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VOL. XIX. NO. II.

JUNE 1, 1891.

S. W. Conrad

PEACE ON EARTH
GOD WILL TAKE CARE OF THE
FOUR MEN



THE
SWEETENING
IN

BEE CULTURE

DEVOTED
TO
THE
BEE

& HOME INTERESTS.
MEDINA OHIO
BY
A. ROOT



TERMS, ONE DOLLAR PER YEAR.

W. F. BARNHART, DUNELLEN, N. S.

GLEANINGS IN BEE CULTURE.

ESTABLISHED IN 1873.

DEVOTED TO BEES, HONEY, & HOME INTERESTS.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, - MEDINA, O.

A. I. ROOT, EDITOR.

ERNEST R. ROOT, - - ASSOCIATE EDITOR.

J. T. CALVERT, BUSINESS MANAGER.

Terms. \$1.00 per annum; two years, \$1.80; three years, \$2.50; five years, \$3.75, *in advance*; or two copies to one address, \$1.80; three copies, \$2.50; five copies, \$3.75. These terms apply both to the United States, Canada, and Mexico. To all other countries in the Universal Postal Union, 18 cents per year extra for postage. To all countries out of the U. P. U., 42 cents per annum extra.

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Rates of Advertising. On not less than 5 lines, per single insertion, and for a uniform space each issue, our rates per nonpareil line are as follows:

RATES.

1 to 2 insertions, per line	.....	20c
3 to 5 " " "	.....	19c
6 to 11 " " "	.....	18c
12 to 17 " " "	.....	17c
18 to 23 " " "	.....	16c
24 insertions " " "	.....	15c

On from 3 to 7 inches space, 1c per line *less than* above rates.

On 8 inches or more, 2c per line *less*.

On less than 5 lines space, 1c per line more than above rates.

By nonpareil line we mean 1/2 of an inch of space up and down the column. Twelve nonpareil lines of space, therefore, measure one inch. Remember that an ad. that is "displayed" may have only two or three lines of big letters, yet may measure 24 nonpareil lines of space.

For electrotyped advertisements we will allow an additional discount of 5 per cent.

A. I. ROOT, Medina, O.

1891

Early Italian queens from bees bred for business. Each \$1.00; six \$4.50. Order now, pay when queen arrives. 7tfdb W. H. LAWS, LAYUCA, Ark.

CLUBBING LIST.

We will send GLEANINGS with—
 The American Bee Journal, weekly, (\$1.00) \$1.75
 The Canadian Bee Journal, weekly, (.75) 1.65
 The Bee-Keepers' Review, (1.00) 1.75
 The British Bee Journal, (1.50) 2.00
 American Apiculturist, (.75) 1.70
 American Bee-Keeper, (.50) 1.40
 All of the above journals, 5.65

American Agriculturist, (\$1.50) 2.25
 American Garden, (2.00) 2.60
 Prairie Farmer, (1.50) 2.35
 Rural New-Yorker, (2.00) 2.90
 Farm Journal, (.50) 1.20
 Scientific American, (3.00) 3.75
 Ohio Farmer, (1.00) 1.90
 Popular Gardening, (1.00) 1.85
 U. S. Official Postal Guide, (1.50) 2.25
 Sunday-School Times, weekly, (1.50) 1.75
 Drainage and Farm Journal, (1.00) 1.75
 Fanciers' Monthly, (1.00) 1.75
 Illustrated Home Journal, (.50) 1.35
 Orchard and Garden, (.50) 1.40

[Above Rates include all Postage in U. S. and Canada.]

UNTESTED QUEENS

For \$1.00 from July 1st. till Nov. 1st.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. 1st wanted sooner or later, see rates in price list.

- *A. I. Root, Medina, Ohio.
- *H. H. Brown, Light Street, Col. Co., Pa. 7tfdb9
- *Paul L. Viallon, Bayou Goula, La. 7tfdb90
- *S. F. Newman, Norwalk, Huron Co., O. 7tfdb90
- C. C. Vaughn, Columbia, Tenn. 9tfdb9
- Jenkins & Parker, Wetumpka, Ala. 9tfdb90
- E. L. Gould & Co., Brantford, Ont., Can. 9tfdb
- *W. A. Compton, Lynnville, Giles Co., Tenn. 9tfdb
- *Oliver Hoover & Co., Snyderstown, Northumberland Co., Pa. 19tf90
- John Shearer, Osceola, Wash Co., Va. 11d
- D. A. McCord, Oxford, Butler Co., O. 11-23d
- *F. H. & E. H. Dewey, Westfield, Hamp. Co., Mass. 11-9

HIVE MANUFACTURERS.

Who agree to make such hives, and at the prices named, as those described on our circular.

- A. I. Root, Medina, Ohio.
- P. L. Viallon, Bayou Goula, Iberville Par., La. 7tfdb9
- C. W. Cosellow, Waterboro, York Co., Me. 11fd9
- Leahy Mfg. Co., Higginsville, Laf. Co., Mo. 9tfdb9
- Jenkins & Parker, Wetumpka, Ala. 9tfdb9
- W. T. Falconer Mfg. Co., Jamestown, N. Y. 7tfdb

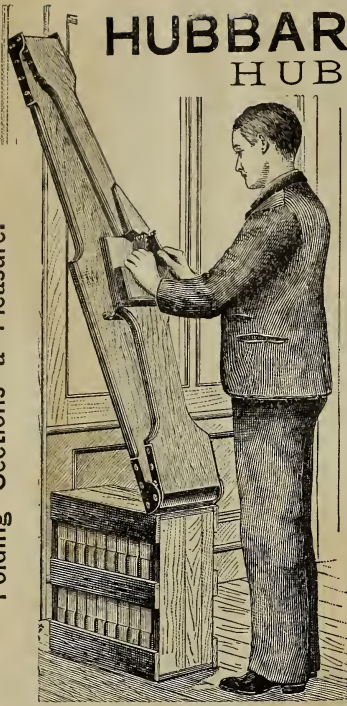
ITALIAN

QUEENS and BEES, and Fine Poultry. Send for price list.

I. L. PARKER,
9tfdb Tracy City, Tenn.

HUBBARD SECTION PRESS, HUBBARD BEE HIVE,

Folding Sections a Pleasure.

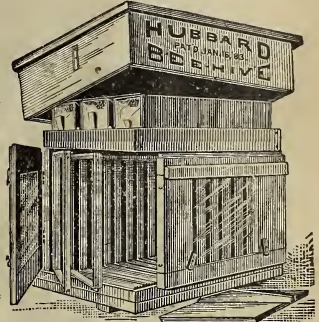


And other Apiarian Supplies.
Send for descriptive circular,
C. K. HUBBARD,
Fort Wayne, Ind.

This Section Press (Pat June 17, 1890) is far in advance of anything else of the kind on the market. It is practically automatic. Both hands can be used to handle the sections, and a slight forward push forces together the dovetailing, thus competing the sections with marvelous rapidity. Price \$2.50. Ask your supply dealer for it. Supply dealers, send for wholesale prices.

The HUBBARD HIVE has been in use 8 years, and has stood the test nobly. Trade has been constantly growing, owing to the excellent satisfaction it gives. If you are ever annoyed by the scraping and breaking of combs; killing bees when setting a frame to one side or hanging it in the hive; sagging at the bottom and getting waxed fast; shaking about when moving a hive; in short, if you dislike to pry and wrench your frames, break combs and kill bees while handling them you will be pleased with this hive.

The Man Who is Willing to Work can make money fast selling these hives. \$5.00 to \$10.00 often made at it in a day. Send for Circular.



SECTIONS, SMOKERS, DADANT'S COMB FOUNDATION, ETC.

15c For revised "1st Principles in Bee Culture." 104 pages—the largest and best work of the kind for the price. First 68 pages contain no advertisements, but are filled with such practical information as how to divide, transfer, introduce Queens, feed, unite, stop robbing, raise honey, etc. The book receives many compliments. If you do not like it, return it and get your money.

In responding to this advertisement mention GLEANINGS.

5-67-8-9-11d

1891. 12th Year.

HEADQUARTERS IN THE SOUTH

For the manufacture and sale of
BEE-HIVES AND BEE-KEEPERS' SUPPLIES,
Early Nuclei, and Italian Queens.

Send for Price List.

P. L. VIALLON,

1tfd Bayou Goula, La.

Please mention GLEANINGS.

ITALIANS

Tested queen, \$1.50; Untested, \$1.00. Nuclei, brood, and bees by the lb. Send for price list.
MRS. A. M. KNEELAND,
Mulberry Grove, Bond Co., Ill.

9tfd Box 77.

In responding to this advertisement mention GLEANINGS.

ITALIAN QUEENS.

Progeny large, and good honey-gatherers. Prices low. Send for price list.
C. M. HICKS,
9-11-13d Fairview, Wash. Co., Md.

In responding to this advertisement mention GLEANINGS.

NEBRASKA

3-frame nucleus (without queen) \$2.00.
3-frame nucleus (with tested queen) \$3.50.
3-frame nucleus (with queen from our own apiary) each, \$2.50. Pure Italian queens, each, \$1.50. Descriptive price list free.
J. M. YOUNG,
Box 874. Plattsmouth, Neb.
Please mention this paper.

5-BANDED GOLDEN ITALIANS.

Beauties! The best workers we ever saw. Work on red clover. Very gentle. Drones $\frac{1}{2}$ to $\frac{2}{3}$ yellow. Won 1st Premium at Ill. State Fair in 1890. Nearly 3.0 booked for 1891. Warranted Queens, May, \$1.25, 6 for \$6.00; after June 1st \$1.00, 6 for \$5.00. Special discount for large orders as to dealers. Satisfaction guaranteed. No foul brood. Good reference given.

1tfd **S. F. & I. TREGO, Swedona, Ill.**

In responding to this advertisement mention GLEANINGS.

Look Here!

Nice white one-piece sections. No. 1, \$3.00 per M.; No. 2, \$2.00 per M. Tested Italian queens, \$1.50 each in May. A 20-page price list free. 10-11-12d

J. M. KINZIE, ROCHESTER, MICH.

Please mention this paper.



30 Quarto pages—50 cents a year.

AN Elegant Monthly for the **FAMILY** and **FIRESIDE**. Printed in the highest style of the art, and embellished with magnificent Engravings. Sample FREE. Agents Wanted.

THOMAS G. NEWMAN AND SON,
PUBLISHERS

246 East Madison St., - CHICAGO, ILL.

Snow-White Sections, \$2.50 PER M.

One-piece sections and shipping-cases made of selected white basswood are our specialties. We have 150,000 sections on hand, with capacity of 20,000 per day, and can fill orders promptly for any width or quality of 1-lb. sections. We make no other size this season. We guarantee our sections equal to the best, and will refund money, or goods may be returned, if purchaser is not satisfied, and will pay freight both ways. We also keep other supplies—Dadant's fdn., Hill's smokers, Root's extractors, excluding zinc, etc., etc. From 1000 to 5000 sections, \$2.75 per M.; 5000 to 10,000, \$2.50 per M. Second quality, \$1.50 to \$1.75 per M. for same quantities. Sections shipped from Capac at 25¢ extra. Our shipping-cases are made of whitest basswood, with 1/4-in. space to hold sections from bottom of case. Price for 16 and 20 section cases, without glass, \$7.00 and \$9.00 per 100 respectively. Write for prices on cases and sections in large quantities. Sections and shipping-cases shipped from factory at Wauzeka, on C. M. & St. P. R. R. Other goods shipped from Capac, Mich., or Glen Haven, Wis.

N. B. This ad. will appear but once.
B. WALKER & CO., Glen Haven, Wis.
Please mention this paper.

TESTED ITALIAN QUEENS.

\$1 each; untested, 75¢; 3 for \$2.00, or 12 for \$7.00. Three-frame nucleus, with tested queen, \$3.00, now ready to ship. 11tdb **GOOD BROS., Nappanee, Ind.**

Pure Italian BEES by the Pound, 90c.
Untested Queens from Imp. Mother, 80c.

2-frame nuclei, both containing brood and all adhering bees, with untested queen, \$2.00. Satisfaction guaranteed. 10d **MRS. A. F. PROPER, Portland, Jay Co., Ind.**
Please mention this paper.

3-FRAME NUCLEI. COLONIES. BEES BY THE POUND.

With young laying Italian queens, on and after June 15th; also **Warranted Queens**. Nucleus colonies will be on L. frames, and brood in every frame and nice queen. Queen-cells built in full colonies. With many years' experience, and carefully selected drones not akin to my breeding queen, and no black bees within six miles, I feel confident I can surely please all. Every queen warranted purely mated, large and yellow. Every queen will be laying when shipped. I have doubled my number of breeding hives and shall endeavor to ship every queen promptly. Send for circular telling how to introduce queens safely. Nucleus colonies \$4.00 each. Bees by the pound, \$1.75. Warranted Queens, 75 cts. each.

JAMES WOOD,
NO. PRESCOTT, MASS.
Please mention this paper.

CARNIOLAN BEES AND QUEENS.

QUEEN-REARING a specialty. This race of bees are the gentlest, most prolific, and the best of honey-gatherers. Don't fail to send for circular. Address 11tdb

A. L. LINDLEY, Jordan, Ind.
Please mention this paper.

YELLOWEST ITALIANS.

My bees are the brightest and gentlest bees, and for honey-gatherers are equal to any. Send 5 cts. for sample and be convinced. One queen by mail, \$1.00.
J. F. MICHAEL, German, Darke Co., Ohio.
Please mention this paper. 11-16db

Job Lot of Wire Netting.

CUT PIECES AT A LOWER PRICE THAN FULL ROLLS.

Having bought from the factory, at our own price, five or six hundred remnants, as listed below, we are able to give you the choice of a great variety of pieces at the price of a full roll or lower. Full rolls of netting are 150 ft. long, and when they are cut we have to charge nearly double the full-roll rate, because it is so much trouble to unroll, measure, and cut, and run the risk of having a lot of remnants on hand. No doubt it is in this way that the following remnants have accumulated. It costs a good deal to get all this in shape so we can easily pick out from the lot the piece you want. But to move it off quickly, we put the price down so you can all have a chance at it. Remember, first come, first served. In ordering, therefore, name a second or third choice, or say that we may send the nearest we can if the piece selected is gone. On 5 pieces deduct 5 per cent, on 10 pieces 10 per cent. These remnants are shipped only from here. If any of you want to secure some, and don't want them shipped till later, when you will order something else, so as to save freight, pick out the pieces you want, send remittance with the order, with request to lay by till called for, and we will mark them as belonging to you. We prefer to ship them right out, however.

LIST OF POULTRY-NETTING REMNANTS.

Width in in's.	Size of Mesh.	No. of Wire.	Cts. per Sq. Ft.	Length of each piece. Multiply by the width in feet to get the number of square feet in each piece. Then multiply by the price per foot for the price per piece.
2	2	20	27.	
7 1/2	2	19	27.	125, 103, 100, 94, 88, 73, 48.
7 1/2	2	18	1	61 53, 48, 35, 22, 22.
36	2	17	1 1/2	23 15; 24 in. wide, 77.
36	2	16	1 1/2	34, 32, 23; 18 in. wide, 77 72, 40; 24 in. wide, 94, 88.
72	2	16	1 1/2	60, 53, 56; 70 in. wide, 46, 21; 48 in. wide, 48.
18	2	15	2	87, 61, 30; 12 in. wide, 100.
24	2	15	2	100, 99, 69, 52, 33, 33, 13, 12.
36	2	15	2	17, 13 7, 7, 6, 5; 60 in. wide, 21, 20.
42	2	15	2	121, 93, 8; 72 in. wide, 36, 33, 9.
48	2	15	2	72, 49, 48, 45, 38, 37, 30, 29, 26, 14.
30	1 1/2	19	1	33, 36 in. wide, 47, 47.
42	1 1/2	19	1	85, 59; 60 in., 56; 72 in., 64, 63, 10.
18	1 1/2	18	1 1/2	40, 14; 54 in., 12; 60 in., 34.
30	1 1/2	16	2 1/2	79; 36 in., 14; 42 in., 34; 48 in., 92.
36	1 1/2	16	2 1/2	22.
36	1 1/2	19	1 1/2	48, 12, 10; 24 in., 42; 30 in., 75; 48 in., 78.
36	1 1/2	18	2	15, 11, 10; 30 in., 6; 42 in., 80; 48 in., 22; 72 in., 8.
48	1	20	1 1/2	53; 72 in., 51; 30 in., 96; 9 in., 40.
24	1	19	2	26; 9 in., 24; 42 in., 50, 34; 48 in., 100, 40, 25; 60 in., 26, 18 in., 50.
32	1	18	2 1/2	85, 32; 24 in., 23; 30 in., 69, 51.
36	1	18	2 1/2	37; 48 in., 30; 60 in., 59.
9	1/2	20	2 1/2	7; 36 in., 75, 55.
24	3	16	1	19; 36 in., 86; 42 in., 14.
36	3	15	1 1/2	63; 48 in., 60.
48	3	14	1 1/2	45; 72 in., 100, 70.
14	4	14	3	166, 52, 35, 23.
22	4	14	4	107, 68, 35, 17, 15.
30	4	14	4 1/2	52, 47, 36, 33, 30, 29, 19, 18, 13, 9.
34	4	14	4 1/2	43, 37, 34, 25, 24, 23, 18.
42	4	14	5	117, 68, 62, 62, 60, 23, 22, 15, 12, 12, 12, 8, 6.
46	4	14	5 1/2	82, 50, 44, 11, 5.
18	8	13	2	68 ft.; 36 in., 200 ft. at 4c; 45 in., 247 ft. at 5c.

Four and eight inch fencing. Price in fourth column is the price per foot in length.

A. I. ROOT, Medina, O.

FOR ALBINO AND GOLDEN ITALIAN QUEENS, SEND TO A. L. KILDOW, SHEFFIELD, ILL.

1 untested Albino, \$1; 6 for \$5.
1 tested Albino, June and July, \$1.75; August and September, \$1.50.
1 select-tested Albino, Aug. and Sept., \$2.50.
1 untested Italian, June, \$1; July to Sept., 75 cts.
1 tested Italian, June and July, \$1.50; August and September, \$1.25.
1 select-tested Italian, June, \$2.50; after June, \$2.
For particulars, send for descriptive catalogue.
In responding to this advertisement mention **GLEANINGS**.

50 SWARMS OF ITALIAN AND HYBRID BEES

for sale at \$3.25 per colony, all on wired frames of fdn. (ten frame hives), good and strong colonies; 30 of them in chaff hives (L. frames). 11d

M. H. HUNT, Bell Branch, Mich.

In responding to this advertisement mention **GLEANINGS**.

SEND to M. S. West, Flint, Mich., for circular of Bee Supplies. Wax made into foundation. 10d

Wants or Exchange Department.

Notices will be inserted under this head at one half our usual rates. All advertisements intended for this department must not exceed five lines, and you must say you want your adv't in this department, or we will not be responsible for errors. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—Pure Italian queens, sections, nursery stock, or offers, for pure P. Rock eggs or Quinby five-corner clasps. L. C. AXTELL, Roseville, Ill. 6tfdb

WANTED.—To exchange or sell cheap a Given foundation press with dipping-tank and boards complete; cost \$55. Good as new; \$35 cash will take it. What have you to exchange? FRANK A. EATON, Bluffton, O. 8tfdb

WANTED.—To exchange for beeswax, L. combs (17½x9½) at 6c each; packed 11 in good, painted, old 8-frame hives, with cover and tight bottom, 90c. Sections of New Heddon hive (new, well made, and painted) with set of 8 combs, 60c each. Combs in good condition, nearly all worker, and built in wired frames. 10-11d H. D. BURRELL, Bangor, Mich.

WANTED.—Exchange with the "Home," St. Petersburg, Fla., and get our "mailing lists" free. 9tfdb

WANTED.—To exchange foundation, both light and heavy, for any quantity of wax. 10-11-12d B. CHASE, Earlville, N. Y.

WANTED.—To exchange one of Dadant's uncapping-cans (never used), one of Sturwold's show-cases for honey, good as new, one lawn-mower, used but very little, made by Cregg & Co., Trumansburg, N. Y., for comb foundation or sections, or offers. 11d C. F. UHL, Millersburg, Holmes Co., Ohio.

WANTED.—To exchange Simplicity hives, and L. frames, filled with combs, nearly all worker, for bees, any breed, or Barnes foot-power saw. 11tfdb L. W. NASH, West Kennebunk, York Co., Me.

WANTED.—A man to work in an apiary, either an experienced man or one wanting to learn the business. State experience, and wages wanted. 11d J. A. GREEN, Dayton, Ill.

WANTED.—To exchange watch and Imp. Italian queens for bees or foundation. Address 11d F. BETTSCHEN, Palmerston, Ont., Can.

WANTED.—To exchange Dovetailed hives (new), Falcon and Root's chaff hives, Electric hives and combs, L. wide frames and separators, L. brood-frames, honey-extractor and knife, smokers, etc., and 25 colonies of bees, for safety bicycle, or any thing useful. GRAHAM S. DEWITT, Homowack, N. Y.

Black and Hybrid Queens For Sale.

Young mismated Italian queens, of last year's hatch, from especially fine working stocks, 35 cts. each, 3 for \$1.00. W. W. KULP, Pottstown, Montgomery Co., Pa.

I have about 50 fine prolific hybrid queens at 25 cts. each, mostly young. L. H. ROBEY, Worthington, Marion Co., W. Va.

50 good hybrid queens for sale at 35 cts. each, or 3 for 1.00; safe arrival and satisfaction guaranteed. ALBERT HINES, Independence, Buchanan Co., Ia.

Mismated Italian queens, one year old, 30c each. J. C. WHEELER, Plano, Ill.

HONEY COLUMN.

CITY MARKETS.

NEW YORK.—*Honey.*—Comb, none in market. Extracted, demand rather quiet. Supply of California is sufficient, selling from 7@7½. Southern, scarce, and in demand. We quote, Florida, 7½@8; Georgia, similar, 7½@80c per gallon. *Beeswax.*—Although stocks remain very small, prices have not advanced further, which shows that larger arrivals will weaken the market. Prices are about 28@30, as to quality. F. G. STROHMEYER & Co., New York. May 21.

CINCINNATI.—*Honey.*—Demand is fair for comb and extracted honey, with a good supply of all kinds but Southern extracted. Extracted honey brings 6@8 on arrival. Choice comb honey sells at 14@16 in the jobbing way. *Beeswax* is in good demand at 25@30c for good to choice yellow, on arrival. CHAS. F. MUTH & SON, Cincinnati, Ohio. May 23.

NEW YORK.—*Honey.*—No comb honey on hand. New crop of Southern is beginning to arrive freely, and finds ready sale at following prices: Common average grade, one-half barrels and barrels, 75@80c per gallon; orange blossom, 7@7½c per lb. *Beeswax*, scarce, and firm at 28@29. May 25. HILDRETH BROS. & SEGELKEN, 28, 30 West Broadway, New York

COLUMBUS.—*Honey.*—Honey selling at 18c and in good demand. Prospects for honey slim in this section. EARLE CLICKENGER, Columbus, Ohio. May 20.

DETROIT.—*Honey.*—No good comb honey in the commission houses; what is left is very undesirable. Extracted, 8@9. *Beeswax*, firm, 29@30. Bell Branch, Mich., May 21. M. H. HUNT.

ST. LOUIS.—*Honey.*—No change since our last. Receipts of extracted are becoming more liberal. D. G. TUTT GROCER CO., St. Louis, Mo. May 21.

KANSAS CITY.—*Honey.*—All choice one-pound white comb cleaned up; plenty of 2-lb. comb and extracted on the market. 2-lb. comb, 10c. Extracted, 6@6½. *Beeswax*, none. May 21. CLEMENS, MASON & Co., Kansas City, Mo.

SAN FRANCISCO.—*Honey.*—Honey remains firm; but little is to be had as the new crop is near at hand. Comb honey, as well as *beeswax*, is exhausted in our market, so that quotations are entirely nominal. SCHACHT, LEMCKE & STEINER, San Francisco, Cal. May 12.

BOSTON.—Very little fancy honey on this market, selling at 18@19; fair to good, 14@18. Extracted, slow sale, 7½@8½. *Beeswax.*—None on hand. May 22. BLAKE & RIPLEY, Boston, Mass.

KANSAS CITY.—*Honey.*—The demand for honey is very light, supply fair at 12@14; extracted, 5@7. All good comb sold out; new crop will be in within 30 days; prospects good. *Beeswax.*—Demand good, supply light, at 25@27c. May 16. HAMLIN & BEARSS, 514 Walnut St., Kansas City, Mo.

FOR SALE.—200 lbs. of basswood comb honey, in fine order. E. GREELEY, Lorain, O.

FOR SALE.—About 7 barrels of extracted honey; put up in good barrels. I want 7c per lb. at the railroad. E. FARABEE, Tina, Carroll Co., Mo.

FOR SALE.—I have a lot of honey in 60-lb. tin cans, two cans in a case, which I wish to dispose of. Write. J. D. ADAMS, Nira, Ia.

I am prepared to furnish pure extracted honey in 60-lb. tin cans. New cases and cans; graded goods. Carloads a specialty. Address E. LOVETT, 11tfdb San Diego, Cal.

A Rare Chance

If you desire a good home within stone's throw of railway, express, and post office, in one of the very best 10-11d

HONEY

locations in the United States, write me for particulars. Excellent neighborhood. An apiary of 90 colonies, with fixtures, will be sold or leased with the place. Terms easy. Address

JAMES HEDDON, DOWAGIAC, MICH.

In responding to this advertisement mention GLEANINGS.

NEW SYSTEM FOR COMB HONEY

and many rare, new methods and devices. See my new catalogue of BEES, HONEY, and SUPPLIES. Just out.

Oliver Foster, Mt. Vernon, Linn Co., Ia.
Please mention this paper.

SUPPLIES.

Standard goods, best shipping-point, reasonable price. 3-page catalogue free.
WALTER S. POWDER, 175 E. Walnut St., Indianapolis, Ind.
6-18db

OTTUMWA BEE-HIVE FACTORY.

We have a nice supply of hives in the flat, which we will sell as follows: The A. I. Root Simplicity, for extractor, \$1.50; 5 for \$7.00. Simp. for comb honey, with 2 T supers, sections, foundation starters, wood separators, and honey-board complete, in flat, each, \$2.10; 5 for \$10.00. Portico hive with Simplicity upper story, in flat, for the same price.

The improved Langstroth-Simplicity, in flat, eight-frame, 1 1/2 story, each, 90 cts.; 5 for \$4.00; ten-frame, 1 1/2-story, each, \$1.00; 5 for \$4.50; eight-frame, 2-story, each, \$1.20; 5 for \$4.75; ten-frame, 2-story, each, \$1.30; 5 for \$5.25. Dovetailed hives, the same price as the eight-frame hives above.

SHIPPING-CRATES.

12-lb. crate, 11 cts. each; 16-lb., 13 cts.; 24-lb., 14 cts.; 48-lb., 16 cts. each.

Comb foundation.—Heavy brood, 48c; thin, 58c; extra thin, 68c.

Pound sections, snow-white, at \$3.50 per 1000. No. 1, cream, \$3.00. Bee-veils, cotton tulle, with silk tulle face, 75 cts. each. Bingham smokers at manufacturer's prices. Write for prices to 5tfdb

GREGORY BROS. & SON, OTTUMWA, IA. SOUTH SIDE.

In responding to this advertisement mention GLEANINGS.

Porter's Spring Bee-Escape.

We guarantee it to be the best escape known, and far superior to all others. If, on trial of from one to a dozen, you do not find them so, or if they do not prove satisfactory in every way, return them by mail within 9 days at the receipt, and we will refund your money.

PRICES:—Each, by mail, postpaid, with full directions, 20c; per dozen, \$2.25. Send for circular and testimonials. Supply dealers, send for wholesale prices.

10tfdb **R. & E. C. PORTER, LEWISTOWN, ILL.**

In responding to this advertisement mention GLEANINGS.



A glimpse of our Factory, now making carloads of Dovetailed Hives, Lang. Simp. hives, plain Lang. hives, Alternating hives, Chaff hives, sections, etc. Many articles not made by others.

We can furnish, at wholesale or retail, **Every thing** of practical construction needed in the apiary, and at **Lowest Prices**. Satisfaction guaranteed. Send for our **New Catalogue**, 51 illustrated pages, free to all. 4tfdb

E. KRETCHMER, Red Oak, Iowa.

In responding to this advertisement mention GLEANINGS.

J. FORNCROOK & CO.,
MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS.



Will furnish you the coming season, one-piece sections, sandpapered on both sides, as cheap as the cheapest, and better than the best. Write for prices. Watertown, Wis., Mar. 1, 1891. 6-7-9-11d

In responding to this advertisement mention GLEANINGS.

Guaranteed to Give Satisfaction.

Untested queen, 70c. Tested, \$1.00. Queens than swarm 1 year old, 60c each. All Italian, and good honey-gatherers. Ready to mail. 11-12d

W. J. JOHNSON,

ACKERMANVILLE, NORTHAMPTON CO., PA.

In responding to this advertisement mention GLEANINGS.

