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1908

Gleanings in Bee Culture



AN APIARY IN OKLAHOMA.

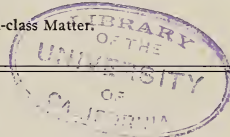
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No. 20



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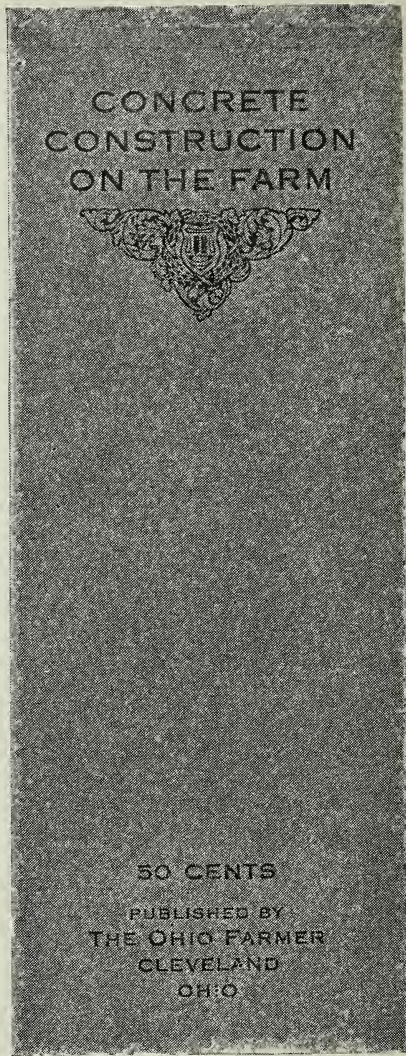
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Chicago House Wrecking Co., Chicago

Honey Markets.

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

EASTERN GRADING-RULES FOR COMB HONEY.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Oct. 5. WALTER S. POWDER, Indianapolis.

COLUMBUS.—The market shows a little more activity in honey, and some inquiries from out-of-town buyers are being received. We quote: Fancy white, 15; No. 1 white, 13½ to 14; No. 2 white, 12; amber, 10. We are in position to handle good stock.

Oct. 7. EVANS & TURNER, Columbus, O.

KANSAS CITY.—There is a good demand for honey here, but prices here are somewhat lower than last month, \$3.00 being about the top of the market for white comb honey; amber, \$2.75 per case. There is also a good demand for extracted honey, but there is very little here, white selling at 8, amber at 7. Beeswax brings 25 to 28.

Oct. 5. C. C. CLEMONS PRODUCE CO.,
Kansas City, Mo.

ZANESVILLE.—On account of the fruit season and generally quiet condition of trade, the demand for honey is rather slack. For strictly No. 1 to fancy white comb the jobbing trade would pay 13 to 14, and for extracted, 7 to 8. The market is pretty well stocked with comb, and prices are weakening somewhat. No. 1 to fancy brings 16 to 17 wholesale, and extracted in tin cans, 9 to 10. For good yellow beeswax, purity guaranteed, 1 an offering 28 cts. cash or 30 in exchange for bee-supplies f. o. b. here.

Oct. 6. E. W. PEIRCE,
Zanesville, O.

ST. LOUIS.—Our market to-day is in precisely the same condition—dull on all grades of honey, especially comb honey. We quote: Fancy white comb honey, 12 to 12½; choice amber, 11 to 11. Broken or leaking honey sells at considerably less. Choice amber honey in barrels and half-barrels brings 6 cts.; in five-gallon cans, 6½ to 7. Dark and inferior grades rule at less. Beeswax, choice pure, brings 28.

Oct. 5. R. HARTMANN PRODUCE CO.,
St. Louis, Mo.

SAN FRANCISCO.—Prices quoted by local dealers show no change. There is still a small movement of new honey from the producing districts, though the greater part of the crop has been marketed. The demand is quiet. We quote: Water-white comb, 16 to 17; white, 15; water white, extracted, 8 to 8½; light amber, 7 to 7½; dark amber, 5½ to 5¾; candied, 5¾ to 5¾.—*Pacific Rural Press*, Oct. 3.

CHICAGO.—Beginning with this month we usually have an active trade in honey, and there has been quite a little movement in it this week; but the stocks here are quite large, and widely distributed. Firms that have not had any honey for some years are getting from five cases to a larger quantity, and they wish to dispose of it as soon as possible, which means taking a lower price than the market is endeavoring to get, so that some lots of No 1 to fancy have sold at about 12 cents. The ruling prices asked now for A No. 1 to fancy grades are 13 to 14 cents, and for grades lower, from 1 to 3 cts. per lb. less. This includes the amber. From 7 to 8 cts. per lb. is asked for the best grades of white extracted, and 5½ to 6½ for the amber grades. Beeswax is steady at 30.

Oct. 3. R. A. BURNETT & CO.,
Chicago.

ALBANY.—The demand for honey is increasing now. The crop in this vicinity is unusually light. The market will have to depend on outside territory more than usual. We quote: Finest white clover, 16; A No. 1, 15; No. 1, 14 to 15; buckwheat, 13 to 14; mixed, 13 to 14; extracted, white, 8; amber, 7½; dark or buckwheat, 7 to 7½. Beeswax is scarce at 30 to 32.

Oct. 10. H. R. WRIGHT, Albany.

CINCINNATI.—Since our last report, cooler weather has set in, which has stimulated the demand for comb honey wonderfully. Buyers are interested now after having refused to take hold so long as we had warm weather. For strictly fancy comb honey we are getting from 14 to 16 cts. Lower grades are always disposed of at a sacrifice, and for that reason we do not encourage shipments of inferior grades to this market. Amber extracted honey in barrels is selling at 5½ to 7, according to quality and quantity purchased. Extracted white-clover honey is selling at 7½ to 9, which is likewise in accordance with the quality and quantity. We are paying 27 cts. per lb. for good to choice beeswax, free from dirt, delivered here. We believe all bee-keepers should ship their comb honey to their markets before cold weather sets in.

Oct. 5. THE FRED W. MUTH CO. Cincinnati, O.

SCHENECTADY.—The receipts of honey are more liberal, but the demand is not equal to that of last season, and we do not look for top-notch prices. This is presidential year with its usual uncertainties, and which is not productive of confidence in business lines. We quote: Fancy white, 15 to 16; No. 1, 14 to 15; No. 2, 12 to 13; mixed, 11 to 12; fancy buckwheat, 12 to 13; No. 1, 11 to 12; light extracted, 7 to 8; dark, 6½ to 7½.

Oct. 5. CHAS. MACCULLOCH,
Schenectady, N. Y.

DENVER.—We quote No. 1 white comb honey, per case of 24 sections, \$3.15; No. 1 light amber, \$3.00; No. 2, \$2.85; strained and amber extracted, 6¾ to 7¾; light amber, 7½ to 8¼; white extracted, 8½. We pay 24 cts. for clean yellow beeswax delivered here. Owing to a large supply of fresh fruit in this section the demand for comb honey is light at present.

Oct. 6. THE COLORADO HONEY PRODUCERS' ASS'N.,
Denver, Col.

Extracted Honey Wanted

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

**NATIONAL
BISCUIT COMPANY**

Purchasing Department,
Washington Blvd. & Morgan St.
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If your honey crop is short, and you need something fine to supply your customers, write to us, for we have it.

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

BEST White-clover Honey (extracted).

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

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Comb and Extracted
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J. T. CALVERT, Business Manager.

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Offer No. 3B. FORTY YEARS AMONG THE BEES, by Dr. C. C. Miller. In this handsome book the author genially describes his methods and ideas in producing vast quantities of fancy comb honey. He has a happy knack of making every thing very plain and easily understood. He tells all he knows. This book and a year of GLEANINGS for \$1.75.

Offer No. 4B. STANDARD ROOT SMOKER, and GLEANINGS one year, \$1.85. One of the best smokers made, both in principle and construction.

Offer No. 5B. WHAT TO DO AND HOW TO BE HAPPY WHILE DOING IT, by A. I. Root. Herein doth our old friend give some practical ideas about making a living independently around one's own home. It suggests many ways of making a living for men with little capital. With GLEANINGS for a year and this book the charge is \$1.35.

Offer No. 6B. A copy of MINK-TRAPPING, and GLEANINGS one year, \$1.30. The methods as published are those of experienced trappers from all parts of the country.

Offer No. 7B. A copy of FOX-TRAPPING, and GLEANINGS one year, \$1.30. A book of instructions telling how to trap, snare, poison, and shoot. A valuable book for trappers.

Offer No. 8B. BEE GLOVES. One pair cloth bee-gloves, with or without fingers, with GLEANINGS one year, \$1.35.

Offer No. 9B. One F. F. FOUNTAIN PEN No. 2, with GLEANINGS one year, \$1.50.

The above prices are all postpaid.

Canadian postage on each of the above offers, 30 cts. per year extra.

Foreign postage on each of the above offers, 60 cts. per year extra.

THE A. I. ROOT COMPANY, MEDINA, O.

A TRIFLE OFF IN COLOR AND A SHADE LOWER IN PRICE

Late last fall we added another apiary to our series of out-yards in Northern Michigan. It was a magnificent raspberry location, and we supposed that region entirely free from other honey-producing plants; but when we came to harvest the crop this fall we found that the honey was not strictly water-white. The color could not be detected in a small quantity like a spoonful, or even a saucerful, but by filling a glass fruit-jar or pitcher, and holding it up to the light, a very slight reddish or pinkish tinge can be noticed.

Probably 99 in every 100 pounds of this honey are pure raspberry. We certainly can detect no difference in the taste or flavor between this honey and the strictly pure raspberry, and we presume not one customer in a dozen would notice the slight color, unless he had the two kinds side by side and some one called his attention to it, but we don't propose to send out any honey as strictly pure raspberry unless it is such. We have put

up the honey in 60-pound jacketed tin cans, and offer it at \$5.50 per can—75 cents less than we get for the same amount of the water-white, strictly pure raspberry. If you don't care for the slight trace of color you can save 75 cents in buying a 60-pound can.

If you would prefer to see a sample before ordering, send ten cents and we will mail you one with pleasure, and the ten cents may apply on the first order you send. Ask for a sample of the "slightly-colored" raspberry honey.

We can still furnish the strictly pure water-white raspberry honey at \$6.25 for a 60-pound can, or \$12.00 for 120-pounds.

All of our honey is thoroughly ripened, thick, rich, and truly delicious—a cent or two extra on the pound does not cut much ground when it comes to the eating.

W. Z. HUTCHINSON, Flint, Mich.

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

- Gross crates . . . \$5.00; 5 gross, \$4.75 per gross.
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- 1-lb. sq. jar with cork . . . 5.00;
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Send me 25 cents and I will send you **The Home Instructor** for two years and will send my big fashion book to you free. I will also agree to sell you any pattern you want thereafter for 5 cts. I can sell them for 5 cents because I buy them by the thousand and don't make any profit. I don't want the profit, I want your subscription to **The Home Instructor**. You will save many times the cost of my offer in a year. Write to-day **A. OTIS ARNOLD, Dept B Quincy, Ill**




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Our Homeseekers Edition telling about wonderful new fruit districts in Northwest, West and Southwest. Our editor personally visited these sections and tells honestly and vividly all about them. This number alone worth hundreds of dollars to those seeking new and profitable homelands. Write now to **The Fruit-Grower, Saint Joseph, Missouri.**

The Fruit-Grower, Box 907, St. Joseph, Mo.
Send paper 3 months FREE and tell how to get New Fruits without cost, after which I will accept offer or notify you to stop the paper.

Name _____
Town _____ State _____

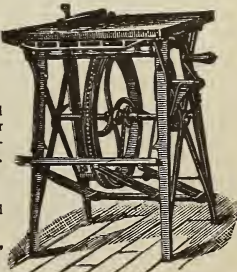
BARNES' Hand and Foot Power MACHINERY

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

Machines on Trial

Send for illustrated catalog and prices. Address

W. F. & JNO BARNES CO.,
545 Ruby St.,
ROCKFORD, ILLINOIS.



GLEANINGS IN BEE CULTURE

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H. H. Root
Ass't Editor

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"BUILD NOW."

There has been a campaign quietly going for some time which has for its title the above words. The meaning is obvious. At the present time the price of building material of all kinds is considerably lower than a year or more ago. It is not likely prices will go lower. The chances are all in favor of the price going higher, so that the advice to "build now" is sound and good. From all over the country advices have come that many are acting on this suggestion. Even large factories are being built under the idea that it will be much cheaper to build them now than later on when roseate prosperity has resumed its sway.

If everybody who has any need of building would take hold of the idea, "build now," it is only a matter of time when we should have prosperity of the most pronounced kind, as the building trade is the basis of many others. It requires the exercise of only a very small amount of faith to see that this country will continue to grow and expand as fast as it ever did in years gone by. All experts are agreed the check is only temporary, and that the *status quo* will soon be restored. When it is, prices will be considerably higher than now. The wisdom of building now will be apparent.

What adds weight to this advice is the new departure of the famous firm of Gordon, Van Tine Co., who have brought the methods of the great mail-order houses of Chicago to bear on the planing-mill business. You can now buy every thing necessary for a nice house in the same way you can buy groceries and clothes by mail. The net result of this is that the consumers save the profits of the middlemen and retailers. Nor is this all, for the buyer gets a much wider selection than if he purchased the goods at a small mill. The modern housekeeper wants something more than a shed for a home, even if she lives in the country; and almost the only way for many to get what they desire in house-building materials is to order from a mail-order house like the Gordon, Van Tine Co., Davenport, Iowa. They issue a large catalog of house materials so that any one can sit down and quietly figure for himself the cost of any building desired, be it a chicken-coop or a mansion. The signs of the times all point to this kind of enterprise being a success. Tremendous efforts have been made to crush this new way of doing business, but to no purpose; and on account of lower prices it *must* succeed. The logic of low prices can not be resisted, even by those who profess not to patronize mail-order concerns. This being so, we advise them to write for the Gordon, Van Tine Co.'s catalog at the earliest opportunity. See if these things are so.

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

We will pay you 4 per cent—compounded twice a year on your savings account whether large or small—secured by assets of over \$700,000. Managed by prudent and successful business men, and subject to and incorporated under the rigid Ohio State banking law. Under ordinary circumstances all or any part of your deposits may be withdrawn at will.

Send for the booklet to-day.

**THE SAVINGS DEPOSIT
BANK COMPANY**

MEDINA, OHIO

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

Killing Two Birds With One Stone

By the Bee Crank

You accomplish two things by ordering your supplies of me now, providing your order is accompanied with the cash.

First, you save six per cent on the cost if ordered in October; five per cent in November, which, for the short time between now and the time you must have the supplies, means 12 to 15 per cent per annum on your money.

Second, and most important, when you are in need of your supplies they will be ready for you.

Most bee-men are not fond of writing letters. They delay ordering until the last minute, and frequently still later, and then are in a terrible rush for the goods. When about 75 per cent of my patrons do the same thing you can readily appreciate the scramble that ensues at



this end of the line to keep from breaking my record.

Please remember that this is a special season discount, and not a concession because of any thing doubtful about the goods or the quality. The supplies are all fresh, clean, and the highest Root standard.

You should have my catalog. A postal will bring it. If you will send me your name I will place it on my mailing-list and

send you from time to time notices regarding any thing new that would interest bee-men.

If your demand for honey exceeds your supply, write for my quotations. I carry a large stock of finest quality, and it might be to your interest to keep your trade supplied.

Save your beeswax—I pay 28 cents cash or 30 cents in trade.

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

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TELEPHONES FOR ALL.

Every farmer knows the value of a telephone. It unites him and his family with the outer world. Many are the benefits which come from their use—so much so that a community can hardly call itself civilized in the best sense of the word unless it has an established phone system. Where all club together and unite their energies the cost is not great—in fact, infinitesimal in comparison with its benefits from a social and business point of view. For one thing, an efficient telephone line is a sign of progress and enlightenment.

The presence of a telephone system in a locality is a great promoter of business; it gives strangers a much better impression of your enterprising spirit and it promotes social intercourse and otherwise binds people together as nothing else can. It is a protection against burglars, criminals, and tramps, and it is well known these gentry are afraid of a telephone system. Many have been caught by its aid. In time of sickness a telephone is an immense benefit and a great comfort. During storms it is also a power for good. It is often used to warn people of rapid changes in the weather, and in a multitude of ways is a great comfort to a family. Hardly any one can be found to dispute its value nowadays.

There are many localities, however, where, from the want of some progressive person, or the lack of information, a telephone exchange has not been installed as yet. We want to have a word with just such people. We wish to point out the fact that there is an easy way of getting what you need—a simple, cheap telephone system with only a moderate effort, and no special knowledge of electricity on your part. The Stromberg-Carlson Co., Rochester, N. Y., who manufacture phones and all necessary supplies, will show just how to go about it so you will have no difficulty whatever in mastering the whole problem. They have all the latest ideas on the subject, and can tell you just what to do, even if you are a perfect novice. They put up hundreds of systems in the course of a year, and, of course, know just how the promoters go about their work. Many go by their advice entirely. All you have to do is simply to keep in touch with the managers of the Stromberg-Carlson Company, who will keep you posted. If you absolutely don't know a thing about it, just write them to that effect, and they will at once proceed to coach you. In a short time you will know all about it—at least, enough to buy all the material, put it up, and manage the exchange. Many people have done this, so there is no doubt about it. If the men folks are too busy the women can do all the work except putting up the line. That is, they organize the company, buy the material, and conduct the exchange. If a telephone line is needed in your locality we heartily recommend you to write at once to the Stromberg-Carlson Telephone Co., Rochester, N. Y.

SEABOARD AIR LINE RAILWAY.

As usual the Seaboard Air Line commences the fall campaign by putting its fall advertisement elsewhere in this issue. It is one of the great railroad systems of the United States, embracing the States of Virginia, North Carolina, South Carolina, Georgia, and Florida. Despite the fact that these are old settled States—far older than Ohio, Indiana, or Illinois, there are still large areas of land untouched by the plow, or which are imperfectly cultivated. Some of this land can not be excelled in fertility; and the climate being exceedingly pleasant, and the markets close at hand, there is presented a unique opportunity for farmers, gardeners, and others to acquire a competency. Naturally the railroads would be benefited if the country were more thickly settled, and this is the object of their propaganda. They want settlers of a certain kind—men who know how to farm intensively in growing truck and fruit, and in dairying, etc. Large numbers of Northern people have settled in the South, chiefly as market-gardeners. They grow large quantities of garden-stuff for shipment to the North early in the spring. They also grow immense quantities of strawberries and peaches.

It must not be supposed from this that these are the only industries open to Northern enterprise and capital. Raising hay, dairying, horse-raising, etc., are more profitable than usual, on account of the fact that the average cotton-planter buys from the North all his food supplies, his horses and mules, and even the food to feed the latter.

There is an idea among Northern people that the climate is too hot, or is too unhealthy, whereas it could hardly be better. The heat is never so oppressive as it is in the Mississippi Valley, and the winters are just cold enough to set vegetation to rest. Beautiful apples, pears, peaches, plums, grapes, strawberries, figs, etc., can be raised, and with greater certainty than in the Northern and Central States. Fine crops of wheat and oats can be raised; and as for corn, South Carolina has repeatedly beaten every other State in the Union in contests for the greatest yield of corn per acre.

To set at rest some of the erroneous ideas pertaining to the South and its possibilities the Seaboard Air Line is offering very low rates to homeseekers who desire to visit the South to look around and see for themselves the conditions. The managers think this will be convincing, and hope to secure a great many permanent settlers who will help to build up a white man's paradise. The South has made great progress, especially along the lines of education and temperance, within the last few years. Better go and see. The round-trip rates are cheap and attractive. The railroad also maintains a bureau of information at Portsmouth, Va., with Mr. John W. White as the manager. Write to them for all particulars. They are at your service.

FROM A PACIFIC-COAST ADVERTISER.

It is no news to us that a firm in California finds it profitable to use our pages; but that you may see how we are regarded by a well-known agency and their clients, the California Fruit Product Co., we reproduce their letter below:

"CURTIS"
ADVERTISING COPY
ORIGINAL LETTERS
SELLING LITERATURE
ILLUSTRATIONS

LARGEST, STRONGEST, MOST CONSERVATIVE AND HELPFUL
ADVERTISING CONCERN ON THE PACIFIC COAST. HAS
MORE SUCCESSSES TO ITS CREDIT THAN ANY OTHER

ESTAB. 1895

CURTIS-NEWHALL CO.

W. D. CURTIS, PRES. AND GEN'L MANAGER

ADVERTISING CONTRACTORS

228 MERCANTILE PLACE

"CURTIS"
PROVED LISTS
AGENCY METHODS
MAIL ORDER EXPERIENCES
HELPS TO SALESMEN

LOS ANGELES, Sept. 1, 1908.

GLEANINGS IN BEE CULTURE,

Medina, Ohio..

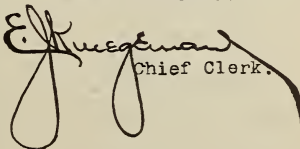
Gentlemen:-

It may interest you to know that the results from the California Fruit Product Co. advertising in your paper last season were very satisfactory, altho the order was placed late. We are expecting fine returns from you again this year.

Very truly,

Curtis-Newhall Company,

By


Chief Clerk.

Whatever you have for the home or farm, the poultry-keeper, fruit-grower, or any similar class, GLEANINGS will undoubtedly prove a valuable advertising medium for you. For particulars address

ADVERTISING DEPT. GLEANINGS IN BEE CULTURE, MEDINA, O.

The Little Magazine with a Big Field.

Hammer Free!

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



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

Three per cent discount off all prices in catalog.

FULL LINE OF ROOT'S GOODS

NO CHARGE FOR DRAYAGE.

John N. Prothero
Dubois, .. Pennsylvania

Odds *and* Ends Sale on Exhibition Goods While They Last

If you will send us a list of goods that you could use right away, or in the near future, we will quote you prices on such exhibition goods as we may have in stock. Don't wait, because this sale will be over in 30 days

Blanke & Hauk Supply Co.
ST. LOUIS



Standard the World Over

Traps

Veils

Hives

Frames

Smokers

Sections

Foundation

Wax-extractors

Honey-extractors

Shipping-cases

Bee-appliances

Syracuse
The A. I. Root Co.
New York

Syracuse
The A. I. Root Co.
New York

APICULTORES

De Espana, Portugal y Colonias.

Pidan catalogos de las colmenas, extractores, prenzas 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 Général

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

“Practice Makes Perfect.”

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

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

Cash or goods for wax at all times.

George E. Hilton
Fremont, . . . Michigan

WESTERN Bee-keepers

.. will ..

SAVE TIME AND FREIGHT

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

A FULL LINE OF

Shipping-cases, Honey-extractors,

and all other seasonable goods now
on hand.

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

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

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

6%

Cash
Discount
for
October
orders
for
“Root
Quality’
Bee-supplies
for
next
season’s
use.

Beeswax wanted for cash
or exchange

M. H. Hunt & Son

Lansing, Mich.

C. H. W. WEBER

HEADQUARTERS FOR

BEE SUPPLIES

DISTRIBUTOR OF

ROOT'S GOODS EXCLUSIVELY
AT ROOT'S FACTORY PRICES

NO CHARGE TO DEPOTS
FOR DRAYAGE.

Don't Forget!

If you want EARLY-ORDER DISCOUNTS, to send us a list of your needs, and we will be pleased to quote you our lowest prices.

HONEY WANTED.

Fancy white clover, EXTRACTED HONEY. State how it is put up, and price expected delivered in Cincinnati.

C. H. W. WEBER

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

CINCINNATI,

..

..

..

OHIO

GLEANINGS IN BEE CULTURE

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

• H. H. ROOT, Assistant Editor
A. I. ROOT, Editor Home Department

E. R. ROOT, Editor

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

VOL. XXXVI

OCTOBER 15, 1908

NO. 20

STRAY STRAWS

DR. C. C. MILLER

HAHNEMANN, the aged bee-keeper mentioned on page 1186, is, if I mistake not, the inventor of the queen-excluder. Going from Germany, he has been in Brazil many years.

E. D. TOWNSEND, I was a little surprised that you didn't mention dandelion in your list of honey-plants, p. 1185. It was introduced here perhaps 60 years ago, and now it is worth more than all early yielders combined, leaving out fruit-bloom.

