OF THE NATIONAL BEE-KEEPERS' ASSOCIATION.

The convention of the National Bee-keepers' Association at San Antonio, Nov. 8, 9, and 10, was one of the largest and most enthusiastic ever held. The General Manager's report showed an excellent financial condition and a good healthy state of affairs all around. It is doubtful whether the National ever held a meeting where more actual good was accomplished for the bee-keepers of this land.

It will be impossible, because of lack of space, to give a full and detailed report of this big meeting; but a few of the good things accomplished can be mentioned. Fewer papers were read this year than last, for it was the intention of the program committee to have more of the question-box so that all could have a part.

One of the first and most important questions submitted was that concerning freight rates for honey. In the discussion which followed, the fact was brought out that these rates on comb honey are very unreasonable; and that if proper steps were taken the classification could be so changed as to be of untold benefit to every shipper of honey. It was decided that a committee should be appointed to confer with the railroad classification committees for the purpose of bringing up this matter and getting some reduction so that comb honey would not have to be shipped always at first-class rates.

In order to get this in proper form the whole question was put into the hands of a resolution committee who submitted the following:

We, the committee on resolutions, recommend that the following resolution be passed by the National Bee-keepers' Association in convention assembled:

*Resolved*, That a committee of three be appointed by the President, of which the General Manager shall be one and be its chairman, for the purpose of securing more favorable freight rates on the products of the apiary, namely, honey, bees, and beeswax; that the Board of Directors be requested to pass a resolution authorizing and directing the General Manager of our Association to pay out of the funds of the Association the necessary expenses of the committee, and such expenses as may be incurred in bringing before the railroad officials such articles as may be necessary to demonstrate the packages on which resolutions are desired.

This resolution was unanimously adopted. Since General Manager France is chairman of this committee, all the members can be very sure that there will be "something doing," and that the work will not be delayed or hindered. The other two members appointed were Robert A. Holecamp, of Saint Louis, and Fred W. Muth, of Cincinnati—both strong men who will do their best.

There is another thing of great importance that should be mentioned here. General Manager France said that for some time he had been working on a scheme for a nation-

al honey-label, and he had gone so far as to have a quantity of the labels printed so that any one might take one as a sample to see what it is like. These would be furnished at cost to the members; and each member, furthermore, would be provided with a permanent number, so that, no matter how many labels he purchased, he would still keep his original number, which would be printed on the label. This, as can be readily seen, will be a guarantee of purity.

All through the convention the Texas people showed their true hospitality. The Mexican banquet was a never-to-be-forgotten feature.

"We-all sure liked it, and would be right glad to meet up with you-all again some time."

#### THE INSPECTORS' MEETING AT SAN ANTONIO; PRELIMINARY REPORT.

The inspectors' meeting at San Antonio, Texas, Nov. 12, was a grand success. There was a good attendance, consisting of inspectors and many others who had stayed over after the National convention to learn what they could.

Dr. G. F. White, of the U. S. Department of Agriculture, gave a very interesting address on the bacteria of bee-diseases, showing the methods pursued in making cultures of all the bacteria in the juices of larvae, and studying those which were found to be the cause of the disease. The point was brought out that the microscope alone can not be relied upon.

Dr. E. F. Phillips showed that there were evidently two distinct brood diseases in Europe, as well as in America, resembling each other very closely. These are commonly known as foul brood and black brood, but should more properly be called American foul brood and European foul brood.

A discussion of the practical methods for curing these diseases followed, and the question of the laws of the different States was also taken up.

We expect to publish a full official report of this meeting later, and it will be well worth the close attention of every reader.

#### "BEE-KEEPING FOR BEGINNERS," BY WALTER CHITTY, F. S. C.

This little book has been prepared in accordance with the regulations of the English board of education, being primarily intended for use in "board" or what we would term public schools. From what we can see, the book will fulfill its mission to the letter, as the matter is excellent, clearly written, well printed, well illustrated, and the book itself well bound. It is, therefore, excellently adapted to use in schools; but we opine it will also be found very useful to amateur beginners who want a very simple book to start with. Mr. Chitty has long been known as a practical bee-keeper, and, what is pleasant to record, evidently appreciates old Father Langstroth at his real value. This may be mentioned because some English writers seem desirous of robbing Langstroth of his

rights as the inventor of *practical* movable-frame hives. Some of the illustrations of hives are excellent, particularly that of the "Holborn," which is evidently an up-to-date home for a hive of bees. In this country we have long since discarded the straw hive, and it seems strange to find it referred to in a work of this kind; but this is probably to suit the views of the Board of Education, who may love old-fashioned things even when they are bad. It is recommended because Mr. Pettigrew, a Scotch bee-keeper, made \$480 in one year with it; but some men in this country have cleared \$8000 in a season with wooden hives, and quite possibly some have exceeded this, selling the honey, too, at half the price it would sell for in England. In the matter of foundation, frames, sections, etc., this book is right up with the times, however.

A school-book on bee-keeping would be a novelty in this country; but we see no reason why bee-keeping should not become a school-subject in many parts of this country, where bee-keeping is not well developed. This book shows our English friends are not slow on the subject of sound education for the rural population. The book is published by the old reliable firm of Kegan Paul, Trübner, French & Co., London.

"WHAT'S THE USE OF KNOWIN' SO MUCH,  
WHEN SO MUCH YOU KNOW AIN'T SO?"

MR. S. J. GRIGGS, of the Griggs Brothers, Toledo, the honey merchants of that city, visited us recently. I asked him what he thought would be the effect of the Hepburn pure-food law on the honey business.

"Decidedly beneficial," he said. Prices, in his opinion, would seek a higher level than they had ever obtained before. The comb-honey canard would not then have any foundation upon which to stand.

He told a number of amusing instances in his experience in selling honey, of how that phantom canard would every now and then be thrown up in his face. Once when he was making a demonstration at one of the bee and poultry shows, an old lady came up, looked over his nice comb honey, and nodded very wisely, saying, "All manufactured." Mr. Griggs paid no attention, for he was giving some bees water through the wire cloth of an observatory hive. A daughter of the old lady remarked, looking at some bottles of very nice extracted clover honey, "But, mother, here is some nice strained honey."

"Naw," retorted the elder, "that is nothing but sugar-fed stuff—can't fool *me*."

Mr. Griggs immediately sided with the old lady in this wise:

"You are right, madam. Now just watch me and I will show you just how I do it. See, I am pouring the stuff on the top of these bees. Now if you will wait a minute, you will see it come out of the entrance of the hive right into this dish.

"But say, madam," he added, "how do you *know* comb honey is manufactured?"

"Oh!" she retorted with a toss of her head, "I have eaten too much of it to be fooled. I know it when I see it and taste. Can't fool *me*."

Mr. Griggs was all but squelched, for he knew that a woman convinced against her will is of the same opinion still. He made, however, one more attempt:

"You do, eh? Say, my dear lady," he said, growing serious, "if you will prove that there is one pound of manufactured honey on the market, I will see to it that you will get several thousand dollars. The National Bee-keepers' Association, with a membership of something like 2000, and a big fund in its treasury, has offered over \$1000 for proof of what you are talking about; and, what is more, I know of a big firm that will pay an equal sum. Yes, my dear woman, there is a big pile of money waiting for you when you prove your statement."

"Ahem!" said she, becoming a little bit shaken in her faith, "it tastes like it, anyhow."

"But it does beat all," said Mr. Griggs, "how many people believe that comb honey is manufactured. One of my best customers, a man who produces nothing but fancy and No. 1 comb honey, sections all scraped, and combs built clear out to the wood, took a sample of these goods to a grocer in a neighboring town. He displayed it on the counter, and held it up before his would-be purchaser. The man examined it with a great deal of interest, and then, with a knowing smile, said, 'Yes, it is genuine manufactured comb honey. Real bees' honey is not so perfect nor so clean and pretty as this.' The comb-honey producer was too mad to argue the question, so he grabbed up his case of honey and ripped out, 'You are a good guesser, you are.' Out he went and slammed the door.

"Now, may be that grocer," continued Griggs, "thought he had actually spotted a man who was putting out the bogus stuff, and that the rascal admitted the fact. I would have turned around and argued the matter with him a little, and convinced him it was a mistake, and asked him to sample the honey with the view of making him a purchaser. But not so with our gilt-edged comb-honey man. He had no time to fool with such a know-it-all ignoramus."

It is no doubt true that an extra-fine lot of comb honey, clean and well scraped, combs pearly white, and well filled out, to some people appear not so honest as bee-bread propolis-daubed honey from the old farm of yesteryear. These beautiful clean goods they think must be manufactured.

*Moral No. 1.*—"What's the use of knowin' so much, when so much you know ain't so?"

*Moral No. 2.*—What's the use of scraping sections, and selling only fancy to those who know so much? Why not sell such chaps bee-bready chunk honey? Let them have what they want, and charge 'em a good round price until they know less, or, rather, know more, about their own business?



NEW ZEALAND — A GOVERNMENT OF THE PEOPLE AND BY THE PEOPLE; WHAT ITS GOVERNMENT DOES FOR BEE-MEN.

For several years New Zealand has been attracting the attention of the world in a commendable way. It consists mainly of two islands, in size about like Illinois and Indiana. Although politically a ward of Great Britain, it is practically as independent of the mother country as is Canada, while geographically it is as far from England as it can be on this globe, being 180° east or west of London, and as far south of the equator as that city is north; so that, while the New Zealanders stand quite parallel with the King of England, their heads are opposite while their soles come together except the trifling intervention of 7980 miles of globe between them. In this pleasant nook of the far south some political questions have been solved as to the proper function of a government in relation to the people; and in no other place on earth have we a better example of "a government of the people, by the people, and for the people," than there. The political boss has no job in New Zealand; the natural blessings of nature are not made the subjects of monopoly; the people make their own laws, and all have an equal opportunity.

One of the best features of that far-off land is its Department of Agriculture; and whatever modern science can do to place that greatest of all industries on a high and firm footing has been and is being done there. The agricultural bulletins published in New Zealand are of the highest order, and may be read with interest by all.

These reflections were called out by a recent reading of Bulletin No. 5, on bee culture, which industry is under the immediate supervision of Mr. Isaac Hopkins, a man who has thrown his exceptional energy and ability into his work. The bulletin in question treats on the following subjects: The use of comb foundation; ripening extracted honey; foul brood; the large bee-moth; apiculture in relation to agriculture. I intend to make liberal extracts from these later.

I was about to say more about Mr. Hopkins and his work when the following letter was received from the editor of the *Waikato Times*—a man who is fully competent to handle the subject, being right on the ground, and who, I am glad to say, entertains as high an opinion of Mr. Hopkins as I do. He says:

BEE-KEEPING IN NEW ZEALAND; WHAT THE STATE IS DOING; FOUL BROOD A GREAT DRAWBACK.

New Zealand is a great undeveloped bee country. With an area of 104,000 square miles, a temperate to

sub-tropical climate, and most of the land divided between agriculture and grazing, there are few, if any, parts of the colony where honey production can not be profitably carried on. What little honey is raised is some of the finest in the world, and fetches the highest prices in the European markets; but the quantity is so insignificant that the Government Year Book does not mention it. The Agricultural Department has at last awakened to these facts, and has resolved to make the industry a big success.

Early in 1905 Mr. Isaac Hopkins was appointed Government Bee Expert. A better man could not have been chosen. Mr. Hopkins is the author of the "Australasian Bee Manual," and the pioneer of scientific bee-keeping in New Zealand. Since his appointment he has visited almost every apiary in the colony, and worried and exhorted the box-hive barbarian, delivered many lectures, established the first State apiary, prepared two departmental bulletins, and helped to start bee-keepers' associations. He estimates that, within the next few years, there will be 100,000 profitable bee-colonies in New Zealand. These should produce, even in a poor season, over 20,000 tons of honey, which, if exported, would return something more than \$300,000; and that should not be the end, for in time Mr. Hopkins (and he is a cautious man, prone to understatement) thinks the output may be three or four times that indicated above. New Zealand alone, he considers, could absorb at present 600 tons without a serious reduction of price, and nothing approaching that quantity is offered.

The industry, however, is growing for the season which closed in March (New Zealand seasons are antipodean) saw an increase in the number of colonies kept, which, in some districts, must have been nearly 50 per cent.

Mr. Lenz, of Masterton, is probably the biggest bee-farmer in the country. His output for the season of 1903 and '4 was 20 tons. The few men who go in for scientific bee-farming are generally quite up-to-date in their methods. They read *GLEANINGS* and other journals; they import and rear queens, run nuclei, and control swarming. But Mr. Hopkins found that, of the colonies he inspected, 16 per cent in the North Island and 58 per cent in the comparatively inclement extreme south, were housed in common boxes, and destined to the yearly holocaust of the sulphur-pit. The proportion must really be much greater, because many settlers, whom the expert would never hear of, have a few boxes of bees in their gardens. Wild swarms the progeny of the black bees introduced many years ago, are plentiful in the season, and the farmer thinks it no trouble to take any that come his way and let them shift for themselves until he wants to rob them. It is these neglected colonies that are the chief source of foul brood; but when the foul-brood bill becomes law, as it probably will this year, the numbers will be greatly reduced. The bill will create inspectors with power to supervise apiaries and enforce the destruction or proper treatment of infected colonies.

Foul brood is the one great drawback to bee-keeping in New Zealand, and bee-keepers say that, if it is not suppressed, it will suppress the industry. One bee-keeper who has 220 effective colonies had to treat 30 for this disease during last season, and his experience is not exceptional. What is needed is a means of cutting off the sources of infection, and that will be supplied by the proposed legislation.

The first State apiary is located on the Government Experimental Farm, near Hamilton, in the Waikato district. Two or three others will be established next season. That on the Ruakura Farm began the season with 33 colonies, and increased them to 55, chiefly by artificial swarming. Next season there are to be 80.

For some time to come the objects of the State apiary will be educational rather than experimental. With this view a lady with English training, Miss Livesay, has been placed in charge, and she hopes to popularize the industry among the farmers' wives and daughters. The supervisor, Mr. C. Sinton Hutchinson, is one of the best scientific bee-keepers in the country. The Langstroth hive is used, as is the case throughout the country, its general adoption being due to the efforts of Mr. Hopkins many years ago. American bee literature, too, is read far more than English, which, indeed, is but rarely seen.

The bees at the State Farm are hybrids, and nothing has been done yet to improve the strain; but next season Mr. Hopkins will import some of the best Italian queens. There will also be observatory hives and probably a library.

The honey-house, built on Mr. Hopkins' plans, is of timber, with iron roof. It is divided into an extract ing-room 16x14 ft., a store and workroom 10x14 ft. I-

is intended to serve as a pattern for an apiary of about 100 hives. Two notable features are the ripening arrangement and the bee-escape device. The tank for ripening the honey is made of 1½-inch timber lined with tin. It is 18 inches deep, and is divided into two compartments, having the lower half of each side shelving inward. The idea is to expose a large surface to the air. Each compartment holds 1250 lbs. of honey. Later on another double tank will be built. The bee-escape, properly so called, is not used, but instead the windows are hung on a pivot so that they can be revolved.

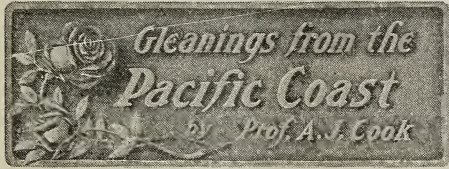
When the apiarist sees the bees getting thick on the glass he swings it around, and they are outside. It will be realized that good joining and seasoned timber are necessary to make the window beetight, and that the method has the disadvantage of not being automatic. The building, without apparatus, costs about \$200.

The bee-expert is to have a stand at the New Zealand International Exhibition, which opens next November at Christchurch.

This last honey harvest in New Zealand has been disappointing. Mr. Sinton Hutchinson took only 4½ tons from his 220 colonies. He had expected 8 tons, which was a very cautious estimate for a normal season. This was in Waikato, which disputes with Hawke's Bay the title of being the best honey district in the country. White clover is the main forage in those parts; and, though there was plenty of bloom, a quite exceptional lack of New Zealand's usual sunshine was responsible for the scarcity of nectar. Mr. Hutchinson reckons on making about \$200 a ton profit, selling on commission in Auckland.

There is a great future before bee-keeping in New Zealand, but the people want a lot of educating.

Mr. Bracher will receive the thanks of all for his interesting information.



#### MUSCLES.

Organisms are more interesting than inanimate things, as the life principle begets surprise and admiration in the student or attentive observer. The livelier the life, the greater the interest; and so animals are more attractive to the most of us than are plants. If I can show that, in this *role*, insects stand well to the front, and bees in the lead of insects, then surely I have another claim for bees in some respects as the most interesting of all life.

We usually associate voluntary motion with muscle; and in the higher forms, as far as we usually observe, this is correct; yet plants like the mimosa, or sensitive plant, move under the stimulus of the slightest touch; and the lower plants, like the bacteria and diatoms, are sprightly indeed as we view them under the microscope, and these are surely without muscle. Indeed, if we study the lining membrane of our own bronchial tubes, the lining of the nose, or the eustachian tubes (the tubes that reach from the throat to the middle ear), we shall find little cilia, or fine hairs, that are ever waving in a manner that reminds us of the grain-field as the wind disturbs its rest; yet these cilia have no muscles.

#### TWO KINDS OF MUSCLES.

The muscles that give rise to most of the motion that animals are wont to exhibit are very interesting, and are of special interest to bee-keepers who wish to know all about their pets of the hive. There are plain unstriated or involuntary muscle and the striated or voluntary muscle. Each minute fiber of the first kind is a single cell, elongate, bulging in the middle, and often possessed of more than one nucleus. I may say here that a cell, typified in the yolk of an egg, is a simple mass of protoplasm, often in animals with no cell wall, and possessed in the central portion with a nucleus, a thicker portion, of a different make-up. These cells are microscopic for the most part; and is it not interesting that they form most of all animals and plants? When we come, therefore, to the basic structure, what we are really made up of, animals and plants are essentially alike. We may almost say, then, that the plants we so much admire are our brothers; and if this will in any sense heighten our love for these gems of creation, then we may well claim them as kindred. Surely we have a common Father, and does not this make us kindred in very truth? The white and red blood discs, or corpuscles, are also cells. As I have said, these fibers of plain muscle are lengthened cells. They are the muscles of our blood-vessels, of the intestines, the stomach, and of other involuntary organs, if we except the heart. They are less easily excited to act than are the striped muscles, and less vehement in their action when excited. They seem to lack the strength and vigor which we note and admire in the striated muscle.

#### STRIPED MUSCLE.

The voluntary or striped muscle, the muscles so familiar to us, and which make up so large and so very important a part of our food, are very different from the plain muscle just described. The fibers here are cylindrical, each arising from a single cell, and may be said to be, when fully formed, a giant cell with several nuclei. Across these fibers are lighter and darker lines, and so they are called striped or striated. As they are the actors in all voluntary effort, they are well called voluntary muscles. Although these vary in strength in different muscles, yet they are always surprisingly strong.

Bee-keepers will be interested to know that the insect muscles, and so the muscles of our bees, are precisely the same in structure as are our own. In kinds, position, structure, and function there is a close similarity between the muscular fibers of insects, and so of bees, and of our own. There is only one apparent difference in our muscles and those of all vertebrate animals—the several fibers that go to make up a muscle are bound together by a surrounding membrane known as fascia, which is not found in insects.

Muscles are excited to act normally by nerves, yet they may be induced to act by pinching them, by acids, by cold, and by

use of electricity. Indeed, we may remove a muscle and excite it to act at once, and it will act in every way as if it were working in the living body as has been its wont. In fact, such a muscle may be loaded; and when the electric shock is given, the fibers will contract or shorten, and the weight will be raised just as though the muscle were in the body. If we galvanize such an isolated muscle we find that a very brief time elapses before shortening commences. It then contracts and then relaxes. Cold-blooded animals, like frogs, are slower to act, and warm-blooded animals differ. As they show greater vital activity, the muscles are more quick to respond. It is interesting to note that bees are among the very highest in this quickness to respond. We also find that the duration of a single muscular contraction varies in different animals with their vitality. In the frog it is twice as long as in man, and in the insect only  $\frac{1}{8}$  as long as in man. Thus we see the insect measures up well in the perfection of its muscular organization, even greatly distancing man himself.

