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THE



CANADIAN

Honey Producer.

Its Reading Columns for the advancement of Honey Producers exclusively.

Vol. 3.

BRANTFORD, OCTOBER, 1889.

No. 8.

The Canadian Honey Producer,

PUBLISHED BY

E. L. GOOLD & Co.,

BRANTFORD, - - - - ONTARIO.

Published Monthly, 40 cents per year.

TO CORRESPONDENTS.

The Subscription price of the Canadian Honey Producer is 40 cents a year. 3 subscriptions at one time, \$1.00 to one or more addresses.

Remittances for fractions of a dollar may be made in Stamps, Canadian or American. The receipt for money sent will be given with the address in the next issue of the paper.

When writing to this Office on business, correspondents must not write anything for publication on the same paper, as this causes much confusion and unnecessary trouble. Only one side of the paper should be written upon.

If we fail to credit with a subscription kindly notify us of the fact. There must be a mistake somewhere if any number does not reach you whilst a subscriber; by informing us we will replace the number unless the edition is exhausted.

Always give both name and Post Office when referring to any change in subscription.

TO CONTRIBUTORS.

We will always be pleased to forward sample copies to any.

We will thankfully receive for publication items of interest to Bee-Keepers, and we would like to have every issue of the paper contain at least one good article bearing directly upon the management of the Apiary for the coming month.

The Canadian Honey Producer one year with the following Books:

Cook's Manual of the Apiary, cloth,	\$1.50	\$1.75
A. B. C. in Bee Culture, by A. I. Root, cloth,	\$1.25,	1.40
A. B. C. in Bee Culture, A. I. Root, paper,	\$1.00,	1.25

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It is kept for sale by dealers in the United States, England and France, and in Canada by E. L. Goold & Co., Brantford, Ontario.

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Price List of Bee-Supplies, and Specimen Pages of the new

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PIANOS ARE THE ORGANS
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FOR PURITY OF TONE
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BEE-KEEPER'S' GUIDE,
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11,000 SOLD SINCE 1876.

The twelfth thousand just out. 10th thousand sold in just four months. 2,000 sold the past year. More than 50 pages and more than 50 costly illustrations were added in the 8th addition. It has been thoroughly revised and contains the very latest in respect to Bee-Keeping.

Price by mail, \$1.25. Liberal discount made to Dealers and to Clubs.

A. J. COOK, Author and Publisher,
State Agricultural College, Lansing, Mich.

A YEAR AMONG THE BEES.

A work of 128 closely printed pages. Being a talk about some of the implements, plans and practices of a beekeeper of 25 years' experience, who has for 8 years made the production of honey his exclusive business.

Bound in cloth, by mail, 75c.

DR. C. C. MILLER,
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In writing mention "Canadian Honey Producer."

WANT TO exchange a nice Box Machine nearly as good as new with Tongue and Groover and Swing Saw. Cost when new \$150; also one Row, four-piece section machine, cost \$35; one saw bench with arbor and saws and belts, two tables with boring attachment, cost when new \$40, also 20 feet two inch shafting with hangers, 12 cast iron pulleys from 10 to 30 inch, one grindstone, cost \$75, for a nice sound young carriage Horse.

Address, J. B. MASON, Mechanic Falls, Me.

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**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 brood frames, 2,000 honey-boxes, and a great deal of other work. This winter we have double the amount of beehives, 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, 745, Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-Power Machinery may be sent to BEE-KEEPERS' MAGAZINE, Barrytown, N. Y.

In writing mention "The Canadian Honey Producer."

The Queen Breeders Journal.

E. L. PRATT, PUB., MARLBORO, MASS.

A 16 page Monthly devoted to Queen Breeders and Queen Rearing. Price 50 cts a year. Send your name on postal and receive a sample copy of this bright, new journal. Address, The Q. B. Journal,

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**You have NO IDEA how nice the
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Is. Why not send for sample and see?
SAMPLE

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A 32 Page Monthly, 50c. per year.!

RAYS OF LIGHT,

Devoted to the interests of the Bee-Keeper and Poultryman. Sample copy Free, Subscription 50 cts. a year. Pure Italian Bees and Queens. Thorough-bred Poultry, Eggs in season. Send for catalogues.

J. J. MARTIN & CO.,
North Manchester, Indiana.

Do it if you dare !

Don't you send us your address unless you want to see a copy of THE BEE HIVE. It has 16 pages monthly, gives all the news in condensed form, costs but 25 cts. a year, offers a big line of bargains each month, and is full of "git up and git."

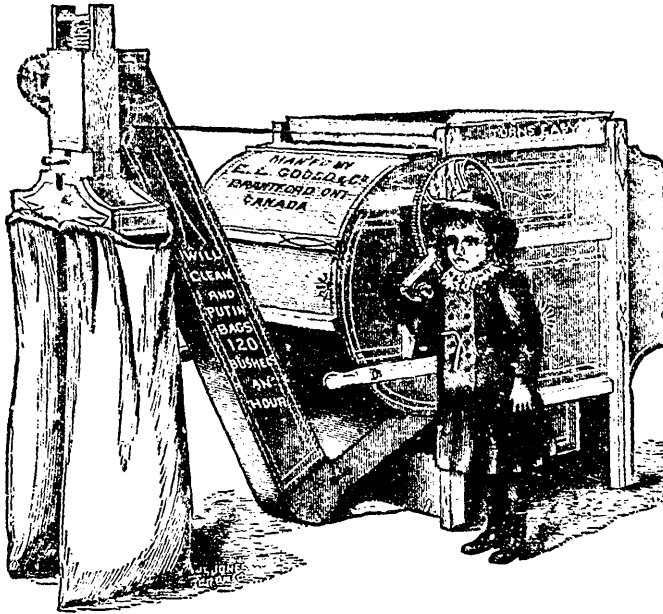
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THE NEW BRANTFORD FANNING MILL, WITH BAGGING ATTACHMENT.



Something
New.

With this attachment on our mills the grain is cleaned and put in bags at the same time.

It saves grain, because it is not allowed to get on the floor.

It saves labor, because it takes less hands to do the work.

It is a splendid thing when one has no help. It does not take up much more room than without it, and can be taken through the same sized doorway without removing it.

It can be taken off in one minute or put on in the same time.

It will clean and bag up from 60 to 120 bushel per hour. For price and further information write to

Agents wanted in all }
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E. L. GOULD & Co., BRANTFORD, Ont., Canada.

Tree Guards!