NEW FACTORY.

No. 1 Sections, \$3.50; No. 2, \$2.75. Fine Comb Foundation a specialty.

M. S. ROOP, 520 East Broadway, Council Bluffs, Ia.
6-17db

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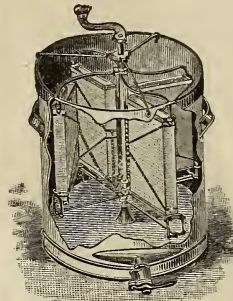
EVERY THING

USED BY

BEE-KEEPERS.

EDWARD R. NEWCOMB.

Pleasant Valley, N. Y.



5tfdb

Please mention this paper.



Bee-Keepers' * Supplies.

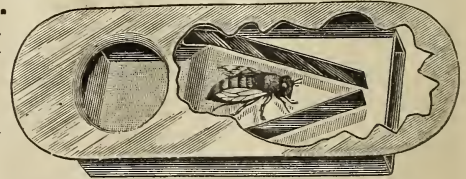
We are prepared to furnish bee-keepers with supplies promptly and at lowest rates. Estimates gladly furnished, and correspondence solicited. Our goods are all first class in quality and workmanship. *Catalogue sent free.* Reference, First National Bank, Sterling, Ill. Address

WM. McCUNE & CO.

Sterling, Illinois.

21-20db

In responding to this advertisement mention GLEANINGS.



In responding to this advertisement mention GLEANINGS.

GLEANINGS IN BEE CULTURE

A JOURNAL DEVOTED
TO BEES
AND HONEY
AND HOME
INTERESTS.

Published by A. I. Root, Medina, O.

Vol. XIX.

JUNE 1, 1891.

No. 11.

STRAY STRAWS

FROM DR. C. C. MILLER.

A SUN WAX-EXTRACTOR pays. Always ready. The *Western Farmer* has a good bee-editor. Dr. J. W. Vance.

MY FOUR COLONIES outdoors wintered well. They had entrances 12 by 2!

E. E. HASTY thinks it possible that honey-eaters may be long livers.

ANTS. G. A. Simpkins (*A. B. K.*) drives them away by sprinkling sulphur.

BLACKWALNUT is mentioned by Chas. White, in *N. B. K.*, as a heavy pollen-yielder.

THE *Nebraska B. K.* thinks 35 per cent of colonies in that region failed in wintering.

MY BEES. Prof. Cook, I feel pretty sure, sting dark materials more readily than white.

PROF. COOK is a poor hand to sort grain. He gets seed corn mixed in with his nubbins.

W. L. COGGSHALL thinks there are five essentials for success in bee-keeping: Location, man, appliances, hives, bees.

THROW A WARPED BOARD on the ground, in the sun, hollow side down, and see how soon it will straighten out.

H. FITZ HART has used closed-end frames with bee-space outside of end-bars, and found no trouble from propolis.

FOR SMOKER FUEL I've never tried any thing better than hard-wood turning-lathe shavings, osage orange taking the lead.

NEW THINGS are generally reported rose-color. Those who succeed, report promptly; those who fail, generally keep still.

HAS PROF. COOK any *reason*, other than custom, for the editorial "we"? Will not the same reason make him say "he" for a worker?

GLEANINGS for May 1 has converted me in theory to fixed frames. I'll consult the bees about it before I'm much converted in practice.

The *American Bee-keeper* proposes to make a speciality of catering to the needs of those who have had little or no experience. A good field.

SOME PEOPLE who justify Dr. Hall in taking 84 would feel very indignant if a merchant charged them 4 cents for an article that they afterward found they could get anywhere else for a cent.

MY BEES never built up so fast. To-day, May 14, they've been just four weeks out of the cellar, and many of them have had brood taken away to give the queen room. They've had gorgeous weather.

MY LATEST SPACER is a little stick $2\frac{1}{2}$ inches long, nailed on one side of one end-bar, and another on the opposite side of the other end-bar.

THE *Missouri Bee-keeper* for May has nearly all its space occupied with the report of the Missouri State convention; and the space is well occupied.

EMMA took a good look at the picture on page 369, and then remarked, with some emphasis, "Well, Mr. Ernest, *you* can sit on that sharp edge if you want to."

DADANT says, "Workers do not live, on an average, more than 35 days during the working season." Isn't that a week less than other authorities? Who is right?

W. W. CASE, p. 379, says bees draw out foundation best in a heavy flow. Doolittle says, when honey comes slowly. I follow both, and give full sheets at all times.

THOSE LATEST IMPROVEMENTS in the Clark smoker are a real comfort—the little holes giving air, with no chance for sparks, and the door fitting so snugly. I'm in hopes, too, that the door will not get out of working order.

I'M TRYING SIX different frames—Hoffman, closed-end in tight-fitting case, ditto in loose case, closed end with Hoffman top-bar and bee-space outside end-bars, ditto with half-inch space outside end-bar, and top-bars $\frac{1}{8}$ thick, spaced.

MICE IN HIVES. The *C. B. J.* found "scarcely a hive in the bee-house that had not from one to five mice in it." One had 29! Last winter I had all entrances closed with wire cloth, three meshes to the inch, and not a mouse troubled. Mr. Jones found that the mice killed live bees, the pieces still moving.

PIES MAKE TROUBLE, while baking, sometimes, as well as after. The juice boils out and spoils the pie, the oven, and the good wife's temper. To prevent it, make four or five little chimneys, $1\frac{1}{2}$ to 2 inches high, of white writing paper, funnel-shaped, and stick in the top of the pie, somewhat centrally. The juice will be satisfied to boil up into these without running out.

MELILOT covered a patch of more than an acre for me, year before last, in pretty fair shape, the bees reveling on it. I allowed nothing to touch it, so that it would be crowded this year. Careful examination shows *not a single stalk* on it. It just can't stand prosperity. If it had been abused by driving over it, it would have been so thick you could hardly wade through it.

NAMES FOR FRAMES. I like the names suggested on page 388, *close-end* for those whose end-bars touch throughout; *loose* for those which are not spaced in any way; *Hoffman* for

those closed part way down; but instead of *fixed* I should like *spaced* better for all which are spaced by nails, staples, or what not. *Fixed* has already gone into use to include all but *loose* frames.

ON PAGE 368 E. R. R. explains why, with loose frames, bees don't make little hummocks of propolis on the rabbets. My bees have never had the explanation, and persist in making such hummocks, no matter how much the spacing is changed. Don't you see, Ernest, that, every time the spacing is changed and the top-bar rests on a hummock, the glue gets warmed up and is squeezed out into the new space?

GENERAL CORRESPONDENCE.

CONTROLLING DRONES, ETC.

DOOLITTLE GIVES US SOME GOOD ADVICE.

A correspondent writes: "I have five colonies of bees—three blacks and two Italians. Would it be well to give the Italians a card of drone comb and put drone-traps on the blacks when the young Italian queens are mating? or is there a better way?"

If the correspondent is desirous of having his queens purely mated, of course he must kill or control all drones from the undesirable colonies. The drones can be controlled with the traps; but in this case you must buy the traps, keep them on the colonies, and furnish the honey necessary to rear and feed the drones, all of which is an expense which would better be avoided. If you think that you *must* raise the drones, and do not wish to buy traps, you can put a piece of perforated metal at the entrance of the "black hives," keeping it there till four o'clock, then remove and let the drones out; and while out, replace and keep the most of them out for evening destruction. This would be about the only way with box hives, unless the trap was used. But for frame hives, much the best way would be to remove all the drone comb, or nearly so, from the black colonies, and replace it with worker comb, and thus you will save all the trouble and cost of producing the drones, and you will rear 50 workers to every square inch, in place of 32 drones, these workers storing honey for you in place of eating it. In any event, you could not be sure of having your queens purely mated unless there were no black or hybrid bees in the woods or any apiary for a distance of four or five miles from you in every direction, which is a state of affairs which does not usually exist in most parts of our country. But for honey-production I doubt whether it would pay you to be too careful to have all of your queens purely mated, for a first cross (or what is more truly hybrids than the general mixture which are called hybrids) gives nearly if not quite as good results in honey as do pure bees of any race. If you were to send south for Italian queens for the three black colonies, and Italianize the blacks before any drones were reared in these hives, you would then have things about as you want them, and that, too, about as cheaply as by any plan I know of. In the above our correspondent should find something to help him out of his dilemma, it seems to me.

IS THE BEE-MOTH LARVA KILLED BY FROST?

Another correspondent writes: "I have read that frost would kill the larvæ and eggs of the bee-moth. If so, what temperature will it take

to do it? I have some combs which have been exposed all winter to the cold; but I find worms hatching out in them, or, at least, the worms are at work on them."

It is generally supposed that a temperature of 10° above zero will destroy all eggs and larvæ of the bee-moth; but, candidly, I do not know whether it will or not. At times I have thought that zero and below was sure death to every thing in the bee-moth line; then, again, I have been equally positive that worms which had wintered over somehow in a very low temperature, either in the egg or larval form, were at work in my combs during the first warm days in spring and early summer. Who can tell us something positive about this matter? We know that eggs and larvæ are carried over in a colony of bees or in their combs; and I have thought that these, after hatching into the mature moth, may have found their way to my combs in some way, though I hardly knew how, and that thus I might have been mistaken, and the old book theory, of cold making combs moth-proof, be true after all. Can Prof. Cook give us any light on this?

WHO FURNISHES THE FEED?

"Who furnishes the feed when the apiary is worked on shares, for stimulating purposes, or to keep the bees from starvation? In other words, what is the custom regarding such feeding!" is another question sent in. Well, I do not know that there is any custom. The only way that I know of to govern such matters is to enter into an agreement, explicit enough to cover all cases of emergency, and have it put down in black and white, and then live up to it according to the Christian rule laid down in the good book, "Who sweareth with his own hurt, and changeth not;" for if you go into "bees on shares," some one is apt, as a rule, to have his feelings, if not his pocket-book, hurt. If you have taken the bees this spring, and the owner of them said nothing about whether they had honey enough to carry them through to new honey, and they were short of feed, I should think that he should furnish the feed, were they likely to starve. As for feeding to stimulate, I do not think that it can be made to pay for the feed and time. If you have had the bees for a term of years, and you did not leave honey enough in the hives last fall for the bees to come through in good order to swarming-time, then I should say that you were the one who should furnish the feed. If you were both to share, and share alike in the profits from the bees (the way in which bees are usually let out on shares), then I should say that both of you should bear equally the expense of feeding. But in addition to what I said above about bees on shares, I would now say, *don't*. Far better purchase two or three colonies; work your way up with them as your knowledge increases, thus being your own *man* all the while, than to try to gain a knowledge regarding the business by building yourself up on some other person's property along this line. Almost any other partnership business works better than it does with bees.

G. M. DOOLITTLE.

Borodino, N. Y., May 16.

[My impression is, that 10 degrees above zero will destroy every vestige of the bee-moth; and I believe they generally live over, unless so near the cluster of bees that they are kept above this temperature. With us we rarely have trouble until quite late in the season, yet we leave combs exposed more or less every year.—I am very glad, friend D., to have you second our oft-repeated advice about bees on shares. The matter is, as you say, too complicated.]

A. I. R.

BEE-ESCAPES IN FLORIDA.

A VALUABLE ARTICLE RIGHT FROM THE FIELD;
BEE-ESCAPES, FIXED DISTANCES, EXCLUD-
ERS, AND THE REVERSIBLE EX-
TRACTOR REVOLUTIONIZING
BEE-KEEPING.

Both the Dibbern and Reese escapes are a success with me. Like others I met with failure when first using them; but a little observation soon put me on the right track. The main secret of success is in the fact that *bees will not all desert their queen or brood, sealed or unsealed*; therefore to succeed with the escape, surplus supers *must be free from all brood, and the queen below*. This can be accomplished to a certainty only by the use of zinc queen-excluders.

The space between the escape-board and the top of the frames below should not be over a bee-space ($\frac{3}{8}$ inch); for if, as some recommend, a space of one to three inches is left, the bees will cluster in this, filling it with brace-combs, at the same time clustering on the escape, thereby forming a communication back to the supers. To secure the best results, supers of empty combs, or sections, should be placed under the escapes, as the bees are slow in going down in a crowded brood-chamber below—especially in eight-frame hives. I generally place the escape on just before night, and take the supers off by seven or eight o'clock next morning. As a rule there will not be more than a dozen or two bees left in the supers. In two or three instances it cleaned them out completely. Half-depth supers are freed from the bees much quicker than full ones. A free use of the smoker when putting on the escapes will hasten the bees in going below. It takes me about one minute to each hive in putting on the escapes, they being made in a board just the size of the hive; and all there is to do is to raise the super and slip this between; give a few puffs of smoke in the top of the super, and we go to the next. In the morning take your wheelbarrow and wheel your supers, now free from bees, to the extracting-room, where you can extract at your leisure. This is a long way ahead of the old plan of shaking and brushing the bees off each individual comb, with an army of cross robbers following you around in the not sun all day.

THE GREAT POINT OF ADVANTAGE IN THE USE OF THE BEE-ESCAPE.

A few points of great advantage in the use of these escapes, overlooked by some, are, that, when extracting every week or 10 days, as some do, *you do not disturb the working force of bees in the fields*. This is quite an item; for, oftentimes, by the old way you so excite the bees that it causes them to lose the best part of the day, right in the midst of a good honey-flow, which means 8, 10, or 15 lbs. of honey less. I am confident that large amounts of honey are lost each year in just this way. Who has not seen colonies cluster out on their hives, all day, sometimes longer, just from being disturbed in the way mentioned? When taking off honey after the flow has passed, you avoid all that troublesome robbing, which is sure to annoy one at this season. Again, after using the escapes one season you can not fail to note the change in the temper of your bees compared with what it was when managed the old way.

I would not part with the escapes for a good deal; for by their use one saves three-fourths the labor of taking off a crop of honey.

HOW TO PRODUCE HONEY AT LESS THAN HALF THE COST.

Give me a hive having frames at fixed

distances, with a plain zinc queen-excluder, these escapes, and a good reversible extractor, and I will show you how to produce honey at less than half the cost nowadays.

BEE-STINGS A FAILURE FOR THE CURE OF RHEUMATISM.

I have been down flat with the rheumatism for the past four weeks, but am able to sit up some. I hope to be out again in the course of a week. Bee-stings for the cure of rheumatism is all bosh. I have been stung thousands of times. The day I gave up and went to bed, more than 50 stung me, so you see it is no cure for me.

Palmetto is just opening; but as I have been unable to attend to my bees, I do not suppose they are in the best of shape to take advantage of it; nevertheless, I will make the best of it. Half a crop from 100 colonies is better than none.

A. F. BROWN.

Huntington, Fla., May 13.

[You have given us one of the most valuable and seasonable articles of the season; and there is many a bee-keeper who is craning his neck to see how these "new-fangled things" are coming out. It is pleasant to know that these innovations not only work nicely on paper, but in actual practice. I have thought, for over a year back, that the bee-escape and fixed distances were going to revolutionize present methods in the production of comb and extracted honey; and the way reports are coming in, it begins to seem as if I had not surmised amiss. In fact, it is difficult to see how any one could come to a different conclusion who would be willing to lay aside his old-time prejudices.]

We want more reports of the bee-escape, and under what circumstances it will and will not work; for, as Solomon says, "In the multitude of counselors there is wisdom."

Your next to the last paragraph, unless you are an ardent enthusiast, contains an idea that it may be well for some of those who are holding back to think over and digest a little. Instead of raising such a hue and cry about the low selling price of honey, let us pay a little attention as to how the product may be lessened in cost. We need to exercise all reasonable means to keep the price up; but let us not forget that there is a good deal of sense in reducing the cost of an *honest* pound of honey.

And now, my dear moss-backed bee-keeper, do you observe that Mr. Brown says, in effect, that fixed distances are a success, even in Florida? There have been a few mild hints of late, that they would not answer in the South. Well, perhaps they will not in some places. We hope, Mr. Brown, you will favor us with another article on how you succeed in producing honey at a low cost.]

E. R. R.

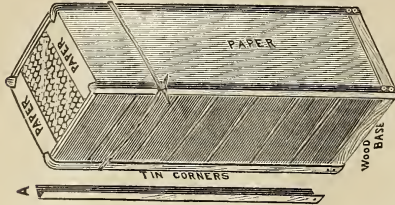
A CHEAP HOME-MADE SHIPPING-CASE.

ONE MADE OUT OF PAPER, L TINS, AND GLASS.

We do not depend on our 80 colonies for a living; and to lessen their care we run them mostly for extracted honey; but we have shipped more or less comb honey in the past, and have seen a good deal as it arrived on our markets. There are drawbacks to our present system. The cases become very much soiled in transit. If we use small packages, the freight men will see how many of them they can carry; and the consequence is, they often let one drop. Now, are not we as bee-keepers coming to the conclusion that we want small crates, and these packed in a larger box?

I thought we could spare about 300 lbs. of

comb honey to experiment on a plan of mine; but after getting it ready we found our home market would have to have it, so we could not ship to the city; and for fear we have no honey next season, and that there is a point in the right direction, I offer it to the public, if it is new.



A CHEAP METHOD OF PUTTING UP SECTIONS FOR MARKET.

We take two tins, $\frac{1}{2}$ inch wide, 13 long, bent to a V shape, as at A in drawing, and nail them with one $\frac{1}{8}$ wire nail to the bottom corners of a board, $4\frac{1}{4} \times 4\frac{1}{4} \times \frac{1}{2}$. Between the two L tins we place a paper $4\frac{1}{4}$ wide, and long enough to cover the openings of the $1\frac{1}{2}$ -in. sections. On this we place 7 sections, then another paper, then nail on two more tins. The paper covers the slotted beeways. We now take hold of the crate, slide it partly over the edge of the table, wrap a strong string around, two inches from the open end, and tie tightly. We next set the crate on the wood end, bend over the $1\frac{1}{2}$ -inch projections of the papers, slip in a $4\frac{1}{4} \times 4\frac{1}{4}$ glass, hold the same with one hand, and, with a pair of pincers, close the $\frac{1}{2}$ -inch tin projections over the glass, and it is done.

With practice, the speed that these may be put together with, sections scraped, and the rest in the flat, is enormous. These beautiful crates are to be wrapped in paper and packed with hay in large crates, as given in GLEANINGS some time back, thus arriving nice and clean. The index section should be no better than the rest, so that the commission man will not need to open them.

F. S. COMSTOCK.
North Manchester, Ind., March 16.

[We have sold customers, for several years back, L tins for putting up sections in the manner you describe, although you have brought the method a little nearer perfection than any one else has done so far, I believe. You omitted to say that the L tins should have a V-shaped piece taken out of one end. This will allow the ends to fold over the glass side. I should like to have a report from others who have tried the same plan—how well they ship, and how well they are accepted by the trade as well as by consumers direct.]

E. R.

PAPER FOR HIVE-COVERS.

FAY'S CEILING-MANILLA IN SUCCESSFUL USE FOR YEARS ALONGSIDE OF TIN.

Much interest is evinced lately in the matter of light, cheap, water-proof hive-covers. Tin is objected to, both on account of cost and the trouble of getting paint to adhere to it. Why has no one suggested and experimented with paper? Much has been done with this material, and in a diversity of ways, in recent years, all the way from its use in the shape of the most delicate pocket handkerchief, to its construction into boats and ear-wheels.

More than ten years ago I saw an advertisement in *Home and Farm*, of C. J. Fay's ceiling felt, or manilla, Camden, N. J.; and having a

ceiling from which the plaster was falling, I purchased and applied this paper according to his directions, to the surface of rough, uneven, split laths, from which the plaster was removed, as best it could be, but still leaving a very dusty, unpromising surface for the application of wet paper and paste. The job, however, surprised every one; and the ceiling of that room to-day, after more than ten years, is as smooth and perfect as when new. I have since used it in other work, and it has invariably given satisfaction.

But, to come nearer to the point. Several years ago, early in my bee-keeping experience (those days when I almost had a bee roll-call at night to see whether any of my precious Italians were missing, and the danger of a leak in their hives would keep me awake at night), my Simplicity covers cracked in the sun, and began to leak. So far I had purchased no tin; and, having some pieces of Fay's manilla at hand, I fitted it to the covers just as you do your tin, except that it was first made wet and pliant, then pasted on, and tacked around the corners and sides. After it was dry it was painted two coats, and since that day it has had the same treatment the tin covers have had, and you would have to look very closely to detect these covers from the tin ones. They have never leaked, and, so far as I can see, are as satisfactory as the others.

Now, this is what this manufacturer sells as inside, or ceiling felt: he makes a roofing-felt of still better material, all ready painted, for roofing houses; and I have thought that this latter could be used, not only for the purpose above named, but also, perhaps, in making Ernest's light cases for outdoor wintering; then, if the cases could be so constructed as to nest together when not in use, by having the shape somewhat like some of your honey-buckets, or even like a house-roof, it might prove quite an acquisition in your climate. But as I am totally unfamiliar with this branch of bee-keeping I will venture only a suggestion as to the above material. I am sure it is of very lasting and weather-resisting character. I think the firm is now W. F. Fay & Co., Camden, New Jersey. The cost of ceiling-manilla is one cent per square foot. I inclose a bit of the ceiling, such as I used.

TO STICK LABELS TO TIN.

I have been, like many others, annoyed by having labels come off after using even such glue as cement for mending china, etc. In preparing a lot of one-gallon cans for shipment a few days since, the thought occurred, why not try the plan used in making starters stick to sections? I then rubbed the shiny tin surface briskly with a piece of wax till it began to stick, then put on the label with common mucilage, and it seemed to have the desired effect. I shall try this further: and if it answers it will do away with the necessity of having on hand always a certain kind of glue.

We have been having a fine honey-flow in April and ten days in May—say twenty days—yielding 36 lbs. surplus extracted, very bright, nice honey, per hive. It is coming in slower now, but so thick it will hardly run.

"BLACKBERRY ACID" RECIPE.

To 12 lbs. of berries put 2 quarts of boiling water. Let it stand 48 hours; then put it into a jelly-bag to drip. Do not squeeze. To that quantity of juice, put 5 oz. of tartaric acid. To each pint of juice put $1\frac{1}{2}$ lbs. of white sugar. Let it stand until all the sugar is dissolved, then bottle.

For a drink like lemonade, pour a small quantity into a tumbler, adding water to suit the

taste. The same recipe will do for any other berries or acid fruit. This is a delightful summer drink, as wholesome and harmless as your lemon and ice; and, while as nice and refreshing, it can be made from our *own* fruit, when the lemons might be lacking. It keeps indefinitely. Surplus strawberries, raspberries, etc., can be thus made into veritable nectar for the hot dusty days of midsummer, when the bee-keeper comes in tired and thirsty. Try it with your broken ice.

C. P. COFFIN.

Pontotoc, Miss., May 18.

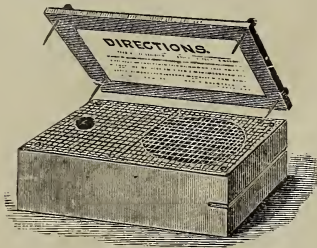
[Friend C., this ceiling paper, or manilla, has been advised before; but I do not remember of any reports as successful as your own.—Many thanks for the recipe for making a summer drink from berries. It certainly would be a great advantage to us if we could use our surplus berries on Saturday nights, in the way you indicate. The boiling water could be poured on the surplus berries Saturday night, and then every thing would be safe to set away until Sabbath is over.]

A. I. R.

ANOTHER QUEEN-CAGE.

THE DIXIE.

I believe the Dixie queen-cage is little enough and big enough, simple enough, cheap enough, light enough (1 oz.), has rooms enough, and all that. I also think the printed directions about right for the guidance of the timid novice, and the other fellows don't need any. So far as I



JENKINS' DIXIE QUEEN-CAGE.

know, this is the only cage that has contents, breeder's address, etc., printed on it; and I believe the request to the postmaster, "Deliver quick," may at times expedite matters, especially in the country, where the consignee may live a few miles away, and the queen or "word" may be sent by some wayfarer. This printed request, and notice of contents, gives the country postmaster a pointer as to the care he should take of it, and the desirability of effecting a speedy delivery. Some of its best features were borrowed from other cages, especially your Benton cage.

While I am about it, I might say I like to see the printed name and address of the individual or firm doing a business, on every letter, wrapper, package, or shipment he, she, or it sends out by mail or otherwise; for, besides the little feeling of pride in it, a knowledge of the sender sometimes enables the postal and railroad folks to correct errors and straighten things that "ain't" straight, and thereby save loss or long delay; and it is a way of advertising too.

Wetumpka, Ala., May 18. J. M. JENKINS.

[On page 440 we spoke of a cage sent out by J. M. Jenkins, and we have since requested him to send us a description of the same, as we thought it deserved more than a passing no-

tice. In response he sent the article above. The method of introducing is the same that we have adapted to the Benton, and has two holes instead of three. Mr. Jenkins' idea of putting directions on the *inside* of the cover, as well as general instructions on the outside, to postmasters and the general public, is very neat. It goes for one cent postage instead of two. It is to the credit of our friend W. J. Ellison, of Stateburg, S. C., for so reducing the size of the *Benton* as to make that also go for one cent postage. By combining the Jenkins and Ellison improvements, we have a cage that is very near perfection.

Verily we are making great improvements, not only in mailing queens long distances safely, but in sending nuclei to all parts of the United States. We have recently constructed a lot of shipping-boxes for two and three frame nuclei, that are less than half the weight of the former ones we used. This is a fact that will be very much appreciated by the receiver, in the reduction of express charges. Why make a customer pay charges on a lot of wood that is unnecessary? We have sent out so far this season, going on 125 nuclei; and we have received a good deal of praise from customers, not only for the good condition in which the bees arrived, but for the neatness and lightness of the package. In a word, our new lot of shipping-boxes is made of light $\frac{1}{4}$ -inch stuff. In warm weather the top and bottom are covered with wire cloth, and the whole thing weighs only $1\frac{1}{2}$ lbs. We are thus enabled to furnish a two or three frame nucleus, the whole thing weighing not over 7 lbs. I might remark further, that any thing weighing over 7 lbs. and less than 10 would have to go at the same rate as 10 lbs.; and that is not all, either. Express charges are much lower for the weight on 7 lbs. and less than on 10 or 15 lbs., where it has to pass through two express companies. For instance, the express charges on 7 lbs. to Salt Lake City is \$1.00, while on 10 lbs. it is \$2.05, and if the package weighs 8 lbs. it goes at the 10-lb. rate, and this you see is equivalent to paying \$1.00 for the extra 1 lb. weight, and shows the desirability of reducing the weight of the package.]

QUEENS BY MAIL TO ALL PARTS OF THE WORLD.

WHAT CHARLES BIANCONCINI DID TO BRING IT ABOUT.

Mr. Root:—I read with great interest in the Jan. 15th number of GLEANINGS what you relate in regard to a queen arriving safe in Australia. Up to the present time we have never succeeded in getting queens to Australia by mail, although we have tried a special shipping-cage. But we have frequently succeeded in sending them to America, except a few times when they did not arrive in good condition, for which we could assign no good reason. That they can now be sent almost anywhere in Benton cages is owing not a little to my efforts in that line. About two years ago we began to send queens by mail in Benton cages, when the postal authorities, one after another, refused to accept the queens (except by parcel post) saying it was contrary to orders received from the Postal Minister at Rome. At my request, they replied from Rome that it was on account of an observation made by some foreign state, that these cages were not contemplated in the international postal convention. Quite likely; for at that time the Benton cage was not yet invented. Then I concluded that it would be necessary, perhaps, to get some concessions

from the International Postal Commission, who resided in Berne, Switzerland. I wrote to Mr. Bertrand, of the *Revue Internationale*, at Nyon, who explained the matter to, and was seconded by the assistance of, a Swiss apicultural society. I went to Rome in the matter, to speak to the Minister of Postal Affairs. The Marquis of Compans, private secretary of the Minister, a bee-keeper and a farmer, was there. He assisted me with much kindness, heard my arguments, and, in short, promised me his influence at Berne, and wrote, at the same time, to the different governments, and kept his word. You see this affair was so well managed that we can now send queens in Benton cages to various countries, putting on the same postage that would be necessary for letters. I have, then, some reason for saying that I deserve some credit for this success.

Bologna, Italy, Feb. 5. C. BIANCONCINI.

[We owe you a vote of thanks, friend B., if you are the one to bring about the privilege we now enjoy, of sending queens to any part of the world by paying letter postage. By way of "reciprocity," we wish to do our friend Charles Bianconcini, of Bologna, Italy, a little gratuitous advertising. He probably furnishes nine-tenths of all the queens imported into the United States. He takes great pains in selecting the very best and nicest queens, knowing very well that they are used for breeding in this country; and this may account in no small degree for the excellent qualities shown by the queens from sunny Italy. But, hold! we have just learned, that by the new tariff law queens can not be sent to the U. S. *by mail*, although *we* are permitted to send queens by mail to other countries. This is too bad after all our friend has done for us. As the framers of the law did not anticipate queen-bees, Prof. Cook on our part will probably go to Washington to have the matter made more fair in the near future. See editorials.]