Temperature also affects strength and duration of contraction. Too great cold lessens it, while heat also does the same, and also destroys the power to act. A muscle will raise a heavier weight after it has worked a little. Both kinds of muscular fibers, and the muscles of the heart, show this same tendency to improve in power after a little exercise. This explains why we often work better after we have exercised a little. The work that a muscle is capable of exerting is 35 to 40 per cent of the whole energy expended, which is more than twice the efficiency of our power engines. The human muscle is more than twice as efficient as that of the frog, of similar proportions. Here, again, our insect shines forth with surprising superiority, as it is many times greater than that of man.

#### TETANUS.

By tetanus is meant the continuous contraction of a muscle, consequent upon many rapidly repeated stimuli. Here, again, the number of stimuli necessary to produce complete tetanus varies with functional activity. In the frog it is but 20 or 30 per second, while at the other limit, in bees, it is 300. Prolonged work exhausts the muscle. Even the isolated fresh muscle will recover with rest, and the fatigue will be much slower, if a little time, only a very little, is granted for rest between each stimulus. This is a practical point, and will influence us to let our hard-worked animals have short, frequent rest-periods.

From the above we no longer wonder that the bee distances the railroad train, and that the absconding swarm sometimes shoots away with such surprising swiftness. The bee has muscles of the highest quality, as we know by direct experiments. Sensation and voluntary motion are the preëminent animal functions. One of these is phenomenal in its development in the highest insects. Must we say, then, that bees are among the highest of animals?



NEVER TOO LATE TO LEARN; THE IMPORTANCE OF KNOWING SOME OF THE SIMPLE FACTS OF SCIENCE.

I believe there is a feeling on the part of many who have had only a common-school education, and perhaps a very poor one at that, that they must necessarily be debarred from a knowledge of the sciences as something far above their reach. I believe, and know, further, that such thoughts or feelings are fancies and fallacies that should be met and exposed as false and pernicious in perhaps the majority of cases. I know there is something rather forbidding in all of the "ologies;" but if squarely met in a courageous way they may so far be overcome as to yield us great pleasure.

In my opinion, no other class of persons engaged in rural pursuits are of more inquiring minds than are bee-keepers. That they should sit beneath the tree of knowledge, with its branches bending low with golden fruitage, and be unable either to pluck or eat, seems indeed too bad. Take, to begin with, entomology. How intensely interesting to learn of the different families of insects, how they are classified, their food and habits, their relation to each other, and our relation to them! How much better to know that the dragon-fly, or, as it is often called, "devil's needle," lives on flies, mosquitoes, etc., than that it sews up the eyes of our children! How much better to be able to tell an ichneumon fly from a codling-moth than to smoke a clay pipe? How much better to be able to tell our friends from our enemies among insects than to listen to the gossip at the village store!

Some years ago my garden was overrun with the aphid (plant-louse). I tried to destroy them with kerosene emulsion, as the horticultural papers said, but they could increase faster than I could kill. The next spring they started in again; but, distrusting my ability, I found a "lady-bird" and placed her among them, and soon the aphid was overcome.

A few years ago we had an epidemic of forest-worms, and many of our forests were about as bare in June as January. Some thought, and it looked certainly as though our basswoods and maples would all be killed; but I found a little ichneumon fly at one of my yards of bees, and I knew the days of the worms were numbered. These little flies had done more than many regiments of men could do, and soon the worms were all gone.

If we take botany and learn the various parts of plants, their relation to each other, how classified, we may find it more enjoy-

able for recreation than almost any thing else. We may have noticed how the clovers—red, white, and alsike—have leaves and blossoms that are different from other plants, and we think of them as a family by themselves. Then, perhaps, we notice the melilot and alfalfa are somewhat like the other clovers, and so may be related to them; and then the peas and beans, although so different, have some things in common; while the giant locust—how like the pea in leaf and flower! and we wonder how they can have so many things in common and be so different, and so unconsciously we have been studying botany without knowing it. How much better to have a text-book, although it may be a very elementary one, from which we may learn more in an evening than in a month by ourselves! Besides the pleasure of the study of this science, it has its own rewards. Some years ago I had a plum-tree that bloomed from year to year, but refused to give me more than a few imperfect specimens of fruit. Suspecting the trouble, the next spring when the tree was in bloom I went to another tree in flower, of the same species, but a different variety, and broke off a branch and hung it up in my hitherto barren tree. When the sun came out the bees flew, and there were many marriages that day; and when the autumn came that tree was bending low beneath its bountiful load of beautiful Satsume plums. And then I marveled anew at the dislike of nature to the marriage of near relations.

The word *chemistry* reminds us at once of the chemist and his mysterious laboratory and paraphernalia of bottles and fluids and big names; but we need not be frightened. We may learn to know very well the few simple elements of which our bodies are composed, as well as the bodies of all animals about us, and, we might add, plants too, without ever entering a laboratory or taking a college course. We may then understand why pollen is so necessary when bees are rearing brood or why they can substitute flower or meal for pollen. We may then easily guess why the larva of the wax-moth can grow if it can get a bit of pollen or a dead bee or even old dirty combs, but will die if compelled to feed on pure clean wax alone.

The orderly way the simple elements unite to form new compounds is a thousand times more interesting than the latest scandal in the daily press.

Of physiology we ought certainly to know enough to be able to care intelligently for our own bodies. Many a man has failed because he did not know how to take care of himself—yes, and died because he did not know how to live. I once knew an agricultural speaker so ignorant of his own anatomy that he verily thought that what he swallowed went somehow on to his lungs instead of into his stomach, and yet he was employed to go about the country to enlighten the natives!

And so we might speak of physics and other sciences such as geology and natural

history, and even astronomy. They are all nuts that may be cracked by patient hands or heads, and their meats enjoyed by the humble bee-keeper as well as by the learned scholar.

Does all that I have outlined seem like an idle fancy or mischievous fallacy? Does it seem like an impractical thing that a man in business should be able to give time to acquire an elementary knowledge, at least, of the more common sciences, while still working for daily bread? I believe not. Where there is a will there is a way, and the number who have done it is constantly increasing. Only yesterday a lady was telling me of a man from the slums of New York city, who has recently published some books that have attracted considerable attention, yet at thirty did not even know his letters, and his material wealth does not appear to have been any greater than his knowledge of his mother tongue. I refer to Owen Kildare.

At the beginning of this year the world is vocal with the praises of Benjamin Franklin, and still we are told that he did not begin his scientific studies till past middle life, while later he was considered one of the great scientists of his time.

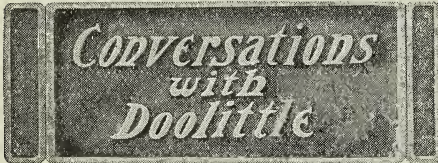
I remember well one old farmer who at seventy took up the study of Latin, and had the pleasure later of reading his old Latin authors. I admit that that was beginning rather late in life, but it shows what, with good mental powers, may be done.

We have all, I suppose, heard of Elihu Burrett, who mastered the languages while he worked at the forge as a common blacksmith; and the influences or movements that he started are still moving on to bless the world.

But I wanted to speak of another man whom I met some twenty-five years ago, by the name of Frost. He has sometimes been known as the learned shoemaker. I went with a friend to visit him in his shop one evening; and as we were alone with him he told the simple story of his life. He said that, at the age of forty, owing to close confinement at the cobbler's bench, he was quite broken down in health, and went to New York to consult a specialist who gave him no medicine, but advised him to exercise in open air; and, that there might not be too much monotony, he advised the study of botany. He said that, in six weeks, he was a well man; but so intense had his interest become in his studies that he kept them up till he had exhausted all the text-books that would help him in this country. Then he sent to Europe for a valuable treatise on his favorite subject, only to find, to his amazement when he received it, that it was in Latin, if I remember rightly. But he was not to be denied the pleasure of reading the book that had cost him so much, and so began at once the study of Latin, and was rewarded by being able to read his latest author. After that he said he never inquired in what language a book was printed if it only contained the information he sought. Later he said

he received them in French and German as well as Latin. He said he did not find it difficult to learn to read in the different languages sufficiently to read the books he had bought, as he could lay out on the counter before him the grammar and dictionaries of the different languages, and study them as he had a few minutes' time from his business. At the time I saw him he was making out a catalog of the flowerless plants of New England, as ferns, mosses, etc., for Harvard University.

But what has all this to do with bee-keeping? It is that our minds may be broadened, our knowledge increased, and we be better fitted for our work. With the same amount of strength exerted, a sharp ax applied with skill will do far greater execution than the dull ax in uncertain hands. Then the pleasure of wielding the ax is many times increased.



TEN-FRAME GALLUP HIVES; THE ADVANTAGE  
IN USING STANDARD GOODS.

"How deep the snow is here, Doolittle!"

"Yes, Mr. Sharp; we have a good foot of snow on the ground."

"Is not this something unusual for this time of the year? To-day is only November 14th, I believe."

"Yes. It is unusual to have so much snow so early in the season. I suppose that you do not have it thus in Indiana?"

"No, I hope not. I have heard that Central New York is a place which gives hardy bees; but I never thought you had winter begun thus early. Have you the bees in the cellar yet?"

"No. The bees have not had a flight since the 25th of October, and I was in hopes they might have one more flight before they were housed; but I guess I have missed it in not getting them in before this snowstorm of the past three days came on."

"But you could get them in now, could you not?"

"If I am obliged to, yes; otherwise, no. You see that the snow commenced to come before it was freezing; then later it commenced to freeze, so the snow and slush are frozen on the hives, which makes a bad mess when the hives are set in the cellar, as this slush then thaws off, letting the water run down all over the hives, bottom-boards, and cellar, thus placing the bees in a poor condition to start with. I have been caught this way once or twice before during the last twenty years, and only once have I had to set them in in this condition, as it generally

warms up enough to thaw the snow off the hives, if nothing more, before winter really sets in. But you must have had some purpose in coming down from Indiana (by letter) to see me."

"Yes. I should like to ask a question or two in regard to bee-hives."

"Well, there are bee-hives, and then there are bee-hives."

"What do you mean by that?"

"Well, I mean that, when I was younger than I am now, I thought there was only *one* hive in the world that was *best* suited to the wants of the bees; but now I am not so partial to any *one* hive."

"What hive was the *one* of your more youthful years?"

"That hive was the *Gallup*."

"Strange! That is just the hive I am using, and that was the hive my father used. You see that I came up in my father's footsteps."

"If your father used the Gallup hive it is not so strange that we have used the same hive. Elisha Gallup was one of the *great* writers on bees during the seventies and eighties, and he had a large adherence, for his articles always had an attractiveness to beginners. Then Mr. Gallup's great forte was, in that he would sit up nights to answer the questions of the merest beginner, one who did not know his first A B C in the matter of keeping bees, and he would go into the minutiae of the matter that it would be plain to the one who hardly knew a bee from a wasp. I have a stack of letters four or five inches high that came from him while trying to guide my tender feet in the way of bee-keeping."

"That was very good of him, I am sure. But how many frames should be used in a Gallup hive for the best success?"

"That depends upon what you mean by 'success.' If it is bees and successful wintering you are after, then probably the number of frames Gallup used in his hives would be best."

"What was that number?"

"Twelve."

"But I use only ten. What number did you use?"

"I started out with the regular Gallup hive, so of course used twelve. But I soon saw that, as a rule, the bees would fill two or three of these frames solid with honey at the opening of the honey harvest from white clover, so that I was carrying from 15 to 17 pounds of white honey in the hive from year to year, when this same honey might go into the surplus boxes and be sold at a good figure, thus giving me three or four dollars for each hive, if I could manage to have this first white honey stored in the boxes, while the bees would winter just as well on dark honey stored in the fall of the year."

"I see the point. How did you manage to bring things where you wished them?"

"Simply by taking out three of the twelve frames and inserting dummies made of inch lumber, with the top-bar of a frame tacked on them, to take the places of the frames."



"This reduced your hive to nine frames, then?"

"Yes; and I used those nine-frame Gallup hives for more than 25 years; and from such hives, in the year 1877, I secured over 300 lbs. of section honey from two colonies, while the average of the whole apiary was 166½ pounds."

"Whew! That almost takes my breath away. And what was the selling price of that honey?"

"I sold honey in those years from 25 to 28½ cents per pound, drawn to my nearest city, Syracuse, we having a honey-dealer there in those days who bought our crops all through this section."

"That explains how you could get three to four dollars more per colony by using the dummies as you just spoke of. When you made that statement I did not see how it was done. But this makes it plain. Bee-keeping must have been profitable in those days."

"Yes, it certainly was. And one of the things that made it so, besides the large price, was that the smallest box or section then used weighed 2¼ pounds, while very many bee-keepers used from three to six pound boxes. Now the largest sections used weigh only a pound when filled, so that the bee-keeper of to-day, when raising his 10 to 15 cent honey, has from more than twice to six times the number of boxes to scrape, crate, and get ready for market, that he had then. But we are wandering from your questions."

"Yes, I knew we were; but I was anxious to learn of these things. Do you think that my ten Gallup-frame hives are about right for comb-honey production? The white clover is our main honey-plant, but we have some linden and poplar."

"Yes. They will do very well. I like the idea of using a hive sufficiently large; and then where any queen keeps or has the frames well filled with brood at the time the flow of nectar begins, allow the whole number of frames to remain, when putting on the supers. And where the queen is not competent to keep all full, I take away all the frames she is not keeping up with brood, and put dummies in their places. In this way all hives are suited to the laying capacity of the queens when the supers are put on. I have had splendid work done in the sections by colonies which had only six Gallup frames in the hive all during the flow from white clover and basswood."

"But you did not leave them thus for wintering?"

"No. At the end of the white-honey harvest the sections were taken off, the dummies taken out, and the hive filled out with frames, and in this way the colonies generally stored sufficient stores from the fall flow for winter. In this way we are able to sell the larger part of the white honey gathered, which brings a better price in market, while the bees winter on the dark honey (just as good for them), which would not bring us nearly so much, if we had this for sale, and allowed the bees to winter on the white, as I

used to do when each hive was a full twelve frame hive."

"I see what you are driving at, and I thank you for these thoughts. But can I buy the Gallup hives and supers on the market? I know the hive is a back number, but I like it."

"I doubt about the Gallup hive being kept in stock now by any supply-dealer or manufacturer; but you should have no trouble in getting them made to order. The supply-manufacturers will fill an order for 'any old thing,' but you will want to tell them what you want a month or so before you wish to use the material, and then you will have it, just as much to your advantage as though it were something regularly kept in stock."

"That is all, and I thank you for this interest."

"You are welcome. But before you go I wish to say that there is very little choice in any of the good hives of to-day; and as you grow older you will come to think as I do—that there is *advantage enough* in using a regular line of goods to pay us for falling in-to line with the rest. It may surprise you when I tell you that I have bees in only three or four Gallup hives now, and those only as relics of the past."

"Well, that is a surprise. What hive do you use?"

"The ten-frame Langstroth; and after getting fully used to it I have no doubt that I can produce just as much comb honey with it as it was possible to do with the Gallup in its balmy days, and that with very much less labor."



#### ANNUAL MEETING OF THE ONTARIO BEE-KEEPERS' ASSOCIATION.

In spite of the very poor honey season the opening session of the association brought about as large an attendance as that organization ever had at that function. No doubt the single return railroad fare had much to do with this. The rate was secured owing to the meeting being in conjunction with the fruit, flower, and honey show, and the annual meeting of the Fruit-growers' and Vegetable-growers' Associations. Let the wise take a lesson.

The meeting opened in the spacious hall of the York County Council (free to us) at 2 P.M., Nov. 7, Pres. H. G. Sibbald, Claude, Ont., in the chair. Delegates had numbers, and there was a list to identify speakers.

In his Presidential address Mr. Sibbald stated that, out of the season's discouragements, there was this to say: They were one

year nearer a big honey crop than this time last year [laughter]. Prices had advanced to something nearer what they ought to be, and they should remain nearer to what they are at present. Bee-keeping year by year in Ontario is getting to be an occupation of greater dignity. There would be an announcement to the effect that the grant for the suppression of foul brood would be doubled. The act had been changed, taking the power to appoint inspectors out of the hands of the association, and resting it in the hands of the Department of Agriculture. A committee had met with the officers of the Department before this act had been introduced to the Legislature, and they had been unanimous in considering this advisable. The inspector or inspectors would also go out under the direction of the department.

Mr. R. H. Smith, St. Thomas, vice-president, opened the discussion on the president's address. He said bee-keeping in the province had made much progress during the 27 years since the O. B. K. A. was organized, but he would like to see much more. Many farmer bee-keepers require to be reached—men with, perhaps, only a few colonies. The proper way is to get them to attend local and other association meetings; those active and getting in touch with the *life* of bee-keeping are not the ones to cut prices. By-laws which would be submitted to the meeting had for their object the encouragement of greater activity in existing local associations, and the encouragement of the organization of new where they do not now exist.

Mr. W. H. Kirby, Ottawa, an extensive bee-keeper, spoke of the need of greater activity in local associations.

#### BETTER QUALITY.

Messrs. R. F. Holtermann and M. B. Holmes strongly emphasized the need of instructing all so that we may have a more uniform and better quality of honey put upon the market. Mr. Holmes advised any thing not first class to be sold for manufacturing purposes.

#### COMMITTEE FOR ADVISING AS TO PRICES.

The association has a committee which asks for and receives reports as to the honey crop at the earliest possible moment. They then meet, compare, and carefully go over the information in hand, and then advise as to what, in their opinion, the price should be. There was no divided opinion as to the usefulness of this committee. They have now for three or four years done their work well; and Mr. Wm. Couse, secretary of the association, said that, after acting on this committee for years, he was more and more satisfied as to the good work it is doing.

#### COMB-HONEY PRODUCTION.

Mr. N. H. Bowen, Niagara Falls, Ont., brought this subject in a paper before the convention. The essential requisites are, a good honey-flow, strong colonies of bees, convenient hives, and an apiarist who understands handling the bees and hives so as to take advantage of the flow of nectar. Care

should be taken in locating an apiary. He advocated good wintering, a good queen, ample food. He used the eight-frame Langstroth; but, if need be, enlarged this with a shallow addition on top, making it equal to a thirteen Langstroth brood-chamber. When sections were put on he placed the comb-honey super between these two brood-chambers, removing the upper when the bees were nicely started in the sections.

For comb-honey the swarming *impulse* was not the great misfortune some described it to be. He controlled it by shaking the bees on a hive containing five frames filled with wired foundation or starters—he preferred the former—and one frame of comb to catch the pollen. If this frame contained unsealed brood it did no harm. The rest of the hive was dummies. An empty brood-chamber was put underneath, and removed after the second or third day. He shook *all* the bees—in shaking, giving the brood to other colonies, and the sections removed from the old colony and given to the new. He preferred plain sections and fence separators. There should be a fence between the outside section and the wall of the super. He always used full sheets of thinnest foundation in the sections. Italian bees were not as good as Italian and blacks crossed.

The Hon. Nelson Monteith, Member of Agriculture, in a brief address stated he was deeply interested in bee-keeping; he recognized its value to other branches of agriculture, the value of honey as a food, and asserted that bee-keepers are not aggressive enough in placing honey upon the tables of the people in general. He then referred to the matter of the inspection of apiaries. The Department had sent a letter to the association, proposing to divide the province into six parts, with six inspectors and a much increased grant. The executive would be consulted in the appointments, but the Department would suggest that Mr. Wm. McEvoy be retained in his home district, and also as an advisor in case of disputes. Manyspoke, all favoring an increased number of inspectors, and it was found that there was very little difference of opinion after all in the views expressed.

Mr. Wm. Couse, Streetsville, Ont., spoke on the subject of wintering. Dryness of the condition was the keynote, with plenty of stores, and the bees kept dry, and all else appeared to be secondary.

