

Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibliographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming, are checked below.

L'Institut a microfilmé le meilleur exemplaire qu'il lui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normale de filmage sont indiqués ci-dessous.

- Coloured covers/
Couverture de couleur
- Covers damaged/
Couverture endommagée
- Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée
- Cover title missing/
Le titre de couverture manque
- Coloured maps/
Cartes géographiques en couleur
- Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)
- Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur
- Bound with other material/
Relié avec d'autres documents
- Tight binding may cause shadows or distortion along interior margin/
La reliure serrée peut causer de l'ombre ou de la distorsion le long de la marge intérieure
- Blank leaves added during restoration may appear within the text. Whenever possible, these have been omitted from filming/
Il se peut que certaines pages blanches ajoutées lors d'une restauration apparaissent dans le texte, mais, lorsque cela était possible, ces pages n'ont pas été filmées.
- Additional comments: /
Commentaires supplémentaires:

- Coloured pages/
Pages de couleur
- Pages damaged/
Pages endommagées
- Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- Pages detached/
Pages détachées
- Showthrough/
Transparence
- Quality of print varies/
Qualité inégale de l'impression
- Continuous pagination/
Pagination continue
- Includes index(es)/
Comprend un (des) index
- Title on header taken from: /
Le titre de l'en-tête provient:
- Title page of issue/
Page de titre de la livraison
- Caption of issue/
Titre de départ de la livraison
- Masthead/
Générique (périodiques) de la livraison

This item is filmed at the reduction ratio checked below/
Ce document est filmé au taux de réduction indiqué ci-dessous.

10X	12X	14X	16X	18X	20X	22X	24X	26X	28X	30X	32X
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



THE CANADIAN

Honey Producer.

Its Reading Columns for the advancement of Honey Producers exclusively.

Vol. I.

BRANTFORD, JULY, 1887:

No. 5.

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. For further particulars see our Premium List.

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,	\$1.25	\$1.50
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
Quimby's New Bee-Keeping, cloth,	\$1.50	1.75
Bees and Honey, by T. G. Newman, cloth,	75 cents,	1.00
Queen Rearing, by Henry Alley, cloth,	\$1	1.00

CLUBBING RATES.

The Canadian Honey Producer		
And Gleanings, semi-monthly,	\$1.20
" American Bee Journal, weekly,	1.20
" American Apiculturist, monthly,	1.10
" Bee-Keepers' Magazine,	60
" Rays of Light,	"	85
" British Bee Journal, weekly,	2.90
" Poulterers' Profit,	65

PREMIUMS.

Single subscriptions are 40 cents per year.—
Three subscriptions for one year at one time, \$1.00.
In addition to the above, any one sending us 15 subscribers will receive one of Alley's Queen Traps; and to any one sending 25 subscribers we will send one of our No. 1 Smokers. Postage or express must be paid by the recipient of premium. All subscriptions must be for one year. Any one subscribing for two years will count as two subscribers. The largest number of subscriptions sent in by any one up to 1st May, '87, will receive in addition one complete Blackburne hive for comb and extracted honey. The number of subscriptions must exceed 35.

ADVERTISING RATES.

10 cents per line each insertion, 5 cts. per line each following insertion.

Space will be measured by a scale of solid nonpareil of which 12 lines measure an inch and there are about 9 words to the line.

Transient advertisements must be paid for in advance.

They will be inserted until forbid and charged accordingly.

STANDING ADVERTISEMENTS.

	3 months.	6 months.	12 months.
1 in.	\$ 2.50	\$ 3.50	\$ 6.00
2 in.	3.25	5.50	9.00
3 in.	4.75	7.50	12.00
6 in.	8.00	12.00	18.00
7 in.	9.50	13.75	21.00
8 in.	10.50	15.75	24.00

ESTABLISHED 1885.
Beeswax Headquarters.

We have constantly on hand a large stock of Domestic and Imported Bees-wax in original shape, which we offer to manufacturers of Comb Foundation at lowest prices. We guarantee all our bees-wax absolutely pure. Write to us for prices.

Address, R. ECKERMANN & WILL,
Beeswax Bleachers and Refiners. Syracuse, N. Y.

JACOB SPENCE,

Handles Honey, wholesale, Comb and Extracted.

Largely supplied by Extensive Producers in Ontario.

Honey Glasses in great variety from Nova Scotia Glass Co., and is agent for

E. L. GOOLD, & Co.'s first class
Bee-Keepers' Supplies.

SPENCE'S HONEY DEPOT,
Colborne St., Toronto.

BEEKEEPERS' MAGAZINE.

32 Page monthly.

25 Cents per year.

Sample copy free.

Address,

BARRYTOWN, N. Y.

HOW TO WINTER BEES.

The October Number, 1886, of the AMERICAN APICULTURIST contains ELEVEN ESSAYS on WINTERING BEES, from eleven of the best known Bee-Keepers in the World. Sent free. Address,

HENRY ALLEY, Wenham, Mass.

SEND FOR

Our special low rates on Honey Cans, Sections, Hives, Foundation, Bee-Keepers' Supplies.

S. P. HODGSON,
Horning's Mills.

ITALIAN QUEENS for 1887,
FROM HENRY CUPPAGE,
ORILLIA, ONT.

Dealer in Italian Bees, Queens,
and Honey.

Agent for E. L. Goold & Co.'s
Bee-Keepers' Supplies.

H. CUPPAGE.

Champion's Buggy Tops.

PATENT PROPS.

This prop fills a long felt want. It is a device by which either the front or back joints of top may be separately worked from the inside. The driver can throw back the front of top, or lower the back and replace either from his seat—all done from the inside. Any one in the habit of getting in or out of buggies will certainly appreciate this improvement.

My Tops have met with universal satisfaction by the carriage trade, and have taken first prizes and diplomas wherever exhibited.

TOPS.

No. 1—Is a first-class rubber Top with superior quality of heavy brown back rubber, back and side curtains to match. Wrought rails and joints. Top prop nuts and rivets in either black, silver or oroid. Black T. P. nuts sent unless otherwise ordered.—Price \$12.50. With Patent top props and handles extra \$2.00.

No. 2—Is the same as No. 1, with best steel tubular bow sockets. Price \$13.50. With Patent top props and handles extra \$2.00.

No. 3—Is a first-class rubber Top, lined with blue brown or green cloth, steel tubular bow sockets, second growth ash bows, wrought rails and joints. Is a very neat and durable top and will answer all purposes where a rubber top is required

and is the very best top in the market for the money. Price \$16.00. With Patent top props and handles extra \$2.00.

No. 4—Is the same as No. 3 with solid wrought rails. Back valance and lined back curtain, 1 rice \$17.00. With Patent top props and handles, extra \$2.00.

No. 5—Is a superior heavy rubber Top with back valance and lined throughout Solid wrought rails and joints. Hand sewed finish. The best rubber top that can be made. Price \$22.00. With Patent top props and handles, extra \$2.00.

No. 6—Is the same as No. 5 with leather side quarters and back stays, and has the appearance of a first-class leather Top. Price \$28.00. With Patent top props and handles, extra \$2.00.

No. 7—Is an all leather top, of the very best quality and workmanship. Price \$40.00. With Patent top props and handles, extra \$2.00.

TRIMMINGS.

Leather Cushion, Drop Back & Fall plain \$10.00

“ “ “ sewed or leated 12.00

Corduroy “ “ plain 8.00

Velveteen “ “ plain 8.50

HOW TO ORDER TOPS—Send width of seat from out to out on the top of seat.

CHARLES CHAMPION,

Hardware and Carriage Goods, Brantford, Ont.

Patented in Canada and United States.

THE CANADIAN HONEY PRODUCER.

Vol. 1. July, 1887. No. 5

BRITISH HONEY MARKETS.

The prospects of opening out the British market by means of the Ontario Bee-Keepers' Association are unchanged since our last issue. The party which has been most active in discouraging all efforts to do the work as an association is a firm which appear to have some thought of undertaking the work themselves, and thus reaping largely the benefit derived from the exhibit at the Colonial and Indian Exhibition last year. That this firm should discourage such an effort is but natural. It might also not be surprising that their faithful allies wittingly or blindly should also publicly exert every effort in that direction, but must confess surprise that it has been left to the few to endeavor to thwart the object of the firm referred to. We know that many forsee the danger ahead of us but all remain silent. We fear if the season bring a bountiful honey harvest, the Canadian bee-keeper will awaken to the stern reality of a glutted home market in which to dispose of his goods, or an outlet to which they will find will not secure them 12½ cents per lb., less cost of freight and a fair commission for sales effected, as some would lead us to believe. We would again suggest the importance and necessity of bee-keepers acting unitedly to directly secure an opening for our surplus honey and not permit any one man to control such outlet.

The flow from soft maple has been good and swarming commenced early but the latter half of June has not been the most favorable for the secretion of nectar. Our bees have done well but they were in excellent condition early and would have done very

much better if the conditions of the atmosphere throughout the month had been favorable. Linden trees are covered with buds which alone when in blossom could give us a rich honey harvest under favorable atmospheric conditions. Let us hope for the best.