THE PHONOGRAPH.

IN USE BY THE W. T. FALCONER CO.

For a year or two we have been contemplating putting in a phonograph for taking and transcribing letter dictation; but we were informed that it is not a practical success. Very recently, however, on the W. T. Falconer Manufacturing Co.'s stationery we noticed a stamp with the words: "Dictated and transcribed by the phonograph." We immediately wrote them, asking them as to the practicability and use of the Edison invention; and their reply, which we consider of more than general interest, we append below:

A. I. Root:—In regard to the phonograph, we have only commenced to use it; but we think we are going to like it very much. Of course, it requires some little experience to get the best results from it, and all the stenographers have to learn how to use it; but it is not difficult to get accustomed to working it. We use the machine by dictating several cylinders full, and then letting the stenographers take them off in shorthand, and transcribe them. They are usually used, however, by having the type-writer operator take the dictation off direct, without taking it down in shorthand; that is to say, the operator listens for a moment; and what he remembers he transfers with the type-writer to paper, and stops the machine in the meanwhile. This is a good arrangement, as it can be done

very easily. There is one little difficulty that the writer experiences, but perhaps you would not have; and that is, a feeling of embarrassment when he is talking. It seems as though he went into the factory to a saw-table, and talked to it in a confidential way.

We believe it would pay you, as frequently, a person would like to dictate a letter and then leave the office, and sometimes the stenographers are all busy. We find that to be the case with ourselves, and presume it is with you. The matter of expense is very little—only \$40.00 a year rent; and we believe that any firm, having as much correspondence as you have, can get that value out of it any way.

We would suggest your writing to the New York Phonograph Co., Buffalo, N. Y., and they will write you in full in regard to it.

THE W. T. FALCONER MFG. CO.
Jamestown, N. Y., May 12.

MORE ABOUT THE ISLAND OF MALTA.

THE ORIGIN OF ITS NAME; ITS HONEY RESOURCES; OBJECTS OF INTEREST.

In GLEANINGS of Dec. 15, 1890, after reading friend Baldensperger's article I wanted to get right up and have my say. The article to me was very interesting, as I am an old resident of Malta. I went to that island under circumstances similar to those of friend B., being on board of a ship with 80 yellow-fever patients, therefore I am pretty well acquainted with the lazaretto. There are some very interesting as well as truthful things said in Mr. B.'s article; but I am very certain that he got the blues bad while in quarantine, and that accounts for the view he took of things while in Malta. First, he finds fault with the quarantine regulations. Why, friend Root, is it not better to be strict in health regulations than to suffer disease to spread, which might cause serious calamities?

Another thing that puzzles me is, how he can construe the word *Melita* into a word meaning *honey*. *Mella* means *salt*; but how *Melita* can be honey, I can not conceive. North of the lazaretto is a village called *Sleima*, where there are saltworks. I lived in *Sleima* two years, but never heard any other construction given than that *Melita* derived its name from the salt found there. If he had gone to *Cita Chevicia* he might have seen a wonderful spring, its water being carried by aqueduct seven miles to *Valetta* and its suburbs. Indeed, it is almost the sole supply of water for the island.

Again, "There is nothing to be found but carob-trees." Mr. B. I could take you to very beautiful gardens and orchards where grow figs, oranges, lemons, limes, apricots, pomegranates, palms, grapes, and an endless variety of other ornamental trees, besides large groves of bamboo. The story about bees and the manner of keeping them is very correct; also its wonderful production of vegetables. I wonder if he saw the turtle-pond, the eel-ponds, the catacombs, or the church of *St. Antonia*, or the place of *St. Paul's* shipwreck, and the place where the footprint is cut in the rock, which a priest will tell you was done by the pressure of *Paul's* (?) foot when he landed.

It is also true, that there are no venomous reptiles in Malta (there are centipedes and scorpions). In the history of Malta I think it is stated that a snake was never seen on the island, and that the viper must have come from Italy in a dormant state in wood or other material. However this may be, I certainly saw and handled a small snake, about 18 inches long, that I found there; but it was harmless,

and I carried it for some time in my pocket, to show folks.

I should like to take friend B. by the hand and have a long and interesting talk about Sicily, Italy, good old Malta, and also of old Carthage, Tunis, Tripoli, Algiers, Tangiers, and Morocco, and a little about that suspension bridge across the Gut of Gibraltar, and then take him once more by the hand, and say, "Lek, Alla yetek essheba, yuezumuauk plim hobba tua."

WINTER LOSSES.

I have tried to get all the information possible in regard to wintering bees in this neighborhood; and the result is, not enough honey last year to winter, consequently a great loss in wintering. Some have lost all, others half, others a third; the average loss in these parts is about 35 per cent.

Now, friend Root, I must say something about myself. My average of comb honey last year was 18 lbs. per colony surplus, with plenty to winter; and, as usual, I have come out without any loss, so I think in a few days I will write you my method of keeping and wintering bees. Clintonville, Wis., May 11. DANIEL NOBLE.

[Thanks. In regard to the origin of the name of the island, Mr. Baldensperger doubtless drew his derivation of the name Melita from the Greek word *meli*, meaning honey. Mr. B.'s derivation was a very natural one—more natural, indeed, than the one you propose, though yours, from the Arabic word *mel'h*, salt, may nevertheless be the correct one. We as bee-keepers would prefer to have the word derived from *meli*.] E. R. R.

AN APPEAL

FROM A DEAF AND BLIND GIRL, FOR A LITTLE BOY EQUALLY UNFORTUNATE.

The following, from our old friend and former correspondent, George O. Goodhue, came to hand. The matter it contains is so intensely interesting that we are glad to give place to the whole, although it does not pertain strictly to bee-literature. We know that there is "large room" in the hearts of our bee-keepers for such matter. The article is as follows:

Dear Uncle Amos:—Room, large room, in your big loving heart, and in the heart of GLEANINGS' readers, for my dear little friend Helen Keller, of Alabama, totally blind and deaf! Nay, please don't pity just yet one of the sunniest and most affectionate natures you ever knew, always cheery, loving, and happy, a joy and blessing to all in spite of her triple affliction, the full magnitude of which it is difficult to realize. Just think of it for a moment! All intelligent realization of what there is on earth, all conception of God and heaven, comes to her veiled mind through her little sensitive fingers alone! I must warn you, however, if you do admit her, that she will surely make room and claim your sympathy for another blind-deaf mute, little Thomas Stringer, of Washington, Pa., whose case she so touchingly pleads in the annexed letter, composed and written entirely by herself.

SOUTH BOSTON, MASS.

Dear Little Boys and Girls:—You will be surprised to get a letter from a little girl whom you have never seen; but I think she will not seem quite such a stranger when you know that she loves you, and would be delighted to give each of you a loving kiss; and my heart tells me we should be very happy together, for do we not love the same things, playful

young kittens, great dogs, gentle horses, roguish donkeys, pretty singing birds, the beautiful springtime, and every thing good and lovely that dear Mother Nature has given us to enjoy? and with so many pleasant things to talk about, how could we help being happy?

But how I am going to tell you about a dear little boy who does not know how to be joyful, because he can not hear nor speak nor see, and he has no kind lady to teach him. His name is Tommy, and he is only five years old. His home is near Pittsburgh, Penn. The light went out of the poor little boy's eyes, and the sound went out of his ears, when he was a very small infant, because he was very sick indeed, and suffered greatly. And is it not sad to think that Tommy has no gentle mother to love and kiss her little child? He has a good papa, but he is too poor to do much to make his little son's life happier. Can you imagine how sad and lonely and still little Tommy's days are? I do not think you can, because the light has never gone out of your bright eyes, nor the pretty sounds out of those pretty ears, like pink-white shells. But I know you would like



HELEN KELLER.

to help make your little new friend happy, and I will tell you how you can do it. You can save the pennies which your papas give you to buy candy and other nice things, and send them to Mr. Anagnos, so that he can bring Tommy to the kindergarten, and get a kind lady to teach him. Then he will not be sad any more, for he will have other children to play with him and talk to him; and when you come to visit the Institution you will see him and dear little Willie playing together, as happy and frolicsome as two kittens; and then you will be happy too, for you will be glad that you helped make Tommy's life so bright. Now, dear little friends, good-by. Do not forget that you can do something beautiful, for it is beautiful to make others happy.

Lovingly your friend,

HELEN KELLER.

In March, 1887, only four years ago, Miss Annie M. Sullivan, of the Perkins Institute for the Blind, in Boston, went to Helen's Southern home, and with gentle, patient persistence, sought entrance to her darkened mind through her tiny fingers. The history of her most surprising success is more wonderful to all child-

lovers than any romance. In a deeply interesting pamphlet published by Mr. Anagnos, manager of the institute, he thus speaks of her beginning:

On taking charge of her little pupil (who hopelessly lost all sight and hearing when only nineteen months old) Miss Sullivan saw at a glance that she had an extraordinarily bright child to deal with. The ebullience of Helen's mental activity, and the outbursts of despair which followed the failure of her attempts to make herself understood by the members of her family, convinced the teacher that there was a tremendous intellectual force locked up and suppressed in a dismal grave, struggling for an outlet, and ready to shatter its barriers. Following the simplest and most direct methods of Dr. Howe (the teacher of Laura Bridgman), Miss Sullivan sought anxiously to find some aperture through which to convey the pabulum of knowledge to a starving soul. Her efforts were rewarded with a speedy and grand success. Helen's darkened mind was reached through the sense of touch, and the little prisoner triumphantly rescued, and at once became a citizen of the world. She is no longer disinherited from her human estate, and treads the earth with buoyant footsteps and a light heart.

Since that time Helen has been under Miss Sullivan's intelligent and devoted care, and at the present writing both are at the institute in Boston.

As already intimated, during the short time of her tuition Helen has made the most astonishing progress—not only reads all books written for the blind, but "her vocabulary has increased to such an extent as to comprehend more than three thousand words, which she can spell without a mistake, and which she uses with a freedom and accuracy not often found in hearing children of her age." She has also learned to articulate, or speak slowly, by placing those wonderful finger-tips upon her teacher's throat and lips, and noting their movements.

A friend in Pennsylvania thus writes me about her:

Wonderful as are her acquirements, the child herself is still more so. Her natural poetry of mind, her unflinching amiability, her perfect trust and confidence in the good intent of every one, her determination never to see any thing bad in any one, are simply marvelous. To all our family she is dearer than any one outside of it.

Another friend thus writes of her:

Her little heart is too full of unselfishness and affection to allow a dream of fear or unkindness. She does not realize that any one can be any thing but kind-hearted and tender.

The simple, trustful manner of her appeal for little Tommy will be noticed as showing these traits in her character. As will be seen by her letter, she dearly loves all kinds of pets. This winter her faithful dog, a trusty guardian and affectionate playmate, to which she was greatly attached, was killed under very aggravating circumstances. Though distressed beyond measure at her loss, all she would say about the murderers of her pet was, "They never could have done it if they had only known what a dear good dog Lioness was!"

A short time since, I had the great pleasure of a little visit with Helen and her friends in Boston at the Institute. I found her to be a tall, well-formed, graceful girl, nearly eleven years of age, natural and winsome in her manner, with beautiful brown hair falling in luxuriant curls over her pretty shoulders. Her face lighted up with such a cheerful, animated, and altogether charming expression, that I missed far less than I expected the usual "windows of the soul."

The only time during my visit that I thought of pitying her was after dinner while we were still sitting at the table, all of us chatting together except Helen, who sat quietly and pa-

tiently with her touching face in quiet repose, alone in that awful darkness and dread stillness. I could not bear it, and made an excuse for us to rise from the table so we could talk to her. As she chatted on, showing so many pleasing phases of her wonderful mind and character, my feeling of wonderment so increased that it was most difficult to control my thoughts and feelings, and, after leaving, I found ever so many things I had forgotten to ask her about.

She is very fond of flowers, and told me about the different kinds her father had in her Southern home, inquiring if I grew the same, naming and describing very pleasingly, merrymets, Marshall Niels, brides, jacqueminots, etc., all of which she knows and can distinguish from each other by their fragrance. Warming with the subject of flowers (and after speaking with gleeful anticipation of the time when she should go into the woods near the poet Whittier's home with her teacher, and gather the



THE DEAF AND BLIND GIRL AND HER DOG.

spring flowers, many of which she lovingly described) she said, articulately, "Soon they will burst again in all their wonderful beauty and fragrance!" unconsciously emphasizing her words by lightly starting from her seat and giving a quick little upward movement of her hands, full of meaning and expression. My eyes failed me for a moment as I thought of the time when this lovely soul would burst its fetters of awful darkness and silence, and, with increased and never-fading beauty and sweetness, evermore bloom in our Father's kingdom.

Before seeing her I had learned that she was intensely interested in the little blind-deaf mute, Tommy Stringer, of Washington, Pa. His mother is dead, and his father too poor to send him to the Perkins Institute. As soon as Helen learned of the pitiful situation of the little fellow, her tender sympathetic heart could not bear the thought that he should be left to remain in that terrible state of mental darkness from which she had emerged, and which, with

just a shade of sadness coming for a moment over her bright cheery spirit, she so touchingly describes.

By her unceasing exertions a fund has been started (to which she has contributed her own spending-money) to bring the little fellow to the Institute. The expense for his care, maintenance, and education will be quite a considerable amount, as it will take some years to teach him, and, as before stated, his father is too poor to bear the expense. Feeling sure that many of the GLEANINGS boys and girls, as well as some of you children of larger growth, would consider it a privilege to aid Helen's unselfish work, I requested her to give me a letter for publication, which speaks for itself in her own words, and which I will leave for Uncle Amos to comment upon.

As I think of this child whose lovely soul shines out so brightly and cheerily, despite those darkened windows and walls of dread silence—at once a gentle reproof against murmuring and repining, as well as a joy and in-

GLEANINGS, and also give in fac-simile characters what you can of her letter. Do you know it took about two hours for her little fingers to form those characters? They can not begin to keep pace with the rapid workings of her wonderful mind. I know your kind heart will favor Helen's unselfish project; will you therefore please receive what may be sent you in this behalf? You might call it, if you like, a GLEANINGS fund. Although already a subscriber, I want to have a share as a GLEANINGS reader as well, and inclose \$5.00 for that purpose.

Sincerely your friend,

—GEORGE O. GOODHUE.

Danville, P. Q., May, 1891.

[It was a pleasure to have the photos engraved in that beautiful soft tint that our friends so greatly admire; and we have also photo-engraved, as per below, the exact text of the last four lines of her letter, full size.

It may seem like taking a great deal of space;

dear little friends, good-bye. Do not forget that you can do something beautiful for it is beautiful to make others happy.
Lovingly your friend,
Helen Keller.

SAMPLE OF WRITING FROM A DEAF AND BLIND GIRL, 11 YEARS OF AGE.

spiration toward that which is unselfish, good, and true—these words of Bickersteth come strongly to mind:

On whom not we alone, but all who looked,
Gazing would breathe the involuntary words,
"God bless thee, darling!—God be blessed for thee."

GEORGE O. GOODHUE.

Danville, P. Q., April 27.

The above would hardly be complete without a private note which our friend Mr. Goodhue sends along; and we are sure he will not object to our making the following extract:

Dear Mr. Root:—How would you like as a text, "A little child shall lead them"—Isa. 2:6? I also inclose you her picture, taken in two different positions, which may please you. Her friends kindly gave them to me, and I then sent to the artist for these for you. If it were not too expensive, it would add very greatly to the interest of the article if you could reproduce one of them in that beautiful soft tint which we so greatly admire in some of the photos in

but such a beautiful sentiment from a girl who has been, from babyhood, deaf and blind, and who under the tuition of, we are sure, a Christian teacher, is enabled thereby not only to evolve such a beautiful thought, but to give it to the outside world, we are sure deserves a good deal of prominence. Oh that people who are complaining of the way the world is treating them would read those words over and over, and then contrast their condition with that of little Helen's physical condition!

Many of the older readers of GLEANINGS will probably recognize friend Goodhue as the one who, years ago, did quite a service to the proprietor of the Home of the Honey-bees. The glimpse we get of him in the above is quite in keeping with the former incident. He is never so happy as when helping the helpless; and although I once knew him when he was not a professing Christian, may God be praised for the evidence he gives us now that his hopes are anchored on that faith that goes beyond the limits of this world and this present life. We take pleasure in making the \$5.00 that our good friend has sent us as a nucleus to work on,

\$25.00; and I hope the readers of GLEANINGS will enjoy assisting in the work according to their means, that our good friend Tommy Stringer may be emancipated from his poor dark prison life in the same way that our young friend Helen Keller has been taught to read and write. Contributions may be sent to friend Goodhue or to us, as the friends choose. We will send the \$25.00 right along, and other installments will follow as fast as the amounts will warrant sending a check; and who knows but that Tommy may ere long give us a letter of his own, expressing his thanks for what we hope to do for him? If any of the readers of GLEANINGS are curious to know how this wonderful thing is accomplished, they can get a hint of it by turning to our back volumes, where they will find a description I gave of the methods employed at the Deaf and Dumb Asylum in Columbus, O.]

A. I. R.

THE CLARK SMOKER.

FUEL FOR SMOKER.

Friend Root:—I've just been reading your latest "Directions" that go with the Clark smoker, and will indulge in a few comments.

I agree entirely with you as to rotten wood. As to the planer shavings, I have used them a great deal, with and without sawdust, and I am strongly of the opinion that I'd rather leave the sawdust out. It's all right to have the material you have, sawdust and all, but you can't get that at a common planing-mill. The material you call excelsior is excellent. I got some of it from you a year or so ago, and like to have it on hand all the time. It is easily lighted, and lasts well. But it isn't excelsior. The article commonly called excelsior makes very poor smoker fuel. Possibly, combined with something else it might do. You say, "Use *wet* sawdust mixture." For this locality I'd rather have it dry.

Pine cones, where they are plentiful, are good, but they fill up with creosote rather too much. Sound dry wood makes excellent fuel, but it is not easily used in a Clark, and for the Bingham it is so expensive that I prefer planer shavings. I don't mean the wood itself is so expensive, but it is so much labor to prepare it.

Of all the fuel I have ever tried, nothing suits me so well as turning-lathe shavings of hard wood; and of all woods, osage orange is the best I have tried. It is exceedingly hard, and makes the very nicest mallets, tool-handles, etc. If you have none of it about Medina, you would do well to have me ship you a few sticks, unless you can get it nearer.

HOW TO HOLD THE BELLOWS.

You may be right in saying that the valve will be gummed up more if it is held valve upward, but I doubt it. If any one has fairly tried both ways, so as to know which way is best, I wish he would arise and so state.

HOW TO CLEAN OUT THE SMOKER.

You say, "Cut a slender sprout the size of a leadpencil. Trim its surface so it will be smooth. Ram it through the blast-tube, back and forth, until it is cleaned." I don't like that. If the sprout is of a size to go through easily, it is likely to break off in the tube, and then there is a state of affairs. It's some trouble to get and prepare the sprout each time. Sometimes you are where you can't get one; but the worst of it is, that every time you clean it out in that way you push a good-sized chunk of creosote into the bellows. Better have a permanent cleaner that will pull the creosote out. Get a piece of heavy wire, perhaps an eighth of an inch thick; bend it into about the same curve as the blast-tube;

hammer it at one end into chisel shape, bending up the chisel end about an eighth of an inch or more at right angles, and then you will have a good tool always ready to use. It's just the same as one you used to send out with each smoker, only bent more, and heavier wire.

Marengo, Ill., May 10.

C. C. MILLER.

[All right, friend M. We will try turning-lathe shavings. Great quantities of them are burned in our boiler-furnace. But we will stop and investigate, right away. Our turning-lathe shavings are all from hard wood. Our apiarist, Mr. Spafford, however, hangs to the excelsior sawdust that comes out of the hand-holes of hives for smoker fuel. He is now using it with excellent success in the new Hill smoker. Now about that blast-tube. I suspect you rake it out too much. I don't believe we clean ours out more than four or five times a season. Every time you rake it, the worse it makes your bellows. The old small blast-tube we formerly had got filled up, and had to be cleaned nearly every day. The cleaning-implement which you suggest might perhaps be better; but we get along very nicely by using a heavy wire, curved at the right arc; but as a wooden sprout of the right size does nearly as well, we thought that it would answer for the great multitude who buy the Clark smoker—about 20,000 a year.]

LADIES' CONVERSAZIONE.

PUTTING FOUNDATION INTO WIRED FRAMES.

EMMA WILSON TELLS US HOW TO USE ARTIFICIAL HEAT FOR IMBEDDING THE WIRES.

In the division of work in our apiaries it has been my lot to fasten the foundation in brood-frames. When this work is to be done, and I have bent the nails and wired the frames, then I am ready for the foundation. I have usually selected a sunny spot, and spread out my sheets of foundation where the sun could shine directly on them, as a good deal depends on having foundation in just the right condition. It should be quite warm to work nicely. If too cold, the wire will not adhere to the foundation well. If too warm, there is danger of the wire cutting its way clear through the foundation, and then the bees are likely to gnaw holes in it. Especially is this true if the foundation is given at a time when they are not very busy. It is not necessary to have your wire imbedded deeply in the wax. If it adheres firmly, that is sufficient.

We formerly cut our foundation smaller than our frames, leaving a space at the sides and bottom. We found that the bees would not fill out that space, especially at the bottom, leaving a place for the queen to hide, which was very annoying. We now have the sheets a little larger than the frame, they being just the same length, but a little wider, so that we can crowd them in, pressing the edges firmly along the top and bottom bar; for even if you leave it so that it just touches the bottom-bar, the bees will be pretty sure to make a space, which we want to avoid. In this way we get beautiful frames, and I can not see that reversible frames have any advantage, so far as solid combs are concerned.

One cool cloudy day I was obliged to prepare some brood-frames. As I could not have the heat of the sun, of necessity I was forced to find some other way of heating my foundation; so I carried it to the gasoline-stove. I heated

the sheets, and proceeded to fasten as usual with the Easterday foundation - fastener. My foundation had been too cold and the wires did not adhere well. I picked up my frame, turned it over, wired side down, and held it for a second over the gasoline. I was surprised to find the wires beautifully imbedded in the foundation, as if they had been made there. I was delighted. Now, if it would only work when no previous attempt had been made to fasten it! I laid my frame on my board, heated a sheet of foundation, and laid it smoothly over the wires, pressing the edges firmly along the top and bottom bar; then, lifting it, held it (wired side down) and moved it rapidly over the gasoline for a few seconds, and found it did the work nicely. If a wire failed to catch, I passed my finger lightly over the foundation above the wire, and it was all right. Usually the weight of the foundation is enough. If you use a gasoline-stove you must work very rapidly or your foundation will melt. I have since used a common kerosene-lamp, and found it worked just as well, only a little slower. Just move your frame over your lamp, following each wire. You can easily see your wire through the foundation, when held over the lamp. Be careful not to move so slowly as to melt your foundation. We think the bees work the foundation just a little better when fastened in this way. Possibly a wood or coal stove might be better than a gasoline-stove or lamp, but I have never tried it.

I inclose a sample of foundation, wired as described. You will see that the hot wire has melted its way into the wax, and, instantly cooling, left the cell-wall perfect. Possibly you may think the wire not deeply enough imbedded; but in actual practice the bees work it all right, even if not done as well as the sample I send you.

EMMA WILSON.

Marengo, Ill., May 18.

[After reading your article as above, we went out where they put foundation into frames, and gave directions to have the matter tested at once. The girls tried it and did not seem to make it work, and then I tried it—both with gasoline and the lamp. The difficulty that I experienced was, the foundation becoming soft, would bag down before or about the time it began to adhere to the wire. We have for years been in the habit of wiring our foundation between the coils of steam-pipes before putting it on the wires, after which we imbedded it with the Easterday foundation-fastener. But if I understand you, you made the heat from the gasoline not only warm the foundation, but imbed the wires as well, without the regular wire-imbedder.]

E. R. R.

BUILDING UP WEAK COLONIES.

MRS. AXTELL DEFENDS HER POSITION.

I think Mrs. Harrison does not have so many weak colonies in the spring as we have, from her remarks in last GLEANINGS, for some reason or other. I dislike very much to have a colony die that comes out of the cellar with a pint of bees. In locations where there is plenty of fall honey always, there are fewer weak colonies in the fall, and consequently fewer weak ones in the spring; but sometimes our good strong colonies dwindle in winter when they have plenty of honey in the hive, and we can see no reason for their dwindling.

HOW TO BUILD UP WEAK COLONIES.

I do not know that I can give any thing new from what others practice. A remark made some ten years ago by a man owning quite a

number of colonies of bees struck me at the time as being an unthrifty way of caring for bees. He said it never paid him to bother with weak colonies. Since then he has found that "bee-keeping does not pay," and has gone out of the business.

Building up weak colonies in the early spring is far more difficult than at other times of the year, especially if very weak. From such colonies I would take away all combs of honey, and leave them only one or two combs of capped brood, with a little honey in the corner of the combs. If not sufficient in the corners of the combs I would give them a chunk of honey laid on top of the one comb, or more, leaving only enough combs that the bees could cover, even if it were only one comb. Now lay a piece of carpet or quilt over that colony, and pour into that hive until it is full of dry chaff. That taken from a straw bed is the very best one can get. Enough soft warm quilts will answer. Of course, there must be boards on each side of the brood to hold the quilts out from touching the brood, and I would not open that hive until I could get hatching bees. Then I would look through one or more strong colonies, and find the queen and set her comb back into the hive and take the other combs of brood, or only part of the combs, and brush off all the bees in front of the weak colony, first laying down a piece of straw carpeting or enameled cloth, for the young bees to run up to the entrance on. They must have a smooth track. Brush a little distance from the hive. When brushed off, stir them up some, so that the old bees will fly back to their own hive. Better make each colony strong enough to come through, rather than to fuss with several when none is strong enough. In a few days a comb of brood with honey in the corners may be given them, if you can get it from some strong colony that has not spared bees; or if a good many young bees were given, a comb of honey may be given, as these young bees will not die off until they hatch out other bees to take their place. In two weeks more, probably that weak colony could be given another comb of brood, or empty comb, adding combs from time to time until it can spare a comb of brood to give back to the colonies that had helped it, if need be.

Soon after taking bees from the cellar, all weak colonies should be put down upon what combs they can be crowded upon, and a record kept of the weak and queenless ones; and the queenless united with the ones that are the weakest. If there are more queenless than very weak colonies, I would unite two or more of the queenless with the weak one; or if the queens were poor and not worth saving, I would use such colonies to help build up other weak ones. I think, why people fail in building up weak colonies is because they do not crowd them enough, nor cover them up warm enough, being careful that every little opening is closed, so the warm air can not escape, and the entrance to the hive closed, so that positively but two or three bees can pass in and out at a time; and they should be kept crowded until the middle of May, or later. If the bees are crowded upon a comb, the warmth tends to make them healthy, and the queen will fill every cell in the comb with eggs that is not filled with honey; and one large comb of brood is much better for them than several combs with just a little brood. I do sometimes take out all their combs if they have, say, three combs with brood, and exchange with a strong colony that has its combs filled full of brood and honey, and give the weak one only the one full comb. Of course, the queen can not lay so many eggs as if more combs were given, but there will be more bees hatch out, as all her eggs will be

cared for. I think it much safer to give young bees than brood, as the old bees so soon die off in the spring, and let much or some of the brood given them die. How often, when giving a weak colony brood, do we find, when looking over them again, that the eggs have been removed, and the larvæ dried up! whereas, the young bees would all live, and no waste. If such weak colonies are in the sun, they do better than in the shade.

PUTTING HOT STONES TO THEIR FEET.

Should a very cool spell of weather come on, it will pay to heat large stones and lay in the hive morning and evening, care being taken that they are not so hot as to melt the combs or injure the brood—just long enough to tide them over the cold spell. Mrs. Harrison, and others, I know, will laugh at this last sentence; but you will remember that I love to work with bees. No care for them is too much if I can do them good; and it is my life to be out of doors and see my little pets prosper. If the stones are thoroughly wrapped up they will hold heat a long time. We put hot foot-stones to our own feet when ailing, so, also, it is good for the bees, as a colony would not likely dwindle if healthy and warm, unless it starved. Mr. Axtell sometimes feels disposed to laugh too, at so much nursing; but the laugh generally turns the other way, when, before fall, I get from each of those doctored colonies, after they have paid their debts, from 20 to 40 lbs. of honey, besides having a good colony to winter.

NOT PAY THE MEN-FOLKS.

Now, I don't know that such tinkering with bees would pay for high-priced labor; but for us women-folks, who need outdoor exercise, and something to keep us out of mischief, I know of no better employment. I wish it understood, I would not weaken strong colonies to build up weak ones, neither would I so fuss with a colony that had an inferior queen. If I borrowed from a strong colony, I would pay back again so as to have all colonies possible, strong ten days or two weeks before the main honey crop came, as all apiarists who expect a crop of comb honey should have indelibly inscribed upon their minds that it is only the strong colonies that gather the surplus comb honey.

FEEDING IN EARLY SPRING.