#### BEE-SMOKERS.

A discussion as to the requisites of a good smoker showed some were in favor of a large smoker and others a small one. Mr. J. F. Miller used one with a bellows  $7 \times 10\frac{1}{2}$  in., and barrel to correspond. He held it between his knees when operating, and wanted nothing smaller. The convention was pretty well agreed upon the desirability of having a strong connection between the barrel and bellows—a smoker with the nozzle slipping inside of the barrel sides being pronounced especially weak in this respect.

## METHOD OF USE.

Light and heavy smoking was advocated. Probably a fair condensation of the opinions and arguments would be that, where there were times when a heavy volume of smoke should be used, the objection to excessive smoke was that, in robbing time, the robber bees would be thrown from their guard; in the honey season it would tend to taint the honey, and in queen-clipping and hunting time the bees would be so disturbed that it would be a difficult matter to locate the queen readily.

Mr. Miller, in addition to previous remarks, mentioned the desirability of a rim riveted inside the smoker-nozzle to keep in position the bunch of grass generally shoved into it to prevent sparks, etc., from coming out with the smoke; also a contrivance superior to a hinge for attaching the nozzle to the barrel. This device will be given by photograph and word description later.

Mr. R. Lowey gave as the best smoker fuel second-growth pine bark.

Mr. Bailey, of Bracebridge, advocated a smoker-barrel large enough to have grass at both ends; he also advocated lighting the smoker at the top of the fuel instead of nearest the source of draft.

## ELECTION OF OFFICERS.

The convention was historic in that the by-laws had to be amended to conform to the new Agricultural and Art Act. Directors were elected, and these later appointed their president and vice-president, which resulted as follows:

President, R. H. Smith, St. Thomas.

First Vice-pres., J. F. Miller, London.

Second Vice-pres., Wm. Couse, Streetsville.

Directors, W. J. Brown, Chard; A. A. Ferrier, Renfrew; M. B. Holmes, Athens; R. Lowey, Woodrows; Jas. Storer, Lindsay; J. M. Switzer, Orangeville; G. A. Deadman, Brussels; Jas. Armstrong, Cheapside; Prof. Sherman, O. A. C., Guelph.

Representative to Toronto Industrial Exhibition, E. Grainger, Toronto.

Representative to Western Fair, J. B. Hall, Woodstock.

Central Exhibition, J. K. Darling, Almonte.

Next annual meeting is to be held at Toronto.

## SOME TERSE REMARKS DURING THE CONVENTION.

Mr. E. Grainger says that, while one little girl was looking at the observatory hive at the convention, she asked another girl how to find the queen. "Why, look for the one with the crown on," was the reply.

Mr. Arthur Laing (in the discussion on the cold-and-hot method of making syrup for winter feed) said, "I make my syrup with just a stick and cold water."

A member asked, "What proportion of stick to water do you use?" [Laughter.]

Mr. Laing said, "Two to one, and be sure to use a maple stick, as it is the best wood for making sugar." [Great laughter.]



## THE HONEY CROP OF 1906.

A Visit to the New York Markets; Effect of the Importations of Cuban and California Honey on Prices of the Home-grown Product; Remedy for Low Prices.

BY E. W. ALEXANDER.

As the child naturally turns to the parent for help and protection, so we as honey-producers naturally turn to our bee journals for help and advice in disposing of our honey when the markets are supplied. We were told by good authority during the summer that, over a large section of the United States, the honey crop was almost a failure, especially in Southern California; also that in Cuba it was the lightest crop known in many years. Some of us who sold early got a good price. We were fortunate in selling our entire crop of about 30 tons early in October; but many others still have a large part of their crop unsold.

Recently I spent some time in New York city, and took pains to visit the most extensive dealers in honey in that city. I was somewhat surprised to see the amount of honey they already had on hand. One party who had a large stock bought a carload of 50,000 lbs. from a dealer while I was present, at a ruinously low figure. After this speculator went out I made the remark that that carload was quite an addition to an already large stock. The merchant said that 25 or 50 tons additional, if the price was right, made but little difference with their trade.

Another extensive dealer whom I called on bought large quantities in Cuba and Southern California. He had just returned a few days before, after having bought several carloads at from 3½ to 4½ cents per lb. on board the cars. This was all sage honey of the finest quality, put up in new five-gallon square tin cans, two in a case, all clean and attractive. I asked him about the cost of getting it to New York. He said the freight was a small fraction less than a cent a pound. I asked him in regard to Cuban honey. He said the price was about the same, usually a little cheaper for that choicest bellflower honey. We have been told many times that we need not worry about Cuban honey affecting our markets; but if you could see the hundreds of tons of Cuban honey that is sometimes on the New York market, and that of as nice quality as was ever gathered by bees, I am sure you would realize that Cuban honey is no small factor in the United States.

I asked this dealer in regard to our extracted clover honey. He said he did not

care to handle it, as he could seldom find many packages of the same shade or quality, whereas either the bellflower honey of Cuba or the sage honey of California is always the same, and any can of a carload is a good sample of the whole shipment.

Another point against our clover honey was its tendency to granulate soon after extracting. Parties engaged in the bottling business prefer honey that will keep in the liquid state until bought by the consumer.

In regard to our buckwheat extracted honey, these dealers preferred it at the same price to clover. The Jews buy large quantities of this dark honey; and the National Biscuit Co. in the spring clean up the unsold stock of these large dealers. This company is not particular about the color or quality—they look only to the price. After the large dealers have had a good trade in honey they are willing to sell what they have left at some sacrifice rather than to carry it over to another season.

I also called on some of the smaller dealers, but they said they liked to buy of the commission men best, for two reasons. First, they could buy somewhat cheaper than they could of the producers, and then they could get two or three months' time on what they bought along with other things; whereas, if they bought of the producer they had to pay cash down.

Now, my friends, with these conditions staring us in the face this season, when the crop as a whole has been a short one, what are we to do when the United States and Cuba have a good crop? I must say I for one am not competent to solve this problem. This California and Cuban honey I have just spoken of, which costs only about  $4\frac{1}{2}$  to 5 cents delivered in New York, is sold to small dealers for from 7 to  $8\frac{1}{2}$  cents per lb. You may think this a good margin of profit for the wholesale dealer; but when you take into consideration the enormous rents they have to pay, and their large insurance expense, together with all their other expenses, it is little enough for them to have to carry on their business. One of these dealers told me that their postage and stationery are two of their smallest items of expense, but still it amounted to over \$40,000 annually for each of these items; so you see they must not only do a large volume of business, but they must have a good margin of profit on nearly every thing they handle. I can see no better way than to take more pains in supplying our local market in the future than many of us have done in the past. New York, with its nearly four million inhabitants, has been a good market for our honey; but with a continual increase in the production of honey we must now look to our smaller cities to help relieve this market. Yes, and even our small country towns must not be overlooked, for they can help in a small way to work off this great surplus.

Since I returned home I have been sorry I did not inquire into the condition of our comb-honey market; but this is a part of our business that I seldom think of.

According to what experience we have had in advertising our honey, there seems to be no trouble in disposing of a large surplus; and I am quite sure that a few dollars spent in this way will soon bring the producer and consumer or dealer together, and be a mutual benefit to each.

During the past three years we have sold honey in nearly every State east of the Mississippi River, and in a few States west of it. We have had some large orders from parties in Illinois and Minnesota. These customers we got by placing a small notice in the bee journals. If we would all try as hard to sell our honey as we do to produce it we should soon find a good market for the most of it. I hope to hear from others this winter on this subject, for surely we can not do any thing of more importance to our business than to prepare ourselves for a large surplus before it comes, for come it will, and then we shall wish we had customers ready to take our whole crop. So, lose no time, but make it a point to secure some customers every season. The time has now come when we must advertise our produce in some way, if we expect to make a success of our business. I am sure I can see no other way to work off this surplus. Our village grocer can retail quite a quantity of extracted honey if we will furnish a keg to commence with. I know one party who sells nearly 1000 lbs. a season in a village of less than 600 inhabitants. He pays us  $6\frac{1}{2}$  cents, and sells for 10. His comb-honey sales are not as large nor as profitable as his sales of extracted honey. Give them a chance to make three or four cents a pound on what they can sell, and they will work off a lot of it. His customers bring a pail, and he weighs out whatever they wish. I have tried hard to produce and teach others how to produce large quantities of honey at a small expense; but one important thing in doing this is that you must have the best strain of bees that can be procured, and give them the best of care.

Now a few words in regard to getting good customers to buy your surplus. First, produce honey of the best quality—honey that is of good body and fine flavor; then through advertising in our bee journals let the public know what you have and its price. In this way we have been successful in procuring more customers than we can supply, and every season we have to return postal money orders and checks sent to us for honey after our crop is all sold. This season, about Oct. 10, soon after our honey was all gone we had an order from a party who has sold over 100 tons of our honey, for a carload to fill out a shipment to Europe. This order had to be canceled, and our only wish was that we had twice as many colonies of bees.

In conclusion I will say, deal honorably and squarely with your customers, so that, after they buy of you once, they will have confidence in what you say, and send their orders to you again in preference to a stranger. In this way you will find an outlet for your honey all over the United States, and it will be a great satisfaction when you look

at many tons in your storehouse to know that, in a short time, it will be all sold and you will have a nice sum of money to your credit in the bank.

Delanson, N. Y., Nov. 10.

[Now that the Hepburn pure-food law has been passed, taking effect Jan. 1st next, we may reasonably hope that the severe competition due to cheap honey pieced out with glucose will, to some extent at least, be removed. Nothing after that but pure honey can be sold *as* honey. As there is unquestionably an enormous demand for honey, the piecing-out of a short crop with glucose and calling the mixture *honey* will not take place as formerly. Even when the supply is good, there will be but very little glucose adulteration even then.

While we may fear the effect of Cuban honey in a good year on the Eastern markets,

## A PENNSYLVANIAN DEMONSTRATION.

BY A SPECTATOR.

One direct outcome of the Jenkintown field meeting is a greater interest being taken upon the Atlantic slope in modern methods of bee-keeping, and a realization of the importance of keeping bees in modern hives.

One of the interested spectators at that meeting was Mr. J. K. Owen, of Freeland, Pa., who is one of the State Inspectors of Orchards under Prof. Surface, of Harrisburg, and who witnessed with much interest the demonstration given by the latter in putting bees from an old box hive into a modern frame hive. Mr. Owen was then engaged in orchard inspection in Monroe County, in the eastern part of Pennsylvania, and at once returned to his territory and carried to the bee-keepers an account of what he had seen



A PENNSYLVANIA ORCHARD-INSPECTOR GIVING A DEMONSTRATION OF THE PROPER WAY TO TRANSFER.

we must not forget that there will be a constantly increasing demand for honey now that the glucose concoctions masquerading under the name of honey will no more stand in our way—at least in interstate business.

We must not, however, expect an immediate advance in prices; and should Cuban sugar be admitted free to the United States at some time in the future, this will of itself have a tendency to pull down the price of honey, as many poor will buy the cheapest sweet that can be had. We wish to indorse particularly Mr. Alexander's closing paragraphs on creating one's own market in spite of the competition of cheaper goods.—Ed.]

at the field meeting. These persons were especially interested in the method of transferring from antiquated hives to those of the modern type, and prevailed upon Mr. Owen to give a demonstration, showing the *modus operandi*. This he did at Stroudsburg about a month later, and the camera man caught him just in the act of holding up one of the frames with the comb and brood. This shows Mr. Owen on the platform, and a small portion of the crowd near it.

There was a large and interested audience at the demonstration, and so much was said and published about it that Mr. Owen was asked within a few days to give another.

He could not take time for this; but as a result of the work the managers of the Monroe County fair saw that such an exhibition would be an important and practical attraction, and they consequently arranged with Mr. J. C. Wood, the florist and apiarist, of Stroudsburg, who had seen Mr. Owen's demonstration, to give an exhibition for two hours during each forenoon at the county fair, transferring bees from old hives and "skeps" to modern hives. In announcing this, one of the local papers says, "The bee-keeping industry in Monroe County is not among the least of its many industries, and the care and culture of bees among our enterprising farmers is an interesting topic at all times. There are between seven hundred and eight hundred bee-keepers in this county alone; and the promoters of the Monroe County fair,

keepers' Association, in which he said that the greatest obstacle to progressive and most profitable bee-keeping in that State was the failure of bee-keepers to use modern hives.

### UPPER ENTRANCES.

This Plan Advised for the Production of  
Extracted Honey; Shaded Colonies Vs.  
those in the Sun.

BY W. F. CARD.

Under separate cover we are sending you a view of our apiary. It is located six miles west of Crosswell, Mich., and, as will be seen, it is partly in the shade and protection of an orchard. We have been unable to see any



AN APIARY IN WHICH UPPER ENTRANCES ARE FOUND TO BE AN ADVANTAGE.

who are always on the alert for what most interests the agricultural community, have at considerable expense arranged for a special display and demonstration at the coming fair, by one of the most experienced and practical bee-men in the county. This feature of the fair will undoubtedly add to the general attractions, and be instructive to the many who are interested in bee culture."

It is interesting to know that there are yet a few of the old-fashioned straw "skeps" used in that county, and Prof. Surface reports that he has procured some of them for the apiarian section of the new State Museum at Harrisburg. The tendency to change from the old to the modern hives is along the lines suggested by Prof. Surface in his last address as President of the Pennsylvania State Bee-

marked difference between those that are in a position where the sun strikes them early in the morning and those that are in heavy shade. They both "dig out" at about the same time, and, apparently, one works just as well as the other.

We are running most of our hives to extracted honey, using one and two upper stories, giving upper entrances to most of them, especially to those of two and three stories. The upper entrances are used more for the upper stories than for the brood-chamber below. By using upper entrances for upper stories the bees are enabled to reach the combs in the third story, and deposit their load much quicker than they could if they used the lower entrance only—at least it proves more satisfactory with us. The hive

with the cover off, from which I took the frame, gave us on an average of five gallons of extracted honey in six days during the best of our clover season, and this was no more than what we got from others that worked freely out of the upper entrances. While this may not seem like much to some, yet it is good for this locality. We have one chaff hive that will work *only* from the upper entrance. We run it for comb honey, allowing them an entrance at the end of each super. They gave me 84 sections of clover honey this season, but we do not make a practice of giving upper entrances for comb honey.

Crosswell, Mich., Aug. 20.

### A LOCALITY WHERE THERE IS NO HONEY FROM WHITE CLOVER.

A Reply to Dr. Miller's Straw, Page 867; Only One Load of Honey to Five of Pollen.

BY ALLAN LATHAM.

[By turning back to the July 1st issue, page 867, the reader will see that Dr. Miller disagreed with Allan Latham, and had a "sneaking belief" that, during a very light flow from white clover, there may be but one load of pollen to four or five of nectar. Mr. Latham replied at once, which reply, the doctor felt, deserved a wider reading. This brief introduction, then, will explain the following letter.—ED.]

*My dear Dr. Miller:*—If you would live here in southern New England a year or two your "sneaking belief" would sneak right away. Let me state a few facts:

I have kept bees 22 years, and in all that time I have seen bees come home heavily loaded with *clover honey* but *once*. There were two days last season when one of my small out-apiaries enjoyed that rare privilege. The combs were glistening with new honey, and there was every prospect of a good crop. There were scarcely any bees carrying pollen. The wind went into the northwest, and no more honey came from clover.

In 1896 I produced my only case of clover honey. One colony that summer worked on either red or white clover, and filled 18 sections with most delicious honey. It was just at the time my second child was born; and as I was not with the bees much just then I did not know any thing about the honey till I found it in the sections. In all the 22 years, I have never had even one section of pure-clover honey except those 18. I have harvested many hundredweight of clover honey, but it was variously blended with honey from many other sources, rarely better than 50 per cent clover.

There was once this past June when the bees could be seen working on white clover, and a few bees were to be seen without pollen. Again the weather changed, and since then not one bee in 100. I venture to say, has carried home nectar from clover without carrying pollen.

If one doubted this from watching the bees as they entered the hive he could watch them on the blossoms. I can tell as they enter the

hive. It is a simple matter to an observing person to tell approximately what bees are working on clover, and, by noting the pollen, get at a good estimate of the number carrying pollen.

But, my dear friend, just go to the blossoms. If you see one hundred bees working on clover and do not see one which is without pollen, what say you? If you then return to the hive and see every third bee entering with pellets of blackish green pollen, what say you? If you then open one of these bees and find a drop of honey in the sac no larger than a mustard seed, what say you?

My kind friend, if I were to see one bee in five going home from clover without pollen, I should go into the house and say to my wife: "Well, the bees are getting honey from clover." But four out of five! Why, I should sit down by the hives and watch the good work go on, and feel happy.

It may be all locality. I am envious when I read of bees dropping on the ground in front of the hive during a flow from white clover. I have seen that happen in the case of maple, apple, huckleberry, locust, mustard, buckwheat, sumac, goldenrod, but never in the case of clover. In fact, I have been tempted at times to think that such a thing as a crop of honey from white clover is a myth.

I hope and pray that before I die I may enjoy the blessing of one good crop of honey from white clover; but my faith is so weak that I do not think that my prayers will be answered unless I move out of southern New England.

But we have the sumac, God bless it. In July the bees revel on that, and the honey is but slightly inferior to that from white clover.

I am sorry that the prospects are so poor with you this season. I hope that you will see them better soon. Thus far, except for a hundred pounds of apple-blossom honey, I have seen nothing but some almost unedible dark honey, probably from mustard. Bees have stored from 10 to 50 pounds per colony of this.

Norwich, Conn., July 4.

### CANE SUGAR RESPONSIBLE FOR MANY KIDNEY TROUBLES.

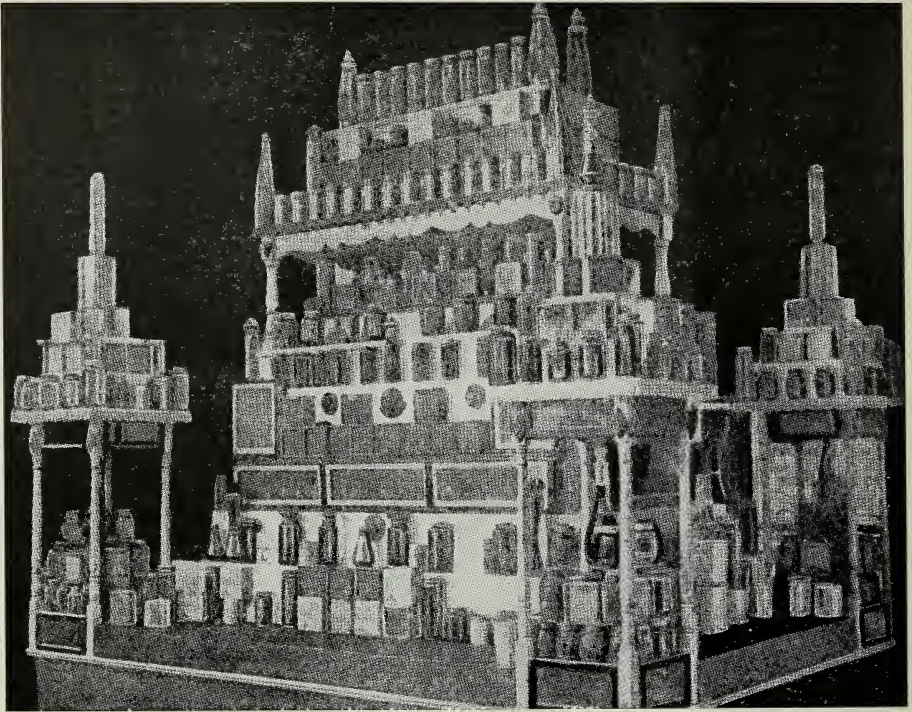
A Valuable Point for the Honey-seller.

BY FRANK W. MORGAN.

Can somebody tell us through GLEANINGS whether cane sugar is at all responsible for the large amount of kidney troubles now existing? If it is so (which I think it is), that it is the main cause of said disease, would we not have in the fact a great power to use for the sale of honey and the lessening of the sugar habit? We are indebted to the cotton-wood-tree for most of the tormenting propolis in our bee-boxes here.