The Norfolk Bee-keepers' Association

Held their last meeting in Delhi. The President, Mr. C. McNally in the chair. The large number of bee-keepers and others that were present would seem to prove that Beekeeping is advancing quite rapidly. Several new members were added to the association who proved to be good live bee-men. After the general business of the Association was disposed of the questions brought up for discussions were :

1st, The best kind of hive for extracted and comb honey? The Jones hive for extracted honey and Langstroth for comb honey were generally approved of.

2nd, Which is best to use starters or full sheets of foundation? Starters pay best generally.

3rd, How to ripen extracted honey? Put in a warm place in large open cans.

4th, How to prepare bees for winter, and number of pounds of honey per colony required to winter them on? Give 6 to 8 frames according to size of colony. Shove up division board to just what room is required. From 20 to 30 pounds was considered sufficient to winter on.

The following is the winter reports of bees from members present.

	No. of colonies in fall.	No of colonies in spring.
John Langohr,	72	71
J. A. Wilson,	56	48
A. Williamson,	22	21
W. Simmons,	10	8
J. Potts,	19	17
J. Budd,	2	2
P. Kemp,	12	12
S. Budd,	6	5
J. P. Ryder,	45	44
J. P. Haveland,	5	5
J. G. McNally,	42	41
C. Culver	29	19
C. McNally	223	223
J. Calvert	39	33

This is about 2 per cent better than the report of 1886. The next meeting will be held in Simcoe, September 3rd.

C. W. CULVER, Sec'y.

For the Canadian Honey Producer.

Report from British Columbia.

In yours of March 4th, you expressed a desire to know how bees would do in B. C. and to what extent the business was carried on. I may say I doubt if there were 500 hives in the province, when I came here 13 years ago. I did not know of any and I know of no one to day beside my self who has adopted the modern appliances. In fact very little is known about bees or bee-keeping by the people here even those from Eastern Canada and the States, appear to share in the general ignorance. There was a person about 25 miles from here who had an extractor but I do not think it was used.

As to how bees will do here the past experience in beekeeping is not competent to decide; I do not think however that it will prove a great bee country. The climate as a rule is too wet, and the honey season too short. It begins pretty early, will average about the 1st of May, but I never knew bees to store any surplus honey after the middle of August, though there is plenty of fine weather after this. Cool nights, heavy dews, and misty mornings, however, prevail which does not appear to be the most favorable weather for bees. This early closing of the honey season however may be due to the fact that the white clover which yields the bulk of the honey is about ripe by this time, and the introduction of other honey producing flowers which would come in after this might prolong the season.

Successful wintering I do not anticipate will be more difficult than in other places where bees are kept with profit.

The price of extracted honey first class is about 10 cents per lb.

Haldimand Bee-Keepers' Association.

The Haldimand Bee-Keepers' Association met at Nelles' Corners, on Tuesday, May 31st, when the following members were present Wm. Kindree, President; Jas. Armstrong, A. Vanderburgh, Robt. Coverdale, H. Smith, Owen Fathers, John Kindree, Elijah Kindree, Jas. Grogan, Jos. Evans, D. Rose, F. Rose, J. D. Rae, John Best, Jas. Jack, J. D. Rutherford, Geo. Best, and the Secretary.

The minutes of previous meeting were read and adopted.

The first question discussed was the marketing of honey. The President thought the best way of marketing honey was to put it up in small parcels in an attractive shape and to offer none but the best quality.

Mr. Jack gave his views, saying that until honey was bought by large dealers, the same as cheese and other produce, the price would be low.

Mr. Armstrong said marketing honey was like anything else—the best article sold more readily and brought the best price. The best packages for the local market were pint and quart sealers, and for shipping the 60 lb. tin cased in wood was the best. Comb honey should be put in cases holding not more than 24 sections.

SEE PASTURAGE.

The President advocated the planting of alsiko clover for bee pasturage; it was our best honey plant and was excellent for cattle. He did not think it paid to plant anything especially for bees. Buck-wheat was good for fall feeding.

Mr. Armstrong said that according to the report of the Commissioners appointed to report on the Chapman honey plant, it was the plant we needed. It was the best honey plant known for yielding honey.

The Secretary advocated the planting of sweet clover in waste places and on the roadside; it was an excellent honey plant and was decidedly nicer looking than thistles and mullin stalks.

Mr. Vanderburgh advocated the planting of basswood for shade instead of maple; it was a good shade tree and one of the best for honey.

Several members expressed themselves in a similar way.

HOW TO PREPARE FOR WINTER.

The President had prepared his bees for winter in one way for several years, and had been generally successful, but this last winter he had not been so successful and he thought he would have to change his plan. He thought he would have to resort to cellar wintering or some such plan.

Mr. F. Rose said one cause of loss in wintering bees was in putting the packing too close on top, so that the bees could not pass over the tops of the frames to their stores.

Mr. Armstrong said the first mistake in preparing for winter was in beginning preparations too late. When bees are disturbed late in the fall they fill themselves with honey and are very liable to be troubled with dysentery. If bees are prepared early, have sufficient stores and properly protected, they will generally come through all right. The bees should be put as close together as possible; if the colony is weak the bees should be crowded on to as few frames as possible; they should be provided with good stores and well protected from the cold. He put some in a clamp, packed with saw dust; and others were wintered in double walled hives, and he had not lost a single colony this winter.

REPORT OF LOSSES.

	Fall, '86	Spring, '87.
Jas. Armstrong,	80	80
W. Kindree,	64	34
H. Smith,	10	0
Robt. Coverdale,	34	18
E. Kindree,	17	9
James Jack,	13	0
A. Vanderburgh,	60	26
J. D. Rae,	6	4
Jas. Grogan,	2	2
D. Rose,	80	65
John Kindree,	6	3
J. D. Rutherford,	5	2
E. C. Campbell,	23	3
G. S. Best,	4	4
W. Best,	18	12
Jos. Evans,	4	3
Geo. Winpecker,	4	4
J. Vanderburgh,	18	15
O. Fathers,	14	11
Edmund DeCew,	13	1

QUESTION DRAWER.

Mr. Jack said he had a lot of old combs with sour honey and mouldy, and wished to know what to do with them. Mr. Armstrong said he would give one frame at a time to a strong colony, and in 24 hours the frame would be as good as new.

Mr. Jack asked how to put in foundation so as to keep it straight. He fastened it at top of frame and one side, and the combs were crooked. Mr. Armstrong said it should be fastened only at the top, and the bees would fix it all right.

Mr. Fathers wished to know which is preferable, natural swarming or dividing?

Mr. Rose preferred natural swarming.

On motion of Mr. Armstrong, seconded by Mr. Jack, Mr. W. Atkinson was appointed Director for Walpole in place of Mr. Smith, removed.

Moved by Mr. Best, seconded by Mr. Fathers, that the next meeting be held at South Cayuga, on Saturday, 27th August.—Carried.

E. C. CAMPBELL, Secretary.

We are indebted to Mr. E. C. Campbell, Secy of the above Association and Editor of the *Haldmand Advocate* for the above report.

Bee Notes.

F. MALCOLM.

MR. EDITOR:—My bees have come out in very good condition. Only one colony is dead out of 81. Some of the others may be a little weak, but the average is good. They are now breeding up very fast, and look as though there would be some swarming before June.

I put 5 in the cellar without bottom boards by way of experiment. They are all very good, but I am not certain that they are any better on that account. I might say that we found no difficulty in carrying them in, and out of cellar without bottoms.

There was a fine flow on the 11th inst., from the sugar maple. One colony was $7\frac{1}{2}$ lbs. heavier at night than in the morning.

INNERKIP, May 16th, 1887.

Spread of Apiculture.

Under "Local news" the *Renfrew Mercury* of Friday, June 10th, has the following:

SOUTH RENFREW AGRICULTURAL ASSOCIATION.—"It was decided that Mr. A. Schultz of Clontarf, who is going into the business of bee-keeping extensively, should be allowed to sell honey on the grounds free, on condition that he make a good exhibit of honey, bees, and apiarian supplies at the Exhibition.

We are pleased to learn that bee-keeping has advanced to within a few miles of the place where we spent ten years of our childhood. The locality we have often thought would be a grand one, sheltered, high and low land to prolong the honey season, abundance of willows, soft and hard maple and linden; also creepers, golden rod, bone set, berry bushes, in fact almost every known wild Canadian honey plant. Added to this, land can be secured cheap; and buckwheat,

clover and other honey plants can be cultivated cheaply. If Italians are introduced, or whatever strain is desired there would be little danger of queens meeting other drones. It is a fine locality for hunting, fishing, and camping, and the lover of sport and romantic scenery would never tire here. The country is healthy. We wish Mr. Schultz every success in his undertaking, but think the S. R. A. S. will make a mistake by demanding an exhibit of bees. These prove to be very troublesome as they attempt to pilfer wherever sweets are exposed upon the grounds, an inconvenience to every one upon the grounds, also colonies thus exhibited are so disturbed and weakened as to frequently become a total loss to the exhibitor such would especially be the case after a drive from Clontarf to Renfrew and return.

The Toronto Industrial Exhibition have learned by experience to discourage exhibits of bees, but to make every effort to encourage the exhibit of honey, apiarian appliances and honey plants.

Notes to Beginners.