"TIMELY HINTS on fall uniting," p. 1178, are good. Let me add that, if you kill one queen two or three days before uniting, then move the queenless bees to the hive with the queen, it will ensure the safety of the queen, and the queenless bees will stay put better than queenright bees. [Correct, according to our experience.—Ed.]

A. I. ROOT, you seem to think, p. 1209, that if you have your money in government bonds you can't get it just when you want it. That's true, and it's not true. You can get the money for a government bond any day, but you must sell the whole bond at once. If you want only a small part you can't get it. There's where postal or savings banks are ahead.

THE SEASON was somewhat disappointing at the latter end, owing, at least partly, to the drouth of 43 days. Still, I'm not grumbling. An average of 151 sections per colony (about 138½ lbs.) is not bad. The best colony gave 276 sections, falling 24 sections short of the best yielder in 1903. [Now we are curious to know how many colonies you had, or, in other words, what is your total crop?—Ed.]

A. I. ROOT, speaking of preparing wheat cheaply for the table, p. 1213, did you ever try it with no preparation whatever except to boil the whole wheat? In college days it was a staple article with me, and I assure you a peck of wheat will go a long way. Boil it three hours. A good medicine for constipation. Cheap, too. Some of the time my board cost 35 cents a week. But I don't hanker to repeat the experience.

YOU ASK, Mr. Editor, p. 1176, "Do you think there is any real difference between boiling the splints in the hot wax and covering them over with a thick film of wax as described by Mr. Atwater?" No, indeed; I think the Atwater plan might be the better, if thoroughly done. I have been wondering whether it might not be just possible that one reason the bees gnawed Mr. At-

water's foundation was because the end of the splint was some distance above the bottom-bar.

W. K. MORRISON, your levulose-dextrose business, page 1205, is interesting. Now when I've had coarsely grained clover honey I've drained off the liquid part, leaving apparently dry sugar. Is the liquid drained off mostly or entirely levulose? If so, we might so control the granulating as to get all the levulose out. [The drainings are pure levulose and water. If held at the right temperature the levulose leaves the dextrose as a liquid. The dry sugar is pure dextrose. In time there may be a demand for this levulose, as it is undoubtedly a medicine.—W. K. M.]

M. H. MENDLESON, you're perhaps the first Californian who has mentioned getting a crop of phacelia honey, although I've implored some of you to tell us about it. It is a native of California, introduced from there into Germany, and much has been said in German journals about it; but your brief mention of a carload of honey from it, p. 1203, comprises a large part of our literature on the subject. What's the honey like? What is the value of phacelia as forage for cattle? Was your honey got from wild or cultivated plants? Please unlock your knowledge-box.

POSTAL SAVINGS BANKS will be a great convenience, and entirely safe, splendid for temporary deposit; but other savings banks will still be needed, for two per cent is all that is proposed the postal shall pay, and it is right that money should earn more if it can do so safely. There is considerable discussion just now about having laws that will make savings banks as safe as government bonds. Indeed, Oklahoma already has such a law, and you can send money there by mail and get 4 per cent. That's about as much as you can get from banks anywhere. In this locality, 3 per cent is the rule.

WM. W. CASE says, p. 1199, that the larva of the bee-moth makes its start in cells of pollen in sections, and in travel-stain. He might add that the body of a dead bee also makes a good starting-point. But with Italians or good hybrids, do worms trouble sections? For years I haven't fumigated a section, although, before Italian blood predominated, all sections were fumigated twice. [We find it necessary to fumigate some lots of sections that are sent to us. We presume it is because the producers of them have the bee-moth in their vicinity. Come to think about it, we do not have to fumigate combs from our yards as we did in years gone by.—Ed.]

"THESE OLD QUEENS are always readily accepted anywhere," page 1204. That sounds as if it meant that an old queen would be more readily

accepted than a younger one. If Mr. Beuhne really means it so, I will believe it, although I have always supposed it was the other way. [We feel sure that Mr. Beuhne meant by "these old queens" those that were at least three years old. The idea, as we gathered it, was that they must be so old that the young queen would consider that they had about outlived their usefulness. Perhaps the bees take the same notion, and hence they tolerate them more freely in a strange colony than they would a laying queen less than a year old.—Ed.]

UNITING, in this locality, is done mostly after this fashion: One colony (preferably queenless) is set over on the other, on the stand of the under hive, a sheet of newspaper between the two. The bees will eat a hole through the paper, and slowly unite without fighting. The short imprisonment over the paper helps to prevent any returning to the old stand. A few days later, extra frames are removed and only one story is left. [You have hybrid bees, and it is probable that it is not advisable to let them get together immediately; hence the use of a sheet of paper to keep them apart a day or two. But with the ordinary pure Italians we never find it necessary to use any thing.—Ed.]

J. E. CRANE, p. 1121, questions my estimate of 5 lbs. of comb to contain 100 lbs. of honey. Friend Crane, I quoted that from memory, as one of the many things I had learned from the first volume of the *American Bee Journal*, year 1861. Upon reference, however, I find that memory tricked me, for on page 282 I find: "It takes about $\frac{1}{2}$ lb. of comb to hold 15 lbs. of honey." Also: "One pound of honey contains about 20 cubic inches;" and I got the figures mixed into "One pound of comb for 20 pounds of honey." Half a pound of comb to 15 of honey makes $3\frac{1}{2}$ pounds of comb to 100 pounds of honey, which is not so very far away from your estimate of 4 pounds. Thanks for correction.

ALBERT I. MILLS asks whether foul-broody honey is fit to eat, page 1208, and is told that the germs are not injurious to a human being. I suspect that he, like a good many others, is not so much interested as to its wholesomeness, but wants to know about its cleanliness. I think there prevails more or less the idea that any thing connected with such a filthy disease must be utterly unfit for human food. A larva dead with foul brood is certainly a loathsome object. Any one who has smelled it would gag at the thought of having it mixed in his food. But it does not follow that there is any thing filthy about the germs themselves. They are merely tiny plants, perhaps daintily neat, which, growing in a larva, cause the death of that larva, and then the larva putrefies and becomes offensive. It's the dead larva that's objectionable, not the germs themselves.

THE COLOR OF HEARTSEASE HONEY.

My clover crop was 25,000 lbs.; heartsease and fall crop not off. I think Dr. Miller mistaken as to color of heartsease honey, as it is lighter than buckwheat instead of white, as he states.

D. E. LHOMMEDIEU.

Colo, Iowa, Sept. 14.

EDITORIAL

By E. R. ROOT.

HONEY MARKET MORE STABLE; SHIPPING COMB HONEY IN COLD WEATHER.

THERE is not much new to report in regard to the honey market except that it seems to be more and more stable. It is to be hoped that most of the stock will be unloaded before the holidays; at least, the carload shipments should not be on the rail after the cold freezing weather sets in; small lots should be in the hands of the dealer. Honey will stand considerable cold for a short time, but it should not be subjected to it too long.

SHALLOW VERSUS DEEP EXTRACTING-SUPERS.

MR. SCHOLL presents elsewhere some good arguments in favor of a shallow frame for extracting purposes. We have been experimenting along the same line during the past summer. At our south yard we produced several thousand pounds of honey in shallow frames. These shallow supers are just right to put on colonies of moderate strength, and they are just right to give room *gradually* on the tiering-up plan. To give the full standard-depth super at one time is too big a jump at once, and, moreover, it is awful heavy to handle when full of honey. We say "awful," because no other word seems to describe fitly one's feelings when he is lifting these heavy loads, especially if he keeps it up all day. The tendency is more and more toward shallow supers for extracting, and we believe there is good reason for it.

HONEY-KNIVES WITH STRAIGHT HANDLES VERSUS THOSE WITH THE OFFSET HANDLES.

ELSEWHERE in this issue Louis H. Scholl says he prefers and uses a *straight* butcher-knife in preference to a standard uncapping-knife with an offset handle. We desire to inquire whether others have used knives with the handle in the same place as the blade. If so, please tell us about it.

It sometimes happens that one man will set the pace for a certain style of tool, and all the rest will follow suit, never thinking for a moment that the shape of a tool could be changed to any advantage. Is it possible that a knife with a straight handle is better on plain work, saving strain on the wrist, than one having a handle an inch or more out of the plane of the blade? But the user of the standard knife will say, of course, that we must have the crook in the shank in order to get down into places that can not be reached with a standard butcher-knife. We arise to inquire whether that is absolutely so. Possibly it might transpire that one might be able to use to advantage a straight-handled tool on plain work and another knife, with an offset handle, in places which can not be reached with the straight knife. We should like to have a discussion of this question in these columns. Surely there are many among our readers who have tested both kinds of knives.

SYRUP FOR WINTER FOOD.

IN feeding bees for winter we advise granulated-sugar syrup made by mixing two parts of sugar to one of water by measure. We formerly recommended equal parts of each. While this is

just right for stimulating in warm weather, for a winter food it entails too much work on the bees to evaporate out the excess of water. This has a tendency to exhaust the vitality of bees. If the feeding be deferred until quite late, or until the temperature is much of the time down to freezing or below, we would advise the proportion of three parts of sugar to one of water; but in that case we would recommend putting in about one pound of good honey to twenty pounds of syrup to prevent granulation.

But some will ask, "Why not feed honey?" A good article is too expensive, and a cheap honey dear at any price if we consider winter losses. There is no reason in the world why one should not give a cheaper and better feed for winter, and sell the article that the bees produce, at a figure that is twice that of the cost of the syrup. So long as we do not take this thick syrup out of the hive and sell it for honey, we are in no sense defrauding the public.

GENERAL PREPARATIONS FOR WINTERING; WHEN TO USE THE CELLAR OR THE OUTDOOR PLAN.

It is now about time when the bees should be fed for winter. A month hence, in most localities, they will need to be in their cellars or winter repositories where the winter is cold enough to be below the freezing-point most of the time. If they are not put into cellars they should be put into double-walled hives or winter cases. Where the winters are very open, and seldom any freezing during an ordinary season, single-walled hives outdoors will usually afford sufficient protection; but even then we advise shielding the apiary from the prevailing winds, and contracting the entrances down to about half, or less than their usual capacity.

But suppose we have had heavy losses outdoors, or suppose, as is more often the case, we feel that we can not afford to buy double-walled hives, and are somewhat doubtful about the efficacy of paper winter cases—how shall we winter indoors? If one has only fifty colonies he may use a compartment of the house cellar providing it is dry and the temperature can be kept so it will not go above 60 nor below 40. If the cellar can be darkened, and fresh air admitted throughout the winter, good results will usually follow. If there be a furnace in the cellar, and the bees are shut off in a room by themselves, the conditions will be good providing the furnace does not make the bee-room too warm. A high temperature can be tolerated for a limited time if there be plenty of fresh air from outdoors; but if it is possible to maintain a temperature of 45 or 50, with some ventilation, the results will be much better.

Some advise leaving the bottoms of the hives off entirely; but our experience is strongly in favor of leaving them on. Some have had splendid results using the entrance as in summer, and placing a quilt over the frames, with covers removed. This allows for a certain amount of upward ventilation and the escape of moisture.

One should bear in mind that a small number of colonies in the cellar will do very much better than a large number. The presence of too many bees befouls the air, and is apt to raise the temperature of the cellar too high. Ventilation intelligently practiced will overcome this to a very great extent.

WHEN TO WINTER OUTDOORS.

As a general thing, where the temperature out doors does not go very much below 20 above zero most of the winter, and remains at zero for only two or three days at a time, much the best results will be secured from outdoor wintering. This is especially true where there are a good many open fly days, when the bees can go out and return to their hives. But at such times there is likely to be considerable loss if there be snow on the ground at the time, as many bees will be chilled, never to return. This flying-out can be obviated to a certain extent by leaning a board up in front of the entrance, to shut out the sunlight, and yet not obstruct free ventilation; but a real bright day will bring out the bees in spite of this storm-door board.

Winter cases may be relied on to do good work providing a good thickness of newspapers, quilts, sacking, or some sort of packing material be interposed between the paper case and the hive itself. One can usually get old sacking by going to the feedstores, and at a very moderate price. This, in connection with what newspapers one may have, will provide a good warm packing around the hives. A fair grade of manila paper or flour-sacking is good for winter cases. But this should be painted with linseed oil before it is folded up into a sort of hood around the sacking. It should then be tied, or, better still, the bottom edges be secured with wooden strips held on with nails.

For outdoor-wintered colonies we recommend about 25 lbs. of sealed stores. It is advisable to allow the bees to make their winter nest in the midst of these stores. For indoor colonies we consider 12 or 15 lbs. sufficient.

But perhaps the reader will ask, "Why not winter indoors, and save this 8 or 10 lbs. per colony of stores?" But those who winter outdoors argue that this extra consumption means more bees in early spring, and therefore a larger harvest for the season, so that it is not clearly proven yet that the extra outdoor consumption is not more than made up by a larger crop of honey during the honey-flow.

WHY THE BUYERS AND COMMISSION MEN PREFER SQUARE CANS TO BARRELS FOR EXTRACTED HONEY.

THE following letter came from Dr. D. Everett Lyon; and as it touches on this general subject of shipping extracted honey in cans and barrels we thought best to present his letter so we might discuss its contents in this department:

Mr. Root:—In your columns you have overlooked a subject which constitutes a gross injustice that is being done the bee-keeper, and I think it about time that we banded together and took some action looking to putting a stop to it.

I have noticed lately that many commission men, and other buyers of honey for bottling, almost insist that the honey-producer shall send his extracted honey in 60-lb. cans for the convenience of the fellow who bottles honey.

Now, this is all right as far as it goes; but I do think the buyer of honey has an awful nerve to advertise these cans for sale at, say, 25 cts. apiece when the honey-producer isn't allowed a cent on the cans, even when he at considerable expense provides nice new ones.

Wouldn't it be fair for the buyer of honey to allow the producer half price on the can, especially when the buyer sells them second hand? What do you think of it?

Rye, N. Y.

D. EVERETT LYON.

So far as we know, it is the prevailing rule among commission men and honey-buyers to

offer a certain price for extracted honey, that price being based upon the kind of package which is always included at the figure. It is customary to pay half a cent more for honey in 60-lb square cans, two cans to a case, than for honey in barrels, although some dealers say that they would prefer to pay a cent more than have barrels. In basing the price it is understood in each case the cans are to be new, and the barrels new, or as good as new. Honey in second-hand square cans is likely to be shaded somewhat in price. Such cans are often not worth much. After they have been emptied they are usually banged around, are likely to leak, or are more or less soiled or rusty; and, what is more, they must be thoroughly cleaned. Many producers believe that it is "penny wise and pound foolish" to buy up second-hand square cans, even if they can be had as low as 30 cents a case, which means, of course, cans at 15 cents each, case thrown in. The cost of cleaning, inspecting, etc., runs the price up. Then there is the increased hazard of honey leaking from them. They never look as nice as brand-new cans, and the dealer may knock off a quarter or half a cent per pound on honey on arrival.

But what has all this to do with your question? If what we said is true it shows there is a limited demand for second-hand square cans. When they are offered, the very best of them, at 30 cents, when brand-new ones can be had for 80 cents, or much less in quantities, it is folly to buy cans at 30 cents per case, pay freight on them, wash and clean them, inspect them to see if there are any leaks, sandpaper the rust off the can, and then, on top of all, take the chance of leakage and of the dealer knocking off a quarter of a cent from the price of the honey. With these facts before us you can readily see that a good many don't want them. If that be true, no commission man nor honey-buyer can afford to make any offer on the cans after they are emptied. In the case of the commission man and the average honey-buyer, the honey is resold and reshipped in the same package before it actually reaches the retailer or bottler; therefore it means this: It is only the latter who have any second-hand square cans as a rule, although the commission men are bound to have a few on their hands; but after these empties have been banged around in the warehouse until a sufficient number have accumulated to warrant offering them for sale, the great bulk of them will be a poor lot indeed, and we have heard commission men say that, as city rents are now, it does not pay to store them.

But now suppose Mr. Honeybuyer does store them, and he offers them at 30 cents a case. After he has shipped them he is quite likely to have complaints on the ground that they were *worse* than second-hand—good for nothing. The whole point hinges right here: If the buyer or commission men could absolutely *know* that the cans would come in good order, and if he could know that he could sell them again without storing, he could afford to offer an allowance, say half a cent a pound, on the price before the honey is actually shipped; but when he buys of Tom, Dick, and Harry, how is he going to know that the cans will arrive in any such good condition? As a matter of business and common honesty he had better make no promises.

So far we have not taken in the whole scope of your letter. You complain that Mr. A. buys your honey in square cans at a certain figure; then he insists that the honey shall come in square cans, as he will not have it in barrels. Then he turns around and offers to sell these cans for 25 cents each. This, by the way, is a very high price, and we doubt if he could get it. From a legal point of view Mr. A. has a right to sell these cans for whatever price he pleases. But is there any dealer at the present time who is offering to sell second-hand square cans at 50 cents per case, box thrown in? If there are any such, we have not seen it. But we know of their offering them at 30 cents per case, and this price is very low. We question whether, at this price, it would pay to store them.

Now having presented the arguments against the use of second-hand cans, let us see what may be said on the other side of the question. It is undeniable that a large amount of western honey is to-day sent in cans that have been used before. It is also true that a good part of such honey goes through in good order; but the facts are, the cans holding such honey, though second-hand, are practically as good as new; because in their first use they have not been sent a long distance. Or the cans may have been used for storage, and after a year of such usage would hardly pass for new. These would be just as strong, and practically as good as new for shipment. But after the cans reach the middlemen of the East they are usually dear at any price.

But why not use barrels? They cost less than half the price of square cans. Many and many have been the troubles from barrels leaking, and from honey having an unpleasant odor imparted to it, especially those in which alcohol or whisky has been used. We know of cases where honey shipped in a whisky-barrel took on very strongly the flavor of whisky. We have also known of the alcoholic flavor being imparted in like manner from alcohol-barrels. But that is not all. Not a small percentage of the honey soaks into the wood, and is lost. But some one may say that if the barrels are paraffined or waxed inside there will be no bad flavor imparted and no absorption of the honey by the wood. Y-e-s, and no. Some whisky-barrels will transmit the odor through the paraffine.

But another objection to barrels is the fact that the dealer can not reship from them in small quantities. A fifty-gallon barrel of honey weighs approximately 600 lbs. or 550 lbs. without the barrel. It would take a little more than four cases of honey put in square cans to equal the same amount. But the consumer or the grocer will order only a small quantity at a time. If the honey be in barrels the dealer must draw off in some small package. If the honey is in square cans he can break up the shipment without messing, and in the end he has saved time and money. He pays the producer half a cent more per pound for the honey because it is in tins, and he can now parcel out the entire shipment in small lots without any messing or waste of time.

Now, it may appear from all this that we are working for the commission man and buyer in general. We are only stating the facts as we know them. As it is an important subject, we invite discussion from both producer and dealer.

CONVERSATIONS WITH DOOLITTLE

OUTDOOR WINTERING.

"I must winter my colonies out of doors this year, as it is impossible to do otherwise. Will not a slight protection to the hives enable me to do this?"

"A slight protection may be all right, and possibly best for Illinois, Indiana, Ohio, or Pennsylvania; but in this colder climate of Central New York the heat of the bees alone must be depended upon for warmth; and any plan of outdoor wintering which we may adopt must conserve the heat as much as possible. The place is sheltered partially or wholly by woods, which will allow the sun to shine in, though keeping off the prevailing winds."

"I have a place where I can put the bees for winter where there are woods on the west and south side, so that no wind will touch them except from the north or northwest."

"Such a place as that will be much better than most bee-keepers have, for this will allow the bees to fly, many times, when they ordinarily could not; for, more often than otherwise, when it warms up enough during winter so the bees can fly, a strong south or southwest wind prevents, as the wind nearly always blows from those directions every time the mercury rises to 40 or 60 degrees during December, January, February, or March."

"How much packing would you use?"

"When I wintered bees out on their summer stands during the '70's and '80's I did a lot of experimenting to find out just how thick the packing should be to give the best results; and the conclusion I arrived at when using chaff or sawdust was that five inches was the nearest right. The bees were entirely surrounded, except at the entrance, with this chaff."

"I can get dry sawdust, cut from kiln-dried lumber, and very fine. How would that do for packing?"

"It does very well, but I think it is a little more likely to get damp and soggy during winter than the chaff. I have used sawdust for years, side by side with the chaff; but my experience was in favor of dry timothy chaff, as we used to have much of that kind of chaff at that time when nearly every farmer raised his own grass seed."

"But that can not be obtained now. Some tell me that where a double-walled hive is used, a *dead-air* space between the two walls is better than a space filled with either chaff or sawdust. What do you think of such a claim as that?"

"My experience has been that the bees did best when the packing was used. In my later outdoor wintering I used wheat straw for packing double-walled hives, and I found this far better than an empty space, and quite a little better than either timothy chaff or sawdust. Those who argue for no packing tell us that a *dead-air* space is preferable to a solid wall for keeping out either heat or cold; and that when we pack a *dead-air* space with either chaff or sawdust we make, in a measure, a solid wall of it. Now, by using the coarse wheat straw for packing we cut

up, so to speak, that solid wall into hundreds and perhaps thousands of little *dead-air* spaces, as each straw is a *dead-air* space of itself. And we not only have these hundreds of *dead-air* spaces, but the spaces surrounding and between the straws are so shaped that all moisture, which always accumulates more or less between the walls of a hive during winter, passes off into the open, and thus our colony of bees is not only very much helped about retaining its warmth, but they are kept dry and comfortable. This was the way I wintered all of my colonies which were left outdoors during the later '80's and early '90's. Since that time I have favored cellar wintering, not only because of the better results but for the great saving in stores."

"Did you entirely surround the colonies with this straw except the entrance?"

"Yes."

"How did you fix the entrances?"

"By making a flue, runway, or bridge from the outside to the interior, about 5 inches wide by $\frac{1}{2}$ inch deep."

"Did you have any trouble about the bees coming out on bright sunny days during March or earlier, when the air outside was too cold for them to fly, after they left the warm hive, so that many would get lost on the snow upon taking wing?"

"Yes, to a certain extent; but bees are not enticed out of double-walled straw-packed hives to nearly so great an extent as they are from single-walled hives. The trouble can be pretty much done away with by leaning a wide board up in front of the entrance, standing the lower part on the alighting-board out four or five inches from the entrance, and allowing the upper end to rest against the front of the hive."

"But this would have to be removed every time there comes a warm day so the bees could fly."

"Not necessarily. It can be overcome by cutting out from the bottom of this board a piece the size of the runway, which goes from the entrance to the interior of the hive."

"But will not this allow the sunlight to enter the hive?"

"Not the direct rays of the sun, as they strike this board and are thus kept from coming near the entrance of the hive. When the bees come out at the entrance they are in the shade till they pass over the space made by this leaning board; and this space being as cool, or nearly so, as the outside air, they will turn and run back into the hive unless the air outside is warm enough for flying in safety, except, perhaps, a few bees that are ready to die of old age, or when the bees are wintering so poorly from some cause that they must get out to empty themselves or soil the combs and the inside of the hive. There is more in this vestibule than some imagine. Suppose we should leave the doors of our houses open all winter, as most of the entrances of beehives are left, I think we should have hard work to keep warm in spite of our warm fires. We not only close the doors, but most of us have a storm-door over the outside door, that but little cold may get in when the inside door is opened. When a hive of bees is completely surrounded on all sides with several inches of dry *dead-air* spaces, and a vestibule over the entrance, each

colony is protected to the extent of making each hive into a little cellar by itself as nearly as possible.

Borodino, N. Y.

GLEANINGS FROM OUR EXCHANGES

By W. K. MORRISON

TROUBLE OVER A BEE-TREE.

The honey crop of Indiana must be very short this year or there must be a tremendous demand for the sweet of the gods. Any way, Orlando Norris, of Sullivan, Indiana, got shot almost to death in defending a bee-tree on his father's farm. Andy Price and two other men are in jail in consequence. They went in the night time to collect the honey, and succeeded in cutting down the tree. This awoke the farmer and his sons. In the altercation which ensued, one of the sons, whose name is given above, got shot in the side. Men will do almost any thing to get honey—in Indiana. A similar case occurred in Ohio this fall. One man got killed.

THE RIGHT SORT OF MAN.

