

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
						✓					

THE CANADIAN BEE JOURNAL

AND WEEKLY

POULTRY WEEKLY.

"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

Vol. V. No. 40 BEETON, ONT., DEC. 25, 1889. WHOLE No. 248

THE CANADIAN BEE JOURNAL & POULTRY WEEKLY.

ONE DOLLAR PER ANNUM IN ADVANCE.

ADVERTISING RATES.

All advertisements will be inserted at the following rates:

TRANSIENT ADVERTISEMENTS.

10 cents per line for the first insertion, and 5 cents per line for each subsequent insertion.
Space measured by a scale of solid nonpareil of which there are twelve lines to the inch, and about nine words to each line.

STANDING ADVERTISEMENTS.

	3 MOS.	6 MOS.	12 MOS.
6 lines and under.....	\$2.50	\$4.00	\$6.00
One inch.....	4.00	6.00	10.00
Two inches.....	5.50	9.00	15.00
Three inches.....	7.00	12.00	19.00
Four inches.....	9.00	15.00	25.00
Six inches.....	12.00	19.00	30.00
Eight inches.....	15.00	25.00	40.00
Sixteen inches—1 page.....	35.00	40.00	75.00

STRICTLY CASH IN ADVANCE

Contract advertisements may be changed to suit the seasons. Transient advertisements inserted till forbid and charged accordingly.

'EXCHANGE & MART.

Advertisements for this Department will be inserted at the uniform rate of 25 CENTS each insertion—line each insertion. If you desire your advt. in this column, be particular to mention the fact, else they will be inserted in our regular advertising columns. This column is specially intended for those who have bees, poultry, eggs, or other goods for exchange for something else and for the purpose of advertising bees, honey, poultry, etc., for sale. Cash must accompany advt.

BREEDERS' DIRECTORY.

\$1.00, one line; \$1.50, two lines; \$2.00, three lines per annum.

THE D. A. JONES CO., LD., BEETON,

PUBLISHERS' NOTES.

We will always be glad to forward sample copies to those desiring such.

The CANADIAN BEE JOURNAL AND POULTRY WEEKLY will be continued to each address until otherwise ordered and all arrears paid.

Subscriptions are always acknowledged on the wrapper label as soon as possible after receipt.

American Currency, stamps, Post Office orders, and New York and Chicago (par) drafts accepted at par in payment of subscription and advertising accounts.

We can supply Binders for the JOURNAL 35 cents each, post paid, with name printed on the back in Gold letters.

Subscription Price, \$1.00 per Annum. Postage free for Canada and the United States; to England, Germany, etc, 10 cents per year extra; and to all countries not in the postal Union, \$1.00 extra per annum.

The number on each wrapper or address-label will show the expiring number of your subscription, and by comparing this with the Whole No. on the JOURNAL you can ascertain your exact standing.

Communications on any subject of interest to the Beekeepers and poultrymen are always welcome, and are solicited.

When sending in anything intended for the JOURNAL do not mix it up with a business communication. Use different sheets of paper. Both may, however be enclosed in the same envelope.

Reports from subscribers are always welcome. They assist greatly in making the JOURNAL interesting. If any particular system of management has contributed to your success, and you are willing that your neighbors should know it, tell them through the medium of the JOURNAL.

ERRORS. — We make them: so does everyone, and we will cheerfully correct them if you write us. Try to write us good naturedly, but if you cannot, then write to us anyway. Do not complain to any one else or let it pass. We want an early opportunity to make right any injustice we may do.

CLUBBING RATES

THE CANADIAN BEE JOURNAL & POULTRY WEEKLY.

AND "Gleanings," semi-monthly.....	\$1.75
" " "American Bee Journal," weekly.....	1.75
" " "American Apiculturist," monthly.....	1.75
" " "Bee-Keeper's Guide," monthly.....	1.49
" " "The Bee-Hive".....	1.25
" " "Beekeepers' Review".....	1.40
" " "Beekeepers' Advance".....	1.

RATES with the Poultry publications on application.

ADVERTISEMENTS.

NORTH CAROLINA

Offers Greater Inducements to Settlers Than any other State in the Union.