Protect your young trees from field mice by using Greening's Woven Wire Tree Guards. Size, 6 inches high by 5 inches in diameter.

Price, 3 Cents Each.

Sent to any address on receipt of price. Send 3 cent stamp for sample guard.

B. GREENING & CO.

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HAMILTON, ONTARIO.

THE AMERICAN APICULTURIST

Will be sent from October 1, 1888, to January 1, 1890, for 75 cents.

The details of a new method for REARING QUEENS IN FULL COLONIES without removing the queen, will be given to each subscriber. Sent for sample.

Address, AMERICAN APICULTURIST,
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Is always creating a surprise in the Poultry Fraternity by springing upon them a special prepared issue. Always something new in journalism—Lively, full of vim and fresh—Only 50 cents a year. Address,

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Our Illustrated and Descriptive Catalogue and Cultivators' Guide FREE. It contains all the latest novelties and standard varieties of GARDEN, FIELD, and FLOWER SEEDS, BULBS, ETC. Every Market Gardener, Florist, Farmer and Amateur should consult before purchasing. Our stock is fresh, pure and reliable. Prices reasonable.

J. A. SIMMERS
SEED MERCHANTS AND IMPORTERS
147 King St. East, Toronto

Patent WIRED Comb Foundation,

Has no sag in Brood Frames and thin flat-bottom foundation, has no fish bone, in Surplus Honey and bring the CLEANEST, is usually worked the QUICKEST of any foundation made. Circular and Samples free.

J. VANDEUSEN & SONS,
Sole Manufacturers, Sprout Brook, N. Y., U. S.

THE CANADIAN HONEY PRODUCER.

Vol. 3. October, 1889. No. 8.

C. W. Post in an out apiary secured from 100 colonies in 10 days, finishing extracting the 13th, 8300 lbs. of honey. It was from Linden bloom.

Friend Newman of the *American Bee Journal* has been acting as judge at the Detroit International Fair, only 35 miles from here, yet he never came to see us.

We learn that the display of honey at Buffalo was not good. We intended exhibiting there but the difficulties in connection with duties prevented us. The prizes offered were good.

The *Canadian Bee Journal* suggests Buffalo, N. Y., as the place of meeting for 1890. We most heartily endorse the suggestion, and so will all Canadians. It should go East next year.

We learn that the display of honey at London was very poor. Bee-keepers certainly have no reason to patronize the show. The prize list was poor and the accommodation was worse. We trust London will learn a lesson.

Quite a few bee-keepers were caught napping this year after taking off sections and leaving on empty supers, the honey flow came and the first thing they knew was a lot of comb honey built in on the box hive principle, amongst them were F. A. Gemmel and S. T. Pettit. We shall have to call these *box hive men* in future.

THE BEE-KEEPERS' REVIEW is about to devote a number to Bee-keepers' Conventions. The editors appear to value conventions only from a social standpoint. Now whilst we would not for a moment underestimate their value as such and the pleasure

derived from meeting such "big guns" as Prof. Cook, Dr. A. B. Mason, Thos. G. Newman, A. J. Root, Dr. C. C. Miller and a host of others from the U. S. as well as our Canadian *lights* and find them not so very unapproachable after all. There is a value in meeting which cannot be overlooked.

We meet and are able to ask many questions from men who are writing in the Journals; we can have explained many little difficulties in our path which we would never have cleared up in Bee Journals and we can learn from some of our best practical men who never take up a pen to contribute to a bee-journal; this latter argument alone is important, strong, and we think unanswerable.

We have every reason to believe that the coming Convention at Brantford, of the International American Bee Association will prove valuable in all the ways mentioned, and on account of the fair, yes, even good honey season just passed we shall have a large and representative gathering.

Exhibit of Honey and Bee-Keepers' Supplies, Toronto.

The display of honey at the Toronto Industrial was better than last year owing doubtless largely to the fact that the honey crop was better, then too, the large prize of \$50.00 had been judiciously divided in three and this may have brought some others down. The clearness of color in the honey would strike any one. This probably is due to the fact that the bulk of the honey shown was from linden and thistle. R. McKnight, Owen Sound, took the leading prize for display of honey.

Jacob, Alpaugh, St. Thomas, had a very excellent display of comb honey.

R. H. Smith, Muskoka, now more properly Bracebridge, Ont., shows both comb and extracted honey and a very neat and tasty display he had, although he had evidently not gone to the expense in the finishing touches that some others had,

Rev. D. P. Niven shows for the first time at Toronto. Mr. Niven's honey arrived late and he had to take a rather unfavorable stand. Many make this mistake and underestimate the time it takes to get honey down to the exhibition grounds.

J. Davidson, Unionville, shows honey, mostly comb.

Geo. Laing, Milton, under whom we received some of our first lessons in bee-keeping and a thorough bee-keeper we always considered him, shows both comb and extracted honey. Mr. Laing should go into the auction sale business, his tendencies in that direction made him do an unnecessary amount of shouting, much to the discomfiture of other exhibitors and probably the majority of visitors.

A noteworthy feature about the Honey Hall was the absence of any one exhibiting bee-keepers' supplies. The reason for this may probably be that not enough prizes are given to enable any one to pay ordinary expenses, and it is a time of year that bee-keepers do not take much interest in supplies. We are ourselves of the opinion that the money spent in showing could be used as well in attending conventions during the winter and in sending out circulars and price lists.

Meeting of the Brant Bee-Keepers' Association.

The Brant Bee-Keepers' Association met at the Court House, Branford, Saturday, Aug. 31st. The meeting decided to take place at Hatchley having been postponed. No minutes being to hand they were not read. A letter was then read from the Secretary Treasurer, resigning his position as such and thanking the members of the Association for the position they had so kindly elected him to. The resignation was accepted upon motion of A. Dawson and seconding of J. McIntyre.

It was then moved by J. McIntyre, seconded by A. Dawson, that D. Anguish be appointed Secretary. The motion was carried.

Reports for the season were postponed

until next meeting. The question drawer was then opened.

W. Phelps enquired why so many swarms absconded this season, after hiving. He thought it was on account of scarcity of honey, none could give the reason.

G. Barber, Hartford, recommended the use of a queen trap, the Alley. President Howell had swarm after swarm come out after hiving until he had a bushel of bees; he got them to stay at last.

S. A. Dickie enquired which was cheapest, honey or sugar to feed to colonies without stores.

W. Phelps thought sugar fed late in fall cheapest.

G. Barber, sugar cheapest, honey best.

The Pres., honey cheapest and best.