In a recent issue of the *American Grocer* the editor had the following to say of Dr. Wiley:

That sturdy chemist who has been at the head of the Chemical Division of the Department of Agriculture for over twenty-five years is a bachelor with the right sort of stuff in him. He has been fought in every way. Men have tried to neutralize his work, and bands of men and great corporate interests have tried to defeat his plans to give the people a national pure-food law that would be effective and preserve the integrity of the food supply. He has been abused, lied about, ridiculed, but he never loses his temper, keeps good-natured, and quietly keeps at work as the whisky-blenders have recently learned. The President may question his policy; the Secretary of Agriculture negative his rulings; commissions of experts may be appointed to test decisions; the press may praise or howl for removal; but defeat is a word Wiley hasn't learned to spell. The first International Congress for the Repression of Adulteration of Alimentary and Pharmaceutical Products at Geneva, this year, made him its honorary president, as he was detained from attendance. If Wiley had become discouraged, resigned, and given up the fight, pure-food legislation would have been held back for many years.

CAUCASIANS AT NEBRASKA FAIR.

The reporter for *Wallace's Farmer* at the Nebraska State Fair is a wide-awake man. He states:

The bee and honey exhibit is mostly made by dealers. Premiums are not large enough to attract many producers. A feature of this department was a lecture twice daily given, by Mr. F. G. O'Dell, on bees and bee-keeping. These lectures were delivered from a big hive in which was a swarm of bees, said to be "stingless." The stingless quality, however, was seriously questioned when the lecturer got somewhat stung one day.

Nothing could be further from the truth than the statement that Caucasian bees are stingless, for they are well furnished in that respect—as well as any—and know how to use their stings when circumstances permit. Any one purchasing Caucasians for their stingless qualities is getting a good brick. I remember when Cyprians were reputed to be quite mild in temper, and some of us took the bait—to our sorrow.

THE LOCUST BORER VS. BEE-KEEPERS.

Some one can render a priceless service to the bee-keepers of the United States by finding an enemy to the insect which bores holes in the com-

mon black locust. According to all literature of the forestry experts employed by Uncle Sam this is the only drawback to planting the black locust on a grand scale. Many farmers would plant it quite extensively if it were not for the borer. This is particularly true of Ohio, Indiana, Illinois, Missouri, and Iowa; but a locust-grove is growing well near Denver, and there are many in Kansas. It is a splendid honey-bearer. It can not be termed a water-white honey, but the aroma or bouquet is fine. Though a rapid grower the wood is hard and very durable, and useful for many purposes. There ought to be a remedy for this trouble. We could, as a nation, easily afford \$25,000 to the man who can find a remedy. The honey-locust seems to be immune or nearly so.

WATER IN HONEY; A FEW STRONG TALKING POINTS ON HONEY AS A FOOD.

Honey is one of the driest of human foods, as it usually has less than 20 per cent of water. Beefsteak, of the most expensive kind, contains 65 per cent, and even then there is some bone to be reckoned with. Some of our most expensive fruits and vegetables are nearly all water, 95 per cent and some even more! This is a point that bee-keepers can harp on a good deal. Anybody can easily see that, between a pound of steak at 18 cents and a pound of honey at 18 cents, the advantage lies with the honey. Moreover, honey will keep indefinitely, whereas beefsteak deteriorates in a few hours. Actually, honey improves with age. Add on to this the fact that honey is one of the very few predigested foods. In the United States to-day milk is the only food which compares favorably with honey, both as to quality and price. In some ways milk is far inferior to honey.

THE FRENCH TARIFF ON HONEY.

The French Tariff Commission has decided that \$6.00 per 220 lbs. will be the maximum tariff on honey, and \$4.00 per 220 lbs. the minimum. This is far short of what the French bee-keepers desired; but I imagine that the Chamber of Deputies will ratify the views of the Commission.

In this connection it has been noted that the strict suppression of all honey frauds will do the bee-keepers more good than a high tariff. The government chemists will aid the bee-keepers in suppressing spurious honey. There are now laboratories belonging to the pure-food department at Paris, Amiens, Arras, Auxerre, Chartres, Bordeaux, Clermont-Ferrand, Dijon, Lille, Lyon, Montpellier, Nancy, Port-Vendres, Toulon, Havre, Poitiers, Reims, Rennes, and Tours. The prices of honey are no higher in France than in England, where there is no tariff, so that it is very likely that the pure-food officials can do the bee-keepers more good than the tariff commission.

FOUL BROOD IN INDIANA.

The Indiana State Association of Bee-keepers is making a vigorous effort to have their State fall in line with the progressive bee-keeping states, and for this purpose have prepared a foul-brood bill which they will ask the legislature to frame into law. This law is much required in Indiana,

and every bee-keeper who expects to stay in the business should lend a helping hand. The committee having the matter in charge is composed of excellent timber; namely, Jay Smith, of Vincennes; George Demuth, of Peru, and Walter S. Pouder, of Indianapolis. These men can not do it all themselves; they must have public opinion behind them, and practical assistance when necessary. A certain amount of public spirit is required to make laws worth any thing, and there are plenty of good bee-keepers in Indiana who can be of service, if they will. They can have this law if they insist on it. Don't hang back and let some one else do all the work. Politicians require prodding or nothing is done. Sit down and write your representatives and senators that you expect them to vote for the bill appointing a State Inspector of Apiaries. Your letter will count for a good deal.

IRRIGATION IN PORTO RICO.

It has been decided by the insular government to spend \$3,000,000 on an irrigation project somewhat similar to those now being constructed in the United States. Porto Rico, though a small island (a little less than Jamaica), has a peculiar rainfall distribution. On the eastern end there is an enormous rainfall—120 to 150 inches per annum—whereas on the south and southwest the fall is so light as to render farming precarious. Irrigation will give the sugar industry very great encouragement; but whether that is a good thing or not depends on the point of view. It will certainly help the landlord class and the owners of sugar-mills; but industries like bee-keeping will not be helped—quite probably the contrary. It will create an army of poorly paid laborers who will live in barracks a hand-to-mouth existence, working to help the sugar trust. The life they lead demoralizes them. On the other hand, a band of small fruit, vegetable, and coffee farmers would build up the community. Bee-keeping in Cuba has been curtailed by the extension of sugar-cane farming. This is not so beneficial as might be thought.

HANDBOOK OF SOUTH CAROLINA.

Through the courtesy of Mr. E. J. Watson, Commissioner (Columbia), I have been favored with a copy of the *Handbook of South Carolina*. It is a large book of over 600 closely printed pages, containing many good illustrations. It forms a complete description of the Palmetto State. If any of the northern readers of GLEANINGS have serious intentions of moving to a milder climate I would earnestly recommend them to get a copy of this book. No price is attached, but doubtless the charge is nominal. As a field for skilled gardeners, farmers, and fruit-growers, South Carolina is not surpassed by any country in the world. On the coast there are old groves of oranges, trees which sometimes fruit, while up near the mountains splendid apples, grapes, and peaches are grown. Truck-growing is an immense industry along the coast. The greatest yield of corn ever known in this country was obtained in South Carolina, and its cotton is famous. It has not figured very largely as a bee-country, nevertheless much of it is well adapted, and Mr. Watson writes that white clover is being

scattered all over the upper portion of the State by agents of the United States Department of Agriculture. The immense cotton-mills, fertilizer-factories, lumber-mills, etc., furnish a splendid market. Education is well attended to, and railroads completely intersect the whole land.

APICULTURE IN SPAIN.

The editor of *Gaceta Apicola de Espana*, in the September issue, laments the condition of bee culture in Spain in very pessimistic terms. He says that, on many occasions, he has referred to the superior position of bee-keeping in Cuba, where the conditions are no better than in Spain. But he says the style of bee-keeping in Cuba is North American, not Spanish, thanks to the easy communication with that country. (The Spaniards usually term our country Norte Amerique.) In Cuba the predominating flower is the campanilla, which produces a very light rich honey, much sought after by foreign merchants who export it to Europe. He claims the honey of romero (rosemary), which is common in Spain, would compete with the campanilla if given an opportunity; but the amount of honey produced by the movable-comb system in Spain is relatively very small; whereas in Cuba movable combs are the whole show. This accounts for Cuban superiority, both as to quality and quantity.

The editor is correct. Spain ought to be a great honey country. It has the right kind of flora, and excellent climate, and proximity to great honey markets. In fact, there is a great opportunity right now for the Spaniards to show what they can do if they will only follow the lead of the Cubans and import American bee-supplies by the carload. Will they rise to the opportunity and grasp it? They can very speedily overtake and surpass all European or West Indian rivals.

CANE SUGAR VS. BEET.

Dr. Miller wants to know more about sugar. It is a difficult matter to explain this to the public, but I will try. Long ago Huber found out that raw sugar, when fed to bees that were engaged in comb-building, produced more beeswax than a high-grade or refined sugar. In fact, they made more from raw sugar than they did from honey. This experiment was verified by Dumas and Milne-Edwards, two very celebrated French naturalists who used the most careful tests in the work. Others have tried this with the same results. You can not very well try this experiment with beet sugar. Raw beet-root sugar is not very nice. In England, where beet sugar is very common, it has been often noted that bees do not do so well when fed on it. Remember, too, the beet sugar is a little cheaper and easier to get. The Germans get around it somewhat by inverting the beet sugar. The syrups they make are very nice indeed, and are sold all ready for the bees. They are sometimes made with grape sugar added. This is to make the syrup resemble honey as far as possible. In this case an ounce of practice is worth a pound of theory. Bees are very fond of and do well on the juice of sugar-cane. It encourages wax secretion. The best cane sugar for bees is the simple open-kettle brown sugar made in Porto Rico. The advent of Americans

into the islands has nearly put a stop to its manufacture. It is made in the same way maple sugar is, and of course retains the natural phosphates, salts, and phosphoric acid present in the cane-plant. The cane sugar, with large yellow crystals, is next best. Fruit-canners also prefer it because it has a sweet honey-like flavor.

It is not so easy to get such sugars, because the sugar trust people want to pocket about a cent a pound made in refining them into white sugars. Raw sugars pay a much lower duty than refined, and it is in manipulating this difference that the trust has made millions in profits with no equivalent benefit to the consumers. Some of these raw sugars would suit us better than the refined; but the trust wants them, and controls the situation. The trust does not care to handle imported refined sugar—that is, sugar above No. 16 Dutch standard, and very little is imported.

Our most highly refined sugars, even when made from cane, are objectionable, because they contain traces of very powerful poisonous chemicals used in preparing them. These are not necessary, but they are cheaper, and easier to use.

BEE-KEEPING IN THE SOUTHWEST

BY LOUIS SCHOLL

Cotton honey, when gathered from that source alone, and from rank growing, thrifty plants, is nearly if not quite as white as white-clover honey. This year we have had an abundance of cotton honey, and several other bee-keepers who know well will confirm the above. When first gathered, cotton honey has a rather strong flavor of the plant itself; but as it grows older this is lost.

“Waxcraft” is a good book on wax. Now, why not have one on *honey*? It is interesting to note the many different uses made of wax, especially for technical purposes, both in practical recipes and in medicines. It would, perhaps, be more surprising to note the extent to which honey is used in these things. I know honey is much used in medicine, etc. and it seems to me; a book of this kind would be welcomed.

A common long butcher-knife, well sharpened, and kept free from the gumming of honey, by frequently washing in cold water while uncapping, is the knife I have preferred for several years, after using several of all the different uncapping-knives on the market. Since the cutting is always downward, the stroke is more direct, as there is no bend in the handle. The knife reaches clear across my shallow combs, and it is much more easily wielded.

We're doing the fairs with our exhibits. It's a good advertising scheme, both for the exhibitor and the fairs. We've been very welcome there; and to encourage these exhibits, liberal premiums are provided. For these reasons good exhibits can be made, for otherwise it is expensive to get up creditable exhibits and go long distances to

fairs. We enjoy it, like Mr. Hutchinson; and if one is clever enough to have every thing arranged properly it is not so difficult a matter to make the moves. More should try it, and advertise our industry.

Not much has been said in print about “one of the signs of queenlessness,” p. 1048, and I am in doubt whether there is very much in it. But, of course, localities differ. I've often studied over the matter right at one of these colonies, with the combs in front of me. I remember often remarking in the midst of such a quandary that “I would gladly give a dollar to know for certain whether or not there is a virgin queen in that hive.” There were all kinds of signs pointing to one or the other. Sometimes the bees will keep the cells in the center of the brood-chamber so nicely polished for weeks that one will expect a laying queen to take possession at once; and, again, I have seen those cells filled with honey throughout the brood-chamber with a virgin in the hive several days, and, several times, even after the queen had begun laying in a few empty cells scattered right among those with honey.

NARROW VS. WIDE TOP-BARS.

The shallow frame that has given me the best satisfaction, and which has been tried in my yards for ten years, is just like the regular $5\frac{3}{8}$ Hoffman self-spacing frame, with the exception of the top-bar. My top-bar is only $\frac{1}{8}$ inch wide, but $\frac{1}{2}$ inch thick. It is stronger than the wide thinner ones on the market, and thus gives more free communication between frames from super to super. These spaces are very narrow in the supers as now made, and act too much like queen or “bee” excluders. This is detrimental, especially if the frames are used in brood-chambers. No groove for foundation is needed, as the foundation is fastened with melted wax much more easily. When the frame is new, the groove is in the way or else the sheet must be carefully put into it; but when the frame is refilled again and again the groove is filled with wax any way. Why are they not made plain regularly, Mr. Editor?

BULK COMB HONEY IS MORE PROFITABLE IN THE SOUTH THAN SECTION HONEY.

Of all the trouble I had this season it was the fixing-up for the production, then the taking off, the scraping, labeling, grading, casing, crating, and shipping of a few hundred pounds of *section honey*. It was the most expensive honey we produced, and it gave the least returns for the investment. The good old “chunk” honey, as many call it, beats it all to pieces here in the South. It is more easily produced, easier taken off, packed, and shipped, and more readily marketed at good remunerative prices.

We not only save the great expense of buying sections and shipping-cases every year, but the bees make *more honey* in our frames than in sections; and we save high freight charges and the danger from smash-ups here in this warm climate. Bulk comb honey in cans goes at fourth-class freight rates, the same as extracted honey, while section honey goes at double first. Then it is much easier to prepare and pack a crop of the bulk comb honey than of sections; and as there

is the greatest demand for the former, it means more dollars in our pockets to produce that kind.



SHALLOW VS. DEEP SUPERS.

Another year of extensive manipulations with both deep and shallow supers convinces me still more that more satisfactory results can be obtained by using shallow supers for extracted honey as well as for comb honey. They have more advantages than disadvantages. It is true that more supers and frames must be nailed up for a given quantity of honey secured, and the first cost is a little greater. It may be well to keep in mind, however, that, as lumber gets scarcer, narrow lumber may be less expensive for the shallow supers; and as the shallow frames are made with a much lighter top-bar the difference in the amount of material between two shallow frames and one deep one is not very great. What difference there is between this and the nailing-up of the frames is soon offset by the fact that no wiring is necessary with the shallow ones; and, further, that thin super foundation is used in them, thus making quite a saving at the very start in this respect. Such light foundation goes much further; and where the frames have to be refilled at frequent intervals the difference in expense soon counts up.

There is only one other argument generally brought out by the deep-frame advocates in favor of the deep kind, and that is the question of uncapping. Even if I should concede their claims I have found so many other points in favor of the shallow frames that it puts the others much in the shade. This is speaking of *my* manipulations in *my* localities, of course. But since these localities, of which there are a dozen, vary very much, I am sure the same differences would hold in apiaries still further away.

There is an advantage in giving the bees room by tiering up with shallow supers, and the gain here is again enough to pay for the extra trouble and expense, as just a little more surplus that is obtained in this way counts up in a whole crop.

The main gain comes in taking off the crop. What a slow job to have an empty box on a wheelbarrow into which each comb is put separately after brushing off the bees, irritating them and starting robbing in a wholesale manner! We have tried this. It was our way *before we knew better*. Now we have this to do only when a queenless colony has been set on top of a strong one and the deep combs have become filled with honey during the rush; and even those who have assisted me at various times have carefully left these to the very last to be taken off.

No brush is ever needed in our apiaries when removing honey. A good smoker and a hive-tool are all. The combs being shallow the bees can be sent scampering down as soon as the cover is raised. Half a dozen colonies are opened in quick succession, smoke driving down most of the bees, when the full supers are jerked off, set on end on the ground, when the rest of the bees hurry off. In half an hour a thousand pounds of honey is ready to haul in. The few bees that cluster on some of the supers are jounced off over the wheelbarrow handles.

So far I've beaten the deep-frame advocates; but now it comes to the uncapping. The knife

reaches over the entire width of the comb, and—you know the rest! If the deep combs were *always* as evenly filled as the shallow ones, fewer combs would need to be handled; but the lower part of the combs is too often more difficult to uncup, so the difference in uncapping is not so great after all. Besides, two of my $5\frac{3}{8}$ combs hold more honey than one L.

GENERAL CORRESPONDENCE

SELLING HONEY.

Some Experience in Selling Honey from House to House, and to Grocers; the Requisites of a Good Salesman.

BY WESLEY FOSTER.

There have been a good many articles in the bee-journals on the subject of selling honey. These articles have treated the matter in two ways: 1, house-to-house selling; 2, introducing the product to the people through grocers. Calling from house to house brings one in closer touch with the consumer, and the sales will be greater in number for the territory covered; but in a large city such a plan would be impossible if it were desired to cover the entire territory. The ideal way would be to go from house to house with a sample of both comb and extracted honey, and let the people taste the extracted, and sell them as much as possible right there, informing them that they can get more of the same quality, at the same price, of their grocer, if they ask for it. Some of the best literature concerning honey should be left. I used this plan when I lived in a small place, and it succeeded.

For several years I have sold to the grocers only, except our near neighbors, who come to our house for their honey. The difficulty with selling through groceries is in getting the grocer to display the honey in a prominent place and push it forward on his rounds taking orders. This difficulty can be overcome if the honey-salesman brings the need for display, reading-cards, price cards, etc., to the attention of the grocer and furnishes him with the material for this. The seller of the honey can afford to put an observatory hive in along with the honey display if a good window is placed at the disposal of the salesman. A display of this kind can be left for a week or two, and then moved to some other store. If enough business is done to warrant the expense, several outfits in use at once are better.

Bee demonstrations and exhibits at fairs are popular because the details of bee-keeping are now understood less than those of any other industry.

I have sold honey more or less since I was twelve years of age. My first selling was done after my father had harvested a fair crop of comb and extracted honey from basswood and white clover. We were then living in Iowa. I carried four or five sections in a peach-basket, call-

ing from house to house, showing my product (or, rather, the bees'). My brother was helping too, he taking one side of the street and I the other. When we got to the end of the street we would compare notes and hold a miniature salesman's convention. Father used few separators at the time, and many of the sections were very fat. My price was one cent an ounce, and each section was weighed and the weight marked on the wood. Often my cakes of honey weighed 20 ounces. If I sold two dollars' worth in an afternoon I was satisfied.

When I was fourteen my father moved his family to Colorado, and after that I used a wagon for my trips and went further from home. I sold honey, mostly extracted, in several coal-camps. I had a pair of scales in the wagon, and weighed out the honey in the customer's own package. Visits were made twice a month; and on one trip, in a town of about twenty-five houses, I sold honey at every house but one, and there was no one at home there. The people in this little town would eat from two to four hundred pounds of my honey every month; and one boarding-house used nearly a hundred pounds every thirty days. My price was ten cents per pound, and it cost me about seven, so my percentage of profit was good. I believe honey-selling may be made to compare favorably with the selling of goods in other lines, and salesmen as a rule are better paid than office workers.

One forenoon when out with some of my own honey I sold fifty dollars' worth—fully ten per cent above what I could have secured in any other way—and saved two or three per cent more on freight.

Any man who knows something about honey, bees, and the flowers that bees work on, can put up a convincing talk to a grocer. Convince him that you know how to take care of bees and how to raise honey, and usually his foolish fears of adulteration will vanish before your bee-and-honey talk. I get their confidence by answering as best I can all the questions they ask. Then I enlarge on the wisdom of handling the best honey, and also on the fact that my prices are so they can make a good profit on the article. Do not try to get grocers to handle anything on less than 20 per cent. If you have a line of comb and extracted honey, try to let the profit on some run up to 30 per cent, and then the grocer will not hesitate to handle some for 20 per cent. Honey is not as yet a necessity, and luxuries usually bring the largest profits.

The best sale I have made so far was about a month ago. I called on The Blank Grocery Co. and told them I had new comb honey, and judged that they could use at least a case a week. Mr. Blank took me back and showed me a pile of seven or eight supers full of nice comb honey, but last year's product, and all candied. I frankly told him that he had that honey on hand late in the season, and that the best thing to do was to render it and have it put in bottles for his trade. In a short time I had sold him two cases of new honey, and took the old to render for him at a cash price to pay for my time. One week after finishing the rendering of his honey I sold him 100 cases of new honey—fully fifteen per cent above what I could have sold unless I consigned it, and it is a question whether I would

have obtained anywhere near the price I received.

In every town of any size one will find little stores where it is hard to sell honey, as they carry a very small stock. I find that these are good places to sell honey, though I often have to leave the honey and let the grocer sell it and pay afterward. Honey will sell in any place if displayed in a prominent place, and in all these consignment cases I require the dealer to make a special effort to sell, and give him 25 per cent, so it is a virtual guarantee of that much, or I take back the goods. I have never been asked to take back any honey yet. Sometimes I am able to do even more for the storekeeper, such as fixing up a window display of honey and beeswax, etc., for him. It is more to my interest that the grocer should succeed and make money by selling my honey than that he be overstocked. I try to get into the confidence of the grocer; and if I am his true friend he will often tell me his real trials, and I must understand his business well enough to offer some suggestion that will often help him out. It will at least show him that he has my genuine sympathy. Under such circumstances a selling-trip will be nothing but a round of pleasant calls. This is real salesmanship, which is easy after the first plowing is done.

Salesmanship is diplomacy, for a man must be persuaded to part with his money, which is a most painful procedure with most of us. The wire to pull is the mention of the profit he will receive in addition to his first cost.

Here is a sample talk. I never gave one just like this, perhaps, although the substance of it has passed over the counter several times before my honey followed suit:

"Good morning, Mr. George. My name is Foster. I live down on Arapahoe St., across from Lincoln School. I am a bee-keeper, and raise honey to sell to grocers like you. I never met you personally before, but have known you by sight for some months. May I tell you about the way I put up my honey, and the generous profit the grocers are making who handle it?"

Generally I am encouraged to go on. "Now, I have comb honey put up in cases of 24 sections, graded according to the rules." Then I tell him about the rules so he can judge comb honey himself. "My extracted honey is thrown from the combs by centrifugal force, the cappings being removed with a knife made for that purpose. The honey is then heated to 150 to 170, and bottled at about 110. Honey thus put up will not granulate so quickly as when put up cold. My honey, both comb and extracted, is gathered by the bees from alfalfa and also from sweet clover. You can make 20 to 30 per cent on this honey; and as all pure honey will granulate in time, I can replace any that candies, before being sold, with new fresh goods. I see you have a few jars on hand, in which the honey is candied. If I had sold you that honey you could call me up and have liquefied honey in its place. If you will take ten dollars' worth of me I'll liquefy what you have on hand, free of charge."

"But," says Mr. George, "I have few calls for honey, and do not care to handle the extracted any more. I can use a case of the comb if you will replace any that candies."

"You have brought out another point. Your

order boy doesn't ask people if they want any nice new honey, does he? Honey is a specialty, and needs to be pushed, and with the profit you make on it you can afford to push it somewhat. You put in several cases of the extracted in tumblers, half-pint jars, and pints; and if you can't sell it I'll take it off your hands."

In seven or eight times out of ten I get an order, large or small. On the second and third trip my sales are very much increased, and the grocers call me up and give me their orders by phone. When I start in with a grocer who is not interested I get him to talk about bees, bumble-bees, and their stinging abilities (this seems to be uppermost in the majority of people's minds), about the flowers bees work on, how queens are raised, and the organization and division of labor in a hive.

I have read most that Burroughs and Mæterlinck have written on the bee, and one can learn from them the popular way of telling about bees. It is invaluable in selling honey. When you have told a lot of bee experiences you will be known as a honey-man and not-as a mere salesman.

The two objections most persistently brought up regarding extracted honey are, 1, that bee-keepers feed their bees sugar to get them to make honey, which process causes the honey to candy; 2, most of the honey on the market is mixed with glucose, sugar syrup, or just thinned with water, and neither you nor any one else can tell the genuine from the adulterated.