I think it a good plan to feed bees just as soon as set out of the cellar, so as to have them hurry up the brood before the old bees die off. Feed a little then, even if they do have plenty in the hives. I like outdoor feeding for that purpose, as it is so like to the bees getting new honey from the flowers that it induces the queens to do their best, and it makes the bees so quiet while we work with them—so like the natural honey-flow.

When using young bees to build up weak colonies I can't remember to have ever had a queen killed by them. Once I thought to introduce a lot of young bees thus to a colony with fertile workers, so as to have the young bees to raise queen-cells; but the fertile-worker colony killed the young bees, many or all of them.

Roseville, Ill., May 9. Mrs. L. C. AXTELL.

[My good friend, I did not suppose that anybody besides myself had ever enjoyed working with and helping weak colonies in the spring as I have, until I read your remarks above. I never used the hot bricks, it is true; but I have crowded the bees down on to a few frames, and have taken hatching bees from strong colonies, and I have in that way saved my queens. As I was obliged, however, like yourself, to give some of the strong colonies brood or bees back

again, I concluded it did not pay very well, aside from saving valuable queens; but I enjoyed seeing them slowly build up, and get on their feet. It surely can be done, but it takes a good deal of time. The experience one gains in such work is, however, valuable. On one occasion I remember of having a queen killed; but the bees I shook down at the entrance were, many of them, not very young. It was the older ones that attacked the queen when they found she was not the one they were accustomed to. I think there are quite a few of our readers who have the time on their hands, and will enjoy building up weak colonies in just the way you indicate, especially where, if they can be kept going just one week more, or sometimes three days more, the warm weather will come with the fruit-blossoms or clover, and they will then be able to take care of themselves.]

A RECRUIT TO THE LADIES' DEPARTMENT. VALUABLE TESTIMONY ON BEES VS. FRUIT.

Mr. Root:—Now that you have kindly opened a side door for the ladies, allow me to enter and contribute my mite of experience. Three years ago my husband and myself and a neighbor, like Rambler's friend Dr. Merchant, had a severe attack of bee-fever. I believe my case was the severest. It has seemed to buzz inside of my head as well as outside. As an instance, I once asked some one to please chase the bees out of the yard. Of course, I ought to have said "chickens." The fever abated somewhat; still, traces remain. As I dearly love all of God's creatures, the busy bee comes in for its share, and a good big share it gets too. I do not like the bees to be slandered, for it vexes me; still, I do not know enough about their habits to be able to defend them on every occasion. Now, perhaps some of our "bee authorities" may be able to explain the following:

A neighbor of ours says he could not be hired to eat honey, because bees are filthy. He says he has seen them eating from the sores on horses' backs. I believe there is a mistake somewhere; still, I can not argue with him, as I am a mere novice in the business. Can any one explain?

Another neighbor says he would not keep bees because they injure fruit-blossoms. But I was a match for that gentleman. I knew my poor opinion would not go for much in his estimation, so I wrote to our State Inspector of fruit-pests, who answered promptly as follows:

"Your favor of the 23d inst. at hand, and contents noted. In answer I will say that I am not aware that the bees injure fruit-blossoms and crop of fruit in the least; but I am confident they are a benefit instead, as they, with other insects, assist nature in fertilizing and thus insuring the crop.

JAMES A. VARNEY."

ELIZABETH G. WOODHAM.

Reuben, Oregon, May 11.

[My good friend, perhaps we should reply to that charge against the bees being filthy. My impression is, that if anybody did really see what you mention, it was during a dry time when bees find it difficult to obtain water. At such times they will alight on any thing that seems to show moisture of any kind. It may also be true, that they require, for certain purposes, decayed vegetable matter. We often see them swarming about the outlets of sewer-pipes. But this is probably owing to the salt that usually gets into slop-drains sooner or later. As horses are usually moving about more or less, I do not think that more than one or two bees could have been guilty of what you mention.]

A. I. R.

THE PUMPKIN BUSINESS.

PUMPKIN PIES BY THE CARLOAD.

No, no! I do not mean pumpkin *pies* by the carload—I mean only the pumpkins themselves. And what put me in mind of it was the excellent picture below, sent us by our good friend Cummins, who has a canning-factory. You see, in order to keep his factory going he has to have a pumpkin-ranch, and the picture tells us how it looks.

As you are interested in fine crops, we send you a photo of a section of our field of 24 acres, from which we gathered 391½ tons of as fine pumpkins as ever grew.

Conneaut, O., May 4.

D. CUMMINS.

NOTES ON THE FIELD.

DR. MILLER HAS LOST HEAVILY IN WINTERING.

I'm not a good bee-keeper. I let bees starve. I supposed last fall my bees had stores enough;



PUMPKIN PIES IN PROSPECT.

By the way, friend C., is there not a chance for getting considerable honey from these great fields? I remember one season, when our bees settled the scales quite perceptibly every morning; and when I followed them to see where they went, it was to a pumpkin-field where the corn had been killed out; and, didn't they make a humming, though, for an hour or two! The honey was not of a very fine quality nor color; but it kept brood-rearing going beautifully during a dearth of pasturage. Above is all that friend Cummins tells us about the picture. Now, as he is a bee-keeper, can he tell us any thing about pumpkin honey? A. I. R.

but toward spring I found some starving. Instead of stirring them up by feeding all in the cellar, I thought better to let starve what would, and feed as soon as out.

March 30, maples bloom, but I'm afraid it may come cold again. So it did, cold and snow, no warm weather till April 12. Good day to take bees out, if it hadn't been Sunday. Next day good, but postponed taking bees out, for wash-day. Better have postponed wash-day. The 14th and 15th, too lowery; but 16th pretty good. Got Tom Barry to help, and he, with father Huber and I, emptied both cellars by half-past ten. Hives were so light that we each

picked up our own hive separately—found it quicker and easier not to fuss with any carrier or rope. There the benefit of cleats came in; for, to carry easily, you must catch at the furthest corner with your right hand, and at the nearest corner with your left hand, letting the hive rest against your right side. The cleat also strengthens the thin piece left by the rabbet at the top of the hive. Emma stayed in the cellar, kept it swept up as the floor was cleared, tried each hive to see if alive, and gave a little boost at lifting hives off the top of piles. Not far from 50 dead, and nearly all of them starved. I'd like to lay it to the winter or something else; but the only thing unusual about the winter was its mildness.

Doolittle's fussy. Now, he would have gone over those hives in the early fall, examined every one separately so as to know just how much honey they had, and then—would have saved his bees. Perhaps I'd better be a little more fussy.

One thing that puzzles me is, that nearly all the loss was in the house cellar, the warmest and heretofore the best cellar. It had the bees from the out-apiaries, and possibly they were not so well provisioned.

A. I. Root once thought I'd better have fewer colonies, and take better care of them. I'm something of his mind, and I can't say I'm so very sorry for the reduction in numbers. At any rate, I don't want to have such hard work as we had last summer, two of us taking care of some 300 colonies, besides the extra work caused by a lot of useless experiments that I always seem to have on hand. This year I'm determined to have it a little easier, divide the bees into three apiaries, remorselessly break up all weaklings, and I shall not feel sorry if the number is reduced to about 200.

April 25.—To-day I finished feeding the last colony. There were so many near the point of starvation that it wasn't safe to wait till all could be regularly fed with Miller feeders, as I had only 45 of these, so we managed to give to each colony at least a little by April 18, putting a section with a little honey under a good many of them. To a few we gave moistened brown sugar, but the bees didn't seem to care for it. I put a dish of it out for them to rob, but they didn't touch it, although they were trying to get into hives to rob wherever they could.

I had intended to feed brown sugar, thinking it cheaper, and well enough for spring; but there was such a trifling difference in price that I concluded to use granulated. I don't understand how a dollar can buy more sweet after it is refined than before, and wish some one would explain it. It took about 1700 lbs. I've been of the opinion that it is better to feed at night, or at least in the evening; but this year after the first day's feeding I fed in the morning. If the feed was given in the evening, they seemed to stop work on it when they thought it was respectable bedtime; and then as the feed was cold, they did not get to work on it very lively the next day. But if the feed was given in the morning, they had it cleaned out by bedtime. It was given nearly scalding hot.

Charlie (my son) happened to be at home, and had all the bees of the out-apiaries hauled away by the time we were done feeding. Fifty were taken to the Hastings apiary, and nearly a hundred to the Wilson. The Wilson apiary always seems to be the best location, although I don't know why, and then there was another reason. If there were more than fifty in the Hastings apiary we should have to go two days to get through them, and two days to go through the Wilson apiary, making four days for both; whereas, by putting the smaller num-

ber at Hastings, both apiaries could be gone over in three days.

May 5.—Nearly all the bees have been overhauled, the first time in my experience, I think, when such a thing was possible so early; but it has been almost summer weather, and I think I never knew bees to work so rapidly at brood-rearing. Is it possible that the feeding has made most of the difference? It looks somewhat that way.

In going our rounds we came to the colony whose frames had been reinforced with separators to make them equivalent to thick top-bars. I said, "Well, that's pretty clean work; there are no burr-combs between top-bars and cover, as in other hives, except over one of the middle top-bars;" and inspection showed that one of the middle combs had been taken away, and its place filled by a frame with a $\frac{3}{8}$ top-bar. But, if I remember rightly, it was not entirely clear of burr-combs last summer, when supers were on. Certainly thick top-bars form one of the elements in securing immunity from burr-combs. C. C. MILLER.

Marengo, Ill., May 5.

[Friend M., I admire your candor in telling us the whole truth in regard to your bad losses; but I am very sorry indeed to hear it. A great many have been looking to you for an example, and I really fear that at least some will be induced thereby to give way to the temptation to be slack and procrastinating. Energy and thrift are contagious, and so, likewise, is the opposite. If you wanted to reduce your number of colonies, would it not have been far more profitable to feed heavily in the fall, and then offered these fifty colonies of bees for sale? I am taking it for granted, you see, that a little more feeding would have saved them all. Very likely some starved only a week, may be only one day before you got them out and gave them a general feed. Very likely, bees *have* consumed more this winter than usual. It seems to me it is very unwise to take risks. If you plan to have each colony have from five to ten pounds extra at the time that fruit blossoms, there would be very few starved. And this brings in another reason why I prefer outdoor wintering, as it is so much easier (and so much more likely to be done), making a thorough examination the first time the bees can fly freely. Friend J. A. Green says, in this issue, as you will notice, that his bees in the collar used *more* honey and came out *weaker* in numbers. It gives me the blues when we lose bees by starvation. It is a kind of blues, however, that one *ought* to have, and that *does good* if taken properly.]

A. I. R.

THE PRODUCTION OF COMB HONEY.

DR. TINKER'S METHOD.

Reference was made in my article on page 261, to the fact that, with proper spring management (which was given in detail on page 374), more brood could be obtained by the first of June than could be contained in the ten-frame Langstroth hive by the average colony. As showing what may be done in the line of brood-rearing, I will say, that, last spring I had one colony that had brood in four stories of the Nonpareil bee-hive, and I estimated that there were fully 25 frames of brood on the first of June, or about what would be contained in two ten-frame Langstroth hives. The result of getting so much brood in a colony just before a honey-flow proved what has all along been claimed by prominent bee-keepers. The colony produced something over 90 pounds of ex-

tracted honey in one of the poorest seasons we ever had, all of which had been sealed in the combs, and the colony occupied eight stories of the hive, and built out one full set of combs from foundation. The best yield of any of my other colonies did not exceed 25 lbs.; and in every instance the colony having the most brood by June 1 made the most honey. It will be seen, therefore, that the common eight-frame hive is too small to cut a great figure in comb-honey production (or extracted either for that matter), unless it be used in more than one story in the development of brood. But, as already stated, two stories give more breeding room than the average colony is capable of occupying before the main harvest. The size of the hive, therefore, should be suited to the average colony, which, as stated, is a capacity of about 1600 square inches of brood comb.

Every effort in the development of brood in our colonies should be made up to the time the main harvest begins, when the sections should be put on. It is then advised to practice

CONTRACTION OF THE BROOD-NEST

and limit the queen to one story of the hive by the use of a queen-excluder. Place the case of sections on the queen-excluder; and if there is one or two other stories of brood, set all on top of the case of sections. Should the combs be old and black, I place what I call a *brood-board* between the case of sections and the upper stories of brood. This is simply a thin board cleated around the edges so as to make a bee-space on one side, and provided with a single strip of two-rowed zinc at one side. Mine are made like the wood-zinc queen-excluder, except there is but one piece of excluder zinc, the rest of the surface being closed. In placing brood above the queen-excluder or the brood-board, it should not be forgotten that a $\frac{1}{8}$ auger-hole must be made in the front end of the story for the drones to get out. This is easily closed by a common cork when not needed.

The use of the brood-board limits the storing of honey in the upper story as the brood hatches out, so that the energies of the colony in storing surplus are centered in the sections. It also prevents the combs in the sections from being travel-stained except at the extreme outside.

If the bees swarm they are to be managed as set forth in my new book, thus preventing increase. Care must be taken that plenty of section room be provided, else the whole hive is liable to become clogged up with burr-combs. The sections may be removed as fast as completed, and empty ones substituted, handling four at a time in the wide frames; or, if a case of sections is found not quite all sealed up it may be lifted to the top of the upper story until completed, and a case of empty sections put down on the queen-excluder. Thus two and often three cases of sections will be needed. By raising up the sections just before the combs are sealed to the top of the upper story, the brood-board is not necessary; but in this case we shall get the story full of honey as the brood hatches out. This honey, however, will be available for wintering, or it may be extracted. I generally leave it for the bees, but often extract a part of the combs. If we leave it we are always sure of the necessary stores for winter, without fall feeding, provided we leave the queen-excluder on the first story. After removing the sections at the close of the harvest we place the full story of honey down on the queen-excluder. In this manner we compel the economical use of honey left them; but if we take away the queen-excluder at the time of removing the sections, and bring the two or more stories of the hive together, the queen will go into the upper story, and the result will be brood in

both stories, and so much honey is consumed that the colony may require feeding for winter in case of failure of fall flowers, which would not be the case if the excluder had been left in place, and the queen confined to the lower story. Bees, to be profitable, must be self-supporting, and we can ill afford to be obliged to feed our bees for winter. But with a large brood-nest full of honey at the close of the harvest, as we have heretofore managed, we are sure to have a great waste of the stores in unnecessary brood-rearing. After the first of June one story of the Nonpareil bee-hive is ample for brood-rearing the rest of the season, even where fall honey-flows are the rule and not the exception, as in most localities; and it will be found that, on the first of October, the colony will have fully as many bees as where the queen is not limited in brood-rearing during the latter part of July and fore part of August, when the colony is disposed to rear almost as much brood as in the great brood-rearing month of May.

On the first of October, or thereabout, the excluder must be removed. Should we forget it we shall be sure to lose the queen, as the bees, in the course of the winter, all go up into the upper story, leaving the queen alone below the excluder.

BURR-COMBS.

One of the remarkable features of this new management is the fact that it almost entirely obviates burr-combs with top-bars of brood-combs one inch wide and $\frac{3}{8}$ thick. But if we place a case of sections on the top of the two-story hive, or if, in hiving swarms in a single story as advised with a case of empty sections, we shall be sure to get many burr-combs. After hiving a swarm in a single story, it is best to take a case of sections, in which the bees are well at work, from the parent colony, and place over the queen-excluder on every swarm. If one can not be taken from the parent colony, take one from any other colony in the apiary, taking bees and all, and place upon the swarm just after hiving. As tending to prevent absconding, I regard it fully as good as a frame of brood. Then we can be sure to prevent burr-combs below the excluder, and save much labor besides. When we want to examine the brood-nest we can very readily do so at any time.

I have thus given some of the principal advantages of the storifying hive in connection with the use of a queen-excluder; and, as will be seen, these advantages are such as to give us the utmost control over brood-rearing, the economical use of the stores, and the most profitable honey production. Add to this the comparatively easy management of these small hives, and their superior wintering qualities, it must be granted that we have the Nonpareil of bee-hives.

DR. G. L. TINKER.

New Philadelphia, O., May 10.

[There are some pretty things in your hive and system; but there is just one point that I wish to disagree with you on. As to the proper size of brood-nest, some of the largest comb-honey producers in the world agree that the capacity of the eight-frame brood-nest is about right. Not all of them use the same frame; but they argue for that capacity of brood-nest. Let us name over a few of them: Capt. J. E. Hetherington, with his 3000 colonies; P. H. Elwood, with his 1300; J. F. McIntyre, who produces carloads of honey every year; C. C. Miller, a modest bee-keeper who has produced tons of honey; W. Z. Hutchinson; C. A. Hatch; Adam Grimm, who in his day was a prince among bee-keepers, and whose profits from his eight-frame L. hives were sufficient to enable him to establish a bank; and, besides, a galaxy of bee-keep-

ers of lesser note, but who, nevertheless, make their bees pay. All of these use or insist upon the use of a brood-nest of about the capacity of an eight-frame L. hive. When we come to take up the production of *extracted* honey, then we may need larger hives.

There was a strong tendency universally a few years ago toward a ten-frame L. hive. You remember how we held out against the 8-frame size; but we had to come to it. Bee-keepers all over the land almost simultaneously reduced by a dummy the ten-frame brood-chamber to eight frames capacity. Doolittle once used the Gallup hive, containing fifteen frames, on the "long idea" plan; but he has now got down to nine frames. You will remember how very many were enthusiastic for this "long idea," but how many are there now?

It is desirable to have all our brood-rearing done in one brood-chamber. If you commence early enough in the season the previous fall I will guarantee that colonies in eight-frame L. hives capacity can be made quite strong enough for the production of comb honey in June and July. Now, instead of reducing the capacity by shallow brood-chambers, and the expense attendant upon the same, why not insert a dummy, and reduce the capacity perpendicularly instead of horizontally? Those kings of comb-honey producers already mentioned, do this very thing. The eight-frame Langstroth capacity of brood-nest, whether it be Langstroth size or not, gives splendid results, and is accepted as the best by the largest and most successful bee-keepers in the world. J. F. McIntyre has been making use of a hive of large capacity; but in a recent article he says that eight L. frame hives even in California give about all the breeding-room necessary for the average queen. Now, why wouldn't that colony that produced for you in a poor season, 90 lbs. of honey, having eight of your brood-chambers, have done just as well in eight-frame L. hives of equal capacity—two or three brood-chambers, as the case may be? E. R. R.

RAMBLE NO. 41.

IN NEW YORK CITY.

The favoring breeze of fortune again fills the sails of the Rambler's canoe, and he is once more afloat upon the dancing waters. The canoe this time is the splendid steamer Drew, which makes regular nightly trips from Albany to New York. It is not quite so comfortable sleeping on a steamboat as it is in your own room. The continual jar will allow only cat-naps; and to sleep soundly one needs several nights' practice.

We landed in the early morning, and wended our way to the famous hostelry of Smith & McNeil, near Washington Market. In many respects this is a remarkable hotel, located so near the market that it calls to its doors farmers, drovers, and speculators in produce from every part of the country, while its tables feed several thousand per day, and the rattle of dishes hardly ceases during the entire twenty-four hours. In quality and price in its gastronomic features it is unexcelled, and it is one of the few hotels that have honey upon their bill of fare, and should therefore receive the patronage of bee-keepers. It would be more congenial, perhaps, to stop at the Fifth Avenue Hotel; but when it comes to the pocket-book question, you can board here all day for less than it would cost you to board half an hour at the Fifth Avenue. The waiters are very numerous, and well drilled in the manipulation of dishes:

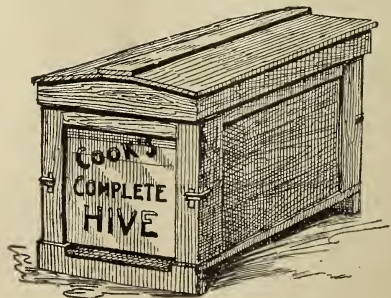
and the loads they carry would make the heart of a careful housewife ache with expectations of smashed crockery.



WAITER IN SMITH & M'NIEL'S.

There are but few bees kept in the city, and these are mostly found in the outskirts. I am told, however, that bees do well in the city, and store considerable surplus. The parks supply much pasturage. When we consider that New York is the great American metropolis, and the distributing center of every product and manufacture, it seems peculiar that there are not several supply-houses in the line of bee-fitures; but for several years there has been no representative house in that line in the city, until recently. A. J. King, in magazine days, was such representative; and among his students here and in Cuba was Mr. J. H. M. Cook, who has recently opened a supply-house as a successor to King, at 78 Barclay St., where nearly every thing in the supply line can be found.

Mr. Cook's apiary and manufactory are about twelve miles from the city, in Caldwell, N. J. In hives the specialties are the Dovetailed, and a hive of his own invention, called "Cook's Complete hive." The latter takes the L. reversible frame, as advocated by Heddon, and is provided with a substantial outer case for packing, with absorbents. I do not wish to criticise

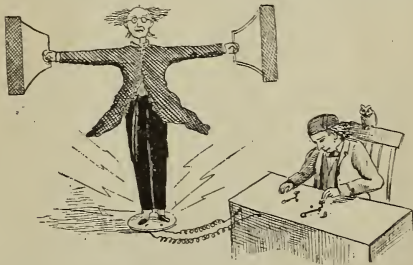


Mr. Cook's hive at this time, and will mention only two points. The reversible frame might be dispensed with to advantage. Its boom has passed, and, like a waning comet, it will appear less and less until it finally disappears. The outer case, however, has so many advantages in our rigorous climate, that, when properly applied, it is salvation to the colony. My own experience with outer cases would lead me to adopt them if I were to manage bees in this climate; and I can see their advantages in al-

most any climate. The outer-case boom is on now, and I predict it has come to stay. Cook's outer case clamps together at the corners, and is very handy to store away if not needed.

The absence of Mr. Cook from the office was regretted; but a very pleasant half-hour was spent with his partner, Mr. Irving J. Stringham. I suppose Mr. Cook manages outside affairs, and Cooks 'em, while his partner stays inside and Strings 'em.

A new-fangled reversible honey-extractor was hinted at, and we hope it will soon make its appearance, and beat the record. We reviewed extractors generally, and finally decided that the most "un-eeek" extractor on the market is the one advertised by Rev. Mr. Seaman. We put our heads together, and made an improvement in the center-post, which can be run by electricity. See illustration, no patent.



CENTER-POST FOR A SEAMAN HONEY-EXTRACTOR—ELECTRIC APPLICATION.

Having considerable interest in the wax-business just now, and knowing it to be used to a great extent in the arts, I naturally drifted into the "Eden Musée," where we beheld the famous personages of the world in wax; and as we pass the various groups they seem like so many living tableaux, representing historic scenes of the past. Though the artist in wax makes a figure appear very natural, there is an unreal fixedness to the features that it has been impossible to overcome. The use of wax for this purpose dates back to a remote period. Not only is the human face divine divinely beautiful, and also fiendish, represented in wax, but the most delicate flowers are fashioned, and seem to be in perpetual bloom. In using wax for all of these purposes there is more or less admixture of other ingredients, as plastic or hard qualities are required. So, while we work with our bees and see them fashion the beautiful waxen cells, we little think of the many uses to which it is to be put by the busy human toilers of the world. I shall speak a favorable word for the Eden Musée, and the world in wax; and it will doubtless be of interest to other wax-producers as well as to the

RAMBLER.

THE SIMPLICITY HIVE AND METAL-CORNERED FRAME.

J. A. GREEN REVIEWS THEIR GOOD AND BAD FEATURES: FIXED DISTANCES.

Friend Root:—You say, on page 378, that the Simplicity hive was planned with the idea that the bees should never have a chance to propolize the inside of a cover. Now, that is all right, and easily accomplished as long as there is no tlering up or interchanging of stories. If the bees are always kept in one story of the hive, or if they are never allowed access to the joints of the upper story or cover, one might keep bees

for years in Simplicity hives, and never suspect the existence of their worst fault. But when hives are tiered up two or more stories high, as in extracting, so that the bees can get at the joints between the hives, they proceed at once to fill up the joints with propolis. This softens and runs down by the heat of the sun; more propolis is added every time the hives are separated, until finally the whole of the beveled surface, top and bottom, is more or less propolized, and nothing short of a wagon-jack arrangement will separate the parts of the hive without tearing them to pieces. Then when what was a lower story is put on top the propolis is communicated to the cover, which becomes stuck almost as tight. The beveled stories do not fit together with as close a joint as a well-made square joint, so they are stuck together with so much more propolis, and in such a way that, in time, it becomes almost impossible to separate them safely.

METAL-CORNERED FRAMES.

These are very well for those rearing queens, or who have only small apiaries, and who never expect to move their bees. But with strong colonies devoted to honey production they will, if not carefully looked after, and kept trimmed off, become so attached to each other and to the sides of the hives, that they can not be handled a particle easier than all-wood frames. I have just looked over a lot of colonies on hanging frames, a large proportion of them metal-cornered, which required just about twice as much time to manipulate as those on closed-end frames. Fixed-distance frames are almost free from brace-combs (mind, I say *brace*-combs, which are built between frames, and not *burr*-combs, which are built on top); and on this account, as well as others, they are easier to handle, and kill fewer bees. My frame is a combination of the Hoffman and Heddon. It is a hanging frame, with wide-end top-bars, like the Hoffman; but the end-bars fit closely all the way down, and are held together by a screw, as in the Heddon hive.

My bees wintered in the cellar did not do nearly so well as those outside. More died; they used more honey, and came out weaker in numbers. But the cellar was very warm, 50 to 60°, and they were considerably disturbed by the settling of the roof on them.

The paving-brick which Ernest inquires about weigh about 16 lbs., which is about right.

Dayton, Ill., May 9.

J. A. GREEN.

[You have stated pretty fairly and accurately the faults of the Simplicity hive and metal-cornered frame; and mainly for these reasons we decided to abandon them for a hive and frame for the general bee-keeper. You are correct regarding fixed frames, and their immunity from *brace*-combs; and with the right kind of top-bar, a good big inch wide, $\frac{3}{8}$ thick, there will be no *burr*-combs. Your distinction between the two kinds of nuisances is well drawn. Say! I am very anxious to know more about that closed-end frame with Hoffman top-bar. You know Dr. Miller is leaning pretty strongly toward such a frame. I hope you will tell us more about it, and the reason why you decided to adopt such a frame. As many of our readers may not know exactly what it looks like, if you will send us a sample by mail we will have it engraved. The Hoffman top-bar is a good thing, I am satisfied, either with partly or fully closed ends; and, to adopt a favorite expression of Mr. Heddon (although *he* may not adopt the article), I believe it has "come to stay." You did not say whether the closed ends mentioned were to be close-fitting, or to have a bee-space back of them—that is, between them and the end of the hive.]

E. R. R.

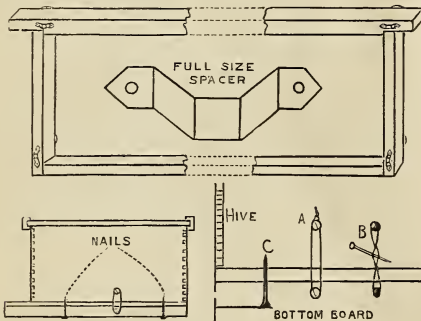
[Friend G., perhaps I should defend the Simplicity hive, as it is a child of mine, and has been many years in use among the people. I know there is trouble with propolis when the hives are tiered up, and I wondered that you said nothing of the remedy that is quite extensively in use—rubbing tallow on every part of the hive where you do not want the bees to put wax and propolis. It is very quickly done; and when the wood becomes soaked full of tallow, as it does in warm weather, the bees "can not make their putty stick," even if they try ever so hard. I know it is often neglected, even when the owner has discovered that it answers the purpose fully.—I became satisfied, a good many years ago, that the metal-cornered frames did not work nearly as well with strong colonies devoted to the production of comb honey.]

A. I. R.

A LETTER FROM NORWAY.

A SUGGESTION IN REGARD TO FIXED FRAMES AND MOVABLE BOTTOMS.

I have read GLEANINGS with great interest for some time, and I am glad when it comes. As "fixed frames" is becoming a burning question, I thought you might perhaps like to see a device which some here in Norway are using.



You will observe that you, in your factory, with your perforated-zinc machine, have thousands and thousands of these pieces of zinc, which can easily be utilized as distance-keepers. They are to be nailed, eight to each frame, as in the figure. Reversible bottom-boards would be a desideratum for wintering in chaff hives, where the Dovetailed hive and another case are used. But I should like to give my learned friend Dr. Miller a little device whereby he could leave out his screws. It is certainly true, as Ernest suggests, that there would be a big hole where the screw comes in. My device is shown in the figure. The wooden nails (or pegs, rather) are of hard wood. Fastening bottom-boards can be accomplished by the use of iron wire and a nail, or two screws or nails. If you use screws, then only a ring of wire is necessary. I think you can fasten it very closely by twisting the wire at A. When once in place, only take out and put in the screw. The nails C will prevent sliding.

ENGVALD HANSEN.

Aamlid, pr. Tvedestrand, Norway, Jan. 14.