Secretary, sugar may be cheapest but honey best every time. Market should not be made for the sugar factories.

In reply to question, how much honey does it take to winter a colony; replies given as follows:

W. Phelps not less than 30 lbs. outside, 20 to 25 lbs. in doors.

D. Anguish asked which was better chaff hive or cellar.

W. Phelps favored the Root chaff hive; as also did G. Barber.

The President favored the same hive.

S. Dickie wanted to know how to get lots of young bees for winter.

G. Barber recommended a good young queen, and a little, feeding if no honey is coming in.

The president thought the bees would look after themselves in this matter.

The members present were Messrs. McIntyre, Dawson, Dickie, Barber, McCubin, Paterson, Birkett and the Secretary.

D. ANGUISH, Sec'y.

CORRESPONDENCE.

Lakeside, Sept. 6th, 1889.

FRIEND HOLTERMANN:

I enclose a clipping from the Canadian Grocer for your consideration. It seems to me that the statements in regard to the bountiful crop of honey are rather misleading and will tend to depress the market price. I

do not think the crop is very large generally. I know it is not over an average around here.

The bees at the Carlingford apiary have done fairly well but I have not been there lately and so cannot give figures. The average per colony here has been less than 40 lbs. and they may need feeding.

A. G. WILLOWS.

THE HONEY CROP.

The land is this year flowing, if not with milk, at all events with honey. For the last decade the bees have not gathered so abundantly. Their lowest point of production in that time was no doubt last year. But they have nobly answered to this year's unstinted profusion of flowers, and its luxuriant growth of hay. The finest honey in the comb now stands at 20c., clover and basswood honey at 10c. to 11c., and buckwheat scarcely sells at all at from 6c. to 7c. Although the present is the greatest crop we have had for years, yet no congestion of the honey-market is expected, as the low prices are expected to furnish relief. There is no likelihood that a surplus stock of honey would be left upon the market in any case. It is a luxury that can be done without when it is dear, and that immediately finds consumers when brought by low prices within the reach of the people. Moreover, the scarcity of small fruits this year makes honey an alternative more likely to be turned to.—*Canadian Grocer.*

Toronto Industrial Exhibition.

PRIZE WINNERS.

HONEY AND APIARY SUPPLIES.

Best display of extracted granulated Honey in glass, not less than 200 lbs.

- 1st, R. McKnight, \$10.00
- 2nd, R. H. Smith, \$ 5.00

Best display of liquid extracted Honey, not less than 500 lbs., of which not less than 250 lbs. must be in glass, quality to be considered.

- 1st, R. McKnight, \$20 00
- 2nd, J. Alpaugh, \$15 00
- 3rd, Wm. Goodger, \$10.00
- 4th, R. H. Smith, \$ 5.00

Best display of comb Honey in sections, not less than 500 lbs., quality to be considered.

- 1st, J. Alpaugh, \$25.00
- 2nd, Davidson, \$20.00
- 3rd, R. McKnight, \$12.00
- 4th, Wm. Goodger, \$ 6 00

Best Display of comb Honey in sections, not less than 20 lbs., quality to be considered, that is to say, clean sections and best filled.

- 1st, L. Davidson, \$ 8 00
- 2nd, J. Alpaugh, \$ 4.00

Best display of extracted liquid Linden Honey, in glass, quality to be considered, not less than 50 lbs.

- 1st, R. McKnight, \$ 5 00
- 2nd, Geo. Laing, \$ 3.00
- 3rd, L. Davidson, \$ 2.00

Best display of extracted liquid clover Honey in glass, quality considered, not less than 50 lbs.

- 1st, J. Alpaugh, \$ 5.00
- 2nd, Wm. Goodger, \$ 3.00
- 3rd, R. McKnight, \$ 2.00

Best Basswax, not less than 10 lbs. (manufacturers of comb foundations excluded.)

- 1st, Alpaugh, \$ 3.00
- 2nd, Ira A. Smith, \$ 2.00

Best style and assortment of tins for retailing extracted Honey.

- 1st, R. McKnight, Silver Medal.
- 2nd, R. H. Smith, Bronze Medal.

Best style and assortment of glass for retailing extracted Honey.

- 1st, R. H. Smith, J. Smith, Silver Medals.
- 2nd, R. McKnight, Bronze Medal.

Best section super for top story and system of manipulating, product to be exhibited in super as left by the bees.

- 1st, J. Alpaugh, \$ 3.00
- 2nd, R. McKnight, \$ 2.00
- 3rd, Geo. Laing, Milton, \$ 1.00

Best and most practical new invention for the Apiarist.

- 1st, R. McKnight, \$ 5.00
- 2nd, J. Alpaugh, \$ 3.00

Best assortment of Fruit preserved in Honey, 6 bottles or jars.

- 1st, J. Alpaugh, \$ 5.00
- 2nd, Geo. Laing, \$ 3.00
- 3rd, J. Spence, \$ 2.00

Best Cake or Pastry made with honey.

- 1st, R. McKnight, \$ 3.00
- 2nd, R. H. Smith, \$ 2.00
- 3rd, J. Alpaugh, \$ 1.00

Best Honey Vinegar, not less than 1 quart.

1st, Deadman,\$ 3.00

2nd, R. McKnight,\$ 2.00

Best and most useful Queen nursery cage.

1st, Alpaugh,\$ 2.00

For the most tasty, attractive and neatly arranged exhibit of Honey in the Apiarian department, all the Honey to be the production of the exhibitor. \$20 of this prize is given by the Ontario Bee-keepers' Association

1st, R. McKnight,\$35.00

2nd, J. Alpaugh,\$15.00

3rd, R. H. Smith,\$10.00

The American Apiculturist.

A Queen-rearing Chamber.

DR. G. L. TINKER.

Various expedients have been resorted to by different apiarists to secure a number of laying queens in one hive, or in other words, to rear and secure the mating of a number of young queens in any full colony of bees. Up to this time no practical arrangement that has been described has been invented. I believe that I am the first to discover and apply the only principle that is a success and first made the same known to bee-keepers in the "American Bee Journal," page 26, Vol. xxv. where I wrote as follows:—"If the queens are kept apart so that they cannot touch each other, it appears that we may have two or more laying queens in a hive at one and the same time; but I think that the bees attending each queen must have a separate entrance."

Now by the use of perforated zinc we are able to keep the queens apart, but it is required that there should be a bee-space between the zinc sheets, or solid wood between all apartments so that no queen can come in contact with any other, as they could, if only one sheet of perforated zinc intervened between the queens. Our new queen-rearing chamber combines these features so that any colony that has reared queen-cells may be transferred to the chamber or chambers and all of the young queens will mate and begin to lay, and may then be removed as required by the queen-breeder.