A restaurant manager fired both of these objections at me. He didn't think that I knew pure honey, and he thought the bees these days didn't get a chance to work on the flowers, for the bee-keeper kept stuffing them with sugar or molasses so they would make a great surplus of "fake honey." He thought we doped the bees with sugar, glucose, and molasses, and then further adulterated and thinned it after taking it from the bees to enhance our profit.

Some men are literally steeped in such ideas; and this man, before I left, mixed some honey half and half with water, and, after tasting it, said that would go with his customers as well as the genuine. He didn't know pure honey, and didn't believe but that his customers would not know the difference between half-and-half honey and the thick well-ripened article.

Fellows of this stamp are shoddy thinkers regarding others, and are not above shoddy practice to their patrons. The better plan to pursue with a customer of this kind is to push the comb honey and let him go elsewhere if he wants adulterated goods or wants to adulterate what he serves on the tables of his restaurant.

Denver, Col.

HONEY RESOURCES OF NORTHERN MICHIGAN.

A History of the Conditions Leading up to the Growth of the Wild Red Raspberry; What Constitutes a Raspberry Location?

BY E. D. TOWNSEND.

Northern Michigan is the home of the wild red raspberry, the honey from which is so fast forging its way to the front on account of its

beautiful aroma and exquisite flavor. This part of the State is also noted for its broken landscape, with the unlimited variety of soil, its hills, and its creeks and innumerable lakes. The timber also varies almost as much as the landscape. However, the bee-keeper is most interested in the honey-producing flora and in the location in general.

Probably more than half of Northern Michigan was once covered with the white and Norway pine, which has now been nearly all cut off for lumber. During the first dry season after the cutting, fire burns over this stump land, and then two or three years later the willow-herb comes to maturity. There was a time when this produced large quantities of very fine honey; but as the pine is now all cut, or nearly so, the prospect is that the willow-herb in Michigan has had its day. After the willow-herb this pine "cut-over" grows up to blackberry brush, and, later, white clover comes in. This white clover, when covered with snow, so that it does not winter-kill, usually produces a fair amount of very fine honey. The blackberry, on the other hand, never produces honey, for the bees rarely notice it. This district is now being settled and made into farms, and a considerable amount of buckwheat is being sown, which is a very good honey-yielder on the light sandy soil, although it is difficult to find a location where there is enough sown to support a large number of colonies. The little honey that does come from the buckwheat, however, is very welcome. On the lowlands near the creeks, rivers, and lakes, asters, goldenrod, and bonaset come during seasons when the rainfall is abundant, and these produce some honey, although many times very sparingly.

There came a day, finally, when the pine timber was so nearly exhausted that the price of lumber soared high, and hard-wood timber became valuable. This was about ten or twelve years ago, and since that time the hard wood of Northern Michigan has been gradually cut off, and *this* cut-over is where the celebrated wild-red-raspberry honey is produced. Such land does not need to be burned over, and some think it is even better when it is not burned over, maintaining that the bushes are not thrifty when fire has run over the ground. It certainly looks reasonable that the bushes should be more thrifty, for the fire burns off much of the rich loam. To produce honey to the best advantage, the plants should be thrifty, for it seems that, if the growth is stunted, no honey is produced; or, in other words, if there is any thing the matter with the plant, the honey is the first to suffer. There is something to say on the other side of the question, however; for if the land is not burned over it will soon grow up to underbrush, which smothers the raspberry much sooner than if it is burned over occasionally. It is a disputed point, therefore, whether it is better to get a smaller crop for a longer number of years or to get a larger crop during fewer years. This hard-wood land burns over in April, before the leaves start to any extent; for when the leaves are grown the shade is so dense that the sun can not penetrate, and there is not much danger of fire running. When the fire goes over the *pine* cut-over it may run for miles, burning night and day, and it makes a very hot fire which burns the soil badly.

This is not the case on the *hard-wood* timberlands, for there it burns but slowly during the day, and at night nearly goes out, only a few old logs serving to hold the fire until the next morning, so that when the sun is up, and the dew disappears, it starts anew and burns another day. This is continued until there is a shower, when it will be put out; and since it burns so slowly, no very large territory can be covered before it is put out. This means that there is never a location wholly burned over, so most of the beekeepers have both kinds of pasture—the burned and the unburned.

We have said before that the wild-red-raspberry district is variable, and this must be taken into consideration when selecting a location for bees; for, on account of the pasture not being good in all places, it would be almost impossible to select a location where one could establish a series of outyards without going more than the regular distance. There are some such locations to be found, but they have been occupied for a long while; and now if one wishes to find an unoccupied location he will have to go back quite a distance, and even then he will quite likely find a location suitable for only one yard. He will then have to hunt some other place for the next yard. It should be stated, furthermore, that even these scattering locations are nearly all taken; for whenever there is a good thing there are always several ready to accept it. Take, for instance, the case of the Hutchinson Brothers. Although W. Z. Hutchinson has traveled extensively over the State, they were obliged to accept a location so situated that some of their outyards are eight miles apart. One is often compelled to buy out some one already established, in order to secure a location.

Another point to be considered is that the level or desirable land for farming purposes will soon be cleared and made into farms. This usually happens soon after the timber is cut, so that the raspberry does not have a chance to grow or produce honey. In view of this, one should locate where the land is so rough and poor that it can never be cultivated. The majority of the best raspberry districts are of this latter description, and they will be valuable for the raspberry honey until new timber grows and smothers the bushes.

Mr. S. D. Chapman, of Mancelona, Mich., finds that some of his best raspberry district is where the timber was cut twenty years ago. This particular location must have been burned over several times, for there is a twenty-year-old "chopping" near our Kalkaska County bee-yard which has never been burned over, and it is now covered with timber, some of it 40 ft. high.

Thus we find the raspberry district to be always changing; and when one particular location is not yielding as it should, on account of a failing supply of the nectar-bearing plants, the apiary must be moved to some more desirable point. Of course, this is quite likely to be the case in other locations besides the raspberry, for the honey-producing flora changes with the country, and during this "era of outyards" it should always be borne in mind that it is better to be put to the inconvenience of going some miles to an outyard than to harvest meager crops at home in the midst of a worn-out pasturage.

The wild red raspberry begins to produce hon-

ey some time during the first half of June, depending upon the weather. An early spring with favorable weather causes a rapid growth of the foliage, and consequently an early bloom that may reach maturity as early as June 1. During the last few years, however, or, in fact, during the writer's experience in the raspberry district, cold backward springs so retarded the growth that the honey-flow did not start until nearly the middle of June.

Remus, Mich.

[The question naturally arises, can we introduce some plant into Northern Michigan which will supplement the red raspberry? Sweet clover at once suggests itself, but there may be others. Sweet clover would do no harm, and yet it would in time improve the soil. Some of the poor lands of Michigan have been improved by the growth of mammoth clover.—ED.]

FERMENTATION OF UNRIPEHED HONEY AND ITS CAUSES.

BY EDWIN G. BALDWIN.

Mr. Root.—On page 1055 Prof. Cook tells of the unusual fermentation of honey on the hives, owned by a bee-keeper of Southern California. Prof. Cook attributes the condition to a possible excess of moisture in the air, but admits that this is but a guess. In Central Florida we often have it so damp for weeks that all things in the house will mildew and mold if not aired in the sun very often; and yet I have never noticed any fermentation of honey on or off the hives there.

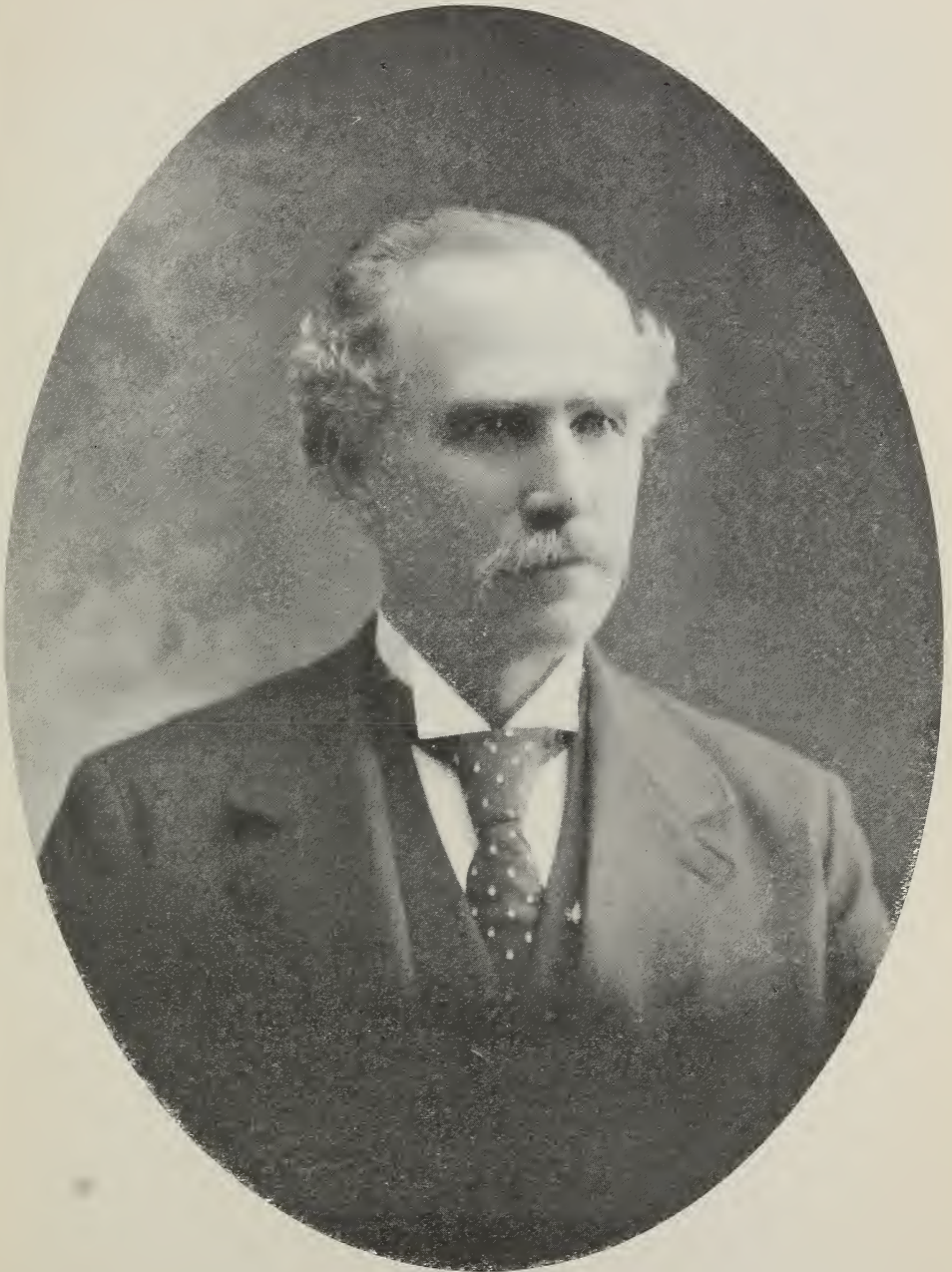
On page 12 of the United States Department of Agriculture, Bulletin 110, Department of Chemistry, Mr. G. A. Browne has this note on changes wrought in nectar by the bees in their working and storing of the crude product:

"Another modification produced in the nectar by the bees is the introduction of a minute quantity of formic acid. This acid is wanting in the pollen and nectar of flowers, and is supposed to be introduced into the honey by the bee just previous to capping the cell. The formic acid thus introduced by the bee is supposed to act as a preservative, and *prevent the honey from fermenting.*"

In the article already referred to by Prof. Cook, the bee-keeper in California says, "The bees die off very rapidly." May not this mortality be a cause and not a result? May not the fermenting be caused by a *lack* of the essential formic acid—a lack caused, perhaps, by a pathological condition in the bees themselves? At least, the coincidence is striking; and as the occurrence is a unique one, it seems to me that perhaps the last word on this phenomenon has not yet been uttered. I should like to hear further concerning this singular state of affairs in Calxico in particular, and of formic acid and fermentation in general.

Trevose, Pa.

[Without knowing any more than has been said in GLEANINGS, I decidedly agree with Mr. Baldwin. It seems to me the nectar fermented because, for some unknown reason, there were not enough bees on hand to take care of it. Something killed off the bees, and then the thin honey fermented. With plenty of bees on hand, nectar will not ferment.—W. K. M.]



THE LATE E. W. ALEXANDER.

" His life was beautiful, his work enduring, his death triumphant. "

IN MEMORIAM OF E. W. ALEXANDER.

BY REV. D. EVERETT LYON.

On Saturday, Sept. 19, there passed from earth to heaven, in the death of E. W. Alexander, of Delanson, N. Y., not only a prince of bee-keepers but also one of the purest and most sympathetic of men who ever lived. For many months this kind-hearted man was a great sufferer from an abdominal affliction; and when the end came it was to him a welcome release from his untold suffering. The end came not to our brother as a surprise, but was the culmination of his expectation, and the summons found him with his spiritual house in order, ready to receive his well-merited reward.

For a year or more he often expressed to his devoted wife the desire that the writer might officiate at his funeral, and preach the sermon; and when the telegram called me to Delanson for that purpose I felt that it was a sacred duty that could not be ignored.

Leaving home immediately at the close of my Sunday-evening preaching service on Sept. 20 I arrived in Delanson the following morning, and proceeded at once to the house of mourning. Our dear brother had but recently purchased a beautiful little home, and it seemed a strange providence that he at only 63 years of age should so soon be carried from it.

When the hour of the service arrived, a vast throng of people crowded in and about the home to pay a last tribute of respect to one esteemed, and an honor to the community in which he resided. Though a great sufferer in the last few months of his life, yet in death his face seemed singularly peaceful, with just a trace of that genial smile that made every one feel that he was their friend.

I felt it a great honor to be permitted to stand beside his coffin and speak of his many virtues, and refer to his beautiful Christian character. After the service his three sons—Frank, Fred, and Bert—and his devoted son-in-law, acted as pall-bearers, at their father's request, and tenderly carried his remains to the waiting hearse.

A ride of four miles brought us to the beautiful cemetery at Esperance, where his poor tired body was laid at rest to await the resurrection of the just; and as I turned from the grave I felt that the bee-keepers had sustained a great loss in the death of such a friend.

May I be permitted to say a few words of appreciation concerning one who, as a bee-keeper, was a prince among us—the greatest Roman of us all—a very Gamaliel at whose feet we learned so much? Let me speak of him, first, *as a man*.

E. W. Alexander was every inch of him a man. Every thing that was mean and base he spurned with contempt, while every thing high and noble found in him its earnest advocate.

Like Longfellow's blacksmith, he could "look the whole world in the face," so pure and upright was his character.

Singularly sympathetic, he had a kind word for every one, and special sympathy for the man who was down and out.

All the years of valuable experience as a bee-keeper, much of it the result of costly experiment,

he freely gave to his fellow bee-keepers, and nothing delighted him better than to see the success of others.

As a bee-keeper remarked to me after the service, "He was the great reference-book for us all." Yet withal he was the most modest of men, and, though deeply touched by Dr. Miller's recent note, that he, as one of the rank and file, saluted him in his triumphant march to receive his crown of rejoicing, he said to his wife, "That was very kind of Dr. Miller, but, really, I don't deserve it."

Second, *as a bee-keeper*. Our friend was a truly great bee-keeper, not so much from the fact that he managed with his dear son Frank the largest apiary in the world in one yard, as that his management was so thorough and systematic, as based upon such a complete knowledge of the habits of the bee.

If for no other reason, his method of treating weak colonies in the spring, and other helpful suggestions, have placed the bee-keeping fraternity under lasting obligation to revere his memory.

As a frequent visitor to his apiary I can positively assert that all the wonderful achievements ascribed to him were literally true, as he was successful in every sense of the word.

It often pained him that others questioned the merit of some of his methods, notably that of strengthening a weak colony by placing it over a strong one, but he would frequently point out where failure was the result of bee-keepers overlooking some little though essential detail.

Every plan he suggested was the result of successful experiment, and he was actuated solely by a sincere desire to see his fellow bee-keepers succeed; in fact, the success of others was a passion with him.

What he has done for the bee-keeping world entitles him to a place with Langstroth, Dadant, Dzierzon, and other stars of the first magnitude.

Third, *as a husband and father*.

It has been my privilege as a clergyman to enter many homes in various parts of the country, and yet I must say that, for happiness, harmony, and contentment, the home of our brother was an ideal one. He loved his home, his wife, and his children. On the occasion of a visit he related to me with much pardonable pride the satisfaction he felt in the fact that his children were all doing well, and that none of them had ever caused them a headache. What a comfort this must be to his sons—noble, manly fellows, every one of them—and to his devoted wife and daughter! It is such sweet homes as this that constitute the bulwark of our national righteousness.

In closing I desire to speak of our brother, fourth, *as a Christian*.

Brother Alexander was not only a Christian by profession, but, best of all, he lived the Christ life, and followed the example of his Savior, who "went about doing good."

Our friend made no loud profession; but everybody knew that he loved God with all his heart and his neighbor as himself, and Christ said this was the sum total of religion.

A few days before his death, his dear wife, one of the biggest-hearted and most motherly of women, played on the organ, and sang, at his request, his two favorite hymns, "Jesus, Lover of My Soul," and "Nearer, My God, to Thee;"

and when she finished he requested that she sing them over again, which she did, to his great satisfaction.

The day before his death he turned to his wife and said, "Oh! wouldn't it be nice if, when the end comes, I could just go to sleep?"

Truly, with Paul he could say, "I am now ready to be offered, and the time of my departure is at hand. I have fought a good fight, I have finished my course, I have kept the faith; henceforth there is laid up for me a crown of righteousness which the Lord will give me at that day; and not unto me only, but unto all them also who love his appearing."

Among those present was Mr. N. D. West, of Middleburg, N. Y., who, in the past few months, has been a frequent visitor to the Alexander home, and who, like the writer, felt most deeply the loss of a true friend.

"E. W. Alexander, hail and farewell." "We will meet thee again in the dawn of the resurrection morning."

The bereaved family have the sympathetic prayers of the bee-keeping brotherhood.

Whatever provision our dear friend has made for his family is as nothing compared with the priceless legacy he has left them of an honored life. If I were to choose the epitaph to be placed upon the stone to mark his last resting-place, it would be this:

"His life was beautiful,
His work enduring,
His death triumphant."

Rye, N. Y.



FIG. 1.—LOAD OF BEES ENTERING THE WATER TO LOAD THE BOAT BOUND FOR LONG POINT.

MIGRATORY BEE-KEEPING.

Moving an Apiary to Basswood at Long Point Island, Ontario, Canada.

BY PAUL MICKWITZ.

It takes experience and care to move bees on the train; but something else is necessary for moving them 12 miles over water in small vessels. It takes courage. Mr. R. F. Holtermann, of Brantford, Ont., with whom I have been this season, has twice before moved his bees to Long Point. This beautiful island, situated in the northern part of Lake Erie, belongs to the Long Point Co., which consists of millionaires from New York, Buffalo, etc. It is especially noted for its excellent opportunities for hunting and fishing. About three-fourths of the trees are basswood, which sometimes yield heavy crops of honey. Twenty years ago Mr. Holtermann had his bees on this island for queen-rearing purposes.

Two years ago he had 240 colonies there for the basswood-honey flow, and since that time he has had the sole privilege of utilizing its rich honey resources. This time 100 twelve-frame L. hives were moved over as announced on p. 932, Aug. 1st.

The preparations were made so early that we could take a rest before the night work began; but after sunset the screens were put on. The large space be-



FIG. 2.—LOADING THE BOAT FROM THE WAGON.



FIG. 3.—UNDER WAY.

tween the entrance and the screen, made possible by the portico, seems to be a splendid arrangement, for the bees have a chance to get out of the hive and get fresh air through the large screen. On four hay-racks the bees were taken to the station, where they were loaded in a cattle-car. Close attention was paid to the condition of every hive, and where bees in large numbers were playing with their antennæ through the screen, water was poured against it, cooling them.

The next morning we left for Lake Erie; but our freight train was so slow that we could not get the first lot of bees moved over to Long Point until about two o'clock in the morning, then, after placing the hives in the high grass on the shore, the water became so rough that it was impossible to take the rest of the hives over. Our boatman brought us back to the shore, but did not dare risk loading up again. He could not wait for us, either, and we were, therefore, compelled to seek another vessel. A little steamboat was finally hired, and the following morning the other lot of bees was taken 12 miles to the island. These bees had been confined 68 hours, and were still in an excellent condition, although they had been thoroughly

watered every hour, at least during the day, when the hot sun was shining on the shore. Two hives, in which the bees were suffering, we gave a flight in the evening. It seems to be very important, not only to throw water against the screens, but to throw it all over the hives.

The hives were brought from the shore to the steamboat on hay-racks, on account of the shallow water; and from the steamboat to the shore of Long Point they were brought in a little row boat, about 15 at a time.

Two weeks later the honey was extracted, and the bees brought back to the shore and placed ready for buckwheat.

Brantford, Ont.

[Mr. Mickwitz is from Helsingfors, Finland, Russia, and by arrangement before leaving there he is spending a season in Canada with Mr. R. F. Holtermann. It is his intention to spend another year in the United States, and then return to his native land to engage in bee-keeping. Before going to Mr. Holtermann's, Mr. Mickwitz spent one winter with The A. I. Root Co., familiarizing himself with the various styles of bee-keepers' supplies and other details of manufacture. He was not unfamiliar with the general subject of bee-keeping when he came to this country; but when he arrived here he knew practically no English; but in the short time that he has been here he has acquired a remarkable command of our language. His letter, which we publish, is a model of idiomatic English—not a misspelled word nor an ungrammatical expression.]

It is with peculiar pride that we observe that the bright and progressive young bee keepers of Europe have come and are coming to America to study modern American bee culture. It is these young bloods who, in the near future, will be largely instrumental in setting aside the old straw skep and the box hive, and introducing the modern movable frame of the Langstroth type. There are movable frames of the Dzierzon style in Europe; but they have nothing of the conven-

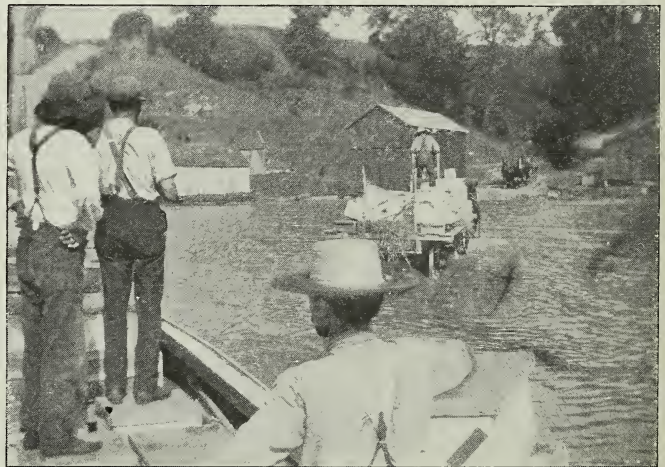


FIG. 4.—UNLOADING THE BOAT AFTER THE RETURN TRIP.

Reading from left to right, those on the boat are — Walter Bailey, a local bee keeper; Ivar, Mr. Holtermann's eldest son; and Mr. Secord, of St. Williams.



FIG. 5.—THE APIARY AFTER IT WAS MOVED TO LONG POINT ISLAND.

ience and the rapid handling of the Langstroth in its various modified forms.

We wish to say of Mr. Mickwitz that he won the esteem and respect of his fellow-workers during his brief sojourn at The A. I. Root Co.'s plant. He will go back to his fatherland well equipped, and we doubt not he will be an important factor in modernizing methods among his own people.—Ed.]

QUEEN KILLED BY A RIVAL QUEEN.

BY J. L. DAVIS.