She wants vegetable and fruit farmers. Cattle and Poultry breeders, Grain and Grass growers, Wood-workers and Manufacturers. Its timber and mineral resources are unsurpassed; its climate the finest in the world. This land of almost perpetual flowers excels in Bee-keeping, in Poultry raising, and in fruit culture. For full particulars send for specimen copy of OUR SOUTHERN HOME a monthly Magazine, Published by

M. H. PRIDE,
MOUNT HOLLY,
Gaston County, North Carolina

BEES AND HONEY.

TO ALL that are interested in Bees and honey, send for our Free and Illustrated Catalogue of Apian Supplies. Address

M. RICHARDSON & SON,
Port Colborne, Ont

Muth's Honey Extractor.

Perfection Cold Blast Smokers, Square Glass Honey Jars, etc. Send ten cents for "Practical Hints to Beekeepers." For circulars apply

CHAS. F. MUTH & SON,
Cor. Freeman & Central Avenues, Cincinnati

SPECIAL PRICES

In all lines of Bee-Supplies, but will this month make a special run on

Chaff Hives

And Sections Send at once for new price list, just out.

W. A. CHRYSLER,
Box 450, Chatham Ont.

Prof. Loisettes

MEMORY

DISCOVERY AND TRAINING METHOD

In spite of adulterated imitations which miss the theory, and practical results of the Original, in spite of the grossest misrepresentations by envious would-be competitors, and in spite of "base attempts to rob" him of the fruit of his labors, all of which demonstrate the undoubted superiority and popularity of his teaching, Prof. Loisettes' Art of Never Forgetting is recognized to-day in both Hemispheres as marking an Epoch in Memory Culture. His Prospectus (sent post free) gives opinions of people in all parts of the globe who have actually studied his System by correspondence, showing that his System is used only while being studied, not afterwards; that any book can be learned in a single reading, mind-wandering cured, &c. For Prospectus, Terms and Testimonials address

Prof. A. LOISETTE, 237 Fifth Avenue, N.Y.

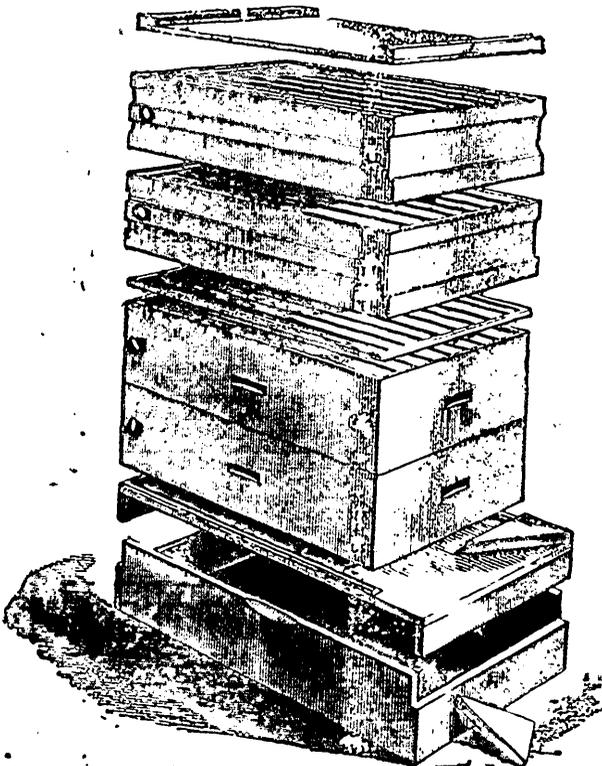
HEDDON'S PATENT HIVE:

I desire to notify Canadian Bee-Keepers that I have arranged with the D. A. JONES CO., of Beeton, Ont., for the exclusive sale of their Canadian Patent on the hive of my invention, so that all desiring

INDIVIDUAL OR TERRITORIAL RIGHTS

Will hereafter communicate with me. I will also receive orders for hives and have the same promptly shipped from their factory in Beeton. This hive is now, after three years' public use, the most popular hive in the world among leading honey producers, and has the most and best testimonials from such men as Langstroth, Cook, Hutchinson, Taylor, Stiles, Baird, ridge and many others ever spoken or written of any bee hive. For this testimony, full description with illustrations and prices, address

JAMES HEDDON
DOWAGIAC, MICH.