De Land, Ill., Sept. 4.

[Believing Dr. Miller to be best informed



A HONEY EXHIBIT IN AUSTRALIA.

—From the *Agricultural Gazette*, N. S. W.

on this subject, we sent these questions to him. His reply is as follows.—Ed.]

DR. MILLER'S REPLY.

Yes, this matter was fully emphasized in a leaflet issued several years ago, of which many thousand copies have been published, in which it was said: "Besides the various disorders of the alimentary canal, that dread scourge, Bright's disease of the kidneys, is credited with being one of the results of sugar-eating. When cane sugar is taken into the stomach it can not be assimilated until first changed by digestion into grape sugar. Only too often the overtaxed stomach fails to perform this digestion properly; then comes sour stomach and various dyspeptic phases . . .

Now, in the wonderful laboratory of the beehive is found a sweet that needs no further digestion, having been prepared fully by those wonderful chemists—the bees—for prompt assimilation without taxing stomach or kidneys. As Prof. Cook says: 'There can be no doubt but that, in eating honey, our digestive machinery is saved work that it would have to perform if we ate cane sugar; and in case it is overtaxed and feeble, this may be just the respite that will save from a breakdown.'

When these remarks were written, the average annual consumption of sugar for every man, woman, and child in the United States was about 60 pounds. Now it is about 65

pounds—an increase of 8 per cent. Do not make the mistake of thinking that that increases the danger of sugar-eating only 8 per cent. The danger-increase is much more than that; for up to a certain amount there is no danger in eating sugar. It is the excess beyond that certain amount which plays the mischief. It is doubtful that any one can say just where lies the danger-line; but for the sake of illustration let us suppose that 55 pounds may be consumed annually with safety. Then when 60 pounds were consumed annually, the danger lay in the 5 pounds of excess. Now, when 65 is the annual rate, the excess beyond a safe amount is 10 pounds, making the danger just 100 per cent greater than it was when the excess was 5 pounds.

Another thing may be worth considering. It is said that the excess consumed is not evenly distributed. That is, each man, woman, and child does not consume exactly 65 pounds annually. Some, especially of the poor, may eat much less than that; and to make up for this deficit some must eat much more. Especially are the heavy consumers likely to be among the rich and the well-to-do middle classes who can well afford to pay the higher price for the more delicious and entirely wholesome sweet—honey.

If bee-keepers could unite upon a campaign of advertising, it would be not only a matter of profit to themselves, but a matter of gain



to the health of the general public: and the legend to be kept continuously before the eyes of that same public would run something like this: "Danger and death lies in an excessive diet of sugar, which requires conversion before assimilation: health and happiness lies in the use of nature's purest and best sweet, honey, which, without any undue tax upon the digestive organs, is ready for immediate assimilation."

## HONEY EXHIBITS.

### How to Render them Attractive.

BY W. K. MORRISON.

Mr. Albert Gale, that well-known New South Wales bee authority, in an article on bee and honey exhibits, which appeared in the October number of the *New South Wales Agricultural Gazette*, contributes some ideas on the subject of showing honey which deserve the attention of North American bee-keepers as well as those of the southern hemisphere, for there can be no manner of doubt that these exhibits are an excellent means of creating a local demand for honey. Over in Europe, where honey sells for much more money than it does here, honey-shows of great artistic excellence are common affairs, and undoubtedly form the best means possible of advertising the bee industry. Mr. Gale's article is much enhanced in value by two illustrations, which we are glad to reproduce here for the benefit of those who intend to get up such exhibits, for they really are artistic to a high degree.

It may be well to explain that the exhibits shown were made by individual bee-keepers anxious to carry off a "trophy" prize in competition. The hints given for showing liquid honey are excellent.

"Too frequently the bottles are not selected with regard to a unicolor tint, which gives the contents the appearance of not being a uniform grade. Imperfect clearness of the glass—that is, its being speckled with opaque substances, is reflected in the honey, and therefore the contents of the bottle get the credit of the impurities of the glass. Ofttimes a bottle, after it is washed, is permitted to drain, and the internal surface not polished, thereby leaving streaks and blurs; the honey reflected through it appears to be cloudy. Judges are as careful to search for faults as for perfection, and there is no doubt that many an exhibit has been rejected on account of the imperfec-

tions narrated." There is a pretty good hint here for the bee-keeper who bottles honey. The hints on comb honey are equally helpful.

"*Comb honey*, when exhibited in 1-lb. sections, is one of the most interesting and at the same time one of the most admired forms in which honey is staged. It appeals to the onlooker in its most appetizing form, and at the same time demonstrates the producer's skill—that is to say, that of the bee-keeper, not the bee. For a bee-keeper to produce first-class sections and comb honey, he has to be a master of his business. The get-up in the 1-lb. sections is every thing. The wooden frame surrounding the honey should be scrupulously white, and free from blemishes. All propolis should be removed. The beautiful white capping of the honey should be perfect, free from bruises, free from weeping, free from travel-stain, free from finger-marks. Often a small puncture in the capping causes the honey to exude and thus damage the whole exhibit. The frame or section must be complete—no uncapped or empty cells, and the fewer pop-holes the better. The comb should extend to the four sides of the frame as completely as possible, and the pop-holes in the four corners of the frames should be absent in all sections."

It is true we have been over this ground before; but for the benefit of new readers, or those who are thinking of making an exhibit locally, we think the foregoing will prove very helpful.

There can be no doubt that a bee and



A HONEY EXHIBIT MADE IN AUSTRALIA.

—From the *Agricultural Gazette*, N. S. W.



BEE-KEEPING IN A CITY BACK LOT.

honey show or exhibition ought to be a regular annual feature of city and town life, and will be. What many bee-keepers should strive for is to get the name of the "honey-man" in their own locality. It will take more than a newspaper "yarn" to kill the business of such a man.

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### CITY BEE-KEEPING.

#### How a Busy Doctor Spends his Leisure Hours.

BY T. E. GURTNER.

Right in the heart of the city of Newark, N. J., there are four Danzenbaker ten-frame hives from The A. I. Root Co., set up on a strong foundation built of heavy lumber. Between the hives, and underneath the same, the reader will notice galvanized-wire screens for climbing-plants. The plants have grown since this picture was taken, and give a nice shade to the hives, but leaving the entrance free. The little tent next to the hives is the tool-house. The place is remarkably cool, even in the hot season, and is giving the bees the benefit of the morning sun until noon. The garden is full of asters and other honey-flowers, but there are also some flowers blooming now, imported from other countries. The hives are all painted, one white with the Swiss flag; two white; three blue; four red, making the colors red, white, and blue. I have also some observation hives with Carniolans near the house, under screen,

a picture of which I shall send later on. The four Danzenbaker hives are occupied by Italians, some of them with choice queens. The location for the bees seems to be good, because they are doing well now. We have plenty of nursery stock around Newark.

The yard was in a bad shape when I took the house, about a year ago; but if you could look at it now it would look to you almost like Central Park. This shows what can be done with such a yard. It is more than a pleasure to look at those hives from my office windows on a nice morning, and I am thinking of increasing my apiary to about 50 hives next year in the country. This little spot is the place where I have my pleasure in a free hour, and I am not blaming my colleague, Dr. C. C. Miller, when he says, "I thank God for such a happy busy life."

Newark, N. J.

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### EUROPEAN TRAVELS.

#### Field Meeting of the Vienna Bee-keepers at Wagram; Migratory Bee-keeping; an Immense Buckwheat-Field.

BY RALPH BENTON, B. S.

*Assistant in Entomology, University of California.*

It was bright and early on a late August morning that we hurried to the station in Vienna to take the train out a short distance to Wagram. Here there was to be a field meeting of the Vienna bee-keepers to inspect

the great buckwheat-fields then in full bloom. Off the train we gathered together and crossed to the nearest tavern, where we had something in the nature of a late breakfast. There were some twenty-five of us in the party, including several ladies. Refreshed we took our way down the dusty road by twos and threes, and the all a-hum with things pertaining to bees, bee-keeping, and honey-plant.

After about an hour's walk we reached the edge of the great white fields of buckwheat stretching across the flat plains of the Danube as far as the eye could see—the acreage numbering up into the thousands. The members of the party began to pull out their veils and don them, and secure themselves in various ways by turning up collars and drawing on gloves. The writer had no veil with him, not being accustomed to wearing one, and so he moved on with somewhat of a dubious feeling, it is true. When nearing the bees one of the party came hurrying up with some extra veils, and we crawled into one in a hurry—dodging the pelting bees all the while. The colonies, numbering fully two to three thousand, stretched away near the center of the fields in a long row, some of them in rough sheds and others standing singly. The hives were of various types. There were the flat Carniolan hives; there were Dadant and Berlepsch hives. It was with pleasure that we caught sight of long rows of German straw hives ranged along on boards, rearing their little domes up through the waving heads of buckwheat. These straw hives stood about eighteen or

twenty inches high, and were perhaps some fifteen inches in diameter. We turned some of them up and saw how the bees had their combs fastened on two cross-sticks, much as our common box hives, patterned after them in principle, are arranged.

And all through the tour of inspection of this host of migratory colonies we were continuously pelted with a swarm

of the most enraged and vicious bees the writer ever saw. The proximity of so many colonies, and the strong sickening odor of the buckwheat-bloom, seemed to combine to infuriate the bees. Carniolans as well as blacks and Italians seemed to be possessed with a mania for stinging, and we

gathered on our coats and hats a large harvest of stingers. Doubtless the crossness of the bees was increased on account of having been recently moved. The colonies here collected had been shipped in from some distances by surrounding bee-keepers, and here assembled for the buckwheat flow. With each large apiary there was a tender who busied himself now in showing us through his section and opening colonies for our inspection.

The gauntlet ran, we turned off for the road; and, when out of the reach of our pursuers, removed our veils and breathed somewhat freer. We wound our way back to the tavern, and the accompanying picture shows the party assembled while waiting for the train. In the center, with a hat at his feet, is seated Herr Prosser, the managing editor of *Bienen-Vater*, to whom we owe our trip together. The writer is seated at the left of him in the front row.

At Vienna there is quite an extensive apicultural school in which all branches of bee-keeping are taught. Among the equipment are some rare old appliances used by Gravenhorst and Dzierzon. It is well these old relics can be assembled and cared for, so that they can be held for future generations of bee-keepers.

[A buckwheat-field of thousands of acres, and colonies of bees around it by the thousand—perhaps we do not equal that anywhere in this country, where we are supposed to practice bee-keeping in a big way. It is true we do have immense acres of buckwheat in the State of New York; but they



A EUROPEAN BEE-KEEPERS' FIELD MEETING.

are divided up into fields, making a sort of checker-board effect when the bloom is on.

Speaking about that field meeting reminds me that we here in America have only just begun this sort of thing, while they of Europe have long been having outdoor meetings of this kind.—Ed.]

## MORE ABOUT THE STINGLESS BEES.

### A Few Salient Facts about Them.

BY W. K. MORRISON.

Let me add a word or two about the stingless bee. Mr. Green has done a good job with the means at his disposal, but it will be a long time before we arrive at a working knowledge of even one species, let alone fifty. Here let me digress a little to give a little historical matter.

My first knowledge of stingless bees was obtained when only a child, in reading Capt. Hall's Travels in South America and Stedman's Travels in Surinam, and since that time I have never ceased to take a lively interest in these bees. Years ago I examined the libraries of Congress, the Astor library, the Lenox library, the library of Columbia College, of the Brooklyn Institute, of American Museum of Natural History, and other good libraries, for references to these bees, but got very little information for my trouble. I also consulted eminent entomologists, American and English, also to little purpose. The only real assistance I ever got was from the government of Venezuela, more particu-

larly N. Bolet Peraza, its minister, and M. Palacio, the president of the republic at the time.

Your warning as to the true place of *Melipona* in its biological classification is timely; but here let me add a further warning: The average bee-keeper is acquainted with only two or three species of bees—hive bees, bumble bees, etc.; but so far as I am able to hazard a guess I should say South America has fifty species of *Melipona* alone, and there may be as many of *Trigona* and the honey-gathering wasps. The latter are not wasps at all, in my opinion. They seem very fond of the nectar of coffee-flowers, whereas wasps are flesh-eaters. As a matter of fact, very little is known with reference to the bees of South America. Nearly all we know is from men who never made a study of bees, or to whom the whole subject was academic. It will, therefore, be seen that we have to begin at the beginning, and we bee-keepers will have to acquire the required knowledge ourselves by our own unaided efforts. Here let me state some salient facts about these bees, which I think will stand the test of time; and I speak only of the species illustrated in GLEANINGS.



DELEGATES OF THE ONTARIO BEE-KEEPERS' CONVENTION, HELD

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1. They will withstand as much cold as *Apis mellifica* (both are natives of the tropics).

2. They are stingless, and practically harmless as a dove.

3. They are proof against moths.

4. They are proof against ants.

5. They build in very thick hollow trees.

Possibly the last fact is the most important, as it enables them to resist cold weather. A number of the meliponas build their nest *all out of doors*, their only protection being a thin papery material to shed the rain. The latter I have seen with nests as large as a flour-barrel, and much the same shape. However, they will be more valuable south than north, though the sequel may turn out otherwise. I think my stingless bees have far more "sense" than the others, and are certainly far more wary. For example, they work on deep flowers "head out," hence it is almost impossible to catch them on a flower. Nothing irritates them so much as to catch one entering the hive. Evidently they hear her cries inside; for, like a flash, the others fly out to resene their comrade, and in the case of a lizard they bite it around the eyes to make it let go.

In some respects they are learning. In

South America they maintain a vigilant watch at the entrance, just as the West India bees do; but, not having been teased by their enemies for some time, they have lately relaxed their watchfulness, and for hours at a time no sentinel can be seen at the entrance.

They make beeswax, apparently in all respects the same as their friends the *Apis*. They are apt to use propolis, however, to help out on the wax. In addition they make paper and cement. The honey crop will depend very largely on the kind of hive that may be invented for them, and here is the great problem around which revolves the fate of these bees. I think our enterprising expert queen-breeders will be able to work out a system of bee-keeping suited to these bees; but until this is done it is useless to speculate on the matter.

I am far from thinking this is the only species of *Melipona* capable of domestication, and probably some of the *Trigona* can be domesticated, more particularly the species making its home on the prairies of Venezuela and Colombia. It has a very bad temper, however, quite as bad as Cyprians are said to have.

The honey-gathering wasp, so called, re-



DELEGATES OF THE ONTARIO BEE-KEEPERS' CONVENTION, HELD AT TORONTO, CANADA, NOV. 7, 8, 9, 1906.—See *Canadian Notes*, p. 1493.

sembles very much an ordinary queen-bee, both in color and the general shape of her body. There are probably many species of bees in South America I have never seen or can ever hope to see. This much is true, however: That continent holds much in store for the bee-keepers of the future. Only long, patient, scientific investigation will discover just how much. It seems to me the way to attack this problem is to distribute these bees to the queen-breeders in Florida, Texas, and California, for experimental purposes. Probably quite a number would be sacrificed in the venture; but we are badly in want of a working knowledge of the life-history of these bees, and we must secure this at all hazards, and I think the queen-raisers are the ones to do this. It will give a new zest to bee-keeping.

### A SYMPOSIUM ON HIVE-LIFTING DEVICES.

Some New-fangled Forms of 'em; Price of Lumber.

BY FRANK M'GLADE.

In the September 1st issue of GLEANINGS there appeared some illustrated articles on the subject of hive-lifting devices, the reading of which nearly took my breath away. Could it be possible we have come to that, or are about to? What I've needed was a hive-holder to hold them down to the ground; and as for the "supers," I've simply had to put stones on them and sit on the rest to keep the wind from blowing them over into the next county, they were so light.



"What I've needed was a hive-holder to hold them down to the ground."

Then I thought of what a fix a fellow would be in if, when he was down there looking for a one-winged queen, the rope would break and let the whole business down on his head.

That, or something similar, would be just my luck. Then, again, what does a bee-keeper want to be "nosing" down below if honey's coming in faster than he can put the supers on? If a colony is so industrious as to need five or six supers they've got sense enough to mind their own business, and only need



"It costs \$3.75 to look in a lumber-yard here . . . I don't go past the lumber-yard."

to be let alone. But if the thing takes, and we have to have them, why not have one built stationary in the middle of the yard, with a boom long enough to reach the outside hives, then have a gasoline-engine to run it? All the bee-keeper would have to do would be to stand at the machine and work the lever, and the boys could do the rest. I'm afraid if I were to try one it would be sure to "creel" at a critical moment, and work disaster. Then how would it work on one of those hillside apiaries in California and Nevada, where there is hardly level ground to set a hive? Again, one of the writers, Mr. Baily, says the whole cost of the "hive-lifter" is from \$2.00 to \$5.00. There must be some mistake here, for it costs \$3.75 down here to look into a lumber-yard; and if you go in and buy anything, it takes nearly one corner of the farm. You can sit down and figure it out and be liberal; but they'll get it more every time. Then they always add on that "one-fifth." That one-fifth always spoils my figures. I forget about it, and whatever they do with that money I don't know unless it is to buy the boys cigars, etc.

I don't go past the lumber-yard when I go down town. I go on the other street.

I built a little addition to my house this summer, and I have about come to the conclusion that The A. I. Root Co. is about the cheapest place I know of. When I consider there are about 125 pieces in a hive, every one of which has gone under the "former," all for an average of a little over one cent apiece, I'm one who is not "kicking" at the price.

When I read those articles I sat down and wrote to four bee-keepers in different parts of the country, asking for a "postal card" opinion of the thing. I enclosed a card, the

kind that Uncle Sam puts the stamp on, and every one of them bore fruit; and for the benefit of our bee-keeping friends I shall insert them.

The first is from California:

Dear Sir:—A former partner and I talked of a similar derrick over ten years ago, but never made one. I have needed it badly a few times. I would not make a roller to raise the rope—it's too slow.

I think the general idea is good, to raise heavy hives for loading on wheelbarrows and sleds, and possibly on wagons. For lifting supers I doubt if it is necessary for any one who is able to do other work in the apiary. I guess I'll make one, and see if it is as good as it looks.

W. A. H. GILSTRAP.

Ceres. Cal., Sept. 10, 1906.

Then along came this:

Dear Sir:—The hive-lifting device would be of no practical advantage to me—too much like trying to carry yourself by your boot-straps. I have never tried one, and probably never shall.

C. A. HATCH.

Richland Center, Wis., September, 1906.

The third one is from New York, from Coggshall, the renowned lightning operator:

Dear Sir:—I think you are an exception to the rule, to send card with stamp. The way I lift a super from hive is by main strength and awkwardness.

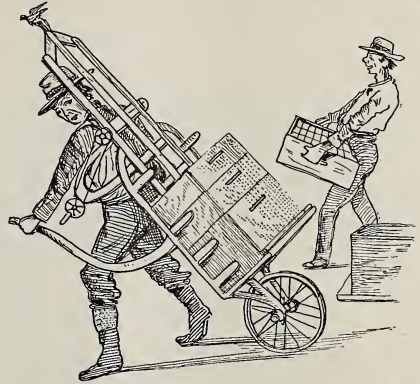
It will take more strength to lift the device than to do the work. I have got about through doing missionary work. Traveling bee-men have to raise honey for 8 to 10 cts., and undersell me by 4 to 6 cts. I get 13 to 15 cts. wholesale. I'm off the subject. I would not have one of those lifters at all. I might use it for a step-ladder.

N. Y. COGGSHALL.

He seems to be blue about something, and I should like to say something that would cheer him up. Coggshall, haven't you had glory enough? Are you like Alexander—not

corn and horseweeds grow, and the sycamore's crooked branches show the way the river goes. Indians are a cheerful lot, always looking out and up. If you find one plowing corn in weeds higher than his head, he'll sit down on the plow and brag on Indiana; so I'll just give you his letter:

Mr. Frank McGlade:—Your letter asking about the "elevating dumuckings" is received. I feel hardly qualified to speak about something I don't know any thing about. Nobody but a politician could do that.