[Distance spacers, or keepers, can be used as you suggest. The objection to all such metal spacers, however, is, that they interfere with the uncapping-knife. Just how far this is true, we are unable to tell from experience, although we suspect that it exists more in imagination than in reality. While nail spacers would be positively bad, any thing with a beveled surface like your spacers might not be objectiona-

ble at all. This thing is certain, however, that wooden projections, as in the Hoffman frame, can not dull a keen uncapping-knife. Hive-bottoms can be fastened on as you suggest; but a couple of wire nails are as good as any thing that can be had, and they do not make large holes either. All that is necessary when it is desired to remove the bottom is to insert a strong screw-driver or other implement into the entrance and pry the body off from the bottom-board. If the nails are not too long, this can be done very easily. The most that is desired is to keep the bottom-board on when carrying to an out-apiary on a wagon, etc. Your plan, however, with wooden nails and twisted wire loops, might do very nicely.]

E. R.

SUCCESSFUL HATCHING OF CHICKENS OVER A GOOD COLONY OF BEES.

HOW 'T WAS DONE, AND THE VALUE OF THE EXPERIMENT.

For the information of your correspondent, page 229, allow me to say I have hatched chickens in the manner he suggests. About ten years ago it occurred to me that the warmth of a strong colony of bees might be utilized for this purpose, and I constructed a frame wide enough to hold a dozen eggs on three shelves. The entire frame was covered with wire cloth, and filled and placed in the center of the hive, in the midst of the brood. With fresh eggs none were hatched; but taking eggs from a hen that had set on them a week, a very fair hatch was obtained. My experiment convinced me that, while it would not be practicable to make a perfect incubator of a hive of bees, they might be made to so far supplement the efforts of the "old hen" that one hen and four hives might hatch four broods of chicks. This is a point of some value, as bees become strong with us early in the spring, at a time when we want to raise early chickens, and the hens are not very prone to sit.

FRAMES SPACED WITH TACKS IN SUCCESSFUL USE FOR 15 YEARS; NOT PRACTICAL FOR EXTRACTED HONEY.

As to fixed distances, for 15 years I have used a frame spaced with large tacks on edges, sides, bottom, and top, driven in far enough to allow a bee-space all around. The frames rest on the tacks, and are invertible; and while not handy for the extractor, they work very well for comb honey; and as I move my bees a good deal, I could not use a loose frame.

Wildwood, Fla., May 4.

A. A. JAMES.

[Friend J., chickens have been hatched entirely by the heat of a cluster of bees. An account of it was given in our former volumes, some years ago. It was, however, decided at the time, that a sitting hen could furnish the heat cheaper than a colony of bees, and I think experimenters will find such to be the case at present.]

ARE QUEEN-EXCLUDERS NECESSARY FOR COMB HONEY?

AN UNUSUAL EXPERIENCE.

On page 380, May 1, you state that queen-excluding honey-boards are entirely unnecessary in the production of comb honey. I have just gone over 50 hives from which I left the queen-excluding zinc. On the 50 stands I secured 3 good sections. All of the others had more or less brood. I cut out the brood, returned the supers, and the bees have since cleared out all of the remaining honey in the sections;

so I lost my first crop of honey through not using queen-excluders. My supers were of the T pattern, filled with 2-lb. V-groove sections, with $\frac{1}{2}$ to $\frac{3}{4}$ inch space between frames (S), and the bottom of the sections. E. H. SCHAEFFLE.

Murphy's, Cal., May 11.

[Your experience is peculiar and phenomenal—especially so when those extensive bee-keepers, Hetherington, Elwood, Dr. Miller, and, I believe, J. F. McIntyre and L. E. Mercer, of your own State, produce good clean comb honey without queen-excluders. Two-pound sections would be a little more inviting for the queen to enter than the one-pound. Either you contract your eight frames down to three or four, or else you have queens more prolific than we usually have. There is some screw loose somewhere. Will some of our large comb-honey-producers who do not use queen-excluders please tell where it is?] E. R.

HEADS OF GRAIN

FROM DIFFERENT FIELDS.

DOOLITTLE'S ARTIFICIAL QUEEN-CELLS; A GRAND SUCCESS.

I have tried Doolittle's plan of rearing queens in upper stories of hives over an excluder, and the plan has worked like a charm. I never saw nicer and more uniform queens. I have had a little over 75 per cent of cells completed, and in one instance I got a queen to lay in 9 artificial cells out of 16 placed in the center of a colony just about to swarm. Those who have never been able to get the plan to work, I would advise trying a colony of Carniolans; for, of all the bees to build queen-cells, they beat anything I have ever seen. GEO. JAMES.

Sydney, Australia, May 1.

TO TELL WHETHER WAX IS ADULTERATED OR NOT; ANOTHER WAX.

Take wax of known purity: make it into a dense ball by rolling it between the fingers. Be sure there are no air-holes inclosed; then drop it into alcohol diluted with water until the wax will come but slowly to the surface. Adulterated wax, if dropped into the same diluted alcohol, will either sink or come to the top in a hurry, depending on the substance with which it is mixed. H. FRITZ HART.

Avery, La., May 16.

A GOOD REPORT OF THE MANUM SWARMING-DEVICE.

Friend Root:—I have just had a swarm come out—the first of the season, so far as I know, around here, and I successfully tested the Manum swarming-device that I purchased of you last winter. It worked to a charm, and I now and here wish to thank Mr. Manum, through GLEANINGS, for so successfully effecting the hiving of a swarm that perchance alights a little too high for convenience. As I came to dinner, my wife said there was a swarm on an apple-tree in the orchard, pretty high up; but she said, "Come in and eat your dinner before you hive them." Well, I did. I always have to do as she says; and then I went out to see the cluster. They were about twenty feet from the ground; but I took my wire basket, Manum's swarming-device, and, with a long pole, easily reached them, scooping in most of the bees. I lowered the basket and shut them in, leaving the basket under the tree. The whole time did not occupy five minutes. Then I had to go to the office and attend to business. I returned a

few hours later, and found all the stray bees assembled on the outside of the basket, which I took around to the hive, opened the top, put the hive over it, and, with a few puffs of smoke, they were running into the hive like chickens under a hen.

Bees did well in this vicinity the past winter; and now with the fruit-bloom they are basking in prosperity. It is very dry just now, but every thing points to a good honey season. The white clover is creeping along fast, and will be in bloom almost before the apple-blossoms are gone. L. G. DUNHAM.

Attleboro, Mass., May 15.

[Of all the machines we ever tried, the Manum device is a long way ahead.]

WAX MEALY, AND THE CAUSE.

I have a lot of wax, made from trimmings of foundation, that has become soft and mealy, apparently from combining with the soap and starch used in the foundation-mill. Can you inform us how to improve it?

Lisbon, Fla., May 2. W. R. GARDENER.

[We have had, at different times, considerable trouble with this same thing you describe—mealy wax that seemed to be pure beeswax, but which looked like Indian meal, and no amount of melting would get it back into its soft condition. Dadant has said that the solar wax-extractor would render such wax; but I am ashamed to say that we have not tried it.]

THE QUINBY FRAME A BEE-KILLER.

Allow us to differ with you widely in regard to the advantages of the closed-end frame. To us this frame is a step backward, decidedly, and we think Dr. Miller would say the same. It does not matter how promptly Elwood and others handle their bees, they would handle hanging frames just that much faster. We occasionally find men who prefer the box hive to the movable frame, and who claim easier manipulations with it; but one swallow does not make a summer. We have had closed-end frames; we have seen such men as Axtell handle them, and we must say that we never could see how any one would ever drop the hanging frame for such bungling bee-smashing implements. We do not like to discuss the hive question, because every man has his pet, and succeeds best with it; but we are not of opinion that all pets will suit. C. P. DADANT.

Hamilton, Ill., Apr. 11.

[The old original Quinby hive (this is the one we believe the Axtells use), may be a bee-killer; but the Hetherington-Quinby avoids bee-killing. Elwood handled these frames just as fast. I am sure, as we do the loose frames. Hetherington, you know, has tried thoroughly both kinds of frames. The Hetherington-Quinby hive is a big improvement over the original Quinby hive.]

NOTHING BUT CELLAR WINTERING FOR DAKOTA.

Bees were taken from the collar to-day; temperature nearly 80°. The hives were heavy; only a few dead bees. I paid hardly any attention to them after the 12th of October. I had the entrance open, and honey-board slid back $\frac{1}{4}$ inch on top for ventilation. When they wanted to come out in the dark cellar a little, no one hindered them. The temperature in the cellar ran about 42°. Seven months may seem a long confinement without a flight or a cleanse; but if we avoid spring dwindling they must stay in until there is work to do. The currants and plum-trees were in bloom, so you see they

had plenty the first hour, and this is how I learned to avoid spring dwindling. One swarm, according to the scales, lost 10 lbs., so I rely only on cellar wintering here.

Canova, S. D., May 8. L. R. HILLMAN.

JAPANESE BUCKWHEAT FOR THE MOUNTAINS.

I sowed two pounds on the 11th day of July, and saved $2\frac{1}{2}$ bushels of seed. How is that for the mountains? I am well pleased.

Ezel, Ky., May 2. J. G. NICKELL.

REPORTS ENCOURAGING.

Bees are in the best of condition—very strong; white clover promises to be the best crop we have had for a number of years. J. J. MCCOY.
Mt. Erie, Ill., May 11.

HOW THE BEES WINTERED.

Bees wintered in fine shape; never saw them in as good condition so early in the season.

Calla, O., May 2. R. L. TEMPLIN.

315 COLONIES IN EXCELLENT CONDITION.

I have 315 colonies of bees, and they were never in better condition at this time of year; abundance of stores, strong in numbers, and the finest prospect of white-clover bloom.

Owensville, Ohio, May 3. J. B. RAPP.

A GRAND SEASON.

I have had a grand season. From one colony I have received 210 lbs. of honey surplus, and from another an increase of nine, with over 400 lbs. of honey besides.

JOHN S. RUTTER.
Armidale, N. S. W., Apr. 3.

BEES BOOMING IN TENNESSEE.

Bees are booming here. I had five good colonies and two weak ones last spring. I got 1050 lbs. of good honey, and increased to 14 colonies. I disposed of two colonies. This spring I have already had six new swarms, and the bees are strong. I lost none last winter.

JAMES A. LYON.

Clarksville, Tenn., May 11.

FORTY POUNDS OF HONEY PER COLONY IN SOUTH CAROLINA.

My bees are doing well. So far they have gathered about 40 lbs. of surplus honey each, to date, chiefly from the poplar and blackberry. If the honey-flow continues three weeks longer it will be the heaviest crop we have had since 1878. The losses from winter and spring dwindling are about 20 per cent, so far as I have learned, in this section. Few swarms yet.

Falfa, S. C., May 4. G. D. MIMS.

BEES IN THE BEST OF SHAPE, AND HONEY IN SECTIONS FROM THE DANDELION.

Bees are in the best shape here this spring that I ever saw them at so early a date. We have 31 almost strong enough to swarm. They worked so strong on the dandelion that they began to store honey in the sections. They were my best Italians. We have hundreds of acres of the dandelion around here, as thick as ever you saw white clover, and the honey is as clear as white clover.

Jewett, O., May 12.

DAVID LUCAS.

[Friend L., we once had dandelion honey stored in sections; but it was not very good honey after all. I thought of it when reading Dr. Tinker's article about his colony that was made to produce such an enormous amount of

brood. Ours was one of that very kind. They were in one of the "long-idea" hives. By feeding them up with care, we might have got them almost up to the swarming-point before the apple-blossoms came out. If we had colonies strong enough, early enough, I think we might often get honey in sections, not only from apple-blossoms, but even from dandelions.]

A. I. R.

AUSTRALIA; A GOOD HONEY SEASON REPORTED; FROM 200 TO 400 LBS. PER COLONY; FOUL BROOD DISAPPEARING.

The honey harvest of this colony has been good for the present season, and the average gathering large. Under any thing like good management the extractor has given a return of 200 lbs. per hive, while odd colonies have gathered 400 to 500 lbs. Thousands of tons of magnificent honey have gone to waste. The writer has lately traveled for days through forests of trees in bloom, and not a bee to be seen. My own bees have been storing in sections for the past six months, and are still at it. This order of things will probably continue for another month until wet weather shuts them in for a few weeks, after which spring approaches and a fresh season begins. We have no wintering problem to contend with here. Box-hive men use gin and kerosene cases chiefly for hives. These stand out generally in the open air on an old bench, all the year round, with possibly an old rotten bag thrown over the top to keep the weather off.

Foul brood has given but little trouble this year; and, provided the honey season were always good, it would be of but little consequence. Very many bee-keepers have reported well of formic acid as a curative agent; but it needs the confirmation of a longer trial, and under other circumstances than that of a good honey-flow.

LEONARD T. CHAMBERS.
Melbourne, Australia, Apr. 17.

REPORTS DISCOURAGING.

BEES NOT WINTERED WELL.

Bees have not wintered very well in this locality. Several small bee-keepers have lost all their bees. We had three swarms a year ago. We fed them in the spring and increased to seven, but did not get a very large surplus. We wintered in the cellar, and have not lost any. We are feeding some this spring to get them to rear brood early. The weather here has been quite cold lately for the season.

T. A. HOOSE.

Mt. Vision, Otsego Co., N. Y., May 10.

A HARD WINTER ON BEES.

I wintered 93 swarms out of 107 put into the cellar. I lost all of my light swarms. The 93 swarms are in good shape except 3 weak ones. I took them out of the cellar the 16th of this month. It has been a hard winter for bees around here. One man had about 150 stands, and lost over half of them. Another 14, lost 9; another 70, lost 30; another 6, lost all; another 4, lost 3; another 60, lost 10; another 10, lost 7. That is all I have heard from. Quite a number more keep bees around here. My cellar kept 44° from the time I put the bees in until three days before I took them out, when it was 47°. I got 2538 lbs. of honey last year from 47, spring count. I increased to 118. I did better than any of the rest of them around here. The bees have carried in honey for five days, but I do not know what they gather it from.

Dover, Mich., Apr. 27.

A. N. WHITLOCK.

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

QUESTION 186. *I have all the bees I need, and don't care to sell any. 1. Shall I try to prevent swarming by cutting out queen-cells or some other plan, or shall I let them increase and then double up? 2. If the latter, shall I double up fall or spring?*

As a rule, prevent swarming; but there may be exceptional locations.
New York. C. P. H. ELWOOD.

Keep them in check by returning after-swarms, and, if necessary, double up in the fall.
Illinois. N. W. C. MRS. L. HARRISON.

I prefer to let them increase and double up in early spring; but this may not be best in your locality.
Louisiana. E. C. P. L. VIALLO.

I can not answer this question without knowing about your climate, honey resources, the blood of your bees, etc.
Michigan. S. W. JAMES HEDDON.

1. I should prefer to let them increase and double up. 2. Double up light and queenless colonies in the fall; full ones just before the next honey season.
Ohio. N. W. H. R. BOARDMAN.

Double the swarms as they come out, for a double swarm will store much more surplus honey than a single one. If more doubling is needed, do it in the spring, two or three weeks before the honey harvest.
New York. C. G. M. DOOLITTLE.

1. I would prevent swarming. 2. If you allow increase, you can double up both fall and spring by doubling up enough in the fall to make all strong for winter, and in the spring double to make all strong for the harvest.
Vermont. N. W. A. E. MANUM.

Prevent swarming, of course. You can do this by giving the colony more room when the breaking-out of queen-cells would not amount to much. I prefer doubling up just before the beginning of the honey season.
Ohio. S. W. C. F. MUTH.

I count it more satisfactory to let them swarm, setting the swarm beside the mother-colony. When the new queen begins to lay I destroy the old queen, and set her hive and bees on the mother-hive for a super, except that I keep some of the best ones until fall, to replace any that may fall.
California. S. R. WILKIN.

If you raise extracted honey you need not have more swarms than enough to make up for winter losses, if your hives are large, and you keep the bees well supplied with empty comb. If you raise comb honey we would advise the returning of swarms 48 hours after hiving. Cutting out queen-cells will do no good.
Illinois. N. W. DADANT & SON.

I should say, some other plan. Give them plenty of air, room, and, in extremely hot weather, shade; if this is done before they make preparations to swarm it will frequently prove sufficient. If this does not prevent swarming, and you do not wish increase, let them swarm, removing to a new location, and give them all

of their frames the same day or the next. Bees do not always swarm when they start queen-cells.

Wisconsin. S. W.

S. I. FREEBORN.

1. A tough one. If swarming isn't such a bugbear to you as it is to me, I think I'd let them swarm, and then double up; but I'd keep trying the other way too. 2. Both. Double up in the fall any thing that you fear will not winter well, and then in spring unite the weakest till you reduce the number sufficiently.

Illinois. N.

C. C. MILLER.

1. There is no better plan for keeping down increase than to run an apiary for extracted honey. You can keep just the number of bees you want. But for comb honey I would allow a moderate increase, and double down to the number I want in the spring. 2. In the spring, every time.

New York. E.

RAMBLER.

If you have any simple and practical plan of preventing swarming, follow it, and tell the rest of us how it is done. Cutting out queen-cells is a very poor way. Double up in the fall until your colonies are all good ones. If you still have more than you want, unite them late in the spring.

Illinois. N. C.

J. A. GREEN.

This is a sticker. We are in your boat. We cut out queen-cells, but depend more on caging queens. We make all of our swarms by division; after this, when we get more bees than we want, we kill off the overplus in the fall, and keep the combs over to use the next year. If I had any doubling up to do I would do it in the fall.

Wisconsin. S. W.

E. FRANCE.

I should say, let them swarm. I would have the queen's wing clipped, and catch and kill her unless I had use for her. Of course, the swarm will go back; but before they do this I would open the hive and destroy *surely*, or remove, all but the best queen-cell. Put on sections at once, and the swarming will be cured, the harvest large, and all colonies requeened.

Michigan. C.

A. J. COOK.

Try "some other plan." I raise extracted honey mostly, and my plan is to let the bees swarm, and give them in a new hive on the old stand, giving them five or six empty combs, or frames with wired foundation, and two or three combs of brood from the old hive, after having made *sure* that all queen-cells have been removed; the remaining combs to be given to other colonies, or placed in a super, after queen-cells have been removed. 2. Doubling up in the spring has been a failure with me.

Ohio. N. W.

A. B. MASON.

1. Yes, try it—and the other plans too. If you have a locality that stimulates excessive swarming you will not succeed; but by ascertaining the facts yourself you will feel enough better satisfied to pay expenses. 2. When you get ready to balance off increase by uniting, do it *both* fall and spring. That is to say, do most of the work in the fall; but leave yourself with colonies enough so that a considerable further reduction of weak and queenless stocks can be made in spring.

Ohio. N. W.

E. E. HASTY.

[The general testimony seems to be in favor of preventing swarms as far as you can; then doubling up in the fall as far as seems advisable, and still further doubling up in the spring

when circumstances render it advisable. It is interesting to note that Dadant & Son say that "cutting out queen-cells will do no good;" and J. A. Green indorses their view by saying, "Cutting out queen-cells is a very poor way." There is one other way of reducing the number of your colonies when you have more than you want. I am a little surprised that Dr. Miller did not touch on it. He can not claim, however, to be the *inventor* of the idea, for it is very old. It is very simple and easy. It is, briefly, letting them *starve* during winter. Some think it is better to let them starve in the cellar than outdoors. It certainly would be a little more trouble, but it *might* have its advantages.]

A. I. R.

SPECIAL DEPARTMENT FOR A. I. ROOT, AND HIS FRIENDS WHO LOVE TO RAISE CROPS.

TOOLS FOR MARKET-GARDENING.

The incident mentioned in the Home Papers of this issue has suggested that our trouble in regard to tools may be somewhat obviated by a better system. We have now about 20 acres devoted to market-gardening, and the weather and other circumstances often render it important to drop one job and take up another very suddenly. Every little while an ax or a spade or a hoe is wanted badly. We have a regular tool-house, such as Terry planned; but it is a great nuisance to carry the tools back to the tool-house every time we are done using them. Last Saturday we were making some improvements in our swamp garden, and a lot of men and boys were at work there with at least a dozen different tools. Now, during weather such as we were having then, there is no need at all of bringing the tools home at night; in fact, we did not want them returned to the tool-house until the job was finished. But the boys and other hands annoyed me constantly by bringing home the tools nights. The result was, the next morning several men would go up to the swamp, without sufficient tools to work with. Then some one would remember that a lot of tools were used in setting out basswood-trees down by the carp-pond, and so he started out, a quarter of a mile away, after them. When he got there he found these tools had also been carried up; and as it was a new hand that did it, he put them in a new place. Then a general hunt ensued. While "a place for every thing and every thing in its place" is an excellent motto generally, if carried out literally it frequently makes a lot of trouble. If I am on hand when they stop work I can decide whether the tools are to be left where they are until morning, or carried to the tool-house. Now, if we have this kind of trouble with hoes, spades, and shovels, it is a worse trouble still when it comes to wheelbarrows, plows, harrows, and cultivators. You may say that each workman should have his own tools, and make it his business to take care of them. Well, even this makes trouble if you undertake to follow it literally. Very few workmen will take care of a tool, or keep it in order, unless he *owns* it. We have a few men who have tried owning their tools; but this very thing very often makes trouble. This workman can not always work with *one* tool, therefore he must put away every tool as soon as he changes to some other one, or somebody will get hold of it. If a spade happens to be wanted for use a few minutes, and one is seen standing up by the fence, it seems rather hard to think it can not be used because it is the property of Mr. so and so. Peter Henderson says that, with their high-press-

ure gardening, with soil manured up to its highest notch, it needs pretty nearly *a man to the acre* during the busy season. Well, to provide 20 men with suitable tools at every step and every stage is quite a complicated problem. We can not afford to have experienced men traveling here and there after tools: neither can we afford to have twice as many tools as are really needed, just to save this traveling.

Another thing about traveling around after tools is, that thoughtless hands will walk over the ground when it is too wet to be stepped on, and thus do considerable injury. A good many boys (and some men), in going for a tool will step on valuable plants, and do them injury. One of my greatest trials is to educate our boys so that they will not tramp on one kind of vegetables while they are gathering or caring for another kind. You may say you would start such boys for home in double-quick time. Hold on, my friend. Suppose this boy has a widowed mother, and the only opening to keep her from suffering and want is through this boy's labor and skill. In that case, would you not take time and pains to teach him? To be sure, you would. Besides, the boy who steps on every thing before him and behind him the first week he comes to work will soon be a valuable hand if you teach him kindly; and as years pass on, if you and he hang together he *may* turn out to be one of those expert, *finished mechanics* I have alluded to in the present Home Paper. I have seen it done several times, right under my own eyes; and the sight of such a boy, or man, if you choose, trained to work with care and accuracy, and to be *master* of his calling, is worth more to me than to look on the most splendid crops, or to see the cash handed over from a willing purchaser. Well, then, what about the tools? I will get to that presently. Perhaps no other one thing is so often called for all over the grounds as cheap market-baskets—peck and half-bushel. The men are out in the field somewhere, and there is a sudden call for spinach. If they had a basket I could call their attention with a whistle, and then tell them to send up a bushel of spinach by one of the boys at work with them. Again, when they are coming up to dinner they could bring a basket of onions or rhubarb just as well as not, if baskets were in readiness; and they are so constantly needed, that, during the summer season, we keep baskets scattered all through the grounds. A boy takes as many as he can carry, and scatters them around. It is true, the sun and rain spoil them somewhat; but they cost only three or four cents, so the basket is worth less than the time of going to the market-house for one.* It is a great deal the same way with a hoe. A man finishes a job pretty near to dinner time. If he had a hoe he could put in the time profitably in a good many places; but the hoes are away off in the tool-house; therefore we have cheap hoes, or hoes partly worn out, hung on the fence in different places, and these are there all summer; and the same way with spades. And we have some old manure-forks put around in different places, to be used on a pinch for short jobs. Some good workmen object to these partly used-up tools, I know. But we scatter them about so they often do excellent service in an emergency. I remember one man stood still for quite a while because he hadn't a suitable tool for shaking up the manure in a hot-bed. I pointed out to him a four-tined manure-fork with one of the tines broken out. I told him

*Every little while some well-meaning *new* boy makes mischief by gathering up all the baskets (without orders) and carrying them to the market-house.

he could go on with that until I could send him a better one. He either refused to use it, or took it with a very bad grace. Now, even if he could not have made very good time he could have made half or three-quarters of the time that he could with a good fork, and this would have been better than standing still. On another occasion, some more sand was needed over our sweet-potato plants. After he had wasted some time in hunting for a shovel, I showed him a scoop in plain sight. He objected to using it, because it was slightly split in the middle. Now, this scoop would have handled sand almost if not quite as well as a perfect one. You may say that you would have started such a man in double-quick time. All right, if he refused to be corrected in his notions about tools; but as the man in question was one of our most expert gardeners, I decided to let it pass and talk with him about it some time when we felt pleasant. You see from the above that I recommend, at least to some extent, leaving tools, spades, hoes, and forks, outdoors—a practice that has been strongly condemned by our agricultural writers. Well, I have just been thinking that we might have a compromise—have some little tool-houses or tool-boxes, if you choose, just large enough to shelter a hoe, spade, shovel, etc. While these tools are sheltered from the weather they should be so arranged that one can see quite a distance off what tools are in their places in the tool-box. These tool-boxes should be located over the grounds where there is much travel. One good point for us will be at the bridge near the carp-pond; two others will be at the wind-mills, for this is where the men go to get a drink. Trowels for taking up strawberry-plants should also be near these tool-houses. How often I have felt that I would give a nickel for a trowel, rather than to send a boy after one, with the chance of having him come back and inform me that it was not there! Then all hands should cooperate in storing the tools in the nearest tool-box that happens to have a vacant place for said tool. Each tool should have a nice convenient place to hang it up, so that there may be no excuse for throwing it down or standing it on end because somebody was tired. Then over its appropriate hanging-place should be the name of the tool. I think I would have some sort of old ax in every tool-box, and a cheap hammer and a few nails. A five-cent hammer will often do a great amount of good. Yes, we want some wrenches too. How often have our men gone clear to the factory for a wrench, and, may be, because they were in a hurry they got one out of the machine-shop! Then the machinists would finally complain that a certain convenient wrench was gone, and hadn't been seen for three or four weeks. Now, these troubles about tools are not alone confined to our establishment. I have seen farmers, right during the rush of work, let one of their most valuable men waste more time in a single day than a good tool would cost, just for the lack of what I have been trying to indicate. Now, my good friend, the next time you make us a visit, you look out for our little tool-houses. Of course, it is possible to have too many tools instead of too few. But a much smaller number can be made to answer, without question, if there is some systematic planning instituted, such as I have tried to figure out in the above. Oh, yes! about having a man to the acre, where one has a market-garden of one or twenty acres. We have never yet used a fourth of that amount of help—that is, right along. But we have not yet got five acres of our twenty up to Peter Henderson's standard of fertility. With an acre underdrained, manured, and worked up fine and soft, down to a

good depth (and all up to the highest notch), I do believe we can profitably keep one man busy on it during the greater part of the summer months. And when we are raising plants for sale we want two or three boys besides the one man.

MULCH FOR STRAWBERRIES DURING FRUITING TIME.

I have just removed the outer packing of planer shavings from bee-hives, and expect to use it in mulching strawberries. I have never heard this material recommended for the purpose. Do you know of any objection to it?

Dayton, Ill., May 22.

J. A. GREEN.

[Friend G., planer shavings have been used a good deal for the purposes you mention; but it is not generally considered satisfactory. It keeps the fruit clean very well, and mulches the ground so as to be of considerable protection during a drouth; but the shavings are a long time in rotting, and thus cumber the ground with useless trash. They also afterward, when worked into the soil, make it dry out worse during a drouth than if they were not present; and when they decay, a kind of fungoid or toadstool growth frequently infests them that is not conducive to healthy vegetation. We are using manure now where they were used for bedding under the horses. Where they are more than half horse manure they do much better. But there is no mulch that I know of for the strawberries like straw. Straw rots quickly, and seems to furnish a valuable vegetable constituent for the soil. If we could have cut straw mixed in with horse manure, without any grass or weed seeds in it, we should have the ideal mulch. Sawdust as a mulch has, of course, many of the objectionable features of planer shavings; but being finer it is not so much of an objection. Hard-wood sawdust or planer shavings are less objectionable than pine, for they will rot in time, and form rotten wood; and we all know that rotten wood is a very good fertilizer. Pine, however, is a very long while in rotting; and even when it does rot, the rotten pine sawdust does not seem to be of any such value as that which comes from hard wood.]

A. I. R.

MYSELF AND MY NEIGHBORS.

Looking unto Jesus, the author and finisher of our faith.—HEB. 12: 2.