Keep all grass cut close about the hives as well as at the entrances. In the latter place it is an impediment to the free passage of bees to and from the hive; under and about the hives it prevents the free circulation of the air.

In managing your bees for extracted honey do not allow the combs to become filled and your bees crowded for brood and store room, this occasions loss as the bees catch the swarming impulse which is afterwards difficult to check.

In managing your bees for comb honey the great aim is to have them strong and almost under the swarming impulse, yet by giving them ventilation, shade and sufficient room to keep them occupied with storing honey. Should they swarm put your new swarm and hive upon the stand from which they issued, placing the colony on a new stand. As soon as the bees get well started in the lower story (generally the second day,) place the section case from the parent colony upon the new hive; or if they had none give

them a new case. (By this means you concentrate your worker force in the new hive and weaken the parent colony generally enough to keep them from casting a second swarm.)

In storing comb or extracted honey do not put it in a damp place. It should have a warm, dry atmosphere.

Save all small pieces of comb and wax; when rendered in the fall it will be found quite an item in the resources of the apiary.

Do not extract so closely as to require feeding back to the bees. It is well to have a few combs of well sealed honey in reserve for such colonies as may be found deficient in stores.

Extract honey, and as far as possible manipulate your hives when bees are occupied in gathering honey.

Many are anxious to know how best to tell when a colony is queenless. The experienced can generally tell the moment the quilt or honey-board is raised. The bees almost invariably have a forlorn action; they move their wings back and forth in a peculiar manner, their actions are characteristic, they rush about and cluster here and there in small patches for a short time only. Upon careful examination there will, unless the loss of the queen has been within three days be no eggs in the cells or if any they will be laid irregularly in the cells and often a number in one cell.

The question would naturally resolve itself, what is best to do? This depends upon circumstances. If you can, secure a queen cell from which the queen is about to issue and attach it to a comb of the queenless colony. This is perhaps the simplest, quickest and surest method for a novice of introducing a queen.

It requires skill and care to introduce a virgin queen unless she enters the hive the moment she issues from the cell. We have introduced many queens successfully in this way.

It would be a difficult matter to give the best way to introduce an impregnated queen to a colony. Volumes would not be sufficient space to give the various best methods given through the press. We will give a few points to be considered.

To introduce her successfully, the colony at the moment of introduction should be quiet, not angered or excited, in fact pleased. The queen should upon gaining her liberty act naturally and as if she had a perfect right to occupy the position as queen of the hive, if she is startled or restless, and commences to make quick, nervous motions the bees will look upon her as an intruder.

To secure the above result, the bees must have been queenless a sufficient length of time to have missed their queen, searched for her, given up that search as vain and to have felt alarmed at their queenless condition. The time this occupies varies, some place it at six hours, some forty-eight hours. Generally in twenty-four hours queen cells will have been started; these may be broken down and the queen placed in her cage between the combs and near the centre of the brood nest.

This is done that she may acquire the scent of the hive and bees. This again some state takes about forty-eight hours, some twenty-four hours. When towards evening she may be released; in doing this smoke the bees as little as possible and do not jar the hive, particularly in closing it. If the bees cluster in a solid angry mass upon the cage there is no use introducing the queen, they may kill her; but if they quietly cluster about the cage, the indications are not unfavorable. If honey is coming in rapidly and the bees are therefore pleased there is little difficulty in introducing queens with ordinary precaution.

The actions of colonies vary. We have introduced queen after queen to a colony, and in a variety of ways unsuccessfully, while another colony under apparently similar conditions accepted the first queen. Cyprian and Syrian queens are more difficult to introduce than Italian; they are quicker and more nervous in their actions.

We must incline to the opinion that those who so strongly advocate the system of chloroforming a colony before introducing a queen, claiming to have such good results, have either a short memory or are anxious to promulgate a method with their name attached to it, a method which after all did not originate in Canada.

J. H. Griffith, Kingsmill, Ont., writes; "Weather during spring bad for bees, but they have built up well lately. June 18th.

Sundry Items.

We often smile at the rudimentary ways and ideas of the past, such as hanging a piece of fat pork in a hive to secure a new queen when the old one had been lost; we have learned lately of an observing bee-keeper who noticed during and after a rain, bees slipped frequently while crawling to the entrance. We must admire his ingenuity as well as his observation when we learn that he nailed strips of carpet at the entrance to overcome the difficulty.

We have heard lately of a plan bee-keepers in Canada had for destroying the bee moth in days when black bees, box-hives, and successful wintering were the rule. Burning pine torches; were placed at night in pans of water at some distance from the hive; this drew the moth when in search about the hive for a place to deposit her eggs.

"*Le Rucher*" *organe de la Societe D'Apiculture de la Region du Nord* is welcomed as an exchange. Any one able to read French would find much of interest in it. It is published at 71 Rue du Lycee, Amiens, France.

"The Production of Comb Honey as practiced and advised by W. Z. Hutchinson," Rogersville, Mich., price 25cts., is a little work which has much in it of practical value and is well worth the price asked for it. We however think that the Heddon hive is brought out more prominently and more as an established and successful invention than any reversible and sectional hive has proved itself to be. Mr. Hutchinson we think has also permitted an advertisement to go out in it stating that there is only one bee-journal published in Canada. We fail to see how he can justify his action in this matter. We shall be pleased to have an explanation in reference to it.

Alex. Holding, Langley, British Columbia, writes, June 10th, 1887: "The season with us was not early but as late if not later than any we have had for 13 years."

F. Atkinson, Pres, North Middlesex Bee-Keepers' Association, Ailsa Craig, writes, June 13th: "Bee-keepers lost heavily this spring through dwindling but they are doing well now."

An old bee-keeper writes: "One thing I have noticed for years and that is, a good yield from sugar maple is followed by a poor yield from clover, though I hope the rule like most rules has exceptions. And that this may be the exception."

We have a communication from Mr. S. Corneil, Lindsay, Ont., one of the commissioners who visited the Colonial Exhibition with Ontario honey. As it is somewhat lengthy and a week beyond the time specified for matter to be in for the month, we regret to state it cannot be issued until the next number of our paper when it shall in justice to all have ample space and our full attention.

A CORRECTION.—On page 85, last clause "Shipment of bees" should read, shipment of bees-wax.

Convention Notices.

The Brant Bee-keepers' Association will convene at the Court House, Brantford on Saturday Sept. 3rd, 1887, at 2 p. m. all interested in bee-keeping are invited.

R. F. HOLTERMANN, Brantford,
Sec'y-Treas.

The Haldimand Bee-keepers' Association will meet in South Cayuga on Saturday, August 27th, next.

The Norfolk Bee-keepers' Association will meet at Simcoe on Saturday, Sept. 3rd, notice of hour and place will be given later.

C. W. CULVER,
Sec'y-Treas.

The Metrological Station, Ontario Agricultural College, Guelph, reports as follows for May, 1887:

THERMOMETER.

Highest Temp. 22nd, 89°.
Lowest Temp. 16th, 37°.
Monthly mean Temp, 61.2°.

BAROMETER.

Highest, 14th, 11 p. m., 29.188.
Lowest, 26th, 11 p. m., 28.490.
Monthly mean, 28.877.

FOREIGN.

The *Revue Internationale* states: The month of May has been a bad one for bees; cherry blossoms have been retarded. Strong colonies gained a little in weight early in

May, but the rest of the month they constantly diminished in weight. Although they have been rapidly building up during the latter part of the month as to numbers, the honey harvest has doubtless been greatly shortened.

The *Bienen Zeitung* says the fungi or oak makes an excellent one for smokers, those of lighter color being from one to two years growth are best. They should be thoroughly dry and sliced into broad strips.

May has been an unfavourable month for bee-keeping in Germany.

In the same paper J. B. Buck writes an apiary is managed either for honey or for increase. In both cases bees must be rapidly stimulated in spring, and developed into strong colonies. When this has been accomplished, the management differs according to the object in view. If for honey, the hives must be large or capable of being enlarged, the queen must be young, the hive must be free of drone comb, the swarming impulse must be checked by enlarging the brood chamber, give room for storing honey, give ventilation, cool the hive, make the colony queenless, and the 8th or 10th day following cut out all queen cells but one, extracting honey frequently.

We believe the leading bee-keepers of America condemn making colonies queenless during the honey flow, to secure a larger yield of honey but prefer permitting a colony to remain in its normal condition.—ED.

Queries for July Number.

Unlike others, our queries will be published in the issue previous to the one in which they are answered. We solicit replies from any who have had practical experience, and can reply from that. Questions are solicited. All replies should be in at latest by the 15th of the month if possible. The query will be republished in the following issue with replies.

No 10. Wishing to use starters on wired frames, has any one had combs built all right over the wire? or know if the bees will do it.

Stretch the wires tight, paint them with a brush, and be very sure that the frames hang true in the hives, that is the wires must be accurately vertical. With this precaution I have had combs built with the wires in the septum throughout.—J.M. Shuck, Des Moines, Iowa.

Have never had any experience with wired frames. Consider them an unnecessary superfluity.—Will. M. Barnum, Burr Farm, Angelica, N. Y.

Bees can be made to do it, but I think the process would not pay, so will not give it here.—S. T. Pettit, Belmont, Ont.