ADVERTISEMENTS.

TABLE OF CONTENTS.

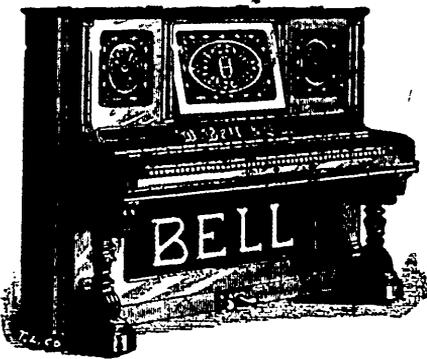
BEES	
International American Bee Association.....	952
Shipping Queens.....	953
Riding Hobby Horses.....	955
Abnormal apparatus of the bee.....	957
POULTRY.	
Clean water in clean vessels.....	961
He kept a record.....	963
Poultry under a bay window.....	968
What to do for sick birds.....	960
Pigeons and Pests.....	96

IMPORTED QUEENS.

In May and June, each \$2 00
 In July and August, each 1 80
 In September and October, each 1 40
 Money must be sent in advance. No guarantee on shipments by mail. Queens sent by express (eight at least), which die in transit will be replaced if returned in a letter.

CHAS. BIANCONCHI, Bolgna, Italy.

BELL
PIANOS.



QUALITY, FIRST-CLASS,
TONE, PURE and BRILLIANT,
DURABILITY UNAPPROACHED,
CATALOGUE FREE.

W. BELL & CO.,
GUELPH, Ont

PRICES CURRENT

Beecon Dec 25, 1889

BEE SWAX

We pay 33c in trade for good pure Beeswax, delivered at Beecon, at this date, sediment, (if any), deducted. American customers must remember that there is a duty of 25 per cent on Wax coming into Canada.

FOUNDATION

Brood Foundation, cut to any size per pound.....300
 over 50 lbs.480
 Beeton " " in sheets per pound.....350
 Section Foundation out to fit 3 1/2 x 4 1/2 and 4 1/2 x 4 1/2. per lb. 600
 Brood Foundation, starters, being wide enough for Frames but only three to ten inches deep....480

THE BEE-KEEPERS

REVIEW.

A 50 cent Monthly that gives the cream of apicultural literature; points out errors and fallacious ideas and gives each month the views of leading bee-keepers upon some special topic. THREE samples free.

W. Z. HUTCHINSON

613 Wood Street, Flint, Mich.

CARNIOLAN BEES

Pleasantest Bees in the World, hardiest to winter, best honey gatherers. In order to introduce not only the bees but our paper THE ADVANCE, we offer to anyone who will send us \$1.25 a copy of our paper and a nice Carniolan queen. The queen alone is worth \$1. Address

THE ADVANCE, Mechanic Falls, Me



Bee-Keepers Guide
—OR—
MANUAL OF THE APIARY.

This fifteenth thousand much enlarged and more richly illustrated than previous editions. It has been fully revised, and contains the very latest in respect to bee-keeping. Price by mail \$1.50 Liberal discount to dealers and for clubs.

A. J. COOK, Author & Publisher,
STATE AGRICULTURAL COLLEGE,
LANSING, MICH.

BARNES' FOOT-POWER MACHINERY



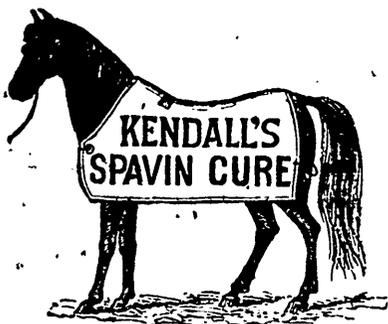
Read what J. J. PARENT, of Charlton, N. Y., says—"We cut with one of your Combined Machines last winter 50 chaff hives with 7 inch cap, 100 honey racks, 500 broad frames, 2,000 honey boxes and a great deal of other work. This winter we have double the number of beehives, etc. to make, and we expect to do it all with this saw. It will do all you say it will." Catalogue and Price List free. Address W. F. &

JOHN BARNES, 544 Ruby St., Rockford, Ill.