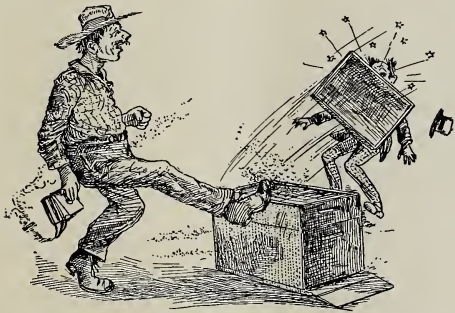
"I had thought of inventing a sort of hay-rack attachment to slip over the shoulders."

Great minds run in the same direction—sometimes—and sometimes in the opposite. In the matter of lifting-devices this is the case. For our Indiana crop, and the hives as they are with me, I had thought of inventing a sort of hay-rack attachment to slip over the shoulders to pile the hives on so I could get a load. Now the other fellows are racking their brains to find some way to handle—not a hive—but just supers. If their crop is as big as that, it would take so many derricks and horsepowers to handle it that it would cost so much they would have to go out of the business, like a man I did not know, who had so much money that, when he bought a pocket-book to hold it, he went broke.

But, say, don't you think locality makes the difference—not that those fellows produce so much bigger crops, but that "this locality" (Indiana and Ohio) produces so much better men? My curiosity is up to the spilling-over point to know how you happened to write to me for my opinion. I had thought a little later to write an article on "Twenty-first-century Bee-keeping," in which I would set forth some of the advantages that will be enjoyed by our great-grandchildren, owing to the intellect of the present generation.

JAY SMITH.

Vincennes, Ind.



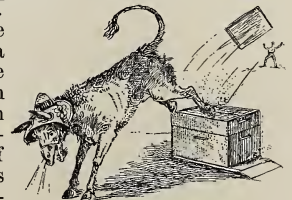
"The way I lift a super is by main strength and awkwardness."

that Alexander who lives somewhere in the buckwheat regions of New York, but the one who lived a few years ago; and who cried because he had got to the end of his string, and his "glory" stopped coming in? So it was, is, and shall be. "The glory of man is as the flower of the field." So don't cry, but just put on a longer string, and to-morrow there'll come a breeze of wind that will take your kite up higher than "them other fellows'," so be ready.

Last, but not least, comes one from Indiana, down at old Vincennes, from Smith—Jay Smith. Hoosiers are nothing unless generous, so he sends a whole letter, full measure, well shaken, heaped up, and pressed together. Indiana is a great State—next to the greatest in the Union—the only State with a Wabash River, along whose banks

I think the kind of lifter that would suit me the most would be a good healthy mule—one with long ears. It would be easier moving it about.

Then it could be taught to do a good many fine "stunts," which would take much of the extra arduous strain off from some of us overworked bee-keepers. It could soon be taught to work faster on the approach of a shower, then the sound of a good healthy "hee-haw" (a la Maud), early in the morning, would put us all in a merry mood for the day.



A portable hive-lifter.

## DEATH OF DR. JOHN DZIERZON.

## His Place in Apicultural History.

BY W. K. MORRISON.

We have to chronicle the death, on the 26th of October, of the Rev. John Dzierzon, D. D., Father Emeritus in the Catholic Church, at his home in Lowkowitz, a hamlet near Kreutzburg, Silesia, Prussia. He was born in the same place, Jan. 11, 1811, probably in the same house in which he died, so that, had he lived a few weeks more, he would have celebrated his 96th birthday, or

Polish line. We hear much nowadays about environment and heredity, and believers in both will find that Dr. Dzierzon's life bears testimony to the value of both, for the Poles are great bee-keepers, and, owing largely to the presence of large amounts of linden (basswood), that part of Europe is a great bee country, although the subject of our sketch had to depend very largely on the blue corn-flower (*Centaurea cyanus*) and buckwheat for almost all his surplus honey. The Poles are a gifted race.

In his early years young Dzierzon must have been greatly impressed with the horrors of war, for he lived in a region decimated by Napoleon in his great campaign against Russia. It hardly seems possible that one man's life would connect us with the great battles of Friedland, Eylau, and Borodino; but here we have to do with a great bee-keeper who could do it, and who died only last month. But the people were sick of glory and carnage, and devoted themselves with great industry for many years to the arts of peace. Dzierzon chose the peaceful vocation of pastor of a church in Karlsmarkt, a nearby town, and, as a pastime, to the art of bee-keeping, and in due season became the chiefest of bee-keepers in the two great empires of Germany and Austria-Hungary.

Some too enthusiastic followers have claimed for Dr. Dzierzon honors which he himself never laid claim to—the invention of movable frames. In his "Rational Bee-keeping," published in 1878, he strongly approves frames and fixtures far inferior to those shown in Langstroth's book published in 1852, and inferior to Huber's hive invented in the 18th century. Dr. Dzierzon was also strongly opposed to movable roofs, one of the most important

features of Langstroth's hives. But, nevertheless, he worked out a system of bee-keeping which achieved great results in Germany and Austria-Hungary.

Dr. Dzierzon was the chief agent in discovering parthenogenesis as applied to bees, and it is on this that his fame, I think, will rest—at least we on this side of the Atlantic will so regard it. He had great assistance, however, from Professors Leuckart and von Siebold in proving the theory to be true; in fact, their part of the work called for greater skill than his. He was a great believer in the utility of the Italian bee, and bred and

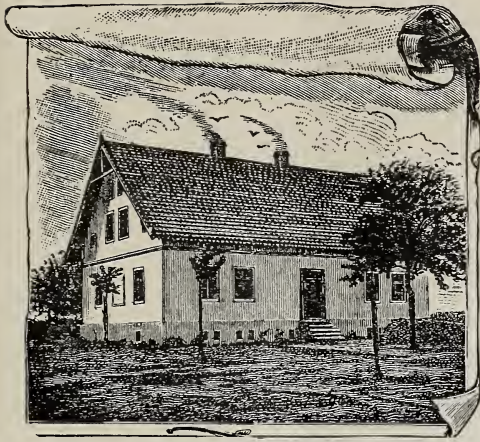


REV. JOHN DZIERZON.

—From *Gravenhorst's Practical Bee-keeper*.

25 years over the allotted threescore and ten. He was born just 17 days after L. L. Langstroth, the father and founder of American bee-keeping. In many ways these men greatly resembled each other. Both lived to a good old age—the one 85 and the other 95; both were clergymen, typical of their country, and both were founders of a great school of bee-keeping, and both died in October, after long and useful lives. Though Father Dzierzon spent his whole life in the same little hamlet, he was not without honor in his own country. He was of Polish extraction, and lived only a short distance from the

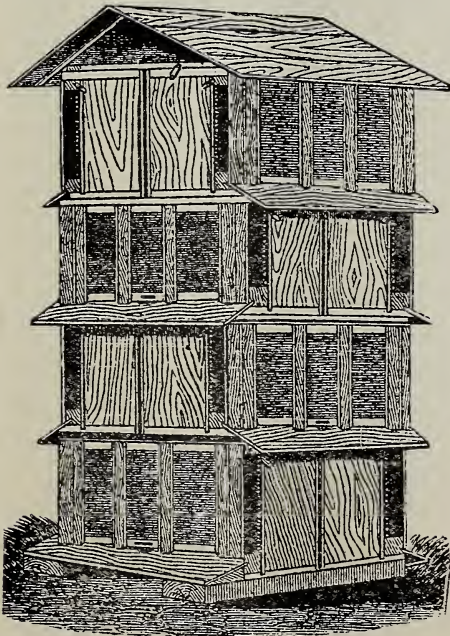




DZIERZON'S HOME FOR 95 YEARS AT LOKOWITZ, UPPER SILESIA, GERMANY.

—From *Gravenhorst's Practical Bee-keeper*.

sold thousands of colonies during his long career; and he maintained this business long after he ceased to be an active clergyman. He would have been called a queen-breeder specialist in this country, and he was a very able one, without a doubt. He was a very prolific writer on apicultural subjects, both in journals and books. As a practical bee-keeper he possessed the keenest acumen coupled with intense observation powers, so that he was a wise guide to those in need of



THE DZIERZON HIVE.

—From *Gravenhorst's book*.

advice concerning bee-keeping operations. He also possessed the power of bringing people around to his way of thinking, and compelling them to adopt improvements. These attributes were necessary in him, living as he did among a people who were intensely conservative, and suspicious of all improvements to a degree that Americans can not understand.

Thousands of our fellow bee-keepers in Europe will mourn the death of their great leader, and American followers of the craft will sympathize very sincerely with them in their loss, which is a bereavement to a world-wide company of bee-keepers.



#### HOW TO CLEAN UP EXTRACTING-COMBS AFTER THE SEASON IS OVER.

Should the combs, after extracting and before storing them away for the winter, be placed somewhere on the hives or stacked up at some distance from the apiary with a very small entrance, so the bees can clean out dry? This is my first season in producing extracted honey, so I should like some advice, as I intend using the combs as many years as possible. I extracted some, but the cells are wet, and it seems to me all the honey ought to be cleaned out dry; or isn't it necessary?

E. L. HOFMANN.

Janesville, Minn.

[Different honey-producers follow different practices. Some put the combs, just as extracted, into empty supers and stack them up in the honey-house over a drip-pan and leave them there till next season. But the great majority put them on the hives at least long enough for the bees to clean them up; but in doing so the bees may store back into the combs a little honey. To overcome this, some put all such combs, at the close of the season, in upper stories, then pile them out a little distance from the bee-yard, providing an entrance so that only one or two bees can enter at a time, as you suggest. This prevents the uproar of a lot of flying robbers to a great extent. Other bee-keepers consider it just as well to expose the combs right out in the open, a few rods from the apiary, and let the bees clean them out with a rush. While there will be a high keynote of robbing, it will all subside as soon as the combs are cleaned up dry; but don't take the combs away until they are perfectly clean and the bees have ceased going to them.

But this plan has its objection, in that the bees are ten times more alert to discover any sweet the good housewife may have exposed

in her kitchen, than they would be if they had not been permitted to help themselves in a wholesale way to the exposed combs.

All things considered, and *especially* for beginners, it is best to let the bees clean things up over a colony. Better have a little honey stored back in the cells than to have the whole apiary ready to seize on any sweet at an instant's notice.—Ed.]

DO CATTLE LEARN TO KEEP AWAY FROM BEES? A BEE-AND-STEER STORY.

*Mr. Root:*—I can not quite agree with you in what you say on page 32 of horses and cattle not learning to keep away from bees. If the pasture is large enough, and stock is not tied, they soon learn to stay away. I moved last spring to a new place, and put 80 colonies of bees in a ten-acre field which I also used as a pasture for a mare. Now, that very beeyard seemed the most favored place for the mare. It was the first place in the morning, after she was turned out of the stable, and the last in the evening. She would go in and out among the hives, eating grass, and paying no attention to bees as long as they would not fly too strong; but let one bee sting her, or get tangled up in her mane, you could soon see her at the far end of the pasture. A mule might be fool

enough to stay and kick. I had once a swarm settle on a tall tree in my neighbor's yard. There were six steers and two calves in the lot. I had to climb the tree, saw the limb off, and let them down on a rope. No sooner did the limb get near the ground than the steers and calves took a notion for green leaves, and, in spite of all I could do from above to scare them away, they crowded around the limb, eating leaves and shaking part of the swarm off. My bees are mostly a very cross hybrid; and as I was expecting to see a bull-fight any minute I stayed where I was, up in the tree; but, to my disappointment, all the steers would do was to switch their tails and eat leaves, and shake more bees off; but not so with the calves. After bawling, and circling around the arena several times, and drawing more bees every round, they made a landing in the hen-house, and had sense enough to stay there until I came down and hived my swarm.

Bard, Ark.

AIKEN SAYER.

[No doubt you are right that horses will learn by experience to keep away from bees when they get too numerous in the air; but, as advised on page 32, I think we bee-keepers had better assume that they may not do so, and err on the safe side.—Ed.]



OFFICERS AND EX-OFFICERS OF THE ONTARIO CONVENTION, TORONTO, CANADA.

See *Canadian Notes*, page 1493.

—From *Toronto Daily News*.

Top row, reading from left to right—James Armstrong, Cheapside; William McEvoy, Inspector of Apiaries, Woodburn; R. Lowey, Woodrose; M. Emigh, Treasurer, Holbrook; G. A. Deadman, Brussels; W. Craig, Brantford.

Lower row—M. B. Holmes, Athens; G. L. Grosjean, Coburg; H. G. Sibbald, President, Claude; R. H. Smith, First Vice-president, St. Thomas; J. F. Miller, Second Vice-president, London; Wm. Couse, Secretary, Streetsville; J. Brown, Chard.

### HONEY-THIEVES AS WELL AS CHICKEN-THIEVES.

The honey crop is very light here. Some one stole the surplus honey off all my hives, amounting to about 200 lbs.; and as this is a fine warm day I am feeding them some honey I bought. I have found eight bee-trees this year, and some had a good bit of honey in, but none of them over 50 lbs. I had hives put at every tree we cut down, but every time somebody took bees, hive, and all. Honey is selling at 20 cts. per lb., No. 1, fancy white. ROBERT ARCHIBALD.

New Straitsville, Ohio.

[Why, friend A., it is really a shame to have the thieves come and take the honey off your hives so you have to go to work to feed the bees for safe wintering. If things are in such a shape as that in your locality it is no wonder that they steal your bees out in the woods after you have gone to the trouble of getting them out of the trees. The above suggested to me that you probably had plenty of saloons and drinking men in your town or near there. Referring again to Dun and Bradstreet, I find that New Straitsville, Perry Co., Ohio, has about 3000 inhabitants; and I find, also, that there are a dozen or more saloons and places where liquors are sold at retail. You will either have to put your bees under lock and key or go to work and arouse public indignation until they will banish the saloons as other towns are doing all over Ohio. Then when you get the saloons out, or before, get these honey-thieves and chicken-thieves into the churches and Sunday-school—especially get hold of the boys before the saloon men get them, if it is a possible thing. Don't you think I am right about it?—A. I. R.]

some forty odd colonies that distance, and did not lose a bee. How did we do it? We "hitched" them along a few inches every day, gradually working the hives toward the location they were to occupy permanently. Another plan that involves just as much work is to move our bees to an out-yard or to some location two miles from their present one, and leave them there about two months. After that you can bring them back and put them where you please. A better plan is to move the bees after they have been taken out of the cellar, or if wintered outdoors after they have been confined three months in the hives without a flight. With regard to the use of chloroform, it would be very unwise to use it. Too much of it will put a colony out of commission, with the result that robbers, or bees from other hives, will be liable to steal their sweets, bringing on the very condition that you seek to avoid.

Of course, your bees do not do your neighbor any harm; and we suggest that you sweeten him up with a section or two of honey and a fine sample of extracted. If you do this every year we do not think you will hear any thing from him about your bees being a nuisance. When it comes time to take off your surplus, do it toward night. Blow quite a little smoke in at the entrance; pry up the super a little way, and blow in smoke at the crack; then lift the super up and put under a bee-escape. By using the ordinary Porter escape you will have no trouble with cross bees afterward. If you have no bee-escape, take off the honey toward night, after smoking the bees, then shake the super in front of the entrance. By next morning they will have quieted down, so there will be no confusion nor crossness.—Ed.]

### WHAT TO DO WHEN NEIGHBORS OBJECT TO THE BEES.

I have come to you for a little information and advice. I have bees, and they sit beside a division wall between me and an adjoining tenement, the occupant of which is somewhat peculiar in that he wants all of his rights and some of other people's, and, of course, my bees go on to his land and he wants me to move them 4 or 5 rods on to the other side of the field. I am willing to move them, but I tell him that to move them now will make matters worse, for they would come back to where the hive did stand, and, not finding it, would be very apt to be cross and sting any one near.

Another thing, when I take off the surplus honey they will be cross, and liable to sting people. Is there any way that I can use so they will not? Would the use of a small amount of chloroform or ether be of any advantage over the use of smoke? If so, how much would it require? How much would kill the colony? I don't want any trouble about the bees, and I don't want to destroy them either. D. E. WASHBURN.

Felchville, Vermont.

[It is not difficult to move bees three or four rods. This past summer we moved

### MANUFACTURED COMB HONEY; CONSUMERS WOULD NOT BELIEVE THE FOOLISH STORIES SO MUCH IF MORE PROPOLIS WERE LEFT ON THE SECTIONS.

In regard to manufactured honey, I would say that, while in a grocery in a large city last winter, I heard a lady ask one of the clerks for some honey. The young man behind the counter, with his hair parted in the middle, asked her if she would have manufactured honey or bee honey, at the same time handing down a section of fine clear honey with not a particle of bee-glue on it, and a section of dark honey pretty well smeared with bee-glue. The lady said she would take the bee-honey. After the customer was gone I asked the young man if he did not know there was no such thing as manufactured honey, and he said that he did know it, but that they took that way to sell the dark poor honey. After that was gone they could then sell the nice clover honey. But he said if bee-men would not keep the sections so clean they could not fool the people, for a section daubed with bee-glue would show for itself that it was made by bees, and that it was the fault of the bee-men sending such clean sections. He said he had sold tons of honey at retail, and

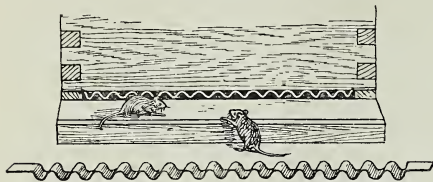
never had a customer object to bee-glue on the wood section, but that customers are always suspicious of a perfectly clean section.

Miller, Neb. T. J. QUAIL.

[See editorial on this subject.—Ed.]

#### AN ENTRANCE-GUARD TO KEEP MICE OUT OF HIVES IN WINTER.

The accompanying cut shows a tin entrance-guard to keep mice out of hives in winter. It is simply a strip of tin about 20 in. long and  $\frac{3}{4}$  inch wide, corrugated.



This is placed in the entrance, with the ends clamped between the hive-body and bottom-board. The tin strips can be easily corrugated by running them between the cog wheels of a tinner's forming-rolls. I have used these guards with success.

G. J. STURM.

Flora, Ill.

[The scheme proposed is not bad; but for the average bee-keeper it will be easier and cheaper to go to the hardware store and buy some wire cloth of coarse mesh that will not exclude bees, but yet keep out mice and other vermin. When cut up into narrow strips it can be nailed over the entrances. If such wire cloth can not be had, a strip of tin corrugated as above would answer as an excellent substitute.—Ed.]

8. Feed about 5 o'clock in the afternoon—a good lot at once.

9. Send the wax to London or Liverpool yourself. W. K. MORRISON.

#### HEARTSEASE AND SMARTWEED IN THE SAME LOCALITY.

The honey-flow this fall has been better than usual from cotton, heartsease, and smartweed. We note what you have to say on page 1111, and Dr. Miller's comment. In "our locality" we have both heartsease and smartweed. While the plants are very much alike they are very different as to bloom. Heartsease grows from two to three feet high, and is abundant in fields on headlands and turnrows, and along the irrigated ditches in the rice-fields. While it seems to prefer low places, it grows as well on high ground. The flower-heads are from three to four inches in length, and a beautiful rose pink. The leaf is not peppery. Smartweed, or water-pepper, grows in low places as a rule, and along the bayou banks, seldom more than 18 inches high. The flowers are white, and much smaller than those of heartsease. The leaves are very peppery. Bees work busily on both in the morning, but are seldom seen on either after 10 o'clock. The honey is light in color, and quite pungent as to smell. Whether this is heartsease or smartweed honey we can not say, as both are gathered at the same time. The honey, before it is capped, has a tendency to foam in the cells, as though it were fermented. We never extract this honey, but leave it on the hives. Top stories are left on all winter. In the spring the combs are used in queen-rearing.

J. W. K. SHAW & Co.

Loreauville, La.

#### ALFALFA AS A HONEY-PLANT.

I can endorse what Dr. Miller says about alfalfa as a honey-plant, p. 791. There are several patches of alfalfa here. I planted it for bee-feed and hay four years ago. I got the latter, but never a drop of nectar. I allowed it to get fully ripe for two successive years. Bees did not touch it, so am satisfied it is not a honey-plant in Northeast Alabama. I have some in full bloom now, no bees on it, while my one-half acre of white and alsike is covered with them. There is a great amount of Japanese clover here—good cow pasture, but I do not remember ever seeing a bee on it. Intuitively, when I see a bee, or hear one in my walks, I watch what it is working on.