Yes, if placed between full sheets of comb when the bees want comb, but I never bother with them now.—Ira Orvis, Whitby, Ont.

I have never used wired frames except with full sheets of foundation. I think, however, that the bees would build right over the wires. The best ones to answer this are the bees. Ask them?—Prof. A. J. Cook, Ag. College, Michigan.

Have had no experience. We always use full sheets.—S. P. Hodgson, Horning's Mills, Ontario.

I never tried it, but do not think it will work. Combs built on starters do not need wired frames.—F. Malcolm, Innerkip, Ont.

I have not used wire but found the bees a short time since cutting the comb away from a wired frame that was in a hive so I would say the bees would be annoyed at your wiring.—Wm. Couse, Meadowvale, Ont.

If your frames are wired properly and the hives set level, the bees will build the combs over the wire all right, but think you will get better satisfaction by using full sheets of foundation.—Robt. H. Shipman, Cannington, Ont.

Have used but few wired frames, and then only full sheets. At one time objected to wiring, but now everything considered like them especially for the upper story.—Ed.

No. 11. Should bees be assessed as personal property?

Yes. They are personal property, and if enumerated as taxable should be assessed.—In Iowa six hives of bees for every family are exempt. Property here is assessed biennially, Jan'y 1st, and bees in excess of six colonies are assessed along with other property.—J. M. Shuck, Des Moines, Iowa.

I know of no reason why they should not be.—Will. M. Barnum, Burr Farm, Angelica, N. Y.

Bees are personal property, and bee-keepers are asking and getting public funds, and we think our bees should be and are protected by the Government. So I answer in the affirma-

tive. I see no reason why they should not be assessed.—S. T. Pettit, Belmont, Ont.

No.—Ira Orvis, Whitby, Ont.

Yes. Why not? All property ought to share the burden of taxation, unless we are ready to give our bees away. We should willingly pay taxes on them.

I think they should not.—S. P. Hodgson, Horning's Mills, Ont.

I think so.—F. Malcolm, Innerkip, Ont.

It is lawful to assess bees. I think it right to assess.—Wm. Couse, Meadowvale, Ont.

Why should bees not be assessed as personal property? We would ask for the same privileges and protection for our bees as any other property, and should be willing to have them assessed at a fair valuation.—Ed.

No. 12. Bee-house for wintering is above ground, is quite dark and quiet, temperature maintained from 38 to 43, above the latter bees become noisy. Artificial heat used, by hot water pipes round wall of room, about a foot above ground. From 26 hives fully three pecks of dead bees were gathered this spring. What is the cause of the great mortality? All but one came out in good order with very little consumption of honey, (12 to 17 lbs.) the one that was dead consumed 24 and then starved. In house from 16th Nov. until 27th April.

Too much here to be guessed at. The hot water pipes may have made trouble with the bees nearest them. An even temperature should be maintained all over the bee room; 40 to 45 deg. gives the best results in my experience.—J. M. Shuck, Des Moines, Iowa.

"Three pecks from 26 hives" is not so bad as it might be! If all your colonies "but one came out in good order," you certainly ought not to complain very badly. Artificial heat is often unreliable—unless you attend to it constantly. Therefore, it is quite possible that sometime during the winter the temperature might have varied more than you think for. And then again, your hot water pipes would insure plenty of heat to the hive nearest to the wall, but how about the hives in the centre of the pack? It is a hard thing to give any definite answer to such queries as the above. The querist should recollect that the answerer should be in possession of every fact of the case before he can give a reliable answer.—Will. M. Barnum, Burr Farm, Angelica, N. Y.

From the data given, could not answer with any degree of certainty. In the first place, a large number of old bees will die anyway,

Maybe your hives were poorly ventilated, and really your temperature I think was too low. And after all if all but one came out in good order with but little consumption of stores, you did well and may never improve upon last winter's results. A very few do better while thousands do worse.—S. T. Pettit, Belmont, Ont.

Probably old age. This is an unusually large number, but not exceptionally large. I have known at least three quarts of dead bees from a single colony, and yet the colony did exceedingly well the next year.—Prof. A. J. Cook, Ag. College, Mich.

It would take up too much space to give reasons.—S. P. Hodgson, Horning Mills, Ont.

Do not understand why bees should become noisy at a higher degree of heat than 43.—Mine were at from 50 to 53 all last winter and were quiet. The mortality is not unusual. The number of dead bees will depend very much on the strength of the colony through the honey flow the previous summer. Those that died had become diseased.—F. Malcolm, Innerkip, Ont.

I would not think three pecks of dead bees from 26 good strong colonies, bees being housed nearly five and-a-half months, as anything but natural death.—Wm. Couse, Meadowvale, Ont.

Probably your bees went into winter quarters with a large number of old bees which died off naturally.—Robt. H. Shipman, Cannington, Ont.

We do not think your mortality was very great and would consider such wintering successful.—Ed.

Queries for August Number.

No. 13. Is it advisable to clip queen's wings?—Would it be an additional advantage to clip queen's wings on alternate rows in the apiary.

No. 14. I am in a locality which yields but little honey after linden, which ceases to give honey after the 26th July. How late can I permit swarming? I give full sheets of comb foundation but do not wish to feed.

No. 15. Shall I take a comb from the body of the hive, spread the remaining combs and permit the bees to draw out the cells therein for winter stores, or shall I leave the brood chamber untouched?

The American Bee Journal, page 53, under Comb Honey vs. Extracted Honey by G. M. DOOLITTLE, contains as follows: One other item I wish to explain right here. They speak as though they thought that the queens that were used to produce the comb honey were crowded for room. This is a mistake, for such queens were not crowded until after the bees were produced which gather the crop. Here is where they touch on one of Doolittle's hobbies. Nearly all of those queens had 15 Gallup frames which they filled with brood and bees, so that when swarms issued they were not the little swarms that Messrs. Dadant & Son speaks of as coming from an 8-frame Langstroth hive, but they were rousing large swarms, only they came a little late in the season, owing to the treatment given the strong colonies which I have spoken of above.

Now comes in the crowding part. When these large swarms were hived they were given only 5 and 6 frames in the brood chamber, while all the rest of the hive was filled with sections. In this I believe we have one of the greatest secrets toward the successful production of comb honey. Get all the bees you can before the honey harvest, by giving abundant room for the laying capacity of the queen, and after the honey harvest arrives contract the brood apartment of all the hives so as to throw the larger part of this force of bees into the sections.

APICULTURAL EXPERIMENTS.

BY NELSON W. McLAIN, Special Agent.

INTRODUCTORY NOTE.

The following article is extracted from Mr. McLain's annual report for 1886, the major part of which is published in the Annual Report of the Department for that year.

PREPARING BEES FOR WINTER.

Bees instinctively begin to make preparations for winter somewhat earlier in the season than is commonly supposed. In preparing for winter, as in all other matters relating to bee-keeping, the apiarist should see to it that the method of management is as nearly as possible in agreement with the instinct and habits of the bee. When bees build their combs after their own design, as in box hives, spaces are left between, wide

enough to admit of elongating the cells in order that a large share of the winter stores may be placed in the top of the hive, easily accessible in the severest weather. I find it a good plan to widen the spaces between the comb-frames near the close of the honey-gathering season, in order that the bees may, by elongating the cells, place a large share of the winter store above the cluster.

As soon as the storing of the surplus honey is done the condition of every colony should be examined, the amount and character of the winter food ascertained, the number of comb-frames, and the size of the apartment should be determined by and adapted to the wants of each colony. After the supply of winter stores has been equalized among all the colonies, if the supply is insufficient, feeding should be done before the advent of cold nights.

Bees expected to perform the function of hibernation should not be too old nor yet too young. Both queen and worker bees should be in full physical vigor. The bees constituting the colony, when placed in winter quarters, should be such as are hatched after the midsummer working season is past, and before the bees cease flying freely in the fall.

Towards the close of the working season the workers instinctively cease stimulating the queen for oviproduction; gradually the bees cease flying, and the cluster is formed for winter. After the cluster is formed the colony should remain undisturbed. If the bees are to be packed on the summer stand the work should be done with care, and without disturbing the bees, and before the temperature at night reaches the freezing point. If the bees are to be placed in a damp cellar or winter repository, great care should be taken not to disturb the cluster when the hives are removed from the summer stand. I have found wollen quilts or wollen blankets the best covering for winter. Wool, better than any other material which I have tried, prevents the radiation of heat, and permits the escape of moisture, thus securing warmth and dryness. Hives should be placed 18 inches above the bottom of the cellar or winter repository, and in tiering them up one above another it is better that they rest on a rack prepared for the hive rather than one upon another.

My report for 1885 covers the period from

June 1st, to November 25th, when the severity of the weather forbade further out-of-door experiments. As nearly all the colonies in the apiary had been subjected to very frequent, almost daily, disturbance and annoyance incidental to the experimental purposes for which they had been used, they were, almost without exception, in very poor condition for passing into winter quarters. November 25th, I packed twenty colonies for out-door wintering. Notwithstanding the lateness of the season, and the altogether unsatisfactory condition of the bees when packed, eighteen of the colonies wintered fairly well. These twenty colonies were provided with dry sawdust packing 8 inches thick on the sides, and covered with a quilt and dry forest leaves to the depth of 8 inches on top of the frames. A rim 2 inches wide is placed under the body box of the hive, making a 2-inch space under the bottom bar of the comb-frames. A covered tunnel leads from the hive entrance through the packing. This packing is left on the hive until warm weather is assured, thus guarding against danger from chilling of the brood when building up the colonies rapidly in early spring. The hive should incline from back to front permitting the moisture to flow out at the entrance.