Doolittle's New Book

"Scientific Queen Rearing."

Containing 170 pages, tells how to rear queens in full colonies having a laying queen, how to get queens fertilized in such colonies, so that queens can be reared, fertilized, and kept in reserve without any colony ever being queenless, how to safely introduce any queen, all about forming and multiplying nuclei or colonies, all about the different races of bees, candy for queens and bees, cages for queens and queen-cells; etc., etc. In short it gives much information of great value, never before given to the public. Should you want such a book, dear reader, send \$1 to G.M. DOOLITTLE, Borodino, Onon. Co., N. Y.



The Most Successful Remedy ever discovered, as it is certain in its effects and does not blister. Read proof below.

KENDALL'S SPAVIN CURE.

OFFICE OF CHARLES A. SNYDER,
BREEDER OF
CLEVER AND RAY AND TROTTER BRED HORSES,
PLAWOOD, ILL., Nov. 24, 1883.

Dear Sirs: I have always purchased your Kendall's Spavin Cure in half dozen bottles, I would like prices in larger quantity. I think it is one of the best liniments on earth. I have used it on my stables for three years.

Yours truly, CHAS. A. SNYDER.

KENDALL'S SPAVIN CURE.

BROOKLYN, N. Y., November 8, 1883.

Dear Sirs: I desire to give you testimonial of my good opinion of your Kendall's Spavin Cure. I have used it for lameness, Stiff Joints and Spavins, and I have found it a sure cure, I cordially recommend it to all horsemen.

Yours truly, A. H. GILBERT,
Manager Troy Laundry Stables.

KENDALL'S SPAVIN CURE.

SANT, WINTON COUNTY, OHIO, Dec. 19, 1883.

Dear Sirs: I feel it my duty to say what I have done with your Kendall's Spavin Cure. I have cured twenty-five horses that had Spavins, ten of Ring Bone, and afflicted with Big Hind and seven of Big Jaw. Since I have had one of your books and followed the directions, I have never lost a case of any kind.

Yours truly, ANDREW TURNER,
Horse Doctor.

KENDALL'S SPAVIN CURE.

Price \$1 per bottle, or six bottles for \$5. All Druggists have it or can get it for you, or it will be sent to any address on receipt of price by the proprietors. Dr. B. J. KENDALL Co., Enosburgh Falls, Vt.

SOLD BY ALL DRUGGISTS.

HOW - TO - MANAGE - BEES, OR BEE-KEEPING FOR THE "MASSES"

Every farmer, and all beginners in bee-keeping as well as those more advanced, should have it, as it is especially adapted to their wants. Fully up to date. Price \$1.00 by mail. In beautiful paper covers. Illustrated. Address

W. S. VANDRUFF, Wayne, burgh, Pa.

The Favorite

Medicine for Throat and Lung Difficulties has long been, and still is, Ayer's Cherry Pectoral. It cures Croup, Whooping Cough, Bronchitis, and Asthma; soothes irritation of the Larynx and Fauces; strengthens the Vocal Organs; allays soreness of the Lungs; prevents Consumption, and, even in advanced stages of that disease, relieves Coughing and induces Sleep. There is no other preparation for these cases of the throat and lungs to be compared with this remedy.

"My wife had a distressing cough, with pains in the side and breast. We tried various medicines, but none did her any good until I got a bottle of Ayer's Cherry Pectoral, which has cured her. A neighbor, Mrs. Glenn, had the measles, and the cough was relieved by the use of Ayer's Cherry Pectoral. I have no hesitation in recommending this

Cough Medicine

to every one afflicted."—Robert Horton, Foreman *Headlight*, Morrilton, Ark.

"I have been afflicted with asthma for forty years. Last spring I was taken with a violent cough, which threatened to terminate my days. Every one pronounced me in consumption. I determined to try Ayer's Cherry Pectoral. Its effects were magical. I was immediately relieved and continued to improve until entirely recovered."—Joel Bullard, Guilford, Conn.

"Six months ago I had a severe hemorrhage of the lungs, brought on by an incessant cough which deprived me of sleep and rest. I tried various remedies, but obtained no relief until I began to take Ayer's Cherry Pectoral. A few bottles of this medicine cured me." Mrs. E. Coburn, 19 Second st., Lowell, Mass.