In GLEANINGS for Aug. 15, third item of Stray Straws, you speak of the bees and not the queen as killing the other queen. Some years ago I opened a hive that had a young queen that was laying some three weeks. Her mother was in the hive laying also, as they happened to be on the same card. As I ran my eyes over the surface of the card next to me the old queen came through a hole next to the frame in the upper corner. She took a zigzag course down across the comb, stopped near the lower corner, and seemed scared. She was breathing fast. I watched her about five seconds, and pop came the young queen through the same hole in the upper corner. She came racing down across the comb. Just as nearly as I could tell, she followed in the same track that the old queen did. She came until she got within about an inch of her mother, and stopped for an instant. The old queen appeared to know that the daughter was after her, and was near. She started to go as if to do so carefully, and not be discovered by the other; but as she started I could

not tell whether the young queen jumped or ran, as she was so quick about it. However, I noticed that the three or four bees that were between her and the old queen did not get out of her way. She went right over them and grabbed her mother, as I thought, by the middle leg on one side close to her body; then a desperate struggle began on the part of the young queen to swing around to sting her mother in the mouth. The old queen did not fight, but tried with all her power to keep the young queen from getting her sting in her mouth. In about ten seconds she succeeded. In an instant she let go and started off as unconcerned as though nothing had happened. The old queen seemed paralyzed, and started to roll off the comb, her jaws working and legs twitching, and she was soon dead.

The next year I saw the same thing in Mr. Barnes' apiary, only the queens met while I was holding the card. Both of the young queens acted as though they had been drilled by the same master hand to do the killing.

I have owned bees for 54 years. Bees emigrated through and from here and the next county west about 40 years ago.

Dimondale, Mich.

[As a general rule we may say that where there are two queens in a hive the death of one of them is caused, not by the bees, but by the rival. But there are clearly some cases where the bees take a hand in it. This was clearly shown in the instance related in the Straw in our issue for Aug. 15 to which you refer.

Again, it may be stated that, if a strange queen be dropped into a colony where there is already a queen, the bees will immediately attack her—

that is, ball her and sting her to death, or kill her by suffocation. But if two queens be caged in a hive, say for 48 hours, and the bees are friendly to one they will be friendly to the other. Either queen may be released. Yes, both queens



FIG. 1.—SHOWING A "FLOOD APIARY" IN A PECAN-TREE GROVE; A VALUABLE AND IDEAL TREE FOR SHADE.

may be released; and so long as they are kept apart there will be no interference on the part of the bees, probably, for some days. If the two queens are released during the honey-flow, if they can be kept from coming together the bees will not kill either one; but should they be able to meet, a mortal combat will take place. After the honey-flow is over, if the queens themselves do not settle the question, the bees will probably make way with one queen.—Ed.]

is sure to get some honey somewhere. There are sixteen yards in all. The two pictured here are furthest away. No. 1 is 183 miles, and No. 2 is 197 miles from home. These can well be called "legged apiaries," as the hives are kept on high scaffolds on account of the overflows. This spring the water came up several times to within four inches of the bottom-boards, being 3½ ft. deep in the yard, and remaining once for nearly an entire week. These are the highest places for miles around. The water is from 4 to 6 ft. deep over great areas at such times. No. 1 is located in a young pecan-tree grove. These trees make an ideal shade during the summer, and they shed their leaves for winter so the sun can strike the hives. This is very necessary, as the atmosphere in these wide valley lands is very damp. Besides being one of the best shade-trees for all kinds of purposes, it is a valuable tree for nuts. If the trees have been "worked" (budded or grafted with the thin "paper-shell"

variety), the nuts command an extra good price, and there is a good demand for them. These trees ought to be planted in place of the many thousands of other less valuable shade-trees. Bees gather much pollen from them in spring.

Fig. 2 shows another yard

RIVER-BOTTOM APIARIES IN TEXAS.

A Quick Way of Making Increase at Out-
apiaries; the Danger of Floods.

BY LOUIS SCHOLL.

It is well known that the writer keeps bees in a great variety of places. The result is that he



FIG. 2.—SHOWING FLOOD SCAFFOLDS, AND EXTRA BODIES FOR INCREASE LATER.

further down the river, near an area of basswood. Many bee-keepers of the North suppose we have none of this; but East Texas abounds with basswood in some parts. Cotton is the main source, as there are thousands of acres in the large plantations.

In the last-named yard, a lot of large hive-bodies with full sheets of foundation in the frames have been placed over the brood-chambers with the shallow supers of honey above. These are to entice the bees and queen away from the lower body, and a new brood-nest will then soon be started. After this is well along, about a 50-per-cent increase can be made in a very little time. A queen-excluder is slipped between the two chambers and left for a few days, *a la* Alexander, so no eggs or larvæ may perish, when the upper portion of the hive is set on a new bottom-board on the old stand, and the lower one, with a new cover, is moved to a new stand. The entrance of this old hive on the new stand is closed with grass, moss, or green weeds, to hold the bees a few days, when they will remove it. A queen or ripe cell is introduced before the cover is put on. This has been the quickest and easiest way of rapidly increasing bees at long range, and requires very little attention. When so many apiaries are greatly scattered it is necessary to resort to wholesale short-cut methods. I have made new colonies in this way, both in the fall after the honey-flow or in the spring before it. Often I do not return for several months after making the move.

New Braunfels, Texas.

THE VALUE OF A SWARM-CATCHING CAGE IN A HONEY-YARD.

BY E. R. ROOT.

As it is getting toward the season of the year when bee-keepers will seek to make certain appliances for next season's use, I take pleasure in showing a useful device which almost any one can make. It is neither more nor less than a wire-cloth cage of sufficient size to slip over the largest hive in the yard. Wire cloth or mosquito netting is nailed on to a light framework of the construction shown.

It sometimes happens that a colony is suddenly attacked by robbers. A cage like this can be set down over the hive, trap all the robbers, and prevent any more from getting in at the entrance. The inmates of the hive will, if outside, cluster around the outside of the cage. It may be left over the colony until night, when the robbers may be destroyed or taken to an outyard; for to let these bees loose back into the same yard will only invite trouble for the next day.

But we have used the cage to very good advantage in catching swarms just coming out. One or two of them are kept handy in the yard; and if a swarm is seen coming out, one of these cages is clapped immediately over the hive from which it is coming. Even if some of the bees have gone out they will soon come back and cluster around outside while the rest of their companions are clustered inside.

In the photo here shown it will be observed that



A USEFUL APPLIANCE FOR AN UP-TO-DATE BEE-YARD.



EXHIBIT MADE BY SOME OF THE MEMBERS OF THE LEBANON, PA., BEE-KEEPERS' ASSOCIATION.

the swarm is clustered on top of the cage. As soon as they are all out, the cage and all is picked up at the intersection of the cross-pieces at the top, set over the hive ready to receive them, when the cage is given a jounce on the ground. A little later on it is given another bump until the bees have entered their new home.

Of course, this method of catching a swarm just as it is coming out is not new; but sometimes old things need to be resurrected until prospective users begin to see their value. This cage is one of the new old devices that should be made up for next season's use.

It may not be necessary to have such a cage where comb and extracted honey are produced; but if one is rearing queens he must not harbor in the yard any bees that have acquired the robbing habit, as they will be a continual annoyance to the apiarist and to the working colonies throughout the entire season.

HONEY EXHIBIT OF THE LEBANON BEE-KEEPERS' ASSOCIATION.

BY E. L. BROWN.

The exhibit shown in the engraving is the first attempt of several members of the Lebanon Bee-keepers' Association, and consists of comb and extracted clover honey, beeswax, and leather-colored and golden Italian bees. The exhibit took the first prize on comb honey, first on extracted, and first on wax. We secured, also, a special prize of five dollars for the best and largest display of honey, bees, and wax.

Lebanon, Pa., Sept. 3.

[The honey exhibit, for a first attempt, is excellent. It shows good variety and the different forms in which honey is put up.—Ed.]

THE SPIDER-PLANT AS A HONEY-YIELDER IN ILLINOIS.

BY A. N. COOKE.

I have experimented with the Rocky Mountain bee-plant the last season, and I find it one of the best for honey, as it yields more than any other plant that grows. I watched the bees gather the nectar from several flowers, and it took three bees in all cases to gather the nectar from one blossom. The first two bees stayed one and one-half minutes each; then the third bee stayed forty-eight seconds before it left the plant. I took a glass medicine-dropper with a rubber bulb to it, and I drew the nectar from 13 flowers, getting a teaspoonful in all. In one season there are several hundred blossoms to each plant, and the blossom-stalk grows about four feet after it begins to blossom, until it is finally about nine feet tall. There is no more beautiful sight than an acre of these plants in full bloom. I shall plant about two acres this year. I also have the white variety; but as to its value as a honey-yielder I can't say, as I got the seed only last fall.

If any one has a weedy patch of ground that he wants cleared up, he should sow the Rocky Mountain bee-plant. The weeds will leave, and the ground will get mellow in a short time.

Woodhull, Ill.

[It is our opinion that the plant you describe is not the Rocky Mountain bee-plant (*Cleome in-*

tegrifolia), but the spider plant (*Cleome pungens*). We have seen the Rocky Mountain bee-plant in the Rockies; and while it very closely resembles the spider plant, being a very near relative, yet it is distinctly different. Moreover, we question whether a plant adapted to altitudes 10,000 to 12,000 feet above sea-level, and on a rocky soil, would be adapted to grow on rich prairie land such as may be found in Illinois of comparatively mild climate. Your description of how the bees gathered the honey, and of the size of the plant, tallies very closely with the spider plant.

In 1878 Mr. A. I. Root was very enthusiastic over this plant. He had quite a flower-garden of it, and at one time had as much as half an acre. It yields profusely, even late in fall, but it must have rich soil. When conditions are good it is one of the most remarkable honey-plants in the world. A single bee can not gather all the nectar there is in one blossom. Indeed, it is secreted so rapidly that a human being can gather it with a teaspoon. A. I. Root actually did this, gathering a sufficient quantity so that he was able to judge of the flavor of the nectar.

The spider plant is indeed a very ornamental plant, and is sold to decorate our flower-gardens sometimes.—ED.]

WHEN BEE-KEEPING PAYS.

No Encouragement for the Bee-keeper who does Not Look Ahead.

BY G. W. HAINES.

The man who is afraid of the bees, and never gives them any thought or care, but puts his whole time at something else, is not making bee-keeping pay. Some whom I visit allow the grass to grow up all around the hives. They have no sections or extracting-supers on, although in most places they talk about ordering some, and want to know where to get them quickly. Their bees are swarming, and no hives are ready. If I ask them if they take some bee-journal they usually say they get a sample copy once or twice a year, but they can not afford to take it. When I tell them that one colony of bees, if properly taken care of, will pay for a bee-journal and a book on bee-keeping the first year, many times, they say if they were a supply-dealer, or an editor of a bee-journal, or a State bee-inspector, they could do big things too; but the bees alone do not pay.

In looking over their hives it makes me want to talk to them on hive-making; but there is no use so long as they are sure that the business does not pay.

On the other hand, I sometimes call on a bee-keeper and find him at work with the bees, getting every thing ready ahead of time. He will have a lot of hives piled up nice and straight to keep them from warping all out of shape, and enough supers and sections on hand for the harvest. Besides the extracting-combs well taken care of, he will have a good supply of new frames nailed and ready for use, as well as plenty of foundation. Every thing about the bee-house will be in order, and on a shelf I will find three or four of the best bee-journals and half a dozen up-to-date books on bee-keeping. As we sit and talk about the bees and different honey crops of years

gone by I do not have to ask him whether bee-keeping pays.

Mr. E. W. Alexander often told us wonderful stories at the conventions, so one morning I boarded the train for Delanson, N. Y. I found him in the honey-house, and we walked out through the apiary of those 750 nicely painted hives, all set in straight rows, while clouds of bees were bringing in the nectar from up and down that beautiful valley. He showed me that large honey-house and bee-cellar, and his way of extracting and managing bees. When we went into the honey-room I stood and looked at the thirty tons of honey, all from one yard.

The more honey a man has, the more he looks to the marketing of his crop, because a cent or two more per pound amounts to something. A man with only a few colonies, on the other hand, thinks it does not make much difference with him, just so he cuts the price and closes it out *because the business does not pay*.

I have heard people say that, when the bees are ready for winter, there is nothing more to do! However, the fall is just the time to commence for a big crop of honey, and it takes all winter to get the hives and every thing else ready, and all the evenings to read the bee papers and books.

Some one may want to know what journals to take. Take them all; and as for books, commence with Quinby, Langstroth, and all the rest down to the present date, as the bees pay for them if the owner does his part.

It was a pleasure for me to take the first premium at the county fair for the best exhibit of bee-keeping books and journals.

When one can stand the stings, lots of hard work, and occasionally a poor year, and if he is a good salesman at wholesale or retail, then there is money in bees.

Mayfield, N. Y.

RETAINING THE AROMA OF NEW, WELL-RIPENED HONEY.

BY G. A. LUNDE.

I have noticed in GLEANINGS, off and on, that you lay great stress on having extracted honey well ripened before extracting. I have been interested in this question for over 20 years, and read with interest what Mr. Burnett, of Chicago, and others have written on the subject; but I have failed yet to find any positive information as to the *modus operandi* of how a person can, after extracting, retain this aroma or the fine flavor well-ripened honey has just when extracted. I doubt if any bee-master can give any solution to the problem. I have no bees here. My son is running our yards at Wausau, Wis., but I may also keep bees here next year, if I stay. We have of late years been in the practice of putting up our honey in Aikin paraffined paper bags. But I am inclined to think it is more difficult to arrest the flavor this way than when put up in tin cans or glass jars. When extracting we do it this way:

We put the honey in open barrels, as fast as extracted, with a cheese-cloth cover over the top of the barrel when not working. Then when honey, say in September, commences to stiffen, we fill the paper bags from the faucet.

We put these bags into an empty hive, as many as we can conveniently get in. This prevents them from tipping over. Then we carry these hives upstairs, open the windows so the honey will harden the sooner, and, when fully solid, we seal the bags.

Now, of course, the bags will have to be left open before being sealed; then my question is: Will not the flavor be lost during this time before the bags are sealed? We put the cover on the hives; but I should judge the flavor would escape any way.

I like the method of putting up extracted honey in these bags. Honey is handy to handle, to ship, and to serve in this way. But if the flavor can not be retained, I for one will have to try some other method. I should be glad to know if there is there is any method by which the excellent flavor of well-ripened honey can be kept in the honey when put up in paraffined paper bags. Who can give the information?

Hayfield, Minn.

[We referred this to Mr. W. A. Selser, of Philadelphia, who replies:]

The exceedingly delicate aroma of honey in general is at its best when evaporated by the bees very rapidly during the honey-flow. Nectar gathered slowly, and placed in the same cells on different days, will not have the intensity of aroma that nectar has when placed in an individual cell, all within a few hours. This can be detected by a careful observer testing the honey in the middle of a frame and on other parts of the same frame that has not been placed there by the bees on the same day.

I have made a series of special experiments in this line by washing the honey in a glass-stoppered, closed, filtered funnel with ether. After drawing off the residue (of ether and honey) I have been able to retain the aroma for a long while. This is one of the experiments which will enable one to distinguish which plant the bees have gathered the nectar from. Quite often the taste is deficient, and the aroma in honey more distinct, or, sometimes, *vice versa*. This would indicate that the rapid evaporation of the ether in contact with the honey extracts the aroma, and it has made clear to the writer that, under perfect atmospheric conditions (entire absence of humidity), the same action takes place, only in a less marked and rapid degree.

The aroma of honey has often been spoiled on account of the cappings of the cell not being air-tight, or the honey left on the hive too long, and the foreign smell of the bees is absorbed by the honey if left on after it is capped. Therefore the only way to retain the aroma is to exclude it from the air as soon as it is capped. There is no way, therefore, to retain the aroma of honey when put up in bags such as Mr. Lunde is using. The best honey, after it is candied, naturally does not come in contact with the atmosphere except on the surface. Therefore if the honey could be allowed to candy in air-tight barrels or vessels, and then dug out in its hardened condition and placed in paper bags, the desired results could be obtained, but this, no doubt, is hardly practicable.

Honey can be extracted, put up at once in air-tight barrels, coated with paraffine, and shipped a considerable distance, then immediately bottled,

without any appreciable loss of the aroma. This is why honey left to ripen in large tanks, from the very nature of the case, can not be as finely flavored as honey capped rapidly by the bees.

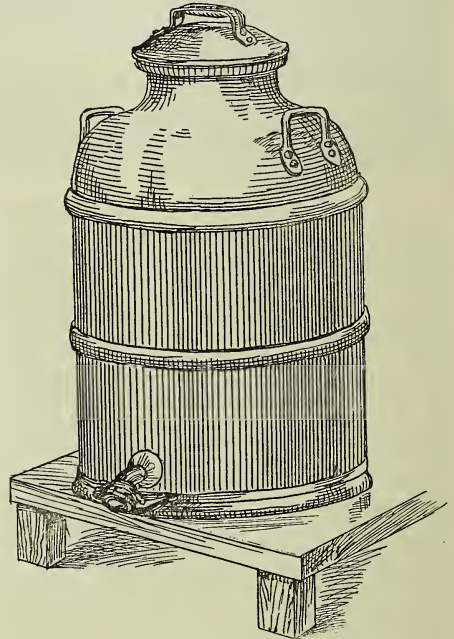
W. A. SELSER.

PROPERLY PROPORTIONED SYRUP FOR STIMULATIVE FEEDING.

BY SWARTHMORE.

Properly proportioned feed and its mixing is quite important; in fact, it is a matter for serious consideration. To secure the best possible results at the lowest expense the following recipe is recommended:

Place in a twelve-quart milk-can, for instance, several pounds of best granulated sugar, and mark to what point in the can the sugar comes. Then pour upon the dry sugar boiling water, stirring all the while until the syrup rises to the point marked. Stir until thoroughly dissolved; then cork the can and set it aside to cool.



A CONVENIENT FEEDING-CAN TO HOLD SUGAR SYRUP FOR STIMULATIVE PURPOSES.

When feeding-time arrives draw off this sugar syrup, a jar half full; add a little honey to flavor; then fill the remaining space in jar with clear water, using cold water if the weather is warm, and hot water if the weather is cold.

This we have found to be the safest, quickest, and best plan for the mixing and keeping of feed for stimulative purposes in a queen-rearing yard.

If the can is provided with a gate for ready drawing, so much the better.

If much feeding is to be done at one time, mix the syrup in a larger vessel and pour from that

into the jars. A large-sized tea or coffee pot is first rate for this purpose.

All vessels for feeding should be provided with covers lest troublesome robbers make life miserable to the apiarist.

Swarthmore, Pa.

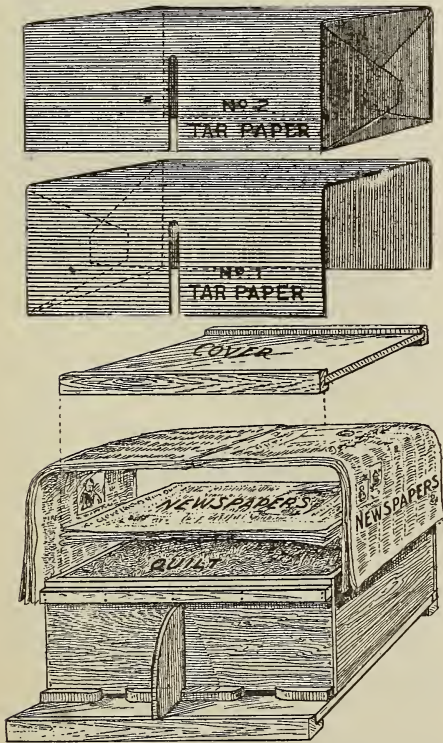
PAPER WINTER CASES.

How they Wintered the Bees, and how they Increased the Honey Crop.

BY L. C. ALWIN.

The drawing herewith illustrates my method of packing colonies in the spring. The first hive shown is one used in the Ferris two-queen system; but the method applies to eight or ten frame single-queen colonies as well, as shown in the second drawing.

On account of the late cold and disagreeable springs, packing has become a necessity in these northern States, and the above plan, it seems to me, has proven the most practical of any that I have employed.

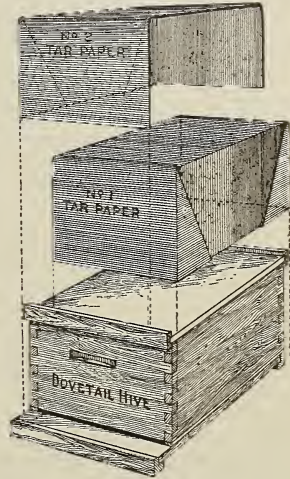


The reason I use two pieces of tarred paper is because I am not able to get paper large enough to cover a 14-frame hive from cover to bottom-board, as it ought to if good results are secured. I do not know whether there is any advantage in having two pieces, except that there would be a double layer of tarred paper in front, in the rear,

and on top; but this can hardly be considered on account of the expense of using two pieces for a hive. There is no doubt that one piece of tarred paper per hive would be better. I use only two pieces for the Ferris hives. My eight-frame hives are all packed with a single piece.

In putting on this packing I have not made it a practice to tie it down with string, but use broad-headed tacks that I can easily drive into the wood with my thumb. But I have tied the packing of some of the hives, and think it just as good as tacks, if not better.

I am not an advocate of wintering bees outdoors in a climate so cold as that of Minnesota, although I have wintered, and am at the present



time wintering, bees outdoors successfully. My success is due to a great extent to the mild winters we have been having the last few years. But the system of packing that I describe is meant for spring protection; but I do not hesitate to advocate this method of packing for winter in a climate like that of Ohio. Although our winters have been mild, our springs have simply been — well, I can't think of a word strong enough to express myself properly—but the average temperature from the 1st of April to the 15th of May was 40° F. last year; and in spite of these conditions I had my colonies boiling over with bees, and swarming by the last week of May and first of June; and if bees rear brood extensively so that, by the last of May, the hives are just boiling over with bees and brood, with the temperature outside ranging below freezing, you can certainly winter them outdoors successfully in a climate where the temperature rarely goes below zero.

Last spring, March 15, on account of the mild weather and the restlessness of the bees, I set 54 good colonies on their summer stands. Of these, I packed 41 according to my method; and because I ran out of newspapers the remaining 13 were packed with tarred paper only. This warm weather was soon followed by a cool spell which lasted until the last days of April. On the first of May we were blessed(?) with a foot and a half of snow. This was soon followed by severe cold weather, with the temperature ranging from 5 to

10° above zero. This lasted for over a week. During this time I made it a practice to give each colony a pint of hot sugar syrup each day. The 41 well-packed colonies took theirs every day, and would have taken more. The 13 with only tarred paper would not take the syrup during this cold spell; and every night I changed hot syrup for cold, only to find it, next night, cold and untouched. Following this cold spell came a period of warm weather, and I took the occasion to examine the bees and see how they withstood the cold weather. The 41 newspaper-packed colonies had, in the eight-frame colonies, eight frames of brood or six frames of solid brood, and were boiling over with bees; and of the Ferris, or twelve-frame colonies, there were 12 frames of brood or 10 frames of solid brood, and they were hanging out at the time of examination with the temperature at 78° in the shade. Of the 13 colonies packed only with tarred paper, eight were dead—starved. Two absconded, and went into other hives, and three were sticking out their stings and shaking their wings at me when I took off their cover; and by feeding and coaxing I was able to build them up to be fairly good colonies for wintering by fall.

It might be of interest for me to say that the 41 colonies that were rearing brood during this cold spell averaged 100 lbs. per colony in last year's poor season.

New Ulm, Minn.

[The use of two pieces of tarred paper in place of one will facilitate very materially the packing and unpacking; but we would suppose that, at the line where the top piece overlaps the bottom one, wind and water would beat in; and if the hive is tipped a little sidewise the water would run down between the packing. Perhaps you overcame this in some way.

It is a little surprise to us that you secured as good results after feeding in such cold weather, even though the syrup was given them hot. It would have been our opinion that this hot syrup would have so stirred up the colony that bad results would have followed. At all events, we would say that beginners should be cautioned; for unless hives are well packed, and colonies very strong, such feeding would be a very doubtful proceeding.