Our experiments last year with this invention were only a partial success because we attempted to secure the mating of the queens while there was a laying queen in the

hive, and we did not proceed properly to secure the mating in every case; for many of the queens were balled and destroyed. We have now gone over the ground more fully and find as follows:—That any colony will care for queen cells partially or wholly completed if placed above a queen-excluding honey board. This was known at least three years ago. But every attempt to secure the mating of the young queens after hatching was a failure so long as the old queen remained below, and they were all balled and destroyed; and I presume that many queen breeders besides myself failed at this point. Now I find that if the old queen is taken from the brood chamber and confined in the upper portion of the hive the young queens will then be allowed to mate when we can have all laying at once and working in perfect harmony. This is the only practical measure I have found by which young queens can be mated from the same hive, if the old queen is allowed to remain in the hive. If we take the old queen out of the hive just after the young queens are hatched we may secure the mating of all of them without any trouble from the same hive. There is practically no limit to the number of queens that can be reared and got to laying in one hive, the workers all flying from one entrance. But every queen must have a separate entrance to fly out and mate, after which the entrance may be closed. I use a $\frac{1}{8}$ hole for entrance and common cork to stop them up when required.

I shall claim all queen-rearing chambers divided up into apartments separated by the use of perforated zinc for the purposes described. I find it most convenient to have the apartments of the queen-rearing chamber so made as to take the brood frame in use. Then by the use of a queen-excluding honey-board, we can make the necessary spaces to keep the queens apart, but a honey board is not always necessary unless the queen-rearing chambers are storified upon each other.

Friend Doolittle in his admirable work on "Queen Rearing" claims to have had young queens to mate from a hive with a laying queen in brood chamber, but I will say that such instances of mating must be quite exceptional and the measure is not practicable.

New Philadelphia, O., June 20, 1889.

There may be an advantage in having three queens in a hive from which they can fly and become fertile; yet I do not see why it is any better or as good and practical as the single nucleus system. One thing is certain, the ordinary queen-excluding metal will not keep the queens apart. When queens first leave the cells they can easily pass the metal in general use. The same queens when fertilized cannot pass the excluder.

What we now want and need the most is some practical method for having queens fertilized direct from nursery-cages. This I shall try to do at no distant day. When this can be done the nucleus system will not be needed.

Gleanings in Bee Culture.

NON-SWARMERS.

G. M. DOOLITTLE PROPOSES A PLAN.

By page 631 of *Gleanings* for the present year, I see that Dr. Miller is still desirous of knowing how to keep bees from swarming, and quotes "Doolittle" quite largely in his article on that page. Doctor, please accept thanks for kind words found on the page above quoted: and now I wish to lead you and the readers of *Gleanings* out in a new direction along this line of non-swarming, for Doolittle has been experimenting a little more the past Summer on this vexatious question—vexatious to those who have all the bees they care for. Why I wish to give my experiment at this time is, so that you can prepare a hive or two the present winter to try the plan, and then with me, next Summer, help perfect it to a greater extent than I have been able to do with all my cares. We have all heard of non-swarming hives during the past, yet none of these ever proved capable of doing what their inventors claimed for them, for which reason no one has any faith in a non-swarming hive. Well I do not claim a non-swarming hive as any part of my plan, but I do claim that hive preparation and manipulation may yet be made the very item which is to do away with swarming, only as the owner has a desire for swarms. Now, after reading what is to follow, I want every reader of *Gleanings* to set his or her mind to work to see how they can improve on what I have done, hoping that each one

may take a different line of thought from mine, or from any other person, and next season work out what they think, when, according to my belief, some of us will have a sure way of keeping all colonies from swarming, even if the plan I tried this year does not work as satisfactorily another year as it has this. What I did was as follows:

Last Winter I cut three hives in two, so as to make two half-depth hives of each. I now made half-depth frames to fit these hives, which gave me a frame 5 inches deep and 10½ inches long, inside measure. That your frames should be like mine is not at all important. To cut your hive through the centre the up and down way, and make the frames to fit the hive, is all that is necessary to try the plan. I made the bee-space at the top of each part, but I do not know but it would work equally well with this space at the bottom. To get the bee-space at the bottom, I nailed 5-16 strips on the bottom boards, for the hives to rest upon. When Spring arrived I transferred colonies into these hives, using only one part of the hive at first till the bees became strong enough to want the whole hive, when the other half was put underneath that part which the bees had occupied till this time. In other words, these half depth hives were tiered up as soon as they became strong enough to work to advantage in both parts. For this purpose I used the standard Gallup hive, rather than the hive holding only 9 frames, which I use the most largely in my apiary, for my object was to get the largest force of bees possible at or just before the time of swarming; and by using the standard Gallup hive I could use 26 half depth frames in both parts, when all were in the hive.

A little before swarming time, say a week, and as soon as honey began to come in so that the bees were building little bits of new comb, the part of the hive having the most sealed brood in it, or in other words, that part having the least unsealed brood in, was raised off the other part, being sure that the queen was in the lower part, a queen excluding honey-board put on, and on top of this a case of sections, while on top of the sections was placed the upper half of the hive which had been taken off. This was done to start the bees in the sections at once, on a plan

somewhat similar to D. A. Jones's idea of putting the sections in the middle of the brood-nest in an ordinary hive. They were now left till the brood in the raised part of the hive was mostly sealed over, when this part was set on a separate stand, after shaking a part of the bees out of it, if it was thought that they would have more bees than would be needed to take care of the brood after the old bees had returned to the old stand; then a queen-cell was given them, as I desired increase this season. If I had not so desired, this part of the plan would be left off, putting both parts above the sections, as about to be described.