"For children afflicted with colds, coughs, sore throat, or croup, I do not know of any remedy which will give more speedy relief than Ayer's Cherry Pectoral. I have found it, also, invaluable in cases of Whooping Cough."—Ann Lovejoy, 1237 Washington street, Boston, Mass.

Ayer's Cherry Pectoral,

PREPARED BY

Dr. J. C. Ayer & Co., Lowell, Mass.

Sold by all Druggists. Price \$1; six bottles, \$5.

THE CANADIAN
BEE JOURNAL
WEEKLY.

"THE GREATEST POSSIBLE GOOD TO THE GREATEST POSSIBLE NUMBER."

VOL. V. No. 40 BEETON, ONT., DEC. 25. 1889. WHOLE No. 248

MERRY CHRISTMAS.

We desire to extend to all readers of the CANADIAN BEE JOURNAL AND POULTRY WEEKLY our best wishes for a merry Christmas and a happy New Year.

SPECIAL ANNOUNCEMENT.

We have completed arrangements with the publishers of the *Farm Journal*, a first class agricultural monthly, published in Philadelphia, whereby we can make the following unparalleled offers :

1.—To every present subscriber who will get us a new subscription, for one year at \$1.00, we will send the *Farm Journal* FREE, and the new subscriber whose name is sent will also receive it free of all charge.

This splendid offer enables all our subscribers to get for themselves an excellent agricultural paper, *absolutely free of charge* and we hope to see hundreds of our patrons take advantage of it. Please lose no time in attending to this matter. All subscriptions received with \$1.00, will be entered as expiring January 1st 1891, so that the new subscribers will receive each paper 15 months. Come now, and help us.

Our Leading Premium.

To BEE-KEEPERS.—A beautiful virgin queen, for delivery in the spring of 1890 will form the leading premium in this department of the CANADIAN BEE JOURNAL AND POULTRY WEEKLY. The price of these when sold singly is 60 cents, but we will send one by mail, prepaid, to all those who send direct to this office \$1.00 as a years subscription either new, or for a renewal of one full year. We also give choice of other premiums, and subscribers are at liberty to choose which they will have.

INTERNATIONAL AMERICAN BEE ASSOCIATION.

DISCUSSION ON S. CORNEIL'S PAPER.

Mr Sturgeon used and preferred the chaff hive.

J. B. Hall—Yes, but there are really a lot of little cellars, with a tube from each, through which the bees may fly. Mine are in one large cellar, with no tube for them to fly out.

Mr. Sturgeon—Yes, but I have tried putting bees in a cellar in chaff hives.

J. B. Hall—Yes, yes; but you protected them too much. When I go into a warm room, I take off my overcoat.

J. B. Aches—Does Mr. Sturgeon give upward ventilation to his hives in the the cellar?

Mr. Sturgeon. No, sir.

S. Corneil—A covering of enameled cloth amounts to nothing, in the way of

retaining heat. Such covers must be covered with some non-conductor of heat.

Geo. H. Ashby said it make no difference if the cellar were damp, if the temperature were high enough.

R. L. Taylor had several times tried wintering bees out of doors, and they had never wintered so well as in the cellar. He had bees in two cellars. One cellar is made under his house. There is a furnace in it, and the cellar is dry. The other is under the barn, and has a cistern, and is damp. He could see no difference in the wintering of the bees in the two cellars. There is just this much about it: In a damp cellar, the temperature must be kept higher.

Adjourned to meet at 7:30 p. m.

EVENING SESSION.

At 7:30 P.M. President Mason called the meeting to order, and invited the quartette of the previous evening, to open the proceedings with the singing of the bee keepers' songs, which have appeared from time to time.

The question drawer was then opened and the following questions asked.

SHOULD BEE-KEEPING BE ALLIED WITH ANY OTHER BUSINESS? IF SO WHAT OTHER BUSINESS?