I placed ten colonies in the cellar from which the hive covers were removed and the frames covered with wollen and cotton quilts. These were used for observation and experiment during the winter. Eight of the ten came through the winter alive, but being subjected to a wider range of temperature, and being very frequently annoyed and disturbed, their vitality was very low, and the old bees, of which most of these colonies were composed fell easy victims to spring dwindling.

HIBERNATION.

For the purpose of determining the degree of temperature in a dry cellar necessary to secure the minimum of functional activity within the hive during the period of hibernation, I framed comb-frames across each other at right angles, and into these frames I fitted and fastened combs filled with choice sealed honey. These were suspended in hives having glass sides and top, exposing the cluster to view from all sides and from the top. Removable wooden doors covered the glass.

My observation covered a period of ninety days from December 1st, 1885, and included a range of temperature from zero to 65° F. The hives were placed in a dark apartment, and an oil stove with a radiator was used for heating. Different degrees of temperature were maintained for several consecutive hours, and, as occasion required, for consecutive days, and careful observations were taken.

At a range of temperature from 48° to 52° F., according to the humidity of the atmosphere in the cellar, bees, according to a rule of nature, enter into the hibernating state. After repeated trials over a wide range of temperature, at 41° F. I found the shape of the cluster most permanent. While that degree of temperature was maintained, little change in the shape or location of the clusters could be seen, and functional activity on the part of individual bees, and of the whole colony as well, seemed to have reached the minimum degree of manifestation, even respiration seemed to be suspended. The change in the form of the cluster was determined by outline drawings on the paper. The colonies presented substantially the same outline for days together when a uniform temperature of 41° was maintained. I placed some colonies in a darkened building late in the fall of the year, and when the temperature was 49° F. natural heat on a dry day above ground, the same phenomena were observed.

The temperature of the cellar was lowered by admitting the air through an outer room, so that no perceptible currents entered the apartment where the bees were kept. The degree of unrest and activity increased in proportion as the temperature neared the zero point. Thirty-seven degrees F. in a very dry cellar is a danger point, the danger increasing in proportion as the temperature is lowered or the humidity of the atmosphere is increased.

The degree of activity shown by bees when the temperature in the repository or cellar is 44° F. is not much greater than at 41°, all other conditions being the same.

At intervals of about one week the bees arouse to activity, the form of the cluster changes, and after three or four hours of cheerful and contented humming, having in the mean time appeased their hunger, the cluster is reformed into a compact body, the humming ceases, respiration becomes slow,

profound silence reigns in the hive until change of temperature or the demands of hunger rouse the bees from the coma in which they have been bound. The more perfect the conditions for hibernation the longer the periods of inactivity.

As the activity of bees is not much greater when the temperature in the cellar or repository is steadily maintained at 44° than it is at 41°, and as 41° is too near the danger point, I find it safer to keep the temperature in dry winter repositories, whether above or below ground, at 44° F., and I find it better that the variation from the standard degree of 41° F. should be in proportion of 2° above rather than 1° below. If the repository be damp a degree of temperature higher in proportion to the dampness should be maintained. The hive should incline from back to front, and the entrance should be left wide open.

It has been the practice of many to raise the temperature in winter repositories in order to stimulate breeding toward the close of the hibernating period. I have tried this, and in my experience I find it better to maintain as nearly as possible an even temperature until the bees may be safely placed on summer stands. What is gained in early breeding is more than lost in waste of vitality on the part of the older bees. In the case of bees wintered on the summer stands or in a clamp, the packing of dry forest leaves, chaff, or sawdust placed above the quilt should be closely packed about the edges, and should be from 7 to 12 inches in thickness. Indeed it would be difficult to get the packing above the cluster too deep, provided the ventilation above the packing is sufficient to carry off moisture.

SPRING DWINDLING.

For preventing spring dwindling, and building up colonies to maximum strength and efficiency at the beginning of the working season for success in honey-producing largely depends on having strong colonies ready for work at the very time when efficient work may be done—I prepared a bee-food containing the elements essential in brood-rearing. This food is prepared after the following formula:

To 10 pounds of sugar I add half a pint of dairy salt, 2 tablespoonfuls bicarbonate of soda, 2 tablespoonfuls rye flour, 2 tablespoon-

fuls finely powdered bone-ash, and 1 table-spoonful cream tartar. Mix thoroughly, then add 2 quarts hot water, and stir until thoroughly dissolved, and let the mixture boil but only 2 or 3 minutes. I feed this food in the hive as honey or syrup is usually fed, thereby keeping all the bees at home to aid in keeping up the temperature in the hive, thus reserving their vitality for performing the functions of brood-rearing, instead of speedily wearing out their remaining strength in roaming the fields in search of the elements essential to larval growth.

The bone ash is prepared by burning dry bones to a white ash, which pulverize and sift through a sieve made from fine wire strainer cloth. As this food is not intended for use until after the bees have had a good flight in the spring, almost any grade of sugar or dark low-grade honey may be supplied for brood-rearing.

The rapidity with which a colony consisting of a mere handful of bees may be built up to full strength and working efficiency by using this preparation is surprising. Only as much as is needed for immediate consumption should be frequently supplied, and it should be fed only to prevent spring dwindling, or when it is desirable to quickly increase the numerical strength of the colony in anticipation of a honey harvest, or to recruit the vigor and strength of the colony by rearing young bees after the working season, and prior to going into winter quarters.

BEES VS. FRUIT.

I have, according to your instructions, repeated my experiments of last year for testing the capacity of bees, under exceptional circumstances, to injure fruit; adding such other tests and observations as the very severe and protracted drought permitted. The house used last season, 10 feet by 16 feet in size, having sides partly covered with wire cloth and large screen doors in each end, was used again this year. Two colonies of Italian bees, two of hybrids, one of Caucasians, and two of Syrians were confined in this house.

These colonies were without food in their hives and at intervals of three or four days were fed a little syrup for the purpose of keeping up their vigor and to prevent dying from starvation. A wood-stove was placed in the house and a high temperature was maintained for a number of hours each day.

The conditions incident to an unusually severe and protracted drought were present within and without. The bees were repeatedly brought to the stages of hunger, thirst, and starvation, the test continuing for 40 days.

Through the favor of Mr. T. T. Lyon, president of the the Michigan State Horticultural Society, I obtained thirteen varieties of choice grapes from A. G. Gulley, of South Haven. Every inducement and opportunity was afforded the bees to appease their hunger and thirst by attacking the fruit which was placed before them. Some of the bunches of grapes were dipped in syrup and hung in the lives between the combs, some placed before the hives on plates, and grapes were suspended in clusters from the posts and rafters. The bees lapped and sucked all the syrup from the skins, leaving the berries smooth.

They daily visited the grapes in great numbers and took advantage of every crack in the epidermis or opening at the stem, appropriating to their use every drop of juice exuding therefrom, but they made no attempt to grasp the cuticle with their mandibles or claws. I removed the epidermis carefully from dozens of grapes of various kinds and placed them on plates before the hives. The bees lapped up all the juice on the outside of the film surrounding the segments of the grape, leaving this delicate film dry and shining, but through and beyond this film they were not able to penetrate. I punctured the skins of grapes of all kinds by passing needles of various sizes through the grape and placed these before the bees. The needles used were in size from a fine cambric needle to a packing needle. The amount of juice appropriated was in proportion to the size of the opening in the skins and the number of segments of the grape broken. The same was true in the case of grapes burst from over-ripeness. Bees are not only unable to penetrate the epidermis of the grape, but they also appear to be unable, even when impelled by the direst necessity, to penetrate the film surrounding the berry even after the epidermis is removed. Grapes so prepared without exception laid before the hives until dried up. If but one segment of a grape be broken by violence or by over-ripeness, the

bees are unable to reach the juice beyond the film separating the broken from the unbroken segments until further violence or decay permits an entrance for the tongue. Clusters of sound grapes which I hung between the comb frames in hives occupied by strong colonies were unbroken and sound after fifteen days' exposure in the hives. The skins were polished smooth, but none were broken. I also stopped up the entrance to several hives—containing good sized colonies in the apiary and in the wire-covered house, by pushing sound grapes into the opening, so close together that the bees could not pass through. By this means the bees were confined to the hives for days in succession, not being able to break down and remove the grapes and although the skins of the grapes next the inside of the hive were polished smooth none were broken or injured.

The past season furnished an excellent opportunity to observe the capacity of bees, under so exceptional circumstances, to injure fruit, for the drought was very exceptional both in duration and severity, and I was called to several places by fruit-growers to witness the proof that bees were "tearing open the skins of the grapes" and otherwise behaving in a manner altogether unworthy of an insect enjoying a wide reputation for virtue and orderly living. In each instance I succeeded in convincing the fruit-grower that the bees were simply performing the office of gleaners; the violence from other sources, or over-ripeness and decay had preceded the bees, and that he would be acting the part of wisdom in following the example of the bees in gathering the grapes before further violence, or the action of the elements, rendered them worthless.