Having the bees all in one part of the hive and in the sections, the next thing I did was to bring another half hive, and, after taking the colony from the stand, this half-hive was set in place of that set off. This half-hive contained frames having starters only in them, said starters being about $\frac{1}{2}$ inch of foundation the whole length of the under side to the top-bar of the frame. The sections and honey-board were now removed from where they were to the top of this new hive, and the passage-ways down into the sections were closed by putting a sheet of enameled cloth over the top of the whole. The half-hive having the bees and queen was now opened, the queen found, and set out of the hive, when about two-thirds of the bees were shaken in front of the new part; and lastly, the queen was placed with these shaken-off bees so she would be in the lower part of the hive where new comb was to be built. The part containing the brood and bees which were left to protect it was now set on top of the sections, over the enameled cloth, and the hive closed. These hives were worked inside of the shell of a chaff hive, the chaff being removed. In a day or two, an entrance was opened, which had been previously prepared, at the bottom of each part to the hives, so that the bees in the upper hive had to run down the sides of the section case and lower hive when they wished to get out, going in at the bottom of the lower hive, and out at the entrance. After having their play-spell they would stay in the lower hive and in the sections, so that, when all had hatched, the upper set of combs was free from both honey and bees, when they were

taken off and stored away for another season. Young bees enough seemed to remain to hatch the brood, while they went down into the lower hive just right to keep the colony at its strongest point all the while storing honey. The sections were tiered up as needed, or removed, and the bees seemed to think that they had swarmed, or at least they appeared to so think, after they were shaken into the empty part below. If an empty shell is not used, I would leave one corner of the enameled cloth turned back a little for the bees to pass through the sections down below; but in this case probably the bees might store a little honey in the empty combs after the brood had hatched. This has worked well this season, a season when not many swarms have issued, and I believe it will work in any season, giving us no swarms and lots of honey. I have time only to briefly outline it, but trust it will be sufficiently plain so that all can understand what the plan is, and help to perfect it still further.

G. M. DOORITTLE.

Borodino, N. Y., Sept. 3rd, 1889.

The British Bee Journal.

Extracting Honey—Storage of Empty Combs.

One of the first questions that ought to occur to the mind of the bee-keeper is, 'In what form will it pay me best to offer my honey for sale?' We notice that extracted honey is rapidly growing into premier position in the market, and we must allow that a good sample of extracted white clover or sainfoin honey, allowed to granulate until it is almost as hard as cheese, is to our taste far superior to honey in the comb, though we much prefer sectional honey to that freshly extracted. Although we have only expressed our individual taste in the matter, our experience points to the fact that the same coincides with the majority of honey-consumers in this country. What is nicer on a cold winter's morning than a good sized 'lump' of pure white extracted honey on the plate at breakfast? It seems to clear the throat from all irritation, and soothes that parched feeling which we all know betokens an attack more or less severe of influenza. A piece of same about the size of a cube of sugar, placed in the mouth be-

fore going to bed, will usually stop the irritating winter cough which so many of us poor mortals are troubled with when winter's fogs hang about the country with such persistency. Then, again, at tea how nice it is to be able to cut the honey into pieces without the chance of any sticky drops falling on the cloth or smearing the spoon-handles and the little mouths into which it is placed—we have a family. The flavor is very perceptibly increased after granulation has taken place, which is a great point in its flavor, and its safe transmission in a granulated condition or otherwise is perfectly ensured. No wonder, then, after all these advantages, that it is now beginning to occupy the first rank as a marketable production of the apiarist. We have always looked upon the production of extracted honey as the work of the busy apiarist, and section production as that of his more easy-going brother in the craft, not that either can be successfully carried out by the idle or inenergetic man.

We have in a former number given directions as to the best method of removing sectional supers from the hives; it will now be our aim to treat, in the same simple manner, the extracting of honey from frame-supers after removal, as the previous instructions as to the removal of sectional supers apply in an equal manner to the removal of frame-supers. The use of shallow frame as against that of standard frame-supers has received for some time past a great amount of attention from advanced apiarists, the principal argument against the use of the former being the complications that may arise from the use of two sized frames in the same apiary; but as to the possibility of any such complications arising we cannot agree, as well might we say that such would occur from the use of sections, which are but frames of a much smaller size. The honey obtained from combs kept exclusively for the storage of same is of better color than that obtained from combs used both for brood and stores. It is now almost universally acknowledged that the handling of supers on racks is preferable to that of handling sections or frames, and our experience entirely coincides with this opinion. This being so, shallow-frame supers must come to the fore. To handle a well-stored super, say, ten standard frames, re-

quires the exercise of an amount of strength which few bee-keepers care to exert; and to clear such a super from bees is a job which the novice will, in many cases, shrink from with feelings of dread. We have this season extracted all our honey from shallow-frame supers, and are well satisfied with the results. Not only were they much easier of removal from hive—scarcely any more trouble than the removal of a section-rack—but the uncapping of same has been performed with much greater ease and expedition than a like weight of standard combs. When removing our shallow supers from the hives we found the carbolio cloth had driven nine-tenths of the bees below into the under super, or on to the brood-combs, as the case might be, it being quite a simple affair to brush the few remaining bees off the combs before extracting with a single goose-wing feather: this will be found less irritating to the bees than either a brush or whole of a wing.

When uncapping two knives—the large flat 'Bingham' pattern—are used, one remaining in hot water until the one in use begins to drag. A clean house-flannel lays by the side of the hot water can, upon which the knife is wiped after removal from water. With the shallow frame one draw upwards of the knife will remove three-fourths of the cappings; the other, or irregular portion of the comb, can be uncapped with the point of the knife. After being uncapped, the comb is placed in the extractor, which is turned, if without gearing, as fast and as regularly as possible—don't jerk the handle round. There is little fear of the combs in such shallow frames breaking, and even if a fracture does occur, it can be set right with much less trouble than with a large size frame. Having finished all the frames belonging to one super, they are to be returned to same, which—if the honey flow is not over—is to be placed under one partially filled upon a hive; or, if the honey flow is over, on top of a hive having a corner of the quilt turned up to allow of the bees ascending and clearing the combs from the honey left adhering after extracting. After the combs have been cleared by the bees, they must be stored away until the following season. The enemy to fear while so stored is the wax-moth, which bores cir-

cutious tunnels through the cells above the under rib, leaving a tube of material like cobweb behind it, and into which it retreats upon the slightest alarm. In some countries this moth, or rather the larva of same, commits great ravages among stored combs; and even in this country, unless precautions are taken, it will render combs comparatively worthless.

The worst case we have ever seen came under our notice a few weeks ago. In this instance great (supposed) care had been taken to preserve the combs, they having been very carefully tied close together and then wrapped in paper; this is just what agrees with the wax-moth. The egg is laid upon the combs mostly whilst in the hive, and larvæ emerges after removal, so that when the combs are laid close together they form quite a paradise for the larvæ to exercise their tunnelling proclivities in. The combs were riddled in all directions, and so firmly stuck together with the cobweb material that in a few instances they were broken upon attempted separation. The moral to be drawn from the foregoing is, always to keep your combs at least an inch apart. To do this, nothing is better than to place them in their own racks and wrap the rack in brown paper to keep dust away. We always place a piece of camphor, about the size of a large walnut, in each rack, and put them in a perfectly dry cupboard. When these packages are opened, every comb is as clean and free from wax-moth as when they were put away. The above applies equally to partially filled sections, which must be extracted if there is any honey in them, and cleared by the bees before storing away.