We have a good many nice workmen, skilled mechanics, and really intelligent artists, in our working force here at the Home of the Honeybees. At the head of almost every department you will find a skillful artisan—not only men, but women too, who may be intrusted with complicated pieces of work that require great care and painstaking. Every little while we have expensive men sent here from a distance to superintend the construction and putting up of complicated machinery. I like to get acquainted with these men, and find out all I can about them. A good many times I ascertain what pay they get. The man who put up our electric-light plant was hardly a man grown. He seemed to be, in fact, a mere boy; but yet he was fully equal to the responsible place in which he had been put. He was pleasant, quiet, and good-natured, but, at the same time, he was decided, and insisted on every step being made just right. Within the past few days we have been locating hydrants out on the grounds, perhaps a hundred feet away, at the different

corners of our factory. Any one of these hydrants will throw two streams of water, equal in capacity to that of an ordinary fire-engine. The insurance companies recommended these as a means of controlling a fire if it should get beyond the control of the sprinklers. They also protect our lumber-yards, various out-buildings, the freight and passenger depot belonging to the railroad, and the storehouse and lumber-yard belonging to a neighbor. Aside from the head of water furnished by the wind-mill tank on the hill, a powerful fire-engine, or steam-pump, is located near our boilers, with a head of steam constantly on. These four hydrants I have mentioned are inside of a little hydrant-house. This house keeps the hose secure from the weather, and ready to use at a moment's notice. This great steam-pump has what is called an automatic governor. This governor is so wonderful in its arrangement that it starts the steam-pump the minute one of the hydrants is opened; that is, the system of iron pipes connected with the hydrants and sprinklers carries a head of water amounting to 20 or 25 pounds of pressure. This comes from the elevated tanks. But just as soon as an opening is made from any of the hydrants or sprinklers so as to let the water begin to flow, this governor turns on steam until the water is propelled with a pressure of 90 or perhaps 100 pounds. Stranger still, just as soon as a hydrant is closed, the automatic governor shuts off the steam. Instead of being obliged to keep a man at the steam-pump to handle the throttle-valve, the automatic governor does it better than any living man possibly could.

Well, when we talked about putting up this pump and this line of cast-iron piping to go to the four hydrants, we talked about getting an expert to come from the factory and set it up. The general foreman of our works, however, suggested that our own men could do the work just as well as, and a good deal cheaper than, any of the city folks. While it was being done, it was necessary to cut off our waterworks, and leave our whole plant, even when running full blast, entirely out of fire protection; and this, too, right in the midst of a severe drouth, when terrible fires were reported through the papers daily. I explained to our people, at the noon service, what we were going to do, and asked the coöperation of them all; and I have been greatly pleased to see how nicely each skillful mechanic has done his part in all this appointed work. We have had no hitches, drawbacks, nor expensive blunders; and when the water was turned on to test the accuracy of the joints, the whole system was found to be almost perfect. Our men and boys knew the responsibilities that rested on them, and they bent their whole energies to the work. I have told you before how I admire and love skillful workmen. Now, skill and ability come only by patient, faithful perseverance and hard work. If you wish to command good pay, you must work hard for your reputation. There certainly is "no excellence" in any department of work, "without great labor." One who strives for superior wages must bend his whole energies untiringly to the work in question. He must study during working hours and outside of working hours to overcome the obstacles in his line of work; to make short cuts when they can be made; to look ahead and see what is coming, and at the same time know what is going on around him. His mind must be on his work. He must undergo *hardships* more or less. He must work when he does not feel like it, and he must forego many pleasures that people around him seem to enjoy right along. He must be *self-sacrificing*.

Perhaps you may be ready to inquire what

this has to do with our text. Well, it comes right in here, dear reader. Just in precisely the same way it takes hard, persistent, energetic work to become a fine mechanic, so it takes hard, persistent daily toil to become a skillful worker for Christ Jesus. That word "finisher" in our text occurred to me when I was talking to our people at the noon service. The *finisher* of a piece of work or machinery is the most important man, generally speaking, on the job; and Jesus is to be both *author* and *finisher* of our faith. After we have done all we can to become faithful workers in his vineyard, he himself of his own loving spirit is to put on the finishing touches.

And now a word about the last thing in our text. Faith—what is it? Within a few days two incidents have given me a glimpse of what faith really is. The glimpse comes from two different sides. The first glimpse came in this way: A man whom I esteem very much has been for years leaning toward skepticism. I have thought, as I looked at him, that it was one of the queer things of this world that *he* should be a skeptic. He has had excellent religious training, and the rest of the family, I believe, are professing Christians. Why should *he* stand off to one side? Well, during the meetings of last winter, or perhaps, rather, along in the spring, this friend seemed to be slowly changing. A sermon from our good pastor (who gave us the one in our last issue) had very much to do with it. Then he began going to our Endeavor Society meetings, and the spirit of the work at once commended itself to him. He is a good mechanic himself, and the glimpse he got of young people aiding and encouraging each other in this work of *perfecting Christian character* appealed to his heart in a way that he could not long resist. He did not tell me this, but I think I am pretty nearly right about it, nevertheless. Well, a few days ago he stopped me as I was passing, and made a remark something like this:

"Mr. Root, I owe you an apology."

As I looked into his bright face, full of faith in his new-found Savior, I replied smilingly, "Why, friend —, if you really do owe an apology, I am sure I can not tell what it is for."

"Mr. Root, I knew you couldn't, for I want to apologize for what I have been *thinking* for so many years past, rather than for any thing I have *said* or *done*. I want to apologize to you for not having understood you until lately. I used to think that you were not what you professed to be."

Some of you may smile at this. The letters that have recently been in GLEANINGS indicate that some others besides those who see me day by day hold the same opinion. Who is at fault? Well, I think it will be a pretty safe thing to say that I am myself more or less at fault. During these years that have passed, I may have learned something in the way of being a good workman in the vineyard of the Lord. But there are many sad defects that mar and greatly hinder the success of much of my work. Lord, help! My young friend (young in Christ Jesus) went on to say:

"For a long time I tried to make myself believe that you were not sincere; or, to speak right out plain, I thought you were more or less a hypocrite; but I want to say I think differently now. I believe I understand you, and I am sure you are working for the good of humanity. Please forgive me, in that I have not until lately given you the credit you deserve."

I do not remember just what I replied, but I thought something as follows: "Why, my good friend, it is the spirit of Christ Jesus that gives you this charity and this broad love for every thing and everybody. You have faith in others

around you as well as in my poor self, for you have now in your heart that virtue that 'hopeth all things,' 'believeth all things,' and 'thinketh no evil.'

If there is any one thing that is a sure evidence of the new birth, it is this very quality of seeing good in everybody, and of having faith in humanity, as well as faith in God. Now, this new faith shows itself in this brother's face. It is a pleasure for me to look at him since he has become a Christian. Oh that this great faith might last—might endure and grow, not only in the hearts of the new converts, but with those of us who have been long in Christ's service! I tried to tell our friend that he must look out for shocks to this bright faith. I told him he would find inconsistencies here and there in the lives of the best of Christians, especially if he were on the watch for them. Just now, and perhaps for some little time to come, it will be an *easy* matter to have faith; but sooner or later the tempter will take him unawares, and persuade him that mankind are not what they profess to be. Now, while we enjoin him and others in like circumstances to have faith, and to hold on to the virtue that thinketh no evil, let us also be careful that we give him (or them) no needless grounds for losing faith. Let us remember, when we meet with such in our tasks, that they are new-born children, and that they should be remembered with care. It is true, their faith should be of the kind that is able to endure severe trials. David says, "Great peace have they which love thy law, and nothing shall offend them." Few of us, however, have come to the point of having a faith so bright and clear that it shall be *entirely* above the shocks of this world's trials. A careful workman should be careful about *giving* offense, and also about *taking* offense. Sometimes it seems as if I could stand almost any thing, and take it cool and smilingly. At other times I become demoralized and upset at the merest trifles; and all the experience I have had in the years that are past does not seem to help me very much in being that "finished" workman that I might be and ought to be. Paul says to Timothy, "Study to show thyself approved unto God, a *workman* that needeth not to be ashamed." But, oh how far I am from that mark! If I do well for a little while, I am apt to become proud of my skill—my skill in being a good Christian, I mean. Then I become overbearing, and then straightway I am "ashamed"—ashamed that I *am* such a poor *humble* workman.

The above incident gives us an idea of what faith is, how it comes, and that it is at least largely a result of the work of the divine Spirit in the human heart. My second incident shows us the result of the *lack* of faith; and it tells us, too, of the way whereby one loses faith. Perhaps I should ask pardon of some of my readers for again having any thing to say in regard to millionaires. Mind you, I have never, by any means, claimed that *all* millionaires are good men—only that a man *might* have control of considerable wealth, and *still* be a good man. Well, a friend of mine was speaking bitterly in regard to capital and capitalists. I suggested to him, by way of a mild defense, that Washington, the father of our country, was a man of considerable wealth, and *almost* a millionaire, proposing to let the matter drop there. To my astonishment, however, he began criticising Washington severely. The things he brought up against him may be true; but it gave me a feeling of pain and sadness that I did not get over for some time afterward. Of course, Washington was human, like the rest of us; or, perhaps I should say, *much* like the rest of us; but is it wise or well, or can any good come at

this late day, from bringing up his weaknesses and his imperfections? He who was "first in war, first in peace, and first in the hearts of his countrymen"—can we not afford to let a broad charity cover what defects there may have been in the past? And is it wise or well to tell our children that the boy who said, "I can not tell a lie, father," had many bad and disagreeable traits, even if he did *not* tell lies? God forbid. May the name of Washington never be less revered and respected than it is now; and may we realize that, to spoil the faith that the present generation associates with the very name of Washington, would be a misfortune and a *calamity* to the children of the present day. Talking about the defects or weak points of any human being is *dangerous* business, and especially is it dangerous to drag down the names of those who have been respected and revered for ages. Now then, when we lose faith in our *neighbors*, faith in our *teachers*, in our *college professors*, in *ministers of the gospel*, in the *heads of our government*, we are on the straight road to losing *faith in God*; and not a few times have I heard those who find so much fault with men in office and those in power, wind up with irreverent slurs toward the great Father of mankind, the God of the universe. A growing faith, coupled with hope, is a bright thing to look upon; but a waning faith, with hope gone, is a *terrible* thing to contemplate.

Now about being a careful and skillful workman. Let me here illustrate. Just as we were laying the iron pipes for the last of the four hydrants, as it went over on to the railroad ground the railroad company kindly offered to do the digging with their own men where it came on their territory, as this hydrant would be of great advantage to them in the matter of fire. A gang of workmen accordingly came to work one morning a little unexpectedly. I set some stakes, and showed them where to dig, but they lacked tools to work with to the best advantage. One more spade was needed. I told one of our men to go to the gardener, who was at work a little way off, and get a spade of him. I had noticed, but a few minutes before, that he had a spading-fork and a spade also. Had there been more time, perhaps I might have made some explanation; but a lot of men were waiting to be set at work. Some little time afterward I asked where the spade was he went for. He said the gardener refused to let him have it. Now, the gardener is a skillful mechanic. He will handle a spade a little better, to my notion, perhaps, than any other man on the grounds. Not only that, he is a Christian, and, of course, a man with no bad habits. Notwithstanding, he has some peculiarities that are sometimes quite annoying. As his eye may meet these pages, I do not wish to find any fault with him here, more than to say that, for some time back, I have been thinking that I should have to have a pleasant, good-natured talk with him, and tell him that, unless he could do differently, we two had better dissolve our business relations. I had put this off, however, because, when I was not at all vexed, it was a very hard thing to begin to find fault, and thus it was delayed. When, however, I learned that he refused to let us have the spade, I went in somewhat of a hurry to where he was at work. The spade lay on the ground, and one of our small boys near it. I directed the boy to carry it up to the railroad men, proposing to make explanations after the boy had started on his errand. My old friend, however, was provoked, and said, in a not very pleasant voice, "But what am I to do?" meaning, what was he to do without a spade? I intended to tell him to get along with the spading-fork for a few

minutes, and I would send the boy to bring one from the carp-pond, where he (the gardener) and I had been using it the day before. I presume he had forgotten this extra spade that I had in mind. Instead of explaining things gently, however, about the spade at the carp-pond, I was a little put out by his refusal and question, and so I replied, in answer to his question as to what he should do, "Why, my friend, I think the *first* thing you are to do is to do a little *better* in some respects than you have been doing." I intended at the time to keep strictly within bounds, and to do nothing that a Christian "workman" should not do. He, however, insisted that I should tell him wherein he had been remiss. I knew it was a bad time for either of us to tell the other of his faults, and I started to go away, proposing to finish the conversation when both of us were in a better frame of mind. Before I got out of his hearing, however, he said something about having much unpleasant work to do, and of being obliged to put up with a good deal for the accommodation of others. At this I stopped and said something as near the following as I can recollect:

"My good friend, if things are so unpleasant and inconvenient here, had you not better find a place where you can have nice easy work and nothing objectionable to do?"

For several hours afterward I kept telling myself that I had said nothing out of the way, or unreasonable. But slowly the matter began to lie heavily on my conscience—not because I was sorry to see him decide to work for somebody else, for it was rather a relief just then to have him do so; but I felt a heavy load on my conscience, to think that, when any one of my men had decided to work elsewhere, we should have dissolved our relations, which were of several years' standing, and part company with unkind feelings in our hearts toward each other. When I went to bed that night I kept thinking, "Oh what would I give if we had parted company with pleasant feelings and kind expressions for each other's welfare?"

We have been having one of the most severe drouths that has been known for years here in this part of the State of Ohio. I had been for days anxiously watching the barometer; yes, I have prayed at home, and at the noon service, that God would send us the rain we so much needed, if consistent with his holy will. Well, the rain came this very day; and while my prayers were being answered I was so ungrateful and unthankful that I allowed myself to feel vexed—another evidence of my being a poor bungling workman. I told my wife, as we prepared to go to bed that night, that only one thing prevented me from being really happy. This one thing was the one item I have been mentioning; and the first thing on awakening in the morning was this same load on my conscience, and a feeling of shame that, whatever my abilities in *other* directions, I was but a poor stumbling and *blundering* workman in the service of Christ Jesus. Some of you may say, "Why, Mr. Root, this is all 'folderol.' When a man is stubborn or contrary, or when you do not need him, it is all moonshine about shaking hands, and wishing each other good luck, and all that." Well, I do not know that I believe in any sentimentality about it; but I *do* believe in "living at peace with all men so far as in me lieth;" and when a man has been in your employ for five or six years, or you have been five or six years in his employ, if things come up that make it advisable on one or both sides to dissolve relations, it is the duty of every Christian, I am *sure*, to bid each other God-speed, with pleasant feelings on both sides. Very likely it is not often done; but, oh how great will be the gain in these times when there

is danger of war (almost any moment) between capital and labor! And how greatly does it behoove us to be constantly looking, in the language of our text, "unto Jesus, the author and finisher of our faith"! Why not see my friend, or write to him what I say, and tell him the truth? Well, it is not so easy a matter. So far as business is concerned, the matter stands satisfactory, probably, on both sides where it is; but, how about the spiritual bearing of the whole matter? The boy who stood by with the spade in his hand would naturally think that, if that were the way *Christians* dissolve business relations, it must be the right and proper way; and yet this boy is *very greatly* in need of Christian influences. Again, our mutual friends will surely know, sooner or later, that there has been trouble between us; and it will be the most natural thing in the world for each of us to speak disparagingly of the other, and thus Christ Jesus be put to shame instead of being glorified.

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

ORDERS FOR A FRIEND.

A friend of mine, Mr. Robert Jones, has quit the use of tobacco, and he thinks he is entitled to one of your smokers. If you think he is worthy of one, please send it to my address and I will see that he gets it; and if he ever uses tobacco again, I promise to pay for the same.

Morgan, Ky., May 1.

H. C. CLEMONS.

NO MORE TOBACCO FOR HIM.

Through the influence of the Tobacco Column, which I have read in GLEANINGS, 1st, I have stopped the use of tobacco; 2d, I promise to pay for the smoker should I ever resume the use of tobacco in any form after receiving the smoker; and if you think I am entitled to a smoker, I shall be very well pleased.

Oxford Depot, N. Y., Apr. 21. HARRY EARL.

ANOTHER YOUNG CONVERT.

Billy Clarno, who is now working in my apiary, is 16 years of age, and has used tobacco several years. I have persuaded him to break short off, and he requests me to ask you for a smoker, and says he will never use tobacco again; but in case he breaks his pledge he promises to pay for the smoker. H. LATHROP.

Browntown Wis., Apr. 29.

My husband, H. W. White, has been smoking for 23 years (never chewed tobacco). Six weeks ago he laid his pipe aside. I wondered what it meant, but said nothing. He asked if I saw any change in him. I said, "Yes, for the better." He said he had made up his mind to stop smoking, and has not said why. I give GLEANINGS credit for it. Please send him a smoker. If he goes to smoking again I will pay for it.

B. J. WHITE.

Broad Run Station, Va., May 11.

IS NOT EASILY PROVOKED; THINKETH NO EVIL.

ONE OF THE DANGERS THAT THREATEN NOT ONLY OUR NATION BUT THE WHOLE WORLD.

I know this is an old, old subject through these pages; but so long as I see troubles multiply, and quarrel after quarrel arise, simply for the lack of the spirit indicated in my favorite text above, I can not but protest. Our present troubles and misunderstandings between labor and capital seem to me to come very largely from thoughtless jumping at conclusions, being in haste to call men liars or rascals, and being ready to think evil, even at the slightest opportunity. If this matter were confined to non-professors of religion, it would be bad; but the saddest part is, that followers of Christ are so ready to think evil of their brothers or sisters in Christ Jesus. The illustration I am going to use concerns myself, and I am well aware that I shall lay myself open to the attacks that have been recently made through these pages. But I prefer to give items from my own personal experience, rather than to take something I do not know all about. In a recent issue of one of our bee-journals appears the following:

I never bought much of Root, but I bought a smoker. I sent \$1.25, supposing that was the price. I was sent a 75-cent smoker, as I found by looking at the price list afterward; and when I found I had paid too much I wrote and he said he had credited it to me. He did after I wrote, at least, and I hoped it did before, just as he said. Mrs. F. A. DAYTON.
Bradford, Ia.

The above comes from a woman, and a professor of religion! Now let us see what grounds she had for suggesting that our establishment might have had a purpose of taking \$1.25 for an article that we advertised at 70 cents. Here is her order for the smoker:

Mr. Root:—Will you please send me one of your best smokers—one that is light, and handy for a woman to use? Mrs. F. A. DAYTON.
Bradford, Ia., July 30, 1889.

The first blunder she makes is in thinking that A. I. Root himself opens letters and takes out the money, mails smokers, etc., while a glance at our price list should show this to be an utter impossibility. One of her own sex, and a Christian woman, who has been for many years, like myself, a professor of religion, received her letter, gave orders to a sister-clerk to mail the smoker, then sent her a bill, giving her credit for the amount of money received, telling her that the 55 cts. remained to her credit, of course subject to her order. The whole correspondence went to the ledgers, and then another Christian woman placed the amount to her credit. If, after a certain number of days, this credit is not used, the party having the credit is notified, asking whether we shall return it in money, or whether he will be wanting something from us again. Most of our readers have had these credit cards, and know all about it. There are about a dozen different women employed in our office, and they have charge of almost all this sort of work—mailing goods, making bills, answering letters, etc. In order to send a customer a 70-cent article, and charge \$1.25 for it, there would have to be some systematic fraud among all these women. Like other establishments, we have written or printed rules, or directions, for clerks, covering almost all emergencies in business. If my intention were to build up a business by fraud, I should have to have some rules something like this:

“When a customer sends more money than is needed for the article he wants, keep it and say nothing about it. If, however, he should afterward in-

quire about it, hand it over to him if you are obliged to.”

Just think for a minute of the idea of getting a dozen intelligent women to undertake to do business with rules like the above! One of this kind of people who are ready to “think evil” once visited a widow lady whose daughter was in my employ, with the view of finding out whether it were not true that the honey we sold was made of sugar instead of taking it from the hives. The woman turned on him with such scorn and contempt that he was glad to beat a retreat. Said she in substance, “Sir, do you come here taking it for granted that my daughter would continue in the employ of a man who cooked up sugar, and labeled it pure honey? Would she be a party to filling the jars with this spurious stuff, and then pasting the label on the outside, which she knew was a falsehood and a cheat? Your insinuations are an unjust slander, not only on my daughter’s veracity, but on all the rest of the men and women in his employ.” The man apologized, and said he had not looked at it in that way before, and that no doubt he had been thoughtless and uncharitable. Do you suggest that I may be lacking in charity, and that the lady in question did not get the bill? Well, that is exactly what I suggested when I first saw the letter in print; but here is a second letter from her, written a little later:

Mr. Root:—I sent you \$1.25 to buy a smoker. I had understood that your price was \$1.25. I had some of your price lists in my house; but having so much work, and so much trouble on my mind, I did not think I could go to a list to learn. But after receiving the smoker I thought it was a high price for so small and cheap-looking an article. Since I have examined your list I find I ought not to have paid over 75 cents, postage and all. Now, I wish you to apply what you owe me, on my subscription to GLEANINGS, or send me a Bingham smoker, or return the money.
Bradford, Ia., Sept. 11, 1889. Mrs. F. A. DAYTON.

As soon as the above came to hand, the clerk transferred her credit of 55 cents to the subscription list, and forwarded her GLEANINGS. Then the book-keeper, who is an old hand at all such matters, and, of course, easily touched when any thing reflects on the veracity of our women-folks, sent her a duplicate bill and wrote her the following:

Mrs. Dayton:—Did you not receive our bill showing the price of the smoker to be 70 cents, postage included, and that we held 55 cents balance due you? See duplicate bill attached. If you use the smoker according to directions, I think you will find it all right. We have sent thousands just like it, which gave good satisfaction. If there is any fault, however, in this one, please state what it is and we will cheerfully make it right. We will apply 50 cents of your credit on GLEANINGS, as you request, which will advance the date of your subscription six months, and we inclose herewith 5 cents in stamps to balance account, which we trust will be satisfactory to you. A. I. ROOT, per E. M.
Medina, Sept. 14, 1889.

Now, I have had our clerks look carefully, but we can not find any reply to the book-keeper’s question. The letter, you will notice, seems to question (at least a little) our honesty; but even after having been written to thus kindly by the book-keeper, she rushes into print with the suggestion that A. I. Root’s love of gain was so great that he might have yielded to the temptation to take 55 cents because he saw a chance, even though the customer were a woman. My good friend, you say in your article to the bee-journal that you have read Root’s A B C of Bee Culture. Could you believe it possible that the man who wrote that book could take 55 cents from anybody, much less from a woman? I beg pardon for what seems like boasting, dear friends; but the point I wish to make is this: People are thoughtlessly and

foolishly accused of mean little things like this when the bare suggestion is an absurdity. I know that we sometimes meet with shocking cases of depravity; yet the men who write good books, and who occupy prominent positions in society and in the literary world do *not* do such things. The idea that a man could build up a great business, employing more than a hundred hands, and be guilty of cheating in small matters, would seem to indicate that honesty is *not* the best policy. Did anybody ever build up a great business by cheating or defrauding? Surely not. The business man who deliberately takes \$1.25 for a thing which is worth only 70 cents, is on the road to financial ruin. If he persists in it he will soon have neither store nor clerks. The tramp who goes from house to house begging for cold victuals would be quite likely to do things of this kind, for it is right in his line. Sometimes a man has money left him, and for a little time he imagines he may do business, and hold trade and keep customers, by cheating; but very soon every man or woman, even those who are dishonest and depraved, turn from him in disgust. "Be sure your sin will find you out." This is as true now as it was in Bible times. One reason why I have had much charity for the managers of large institutions where capital is employed, is because I have felt sure there must be some kind of honor and truth about them or they never would have become a great concern or even capitalists. In the first Psalm there is a promise ending, "And whatsoever he doeth shall prosper." Does this refer to people who cheat? *By no manner of means.* Again, it tells us of a sort of people which are "like the chaff which the wind driveth away." What sort are these? *They* are the ungodly, of course—those who deliberately commit wickedness.

THE KEROSENE EMULSION.

PROF. COOK CORRECTS HIS FORMULA, AS GIVEN ON PAGE 420, LAST ISSUE.

After the above was in print, friend Cook wrote us, asking us to substitute the formula given below, which we take from Bulletin 73 of the Michigan Agricultural College, April, 1891:

My formula recommended for years is this: Dissolve in two quarts of water one quart of soft soap or one-fourth pound of hard soap, by heating to the boiling-point, then add one pint of kerosene oil, and stir violently for from three to five minutes. This is best done by pumping the liquid into itself through a small nozzle, so that it shall be thoroughly agitated. This mixes the oil permanently so that it will never separate, and can be diluted easily, at pleasure, by simply shaking or slightly stirring after adding the water to dilute. I have often stated that it was not necessary to use so much soft soap, but was better, as it insured a perfect emulsion even upon dilution, and the soap itself is an insecticide, and valuable, aside from its emulsifying power. I also have stated that, in using soft soap, a quart of water would do. I prefer, however, the two quarts, as the emulsion is more sure, and the thinner material permits more ready and more speedy dilution, especially in cold weather. I have always placed soft soap first, as most farmers have it; and convenience is very important in such matters. A farmer will make and use an article when all the ingredients are at hand, whereas he would not do so had he to go and purchase them for this express purpose.

The agitation should be violent, but need not be long. We have formed a perfect emulsion in one minute, even with cold water.



Thou shalt not bear false witness against thy neighbor.—
EXODUS 20: 16.

WE notice that there is a great scarcity of first quality of comb honey. It is thought that the prices will open up good and strong.

WE are rearing cells *a la* Doolittle. His artificial cell-cups work very nicely; and, in fact, during this season of the year it has been about the only way we could get cells at all.

A BILL for the suppression of foul brood and the appointment of an inspector did not pass in the Wisconsin State Legislature, as we stated in last issue. It passed the Senate, but failed to pass the Assembly, for the want of votes, much to the regret of the bee-keepers of the State, so says a correspondent from Wisconsin.

THE slatted honey-boards have gone out of sale entirely in our establishment. The new top-bars have made it take a back seat. The slatted honey-board was a good thing, and served its purpose well. But something vastly better has taken its place—at least, so say our customers. Queen-excluding honey-boards are as popular as ever.

AT this season of year a good many bee-keepers come to visit our yards as well as to buy supplies. We take pleasure in showing them the Hoffman frames in the apiary; and, without an exception, they are pleased with them. These frames do not kill bees as they thought they would. If handled hurriedly or clumsily, they may kill a few.

THE Punic bees are a new race lately introduced in England, and are shortly to be introduced into this country. We have no doubt that they are the same bees that have been described by some African missionaries. They are said to surpass in good qualities all other known races of bees. As usual they are painted in rather glowing colors. It is admitted that they are bad propolizers.

WE have just received a Benton cage full of beautiful yellow Italian bees and drones, from J. F. Michel, of German, O. We unhesitatingly pronounce them the yellowest bees we ever saw. On some the whole abdomen is yellow, except the tip, which is black. In fact they have more yellow on them than the beautiful bees sent out by Timpe and Hearn. May be they are bees that came from them.

MY statement, that fixed frames could be handled as rapidly as loose frames, and, in some cases, more so, has been challenged once or twice, although I have as good authority as Mr. Elwood, Mr. Hoffman, and others to back me. On page 473, this issue, Mr. J. A. Green says it takes about twice as long to handle metal-cornered loose frames as it does fixed closed-end frames, and then gives his reasons. This fact must not be overlooked: They have tried both kinds—loose and fixed frames.

E. R. R.

WE have just had some hard beating rains. Immediately after one heavy dash we went out into the yard and looked into a number of Dove-tailed hives with flat covers. There was not

even a drop of water in the hives. We observed that capillary attraction plays a very strong part in keeping water from entering the hives. It will seep in near the outside edges, and there remain; but as we paint the top edges as well as the under side of all of our covers (and every bee-keeper should do so), no rotting will take place—at least, not for a good many years to come.

We want reports of the automatic self-hiver. We do not doubt that it will work in the majority of cases; but the question that comes up is this: Will not the expense attendant upon the paraphernalia more than compensate for the convenience of the automatic feature of it? or, in other words, will not bee-keepers, instead of going to the expense of automatic self-hivers on a third or a half of their colonies, prefer to hive them in the old way, in and out of season? Observe, that we do not claim they *are* expensive, but we only raise the question, and, like others, are seeking for information.

BUYING BEES VS. FEEDING TO STIMULATE.

We have been obliged to buy up a good many colonies of bees this spring, on account of the rush of orders for bees and queens. While we bought some very nice lots, there were a good many other lots that were on crooked combs, and on frames of home-made construction. All this necessitated their transferring, or, better, letting brood hatch out over queen-excluders, and causing the bees to build out foundation in Hoffman frames in the brood-nest below. All of this is expensive, to say nothing of the first cost of the bees. Granulated-sugar syrup is now down so low that sugar syrup can be made for about 3 cents per pound. At this very low price of sugar we can raise bees cheaper than we can buy them. By the way, is not this low price of sugar going to be a boon to bee-keepers rather than a detriment? We have already received advices that new dark honey placed on the market is selling at the old figures; and this despite the fact that it was predicted that *dark* honey would be affected by the low price of sugar, if any thing. In a poor year, and if the bees are short of stores, it is going to be quite a boon to bee-keepers to be able to get the nicest kind of syrup for about 3 cts. for feeding bees.

ADULTERATION OF HONEY.