As to 1-lb. sections, I find as a rule my two-way bee-space  $4\frac{1}{4} \times 4\frac{1}{4}$  sections are the heaviest—some 17 oz. D. NEILSON.

Fruithurst, Ala.

#### SWEET CLOVER ON A LAWN.

There is a part of my lawn covered with sweet clover that has been cut once or twice a week all summer, and there is a nice growth of it now. This came from the seed this spring.

W. CRAIG.

Luce, Mich., Sept. 7.

#### THE PRODUCTION OF WAX IN THE TROPICS; AN ANSWER TO THE QUESTIONS ASKED ON PAGE 1255.

Mr. Frank McCann, of La Gloria, Cuba, asks questions with respect to wax-production, which, if satisfactorily answered, would go a long way toward solving the difficulties of the tropical bee-keeper. It would be a good thing if Mr. McCann or any others working for wax-production would explain their methods more fully. This would result in much good to the industry, as we could then see where improvements could be effected. At present I content myself with answering imaginary queries in the absence of definite questions.

1. A queen-excluder should be used to save refining the wax.
2. Cut out the whole comb except  $\frac{1}{3}$  or  $\frac{2}{3}$  of an inch.
3. Press out the honey with a Root press.
4. In "feeding back," add a fairly large amount of water to the honey.
5. In "feeding back," have a small brood-chamber.
6. In taking out combs of wax, use only a very little smoke and no brush.
7. Use a bottom feeder.



SOMETHING ABOUT GROWING BASSWOODS;  
FROM THE FOREST SERVICE OF THE DE-  
PARTMENT OF AGRICULTURE.

Every man who has anything to do with bees, and especially those who are enthusiastic in the matter of bee culture, should be interested in growing basswood-trees—first, because it is still, so far as I know, the greatest honey plant or tree in this whole country. While we can not say that basswood honey is the *best* honey produced in the world, yet when thoroughly ripened (as it always should be) it comes pretty *near* being first-class. Secondly, it looks just now as if the best and cheapest material for making sections to hold the honey is this same basswood. We have tested quite a good many kinds of lumber as a substitute, but do not find anything so good as white basswood. It is true some preparation of manufactured paper or paste-board might answer; but it would cost a great deal more, and I doubt whether it would be any handsomer in appearance than our nicely polished basswood lumber. In view of this I am sure our readers will be interested in a letter I have just received from the Chief of the Forest Service of the Department of Agriculture, Washington, D. C. Perhaps I should say I asked for information in regard to getting basswood seeds to germinate. Below we give also a copy of the leaflet referred to.

UNITED STATES  
DEPARTMENT OF AGRICULTURE. }  
FOREST SERVICE.

*Mr. A. I. Root.*—Your letter of October 30 is received. I am enclosing herewith a forest-planting leaflet, No. 10, prepared by our office of Forest Extension, which has to do with all matters pertaining to the growing and planting of trees. This paper does not go into the difficulty of growing basswood beyond reference to the advisability of planting the seeds in the fall. Regarding this point, I want to say further that a most essential requirement in the matter of inducing basswood seed to germinate as fully as possible at one time depends, in my judgment, upon maintaining a constant supply of moisture in the seed-bed. Too much emphasis can not be put upon this essential. In order that moisture may be properly retained, it is well to place the seed-beds in a dense shade. In addition, it has been my personal practice to cover the beds during the winter, and even during the following spring and summer, with a fairly heavy mulch, keeping watch constantly, of course, for the appearing seedlings and seeing to it that the mulch does not smother them as they begin to break through the surface of the earth. GEO. B. SUDWORTH, Chief.  
Washington, Nov. 3.

BASSWOOD *TILIA AMERICANA*.  
FORM AND SIZE.

The basswood is a forest tree which often attains a height of 70 to 80 feet, and a diameter of 2 feet. Under favorable conditions it may be considerably larger. When grown free the tree bears a large, compact crown, which makes a dense shade; in the forest it has a straight stem with but few branches, which are closely clustered at the top. The inner bark (bark),

from which the tree gets its name, is fibrous and tough.

RANGE.

The natural range of the basswood is from New Brunswick south along the Allegheny Mountains to Alabama, and westward to eastern Texas, Nebraska, and southern Minnesota. The tree is commonest about the Great Lakes, but attains its best development on the bottomlands of the Ohio River, where it is associated with white oak, cottonwood, white ash, blackwalnut, and hickories. It may be planted on good soils almost anywhere within its natural range, though the most favorable region for economic planting is within the Northeastern States and north of the Ohio River.

SILVICULTURAL QUALITIES.

The basswood is best suited to deep rich river-bottom soils, and to cool situations. While it will maintain itself on poorer uplands, it is recommended for planting only where the soil is moist and well drained, and where drouths are infrequent. It is, in general, a hardy tree. It is moderately tolerant of shade, and the seedlings require some protection from the hot sun. In dry situations it is subject to injury from the sun's heat.

The rate of growth is fairly rapid during early age, being about the same as that of red oak and Norway maple. After attaining maturity the trunk frequently becomes hollow.

The basswood is sometimes attacked by insects which denude it of leaves or bore into the bark, but serious damage is not frequent. The European species are much more liable to insect injury than the native basswood, and are much less desirable trees generally.

ECONOMIC USES.

The light-brown wood is soft, straight-grained, and easily worked, but not durable. It is often sold under the name of whitewood, and is largely used for house lumber, woodenware, carriage-bodies, panel work, trunks, and paper pulp.

Its large crown and dense foliage render it desirable for planting along roadsides and about the home, and also for low shelterbelts throughout the greater part of its range. Its flowers, which yield great quantities of fine honey, lend it great value for bee-keepers.

PROPAGATION.

The basswood reproduces freely both by seed and by sprout. The seed ripen in September or early October, and may easily be collected while attached to their large wings or bracts. They should be separated from the wings and planted at once in nursery-beds, as alternate freezing and thawing during the winter rots and loosens the seed coat and causes early germination. If it is impracticable to plant in the fall, they may be kept over winter in a cool dry place between layers of sand.

The basswood is one of the most prolific among our native trees in sprouts from the stumps, and hence this method of renewing an old stand is recommended. To secure vigorous sprouts the trees should be felled between November and March, and the stumps cut low. Sprouts then start close to the ground, where they can soon develop a root system of their own and become self-supporting. All but two or three of the sprouts should be removed at the end of the first season. Under favorable conditions a sprout grows only about a foot the first year.

The basswood seedling develops a single stout root, but this is soon replaced by a number of lateral roots which give the tree a strong hold upon the ground.

PLANTING.

In planting the basswood it is best to use one-year-old seedlings, which should be set out as soon as the frost is out of the ground and before the leaves unfold. As a rule it is advisable to space the trees about five feet apart each way.

Basswood does well when planted in pure stands, but it is also of value in mixture with white or red pine (on good soil), or with white elm, white oak, red oak, maple, or hickories.

CARE AFTER PLANTING.

In most situations to which basswood is adapted, little cultivation is needed, since the heavy crowns and rapid growth of the young trees will soon form dense cover, which will exclude grass and weeds, and furnish the proper soil conditions. Where the undergrowth is very rank, however, it is necessary to clear out the weeds in order to give the trees growing space.

Cattle have an especial fondness for basswood boughs and foliage, so that the young trees must be carefully protected from them.

The plantation should be carefully guarded from fire, and should be allowed to assume the character of a forest as soon as it can.

**EUONYMUS VARIEGATA AUREA; A HARDY ORNAMENTAL FOLIAGE EVERGREEN.**

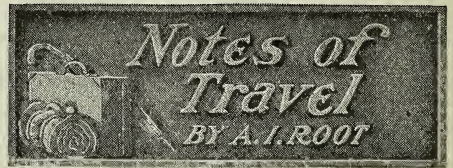
Two or three years ago my daughter called my attention to a plant that stood in the Sunday-school room of our church. She said it seemed neglected—that is, nobody seemed to water it, and it was left in a room having a freezing temperature. But its leaves looked bright and glossy, even though covered with dust. She ventured to clip off a little twig, may be two inches long, and asked if I could give the name. I told her I could not; but I put it in the cutting-bed of the greenhouse, and in a little time it put out roots and made a plant. The leaves are of a dark glossy green, smooth and shining as the leaves of the rubber-plant. But, besides this, a part of the foliage shows spots or blotches of a very bright golden hue. A good-sized plant presents an appearance that makes you think the sun is shining through the foliage overhead, and just striking certain leaves or parts of leaves. As the plant increased in size it showed occasionally a twig with whole leaves of gold, and other leaves that were part gold and part green. Our florist here did not know the name of it, and nobody seemed to know what it should be called; but while on a visit to our experiment station at Wooster I saw the same plant in the center of a bed of ornamentals under the buildings. They said it was a species of euonymus. During the severe frost we had in the fore part of October all tender plants in our dooryard were killed outright; but the euonymus stood up as bright and shining as it had been all summer and through the fall; in fact, it rather seemed to enjoy the freeze, and during the recent bright days of Indian summer it has been putting out new foliage. After my attention was called to this beautiful plant I noticed it in George W. Park's list of five-cent plants, and sent for two—one named aurea and the other argentea. The aurea, which means gold, seemed exactly like the one I grew from the slip; but after I put them outdoors I got the two mixed so I can not tell whether the one I admire so much now came from Park or not. It does not matter so much, any way. The plant in question is about two feet tall. It has a very pretty bushy head, and the limbs seem inclined to grow pretty nearly straight up. Very likely it will winter outdoors; but it is so handsome I put it into a ten-inch pot, and I am going to keep it in the greenhouse.

I have always been fond of ornamental foliage plants. You see they are always in blossom—that is, they are always showing their beauty. This one is so handsome I think it would sell for a dollar almost anywhere; but I should not want to part with it for several dollars. As I look at it and feel happy, I wonder the hardy euonymus has

not received more attention in the past. It will stand neglect, and will keep alive better than any other plant I ever saw. I have now perhaps half a dozen plants, and I expect to leave them all outdoors except the handsomest one. I wrote to our experiment station in regard to leaving them outdoors, and here is the reply of one of the professors:

*Mr. A. I. Root.*—Your letter of inquiry regarding hardness of euonymus has been referred by Prof. Thorne to me for reply. The sort which you enclose is practically hardy. However, to prevent injury from freezing and thawing it is well to give slight protection. This can readily be done by turning over each plant a nail-keg or small barrel, after the plant has had a small quantity of straw or grass packed and wrapped about it. W. E. BONTRAGER.

In charge of ornamental planting, O. A. E. S. Wooster, O., Oct. 22.



**THE BLACK HILLS OF SOUTH DAKOTA, CONTINUED.**

There are two different lines of railroad running through the Black Hills—the Chicago & Northwestern on the east, and the Burlington on the west. I found that, to take in the Black Hills completely, I would need to go up one route and come back on the other. I had no transportation over the Burlington; but it was only a hundred miles to Spearfish, close by the terminus of the Northwestern. In the East we get transportation for 3 cents a mile, and even less; but here I found it was something over \$6.00 to make that hundred miles. But I could get a *round-trip* ticket for about \$7.50. It seems to me this is hardly fair to the traveling public, but very likely the railroad companies have their reasons. When I came to see the curves and turns, and the expense of building a railroad through and over the mountains, especially in a mining region, it occurred to me that perhaps 6 cents a mile might not be too much. But why didn't they charge something like that price both ways?

I took along a list of our subscribers so as to call on bee-keepers as far as I could. At Edgemont I found we had a subscriber, and she was a lady besides. When I arrived at Edgemont Junction, and found we were to wait there an hour or more, I began to look around for bee-keepers; but there was not a house of any kind in sight in any direction. My attention was soon directed to an enormous windmill—the largest one I ever saw, and it was pumping water laboriously. Next I saw near the windmill a tank-car on a side-track, loaded with water. I supposed this was medical water from Hot Springs. It was allowed to drip down between the ties into an enormous cistern,

and the windmill's sole business was to pump the water out of the cistern into a huge tank for the locomotives. When I asked if it were not possible to get water from a well the agent of the railroad company told me they had gone down into the ground as far as they could afford, but found no sign of water,\* so they were obliged to haul it all the way from Hot Springs, a distance of thirty or forty miles. I was told that, on this Burlington route, was Spearfish Falls, Spearfish Canyon, and some of the finest scenery to be found anywhere in the Black Hills. Imagine my disappointment, therefore, to find, when we reached Englewood to change cars, that the locomotive on the new train was crippled. They tinkered and fussed with it until dark, then wired Deadwood for a better engine. This resulted in making the whole trip through the magnificent scenery after dark. Although it was quite a hot day when I left Hot Springs, in going less than a hundred miles we got up on the mountains so that it was so cold we were exceedingly glad to find a little car with a stove in it, almost redhot. Going up the mountains had something to do with it, but perhaps the sudden change in the weather had more to do with it. The conductor remarked that I was the only man in the crowd who had the good sense to bring along an overcoat.

There are some funny names to towns in the Black Hills, as you will note. Spearfish gets its name from the great abundance of beautiful speckled trout in Spearfish River and mountain streams that are tributary to it. In fact, it is not uncommon to get as many fish as one wants to carry home, in just two or three hours—that is, when one is an expert with the spears used to catch this particular trout.

I was particularly attracted to this town by the following at the end of a letter I found in our files:

We started in the spring with 108 colonies of bees; increased to 178, and a good lot of honey besides. Some colonies have filled the third super, and we have put on the fourth. This is the best we have had in seven years of bee-keeping.

Dec. 26, 1904.

MRS. N. L. ANDERSON.

Of course, the above is not so very extraordinary; but coming from a new locality, where bees had but recently gotten a foothold, I made a note of it.

I reached Spearfish late Saturday night. Learning at the hotel that the Andersons lived in the outskirts of the town I thought I would make a call, even if it *was* Sunday morning, and go to church with them. They had a Congregational church, but it was closed for repairs. There was also a Methodist church, but the pastor was away on his vacation. However, we had an excellent Sunday-school, and attended services at the Episcopal church in the evening. I remember the good lady who taught our Sunday-

school class. She was the pastor's wife, if I am correct. She said in her remarks that only one person in a hundred reaches the age of 80 years, and our teacher was pretty close to that, I judged; and yet her talk to that large Bible-class made a very excellent sermon, even if it *was* a short one. I do not know whether she is in the habit of occupying the pulpit during her husband's absence, but I think she might fill it very acceptably. Perhaps the invigorating air of the Black Hills had something to do with the fact that she had preserved her faculties so well to such a good old age.

Now, friends, perhaps some of you might think that myself and new friends were not remembering the Sabbath to keep it holy; but I was a stranger in a strange land, and there were a hundred things new to me that I felt curious about. God's gifts were scattered about on every hand; and I am inclined to think it was just as acceptable to God to have us notice and speak of his wondrous gifts as to spend the time in some other way.

I found *more* beautiful apples, without spot or blemish, right in Mr. Anderson's dooryard. I found a lot of neatly painted bee-hives from the Home of the Honey-bees, even if it did cost a big lot for freight to that far-away locality. It is a little peculiar that bee-keeping all through the Black Hills seems to be largely in the hands of the women.

Our good friend Mr. Anderson has a harness-shop, and does quite a business; but his wife has been succeeding so well in bee culture that I believe he contemplates closing up his shop and giving his whole attention to bees. I think they have now something like 130 colonies, and have started a very pretty apiary a mile or so out of town. Comb honey mostly is produced. They tier up the supers one above another. Quite a little honey had been taken off and sold, and yet I saw as many as four supers on some of the hives. The honey comes mostly from alfalfa, which grows, with the aid of irrigation, in wonderful luxuriance. In a pretty dooryard close to the house I saw two hives that were brought in from the woods. One of them had an entrance for the bees, as large as your hand, or larger—so large, in fact, that the bees in coming home with a load alighted directly on the combs. Friend Anderson said they seemed to do as well as any colony in his yard—no trouble from robbers. The combs were pretty well covered, however, with a cluster of bees, and it would take a very bold robber to sail in and take his chances of being hauled down by the whole "congregation." Now, would it not really be a saving to have some such large entrance, especially during the honey-flow, so the heavy-laden bees could sail right in and alight on the combs, without any preliminary tumbling down in the grass, taking wing again, and crawling into the ordinary entrance, and then from the bottom-board up on to the combs? Dr. Miller, what do you think about it?

Some of the prettiest gardens I ever saw

\* Who knows but that wonderful Wind Cave extends clear over to and away down under the region round about Edgemont? Of course, no water could be found in the region of such caves unless the well were sunk down a tremendous depth to get below the cavern.

in my life were round about Spearfish. Beautiful sparkling babbling water is everywhere, by the sides of the roads and through the fields. I always feel happy when I see running water—that is, clear sparkling water. I like to see it hustle along; and where the fall is sufficient it always seems to me as if it were too busy to stop and talk, or do any thing but push ahead. I heard of a paper out west called the *Daily Pusher*. Well, the water in these irrigating canals and wooden flumes makes me think of the "*Daily Pusher*." My friend, are you one of that sort? I have suspected sometimes that the secret of growing old and holding all our faculties is probably in being a "daily pusher." We talked about almost every thing, even if it was on Sunday, but we did not do much visiting; but early Monday morning we took a trip part way up the celebrated Spearfish Canyon, and also took in the fish-hatchery belonging to the State. I have described so many of these that I hardly need go over it here. This special fish-hatchery has much to do with keeping the mountain streams plentifully supplied with the finest kind of speckled trout to be found anywhere in the United States, and may be I should be right if I said anywhere in the world. The town of Spearfish is 16 miles from Deadwood by stage line; but by rail it takes 40 miles to make the same distance, and it is through some of the finest scenery in the Black Hills. At one place you look over a precipice and see the railroad 1300 feet below where you stand; but a train on that road has to go 13 miles to get down those 1300 feet.

The mining industry, with the recent developments in agriculture, is making much activity there just now. Not only railways but trolley lines are being built between the large cities, and at one place I found a gasoline trolley line running 60 miles quite successfully. The impression was that it was cheaper than electricity.

A stage ride of twelve or fifteen miles took me over to Belle Fourche, Butte Co., S. D. The fertile soil around Belle Fourche has for years furnished great plenty of cattle. Why, the figures almost make one's head swim. I am told on good authority that the cattle industry of the Black Hills has, some years, reached 5000 carloads, worth something like *four millions of dollars*. Not far from Belle Fourche a great irrigation-dam is being constructed by the government, and this will greatly increase the present possibilities of agriculture and cattle-raising. I found quite an excitement in regard to what had recently been done in bee culture at this place; and, queer enough, bee-keeping there is almost entirely in the hands of women. One lady said that the bees got so much honey they were everlastingly swarming; and there were so many swarms that came out when nobody was around to care for them that they clustered in dooryards and gardens all over town; and now almost every home had one or more colonies hived in drygoods-boxes, kegs, or something else; but the women were taking the lead.



Train up a child in the way he should go, and when he is old he will not depart from it.—PROV. 22:6.

#### OUR AMERICAN BOYS.

Of late I have been pondering over and watching our boys a little more, perhaps, than ever before. One reason is, may be, that I have been recently appointed guardian of a boy in his teens, whose parents are both dead. I am supposed to look after him, see how he spends his money, keep track of his studies and deportment in school, see that he is decently clothed, see that he does not contract any bad habits, keep an eye on the company he keeps, see that he is home nights at a reasonable time, etc. Well, my honest opinion, after a few months' experience, is that I am a rather poor hand at guardianship. Perhaps somebody else who is undertaking the office of guardian may feel something as I do about it. I have talked quite a little, and I have scolded some; but so far it does not seem to amount to very much. Neither the boy *nor* I am making much progress. We are good friends right along, and I thank the Lord for that; but we do not seem to see things alike; and perhaps one ought not to expect a boy of 17 and a man of 67 to have tastes and sympathies along the same line. Sometimes I think I am, perhaps, expecting a little too much of a boy in his teens. And then, again, on the other hand, when I hear of the boy's shortcomings I begin to think I have not been strict enough. May God help me to choose the golden mean. Yes, that has been an *oft-repeated* prayer. I know the promise in our text; but I did not have the care of that boy until he was pretty well along in his teens. In fact, he was born and brought up, until recently, more than a thousand miles away.