To return to the honey which has been left in the extractor. It is removed from same and strained through some strainer cloth into some receptacle having a honey gate at the bottom, and then allowed to stand in a warm place for a couple of days. The reason of its having to be drawn through the honey gate at bottom is obvious, as all particles of comb and air-bubbles will have risen to the surface in the form of scum. The honey drawn from under this being perfectly clear and translucent. The size of packages most likely to suit the producer's market should then be decided upon, and the honey

at once packed in same, as if it is placed in large receptacles for future packing it is most likely to granulate, in which case it is impossible without melting to pack it in a slightly form in other or smaller packages.

The Canadian Live Stock and Farm Journal.

Temperament of the Bee.

R. F. HOLTERMANN, ROMNEY, ONT.

The question of disposition of the honey bee does not receive sufficient consideration. The agriculturist has found out that the temperament of his barnyard stock varies, and that the profits to be derived from the animals vary. But the application has not been made to the honey bee as much as it might be. Still some of our most observing bee-keepers, or more properly, bee-martyrs, have already made some discoveries of merit, and now that a beginning has been made it requires only that the attention of the public should be drawn to the matter to make a closer application and receive beneficial results. We have found that the high-strung, irritable races of bees, those which upon the slightest provocation will attack anything in their way, consume more stores, breed more bees when not required, and are more restless in winter than the quiet and even tempered. So far the application is correct, and it only requires that we should apply this to the individuals in the race of bees. We find individuals differing as much in disposition as races, and I have come to the conclusion that the queen should be removed from colonies which are of a high-strung, nervous temperament; they wear themselves out more quickly and are unpleasant to deal with, consume more stores and are less liable to winter with success, as they will not settle down to that quiescent state which is so desirable for successful wintering. Either they will not settle down to that condition at all, or upon the slightest unfavorable condition being present they will awaken from it.

Then in handling the bees, how irritating to find the whole colony rush out upon the slightest movement being made, and darting back and forth in front of that extremely sensitive organ, the organ of smell, and at every dart the unfortunate operator undergoes in imagination the agony of a sting. Whilst

rough and rude handling is to be condemned, and will be resented in any colony, there is a great difference, and the difference should be noted and acted upon. If you make a colony queenless because her progeny is bad, do not allow the colony to raise a queen from the eggs deposited by her, as the daughter may inherit the disposition of her mother and transmit it to her progeny.

Now I am perfectly well aware there are many who will claim that the colonies I condemn give the best results: this is however, written in the face of such knowledge, and in opposition, to a large extent, of such knowledge. There may be exceptional cases where such a colony may have an excellent honey-gathering record, but that proves nothing. No more than that many a high-strung individual of the human race makes his mark and does good vastly beyond the man of a more quiet and equable disposition. There are many of the same class, however, who do not confer these benefits, and their warmest friends admit that their average life is not so long as the more phlegmatic.

HANDLING BEES.

It is astonishing to see the difference in handling and working with bees. I can bring to mind now, apiaries which I do not care to visit, and only because the bees have been handled so roughly that they resent even the sight of any one, because they recollect they have received maltreatment and nothing else from the hands of some one. Imagine a horse or a dog beaten or kicked by man whenever within reach, and again the same kindly spoken to and gently treated at all times, and you have to a large extent the difference between a colony of bees properly and improperly treated. Never attempt to handle a colony without a smoker in first-class order. If the bellows has become damaged, or any part of it is liable to fail at a critical moment, secure another, and do not grudge the paltry sum. Buy a good smoker, not the lowest priced one. I avoid saying cheapest, for the word so often proves a misnomer. Use good dry wood, or you will have a filthy deposit on your smoker barrel, and even drops of liquid from the nozzle into the hive. Be very careful not to jar the hive before smoking the bees; this angers them, so that no amount of smoking will subdue them afterwards; re-

move the lid gently, raise one corner of the quilt and throw your smoke upon bees and combs, not in dense clouds and for over a minute, but gently and for a few seconds only; then if the combs are stuck to the hive loosen them without jarring and draw them out without crushing bees between combs, at sides, or between end boxes of frames and hive end. If you crush a bee that bee throws off a scent which a skilled apiarist can detect frequently and which the other bees can detect every time, and it is the signal for an attack. Try to get through all manipulations before the bees have filled themselves in part or to their capacity with honey and have commenced rushing about in clusters all over the hive.

HONEY SHOWS.

Bee-keepers have not taken the trouble which they should to place honey before the public. It may be argued, and truly, that the various agricultural societies offer no inducements to the exhibitors of honey; but we must, on the other hand, remember that it is in our interest to make them encourage honey exhibits. A good example of this is to be found in the Brant Bee-Keepers' Association. Owing to their energy the prizes offered this year in the honey and apiarian supplies list is about sixty dollars. Not bad for a county show, but no more than right. The bee-keepers and their association contribute some, but they in turn know that this outlay will be more than repaid by increased demand for honey. No one should show anything unless it is good. What will you gain by taking a miserable prize, and then have every one remark about the slovenly exhibit? Of course after a poor season the honey is generally inferior in color and even flavour, and every allowance should be made for such, but otherwise bring only an article of merit and exhibit it in a tasty manner before the public, and in this matter you will not lose by the transaction.

PRICE OF HONEY.

It is impossible to fix the price of honey all over the country, every one must judge what price he may secure. Do not sell too soon, and on the other hand do not allow it to hang too long upon your hands. It should be disposed of at least a month before maple syrup comes in; retail when you can, and do not send it away on credit to a stranger.

*The Bee-Keepers' Review.***Plenty of Bees, Food and Packing, and several other things essential to success.—A splendid Article.**

O. O. POPPLETON.

Few are aware how short the time is since the science of out-door wintering of bees in protected hives has been generally known. It is only about a dozen years since one of Michigan's oldest bee-keepers, Mr. J. H. Townley, first described the principle. I had used essentially the same method for two or three winters previous, and Mr. Townley had still longer. Cellar wintering had engaged the attention of our best bee-keepers for many years previous. It is reasonable to suppose that the principles of successful chaff hive wintering have not yet had time to become so thoroughly understood as those of the other method.