After grapes have been subjected to such violence, or have so far burst open and decayed as to make it possible for bees to injure them, and the circumstances are so exceptional as to lead the bees to seek such food, unless they are speedily gathered they would soon become worthless if unmolested. During the past season I made many visits to vineyards, (one located near the apiary I visited every day,) and my observations and experience with bees in confinement and those having free access to the vineyards furnish abundant proof to convince me that bees do

not and cannot under any circumstances injure sound fruit. If from any cause the pulp is exposed, such as the attack of birds or wasps the most common source of injury—or from the ovipositing of insects, or bursting of the berry from over-ripeness, and if no other resources are available, the bees appropriate and carry away the juice, and the extent of the injury depends upon the degree to which the pulp is exposed, the sweetness of the juice, and the number and necessities of the bees.

BEE FORAGE.

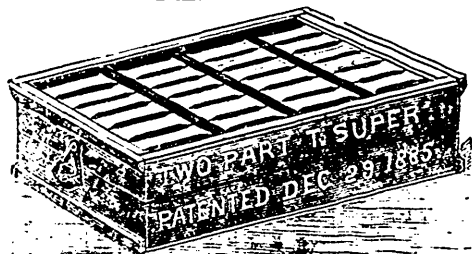
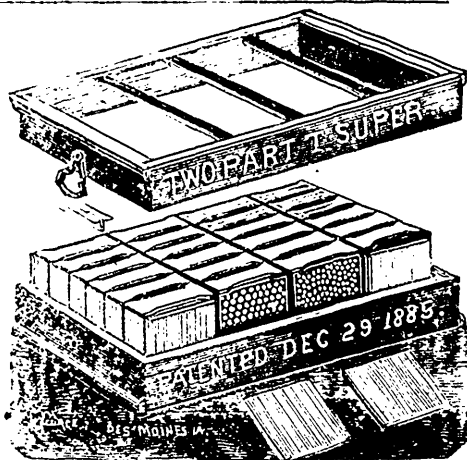
If excellence in the bee is the chief factor in successful honey producing, next in logical order is abundant, persistent, and cheap bee-pasturage. Abundant pasturage is the amount necessary to satisfy the requirements of the number of colonies kept within a given area. Persistent pasturage is that which contemplates a variety of perennial honey bearing flora of hardy constitution and rugged habits whose terms of blooming follow each other in succession continuously from early spring to late fall, thus lengthening out the season in which bees may gather surplus honey. Cheap bee-pasturage may be such as is furnished from natural sources produced in forests or by self-propagating plants growing in waste places or upon lands of little value and requiring little or no labor. Or cheap bee-pasturage may be secured by cultivating fruits and field crops, the blossoms of which are valuable for honey bearing.

As the forests of the country disappear and the waste lands are being reclaimed, as the necessity for other honey producing resources is felt, as the industry assumes more importance and as the influence of competition is more sharply felt, great interest is shown in the subject of bee-pasturage. The number of days in each year in which bees can gather and store surplus honey will not average, except in exceptional favored localities, above thirty-five days; the remaining time and energies of the bees being employed in gathering sufficient for the sustenance of the colony, and enforced idleness or non-productiveness. Enforced idleness, and the consequent waste of time, stores, and energies sometimes result from a failure of the flowers to secrete nectare, even though honey-bearing flowers are blooming in abundance.

but usually the reason why the time is so short in which bees are able to store surplus honey is the lack of abundant pasturage. I have not had the time or means to devote to bee-forage that the importance of the subject demands, but I have made a beginning in this department of experimental work which I hope to continue. Among all the trees and shrubs that are cultivated generally in United States by fruit-growers, the raspberry is commonly conceded to possess more value to bee-keepers than any other. A quarter of a mile from this station a market gardener has 4 acres of raspberries. These bushes continued to bloom for ten days, and during that time, with the exception of two or three rainy days, a continuous procession of bees could be observed going and returning to and from the apiary, and a fine showing of honey was made in the hives and the honey was of superior quality.

On account of the superior quality of its nectar, the ease with which the plant is propagated, its adaptation of all kinds of soil and its value as a forage plant for grazing, white clover has, until of late years, stood without a rival in the estimation of honey-producers. About twenty years ago Alsike Swedish clover was introduced into this country, and since then has been thoroughly tested both as a honey plant and also for hay and pasture for all kinds of stock.

Mr. J. M. Hicks, of Battle Ground, Ind., says: "Alsike Clover has no superior as a honey-producing plant, yielding the best and richest honey known, and as a hay crop it is not surpassed, often producing 3 tons of good hay per acre. The stems and stalks are much finer than those of common red clover, and cattle, horses, and sheep feast on it, eating it clean without waste. As a pasture for all kinds of stock it has no equal. It will grow on all kinds of land, clay or sandy, and does not freeze out as easily as red clover. It is quite similar to red clover in appearance. The first crop each season is the seed crop. The seed is about one-third the size of red clover and 4 pounds is sufficient to sow an acre. The bloom is a beautiful pale pink color. I have no hesitancy in saying that Alsike Clover will produce 500 pounds of the richest and best honey per acre in a good season. I would recommend every bee-keeper to sow at least a few acres of Alsike Clover." Mr. W. Z. Hutchinson, of Rogersville, Mich., says that it will pay to raise Alsike Clover for honey alone upon land worth \$50 per acre.



THE TWO PART SUPER.

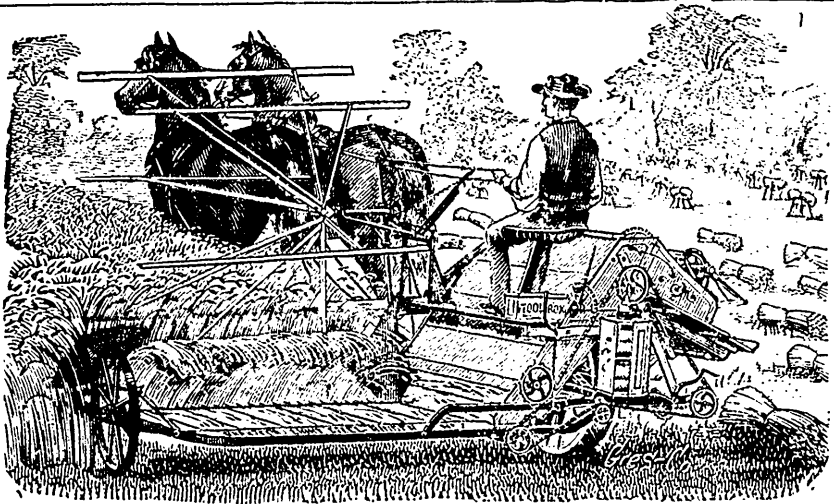
J. M. SHUCK.

This is probably the first super ever made that had its two open sides just alike. The T shaped supports are made either of wood and metal by nailing hoop iron to the bottom edges of the partitions, or entirely of tin as shown in the engraving.

In use the sections are set in one part of the super until it is full. The separators at the ends of the rows of sections prevent the deposit of propolis on the sides of the super, and the consequent sticking fast of the sections in the super; the other part of the super is now slipped over the sections in the first part of the case and the clasps turned so that all is firmly locked together. The blanks on top and bottom of the sections protect the sections from the stains and propolis of the hive and they present the finest possible appearance in the market.

If T tins are used as in engraving full length separators may be used between the sections as well as at the ends of the rows. The super is constructed in the invertable principle.

Des Moines, Iowa, June 16th, 1887.



THE BRANTFORD LIGHT STEEL BINDER No. 2.

This Binder is the newest production of "The Age of Steel," and is guaranteed to be the lightest weight and lightest draft Steel Binder in the market. Examine it and you will be convinced that it is the best, simplest and most economical Binder that you can procure. For sale by courteous Agents everywhere. Manufactured only by

A. HARRIS, SON & Co., LIMITED. BRANTFORD, ONT.

QUEENS FOR BUSINESS!

If you want first-class Italian Queens reared under the most favorable conditions from the choicest mothers, send for my Illustrated Catalogue.

J. P. H. BROWN,
Augusta P. O., Georgia, U. S.

FOR SALE CHEAP,

Or exchange 200 Jones' hives half stories, stands, &c., for which bees or farm stock will be taken. Quantities to suit purchaser.
HENRY CUPPAGE,
Orilla, Ont.

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.

WE WANT MEN

To sell our family Bibles containing both versions in parallel columns from Genesis to Revelations. We have the best bound, most comprehensive, and cheapest Bibles in the world, will pay big commission to local men, or large salaries to experienced agents.
BRADLEY, GARRETSON & Co., Brantford.

LOOK!

The most beautiful Illustrated Catalogue of Bee-Keepers' Supplies will be sent you free by writing your name plainly on a postal to
ASPINWALL & TRESDWELL,
Barrytown, N. Y.