Very often we expect too much of a boy. Years ago, when I used to run a market-wagon, it was thought advisable to take along a boy to deliver goods from the wagon, as he could save steps for the man in charge, and thus get over more territory. This special boy did not seem to have any idea of business. He was looking around, and wasting his time when he ought to have been busy; and, more than that, in spite of all we could do he would help himself from the heaping boxes of strawberries and other fruits. Now, it was not the value of the strawberries, mind you; but how it looks to offer a customer a box of berries with the box not quite full instead of being rounded up as we usually do! I remonstrated and scolded; but for all that, when no one was looking the boy would make a quick motion



and put some of the fruit in his mouth. He and I did not get along well together; and I confess that, from my point of view, I did not suppose he would ever amount to much. His mother was dead, and his father did not seem to have a faculty for making him mind very well. Now, I hope none of his relatives and friends will feel hurt by what I have been saying, for it brings out a great and grand truth. Shall I tell you why? Day before yesterday I heard from that boy after many long years. He has just married, and he has a position as designer or draftsman in a great machine-shop where he gets fifty cents an hour. Was I glad to hear it? Why, to be sure I was. It was one of my happy surprises. May God be praised that there is at least something better under the surface, perhaps away back out of sight, with these thoughtless heedless boys than we oftentimes give them credit for. Yes, I have seen more cases of that kind. I have seen boys with whom I was thoroughly disgusted turn around and make themselves of value and consequence in this busy hustling world.

Now, if I should stop right here the moral of the point I have made might induce some parent to think it is not worth while to be so *very* strict. Our text tells us we must train up a child in the way he should go. If we can not make of the boy exactly what we want him to be, let us come as near it as possible. Never let up. But please do not think it is necessary to be having a jangle with the boy all the while. Get his good will. Bend down as much as you can, not only to his stature, but to a level with his boyish ideas. Do not be discouraged, even if his whole thought and aim seem to be baseball or football or college pranks. I have not much sympathy with the latter, but very likely there are good and wise professors in our colleges who feel differently about it. May God help us all to do our duty by the boys.

So far I have not said a word about saloons and their influence over the boys. Medina is a dry town. We have had no saloons here for twenty years; but recent events I have mentioned have shown us that we have had speakeasies that did a trade amounting to several thousand dollars a year. I do not know exactly who their patrons were; but very possibly there were many boys there still in their teens. We have billiard-rooms in our town, and once in a while it comes to my notice that some of our young boys are spending quite a lot of their money in the billiard-hall. Boys who earn only a little more than enough to pay their board are spending their money in such places; and they are being out-nights to such an extent that they do not get the sleep a growing boy needs. Sometimes a foreman reports that a boy is late in getting to work, and does not show any interest in his business after he gets there. He is not making any progress. Investigation almost invariably shows that such a boy is up late nights. Robbing a boy of his sleep is a seri-

ous matter; and when cigarettes and intoxicants go along with it, it is a terrible thing. How can any parent vote for open saloons, or encourage his boy in the use of tobacco, to say nothing of cigarettes? Sometimes when boys get to be at that critical age, say sixteen or seventeen, they suddenly turn about and turn over a new leaf. I know of a few such cases. God grant that they may become more common. George Müller, that great friend of the orphans, and the founder of that wonderful institution that will make his name almost immortal, was a vicious boy. While in his teens he was almost, if not quite, one of the hopeless sort, and guilty of almost every thing that was bad. Through God's providence he got a glimpse of what the gospel of Jesus Christ was doing and might do for a sinful world, and all at once he became a great reformer.

In order that every parent, especially every parent of boys in their teens, may be induced to look after that boy a little more closely, I want to tell you something about one boy whom I knew. I hope he has reached the turning-point, and broken away from his evil associates and bad habits. I want you to pray for him. This boy, unfortunately, lost his father when he was, perhaps, twelve years old or less. He had Christian parents, and for a time bid fair to follow in their footsteps. But he got in with a bad crowd. He got to using tobacco and then cigarettes. I think he went to the billiard-hall—at least he got a fashion of being out late nights. He was not only irregular in being on hand with his work, but he did not seem interested in it. As a consequence he lost his place and then got another. But it was the same old story. Although at work most of the time, he never seemed to have any money to help pay his good mother for his board and lodging.

Here is another error that many parents fall into. Parents often consult me in regard to their boys, and ask my advice. Of late I usually commence by asking this question:

"Your boy is now earning wages; but does he pay you something for his board and lodging every Saturday night?"

The answer is, almost invariably, "Why, no, Mr. Root, we have not yet ever asked him to pay for board and lodging in his own home. We always expect our children to be welcome to the home roof; and don't you think it seems a little tough to ask them to pay something out of their scanty earnings?"

After having it put that way I have sometimes agreed with them. Perhaps I was right and they wrong; but when it turns out that giving this boy all the money he earns only lets him have so much more for cigarettes and tobacco, to say nothing of drinks, I have come to the conclusion that every boy who is earning wages should take a part of his money to pay for his keeping. It teaches him to be manly. While a boy is going to school, of course that is a different matter. Some parents—I hope only a few, however—receive all the boy's wages every Saturday

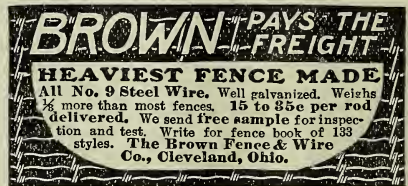
night and pay his money out for him. Now, I do not like that way. May be it is best under certain circumstances; but I have concluded to let my ward draw his pay; but I did insist that he should get a memorandum-book and put down every copper he paid out. Pretty soon I found some items for candy. May be you will think me a little rough on the boy; but I told him that, inasmuch as he paid \$4.00 a week for board (and I found out that he was having good fare) he should get every thing he wanted to eat at his daily meals, three times a day. I told him if he wanted apples or fruit there was an abundance over at our place near his work, and he could help himself at any time. Buying candy leads to patronizing soda-fountains; and even if these soft drinks are harmless it takes money that many of its patrons can ill afford. I am often pained to see boys—yes, and girls too—spending their nickels at soda-fountains when I know the wages they receive do not warrant any such expenditure. Besides, our best physicians are pretty well agreed that many of the modern diseases are largely the result of the excessive use of sugar; and sugar between meals is certainly worse than when it is taken along with the other food. May be you will think me a little severe again if I suggest that patronizing soda-fountains is very apt to pave the way to intoxicating drinks. Our boys who are striving to get an education, to learn a trade, or get a little something ahead, certainly can not afford these luxuries.

In closing I wish to tell you of a recent event that makes me shudder every time I think of it. The thing was so horrible and so incredible here in our own neighborhood of respectable people that I took pains to see the guilty party to talk with him about it. It was a boy only seventeen years old. While he talked, his breath smelled of tobacco, and I should guess cigarettes, and perhaps some other drug I am not very well acquainted with. It is bad enough to find an *old* man with a breath so unpleasant on account of drugs and narcotics that one can hardly talk with him in the open air; but never before in all my experience had I talked with a young boy when I was obliged to stand out of the way so the breeze would not blow the fumes from his breath into my face. Well, this boy is reported to have made an attempt that might have cost him his life had he been a colored boy instead of a white one.\*

Now in regard to this lynching business, the opinion seems to be prevailing that the colored men who have been lynched were almost if not all of them under the influence of drink when they committed their outrages. In our great cities we are horrified by attacks on women or good-looking girls by a

class of people whom the people are pleased to call "mashers." Right in broad daylight some vagabond grabs hold of a respectable woman and undertakes to kiss her. How does it come about? What does it mean that men shall risk their lives in such stupid folly? I think it is the outcome of the saloon business—perhaps more often smoking cigarettes; and even *they* are the product or outcome of saloons, and stimulating drugs that are fostered and encouraged by the saloon business. Just now we are told that San Francisco is confronted with such a reign of terror that public meetings are being held to decide what to do with the criminals. One of the W. C. T. U women was bold enough to suggest that they had none of that work previous to the opening of the saloons, and that it would stop immediately if the saloons were closed once more. The mayor replied meekly that he did not believe the saloons were *altogether* to blame. Well, suppose the saloons were only *partly* to blame; why in God's name can't they shut them up *again*? They got along very well during the first two or three months after the fire, without saloons. What is to hinder trying the same thing again?

Now to get back to our subject and text. My impression is that the reason why so many boys are going hopelessly to the bad while they are in their teens is that we as parents and guardians are not heeding the injunction of our text. A good farmer looks after his horses, cattle, pigs, and chickens. He studies them, not only daily but hourly. He knows *all* about them. Why not study this growing boy daily and hourly? Ask him to keep a memorandum-book and let you see what he does with every copper he earns. Let him handle his own money; and if he makes a "fool" investment now and then, do not scold. It may be money well invested, to acquire lessons that can be learned only by experience. Make that boy your hobby, your study, both day and night, and great shall be your reward when you see him turn from boyhood to a *noble manhood*.



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\* My impression is that cigarettes, drink, or some drug, prompted the act. A boy of seventeen is "almost a man," and even a little *spark* of "manhood" should prompt him to be the *protector* of any little girl whom duty called on an errand off by herself. Is it possible that an American boy, of average intelligence, in *his right mind*, should assail such a *child* just as drunken *colored* vagabonds have been doing in the South?



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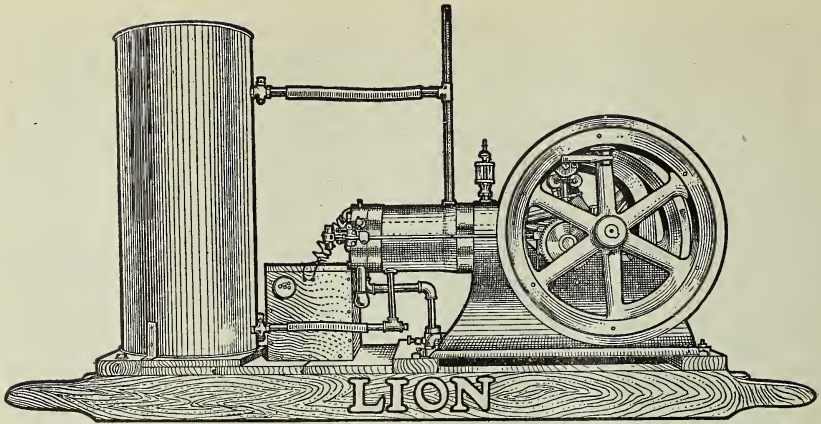
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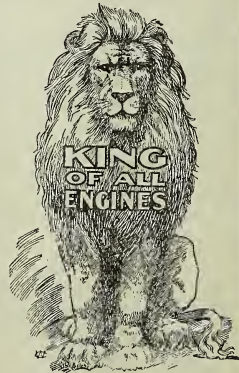
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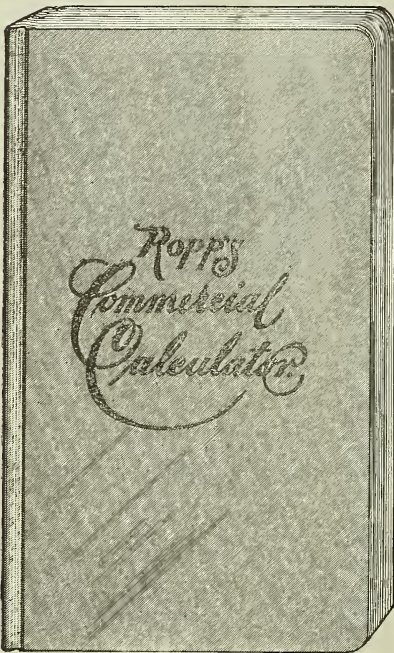
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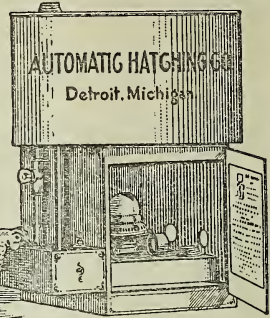


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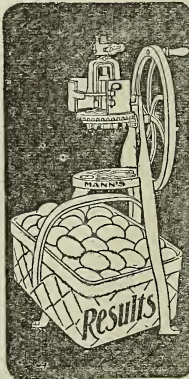
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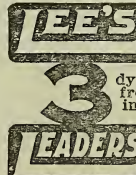
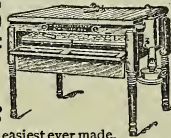


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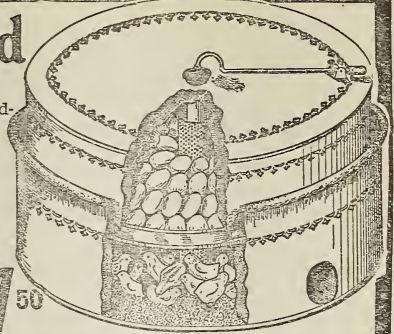
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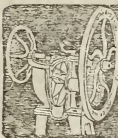
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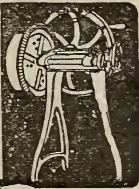
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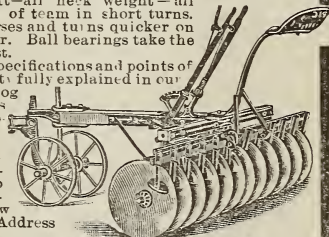
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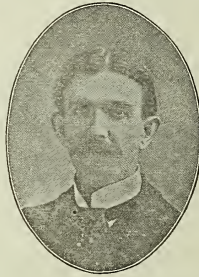
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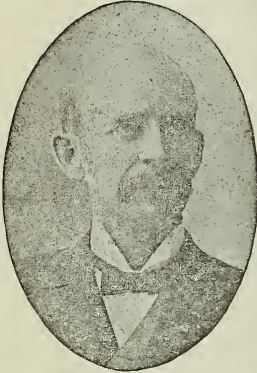
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Same Place 1906

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

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

## SPECIAL BARGAINS

In dovetailed **HIVES**, plain and beeway **SECTIONS**, Hoffman **BROOD-FRAMES**, Section-holders, Separators, etc.

We are enlarging our **FACTORY**, and all of these goods have to be moved. If you want any thing in your apiary, you will do well by writing us at once, and we will make you **DELIVERED PRICES** that will surprise you. Our stock is all new and up-to-date. We do not keep poor or second-grade goods. Our sizes are standard. Quality and finish can not be surpassed by any one. We make any thing used in the apiary, and can save you money and delay at any time of the season. Give us a trial and be convinced. We aim to please our customers, and guarantee all our goods to give entire satisfaction or refund the money.

**MINNESOTA BEE-KEEPERS SUPPLY COMPANY,**  
NICOLETT ISLAND NO. 20. John Doll & Son, Proprietors. **MINNEAPOLIS, MINN.**

## BEE - SUPPLIES

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

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

## PATENTS.

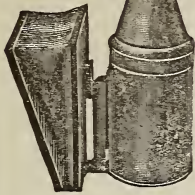
Twenty-five Years' Practice.

## PRINDLE & WILLIAMSON,

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

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

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



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

# Long Advertising

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

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

## North Texas . .

## . . Bee-keepers

will find Dallas the best point from which to purchase supplies. We have a carload of **ROOT'S GOODS IN STOCK**, and sell them at the Factory Prices. Don't forget that we can furnish any thing in the way of Field or Garden Seeds, Plants, and Poultry Supplies. Our large illustrated catalog for 1906 free on application. Mention **GLEANINGS** when you write.

### Texas Seed

**and : Floral : Company**  
Dallas, : : : : Texas

## Swarthmore Books!

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

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

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

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

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

FOR SALE BY

**The A. I. Root Company**

ALL BRANCHES AND AGENCIES

## HONEY-JARS

No. 25, with burnished cap, heavy clear glass, per gross, \$5.00; 3 gross, \$13.50.  
11-ounce nickel-cap jar, gross, \$4.00; 3 gross, \$11.00.  
1-lb. square jar with cork, gross, \$5.00.  
Heavy cartons, \$5.50 per M.  
Italian queens, 75c. Catalog free.

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

## Northeastern and New England BEE-KEEPERS

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

**J. B. Mason, Mechanic Falls, Maine**  
MANAGER OF THE A. I. ROOT CO.'S N. E. AGENCY

# When a Thing Needs Doing

NO is the time to do it. How about those worthless queens? Will you tolerate them for another season, when the best of stock can be obtained so readily? Laws' bees and queens are bringing the best of reports. I could fill many pages of testimonials, but give you only one. Mr. T. P. Robinson, of Bartlett Texas, says:

"Dear Sir.—The car of bees shipped June 20th are now all safely landed, and I have overhauled the entire lot. The bees are from 25 to 40 per cent better than contract, and you ought to hear my wife's exclamations of delight at seeing those fine yellow bees so quietly nestle between the combs at the very approach of smoke. I can certainly recommend you.

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

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

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

## Queens from 50 Cents Up!

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

**C. M. Church, Arnold, Pa.**

# Something New in Honey-jars...

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

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

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

# Same Old Place

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

**The JENNIE ATCHLEY CO.,**

Box 18, Beeville, Bee Co., Tex

# Yellow from Tip to Tip!!!

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

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

# Boston Headquarters

FOR

# Bees-Queens-Supplies

**H. H. Jepson, - 182 Friend St.**

## A. H. REEVES & CO.

DISTRIBUTORS OF

# "ROOT'S QUALITY" BEE-SUPPLIES

Cash paid for beeswax. Send for catalog and price list.

**17 Morrison Street, Watertown, New York**  
Phone 1296



# Fire Sale Bee and Poultry Supplies

Come or send, and save 25 to 50 per cent on slightly damaged goods. NEW LEWIS GOODS at factory prices by return freight. Honey and beeswax wanted. State lowest price and particulars. Honey in 5 gal. cans for sale.

Four per cent Discount for December Orders

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



## Classified Advertisements.

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

### Help Wanted.

**WANTED.**—To correspond with a young man who wishes to work on fruit and bee ranch next April.  
F. G. GAUSE, Jolon, Monterey Co., Cal.

**WANTED.**—Manager for small-fruit and poultry farm of 20 acres. Must understand fruit, poultry, underdraining, etc. State salary expected, age, experience, references, etc.  
Box A, GLEANINGS.

**WANTED.**—A man who wants a permanent position to do all kinds of work on a small farm, to help with bees and an extensive honey business. Write wages wanted, and particulars.  
H. C. AHLERS,  
Tel. 829, ring 4. R. F. D. 1, West Bend, Wis.

### For Sale.

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

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

**FOR SALE.**—100-egg "Old Trusty" incubator and two brooders, used but little; good condition.  
W. H. LEWIS, Dry Ridge, Ky.

**FOR SALE.**—Fine O. I. C. pigs; the famous L. B. Silver strain; pedigree free.  
WM. H. BRUBAKER, Briggs, Clarke Co., Va.

**FOR SALE.**—Scotch Collies. The most beautiful and intelligent of all dogs. Blue-blooded puppies from champion prize-winning stock. Pedigree and photos on application. Address  
M. G. VIGLINI, Route 20, St. Matthews, Ky.

**FOR SALE.**—Sixty-pound honey-cans, used but once, emptied without steam or water being used, therefore perfectly clean and bright. Price, ten-case lots or more, 35 cts. per case of two.  
E. R. PAHL & Co.,  
Honey Dealers, Milwaukee, Wis.

**FOR SALE.**—In Baker County, Oregon (north half of Sec. 3), 13 miles from Baker, 323 acres of pine with some fir. There are estimated to be 4,250,000 feet of lumber. Good wagon-road leading to the property. A snap for somebody, as \$3500 will secure it, or \$1800 for half.  
F. J. ROOT, 90 W. B'dway, New York.