A few essential requisites to success are already known; the following being the principal ones:—

1. Colonies in good condition, and of at least medium strength. I have carried three-frame nuclei through all right, during severe winters in northern Iowa, but this is exceptional. Strong colonies have more advantages over weak ones, in out-door wintering than in the cellar.

2. Good food. My ideas on this point have already been published on page 139 of the Review for Sept., 1888.

3. Plenty of food. This is an indispensable requisite; and is where many have failed. Years ago, we used to frequently see the advice that "the lower half of the center combs ought to be empty to give the bees a place to cluster." No attention should be paid to such nonsense. If every comb is solid honey, so much the better. Mr. Wm. Foos, of Iowa, several years ago advanced a theory that whenever bees became short of stores, though lacking quite a little of being out, they seemed to realize what their condition might be, and becoming uneasy were soon diseased; while if they had possessed ample stores, of the same quality, no such condition would have resulted. Since then, I have watched the matter closely, and I am inclined to think his theory correct. I certainly do think that

the giving of ample, or even more than enough stores to carry them through, is of more importance than quality of stores. (? Ed.)

4. The apiary should be protected by ample wind breaks. This point has rarely been given the importance it deserves. I consider it an absolutely essential requisite north of the 41st degree, or about that of Ft. Wayne, Indiana: and very desirable much south of that. Small apiaries can be sufficiently protected by high board fences, but large ones need something more effective. A thick, very thick, grove of bushes or trees should surround all sides unless it be the south, and it would be much better to have it on that side too. My experience and observation in a prairie state taught me the absolute necessity of this condition; and anyone who cannot command it, would better give up all idea of out door wintering, unless the hives are likely to be covered with snow during severe winters. The failures of many have been due, probably, to this unsuspected cause.

5. Proper kind of packing material is important. It must be such as will best afford protection from cold and freedom from dampness. Any material that is fine and light is better than the same would be if coarser; hence, all fine kinds of chaff are better than the coarser kinds; and any kind is better than hay or straw. In fact, the latter are utter failures unless used in very large quantities. Sawdust from fine saws is preferable to that from large lumber mill saws; in fact, I should hesitate to use the latter. Some kinds of material retain, in a much greater degree than others, the moisture thrown off by the bees: become damp and mouldy, and in time rotten. In the latter case sinking down and exposing part of the hive to cold. Such materials ought never to be used. I find timothy seed chaff gives the best satisfaction of anything I have tried; it being the finest, driest chaff I know of, with the least affinity for moisture. Next to that in value is sawdust made by fine saws from dry, white, pine boards. Wheat chaff and forest leaves come next, but they are far less valuable than the first mentioned, probably on account of being so much coarser. Oat chaff is unfit to use on account of its retaining dampness; and buck-wheat chaff is the poorest for the same reason.

6. Enough packing must be used to insure good protection. This, of course, depends somewhat upon the kind of material used, and the latitude where used. Enough must be used so that the bees can keep the interior warm, else the moisture and frost will accumulate, to be followed in many instances, by the old, old, sickening story, so well known by northern bee-keepers. But for the fact that any increase in the amount of material increases the size and bulk of the hive itself, I should say it was practically impossible to use too much. In my hives in Iowa I used four and a half inches of fine timothy chaff or fine sawdust, but am satisfied that six inches would have been better—enough better to have paid for increasing the side of the hive. For coarser kinds of chaff, an increased amount would be necessary. This is also a point, or condition, the non-observance of which has caused many failures. I know one style of hive, sent out by a prominent manufacturer, that has only two inches of space for chaff. Whoever uses such a hive invites failure.

7. Bees ought to be closed down on as few frames as possible, leaving only room enough for ample stores. The less space there is enclosed by the outer packing and the nearer the bees fill this space, the less will the cold be able to penetrate it. I used to cut my strong colonies down to the equivalent of eight L. combs each, and from that down to five, according to their strength. This is a more important point than in cellar wintering, because all the air in the cellar can be and must be kept much warmer than the air surrounding hives out of doors.

There are other conditions not so absolutely necessary as the foregoing, but which are of help. I prefer a hive large enough, or at least tall enough, to allow empty space between the packing and the cover. The bees seem to winter better than when the cover rests upon the packing. I consider winter passages through the combs a requisite to success in out-door wintering.

How far dampness causes disease, has been a much discussed question. A few years ago, in an article on this subject, I said: "Show me a practical method of preventing dampness in hives, and I will have no more fears of unsuccessful wintering." The statement is true, but, instead of dampness being the prime

cause, as I then thought, it is only the effect of other causes. The value of any kind of packing is not so much in its power to absorb moisture as in its power of keeping out cold: then the bees can keep the interior of the hive too warm for the moisture to condense in it, or even in the packing itself to any great extent. This is the real underlying principle of all successful wintering, either in-doors or out, to keep the conditions such that the natural heat of the bees will expel all moisture from the hive, and as much as possible from everything around it: and to the greater extent this is accomplished, the more perfect will be the success. If a certain amount of material will accomplish this in southern Indiana, a much larger amount of material would be necessary in northern Michigan. The proper amount of material to be used varies with the kind used and the locality where used; but too little has been used in a hundred instances where too much has been used in one; I doubt if the latter mistake has ever been made.

As it is only by a comparison of opinions, that truth can be reached, I will now criticize some of the points in your editorial. You start out with the idea that bees can be well wintered only when they can have frequent flights. While flights are probably an advantage, I years ago came to the conclusion that they were far from being as valuable as generally supposed. About fifteen years ago I made some quite extensive experiments in flying bees under glass, covering dozens of colonies during three winters, and finally abandoning the plan as not being worth the trouble. Such flights were, I thought, a preventive of disease, but not a cure after it was once started. The real reason bees winter better when they have several flights during the winter, is not, I think, so much on account of the flights themselves, as because such winters have a much less amount of severe cold weather, and the cold does not succeed in penetrating so far into the packing. If I am right, and my experience in Iowa sustains this view, then all that is necessary to enable bees to pass severe winters as well, or nearly as well, as mild ones, is to pack them with more or better material, and in a more thorough manner. Northern Iowa is in about the same latitude as your own home, but it is

colder on account of the more open prairie country, and the lack of the protecting circle of great lakes which nearly surround Michigan.

I have never failed of wintering my bees in excellent condition, except when I failed in giving them one or more of the "requisite conditions" already mentioned; especially Nos. 2 and 3. In that severe winter of '80—'81, which so nearly swept the bee-keeping industry out of existence in many northern localities, my bees were confined to their hives from October 28 until March 25 without a single flight, yet I lost only six out of 115; and I think I never had bees come through in better condition, nor build up faster.