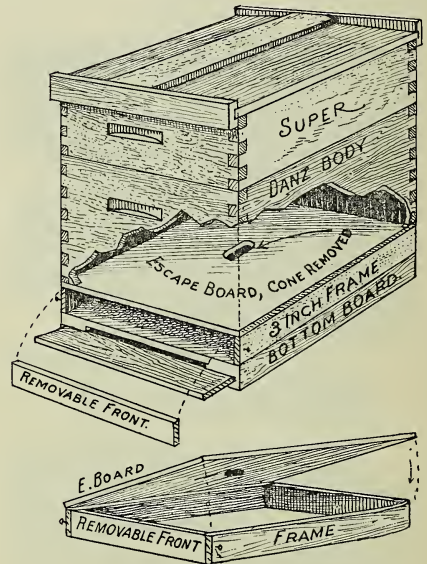
In a general way we observe that, where your hives were packed with newspapers under tarred paper, you not only secured excellent results in winter, but increased materially the amount of honey. We see no reason why hives well papered under caps should not winter their colonies just as well as those having a wooden cap over them. It was demonstrated last winter in our own yard, and reports went to prove it, that a mere paper cap without packing under it is hardly sufficient protection for outdoor-wintered colonies in localities where the temperature goes down to 10 or 20 above zero, occasionally hovering around the zero point. There should be several folds of newspaper, old carpeting, blankets, or something under the cap to provide the necessary insulation, for a cold atmosphere will penetrate a 7/8-inch board. If, however, such boards be covered with several folds of newspaper, with a good protecting cap, either of paper or wood, good results will ordinarily follow.—ED.]

HEADS OF GRAIN

FROM DIFFERENT FIELDS

DEEP SPACE UNDER BROOD-FRAMES; QUEEN-MATING EARLY IN SPRING.

In experimenting on how much space should be allowed under brood-frames I have used this season the regular A or Danzenbaker bottom and B style bottoms, 1½, 3, and 4 inches deep. The Danzenbaker bottom gives traces of wax; the 1½-inch B bottom gave one inch of comb built below the bottom-bars; 3 and 4 inches gave clean bottom-bars. I think these experiments tend to prove it advisable to use a frame about 3 inches deep between the brood-chamber and the bottom-board. While this is true of summer I have no doubt it is also true of winter, giving more ventilation and protection from frost, especially if arranged so bees and air must pass from front to rear of hive before entering the brood-nest. Now to prevent the increase in bee appliances I intend



to place escape-boards, with the escapes removed, between the three-inch frame and bottom-board, giving the bees a central entrance and 3 inches of space under the brood-combs, with a vestibule of the bottom-board. See illustration.

Bladen, Ohio.

CHAS. H. CARGO.

[If the experience of Mr. C. P. Palmer, as related in our Sept. 15th issue, p. 1136, is any criterion, it would seem as if your form of bottom-board might not be very satisfactory for winter use. We can hardly see what gain would be accomplished for summer. Indeed, in a space so deep the bees would be inclined some seasons to store comb if they did not last season. But er not make too many of them.—ED.]

BEE-KEEPING IN ALASKA; PREVENTING HONEY FROM CANDYING IN THAT COLD CLIMATE.

I find that setting a can of honey for a number of hours in hot water prevents it from candying, the length of time depending, of course, on the heat of the water; and as the general public does not know enough to follow instructions concerning heating, it stands me in hand to do the heating before I sell.

Now, suppose I can rent a heated room from the heating-plant—will that be as good? and how long should I keep it in a room of a given heat? Would 120 degrees for 24 hours be too much or better than 12 hours at 140 or 6 hours at 160? Any heating I have done so far has, if any thing, improved the honey; but I am wary of making an experiment on a big scale where there is so much at stake. I have had honey here two winters without candying, and during one of the winters we had the mercury down to 65 below zero for three days, 50 for one month, 40 for two months, and zero to 20 above for the rest of the season. How is that for high?

Fairbanks, Alaska.

WM. LAWSON.

[We should say, "How is that for low?" Well, we can't beat it in any portion of Uncle Sam's domain south of Canada. As to the heated room, if you can maintain a temperature of 120 F. for 24 hours, or 140 for 12 hours you might be able to liquefy the honey; but if it were candied solid, and there were a large bulk of it, the portion in the center might still be in a more or less solid state. Generally speaking we would advise melting a smaller quantity in a smaller vessel, and for a shorter time.

But say, friend Lawson, we should like to hear more about your Alaska bee-keeping. How do you winter in so cold a climate? What are your honey sources, etc.?—ED.]

A PLAN FOR FINDING BLACK QUEENS.

I have four colonies of Italians and nine of black bees which I wish to Italianize next season. I have so much trouble to find black queens that I wish to know if the following plan would work. Form nuclei of the Italians about swarming time, then set a nucleus over each black swarm with wire cloth between for a couple of days. Then set the old hive to one side and put the nucleus in its place till all field bees have left the old swarm. Then I can easily find the black queen and destroy her and unite the young bees and brood with the nucleus. Would the old black bees be likely to kill the Italian queens? Would it disturb them very much if done during a honey harvest?

Sodus, N. Y. MRS. WESLEY GRINNELL.

[The plan that you speak of would work, only we would advise that you cage the Italian queen at the time of uniting with the black bees. A much simpler plan of finding such queens is to use perforated zinc. If you own an Alley trap or entrance-guard, put it over the entrance, shake all the bees in front; or, better yet, move the old hive off its stand and put an empty one in its place with perforated zinc or entrance-guard over the entrance. Now shake all the bees in front, putting the combs in the new hive on the old stand, and, last of all, dump the bees out of the

old hive. The bees will rush into the new hive; and by closely watching you will shortly be able to see the queen in her vain endeavor to pass the metal. She may now be picked off and killed. Indeed, it is not even necessary to watch for the queen. Shake the bees in front of the hive, and then come back in the course of fifteen or twenty minutes. Most of the bees will have gone inside. The few that remain outside can be driven in with smoke, after which the queen can be easily located.—ED.]

DO YOUNG BEES KILL THE OLD ONES WHEN THEY CAN NO LONGER WORK?

I have been observing some things about bees which indicate that they "make way" with the old folks when they consider them past usefulness—i. e., the workers. Do they? I don't think I ever read any thing of the kind.

Cincinnati, N. Y. EMMET B. KIBBE.

[Young bees never kill off the old ones unless they are structurally defective in some way. After a good heavy honey-flow there will be many bees that have so frayed out their wings by hard toil that they are no longer able to fly. These, the other bees will carry away and drop; and, being unable to fly, they can not crawl back. In this there is not the slightest trace of gratitude, but, instead, we have an illustration of the principle of the "survival of the fittest." Old bees in the hive that are able to go to the field may remain so long as they can gather nectar.—ED.]

CLOTH COVERS FOR EXTRACTORS NOT LIKED.

On page 1596, 1907, I notice an illustration of a cover for a honey-extractor. I am sorry to see you pass it by so lightly in your footnote, with the suggestion that a cloth top is "just as good," and that most bee-keepers use them. What I wish to say is, that such a cover as illustrated is almost a necessity, and a much-needed improvement, and, when properly made and closely fitted, is worth \$2.50 to any one who owns an extractor, and it need not cost to exceed one dollar in the making of the machine.

Not all have mouse-proof houses for machines; and I have found, in leaving a cloth over the machine over night, as many as four dead mice in my extractor. The mice readily gnaw holes through the cloth.

The cover illustrated, as well as an extractor, being capable of holding five or ten gallons below the reel, is a practical necessity. Of course, the producers can have these extras made after they get the machine, but at a great additional expense. I am simply disgusted with cloths and rubbers sent with machines.

Brighton, Col. WALTER MARTIN.

[We should be pleased to hear from others on this point. If there is a demand for a mouse-proof cover it can be furnished.—ED.]

EXTRA-YELLOW ITALIANS.

I am sorry for the bad reports we read of the goldens. I find one on p. 988, Aug. 15. I find them the gentlest bees of all. My experience is that blacks are cross, hybrids crosser, Cyprians

crosses; Holy Land cross, dark Italians, if pure, good; the very yellow Italians the gentlest of all. Keep all positive black blood out of Italians for best results. I have only one cross yellow Italian colony out of 20. We have more golden or five-banded bees at present in America than we ever had before. They are gentle, winter well on summer stands, and are good honey-gatherers. This is my experience of about 12 years.

Bechtelsville, Pa.

H. M. MOYER.

HONEY-DEW FROM OAK LEAVES.

The bees in this section of country have been laying in honey-dew for a few weeks from oak leaves. Probably something in your next issue on this subject on how to treat the matter and prepare for winter would prove of great value to bee-keepers in general who are troubled in this way.

P. B. R.

Harmony, Minn.

[Honey-dew from oak leaves is very poor stuff for bee-feed, more particularly in your locality, where the winters are long and hard. It is probably too late now to extract the honey-dew, as that would destroy the symmetry of the brood-nest. You can, however, feed good thick syrup made from sugar, which would counteract to a great extent the evil effects of the honey-dew. In doing this it is wise to disturb the bees as little as possible. Feeding such bees in fall is casting bread upon the waters.—ED.]

POLLEN IN EXTRACTING COMBS.

Last spring I put half-depth extracting-supers on five of my hives, and the bees filled the upper part of each frame with honey and the lower part with pollen. Please tell me the cause of this, and what to do with these fifty combs. They are on the hives yet.

H. R. McADAMS.

Greenville, Ill.

[Bees will very often gather an excess of pollen when pollen is plentiful and nectar scarce. We would not advise leaving these combs in the hive for winter. So far as possible a colony should have best sealed stores with little or no pollen, except that one frame of it should be left on the outside for early brood-rearing in the spring. Where one finds he has an excess of pollen in the combs in the fall of the year, we advise taking them out of the hives and setting them aside to be used in the spring for stimulative feeding.—ED.]

HOW TO SECURE PROPER VENTILATION OF A HIVE THROUGH THE WINTER.

I have been giving some attention to bee-keeping for just a few years. I have read every thing that came under my notice relating to bees. I have experimented somewhat, and observed very closely.

There is one thing that troubles me more than any thing else; and that is, the proper hive ventilation for winter use—referring to outdoor wintering. I can keep bees warm enough; but to procure what seems to me proper ventilation is a question I have not seen satisfactorily explained. I have no difficulty in ventilating my own sleeping-room, for I sleep with two windows open, summer and winter. I have had considerable experience with horses, cattle, hogs, and poultry,

and have constructed barns with very satisfactory ventilation; but to ventilate a hive properly is another thing.

I am satisfied that many bees die in winter from no other cause than damp unventilated hives. I believe bees would come through the winter in much better order if kept drier and cooler rather than warm and damp, the same as poultry. I have been wondering why Mr. A. I. Root, with his long experience with bees, and his more recent experiments with chickens, could not make some suggestion on how to ventilate a hive properly. I wish to expel the bad air and dry the hive—not absorb it. How can it be done?

The standard eight-frame hive is 20 inches long. Would there be any objections to a hive 18 $\frac{3}{4}$ inches or 24 inches long, same depth and width? That is, would it make any difference with the working of the bees if a hive were shorter or longer than the standard?

Storm Lake, Iowa.

GEO. H. EASTMAN.

[You have struck on a much mooted question, and we are sorry to say that our authorities do not agree as to how the hives should be ventilated, either in the cellar or out of it, during winter. But the general consensus of opinion in the case of outdoor-wintered bees is in favor of a restricted entrance, say about 6 inches long by $\frac{3}{8}$ deep. If the colony is not very strong, 3 inches long by $\frac{3}{8}$ would be better. Experiments where the entrances were entirely closed by wire cloth or a small bundle of straw have usually resulted disastrously for the colonies.

The latest tendency now seems to be toward shutting out the chilling blasts from prevailing winds and direct sunlight, and yet at the same time allow perfectly free ingress and egress of the bees.

For indoor colonies, some of our correspondents say the whole bottom of the hive should be open; but of late we have noticed quite a strong tendency toward leaving no more bottom ventilation than is afforded by the ordinary hive-entrance, such as would be used in the fall or spring. Our own experiments decidedly favor the common entrance rather than have the whole bottom of the hive exposed.

You are right, that dampness is the bane of successful wintering, either indoors or out. That is the reason why it is not wise to restrict the entrance too much, for there must always be a chance for the moisture to escape.

Changing the dimensions of the hive would make no difference with the bees, but it would increase the cost of supplies and make no end of confusion for you. Better not do it.—ED.]

SHOULD NEW CANS BE SCALDED?

Is it necessary to scald new 60-lb. square cans before putting honey in them? I have been scalding them; but if it is not necessary it would save a lot of labor. Do you rinse them with hot water before using them?

J. P. MOORE.

Morgan, Ky.

[As a general thing we would advise rinsing out a new square can, to remove the residue of any soldering-salts that may be left. Boiling water would, of course, be better. We should like to know what is the general practice of producers in this respect.—ED.]

OUR HOMES

By A. I. Root

Thou shalt not commit adultery.—Ex. 20:14.
Her house is the way to hell, going down to the chambers of death.—Prov. 7:27.

Some time ago, while in the city of New York, I had a chat with Mr. Collingwood, the editor of the *Rural New-Yorker*. I told him one great reason why I recommended that paper more than any other of our good agricultural papers was because it was taking the lead in fighting humbugs and frauds, and iniquity of every sort wherever it crops out. I have often thought of the reply Mr. Collingwood made. It was in substance something like this:

"Mr. Root, I do not enjoy that kind of work. I dread it, and oftentimes go into it very reluctantly; but when I feel that the Lord calls on me to go down into Egypt, I am going to go down—that is, when I am sure it is my duty for the good of the people, even though I sometimes go very unwillingly."

Now, dear friends, I too dislike "going down into Egypt;" and some of you may think that the matter I am going to discuss to-day might be, a part of it, left out; but after thinking it over, and praying over it, I have decided that God wants me to hold up a warning.

In our issue for Sept. 1, page 1081, I said the marriage relation should be regarded as the most sacred and solemn thing between birth and death; and I wish to emphasize that fact by two sketches from real life.

Years ago, when I was exhorting all my friends and acquaintances to choose the Lord Jesus Christ for counselor and friend, I became acquainted with a young man who worked for me, and I had several talks with him. A little later his father also came into my employ. They came from a neighborhood where Christianity was at a rather low ebb. I think spiritualism had been prevalent in that region for a number of years, and religious matters had been put in the background. After several talks with these two people, I had the satisfaction of getting a promise from both of them to make at least a start in following the Savior. If I am correct, both of them gave me their hand as they gave me the promise. I can not remember now whether that promise included coming to our meetings and standing up before the world, as an indication that they were going to give the matter at least a trial; but I fully expected to see them both take such a public stand. I can not tell whether the father came to the meetings or not. The son did, but, if I am correct, he did not get quite to the point where he stood up or took part in any meeting.

Not long after this talk, while the father was busy at his work, a young woman who worked for a family near by came out and spoke to him. They were not acquainted at that time. He may have noticed her in passing by where she was employed, and I am afraid that, even though he *was* the father of grown-up children, he had been so careless as to cast perhaps admiring glances toward her. Oh dear me! As my mind goes back, and I think it over, I am afraid there are other fathers

of families—yes, and perhaps professing Christians—who are so careless or thoughtless as to cast admiring glances toward women other than their own wives, especially if such women take pains to *invite* such glances of admiration. Well, this young woman left her work that morning and stopped this father as he was going by and said something like this:

"Mr. Brown, perhaps you know there is going to be a circus over at — next week. Now, I should *awfully* like to go, but I can not very well go alone. Would you not like to get off a day and go to the circus* with me?"

Surely this was a bold proposal, or at least some people would consider it so. Others might think there was no particular harm in it. These two persons might get on the car at the same time, and if they did not sit in the same seat nobody would think any thing about it. When they got to the circus in a strange city, where nobody knew either of them, their presence together would be unnoticed, and they might get back home and nobody know any thing about their being together. When I afterward remonstrated with the father about what he had done, *especially* after the promise he had given me, he maintained that there was nothing particularly wrong about their going to the circus together in the way I have described. He said in substance:

"Why, Mr. Root, there is hardly a man going along the streets who would refuse to go to a circus with a nice-looking girl when she went out of her way to *ask* him to go with her as a favor."

But in closing I said:

"But, Mr. Brown, do you think that a married man, the father of grown-up children, ought to go off in that way with a woman who is almost a total stranger to him?"

He replied that, putting it that way, perhaps it was not just the thing to do; but he did not think very much about it at the time, and had no idea any harm would come from it.

Now, I hope you will excuse me if I talk plainly, and tell you right out in print what harm *did* come. They did not get away from the circus as they expected to; and when they did leave they were obliged to take a train that would not get them home that night. They had to stop over at a station part way. Now, I do not know who made the first suggestion, but I do know that the elderly man and young woman stopped at a hotel at that place as *man and wife*, thinking that nobody would ever make inquiry, and that it would never be found out; and it was not found out for several months afterward. What abject folly! what *could* those two people have been think-

* Some of my friends—yes, even good Christian people—think me a little singular because I shudder at the very mention of a circus. Please notice, this woman did not invite the man to go with her to a Sunday-school convention nor even to a county fair. The circus was just the place for her undertaking. This man was a great lover of horses, and she knew it. He was an expert in handling a fine team; and, by the way, the horses in the circus are an excuse for many good people to attend. I suppose the world has mostly forgotten the book called *David Harum*, and I am glad that it went so quickly out of sight. Now, *David Harum* not only made light of religion, and held up church deacons to ridicule in his opening chapter, but later on he put in a most eloquent plea, not only for letting boys go to the circus, but *encouraging* them to go. Now mark my word: When the saloons are banished from this State, Ohio is not going to be the popular "hunting ground" for circuses that it has been in times past; for *gamblers* and *bad women* are going to decamp also when the saloons disappear.

ing about? When I first heard of it I said it was incredible, and I would not believe it till Mr. Brown himself confessed it. Why, it seems that either one of them or both had lost their senses, or at least have lost all sense of decency and propriety before they considered such a step, or, to call things by their right name, before they voluntarily decided on *committing a crime*, not only in the eyes of God but against the laws of man as well. And, by the way, I think such a thing has happened at least half a dozen times here in our locality within my recollection. Two people have gone to a hotel, and the devil has persuaded them that, by signing fictitious names, they could evade discovery. So far as I know, in every case the thing was found out sooner or later. "Murder will out;" yes, and so will adultery. And, thank God, these things *do* get out—at least a great deal of the time, and the criminals have to suffer ever afterward the condemnation of all good people. This man was living at peace with his wife and family until this event occurred; but when the wife found it out, perhaps he confessed it and begged her pardon. I do not know how that was; but I know he bitterly regretted his folly. If I am correct he was never guilty of any thing of the kind before this event, and certainly never was afterward. He was one of the kindest and most genial men I ever met. He tried to make up by a straightforward, upright life for the sins of the past; but his wife refused to forget or to forgive. She said that either he would have to leave and go somewhere else or she herself would do so. Perhaps she had scriptural authority for her course, and yet I feel sure she made a mistake. Whenever a man or woman seems truly penitent for even a sin of *this kind*, and starts out to live an honest life afterward, I think the partner of such a person should forgive and forget the past; and I am sure there is nothing in the Bible contrary to my position in regard to the matter.

Long years passed by. At different times I urged that the father be permitted to go back home, and he finally did go there and stayed a few weeks; but his wife soon decided he would have to go away again. She said the sight of him brought back again the old bitter memories, and he would have to go away somewhere out of her sight. Once more, dear friends, I dread to tell the ending. It can be told in almost one word. That aged father finally died a suicide. Do you think that the second one of our texts is too harsh and severe? That young woman who fixed herself up so as to look attractive (before she went out to see a man old enough to be her father), perhaps had no thought of any thing so serious and terrible as what I have just been relating; and yet this thing she had planned certainly *was* "on the road to hell." She broke up the family, brought misery and unhappiness untold into that household, and the end was, as we have it in our text, "going down to the chambers of death."^{*}

^{*}I do not know how many other families were ruined and broken up by the schemes of this woman. I only know that she made a remark once to a young girl in her teens (when this girl was shocked at her familiarity with men in general), something like this: That, according to her ideas, about all the satisfaction or fun that this world has to offer is along the line of what might be called indiscriminate flirtation with the opposite sex, married or unmarried—it did not matter very much which.

God grant that this little story may be a warning to men and women, both old and young.

My second illustration is, in some respects, a sadder one still. Years ago I became acquainted with a boy who in many ways showed marked ability. I plead with him to go to Sunday-school and to become a Christian; and part of the time I thought he was on the way to the "promised land." I finally lost track of him; and as he had a bent toward mechanical work he left the farm and spent one winter in a nearby city. When I heard of him again, somebody told me he had got into some bad habits. Before he went to the city to work I had him one time at work out in the woods with a hired man. This latter man was rough and profane, and the boy finally spoke right out and said something like this:

"Mr. Root, I like to work for you, and I am well satisfied with my pay; but I am not in the habit of being sworn at, even if I do not understand every thing; and I have been brought up where I did not hear any swearing at all. Now, I hope you will excuse me when I say that this man, who bosses the work when you are not around, must either stop his bad talk or I shall have to look for another job."

I put my hand on the boy's shoulder and told him I admired his spunk and grit; and after a pleasant talk with the hired man I told him he really would have to stop his swearing while he was on my premises. Now, that very boy, after being in town just one winter, *had learned to swear*. I could not comprehend it. I found him out in the field at work one day; and after shaking hands with him I said, "John, do you remember how you once refused to work for me any longer unless I made that man stop swearing?"

He said he remembered it well, but he rather hung his head.

"Well, John, what in the world has changed you, and your opinion of people who swear, to such an extent that you are now addicted to the very thing you were so vehement against only two years ago?"

He said he did not know exactly what had made the change.

"Why, John," I continued, "it seems to me that the Devil himself has somehow crept into your young and boyish heart and caused such a change in just one short winter."

About this time John was either crying or came pretty near it; and he owned up to me, in a general way, that Satan *had* probably got hold of him. I got him to go back to the Sunday-school, and he soon became a leader in the prayer-meeting and in all Christian work. The boy was literally born again, and everybody was surprised at his piety and devotion.* When the good pastor who had united with me in getting John

^{*}I am told that this same girl met John one day on the street, after he had united with the church. He evidently had little or nothing to say to her—perhaps did not even recognize her. Then she complained to some of her acquaintances that since John had got religion he did not amount to any thing at all. He could not even be civil to his old friends when he met them on the street. May the Lord be praised that John did have sense enough, after he had been born again, to shun this evil woman as he would turn out of the way of a mad dog. Hydrophobia may bring suffering and death; but it is not to be compared in its final results with the one who poisons mind, body, and soul, and leads her victims "in the way to hell," and "down to the chambers of death."

into the church and Sunday-school and Endeavor Society went away I had some fears that John might slip back; but my fears were groundless. He held fast to his religion all the same, and stood by the new pastor. He exhorted everybody right and left to come to the "Lamb of God who taketh away the sin of the world." I wish, dear friends, I could stop right here and not tell the rest. But this story is going to have another chapter about going down "the way to hell." I have told you in times past that we might find heaven here on earth; and now I want to tell you it is *also* true that we may find *hell* here on earth as well as heaven. Poor John! in that one short winter he got a taste of hell that will probably cling to him and follow him through life. During that winter a bad woman or girl a little older than himself came in his way. He was from the country, as she well knew, and comparatively innocent and unsuspecting. After a brief acquaintance with this woman *he learned to swear*. Do you wonder at it? When I found him and pointed out to him the Lamb of God that taketh away the sin of the world he was in trouble. He listened to me like a drowning man catching at a straw, and, may God be praised, it was something more than a straw that I had to offer. I dare not put on paper the revelation that came to me later. While John's sin was forgiven and blotted out, the *consequences* of his wrong-doing during that one winter will probably follow him through life. He consulted a physician, but it was too late. He is now in an asylum for the insane, and the doctor thinks it is doubtful if he ever recovers his reason.* But we are praying for him, and we know that the power of Christ Jesus to "*cleanse and save*" is away beyond and above all that all the doctors of the world with all their knowledge have ever yet accomplished.

Now, my friends, can you not agree with me that God knows best when he says, "Thou shalt not commit adultery," and that the words of our text are not at all too severe when he says that "her house is the way to hell, going down to the chambers of death"?

GREAT NAVIES TO MAINTAIN PEACE; MORE ABOUT IT—SEE PAGE 1156.

I clip the following from the Omaha *World-Herald*:

BUILD UP SCHOOLS, NOT BATTLESHIPS.

CROOKSTON, MINN., Sept. 17.—"If I had my way I would build a couple of warships less, yet one would be enough; and I would take the \$5,000,000 which it would cost, and with it construct 1000 schools of agriculture in the United States," declared James J. Hill, Chairman of the Board of Direction of the Great Northern Railway, at the dedication of Stephen Hall, an agricultural institution, here to-day. Mr. Hill stated that, with the present birth-rate, the country will not be able to take care of its own people, let alone the prospect of exporting grains to Europe, unless the farmers study the science of agriculture and learn how to raise more bushels to the acre than they are able to do now.