E. L. GOOLD & CO.,

MANUFACTURERS OF
ALL KINDS OF BEE-KEEPERS' SUPPLIES

Echinops Sphaerocephalus—commonly called "Chapman Honey-Plant." Price per $\frac{1}{2}$ ounce, 40 cents; per ounce, 75 cents: 2 ounces, \$1.50; 4 ounces, \$2; 8 ounces, \$3.

Also, queens, untested \$1.00; tested, \$1.50; select tested, \$2.00.

THIRTY COLONIES of BEES

For sale at five dollars per colony, free on board cars here.

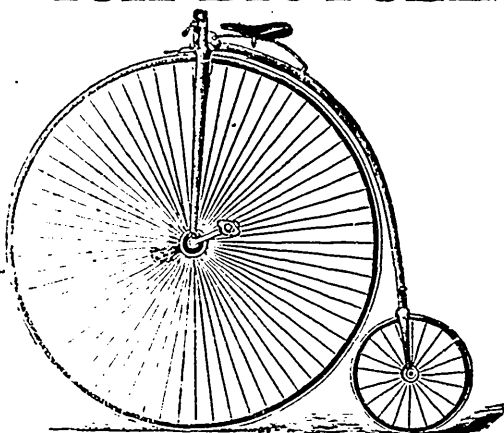
JAS. HARRISON,
Port Elgin, Ont.

2nd HAND MACHINERY.

Catalogues sent on application.
H. W. PETRIE, Machine Dealer.
Brantford, Ont.

WARWICK BICYCLES FOR 1887!

The only
Bicycle made
with all the
Latest Improve-
ments.



The only
Bicycle made
for Canadian
Roads.

Do not fail to see them before purchasing. Send 2 cent stamp for Catalogue of New and Second Hand Machines.

GOOLD & KNOWLES.

Factory,
Coventry,
England.

Ware Rooms,
Corner King and Colborne Street,
Brantford.



SMOKERS' BEST MAKE. OFFERS FOR MAY.

THE CANADIAN HONEY PRODUCER
for 1 year and ½ oz. CHAPMAN HONEY
PLANT SEED, only 65 cts.

COAL OIL STOVES

We have all kinds of Coal Oil Stoves
at bottom prices; also, oven and furni-
ture for cooking purposes. Prices on
application. Two Burner Summer
Queen as illustration, \$4.00!

FOUNDATION MILLS.

Root Foundation Mills 10 in. at
Brantford, \$26.00. All other kinds,
Prices on application.

Perforated Metal 11 cents per foot, per
10 square feet, \$1.00. Comb Foundation
and Sections. Honey Extractor best.

BEES FOR SALE.—Italian and Hybrid
Colonies, \$6.00 per colony and upwards. Swarm Takers, convenient alike for beginner and
expert, \$1.40. It has been awarded a diploma. One Given Press for sale cheap.

E. L. GOOLD & CO., BRANTFORD, ONT.

1879. QUEENS BAND BEES. 1887.—We are ready to ship Bees
and Queens. Nuclei and Bees by the lb. a specialty. Over 200 Colonies to draw from. No
Circular this season. Untested Queens, \$1.00; six for \$5.00; Bees by the lb. same price
Frames of Broodsame as Queens and Bees. Langstroth or Simplicity or Gallop.

Address,

T. S. HALL, Corinth, Miss., Alcorn Co.

Lorne Iron Works, Dalhousie Street, Brantford.

E. & F. SCHMIDLIN,

Makes a specialty of Saw Mandrills, and all kinds of Special Machinery.

Send for prices of our Iron Saw Table, rip and cross cut, a complete Machine.

Repairs of every kind promptly attended to.



We make all kinds of Punches and

Dies for Tinware.



E. & F. SCHMIDLIN.



Snow Drift Baking
Powder Co.

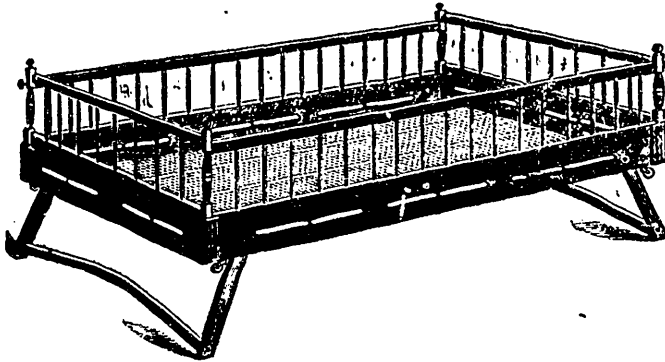
We desire to call the special attention of the Lady readers of the BEE-KEEPERS' JOURNAL to a few important particulars concerning the goods which we manufacture. As the natural guardians of the health and happiness of the family, you wish to use only the BEST.

And it is our interest to furnish you the Best, which we most positively do. All Spices put up by us in Tins, and labelled, are strictly PURE. To this statement, we make no exception. Moreover, our Snow Drift Baking Powder is worthy of your most unhesitating confidence.

It is more extensively manufactured and used, than all others in the Dominion; and it is justly so, for not only is it absolutely pure, it is also possessed of properties, known to be superior to all others for lightening purposes, and for purposes of health as well.

These qualities have placed the Snow Drift Baking Powder in advance of all others in the Canadian market; and, if directions are carefully studied and followed, a single trial, we are persuaded, will convince you of its unequalled merits. Buy it and try it, and so put our words to the proof.

LONG BROS., Brantford, Ont.,

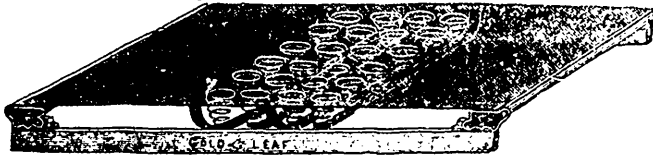


MANUFACTURERS OF

Woven Wire

Mattresses,

Children's Folding
Cris,
Woven Cots,
Upholstered Cots,
and Parlor Folding
Beds, etc.



All purchasers will find
them of the best grades
in the market.

Also manufacturers of the
Brant Creamer,

Used with or without ice, for both summer and winter use. Will positively save their price in one season. Our market Butter carries is the delight of all who use them, will hold from 36 to 100 lbs. according to size. Send for price.

E. SIMS.

J. J. SIMS.

E. SIMS & SON, Bankers, Conveyancers and Real Estate Agents.

Money Loaners on Real Estate at Lowest Current Rates.

MORTGAGES BOUGHT AND SOLD.

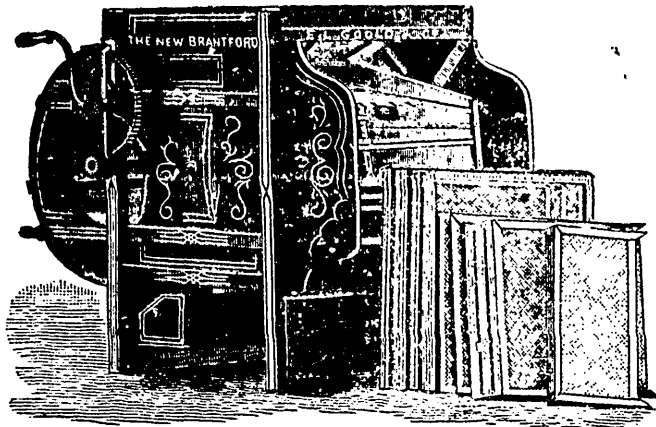
MONEYS RECEIVED ON DEPOSIT.

Lists of Farms and City Properties for Sale sent Free on application.

Real Estate sold on Lowest Commission.

GEORGE STREET, - BRANTFORD, ONT.

<p>Carpets, Oil Cloth, Matting, Curtains.</p>	<p>Manufactured on the Premises, COSTUMES, MANTLES, MILLINERY.</p>	<p>Walking Sticks, Umbrellas, Carpet Bags, Valises.</p>
<p>SPECIAL : Black & Colored Silks, Satins, Velvets, Brocades. — Fine Wool, Dress Fabrics, French Cashmeres. — Gloves, Hosiery, Laces Ribbons, Corsets, Scarfs. — Jerseys, Shawls, Travelling Wraps. — Parasols, Fans, Bags, Waterproof Cloaks.</p>	<p>WILLIAM GRANT, Direct Importer OF British & Foreign DRY GOODS, Fine Woolens, Gentlemen's Furnishings, &c. —○— MANUFACTURER OF MILLINERY, MANTLES, COSTUMES, Ready-made and Custom Clothing, SHIRTS, COLLARS, &c. — COLBORNE STREET, BRANTFORD, CANADA.</p>	<p>SPECIAL : Fine Custom Tailoring. — Shirts of all kinds made to Measure. Collars and Cuffs made to Measure. — Constantly in Stock Fine Underwear in Silk, Cashmere, Merino, Balbriggau, Lamb's Wool. — Gloves In Kid, Dog, Napa, Buck and Lisle. Handkerchiefs, — Braces Scarfs, Bows, Socks in Endless Variety. — Lawn Tennis, Criketing, Boating, Bathing Suits.</p>
<p>Cottons, Linens, Sheetings, Damasks Napery Cretones.</p>	<p>FAMILY MOURNING.</p>	<p>Hats in Felt, Silk and Tweed, Pith Helmets, Caps in Cloth, Silk and Lustre.</p>



The "New Brantford" Fanning Mill.