Some of our ablest bee-keepers, Prof. Cook and others, have so often made the statement that "out-door wintering is unreliable as far north as Iowa and Michigan," that they have come to honestly believe it; while the truth probably is that when the requisite conditions which are only just becoming known, are complied with, it can be relied upon as well as any other.

Another train of ideas, more theoretical than practical, are those objections to packing, on account of its depriving the bees of the warmth of the sun, not only in winter but spring, with results that naturally follow. My observation has led me to regard these as advantages instead of objections. As I have already said, I have learned to discount the supposed advantages of winter flights; and in the spring I prefer that the bees should not fly the moment the weather becomes mild enough for them to poke their noses out of doors. No danger whatever but they will fly from protected hives as quickly as it is best they should. I vehemently object to the plan of leaving the front of the hive without protection in spring, to secure the supposed benefits of the sun's direct rays. For those who do cherish a high idea of the value of the sun's direct rays, the plan proposed by our friend 'Jeems' is unquestionably the best, as it will attain the object sought without sacrificing the principle of protection; but I don't consider the object worth the seeking.

The question, 'When shall the packing be removed?' is easily answered. Never remove it at all, unless the space it occupies is needed; and in no case should it be removed

until settled warm weather. The longer I handled protected hives, the more reluctant was I to do any removing of packing even when obliged to do so to make room for surplus. The more the outside temperature can be kept from affecting the interior of the hive, the better, either winter or summer.

If you referred to the use of coarse, lumber-mill sawdust, in saying you found no difference between that and wheat chaff, forest leaves or planer shavings, then your experience and mine are alike, but otherwise if you referred to fine, dry sawdust. If your experiments have heretofore been with only four to five inches of the materials you mention, then I don't wonder you prefer cellar wintering. I should too, in that case.

The objection against chaff hives, that they are large and clumsy to handle, is, of course true, and they must be quite objectionable with some methods of management; but it has not been so with me, as I rarely handle hives during the working season. They save instead of make labor, as they are always packed except the insertion of two or three cushions at the proper time.

Did my method of management require much handling of hives, either the large chaff or the small single-wall hive, I should certainly use some such hive cart as we use in this apiary. With it we can move a colony anywhere in the apiary with no lifting at all; and large hives can be moved as readily as small ones. Much lifting of hives during the honey season is work which no one has any business to attempt, unless they are much stronger physically than I am.

Using loose chaff on top of the hives is bad management. I used to buy old gunny sacks at the stores for ten cents each. These properly filled and sewed up, were laid on top of the hives, allowing us to open and examine the hives as readily as though not packed. This is an important point so far as convenience and labor saving are concerned.

My experience differs from yours as regards early and late packing. With me, early packing has been better than late. Early packing can certainly do no harm.

During the past three winters, my home has been in a land where this wintering problem loses all its terrors and much of its

interest. Other difficulties arise that must be met and conquered, as has been practically done with wintering.

HAVANA, Cuba, Aug. 10, 1889.

APIARIAN BATTLE.—On Saturday last, in the village of Cargo, a combat of a truly novel description was witnessed. A hive of bees belonging to a professional gentleman of this city swarmed on Thursday last; after which they were hived in the regular way, and appeared to be doing well. On the Saturday after, a swarm of bees from some neighbouring hive, appeared to be flying over the garden in which the hive above mentioned was placed, when they instantly darted down upon the hive of the new settlers, and completely covered it: in a little time they began to enter the hive, and poured into it in such numbers that it soon became completely filled. A loud humming noise was heard, and the work of destruction immediately ensued; the winged combatants sallied forth from the hive, until it became entirely empty; and a furious battle commenced in "upper air" between the besiegers and the besieged. A spectator informs us that these intrepid little warriors were so numerous that they literally darkened the sky overhead like a cloud; meanwhile the destructive battle raged with fury on both sides, and the ground beneath was covered with the wounded and the slain; hundreds of them were lying dead, or crawling about, disabled from reascending to the scene of action. To one party, however, the palm of victory was at last awarded; and they settled upon the branch of an adjoining apple-tree, from which they were safely placed in the empty hive, which had been the object of their valiant contention, and where they now continue peacefully and industriously employed in adding to the stores of the common wealth.—*Carlisle Paper.*

Before the congregation in the Baptist Chapel in St. George's Place, Canterbury, Eng., had left one Sunday morning lately, a colony of bees entered by one of the windows and settled in the gallery. Mr. G. Uden succeeded in taking them. Some children, attracted by the novel sight, were stung, but no great harm was done.

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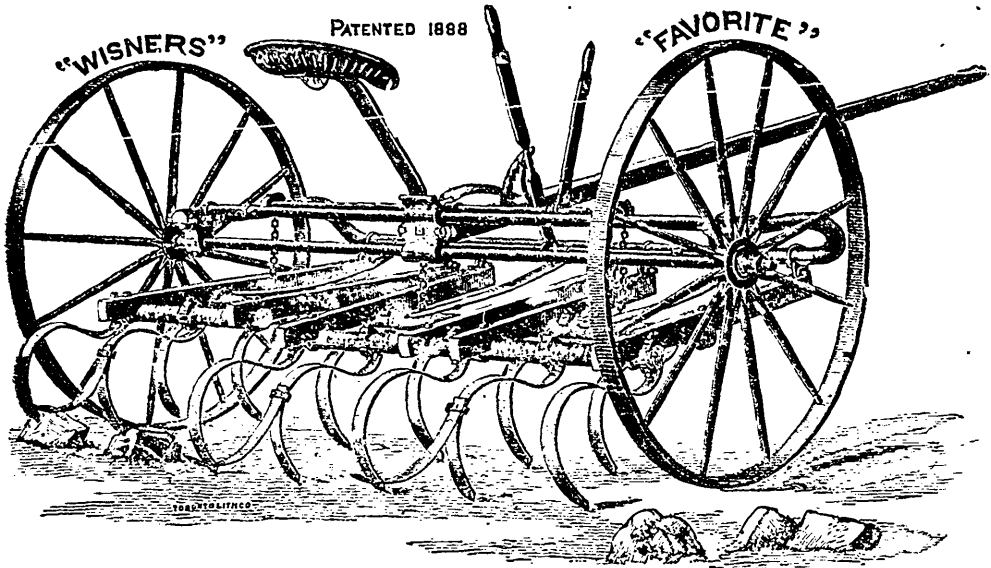
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