I wish to express a hearty amen to the sentiment expressed in the above. May God help us, especially those of us who profess to be trying to live under the motto, "In God we Trust." May

*Permit me to say here in this footnote that the saloon business, especially that part of it where they exhibit to boys indecent pictures, and encourage the work of bad women, has more to do in filling our insane-asylums and infirmaries than any other one thing in our nation or in the world; and may God be praised for the many signs that these places of filth and abomination will soon be banished from our land.

that same God in whom we are trusting help us to teach our children how to raise *wheat* in order to relieve the starvation that is *still* going on in this wide world, instead of building more battleships.

With the banishment of saloons from the face of the earth, the need of battleships to preserve peace throughout the world will be very much lessened. I wonder if this has occurred to our good President while he is so vehement in urging the enlargement of our navy.

By the way, I wonder if it occurred to the *World-Herald* that they have Bible authority for the position they take. Look at this: "Wisdom is better than weapons of war."—Ecc. 9:18.

Here is something more on the same subject:

"WISDOM IS BETTER THAN WEAPONS OF WAR."

We take pleasure in submitting the following from the Chief Justice of the United States, which we copy from the *American Missionary*:

JUSTICE BREWER ON THE GLORY OF THE NATION.

"The glory of this nation is not in its increase in armament, but in its present course of sweet peace. Well do I know that many of our greatest thinking men contend that this nation should build up a great navy and a mammoth army in order to maintain its prominent and respectable place among the great nations of the world. I have no hesitancy in saying that our nation is making a grave mistake in its effort to build up a monster navy. It is uncalled for. We don't need it. We are 3000 miles from the nearest nation, and there is no danger of being molested."

HEALTH NOTES

NUTS AND APPLES.

I have several times spoken of the pleasure I experienced in having one or more apple-trees around the home, having apples that ripen from the very earliest until the very latest of the long-keeping sorts, and seeing the earlier ones get luscious right under your own eye where you can pick them daily from the trees. Well, just lately I have been having nuts from my own nut-tree. When we commenced to build our house there was a little shellbark hickory close to the kitchen door. I wanted to cut it down, but Mrs. Root said, "No, no!" Well, even after the tree got big the nuts were so small and few in number that I again suggested having it cut down. Mrs. Root said she loved that particular tree as much as if not more than any other tree on the place. Well, two or three years ago I commenced having a compost-heap (in order to prepare soil for my greenhouse) under and around this hickory-tree. I hauled sod from the roadside, and chopped them up with old well-rotted stable manure. Then I got several loads of sweepings from the streets, and cut it down and shoveled it in, and worked it over and over until I had nice potting soil for the greenhouse and for my flower-bed, and the children's and grandchildren's around their homes. This summer I placed one of the little poultry-houses, of which I showed you a picture, under this hickory-tree; and in order to test the sprouted-oats theory I leveled off my compost-heap and sowed the oats in the rich soil at intervals, letting the chickens help all they liked. The result was (or is) that the ground all around under that hickory-tree is a rich melon compost, constantly stirred over and over by



the chickens digging up the sprouted oats. What do you suppose happened? Well, the nuts this year are larger, finer, and earlier than ever before. In fact, they are the finest thin-shelled hickorynuts I ever got hold of. And, by the way, I saw in one of the agricultural papers that you can make any fruit-tree bear larger and finer fruit (and do it every year, without any off years) if you will just *feed* the tree and keep the ground loose and mellow all around it as far as the roots extend. The droppings from the little poultry-house are taken out every few days, and pulverized and mixed in with this spread-out compost-heap so as to grow still more thrifty and luxuriant sprouted oats.

Now, after each meal of grains and milk I go out by the doorstep and sit down in the shade with a nice light hammer, and get my nuts right from nature, without the intervention of any "middleman" for that part of my *menu*. Speaking about nature reminds me that a gray squirrel makes several trips to that hickory-tree every day, and he shells and rattles down about a dozen nuts for every one he carries off. The weather is so dry that the nuts ripen and shell out a week or two earlier than they usually do. In fact, this year they all bid fair to drop off before we get a bit of frost. It is just rare fun for the grandchildren and myself to go out every morning and gather the beautiful white-shelled nuts as they drop into the rich black compost at the foot of the tree.

Just now I believe I prefer hickorynuts to any other kind I ever got hold of—at least the nuts from this particular tree. And while so much is said about cultivating and growing pecans, why in the world does not somebody make a selection of the finest thin-shelled "shellbark" hickory-nuts, and encourage and develop them, just as I am doing with this particular hickory-tree? I presume you might get a pretty good-sized hickory-tree from the forest and plant it in your dooryard. My chestnut-tree is not bearing this year, and I fear it is because I have not given it the care and cultivation I have given this particular hickory, and that, too, almost by accident. By all means have a good generous compost-heap somewhere in the back yard, and have it large enough, and stirred over often enough, so you can push any plant or tree about your home.

CAN NOT EAT HONEY OR APPLES.

Dear old A. I. R.—As a health note, may I ask you why it is that every time I eat honey I am afflicted with a headache—almost identical with the "feel" of an ache I get from eating apples? I am fond of both, and yet can not eat either of them.

Yonkers, N. Y., Sept. 10.

E. C. BISCHOFF.

My good friend Bischoff, I am under the impression that you are only one of thousands of other people who have the troubles you mention from eating either honey or apples; and by eating these together you probably have found they make a "bad combination." Now, I am not a doctor, and I shall, perhaps, be working in the dark; but the *probability* is that you do not have enough outdoor exercise, or that you are eating more than you need, and have likely been doing so for a long while, and now you have a sort of chronic fermentation of the bowels. I have been fighting the same thing for years; and when I

get in pretty good trim by avoiding such things as distress me, I find I can eat a *little* honey and not produce any bad results. For instance, make an entire meal of bread and butter and honey, and, say, half a cup of milk, but do not eat more than half of what you feel inclined to eat. Break away from the table when your meal is just half over. For a while you will feel half starved, and be tempted to say you do not believe in any such doctrine; but after a while you will get over it and you may be surprised to find, when next meal time comes, you are not as hungry as usual. Now, I would not take honey again the next meal. Do not tempt your old trouble. Eat something else that agrees with you. In my case it would probably be a Hamburg steak, with just bread and butter, or, better still, rolled wheat. When you find that one small meal with honey has not brought on the headache you can try it again; but be careful. I am very fond of new maple sugar; but it almost always gives me a headache. One day when I was up in the cabin in Michigan I had nothing on hand for dinner but warm sugar and some dried bread. Now, I ate a pretty good dose of this hot maple syrup with my dry bread, just at the regular dinner hour, and I did not have any headache at all. If I take warm sugar right after a good meal, as people usually do, I have the headache sure.

Now, after you have mastered the honey business, and found you can eat it in small doses, try making a meal, say your supper, mostly of apples and bread and butter, or apples and wheat. The Battle Creek folks recommended, some years ago, that people who can not eat fruit would find that, if they made a whole meal of it, eating the fruit without sugar or any thing else, they would have no trouble; and as soon as I read the above I made a supper of baked apples—not another thing. It is true I did not feel quite satisfied; but an hour or two after my meal I felt all right, and slept unusually well. The great trouble is, we eat the honey and the apples after Nature has been pretty well satisfied; and the worst part of it is, we keep on doing it until our digestion is all out of joint, and it takes a long while to get back again. Take only a few different things at any one meal, and not too much of these few. It will not hurt you to go hungry a little while. After you find that Nature will get accustomed to the scant menu, you will feel better than you ever did before. Try it, and see if I am not right.

Now, brother B., be very careful not to put any thing into your mouth between meals except water; and particularly do not taste of an apple or of any honey. Just a very little sweet will keep this fermentation going when it once gets to be a chronic trouble. Now, as an illustration of what real health means I wish to quote once more from T. B. Terry in the *Practical Farmer*:

WORK A PASTIME AND LIFE A JOY

Study to toughen the body. Make it warm itself more. Every detail in this article has been followed by the writer systematically for several years. The reward is great. Many others are doing about the same. I am glad to give one delightful report on a farm, and tells of sleeping full time with all windows and doors open, etc., then adds: "I believe I never before got quite so near nature as I have this summer. I revel in air baths, sun baths, and cool-water baths at all possible opportunities." My clothing is loose and light. And how good all this makes me feel! What a fine thing it is to see stacks and stacks of work and

feel equal to it all! Mornings I feel something as an engine must when pres ure of steam raises the safety-valve, only I can vent my strength by pushing the work, and work seems to me now like play. It is a delightful pastime." Few women work as hard as this one does. An old report from her tells a different story. Others who will live more simply and naturally can attain to this perfect degree of health which makes work a pastime and life a joy.

HIGH-PRESSURE GARDENING

By A. I. ROOT

ALFALFA AND LIME.

Mr. Willis O. Wing, the great alfalfa king of Ohio, tells us in the *Ohio Farmer* that he has made a wonderful discovery in regard to alfalfa. This discovery is that alfalfa needs lime—must have lime in the soil where it grows to perfection, and it wants more lime than any of the other clovers unless it is sweet clover. In fact, alfalfa and sweet clover grow most luxuriantly on soils that have enough lime or other alkali to kill out ordinary plants and other clovers. Your ground needs to be well underdrained for alfalfa or any thing else, and then it should be fertile. Any kind of manure suits the plant. But the underdraining and manure are not all. The main thing is lime. Use lime at the rate of even six tons to the acre, either burned or unburned, and then you can grow alfalfa anywhere; and you ought to get a ton of alfalfa hay for every ton of lime you put on the land; and after you once get the alfalfa started it is good for the rest of your lifetime—that is, with ordinary care. This matter interests bee-keepers particularly, because the same thing applies to sweet clover. Just as soon as I read it I remembered seeing sweet clover growing with such wonderful exuberance on the alkali soils around Salt Lake City, and I have repeatedly told you, as you may remember, that, after sweet clover has got a foothold, it sweetens the soil so it will grow any thing else. Both Prof. Thorne and Green, of the Ohio Experiment Station, said to me just a few days ago that the farmers of the world need to wake up to the fact that sweet clover will grow on ground too poor for any other plant; and not only that, sweet clover has the wonderful property of making poor worthless land available for any other crop. You may remember my telling about getting a fine crop of potatoes on hard yellow clay, such as is thrown out by the side of the railroad, where they made a twelve-foot cut. Sweet clover got in on this heap of poor yellow subsoil clay; and after it had grown there for several years I plowed it under and planted my potatoes; and yet there are some people even now who talk about sweet clover being a "noxious weed." Read the following extract from the article referred to:

"How much lime?" "One hundred pounds to the square rod; that is little enough," I replied. The man hesitated at that, and balked just a little. One hundred pounds to the square rod is eight tons to the acre. He put on six tons. He inoculated the soil with other soil from a good alfalfa-field. He sowed alfalfa. He got six tons to the acre the next year, and all his neighbors came to see the miracle that had been worked. That lime cost the man about \$12 per acre. His six tons of alfalfa hay were worth to him at least \$100 to feed his cows, so it paid him immensely, did it not?

POULTRY DEPARTMENT

A POULTRY-HOUSE ENTIRELY OF CLOTH; POULTRY-HOUSES IN GENERAL, ESPECIALLY FOR FLORIDA AND OTHER WARM CLIMATES.

You know I have been for some time keeping poultry in Florida, without any house or structure of any kind, and I claimed that none was needed. However, when I came to separating my cockerels from the pullets I found it was a difficult matter to climb into the pine-trees and get them off from the roost. Besides, there needs to be some sort of shelter to keep your grain and other feed dry; and it is rather desirable, also, to have the nests where they will not be soaked by rain. To get the best price for our eggs we want them clean and bright; and the only way to do this is to have nice dry nests under some sort of shelter, and gather the eggs once a day or oftener. There *are* times, also, even in Florida, when the fowls would get under some kind of sheiter if they could find it. While considering all of these matters lately, I have wondered a good many times if some sort of cloth tent would not answer every purpose. Perhaps some more substantial roof would need to be over the feed-bin. The whole poultry-world is now pretty well agreed on the cloth front or muslin curtain on account of ventilation.

Well, after having all of these things in mind for some time past, you can understand with what avidity my eye caught on the following, which I clipped from the *Rural New-Yorker*. In fact, I read the article over and over again. Here is the clipping:

Some readers of the *Rural* may remember that last winter the experiment was tried at Storrs College of keeping White Leghorns in a tent, such as can be bought from the Chicago mail-order houses for \$6.00. August 25 I was at Storrs, and saw those same birds still living in the same tent, a handsome cock and eight hens, and, so far as I could see, not the tip of a comb on any one of them had been touched by frost. I inquired as to the egg production, and was told that the eight pullets had laid from five to six eggs a day, and sometimes eight. I looked in the tent at about 3 o'clock, and there were six eggs in the nest then. The birds are not confined to the tent, but have the full run of a grassy yard. Beef-scraps and a dry mash which is partly of cut clover are kept by them all the time. This would seem to be a wide departure from the old way of "extra-warm houses to make Leghorns profitable;" but it is in seeming only, for it was stated that "it was warmer last winter inside that tent than in any poultry-house on the place." The air was pure, the ventilation perfect. We had a temperature last winter of 4° below zero on several mornings; and that none of these Leghorns had their combs frozen was almost incredible. The only furniture in the tent, aside from the feed-boxes and drinking-fountain, was a large box about two feet high, on the flat top of which the birds roosted, no perch being provided.

After reading it I went and got Montgomery Ward & Co.'s catalog, and found that they advertise a tent made of 8-oz. duck, 7×7 ft. inside, 3 ft. high at the eaves and 7 ft. to the ridgepole, which is probably the tent alluded to in the item above. I wonder if we are to understand from the *Rural* that only eight hens and a rooster kept there inside all last winter better than in any other poultry-house on the place. If this is true, the tent was probably closed up very tight—that is, there were no openings to permit a draft. The nine fowls warmed all the air inside, and the gradual change of the air, without any draft of air, gave abundant ventilation. If this is

true, why in the world do we want any cheaper material for poultry-houses than cloth? and we certainly can not get any thing *lighter* to move about than a cloth tent. Why, I was so much taken up with the result of the above experiment that I felt a strong inclination to start right off on a trip to York State just to see that successful poultry-house made of cloth alone. Who can tell me more about it?

ANOTHER WONDERFUL SECRET.

We clip the following advertisement from the *Woman's National Daily*:

EGGS! EGGS!! EGGS!!! Do you want plenty of eggs all winter when prices are high? Then get the Great Russian Method of feeding hens. Feed costs only 10 cents a bushel. The greatest egg-producer in the world. Send 25 cents for secret information how to make it yourself. The Russian Egg-Food Co. Agency, Box 147, New Berlin, Pa.

Who does not want eggs just as winter is coming on? Well, here goes another venture for the wonderful secret, and below is what I got for my 25 cents:

THE RUSSIAN METHOD OF FEEDING FOR EGGS.

Take one quart of oats; ½ pint each of wheat and corn; mix in a bucket; cover with cold water for 24 hours. Then pour off the water, put the grain in a wooden box, three or four inches high, with loose bottom, to drain off superfluous water. Put grain about one inch deep in the box. Wet it every day. In a few days it will begin to sprout, and in eight days it will be ready to feed, tops being about six inches high, and the sod two or three inches thick.

Cut a piece of sod about six inches square for every twelve hens. Feed green tops and all. This furnishes green food all winter for hens, and they devour it greedily, while the grains, being soaked soft, are an excellent grain food. Place a fresh supply of grain to soak every second day.

This method makes five or six times the original amount of grain, and is the cheapest and greatest egg-producer ever tried.

THE RUSSIAN EGG-FOOD AGENCY,
New Berlin, Pa.

Very likely the above may be worth 25 cts. to a good many people who do not know any thing about sprouted grains, especially in winter, when there is a lack of green food; but after working it quite a spell I think you will find it is quite a little trouble to give it attention every day. I think the *Rural New-Yorker* (or some other periodical) says when a busy man counts his time he will find it costs about as much as to raise a crop of oats in the ordinary way. Yes, you *will* have five or six times the amount of coarse food; but how much more is it worth, to keep fowls from starving, than the grain was before it sprouted?

TEMPERANCE

THE UNITED STATES GETTING DOWN TO BUSINESS.

GLEANINGS IN BEE CULTURE was the first periodical on the face of the earth to announce that men can fly, and to give full proof and particulars, notwithstanding the *Scientific American* now comes out declaring *they* first announced it to the world, etc. Well, GLEANINGS was one of the first to suggest that Governor Hanley, of Indiana, should be our coming President; and every time I have heard him speak I have been more and more impressed that he is the man chosen of God, if not *just yet* chosen by the American people. In the Indianapolis *News* for Sept. 16 we find the following:

HANLEY WILL PART COMPANY WITH REPUBLICANS IF THEY JOIN BREWING INTERESTS.

MUNCIE, IND., Sept. 16.—In a speech made at Albany, Ind., yesterday, Governor Hanley made the solemn declaration that if his party joins interests with the brewing companies and saloons he will part company with it. The declaration was made before a crowd estimated at 2000, and it was vigorously applauded. Lifting his right hand, Governor Hanley said:

"So help me God, if my party comes to Indianapolis and joins hands with the brewing interests, the saloon-keepers, and the distillers, on that day I want out of it; and if your party joins hands with these same interests, you ought to walk out of it."

There! can either Taft or Bryan say as much? If not, they are not fit for the sacred office of chief magistrate of this great republic; and I am confident that the majority of the voters of this country will stand by me if they have only a fair chance. What do you think about it?

On page 1086, Sept. 1, we said that President Roosevelt, at least some time in his life, gave utterance to a sentiment that comes pretty near Hanley's present declaration. The question is, "Can President Roosevelt right now in the present crisis indorse and subscribe to the quotation on the page referred to above?"

UNCLE JOE CANNON; HIS PROFANITY, OPPOSITION TO TEMPERANCE REFORMS, ETC.

A year ago or more, in talking with Superintendent Baker, of the Anti-saloon League, I told him I thought it was a burning shame that such a man as Cannon should be permitted any longer to occupy so important a position so near the head of our government. Baker replied that, while he agreed with me, we should bear in mind that, just at present, the Anti-saloon League was fighting the saloon, and not blasphemy in particular. Since then we have had proof again and again of the way in which "Uncle Joe" has sidetracked our temperance laws, to say nothing of parcels post and postal savings banks. Meanwhile the Methodist Church has come to our aid. See the following, which I clip from the *Woman's National Daily*:

DENOUNCE CANNON'S PROFANITY.

At the closing session of the Rock River Methodist conference Speaker Joe Cannon was roundly denounced for using "unequaled profanity" and opposing temperance legislation. Rev. J. K. Shields, superintendent of the Anti-saloon League, said: "What is Joe Cannon? Just a few days ago I met a young lawyer whom we had sent down into the State to talk temperance. He told me that he had met Uncle Joe in a car, and had ridden with him for quite a while; and when I asked him for the impression that Uncle Joe had made, he said: 'Shields, I have heard vileness from the mouths of many men; but the profanity that streamed from the lips of Joe Cannon I never heard equaled.'"

SHALL OUR BOYS BE ENCOURAGED IN THE USE OF GUNS?

We clip the following from *Our Dumb Animals*; and we will only add that we are in hearty agreement with the sentiment of the clipping:

BOYS' BRIGADES.

A friend, calling on us the other evening, said he met a Sunday-school boy belonging to one of the Boys' Brigades, holding a gun. He remonstrated with the boy in regard to the shooting of birds; but the boy at once replied, "President Roosevelt does it," as though that were conclusive on the subject. Now, we have thought that President Roosevelt's proposed visit to Africa to shoot, wound, and kill animals he may find there would be less harmful than some other things. But the newspapers are now stating that he is to receive an enormous price from some publishing firm for writing an account of all his shootings, which may get a circulation of millions among American schoolboys, and stimulate in them all an ambition to use army rifles and follow the example of their distinguished adviser. We have no doubt if Roosevelt does this it will bring to him personally a large amount of money; but what the effect will be on millions of schoolboys in America is another and far more important consideration.

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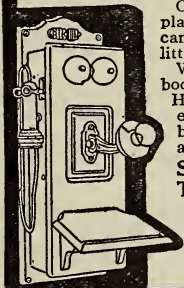
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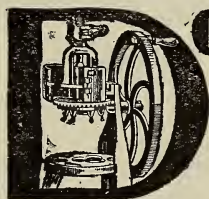
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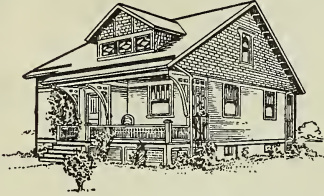
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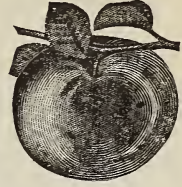
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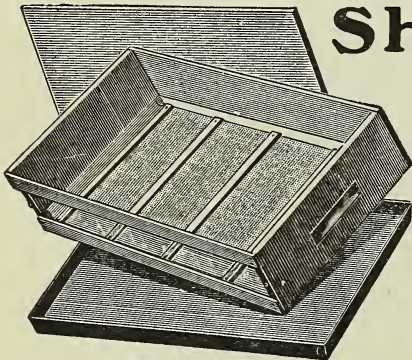
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for any number or size of sections desired. These cases are made of fine white basswood, and the workmanship is first class. Owing to the shortage in the honey crop last year we have a good stock on hand and can make immediate shipment.

Twelve-inch case, with follower, to hold 24; or eight-inch case, with follower, to hold twelve beeway sections, shipped when no size is mentioned. All cases single tier unless otherwise ordered.

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Standard packages for storing and shipping extracted honey. Less chance for leakage or taint from wood; being square they economize space. Five-gallon cans boxed two or one in a box; gallon cans 10, 1/2-gallon cans 12 to box. Five, one, or 1/2 gallon cans not boxed if desired. Prices on application for any quantity.

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And nothing but Italians. An improved superior strain is what QUIRIN-THE-QUEEN-BREEDER raises. Stock is Northern-bred and hardy—not a single colony lost during the past winter; have five yards, all wintered on summer stands. Am now taking off supers of nice white-capped clover honey. Prices of bees and queens as per below:

Prices of Queens after July 1.	1	6	12
Select queens	\$ 75	\$4 00	\$ 7 00
Tested queens	1 00	5 00	9 00
Select tested queens	1 50	8 00	15 00
Breeders	3 00	15 00	
Straight five-band breeders	5 00		

All queens now go by return mail. Safe arrival and pure mating guaranteed. We employ 400 to 500 swarms. Can furnish bees on L. or Danz. frames. Add price of whatever queen is wanted to nuclei or colony. No order too large, and none too small. Over 20 years a queen-breeder. Address all orders to

Hurry in your orders as this is the last time this ad. will appear for this season.

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

5000 QUEENS

of the famous 3-banded LONG-TONGUE RED-CLOVER STRAIN OF ITALIAN BEES is what I want to sell this season.

My bees GATHER HONEY if there is any to get; ARE LITTLE inclined to swarm and sting, they please such people as The A. I. Root Co., R. F. Holtermann, W. Z. Hutchinson, Morley Pettit, etc., and if they don't please you, send in your kick.

Queens of all grades now ready.

	1	6	12
Untested queens	\$1.00	\$5.00	\$9.00
Select untested queens	1.25	6.00	11.00
Tested queens	1.50	8.00	15.00
Select tested queens	2.00	11.00	20.00

Breeders, \$5.00 to \$7.00.

W. O. VICTOR (Queen Specialist), Hondo, Tex.



NOW IS THE TIME

to buy your queens for fall increase. I can mail promptly young vigorous queens—Italian, Carniolan, Banat, and golden. Prices, untested, 75 cts.; \$3.00 per dozen; tested, \$1.25 each; \$12.00 per dozen.

Circular free.

Grant Anderson, Sabin, Tex.

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Bred by their Originator

Do you want to get some specimen queens of the world-famous red-clover stock of Italian bees? Then buy from me, because I am the originator, and surely ought to know how to breed them in their purity. When you get them from me you know you have the real strain. For years I have devoted time and skill to this stock, trying to reach perfection. I can submit many splendid testimonials in favor of this stock to show my work has not been in vain. Try them, and YOU will be pleased also. I endeavor to please the practical man looking for definite results in dollars and cents. Many years' experience as head apiarist of The A. I. Root Co. enables me to fill the most exacting order with complete satisfaction to the purchaser. Let me show you how well I can please you.