**FOR SALE.**—One Stevens rifle (25-25) and reloading tools, \$20; one violin, \$15; one chest of carpenter tools, all new, cost \$82, will take \$60; ten stands of bees and eight empty ten-frame hives, for \$35 at the yard.  
CHAS. S. KINZIE,  
416 Indiana Ave., Riverside, Cal.

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

**FOR SALE.**—I offer for sale my 40-barrel water-power roller mill with established trade; double circular saw-mill; stone dam; stone-quarry; good 10-room house, with hot water and bath room; good barn and carriage house; 16 acres of land; 5000-bushel elevator. This property is situated at the head of the Little Miami River, with 25-foot fall, located at Clifton, Greene Co., Ohio, 8 miles south of Springfield. For further particulars call on address  
G. H. ARMSTRONG, Clifton, Ohio.

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

**FOR SALE.**—Till Jan. 1, best Wisconsin sections per 1000, \$4.00; No. 2, \$3.40; plain, 25c less. Big discount on Danz. hives and other Root's goods; also berry-boxes.  
H. S. DUBY, St. Anne, Ill.

**FOR SALE.**—A Florida home is offered cheap, owing to old age and infirmities. Six acres of land, all cleared, and fronting on a fine lake. A good two-story house on cement foundations; a few bearing orange-trees and grape-fruit, guavas, and grapes in great abundance. A good chance for a bee-man. Twelve stands of bees in frame hives, on cement and iron. An excellent honey-extractor; ¼ mile to church and school; ½ mile to store and postoffice. Call on or write to me.  
J. A. BARBER, Chuluota, Orange Co., Fla.

### Bees and Queens.

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

**FOR SALE.**—Twenty-five colonies of bees, all good strong swarms in new hives, with straight combs; will sell cheap.  
JOS. BALDWIN, Sandy Creek, N. Y.

**FOR SALE.**—Two apiaries—one of 100 stands of bees close to Pomona, Cal. and the other containing 150 stands near Etiwanda, Cal. Will sell both or either one. For particulars address, enclosing stamp,  
M. R. KUEHNE, 263 East 3d St., Pomona, Cal.

### Poultry Offers.

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

**FOR SALE.**—Closing out. Buff Wyandottes, White Rocks, and Pekin ducks, \$1.0-0; 32 poultry electro-types that cost \$25.00, for \$13.50 cash.  
ORVIL KIGER, Burlington, Ia.

**FOR SALE.**—Barred Plymouth Rock cockerels and one cock, bought at New York show last winter. Fine birds bred from good laying strain.  
EDWARD TRENT, Butler, N. J.

### Wants and Exchange.

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

**WANTED.**—A location for a custom feed and saw-mill.  
4432 South Grand Ave., St. Louis, Mo.

**WANTED.**—To exchange modern firearms for incubators and bone-mills. Address  
4432 South Grand Ave., St. Louis, Mo.

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

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

**WANTED.**—Australasian readers to know that Root's publications, Root's strain of Italian bees, and Root's world-famed goods are all obtainable from  
H. L. JONES, Goodna, Queensland, Australia.

WANTED.—To exchange one American hay-press, two-horse power, for pony saw-mill, planer, power feed or meal mill, standard bee-supplies, extracted honey, or any offers you have.

L. F. WEAVER, Dexter, Mo.

## Honey and Wax Wanted.

WANTED.—Choice white comb and extracted honey; clover preferred.

B. WALKER, Clyde, Ills.

WANTED.—Comb and ext'd honey. State kind and lowest price.

CHAS. KOEPPEN, Fredericksburg, Va.

WANTED.—Fancy white-clover comb honey. Write us.

INDIANAPOLIS DAIRY CO., Indianapolis, Ind.

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

R. A. BURNETT, 199 S. Water St., Chicago, Ill.

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

GRIGGS BROS., Toledo, O.

WANTED.—20,000 pounds pure clover honey. Send average sample and state best price.

J. E. CRANE & SON, Middlebury, Vt.

WANTED.—Comb and extracted honey. Must guarantee pure and of best quality. State price and how put up. Cash paid.

C. M. CHURCH, Arnold, Pa.

WANTED.—No. 1 and fancy white comb honey (un-glassed), Danz. sections preferred.

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

WANTED.—Beeswax. We will pay 30 cts. per pound for fancy pure yellow beeswax delivered in New York until further notice.

CHAS. ISRAEL & BROS.,  
486 Canal St., New York City.

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

SUPERIOR HONEY CO., Ogden, Utah.

WANTED.—In large or small lots, No. 1 white and amber extracted honey in 60-pound cans or barrels. Send sample and quote lowest cash price delivered in Preston.

M. V. FACEY,  
Preston, Fillmore Co., Minn.

WANTED.—Beeswax. Will pay spot cash and full market value for beeswax at any time of the year. Write us if you have any to dispose of.

HILDRETH & SEGELKEN,  
265-267 Greenwich St., New York.

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

H. R. WRIGHT, Albany, N. Y.

## Honey and Wax For Sale.

FOR SALE.—Buckwheat honey, extracted, in 160-lb. kegs, at 6c.

IRA WILSON, Ovid, N. Y.

FOR SALE.—Buckwheat honey in 60-lb. cans, at 6c per lb.

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

FOR SALE.—350,000 pounds California water-white extracted honey by the case or car.

H. J. MERCER, 731 E. Third St., Los Angeles, Cal.

FOR SALE.—2000 lbs. No. 1 buckwheat extracted honey in 60-lb. cans, at 6 cts., on car here. Sample free.

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—10,000 lbs. of clover and buckwheat honey at 8c per lb. for clover and 7c for buckwheat, in 60-lb. cans.

G. H. ADAMS,  
Mill St., Bellevue Sta., Schenectady, N. Y.

FOR SALE.—Three tons comb honey, white, at \$3.50 per case, glass front, 24 sections to case; amber and buckwheat, \$2.75 per case; unfinished sections, \$10.00 per 100. All honey well ripened.

QUIRIN-THE-QUEEN-BREEDER, Bellevue, O.

FOR SALE.—800 lbs. ext'd clover and basswood honey in 60-lb. cans (2 in a case) at \$10.00 a case, f. o. b. here. Sample, 5 cts.

R. H. BAILEY, Ausable Forks, N. Y.

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

H. W. BASS, Front Royal, Va.

FOR SALE.—Pure white-sage honey. One 60-pound can, cased, f. o. b., \$4.00; two cans \$7.50.

FRANK MCNAY, Redlands, Cal.

## Bee-keepers' Directory

This department is for the exclusive use of all-year-round advertisers. If you have any thing the bee-keeper needs, your card in this department keeps your name always before your prospective customers at half our flat rates. We reserve the right to reject or modify any ad. not eligible to these special rates.

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

Cash in advance. Ad's can be changed only in the first issue of January, April, July, and October.

MAPLEWOOD APIARY.—Choice comb honey, Italian bees and queens. Geo. H. REA, Reynoldsville, Pa. R. 2.

ROOT'S SUPPLIES at factory prices; wholesale and retail.

ANTON G. ANDERSON, Holden, Mo.

ITALIAN BEES, queens, and bee supplies.

H. H. JEFSON, 182 Friend St., Boston, Mass.

ITALIAN BEES, queens, beeswax, honey, and bee-keepers' supplies.

M. E. TRIBBLE, Marshall, Mo.

FOR SALE.—Bee-keepers' Supplies. Write for catalogue.

Lengst & Koenig, 127 S. 13th St., Saginaw, Mich.

ITALIAN BEES and queens—red clover and golden strains.

E. E. MOTT, Glenwood, Cass Co., Mich.

ITALIAN BEES, queens, honey, and bee-keepers' supplies.

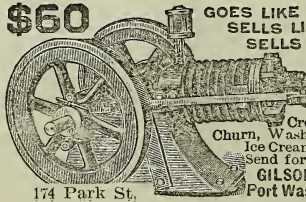
A. T. DOCKHAM, Box 95, Rt. 1, Eagle Bend, Minn.

SWARTHMORE APIARIES—Golden, Caucasian, Banat, Carniolan, Cyprian queens. E. L. Pratt, Swarthmore, Pa.

GOLDEN-ALL-OVER Italian, Caucasian, and Banat races. Bred by Swarthmore methods from best stock in the world, in three mating-yards with 600 twin mating-boxes.

THE SNYDER APIARIES, Lebanon, Pa.

\$60



GOES LIKE SIXTY  
SELLS LIKE SIXTY  
SELLS FOR SIXTY

GASOLINE  
ENGINES

for Pumping,  
Cream Separator,  
Churn, Washing Machine,  
Ice Cream Freezer, etc.  
Send for catalogue.

GILSON MFG. CO.  
Port Washington, Wis.

174 Park St.

# The New Food Law Takes Effect January 1, 1907

## BEE-KEEPERS, BEWARE!

**E**VEN that gathered from your own bees is not sure to pass inspection if it is near a city, or honey-dew localities, or you feed your bees syrup in the fall. I will analyze your honey at the following rates:

\$3.00 for a single sample.  
\$5.00 for two samples.

I will also sell fine basswood and clover mixed, two 60-pound cans to the case, at 9½ cts. per pound. My bottled honey, trade-marked "Blossom Nectar," packed two dozen in a case:  
Large size..... 25c retail; \$2.50 per doz.  
Medium size..... 15c " 1.35 " "  
Lunch ..... 10c " .90 " "

Quantity price given on application.  
A written guarantee and certificate of analysis with every purchase.

**Wm A. Selser**  
Philadelphia :: Pennsylvania  
8 Vine Street

## A Sewing-machine Would Be A Practical Gift.

If you, dear sir, believe in being practical in all things, even in the matter of Christmas gifts, why not present to your wife a new Sewing-machine?

We sell, with the positive guarantee that it is the best low-priced machine on the market, a machine, by name,

The Clarendon With Automatic Drop-head, \$22.50.  
With Regular Head . . . \$14.75.

Built of good quality oak with high front, four side and one center drawer. The sewing head is of good size, fitted with Automatic Bobbin-winder, Stitch-regulator for throwing machine out of gear, Improved Spring-tension, Double Positive-feed and Self-threading Shuttle.

The attachments consist of Ruffler, Tucker, Braider, Binder, Feller, four Hemmers, Cloth-guide, and all necessary accessories.

Compare these prices with those offered by ordinary machine agents, and remember, if you please, that our machine is guaranteed for 10 years.

Every one of the 80 departments making up this establishment is ready for Christmas. Write our Mail-order Department for any thing that you require.

**Joseph Horne Co., Pittsburg, Pa.**

# Make More Money on Fruit Crops

Everyone who grows fruit, whether a large commercial grower, or one who has only a few fruit trees, a berry patch or a garden, should be interested in knowing how to get the most profit from his crops.

## THE FRUIT-GROWER ST. JOSEPH, MISSOURI

is the only magazine in America which is devoted exclusively to the interest of those who grow fruit. It is handsomely illustrated, and contains from 36 to 76 pages each month. It tells all about fruit of all kinds—and nothing but fruit—how to market, how to pack, cultivate, spray, prune, how to MAKE MORE MONEY from your crops. Sample copy sent free. Regular price is a dollar a year, and each subscriber is entitled to a choice of any one of our series of ten Brother Jonathan Fruit Books—the best in existence.



## Three Months Free

We are so confident The Fruit-Grower will please you that we will send it to you three months absolutely free! If, after three months, you like the paper, we will make you a special offer for twelve months more. If you don't like it, notify us and we will take your name off the list. The three months will cost you nothing. We offer cash prizes for new subscribers—write for particulars. Write your name and address in blanks below; mail to The Fruit-Grower Co., Box 10, St. Joseph, Mo.

I accept your FREE three month's trial offer. At end of three months I will either pay for a year's subscription or notify you to stop paper. In either event there is to be NO charge for the three months' trial.

Name \_\_\_\_\_  
Route or P. O. Box No. \_\_\_\_\_  
Town \_\_\_\_\_ State \_\_\_\_\_

## Fruit Growers and Farmers.

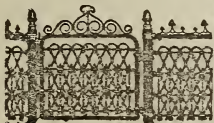
Thousands of the best fruit-growers and farmers read the **Southern Fruit Grower** because they find it the most helpful fruit paper published. Contains 24 to 40 pages of valuable fruit and farming information every month. 50c a year. Send 10c and 10 names of fruit growers and get it six months on trial.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

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

### Convention Notices.

We have just decided to hold the Michigan State bee-keepers' convention, Dec. 25 and 26, at Big Rapids. There will be reduced rates on the railroads at that time. Particulars will be given in Dec. 15th GLEANINGS.  
W. Z. HUTCHINSON.

The eighteenth annual meeting of the Minnesota Bee-keepers' Association will be held in Minneapolis, at the same time that the Minnesota State Horticultural Society will hold its exhibition of fruit. The sessions will be held Wednesday, Thursday, and Friday, December 5, 6, and 7, 1906, in the First Unitarian Church, Corner of Eighth Street and Mary Place. It is believed that our program will prove to be a helpful one, and a cordial invitation is extended to all bee-keepers to attend.  
CHAS. D. BLAKER, Sec.

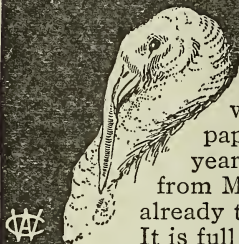


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Many designs. Cheap at wood. 32 page Catalogue free. Special Prices to Gentlemen and Churches. Address COILED SPRING FENCE #0, Box 448 Winchester, Ind.

# THE BIGGLE POULTRY BOOK

## Farm Journal



is the leading farm paper in America, with more subscribers than any other farm paper in the world. It is a monthly, thirty years young, taken and appreciated everywhere, from Maine to California. Thousands in your state already take it. Your neighbor knows all about it. It is full of sunshine and gumption, is edited by practical farmers who know whereof they write. It has no ax to grind, prints no long-winded articles by theoretical specialists, but aims to give in season, and just when wanted, advice and timely help such as you, a busy farmer, need. **Farm Journal** has departments for the stockraiser, the orchardist, the dairyman, the trucker, the general farmer, the poultryman and the women folks, with many short cuts, recipes and hints, many of which, our readers often write, are worth the cost of the paper. **Farm Journal** is 75 cents for five years, sixty numbers.

### Biggle Poultry Book

More copies of Biggle Poultry Book have been sold than any similar book ever published. We have no hesitation in saying it is the most up-to-date, helpful poultry book ever written. It is concise, practical and to the point. Tells the whole story from the egg to the roasting pan. Seventeen chapters, sixteen colored plates, each printed in ten colors, showing birds true to life. Over one hundred other illustrations. Printed on enamel paper, bound in cloth. A novice can take Biggle Poultry Book and succeed in the business, and an expert will find lots in it that will be helpful to him. Price, by mail, 50 cents.

There are eight other Biggle Books, one each on the Horse, Cow, Hog, Sheep, Health, Pets, Orchard and Berries. All built on the same plan as the Poultry Book, and bound uniformly with it. Price of each, 50 cents. So popular are the Biggle Books that over 175,000 have already been sold. Nothing nicer for a Christmas gift.

### The Roosevelt Family Calendar

is a high art calendar for the year 1907, showing a family group of President and Mrs. Roosevelt and their six children. It contains no advertising matter whatever, but it is a beautiful and artistic production, such as anyone will be glad to hang in parlor, sittingroom or office, and preserve forever as a historic souvenir. Or it will make a valued, attractive Christmas gift for some relative or friend.

**For \$1 Farm Journal** for 5 years, (60 issues) and Biggle Poultry Book and include the Roosevelt Family Calendar, if your order is received before Jan. 1st. (Any other of the Biggle Books may be substituted for the Poultry Book.) Safe delivery of Book and calendar guaranteed.

**For \$1 Farm Journal** to one address for 10 years, or to two addresses for 5 years each, provided at least one of these subscriptions is a new one; if both are new so much the better. A Roosevelt Family Calendar as a free gift for promptness to each subscriber if subscriptions are received by Jan. 1st.

**For 25 cents Farm Journal** on trial two full years, and a copy of the Roosevelt Family Calendar. This offer for new subscribers. Calendar offer is good only to Jan. 1st. Send coin or stamps at once; your money back gladly if not satisfied with any of these offers. Agents wanted on salary.

**FARM JOURNAL, 1057 Race Street, Philadelphia, Pa.**

# A New Factory

and also a new firm name, but in the same place with the same management. We have just put in a complete

## Weed Process Comb Foundation Factory

of the very latest type, and we are now ready to work up wax for western beekeepers at low prices. . .

We want several thousand pounds of beeswax at once, and will pay top market price for same. Let us hear from any one having wax to offer. . . . .

**Buck & Wilson, Augusta, Kan.**

Butler County

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By sending for our forty-page catalog. It gives full particulars about scores of different hive-combinations and other supplies that we always keep in stock. We have handled

ROOT'S GOODS for twenty years. They are the best. Don't fail to write us about your wants for next season's use.

**John Nebel & Son  
Supply : Company**

High Hill, Missouri  
Montgomery : County

# MR. TEXAS BEE-KEEPER

I would like to talk to you *personally*.

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

Then, too, I have installed a complete Weed-Process Foundation factory. I can turn out 500-lbs. a day. I can work your wax into foundation. In fact, my facilities in this line are not surpassed in Texas.

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

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

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

I can supply Red clover and Golden Italian queens promptly.

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

Call or Address

**Udo Toepperwein - San Antonio, Texas**

1322 South Flores Street

# Gloves for Handling Bees

Something New. Something You Want.

Our specially prepared Gloves soften the hands, and prevent and cure chapped hands. The fabric contains a preparation which prevents the gloves from becoming hard and stiff. We furnish them without armlets or sleeves for using in sweeping, gardening, or general housework, driving, or outdoor work. They are just the thing for driving in the rain, as they are absolutely waterproof. If worn at night they keep the hands soft and white. All their points of excellence can not be here enumerated, but they never fail to give the greatest satisfaction. To introduce them, we will send by mail or with other goods at the following low prices:

Bee-gloves—long arms, fleece-lined in two sizes—large for men, small for ladies.....35 cents  
 Men's gauntlets, fleece lined .....35 cents Ladies' gauntlets, fleece lined.....35 cents  
 Ladies' unlined for wearing at night or doing light housework.....40 cents

Early-order discounts on bee-supplies (excepting above and a few other articles) as follows:  
 4% for cash with order before January 1st 3% for cash with order before February 1st

If you haven't our 1906 catalog send for one and a free copy of The American Bee-keeper (50c a year).

**The W. T. Falconer Manufacturing Co., Jamestown, N. Y.**

# New Goods - Big Stock

New Warehouse : Root's Goods : Prompt Shipment : Low Freight

## Everything for the Bee-keeper at Savannah, Georgia

We are prepared to furnish promptly a full line of supplies; choice new stock just from the factory. BEES and QUEENS. We have large apiaries of fine stock. Book your orders at once, as there will be a heavy demand this season. Catalog sent free. Correspondence solicited.

**Howkins & Rush, 124 West Liberty St., Savannah, Ga.**

# Dadant's . . . . . .. Foundation

**We guarantee it absolutely satisfactory every way.**

Ask any dealer who handles our make along with any other, and he will say, "Of course, Dadant's is the best." Ask a bee-keeper who has used our make and he will tell you the same thing. WHY? Because we make the manufacture of foundation our SPECIALTY. We devote our time and energies to making THE VERY BEST COMB FOUNDATION that CAN BE MADE.

It will cost you no more than any other make. Send for free catalog and prices. Early-order discounts on all kinds of goods for the bee-keeper now.

We work beeswax into foundation.

We buy beeswax at all times.

Prices sent on application.

**Dadant & Sons, Hamilton, Ills.**

# Root Goods

## for the West

Why put up with inferior goods when you may as well have the best? They cost you no more. In many cases I can save you money. In all cases I give the most for the money, quality considered.

They are the ROOT GOODS, which I sell here at the ROOT FACTORY PRICES and DISCOUNTS.

My shipping facilities are unsurpassed anywhere. Practically all points are reached by direct lines, thus insuring the lowest freight rates.

Write for estimate with liberal discount for orders sent in now.

**Jos. Nysewander, Des Moines, Iowa**

565, 567 West Seventh Street