The Simplest, Lightest Running, the Fastest Cleaner, and Most Durable Fanning Mill in America. Thousands will testify to their Superiority. We deliver them freight paid at any station.

MANUFACTURED BY

E. L. GOOLD & CO., BRANTFORD, Ont., Canada.

SPECIAL. SUFFOLK LODGE, OAKVILLE, Jan. 2nd, 1886.
 DEAR SIR.—I enclose cheque in payment of Fanning Mill, I am quite satisfied with the machine, it is quite the best I have seen, and I have tried a good many. Yours faithfully,
 Agents wanted in all unrepresented districts. GEORGE BUNBERY.

HONEY CANS. HONEY CANS.

HONEY CANS.

60 lb. each, 50c.; per 10, \$4.80 ; per 25, \$11.25 ;
 per 100, \$42.00 as per catalogue.

Also, 30 lb. cans, 15 lb. cans.

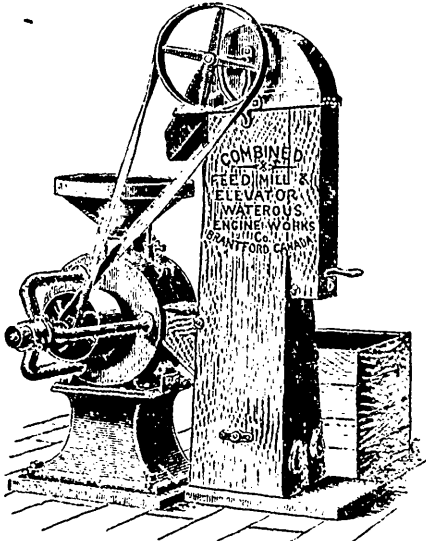
Ross self-sealing cans and screw top cans all sizes.

Labels best on the market.

SEND FOR CATALOGUE.

E. L. GOOLD & Co., BRANTFORD, ONT.

STANDARD CHOPPING MILLS WITH ELEVATORS



As shown, are now fitted with a Shaking Screen to take out all Straws, Stones, Nails, Cyl. Teeth, etc.

SAVING WEAR ON STONES.

These Mills use the very finest

FRENCH BUHR STONES

Acknowledged by all the best grain grinders in the world.

12-inch Mill can be run by a 2 to 10-horse power.

20-inch Mill, 6 to 12 H. P.

Capacity, 2 to 30 bush. per hour.

Mill Picks and Proof Staff Given Free.

Send for full particulars.

154 St. James St., Montreal.

30 St. Paul Street, Quebec.

WATEROUS ENGINE WORKS Co.,

Brantford, Canada.

St. Paul, Minn., U. S. A.

Brantford
Soap Works.

USE
A. Watts & Co's
**IVORY
BAR
SOAP.**

THE POULTERS' PROFIT.

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,

POULTERS' PROFIT, YORK PA

Comb Foundation.
Headquarters in Canada.

- 1884 Toronto Fair, Brood 1st; Section 2nd
- 1884 London " " 1st; " 1st
- 1885 Toronto " " 2nd; " 1st
- 1886 Toronto " " 1st; " 1st
- 1886 London " " 1st; " 1st

I began the manufacture of comb foundation in 1883, and I am glad to say that I have not had the first complaint so far. Brood runs from 5½ to 6 ft. to the lb.: section about 11 feet; shall commence making, weather permitting, April 15th. Brood cut to almost any size; section foundation unless otherwise ordered is made in strips 3¾ x 11¼ and 3¾ x 15. I will make up wax for you, you paying all freight or express charges both ways. Brood 10 cents per lb.; Section, 20 cents per lb. No circulars. Prices of foundation on application.

2-if WILL ELLIS, St. Davids, Ont.

12 BEE HIVES FOR 30 cts.

Made from clear lumber; no knot holes, frauds, or chaff in one of them. Send for sample.

E. H. COOK,
Andover, Conn.

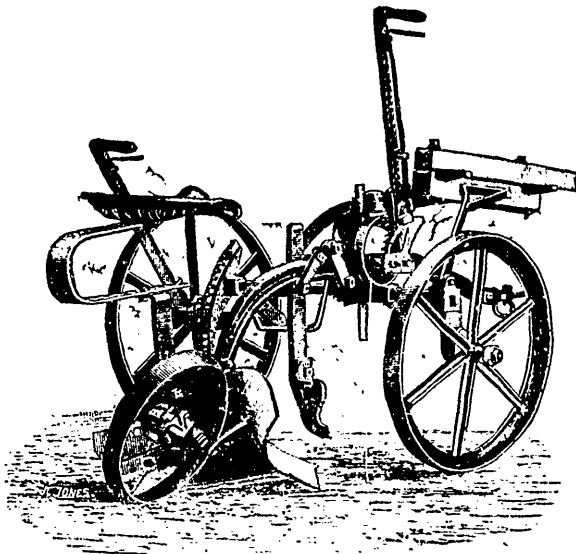
Box 101,

Cockshutt's New "J. G. C." Riding Plow,

Showing Landside view and Rolling Coulter attached.

Covered by Three Patents,

Issued 1883, 1884, and 1885.



NEW DEPARTURE

Involving the King Bolt Principle. Strength, Compactness, Simplicity, the prominent feature.

Send for and read every word of our "J. G. C." Pamphlet,
Issued January 7th, 1887.

MANUFACTURED IN CANADA ONLY BY THE
COCKSHUTT PLOW CO., LIMITED.,

MANUFACTURERS OF

Chilled and Steel Plows, Sulkys and Gangs.

OFFICE AND WORKS:

South Market Street,

BRANTFORD, Ontario, Canada.

W. F. COCKSHUTT, President.

BRANCH HOUSES.

I. COCKSHUTT, Vice-President.

A. Harris, Son & Co., Winnipeg, Man.

J. CHALLEN, Secretary.

Nicholles & Renouf, Victoria, B. C.

J. M. YULE, Treasurer.

Tippett Burdett & Co., St. John, N. P.

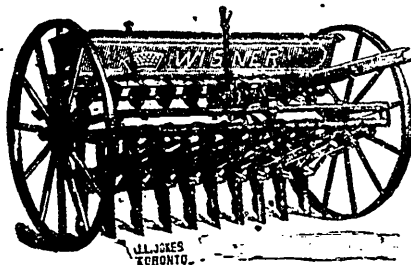
GEO. WEDLAKE, Mech. Supt.

If no Agent selling our Plows in your locality send for our Descriptive Pamphlets to our address,

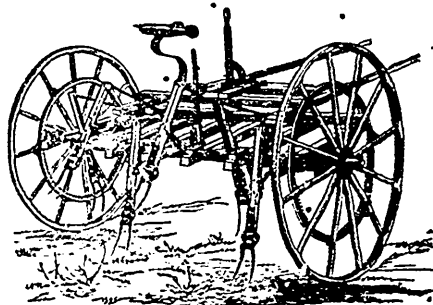
COCKSHUTT PLOW Co. L'td, BRANTFORD, ONT.

The Celebrated "Wisner" Machines.

Tubular Iron Frame.



Patent Spring Hoe.



Wisner Grain Drill.
POSITIVELY UNEQUALLED.
Thousands in use in Canada.

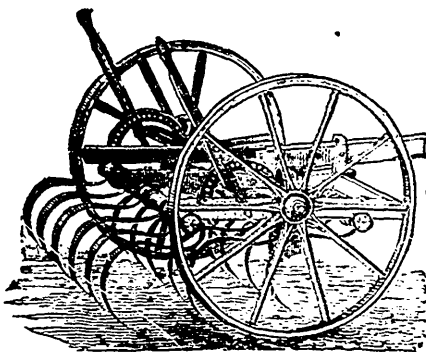
Wisner Tedder,

We guarantee all our Machines to give satisfaction. Send for

ILLUSTRATED CATALOGUE.

Examine the "Wisner" Machines before purchasing.

In ordering mention Canadian Honey Producer.



Spring Tooth Cultivator.

J. O. Wisner, Son & Co.,

BRANTFORD, ONT.

BEE-KEEPER'S' GUIDE, OR MANUAL OF THE APIARY.

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.

Send for the CIRCULAR and PRICE LIST of

E. L. GOOLD & CO.,
BRANTFORD, ONT.,

E. L. GOOLD & Co., Brantford, Ont.
SUPPLY 60 lb. Honey Cans with large screw top and small screw top encased in wood. Also, 30 lb. Cans, 15 lb. Cans, and 5 and 10 lb., Screw Top Cans. The Celebrated ROSS Self-sealing Honey Cans all sizes up to 10 lb. Also, Honey Labels, specially adapted for developing the home and foreign market; Honey Glasses, Comb Foundation, Sections, Honey Extractors, (Stanley New Gould & Blackburn) Smokers, Shuck and Blackburn Hives, both of which take the Improved Langstroth Frame.

BEE-KEEPERS' SUPPLIES.

Especially Smokers.

Given Foundation for Brood Frames and Vandervort.

Thin Foundation for Sections.

Send for our Catalogue and Price List for 1887.

J. & R. H. MYERS, Box 94, Stratford, Ont.