Prices

	1	6
Untested queen	Before October 30, \$1 00	\$ 5 00
Select untested queen	"	1 25
Tested queen	"	2 00
Select tested queen	"	3 00
Breeding queen	"	5 00
Select breeding queens	"	7 50
Extra select 1 yr. old	"	10 00

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25 PER CENT REDUCTION.

Here is your chance to save money and get a lot of the best queens cheap.

Introduce LAWS queens this fall and thus insure a full crop of honey the coming season.

LAWS queens are sent everywhere, and everywhere there are words of praise for them.

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Notices will be inserted in these classified columns at 25 cents per line. Advertisements intended for this department can not be less than two lines, and should not exceed five lines, and you must say you want your advertisement in the classified columns or we will not be responsible for errors.

Honey and Wax for Sale

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

E. D. TOWNSEND, Remus, Mich.

FOR SALE.—150 cases of No. 1 comb honey, 15 sections in 3-inch glass, non-drip cases, 6 cases in a crate, very fine, at \$2.00 per case, f. o. b. cars here. Also 8000 lbs. clover and basswood extracted, in new 60-lb. cans, 2 in case, very heavy body and fine flavor, at 8c, f. o. b. cars here. Sample free. Also extracted in 1-lb. Simplex jars, at \$2.00 per dozen.

W. H. TOWNSEND, Hubbardston, Mich.

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

E. W. PEIRCE, Zanesville, Ohio.

You will be just as well pleased with your honey as Mr. Peirce if you send your order to JAY SMITH, of North Adams, Mich. One 60-lb. can, 8½ cts.; two 60-lb. cans, 8¼ cts. For larger orders write for prices. Sample free.

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

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

FOR SALE.—Clover and basswood extracted honey in new 60-lb. cans, two in case, at 7 cts.; in second-hand cans, ¼ cent less. Also light amber fall honey from heartsease and aster, at ½ ct. less the above prices if 10 cases or more are taken. Also Fancy and No. 1 comb.

PETER J. NORBERG,
Spring Valley, Ill.

FOR SALE.—2000 lbs. of fancy extracted honey—clover and a little basswood mixed; thoroughly ripened on the hives; is thick, rich, and delicate in flavor. Put up in new 60-lb. cans; 2 in a case, cases iron-bound. Price, 9 cents per lb. Sample 10 cts.

JOS. HENKE, Port Washington, Wis.

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

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Bellevue, Ohio.

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

W. L. COGGSHALL, Groton, N. Y.

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

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

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

MATHILDE CANDLER, Cassville, Wis.

FOR SALE.—Choice extracted white-clover honey for table use, of fine flavor, thick, and well-ripened, in 60-lb. cans, at 9½ cts. per lb., F. O. B. Falmouth.

FRED C. FROST, Falmouth, Rt. 2, Ky.

FOR SALE.—Choice white-clover extracted honey. Ripened on the hives; extracted four to six weeks after it was gathered. Put up in new 60-lb. cans, or in any shape desired. Sample free.

J. F. MOORE, Tiffin, Ohio.

FOR SALE.—Fancy clover and also buckwheat extracted honey in new cans, two in a case. Send 10 cts. for sample, which may be deducted from first order. EARL RULISON, Rt. 1, Amsterdam, N. Y.

FOR SALE.—Honey, clover, or buckwheat, comb or extracted. Write for price. Sample of clover extracted free. State quantity and quality desired. C. B. HOWARD, Romulus, N. Y.

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

JAMES MCNEILL, Hudson, N. Y.

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

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

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

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

D. H. COGGSHALL, Groton, N. Y.

FOR SALE.—Fine extracted honey, 25-lb. cans up to barrels.

JULIUS GENTZ, Shawano, Wis.

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

ANTON G. ANDERSON, Holden, Mo.

Honey and Wax Wanted

Will pay 7c per lb. for gilt-edged white clover, raspberry, or basswood honey, in new 60-lb. cans f. o. b. here; and 12½, 11½, and 10½ cts. respectively for the first three grades of white clover separated honey. Chicago suburb.

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

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

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

Wants and Exchanges

SWAP.—Scholarship I. C. S., transfer value \$65.00, for poultry, incubator brooders, or Shetland pony and rig, and pay difference.

GEORGE WANSEY, Cranford, N. J.

WANTED.—Refuse from wax-extractors and old comb for cash

ARCHIE COGGSHALL, Groton, N. Y.

WANTED.—Refuse from the wax-extractor, or slumgum. State quantity and price.

OREL L. HERSHISER,
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WANTED.—Bees in Southern California. Give price, location, and all particulars. Address

BEEMAN, 144 West Green St., Pasadena, Cal.

WANTED.—Bees. Spot cash prices. All letters answered

F. B. CAVANAGH, Springport, Mich.

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

WANTED.—Young man to learn the poultry business, one willing to work; not much work outside of the poultry part of it. Write at once.

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WANTED.—Position in South. Have farm and apian experience. Florida preferred.

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

L. A. LUDWIG, Maryland, Md.

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

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

AUSTIN E. WHITE, Fallbrook, California.

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

ARNT ARNESON,

Rice Lake, Barron Co., Wis.

FOR SALE.—Fine poultry and bee farm of twelve acres. Fine home, close to good town. No matter what you have looked at, investigate this. Address BOX 106, West Alexandria, Ohio.

FOR SALE.—Land in the Uvalde honey-belt, by the Asherton Land and Townsite Co., at \$15 to \$40 an acre.

E. A. ARMSTRONG, Ag't, Carrizo Springs, Tex.

For Sale

FOR SALE.—Tasmanian necklace shells, any quantity. Sample sent.

G. H. SMITH, Ramsgate, Tasmania.

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

FOR SALE.—Blackwalnut timber. Twenty standing trees. Write BOX 51. R. & W. BINKERD, West Monterey, Pa.

FOR SALE.—Boiler and engine, 2 horse, \$60.00, in good working order.

J. W. UTTER, Amity, Orange Co., N. Y.

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

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

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

W. P. SMITH, Penn, Miss.

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

CLEVELAND HEALTH FOOD CO., Cleveland, O.

Poultry Offers

A. I. Root's Bee-goods, Poultry-supplies, Seeds, etc.

STAPLER'S, 412-414 Ferry St., Pittsburgh, Pa.

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

KENT JENNINGS, Mt. Gilead, Ohio.

Bees and Queens

FOR SALE.—Bees, Carniolans and Italians, in new Danz. hives, very cheap.

F. SAMPSON, Huntington, Mass.

FOR SALE.—First-class apiary of 150 colonies, fixtures and supplies; 45 are in Danz. hives; balance in Dovetailed. Good condition; no disease. Will sell very reasonable in lots to suit. For particulars write

W. F. STUART, Ottawa, Kansas.

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

N. V. LONG, Biscoe, N. C.

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

W. H. RAILS, Orange, Cal.

FOR SALE.—250 colonies of bees in ten-frame hives at \$2.75 per colony; no disease; fixtures for comb and extracted honey cheap; also 22 acres of land; first-class buildings, and improvements. If not sold by Jan. 1 a reliable man is wanted to rent or run bees and farm on shares.

J. H. ZEINER, Bard, Ark.

Bee-keepers' Directory

I no longer club a queen with GLEANINGS.

W. T. CRAWFORD, Hineston, La.

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

No more queens for sale this fall.

A. W. YATES, 3 Chapin St., Hartford, Ct.

ITALIANS, CARNIOLANS. No disease. Two-comb nucleus with queen, \$3.00.

A. L. AMOS, Comstock, Nebraska.

GOLDEN yellow Italian queens—my specialty. Price list free.

E. E. LAWRENCE, Doniphan, Mo.

ROOT'S BEE SUPPLIES. Send for catalog.

D. COOLEY, Kendall, Mich.

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

E. E. MOTT, Glenwood, Mich.

Well-bred bees and queens. Hives and supplies.

J. H. M. COOK, 70 Cordland St., New York City.

For bee-smoker and honey-knife circular send card to

T. F. BINGHAM, Farwell, Mich.

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

ALISAO APIARY, El Toro, Cal.

Golden-all-over and red-clover Italian queens; circular ready.

W. A. SHUFF, 4426 Osage Ave., Philadelphia, Pa.

Root's bee-supplies at factory prices, *Black Diamond Brand Honey*, and *bee-literature*. Catalog and circulars free.

GEO. S. GRAFFAM & BRO., Bangor, Maine.

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

H. C. CLEMONS, Boyd, Ky.

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

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

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

F. J. WARDELL, Uhrichsville, O.

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

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

SPECIAL NOTICES

BY OUR BUSINESS MANAGER

WANTED—SEED OF THE SIMPSON HONEY-PLANT, OR FIG-WORT.

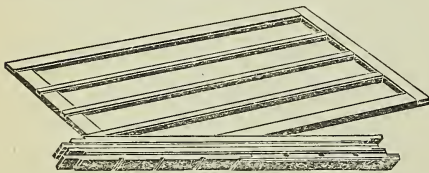
We have just now sold out, and our new seed is hardly ripe; and, even if it were, we have not enough to go around. If any of the friends have any of the seed in stock, or can collect it for us, we shall be very glad to hear from them. Please mail us samples, tell us how much you have, and what you want for it.

WAX CRAFT.

The number of orders received for this book have been so large that we are obliged to report some little delay in mailing the same, and to beg the indulgence of our customers in this respect. We are rapidly catching up on orders, and trust this note will explain the delays in the receipt of the same. That the book is well thought of is shown by the large number of orders received for it. The price, as will be recalled, is \$1.00 postpaid.

HONEY-LABELS.

We have never enjoyed a larger trade in honey-labels than during the present season, and for the most part we have been able to fill all orders very promptly indeed, often getting them out within twenty-four hours from the time received here. On some labels for which we do not have many calls there has been rather more delay, for the low prices we make are possible only when several orders for the same label are printed at the same time. It is, therefore, our practice to accumulate several orders for the same label; and because of this the first orders in after one printing is done have to be held several days before another printing is made of the same order. This will explain to our label customers the little delays that sometimes ensue on certain label orders.



COLD-FRAME SASH.

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

Convention Notices.

BEE-KEEPERS' CONVENTION AT YORK, PA.

The Pennsylvania State Bee-keepers' Association will hold its annual convention at York, in the Court house, on Thursday and Friday, November 12 and 13. The program is not completed; but as it now stands it may be announced to begin at 1:30 P. M., Thursday, with an evening session; and two sessions Friday forenoon and afternoon. Dr. E. F. Phillips will speak on one or both of the following subjects: A general discussion of apiculture

in the United States, and the treatment of bee diseases. Professor Surface will speak on hay and honey-plants. Mr. E. R. Root will be present, and will probably speak on some phase of bee-keeping. A. F. SATTERTHWAIT, Sec.

PANHANDLE BEE-KEEPERS' CONVENTION.

The Panhandle Bee-keepers' Association will meet in Knights of the Golden Eagle Hall, corner 38th Street and Jacob Street, Wheeling, West Virginia, on Monday, Nov. 16. Blaine, Ohio. W. L. KINSEY, Sec.

Special Notices by A. I. Root

THE "CHURNLESS-BUTTER PROCESS.

We are united to see in the *Farm and Ranch* and several other agricultural papers a full-page advertisement of a secret process of making butter in one minute without a churn or any other machinery. The operation is so easy that any child can work it. Butter of the highest grade is made in this way, and with no hard work. Family rights are sold at \$5.00; but the periodicals giving place to the advertisement usually offer to send their journals for several years for a much smaller sum than the \$5.00, and "ding in" the "\$5.00 secret." At the present writing I am not able to give our readers the inside of the wonderful process, but we hope to do so soon. The whole get-up has the earmarks of the seedless apple and the Miracle wheat. If I am making a mistake I will gladly apologize to the "Churnless Process Butter Company."

Some time ago the *Rural New-Yorker* published what is probably the above secret, and the editor tells me in a private letter that the great discovery is "older than some of the hills" at any rate. Friend Collingwood adds the following:

Dear Mr. Root:—I regard it as a great shame that some of our agricultural papers should act as they do about these humbugs. I noticed something first in the *Texas Farm and Ranch*, and then in a Chicago paper, *The Farmer's Voice*.

I sometimes wonder how it is that these humbugs and frauds are able to prosper as they do. Not a day passes that I do not hear of some new one that is being launched upon the market or else is being trained for the race.

New York, Oct. 2.

H. W. COLLINGWOOD.

NAVIGATING THE AIR.

Since my remarks in the last issue, Mr. Wilbur Wright has not only carried a bag of sand, but he has carried several passengers, and one of them a lady. Yes, Queen Marguerite, of Italy, has witnessed his flight, and had quite a talk with Mr. Wright. And now the papers tell us she is begging to take a trip with him in his machine; but the people protest, and I believe my good friend Wilbur objects—at least I hope so. God forbid that President Roosevelt or any other important personage should take any unnecessary risk at this stage of the proceedings. I admire the courage and bravery of both our President and Queen Marguerite; but I do not think they really have the right to risk their lives unnecessarily. What I mean is, that many good innocent people might suffer if these dignitaries were removed from their important duties by sudden accident. Our good friend Wilbur has also succeeded in remaining up in the air over an hour with a passenger, and we are told he has been granted the \$100,000. It rejoices my heart to hear of this complete success; for these two young men have worked hard and faithfully for many years. They have been so careful at every stage of proceedings, that, even after having made hundreds of flights, no accident occurred until the fatal one of September 17. And, by the way, I am told that Orville's broken bone is knitting nicely, and that it will probably very soon be as good as ever. It has been suggested in the papers that Wilbur might undertake to cross the English Channel. With favorable wind he could make the trip in about forty minutes. But I want to protest again against any unnecessary risks. While sailing over land, if any accident happens the machine can glide down and probably be managed so it will alight in a favorable spot. Before making voyages across the water, a boat (or several of them) should be provided, and a series of experiments made, with plenty of help at hand, in dropping into the water and starting up again out of it. When they can do this we are ready to cross the channel, and, may be some time in the future, cross the great ocean. I have made mention of President Roosevelt and the queen of Italy; but would it be extravagant to say that *Wilbur Wright* just now is worth more to the world than any president, king, or queen? May God help both of these to continue to exercise the care and caution they have been showing since they commenced their work.

We find a notice in the *Woman's National Daily* to the effect that Wilbur made a short trip with half a dozen passengers. I think this must be a misprint or a mistake in some way; for their present equipment could not possibly carry more than two people besides the operator, and these two people would have to be very light.

BOOKS FOR BEE-KEEPERS

The Swarthmore Library.

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

INCREASE. The first of the series. Any one desiring to enlarge his apiary should learn the Swarthmore way. Price, postpaid, 25 cts. French edition, entitled "Accroissement," 50 cts. postpaid.

BABY NUCLEI. The using of little frames and a handful of bees for mating queens has created quite a stir in the queen-rearing business. From this booklet you get your information direct. Price, postpaid, 25 cts. French edition, entitled "Nuclei Miniatures," 50 cts. postpaid.

COMMERCIAL QUEEN-REARING. A complete description of the Swarthmore methods of queen-rearing in regard to cell-getting. Price, postpaid, 25 cts.

FORCING THE BREEDING-QUEEN TO LAY IN CELL-CUPS. This little book rounds off the Swarthmore system. It is the finishing touch, and ought to be read by all queen-breeders. Price 25 cts.

SIMPLIFIED QUEEN-REARING. Revised edition. 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.

Bee-keepers' Ten-cent Library.

The following books are neatly bound in attractive papers, well illustrated. Just the thing for the beginners to help them with their troubles. Price ten cents each postpaid.

No. 1. **BEE-KEEPERS' DICTIONARY.** It is often confusing to a beginner or one who is not acquainted with the literature of bee-keeping to understand the different terms used by writers on the subject. This book is intended as a reference work giving clear definitions of current terms.

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

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

No. 4. **HANDLING BEES.** Valuable especially for the inexperienced.

No. 5. **TRANSFERRING BEES.** This book details the most practical present methods of transferring from boxes to modern hives.

No. 6. **BUILDING UP COLONIES.** Plain instructions for getting colonies into the best condition for the honey-flow.

No. 7. **THE HONEY-FLOW.**

No. 8. **SWARMING.**

No. 11. **WINTERING BEES.**

No. 12. **SPRING MANAGEMENT OF BEES.**

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

No. 15. **ESTABLISHING AN APIARY.**

No. 16. **MODERN QUEEN-REARING.** Detailing the latest methods, by leading breeders, embracing the best of several systems. We have also a French edition entitled "Elevage Moderne de Reines," and a Scandinavian edition entitled "Moderne Dronning-avl," 25 cents each.

No. 17. **HABITS OF THE HONEY-BEE.** A condensed account of the life and habits of the bee in simple language.

No. 18. **BEE-KEEPING FOR CLERGYMEN.**

No. 19. **BEE-KEEPING FOR WOMEN.**

No. 21. **FACTS ABOUT BEES.** Just what it's name indicates.

No. 23. **BEE-KEEPING IN JAMAICA.**

No. 24. **BEE-KEEPING IN THE WEST INDIES.** A practical book written for the English Department of Agriculture, by W. K. Morrison, valuable for all tropical countries.

No. 25. **HOW TO PRODUCE EXTRACTED HONEY.**

No. 26. **THE DZIERZON THEORY.**

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

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

Popular Works on Bee Culture.

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

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

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

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

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

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

BEE MODELS—THE ANATOMY OF THE BEE.

There are a good many bee-keepers who will admit they ought to know more about the anatomy of the bee; but owing to the difficulties surrounding the subject they have thus far been unable to acquaint themselves in the least with the marvelous structure of the honey-bee. For such persons there has been constructed a *pasteboard* bee, showing all the internals of a queen and also a drone in a manner that leaves little to be desired. With the aid of the key, any intelligent person may soon become well acquainted with the anatomy of the bee and the proper name of each organ. First there is a life-like representation of the queen and drone (separately). By lifting the outer covering the breathing apparatus and digestive system are unfolded; lifting again there will be found the reproductive system and poison-glands; and by again lifting, the nervous system is clearly outlined. Every thing is as clear as daylight, as each part and organ is numbered, and the key which we send gives the correct scientific name of the same. Our models of the queen measure $6\frac{1}{2}$ inches, while those of the drone are $5\frac{1}{2}$ inches. We can furnish the two with a key for 75 c. postpaid; or either one at 50 c. postpaid.

The A. I. ROOT COMPANY

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We have on hand a fine lot of new extracted white-clover honey which is excellent, and which we offer at the following prices :

Barrels (about 550 lbs. each)	8c per pound
Ten 60-lb. cans or more	8½c “
Two 60-lb. cans or more	9c “
One 60-lb. can	10c “
Six 10-lb. cans or more	\$1.15 each
Twelve 5-lb. cans or more	60c “

After September 20th we can furnish amber fall honey at the same prices as above.

Sample free

DADANT & SONS, Hamilton, Ill.

FOR OVER 25 YEARS

our make of goods has been acknowledged to be in the lead as regards WORKMANSHIP and MATERIAL.

Our AIR-SPACED HIVE is a most excellent winter hive,

and fully as good and convenient for summer management as the single-walled. Same inside dimensions as regular Dovetailed hives; all inside material interchangeable with Dovetailed hives.

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FALL AND WINTER DISCOUNTS:	Sept., 7 per cent.	Nov., 5 per cent.	Jan., 3 per cent
	Oct., 6 per cent.	Dec., 4 per cent.	Feb., 2 per cent.
			Mar., 1 per cent.

Catalog free.

W. T. FALCONER MFG. CO., Jamestown, N.Y.

Don't Buy a Stove or Range Until You First See How Much You Save By Getting



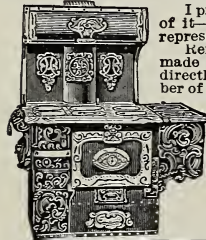
YOU want to make every cent you spend this year, **count for quality and economy.**

If you need a stove or range, don't buy until you get our **factory prices.** I promise you that I will save you \$5, \$6 or \$10 on our smallest stoves, and as high as \$18, \$20 and even \$30 on our largest. And I promise you that you cannot get **anywhere at any price,** a better stove or range than the Kalamazoo.

Just let me quote you prices. Take our catalogue and **compare** the Kalamazoo **quality and prices,** with the best line of stoves and ranges you can find sold at retail. **That will tell the story.** You can see for yourself. You want to save money and you want to get high quality. Why not investigate our plan, then? Why not let me show you the difference between manufacturers' prices and retail prices on stoves or ranges?

We sell to you, direct from the factory, at actual factory prices,

On 360 Days Approval Test—We Pay the Freight



I promise, in black and white, to refund your money—every cent of it—if you do not find your purchase in every way exactly as represented.

Remember, every Kalamazoo is of the highest possible grade, made of the best materials and in the best manner. You deal directly with the manufacturers—a company that has a larger number of individual customers than any other stove company in existence. We have sold thousands of stoves and ranges to readers of this journal, and no doubt can refer you to near neighbors who have saved money by buying a Kalamazoo. Many customers write that they have saved enough on a single Kalamazoo to pay for a whole season's fuel. You can save enough to buy a new suit, a new dress, an article of furniture, or perhaps to pay your taxes. Is it not to your interest to get our prices!



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describing more than 300 sizes and styles of Coal and Wood Ranges, Coal and Wood Heaters, Hotel Ranges, Base Burners, Laundry Stoves, Etc.

I know that if you get our prices—and see our quality you will not even think of buying any other make. Let me show you how much you can save.

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KALAMAZOO STOVE CO., Mrs. Kalamazoo, Mich.

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One burner will give as much light as ten ordinary oil lamps; six 16 candle power electric bulbs—six 16 candle power gas jets or 5 acetylene gas jets. Costs 2 cts. per week. Produces a pure, white, steady, safe light. Over 200 styles. Every lamp warranted. Agents wanted. Write for catalog.

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SUBURBAN LIFE

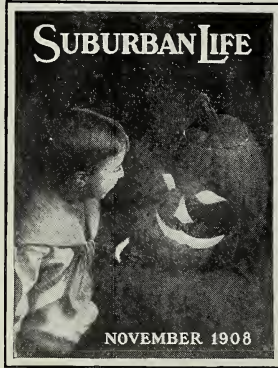
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The magnificent illustrations and unexcelled presswork of Suburban Life delight the eye of the reader, while the high standing of our writers makes every line of reading matter of practical value to the great number of people who reside in suburban homes, or who are truly appreciative of country life, with its manifold outdoor interests. You read Suburban Life because every number is brimfull of bright, spicy, interesting matter, as you will note from a glance over a partial list of the Table of Contents for the November issue:

FIVE ACRES AND CONTENTMENT
 A WORKSHOP AT HOME
 MAKING A HOME GYMNASIUM
 A CLUBROOM FOR THE BOYS AND GIRLS AT HOME



THE SMALL ENGINE AND THE MOTOR
 THE STEREOPTICON IN THE HOME
 A WOMAN'S SQUAB PLANT
 A HALLOWE'EN PARTY
 DRESSING THE HORSE, ETC.

Other interesting features for succeeding numbers appeal to every member of the home, and include:

SOCIAL LIFE—The Long Day of the Commuter's Wife. Evening Amusements at Home.

LIVING FROM THE LAND—Can I Make a Living from a Small Place? Personal Experiences of People Who Are Making Good, Comfortable Incomes from Less than Twenty Acres.

THE NEW NATURE STUDY—Night Prowlers Who Aid the Farmer. What Will Happen When the Birds Are Gone?

TIMELINESS—What Ought to Be Done Each Month About the House and Grounds, in the Greenhouse, the Stable and Poultry Yard.

THE HOME—Artistic and Sensible Window Draperies. New Things in Furniture. Sleeping-Porches.

WOMAN'S WORK—Personal Experiences of a Number of Women Making a Living in the Country.

FLOWER AND VEGETABLE GARDENS—An Electric Hotbed. Garden Insects and Diseases.

OTHER FEATURES—Poultry, pigeons, the horse, the cow, the dog, the cat, bees and pet stock, will receive the attention which their importance merits.

CIVIC IMPROVEMENT—This important topic will be treated in a practical manner, and also the subject of conservation of our natural resources.

These are but a few of the many good things in store for our Suburban Life readers the coming season

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Take advantage of our special half-price offer (see coupon attached). **Four months for fifty cents.** By sending in immediately, your subscription will include our beautiful holiday numbers. This trial subscription will convince you that you cannot afford to be without Suburban Life in your home. **Do it now.** Address

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