The last *Bee-keepers' Review* discusses the matter of adulteration. The correspondents do not all agree as to the best method of fighting the evil. Some, with the editor, recommend cheaper honey, so as to make adulteration unprofitable, while others contend, with a good show of reason, that this is impracticable. Others, again, intimate that the actual evils arising from adulteration in the way of competition are very small in comparison with those arising from the continual talk about it. It is no doubt true, that there has been too much talk and too much vilifying of adulterators, and too little doing. We believe that the adulterators can be prosecuted; and while it may not be possible to tell the adulterated article, the mixers may be watched by detectives employed by the Bee-keepers' Union or any other association of bee-keepers, and, upon proper conviction, be fined or imprisoned in accordance with the law. Now that sugar has come down so that granulated syrup can be had for about three cents a pound, there will be some temptation to put a little of the cane product into honey; but dishonesty is always unprofitable. It is suggested in the *Review*, that consumers shun all kinds of honey not properly labeled—a good point; and it would be well to buy from reliable dealers, and,

as far as possible, honey bearing brand and label of *producer*.

IMPORTED QUEENS PROHIBITED BY MAIL.

We learn by the *American Bee Journal*, page 663, by a letter from the Custom-house officers in New York, under date of May 11, that the "importation through the mails of any dutiable merchandise (except books and printed matter) is a violation of the law, and subjects the article so imported to forfeiture." This, according to the new law, includes queens, and makes it a little bad for those who have already ordered queens by mail. It is a great convenience many times to the individual bee-keeper to order three or four queens for himself direct from Italy; but now no one but the extensive breeder of bees and queens can afford to order queens, and those in large shipments by *express*. Three or four queens by *express*, enough for the individual needs of the bee-keeper, would make the *express* charges per queen, to say nothing of the *ad valorem* duty, excessively high. But there is one fact somewhat to the encouragement of those who have already ordered queens from Italy by mail, and we would advise them to apply for a similar ruling in their behalf. It is this, quoting from the *American Bee Journal*:

The Customs Collector of New York is authorized by the Customs Department to order the release, on the expected arrival there, of a shipment of Italian queen-bees, sent through the mails from Italy, to a citizen of Iowa, upon payment of a fine equal to the duty thereon. These bees are liable to duty at 20 per cent *ad valorem*.

It is evident from this that the Custom-house officers, recognizing that there was an injustice, and that queen-bees were not anticipated by the framers of the law, have decided to let queens, already ordered by one party, come, with virtually the simple payment of a duty of 20 per cent. Perhaps some of our readers may not understand what a 20 per cent *ad valorem* duty means. It is 20 per cent on the value of the goods with *express* charges added; that is, if the invoice value of an article is \$2.00, including the *express* charges, the duty will be one-fifth of that, or 40 cents. See Charles Bianconini's article elsewhere.

THE HOUSE-APIARY AND THE BEE-ESCAPE.

The editor of the *Bee-keepers' Review*, readily catches on to the possibilities of the bee-escape for the house apiary. At the convention of the Ohio State Bee-keepers' Association at Toledo he suggested that the escape might do away with the most serious objection—that is, of disposing of and getting the bees out of the supers, without getting them all over the floor and in the room. The senior editor, quite independently, saw the same idea later on, without any knowledge of what W. Z. H. had said at Toledo, and gave expression to it in answer to Mr. Dibbern's article, both of which are copied in the *Review*. W. Z. H. wants to know if it is not another example of how "great minds run in the same channel." Yes, that's about it. Who knows but the bee-escape is going to make the house-apiary a practical success—that is, revive its use where it has been abandoned? We trust that some of our house-apiary people will test the escape at an early date—Mr. Vandervort, of Laceyville, Pa., for instance, who still uses it. There are decided advantages in keeping bees under lock and key, especially where there are thieves who make depredations; or, where land is limited, as in a city—too limited, indeed, to set out any kind of apiary—the house-apiary scheme is about the only feasible one for accommodating 25 or 50 colonies. We wonder if friend Muth, of Cincinnati, can not revive his apiary on the roof, in

view of the bee-escape—nay, go a little further and construct thereon a modern house-apiry, equipped with modern bee-escapes. If the escape will work outdoors on ordinary hives it has got to work in the house-apiry.

THE HAVERLAND STRAWBERRY—ANOTHER BIG POINT IN ITS FAVOR.

I SUPPOSE that most of you know about the frosts that have cut off the fruit prospects, or greatly delayed them, all over the Northern States. Our potatoes that were started in the greenhouse have been cut down three times. They are now making a very fair show, and are ready to be cut down the fourth time, or—give us a good crop after all. Well, the Sharpless strawberry, perhaps, suffered most—that is, its early bloom did; the Jessie next, and so on down through a list of perhaps 20 varieties. Now, which one, do you suppose, stood the frost better than any other? Why, our new favorite, the Haverland; and just now, great green berries are lying almost in heaps around the plants, just as they did last year. Of course, there is some green fruit on the other varieties also; but the Haverlands are ever so much the largest, and the most of them. The first berries of the season are going to be Haverlands, without doubt. Michel's Early, standing right by the Haverlands, sent out blossoms again and again, some time before the Haverland commenced to bloom. But now while the Haverlands are well loaded with good-sized green berries, Michel's Early has only a few very small ones. I did not notice this particularly until one of our compositors remarked that his Haverlands stood the frost better than any other. One reason may be, that the fruit-blossoms lie right on the ground, and were often covered by the foliage of the plant. It is also possible that, during another season, they might fail to show this marked difference.

STUNG TO DEATH.

THE following is an item that is going the rounds of the press:

STUNG TO DEATH.

SAN ANTONIO, TEXAS, May 20.—A Uvalde, Texas, dispatch says: Yesterday Geo. Minus, a stockman, met with a singular and fatal accident. He was driving past an apiary farm where they were extracting honey. The angry bees covered the two horses to the depth of an inch, and hid his face and hands like a helmet. The two horses died within an hour, and Mr. Minus is dying. Thousands of bees in their anger stung each other to death.

This may be, and probably is, considerably exaggerated; for instance, *two horses* covered with bees to the depth of an *inch*. But even if true, the rarity of reports of people or animals dying from bee-stings shows that such casualties are not nearly so frequent as injuries and deaths resulting from keeping *horses*. Right here we can not forbear suggesting that the bee-escape would have averted all this trouble. Mr. G. H. Ashby, of Albion, N. Y., said that his bees frequently annoyed passers-by when extracting, until he used the bee-escape, and now that trouble is done away with. The parties in Texas who did the extracting were doubtless careless, and allowed the bees to get to robbing; and the fact that the bees stung everybody and every thing, points very strongly that way. Bee-escapes would have prevented robbing. The empty supers could have been carried to the extracting-house, or place secure from the bees, the honey extracted, and combs returned in the supers to the hives where they belonged. There is a lesson here that comes to us: Such accidents as these help to give color to the notion that prevails in certain localities, that

bees are a nuisance and not fit to be kept within corporate limits. Bees do not begin to make the trouble that cows, chickens, and other stock do inside of corporations, and yet the latter are tolerated, and nothing is said against them. Who ever heard of a town council that wanted to oust chickens or cows from corporate limits because they got into into some old dyspeptic's garden?

THE UNITED STATES HONEY-PRODUCERS' EXCHANGE.

A REPORT UP TO MAY 10, 1891.

The reports up to date indicate that with the exception of New England, bees have wintered rather better than last year, when they wintered unusually well. The chief cause of the great mortality in New England seems to have been starvation. Some have lost their entire apiaries of 50 to 100 colonies or more, while those who provided them with sufficient stores have wintered with a small loss. Bees are generally reported to be in good condition; but in many cases, at the time of making out these reports, they were short of stores; but as this was only a few days before fruit-bloom, they are probably now well supplied, as the weather has been more favorable than usual during that period. The prospect for a good crop of honey has not been better for several years, unless it should be spoiled by dry weather.

The following are the questions that were sent out to the respondents, and correspond to the numbers by States and numbers just following.

1. What is the number of colonies reported in your locality so far as you know?
 2. What per cent were lost in winter and spring?
 3. How does the number remaining compare with last year, and what is their condition?
- Pine Plains, N. Y. G. H. KNICKERBOCKER.

STATE.	Qu. 1.	Qu. 2.	Question 3.
Alabama.....	630	20	15 per ct. less; cond'n better.
Arizona.....	1500	5	About the same.
California.....	4500	8	10 per ct. more; cond'n good.
Connecticut.....	250	30	About the same.
Colorado.....	3000	2	Ditto; cond'n much better.
Georgia.....	900	15	Ditto; good.
Idaho.....	1000	10	Ditto; good.
Iowa.....	1475	28	15 per ct. less; good.
Indiana.....	1150	5	Ditto; extra good
Indian Territory.....	700	10	20 per ct. more; extra good.
Illinois.....	1300	5	Same number; cond'n better.
Kansas.....	6100	5	Same number; cond'n better.
Kentucky.....	565	5	25 per ct. more; " " "
Louisiana.....	400	0	10 per ct. more; " " "
Maine.....	350	60	Fully half less; gen'y weak.
Massachusetts.....	650	45	Fully 40 p. c. less; not good.
Maryland.....	1300	8	Ditto; much better.
Michigan.....	2160	20	Ditto; rather better.
Minnesota.....	1264	15	5 per ct. more;
Mississippi.....	200	20	15 per less; rather weak.
Missouri.....	2350	8	10 per ct. more; same.
Nebraska.....	550	20	About the same; good.
Nevada.....	700	10	About the same; good.
New Hampshire.....	300	50	40 per ct. less; cond'n fair.
New Jersey.....	200	2	20 per ct. more; very strong.
New York.....	11,450	25	10 per ct. less; rather " "
North Carolina.....	500	10	15 per ct. more; some " "
Ohio.....	1700	5	More; in better condition.
Pennsylvania.....	600	20	About same; fair to good.
Rhode Island.....	950	25	About same; very strong.
South Carolina.....	175	2	About same; extra good.
Tennessee.....	200	10	10 per ct. more; good cond'n.
Texas.....	1650	2	5 per cent more; cond'n better.
Vermont.....	2150	25	20 per ct. less; gen'y good.
Virginia.....	600	10	About same; fair to good.
West Virginia.....	800	5	Few more; cond'n good.
Washington.....	24	0	50 per ct. more " " "
Wisconsin.....	2600	25	10 per less; cond'n fair.

Per cent of loss.

[At the York State Bee-keepers' arrangement, held in Albany last February, arrangements were made whereby the Statistical Department of GLEANINGS and the United States Honey-producers' Exchange (also a scheme for disseminating statistics) were to be consolidated, and to be under the management of the former officers of the Exchange. The officers of the as-

sociation are, P. H. Elwood, President; I. L. Scofield, Vice-president; G. H. Knickerbocker, Secretary. Mr. Knickerbocker is to take charge of the statistics of GLEANINGS for this year, and the above is the first installment. The plan of giving reports has been abbreviated, so that the reader may be able to get at the gist of the situation a little more readily.

We were very much surprised that the bees seem to have wintered so well generally, with the exceptions noted by Mr. Knickerbocker above. The prospects seem to be excellent. The average of losses, as given in Qu. 2. in the table, is $14\frac{1}{3}$ per cent.] E. R.

SPECIAL NOTICES.

POTATOES FOR SEED.

We have on hand only Henderson's Early Puritan and Terry's Monroe Seedling. These two kinds are in very good order, and we can ship them promptly at \$1.50 per bushel, or \$4.00 per barrel, said barrel holding about eleven pecks. Of course, the offer is for immediate orders.

VEGETABLE-PLANTS.

We have any quantity of cabbage-plants, Jersey Wakefield, Fottler's Brunswick, or Excelsior Flat Dutch; also a good stock of celery-plants. But repeated frosts have made so many second or third applications for tomato-plants that at the present writing our stock is very limited; and the same with sweet-potato and pepper-plants.

GOLD-COIN SWEET CORN.

When we got out our seed catalogue, there was considerable debate as to whether we should include the above sweet corn. A good many people prefer it to any other sweet corn for table use, even if it does have somewhat of a field-corn flavor. Some one has stated in print that it kept fit for table use a longer time than any other sweet corn known, and I at once remembered that ours did not seem to get too old or too hard at all. In view of the above we purchased some for our own use, and can let our readers have it at the usual price of ordinary sweet corn; viz., in 5-cent packages; or, half-pint, post-paid by mail, 8 cts.; one quart, postpaid, 30 cts.

TOBACCO DUST FOR STRIPED BUGS AND FLEA-BEETLES.

At present writing, the tobacco dust seems to be a perfect remedy for both of the above. Flea-beetles commenced suddenly on our cucumbers, squashes, potatoes, and even tomatoes; and we have been so much in the habit of seeing the leaves perforated and disfigured by these little pests that we began to think there was no help for it. To our surprise, however, we find that tobacco strewn over the plants and on the ground liberally does the business at once and to perfection. The expense is so little for the dust that we have for the present abandoned both the squash-boxes and the wire-cloth bug-protectors. The price of the tobacco dust is: 10 lbs., 25 cts.; 25 lbs., 50 cts.; 100 lbs., \$1.75.

LOW OCEAN FREIGHT TO AUSTRALIA.

Freight by sailing vessel goes at so much per cubic foot, regardless of bulk or value, which fact simplifies the matter of rates and classification down to one item; while by rail a book of several hundred pages for each of the great number of railroad systems with their perplexing mass of rules and regulations, rates, and per cents, *ad infinitum*, seems to be necessary in these days. The rate by sailing vessel from New York to Melbourne, Australia, at present, is only 8 cents per cubic foot, which, on beehives K. D., sections, and that class of goods, is equal to 32 cts. per 100 lbs. This, for a trip of nearly 15,000 miles, compared with the rates charged by rail, will give a vivid illustration of the contrast between rail and water rates. The rate on the same class of goods from here to California points, less than 3000 miles, is \$2.80 per 100 lbs., or 9 times as great. Now is a good time for our friends in Australia and New Zealand to lay in a supply of goods,

as the rate has reached the lowest point that it has been for several years, being one-third what it was a year or two ago. At such rates our customers in the far-away commonwealth of Australia have less freight to pay than those in Texas, Nebraska, and other places of equal distance in our own land.

MOTTOES IN COMB FOR THE FAIR.

The fair is coming after a while, and this is always a good opportunity for educating the public and directing their attention to our pursuit by an attractive display of the products of the honey-bees, and the implements used in their management. It will greatly help in making your display attractive, to have your name or some motto worked in white comb honey. If you are ingenious, and have the tools, you can easily make the letters; or if you prefer to buy them we are prepared to furnish you what you want, as follows:

We have a full set of pattern letters to work from, and they are of such a size that three will fill an 8 section wide frame, the openings forming the letters being about $7\frac{1}{2}$ in. high and 5 in. wide. M and W, of course, are wider, and I narrower. The letters are of the following pattern:

FAIR, 1891.

The price will be 15 cts. per letter or figure. With thin foundation inserted, 20 cts. per letter or figure. In ordering, if you will write the letters in the order you want them, we can make 3 letters in one piece, just right to slip into a wide frame. Or if you don't happen to have a wide frame, simply tack a bar on top, to suspend it from, and hang it in the hive without a frame around it. The 4 figures, 1891, will go in a frame. To make the letters, we simply tack two $\frac{3}{8}$ -inch boards together, mark the letter, and jig it out on a scroll-saw. To put in the foundation, separate the boards, lay a sheet between, and tack them together again. We make the letters large, because the bees will work in them more readily, and they are much more conspicuous when filled.

KIND WORDS FROM OUR CUSTOMERS.

The box of maple sugar came all right. Didn't we enjoy the treat! The nickel-plated shears cut like a charm, and are cheap for the money.

Canova, S. D., May 8.

L. R. HILLMAN.

I have been using the water-cure treatment for about a year, and am cured of chronic rheumatism.

Exchange, Ill., Apr. 8.

ISAAC HILL.

I received the bees yesterday, and put them into the hives to-day. They are working nicely so far.

Hanover, Me., May 12.

FRANK E. RUSSELL.

The imported queen I got of you in October last is all right yet, nearly ready to cast a swarm. Her bees are of very good markings, better than I ever had before.

New Braunfels, Tex., March 9.

G. OBERKAMPF.

Please stop my ad't in GLEANINGS, "hybrid queens for sale." I have orders from Maine, Vermont, Illinois, and lots from this State and Pennsylvania. One order is for eight.

Lorain, O., Apr. 28.

ED. GREELEY.

I really could not do without GLEANINGS. That and the A B C have helped me a long way ahead of their cost, over and over again. In fact, I can not speak too highly of your views and arguments.

Armidale, N. S. W., April 3.

JOHN S. RUTTER.

I have used the remedy you so kindly advertise and circulate. This will be a great blessing to many. I was a fearful sufferer from dyspepsia and nervousness, which has been cured by this treatment.

Negaunee, Mich., May 1.

CAPT. KEMP, Salvation Army.

The bees you shipped me about a week ago arrived in good order, and are working finely. The queen is all right. They are really fine bees. They will not sting. I am well satisfied, and will favor you with my orders in the future, if I need any thing in your line.

Cambridge, O., April 28.

W. E. RAYLEY.

NEW AUTOMATIC ZINC PERFORATOR.

I am now able to supply zinc with the round-end perforations in 16 styles of opposite and alternate perforating. The new machine makes any size of sheet, with a border of any width from 2x5 inches up to 24x44. The work done has

NEVER BEEN EQUALED,

is uniform, exact, and perfectly reliable. Prices very low. Send stamp for samples. Address

DR. G. L. TINKER, New Philadelphia, O.

5tfid Please mention this paper.

TAKE NOTICE!

BEFORE placing your orders for SUPPLIES, write for prices on One-Piece Basswood Sections, Bee-Hives, Shipping-Crates, Frames, Foundation, Smokers, etc. **PAGE, KEITH & SCHMIDT CO.,** 21-124b New London, Wis.

responding to this advertisement mention GLEANINGS.

The Greatest Invention of the Age!

BEES MADE TO LIVE THEMSELVES.

Full particulars free. Address

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

responding to this advertisement mention GLEANINGS.

A Bee-Hive Free

From all objections. For description and prices see our circular. One-piece V-groove sections, per M., \$3; 3000, \$8.50; 5000, \$13.75. Brood frames, L. size, \$1.00 per 100. Hunt's foundation, Bingham smokers, Abbott honey-knives, Hill's smokers and feeders, 10,000 Parker foundation fasteners on hand. Send for price list. **W. D. SOPER & CO.,** 118-120 Washington St., Jackson, Mich.

19-17d Please mention this paper.

FLORIDA NEWSPAPERS FREE

We will send the "South Florida Home" six weeks on trial for 10 cents and insert your name in our "Mailing List" which will bring you hundreds of sample copies of Florida newspapers, magazines, circulars, etc. and if you want to visit or locate in Florida, you can decide where to go and how to get there. Address HOME, St. Petersburg, Fla.

TESTED ITALIAN QUEENS, \$1.00. UNTESTED, 60 CTS. SELECTED TESTED, \$1.50.

9 17d

STUARD BROS., Sparta, White Co., Tennessee.

Please mention this paper

IMPORTED QUEENS.

In May and June, each.....\$2.00
In July and August, each..... 1.80
In September and October, each..... 1.60

Money must be sent in advance. Safe arrival guaranteed. Queens that die en route, if returned in the letter, will be replaced by mail, postpaid. No order for less than 8 queens by express will be accepted.

CHAS. BIANCONINI, Bologna, Italy.

1-11d

Please mention this paper.

PATENT WIRED COMB FOUNDATION HAS NO SAG IN BROOD-FRAMES.

THIN FLAT - BOTTOM FOUNDATION Has No Fish-bone in Surplus Honey.



Being the cleanest is usually worked the quickest of any Foundation made.

J. VAN DEUSEN & SONS,

Sole Manufacturers, 5tfid Sprout Brook, Montgomery Co., N. Y.

responding to this advertisement mention GLEANINGS.



CHEAP ENOUGH:

Sections, \$3.00 per 1,000. Foundation, 45 cts. per pound; Chaff Hives, \$1.25 each; Simplicity hives, 9) cts. each; Dovetailed hives, 80 cts. each, and every thing needed in the apary, cheap. Send for illustrated price list for 1891, free.

"How I Produce Comb Honey," by mail, 5 cts. Third edition just out. Address

Geo. E. HILTON, Fremont, Mich.

3tfdb

Please mention this paper.

ITALIAN 100 QUEENS.

Untested Queens, 75 cts. each. \$6.00 per dozen.

Now ready to mail. 9tfdb

H. Fitz Hart, Avery p. o., New Iberia, La.

responding to this advertisement mention GLEANINGS.

Bee-Keepers' Supplies.

WHY SEND LONG DISTANCES?

SEND YOUR ADDRESS (DON'T FORGET THE COUNTY) FOR MY NEW PRICE LIST FOR 1891.

C. P. BISH, Grove City, Mercer Co., Pennsylv'a.

ESTABLISHED IN 1884. 7tfid

Please mention this paper.

Bee-keepers, Look Here!

Leininger Bros. are going to rear 1000 Queens this year from one of G. M. Doolittle's best queens; and if you want bees for

Business & Beauty Combined,

try one of their queens. In June, \$1.00; tested, \$1.70; select, \$2.50. The very best, \$4.50. Descriptive circular free. 10tfdb

LEININGER BROS., Ft. Jennings, Ohio.

responding to this advertisement mention GLEANINGS.

We are making arrangements for the agency of those

WONDERFUL PUNIC BEES,

brought to England by "a Hallemshire bee-keeper," and are now booking orders at the following rate:

Imported queens, \$4.00 each.

Tested pure homebred, \$5.00 each.

Virgins, \$1.00; 1/2 doz., \$5.00; per doz., \$10.00.

Send for Punic circular. 1-11d

E. L. PRATT, Pratt Bee-Farm, Beverly, Mass.

responding to this advertisement mention GLEANINGS.

New Orleans Apiaries.

Untested Italian and Carniolan Queens, for May and June, \$1.00 each; after, 75 cts. 10tfdb

BEES for BEAUTY and BUSINESS.

Purity and safe arrival guaranteed. Address

WINDER & SIPLES, 576 MAGAZINE ST., NEW ORLEANS, LA.

responding to this advertisement mention GLEANINGS.

WANTED!

In exchange for queens, 20 lbs. of bees, any race, but no foul brood. I will give one young tested three or **Five Banded Italian Queen** (to be sent the fore part of June), for every pound of bees sent me **now, charges paid.** If you wish queens of either strain, and can spare the bees, drop me a card, and send at once. Reference, postmaster or express agent here. Send bees at once. Address

JACOB T. TIMPE, 9tfdb

Exp. and P. O. Address, **Grand Lodge, Mich.**

Please mention this paper.



"I tell you what, Jones, Levering Bros. sell the best goods and at the lowest prices of any one I've struck yet."

The LARGEST and BEST EQUIPPED BEE-HIVE FACTORY IN THE WEST.

THE NEW DOVE-TAILED HIVE A SPECIALTY.

Every thing used by practical bee-keepers by wholesale and retail. Send for our '91 illustrated price list and save money. Address 4-15db

LEVERING BROS., Wicota, Cass Co., Ia.

In responding to this advertisement mention GLEANINGS.

BEE-KEEPER'S GUIDE.

16TH THOUSAND JUST OUT.

Plain, Practical, Scientific. Every farmer and bee-keeper should have it.

PRICE REDUCED TO \$1.00. Liberal discount to dealers. Address 8-18db

A. J. COOK, Agricultural College, Mich.
Please mention GLEANINGS.

UNTESTED QUEENS,

until June 1st, \$1.00; after June 1st, 75 cts.; \$8.00 per doz. Tested queens, after June 1st, \$1.50. Select tested, \$2.00. Bees by the pound until June 1st, \$1; after June 1st, 75 cts. Can supply any demand from first of May. Untested, in May, \$9.00 per doz. 8tfdb

PAUL L. VIALON, BAYOU GOULA, LA.

In responding to this advertisement mention GLEANINGS.

Western Bee-keepers' Supply House

Root's Goods can be had at Des Moines Iowa, at **Root's Prices.** The largest supply business in the West. Established 1855. Dove-tailed Hives, Sections, Foundation, Extractors, Smokers, Vells, Crates, Feeders, Clover Seeds, etc. Imported Italian Queens. Queens and Bees. Sample copy of our Bee Journal, "The Western Bee-keeper," and Latest Catalogue mailed Free to Bee-keepers. **JOSEPH NYSEWANDER, DES MOINES, IOWA.**



In responding to this advertisement mention GLEANINGS.

\$1.00 QUEENS READY TO MAIL. \$1.00

Queens reared from one of Doolittle's select mothers, by his method. Orders booked now; pay when queens are received. Write for quantity prices. Safe arrival and satisfaction guaranteed. 9-10d
JOHN B. CASE, Port Orange, Vol. Co., Fla.

In responding to this advertisement mention GLEANINGS.

Cash for Beeswax!

Will pay 28c per lb. cash, or 30c in trade for any quantity of good, fair, average beeswax, delivered at our R. R. station. The same will be sold to those who wish to purchase, at 33c per lb., or 37c for best selected wax.

Unless you put your name on the box, and notify us by mail of amount sent, I can not hold myself responsible for mistakes. It will not pay as a general thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Leahy M'fg Co.,

—UNDOUBTEDLY THE—
LARGEST PLANT IN THE WEST,

Built exclusively for the manufacture of Apian Supplies. One and One-Half Acres Floor Space. We sell as Cheap as the Cheapest, and our goods are as Good as the Best. Parties will do well to write us for estimates on large orders. We will send our catalogue for your name on a postal card. Address **LEAHY MFG. CO., Higginsville, Mo., 7tfdb**

Please mention this paper.

\$5.00 IN MAY, AND \$4.50 IN JUNE,

—WILL BUY—

A Strong Full Colony of Pure Italian Bees

in Root's new Dove-tailed or the old Simplicity hive, as you prefer. Each to contain a fine tested queen and plenty of bees and brood. Everything first-class. Pure Japanese Buckwheat, per bu., \$1; ½ bu., 60c; ¼ bu., 35c. bag included. Scotch Collie Pups, \$4 each. **N. A. KNAPP, Rochester, Lorain Co., O., 6tfdb**

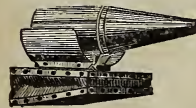
Please mention this paper.

SUPPLIES BY ELECTRICITY.

Observatory Hives, Improved Supers, Shallow Frames. 10tfdb **E. CALVERT, Des Moines, Ia.**

BEEES and yellow Italian Queens for sale in June at Chenaug Valley Apiary. **E**VEN THE Best Selected Te-ted \$1.25 Untested \$1.00. Order early. Send for circular. **E**XCEL. They do all other seasons my old custom-ers will say. **S**MRS OLIVER COLE, Sherburne, Chenaug Co., N. Y. Please mention this paper.

BEST ON EARTH



ELEVEN YEARS WITHOUT A PARALLEL AND THE STANDARD IN EVERY CIVILIZED COUNTRY.



Bingham & Hetherington Patent Uncapping-Knife, Standard Size.

Bingham's Patent Smokers,

Six Sizes and Prices.

Doctor Smoker,	3½ in.,	postpaid	...\$2.00
Conqueror "	3 "	"	... 1.75
Large "	2½ "	"	... 1.50
Extra (wide shield)	2 "	"	... 1.25
Plain (narrow "	2 "	"	... 1.00
Little Wonder,	1½ "	"	... .65
Uncapping Knife.....			... 1.15

Sent promptly on receipt of price. To sell again, send for dozen and half-dozen rates.

Milledgeville, Ill., March 8, 1890.

SIRS:—Smokers received to-day, and count correctly. Am ready for orders. If others feel as I do your trade will boom. Truly, **F. A. SNELL.**

Vermillion, S. Dak., Feb. 17, 1890.

SIRS:—I consider your smokers the best made for any purpose. I have had 15 years' experience with 300 or 400 swarms of bees, and know whereof I speak. Very truly, **R. A. MORGAN.**

Sarahsville, Ohio, March 12, 1890.

SIRS:—The smoker I have has done good service since 1883. Yours truly, **DANIEL BROTHERS.**

Send for descriptive circular and testimonials to 1tfdb **BINGHAM & HETHERINGTON, Abonia, Mich.**

In responding to this advertisement mention GLEANINGS.

Advanced Bee Culture;

ITS METHODS AND MANAGEMENT. I am now engaged in writing and printing a book that is to bear the title. It is to take the place of my other book, *The Production of Comb Honey*, which will not be re-published. Although the new book will contain at least five or six times as much matter as *The Production of Comb Honey*, yet the price will be only 50 cts. The book is already partly printed, and will probably be out some time in April or May. If any of the friends would like to "help me along" in meeting the expenses of getting out the book, they can do so by sending their orders in advance. Such orders will be most thankfully received, and filled the *very day* the book is out. I will send the REVIEW one year and the book for \$1.25. The REVIEW will be sent on receipt of order (I have plenty of back numbers to send it from the beginning of the year), and the book as soon as it is out. Stamps taken, either U. S. or Canadian. 10tfdb

W. Z. HUTCHINSON, Flint, Mich.

In responding to this advertisement mention GLEANINGS.

LEATHER-COLORED

PRICE LIST FREE ON APPLICATION.

A. E. MANUM, - - - BRISTOL, VT.

ITALIAN QUEENS.

Please mention this paper.

7-14db

DR. TINKER'S SPECIALTIES!

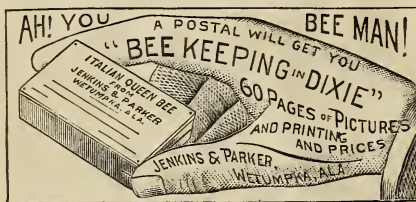
The Nonpareil Bee-hive and Winter case, White Poplar Sections, Wood-zinc Queen-Excluders, and the finest and best Perforated Zinc now made.

Send for catalogue of prices, and inclose 25 cts. for the new book, *Bee keeping for Profit*.

Address **DR. G. L. TINKER,**
New Philadelphia, O.

21tfdb

In writing to advertisers please mention this paper.



In responding to this advertisement mention GLEANINGS.

In responding to this advertisement mention GLEANINGS.

FIVE-BANDED BEES.

If you want queens that will produce the **handsomest** and **gentlest** bees on earth, bees that you can handle without smoke and get less stings than you will from the three-banded, or leather-colored bees, with smoke—if you want bees that are good workers, if you want bees that combine all these good qualities, then buy one of the queens that produce the **Golden Five-banded Bees**. My queen and bees took **first premium** at the Detroit Exposition last fall. I can fill orders promptly, for **Golden Five-Banded** untested queens, for \$1.00 each; 6 for \$5.00; or 12 for \$9.00. I have a few of the tested Alley queens, that I will sell for \$2.00 each. Make money orders payable at Flint, Mich. 11tfdb

ELMER HUTCHINSON,
ROGERSVILLE, GENESEE CO., MICH.
Please mention this paper.

No Disease of any Kind was ever Known in our Mountain Region of West Virginia.

FOR SALE.—A few queens, reared upon the most scientific principles, from the **very best** American-bred stock.

Pay part cash now, and balance by writing letter next November. Three queens for \$2.25. Satisfaction guaranteed. 11-16db

T. K. MASSIE,
CONCORD CHURCH, MERCER CO., W. VA.

In responding to this advertisement mention GLEANINGS.

IN JUNE, one-year-old Tested Italian queens, 75c. Mismatched Italian queens, 30c. 11-12db
J. C. WHEELER, Plano, Ill.

ELLISON'S ITALIAN QUEENS
FROM THE FINEST STOCK.

1 Untested Queen	.....	\$ .75.
3 " Queens	.....	2.00.
1 Tested Queen	.....	1.50.
3 " Queens	.....	4.00.
2-frame Nuclei, with any queen,	\$1.50 each extra.	11-12d

Safe arrival and satisfaction guaranteed.
W. J. ELLISON, Catchall, Sumter Co., S. C.

In responding to this advertisement mention GLEANINGS.

Don't Forget Our Root Bees.

THIS MONTH. Tested Italian queens, \$1.25; 3 for \$3.50; Untested, 75 cts.; 3 for \$2.00. One, two, and three frame nuclei, from \$2.00 to \$3.50 with queens. **Sections, Foundation,** and all kinds of bee-keepers' **Supplies** in stock. Catalogue free. 9tfdb

JOHN NEBEL & SON, High Hill, Mo.

Please mention this paper.

75 CENTS EACH FOR UNTESTED QUEENS FROM IMPORTED OR FIVE-BANDED GOLDEN MOTHER. IMPORTED ITALIAN QUEENS.
W. C. FRAZIER, ATLANTIC, IOWA.
7-17db Please mention this paper.

SECTIONS.

\$2.50 to \$3.50 per M. **Bee-Hives and Fixtures cheap.**
NOVELTY CO.,
Rock Falls, Illinois.
6tfdb

EGGS! Brown Leghorn, White Leghorn, \$1.25. Black Minorca, Plymouth Rock, Pekin Duck, \$1.50. Light Brahma, Langshan, Game, \$2 per 13 eggs. Strictly pure-bred. Ship safely anywhere. Illustrated circular free. **GEER BROS.,** St. Marys, Mo. 1tfdb

PASTEBOARD BOXES.

CRAWFORD'S SECTION CARTONS ARE JUST WHAT YOU WANT.

SEND FOR NEW PRICE LIST.

A. O. CRAWFORD,

11tfdb

SOUTH WEYMOUTH, MASS.

In responding to this advertisement mention GLEANINGS.

BEESWAX

FOR SALE.—Crude and refined. We have constantly in stock large quantities of Beeswax, and supply the prominent manufacturers of comb foundation throughout the country. We guarantee every pound of Beeswax purchased from us absolutely pure. Write for our prices, stating quantity wanted. **ECKERMANN & WILL,**

Bleachers, Refiners, and Importers of Beeswax,
Syracuse, N. Y.

5-16db

In responding to this advertisement mention GLEANINGS.

LADIES SAVE YOUR MONEY.
FINE SHOES AT \$2.17 A PAIR
SENT POSTPAID.

Genuine Kid—Soft Soles, Elegant Style, Perfect Fitting—a shoe that has style, and will wear as long as shoes sold at \$2.50 and \$3 00. Try them. You will be pleased, for they are **GOOD SHOES.**

Widths, C, D, E, EE. Sizes, 1 to 7.

Do you want Broad or Narrow toe?
Send P. O. order, registered letter, or postal note.
C. L. GRIESINGER, MEDINA, O.
Reference—Gleanings. 8-9-10d.

Please mention this paper.

♠ Queens • From • Texas. ♠

Kind friends, I have untested Italian queens from now till September, at 75c each; \$4.00 for 6, or \$7.25 per doz. I have shipped hundreds this spring, and all by return mail so far. I have my breeding yards kept out on the lone prairie at safe distance. Give me your orders and see how promptly I can fill them. 100 nuclei running. 10fddb

MRS. JENNIE ATCHLEY,
Box V., Farmersville, Tex.

In writing to advertisers please mention this paper. 3-8db

STOP! THINK! ACT!

Griffith's Italian queens will give you strong colonies, plenty of honey, and nice bees. 7-12db

Untested queens in May, \$1.00.
" " in June, July, and Aug., 75c.

" " in May, \$1.25.
" " in June, July, Aug., & Sept., \$1.00.

All queens reared from best imported and choice home mothers. Safe arrival guaranteed. Address all orders to **B. C. GRIFFITH,** Griffith, N. C. Postoffice order on Charlotte, or reg. let. to Griffith. Please mention this paper.

Queens! Queens! Queens!

If you want bees that will beat anything you ever saw in every respect, try our strain of Italians. Warranted queens, each, \$1.00; six, \$4.50. 8-9-10d
ORDER NOW, PAY UPON ARRIVAL.

JAS. & F. B. YOCKEY,
NORTH WASHINGTON, WESTM'D CO., PA.

In responding to this advertisement mention GLEANINGS.

Established 1873.

SMITH & SMITH,

Wholesale and Retail Manufacturers of

BEE-KEEPERS' SUPPLIES.

KENTON, OHIO.

Price List Free. 4ftdb Mention Gleanings.

~~~~~  
**MUTH'S**

**Honey - Extractor.**

Square Glass Honey-Jars,  
Tin Buckets, Bee-Hives

Honey-Sections, &c., &c.  
• Perfection Cold-Blast Smokers.

~~~~~  
APPLY TO

CHAS. F. MUTH & SON, Cincinnati, O.

P. S.—Send 10-ct. stamp for "Practical Hints to Bee-keepers."
Please mention this paper.

CARNIOLAN QUEENS

FROM IMPORTED MOTHERS.

SEND FOR PRICE LIST.

11-14db **M. W. STRICKLER, YORK, PA.**

In responding to this advertisement mention GLEANINGS.

Bee-Keepers' Supplies.

Hives, Honey-Cases, Sections, and Frames. We are the only concern in Southern California who make a

SPECIALTY OF BEE-KEEPERS' MATERIAL

Agents for the white basswood 1-lb. sections. Send for catalogue and price list.

OCEANSIDE MILL CO.,
Oceanside, Cal.

1-12db

In responding to this advertisement mention GLEANINGS.

SAMUEL JONES,

Manufacturer of Bee-keepers' Supplies. Free catalogue. *Highland Park College, Des Moines, Ia.*

In responding to this advertisement mention GLEANINGS.

Syracuse, New York,

IS A DEPOT FOR THE EAST FOR ALL OF A. I. ROOT'S APIARIAN SUPPLIES.

FOUNDATION is Our Own Make.

Don't buy foundation of us, for it would please you.

F. A. SALISBURY.

Our foundation is for sale by H. Alley, Wenham, Mass., and Model B. Hive Co., W. Philadelphia, Pa.

In writing to advertisers please mention this paper. 4ftfdb

NOW, FRIENDS, LOOK HERE!

I sell the Nonpareil Bee-Hive, White Poplar Sections, Italian Bees and Queens. Price List free. Write for one. 8ftdb

A. A. BYARD, West Chesterfield, N. H.

In responding to this advertisement mention GLEANINGS.

J. W. Taylor's Fine Italian * * *

*** * * and Albino Queens for Sale.**

Cheap tested Italian, \$1.50 each. Tested Albinos, \$1.50 each. Tested golden Italian, \$2.00 each. Untested queens, 75 cts. each; \$8.00 per doz. I guarantee safe arrival by mail. 9ftdb

J. W. TAYLOR, Ozan, Ark.

Please mention this paper.

FOR SALE.

75 colonies of Italian bees in Langstroth 10-frame, and A. I. Root's 8 frame Dovetailed hives, at \$5.00 per colony. A liberal discount on more than one colony.

JOHN GRANT, Bavia, Clermont Co., O.

Mention this paper. 9 10-11d

ITALIAN QUEENS FOR SALE.

May or June, tested, \$1.50; untested, \$1.00. July and August, tested, \$1.00; untested, 75 cts. Bees at \$1.00 per lb. Make money order payable at Waynesburg, Greene Co., Pa. **MRS. A. A. SIMPSON,**

9-16db **Swarts, Pa.**

Please mention this paper.

FOUNDATION & SECTIONS are my specialties. No. 1 V-groove Sections at \$3.00 per 1000. Special Prices to dealers. Send for free price list of every thing needed in the apiary. 1ftdb **M. H. HUNT,**

Bell Branch, Mich.

In responding to this advertisement mention GLEANINGS.

A Four-Color Label for Only 75 Cts. Per Thousand.

Just think of it! we can furnish you a very neat four-color label, with your name and address, with the choice of having either "comb" or "extracted" before the word "honey," for only 75 cts. per thousand: 50 cts. per 500, or 30 cts. for 250, postpaid. The size of the label is 2 1/2 x 1 inch—just right to go round the neck of a bottle, to put on a section, or to adorn the front of a honey-tumbler. Send for our special label catalogue for samples of this and many other pretty designs in label work.

A. I. ROOT, Medina, O.

Bee-Hives, Sections, Etc.

BEST GOODS at LOWEST PRICES.

We make 15,000 sections per hour. Can fill orders promptly. Write for free, illustrated catalogue.

G. B. LEWIS CO., WATERTOWN, WIS.

In responding to this advertisement mention GLEANINGS.

On Their Own Merits.

I am making a specialty of breeding **Golden and Albino Italian Queens**. My **five-banded bees** are equal to any as honey-gatherers, and they are the most beautiful and gentlest bees known. Warranted queens, May, \$1.25; six for \$6; after June 1, \$1; six for \$5. Satisfaction guaranteed. I have a few 3-banded tested queens at \$1 each.

CHARLES D. DUVALL,
Spencerville, Montg'y Co., Md.

9tfdb

Please mention this paper

CONTROL YOUR SWARMS.

N. D. West's coil-wire queen-cell protectors will do it, and you can **REQUEEN** your apiary during the swarming season. Pronounced the **BEST** by such men as

CAPT. J. E. HETHERINGTON, CHERRY VALLEY, N. Y.,
P. H. ELWOOD, STARKVILLE, N. Y.,

and others. Cell-protectors, \$3.00 per 100, or 12 for 60c, by mail. Cages, \$5.00 per 100, or 12 for \$1.00, by mail. Samples of both, with circular explaining, 25 cts. See cut and description on page 321. Patent applied for. Address 8tfdb

N. D. WEST, MIDDLEBURGH, SCHOHARIE CO., N. Y.

In responding to this advertisement mention GLEANINGS

HONEY A NEW DISCOVERY.

Differing from all others ever yet made for the purpose.

EXTRACTOR.

It works strong, thorough, neat, handy and rapid, and is the cheapest Extractor known. Send 2-ct. stamp for a circular of 18 pages to **REV. A. R. SEAMAN, Connellsville, Fayette Co., Pa.** 5-15d

Please mention this paper.

7d

IT WILL PAY YOU

To Send for my Illustrated Catalogue of

APIARIAN SUPPLIES

Before placing your orders. I have a lot of very nice No. 2 sections at \$2.00 per 1000.

J. C. SAYLES, HARTFORD, WISCONSIN.

8tfdb Please mention this paper.

THE CANADIAN

Bee Journal | **Poultry Journal**

Edited by D. A. Jones | Edited by W. C. G. Peter.

75c. Per Year. | 75c. Per Year.

These are published separately, alternate weeks, and are edited by live practical men, and contributed to by the best writers. Both Journals are interesting, and are alike valuable to the expert and amateur. Sample copies free. Both Journals one year to one address \$1. Until June 1st we will send either Journal on trial trip for 6 months for 25 cts.

The D. A. Jones Co., Ltd., Beeton, Ont.

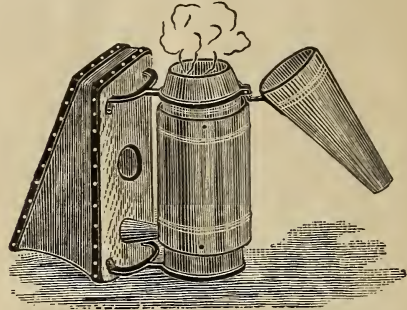
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MUSICAL INSTRUMENTS

MURRAY & HEISS
CLEVELAND OHIO.

SEND FOR CATALOGUE.

Please mention this paper.



Smokers, Foundation, and all kinds of bee-keepers' supplies furnished at lowest cash price. If you want the best Smoker in the market get one of the Quinby old reliable—made the strongest; and although the first cost is more than that of any other made, the Jumbo is the boss of all. It has been used constantly in yards for 8 years, and still it goes. Send and get price list of Smokers, Foundation, Sections, and every thing used in the apiary. Dealers should send for dealer's list on smokers.

4-14db **W. E. CLARK, ORISKANY, N. Y.**

In responding to this advertisement mention GLEANINGS.

1891. NEW BEE-HIVE FACTORY. 1891.

Root's Dovetailed Hive a specialty. Price List free. Save your freight, and order early of

GEO. W. COOK,

Spring Hill, Johnson Co., Kan.
Please mention this paper.

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

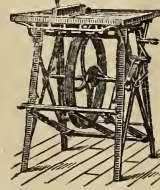
J. STAUFFER & SONS,

6-11tdb Successors to B. J. Miller & Co.,

Nappanee, Ind.

In writing advertisers please mention this paper.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of CHARLTON, N. Y., says—“We cut with one of your Combined Machines last winter 50 chaff hives with 7-inch cap, 100 honey-racks, 500 broad frames, 2,000 honey-boxes, and a great deal of other work. This winter we have doubled the amount of bee-hives, etc., to make, and we expect to do it all with this saw. It will do all you say it will.”

Catalogue and Price List free. Address **W. F. & JOHN BARNES, 545 Ruby St., Rockford, Ill.**

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to me. **A. I. ROOT.**

25tfdb

VANDERVORT COMB-FOUNDATION MILLS.

Send for samples and reduced price list.

11tdf **JNO. VANDERVORT, Laceyville, Pa.**

In responding to this advertisement mention GLEANINGS

Books for Bee-Keepers and others.

Any of these books on which postage is not given will be forwarded by mail, postpaid, on receipt of price.

In buying books, as every thing else, we are liable to disappointment if we make a purchase without seeing the article. Admitting that the bookseller could read all the books he offers, as he has them for sale, it were hardly to be expected he would be the one to mention all the faults, as well as good things about a book. I very much desire that those who favor me with their patronage shall not be disappointed, and therefore I am going to try to prevent it by mentioning all the faults, so far as I can, that the purchaser may know what he is getting. In the following list, books that I approve I have marked with *; those I especially approve **; those that are not up to times, †; books that contain but little matter for the price, large type, and much space between the lines, ‡; foreign, §. The bee books are all good.

BIBLES, HYMN-BOOKS, AND OTHER GOOD BOOKS.

As many of the bee-books are sent with other goods by freight or express, incurring no postage, we give price separately. You will notice, that you can judge of the size of the books very well by the amount required for postage on each.

- 8 Bible, *good print*, neatly bound..... 25
 - 10 Bunyan's Pilgrim's Progress**..... 35
 - 20 Illustrated Pilgrim's Progress**..... 75
 - This is a large book of 425 pages and 175 illustrations, and would usually be called a \$2.00 book. A splendid book to present to children. Sold in gilt edge for 25c more.
 - 6 First Steps for Little Feet. By the author of the Story of the Bible. A better book for young children can not be found in the whole round of literature, and at the same time there can hardly be found a more attractive book. Beautifully bound, and fully illustrated. Price 50 c. Two copies will be sold for 75 cents. Postage six cents each.
 - 5 Harmony of the Gospels..... 35
 - 3 John Ploughman's Talks and Pictures, by Rev. C. H. Spurgeon*..... 10
 - 1 Gospel Hymns, consolidated Nos. 1, 2, 3, and 4, words only, cloth, 10 c; paper..... 05
 - 2 Same, board covers..... 20
 - 5 Same, words and music, small type, board covers..... 45
 - 1) Same, words and music, board covers..... 75
 - 3) New Testament in pretty flexible covers..... 15
 - 5 New Testament, new version, paper covers..... 15
 - 5 Robinson Crusoe, paper cover..... 25
 - 4 Stepping Heavenward**..... 18
 - 15 Story of the Bible**..... 1 01
 - A large book of 700 pages, and 274 illustrations. Will be read by almost every child.
 - 5 The Christian's Secret of a Happy Life**..... 25
 - 8 Same in cloth binding..... 51
 - "The Life of Trust," by Geo. Muller**..... 1 25
 - 1 Ten Nights in a Bar-Room, T. S. Arthur*..... 03
 - 5 Tobacco Manual**..... 45
- This is a nice book that will be sure to be read, if left around where the boys get hold of it, and any boy that reads it will be pretty safe from the tobacco habit.

BOOKS ESPECIALLY FOR BEE-KEEPERS.

- Postage..... (Price without postage.)
- 15) A B C of Bee Culture. Cloth..... 1 11
- 5) A Year Among the Bees, by C. C. Miller..... 45
- 14) Bees and Bee-keeping, by Frank Cheshire, England, Vol. I. §..... 2 36
- 21) Same, Vol. II. §..... 2 79
- or, \$5.25 for the two, postpaid.
- Bees and Honey, by T. G. Newm..... 1 00
- 15) Cook's New Manual. Cloth..... 1 35
- 5) Doolittle on Queen Rearing..... 95
- 2) Dzierzon Theory..... 10
- 1) Foul Brood; Its Management and Cure; D. A. Jones..... 09
- 5) Honey as Food and Medicine..... 5
- 10) Langstroth on the Hive and Honey-Bee*..... 1 40
- 15) Langstroth Revised by Ch. Dadant & Son..... 1 85
- 10) Quinby's New Bee-Keeping..... 1 40
- 5) Thirty Years Among the Bees, by H. Alley..... 35
- 4) Success in Bee Culture, by James Heddon Handling Bees, by Langstroth. Revised by Dadant..... 8
- 1) Bee-keeping for Profit, by Dr. G. L. Tinker The Apiary; or, Bees, Bee-Hives, and Bee Culture, by Geo. Neighbour & Sons, England's. British Bee-Keeper's Guide - Book, by Thos. Wm. Cowan, Esq., England's..... 40
- 3) Merrybanks and His Neighbor, by A. I. Root..... 25

MISCELLANEOUS HAND-BOOKS

- 5) A B C of Carp Culture..... 35
- 3) A B C of Potato Culture, Terry**..... 35
- This is T. B. Terry's first and most masterly work. The book has had an enormous sale, and has been reprinted in foreign languages. When we are thoroughly conversant with Terry's system of raising potatoes, we shall be ready to handle almost any farm crop successfully. It has 48 pages and 22 illustrations.
- 5) A B C of Strawberry Culture, by T. B. Terry and A. I. Root, 144 pages; 32 illustrations..... 35
- 5) An Egg-Farm, Stoddard**..... 45
- 5) Amateur Photographer's Hand-book**..... 70
- Barn Plans and Out Buildings*..... 1 50
- Cranberry Culture, White's..... 1 25

- Canary Birds, Paper, 50 c; cloth*..... 75
- 5) Draining for Profit and Health, Warring..... 1 50
- 5) Eclectic Manual of Phonography; Pitman's System; cloth..... 50
- 6) Fuller's Practical Forestry*..... 1 40
- 10) Fuller's Grape Culturist**..... 1 40
- 10) Farming For Boys*..... 1 15
- This is one of Joseph Harris' happiest productions, and it seems to me that it ought to make farm-life fascinating to any boy who has any sort of taste for gardening.
- 7) Farm, Gardening, and Seed-Growing**..... 90
- This is by Francis Brill, the veteran seed-grower, and is the only book on gardening that I am aware of that tells how market-gardeners and seed-growers raise and harvest their own seeds. It has 166 pages.
- 10) Gardening for Pleasure, Henderson*..... 1 40
- While "Gardening for Profit" is written with a view of making gardening pay, it touches a good deal on the pleasure part; and "Gardening for Pleasure" takes up this matter of beautifying your homes and improving your grounds without the special point in view of making money out of it. I think most of you will find this in your gardening for Profit*. This work has 246 pages and 134 illustrations.
- 12) Gardening for Profit, new edition**..... 1 85
- This is a late revision of Peter Henderson's celebrated work. Nothing that has ever before been put in print has done so much toward making market-gardening a science and a fascinating industry. Peter Henderson stands at the head, without question, although we have many other books on these rural employments. If you can get but one book, let it be the above. It has 376 pages and 138 cuts.
- Gardening for Young and Old, Harris**..... 1 25
- This is Joseph Harris' best and happiest effort. Although it goes over the same ground occupied by Peter Henderson, it particularly emphasizes thorough cultivation of the soil in preparing your ground; and this matter of adapting it to young people as well as old is brought out in a most happy vein. If your children have any sort of fancy for gardening, it will pay you to make them a present of this book. It has 187 pages and 46 engravings.
- 10) Garden and Farm Topics, Henderson**..... 75
- Gray's School and Field Book of Botany..... 1 80
- 5) Gregory on Cabbages; paper*..... 25
- 5) Gregory on Squashes; paper*..... 25
- 5) Gregory on Onions; paper*..... 25
- The above three books, by our friend Gregory, are all valuable. The book on squashes especially is good reading for almost any who are either raisers or squashes or not. It strikes at the very foundation of success in almost any kind of business.
- 10) Household Conveniences..... 1 40
- 2) How to Propagate and Grow Fruit, Green*..... 25
- 2) Injurious Insects, Cook..... 25
- 1) Irrigation for the Farm, Garden, and Orchard, Stewart*..... 1 40
- This book, so far as I am informed, is almost the only work on this matter that is at all of so much interest, especially recently. Using water from springs, brooks, or windmills, to take the place of rain, during our great droughts, is the great problem before us at the present day. The book has 274 pages and 142 cuts.
- 3) Maple Sugar and the Sugar-bush**..... 35
- By Prof. A. J. Cook. This was written in the spring of 1887 at my request. As the author has, perhaps, one of the finest sugar-camps in the United States, as well as a budding enthusiastic lover of all farm industries, he is better fitted, perhaps, to handle the subject than any other man. The book is written in Prof. Cook's happy style, combining wholesome moral lessons with the best method of managing to get the finest syrup and maple sugar, with the least possible expenditure of cash and labor. Everybody who makes sugar or molasses wants the sugar-book. It has 42 pages and 35 cuts.
- 1) Poultry for Pleasure and Profit*..... 10
- 11) Practical Floriculture, Henderson*..... 1 35
- 10) Peach Culture, Fulton's..... 1 50
- 10) Profits in Poultry*..... 90
- 2) Silk and Silkworm..... 10
- 10) Small-Fruit Culturist, Fuller..... 1 40
- 10) Success in Market-Gardening*..... 90
- This is a new book by a real live, enterprising, successful market gardener who lives in Arlington, a suburb of Boston, Mass. Friend Rawson has been one of the foremost to make irrigation a practical success, and he now irrigates his grounds by means of a windmill and steam-engine whenever a drought threatens to injure the crops. The book has 208 pages, and is nicely illustrated with 110 engravings.
- Ten Acres Enough..... 1 00
- The Silo and Ensilage, by Prof. Cook, new edition, fully illustrated..... 25
- Talks on Manures*..... 1 75
- This book, by Joseph Harris is, perhaps, the most comprehensive one we have on the subject, and the whole matter is considered by an able writer. It contains 366 pages.
- 2) The Carpenter's Steel Square and Its Uses..... 15
- 10) The New Agriculture; or, the Waters Led Captive..... 75
- 2) Treatise on the Horse and his Diseases..... 10
- 3) Winter Care of Horses and Cattle..... 40
- This is friend Terry's second book in regard to farm matters, but it is so intimately connected with his potato-book that it reads almost like a sequel to it. If you have only a horse or a cow, I think it will pay you to invest in the book. It has 44 pages and 4 cuts.
- 8) What to Do and How to be Happy While Doing It, by A. I. Root..... 50
- 3) Wood's Common Objects of the Microscope**..... 45

A. I. ROOT, Medina, O.

— OUR NEW —

OUTSIDE WINTER - CASE

FOR DOVETAILED HIVES

Is now ready. It is **LIGHT, STRONGLY MADE**, with **SOLID CORNERS**, gable roof, and is **PERFECTION**. It is especially designed for using on the regular **Dovetailed Hive**, and we guarantee that bees will winter safer with it than any other method.—Besides it is **VERY CHEAP**, and no trouble to use.

We have also just constructed a **THIN-WALLED HIVE**, same size inside as the 8-frame Dovetailed hive, and taking same inside furniture. This, in combination with the Winter-case, is the best hive for both summer and winter we have ever seen.—Full description and illustrations will appear in May number of **AMERICAN BEE-KEEPER**, and description and prices will be sent on application. It is the **CHEAPEST** hive made, and with the winter-case is the cheapest winter hive. Send for prices. Address

The W. T. Falconer Mfg. Co.
JAMESTOWN, N. Y.

☞ In responding to this advertisement mention GLEANINGS.

1878 DADANT'S COMB FOUNDATION. 1891

Half a Million Pounds Sold in Thirteen Years. Over \$200,000 in Value.

It is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Neb.; G. L. Tinker, New Philadelphia, O.; E. Kretchmer, Red Oak, Ia.; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wis.; J. Mattoon, Atwater, O.; Oliver Foster, Mt. Vernon, Ia.; C. Hertel, Freeburg, Ill.; E. T. Abbott, St. Joseph, Mo.; **E. Lovett, San Diego, Cal.**; **E. L. Gould & Co., Brantford, Ont., Can.**; Page, Keith & Schmidt, New London, Wis.; J. Stauffer & Son, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Davenport, Ia.; C. Theilman, Theilmantown, Minn.; G. K. Hubbard, Fort Wayne, Ind.; T. H. Strickler, Solomon City, Kan.; E. C. Eaglesfield, Berlin, Wis.; Walter S. Powder, Indianapolis, Ind.; Martin & Co., 1141 15th St., Denver, Col.; I. D. Lewis & Son, Hiawatha, Kan.; F. C. Erkel, LeSueur, Minn.; Mrs. J. N. Heator, Columbus, Neb.; Buckeye Bee Supply Co., New Carlisle, O.; Levering Bros., Wiotia, Ia., and numerous other dealers.

It is **the best**, and guaranteed every inch equal to sample. All dealers who have tried it have increased their trade every year.

SAMPLES, CATALOGUE, FREE TO ALL. SEND YOUR ADDRESS.

1852 LANGSTROTH ON THE HONEY-BEE. Revised. 1891

Those who wish a book in which they will find, without difficulty, whatever information beginners desire, should send for this work. Its arrangement is such that any subject and all its references can be found very readily, by a system of indexing numbers. It is the most complete treatise in the English language.

— A FRENCH EDITION JUST PUBLISHED. —

HANDLING BEES, PRICE 8 CTS,

is a chapter of the Langstroth revised, and contains instructions to beginners on the handling and taming of bees.

Bee-veils of Best Imported Material. Samples **FREE**. Smokers, Honey Sections, Extractors, Tin Pails for Honey, etc. Instructions to Beginners with Circular, Free.

CHAS. DADANT & SON, Hamilton, Hancock Co., Ill.

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