R. L. Taylor.—The greatest success in every business depends on one putting all his energies into it and life is not too long to perfect any one occupation. If to one money making occupation another with the same end in view be added the two will not be as successful as if either were followed out by itself. My nature rebels against putting my whole soul into any one business. I like to do other things as well as keep bees and I have sacrificed my love of money for the pleasure of having more than one pursuit. Any pursuit which is to go with bee keeping, must be one that will require but little attention during the summer months. Small fruit growing is often mentioned but is a very poor adjunct to bee keeping. Grape growing and the raising of pears and plums will in many places work very well with bee keeping but if bee keeping is so profitable why not keep more bees or if it is not profitable why follow it at all.

In answer to a question Mr. Taylor

said that a man who would do his work in the winter as he ought to should be able to care for 300 colonies.

HONEY PACKAGES.

Mr. R. McKnight showed a line of English and French honey packages of his own importation, there being none like them manufactured in this country. There were screw-tops and tie-overs, the latter having a cork with parchment tied over the top. The packages held from one half to three pounds and were very strong. In explaining his mode of putting his honey on the market Mr. McKnight showed the packages to be almost unbreakable, by kicking them around the platform and knocking them from the table. A bottle filled with honey in 1888 was exhibited still in its liquid state, never having granulated.

The following essay was then read.—

Shipping Queens.

THE most that I can say on this subject will probably not be new to the majority of you, but as I shall detail the system practiced in our own apiary there may be some points which may interest even the older heads who have perhaps had a great deal more experience than myself.

I take it that the point in the queen breeder's work where my subject shall properly commence is when he has his queens mated and ready to forward in fulfilment of the various orders received or expected.

The three principal items for consideration are:—

- The cage,
- The food, and
- The mode of caging.

and I shall discuss these in the order in which I have named them as it appears to be their natural sequence.

THE CAGE

requires to be light, strong, and free from absorbent qualities. We have made them from pine, cedar, balsam, spruce, and basswood and like them in the order named. Pine seems to conform to all the requirements named better than any of the others; cedar is light but not so strong, balsam is light, soft, not liable to split, and a good non-absorbent but with us is not easily obtainable; basswood is strong and less liable to split, but it has the disadvantage of absorbing moisture and will soon become sour unless kept in a dry atmosphere, spruce is light, but it is usually hard and flinty and is very liable to crack.

The shape of the cage has not so much to do with successful shipping as has the ventilation, and I am of the opinion that a good many queens are lost through over-ventilation. It is surprising the little air that will suffice. Another fruitful source of loss is from the sudden change of temperature when in the mails. This may, to a great extent, be overcome by wrapping the cage in a single thickness of ordinary manilla paper. The immediate requirements of every cage are, a sufficient space in which to place the queen and the attendants, and another space in which to put the food so connected with the first that the queen and her retinue may get at it as they require, and yet not become fastened in it, or daubed by it.

FOOD.

Is probably the most important item connected with the whole business of shipping queens—the "weel or woe" of more queens depends upon this than upon all other things combined. There are, perhaps, as many different kinds of foods made and recommended as there are different methods of curing bee stings, but, as in the latter case, what proves of service to one is of no account with another. We have tried many different mixtures with varying results. The "Good" candy seems to be generally recognized as having merit and our success with it has been fair. We have also obtained uniformly good results from the use of a food made after the following formula:—

Take absolutely pure granulated sugar and pulverise it. Put it in a granite dish and pour over it enough pure honey, (first having heated the honey to a little below boiling point,) to thoroughly saturate it, and stir the mass until the sugar and honey are well mixed. Then place the vessel in hot water, in which it should be allowed to stand (keeping the water about boiling point) until the sugar and honey become thoroughly incorporated. When cool it will be found quite waxy. It will not melt and run easily, and the bees take to it very kindly.

During the past season we have sent out many hundreds of virgin queens and the work of preparing the food as given above, was more than we cared to undertake for such a large number. We also desired a less costly food. We received in the spring from Mr. W. P. Henderson, of Tennessee, a half dozen young queens which reached us in a fine healthy condition, and which appeared to be fed on pure honey, and we felt that Mr. H. was practicing the plan we wanted. We ascertained from him that he used short staple raw cotton, just from the gin, after being separated from the seed, which he satur-

ated with the ripest and thickest honey that he could get, and which he then placed tightly in the trough of the cage, to keep it from leaking and bedaubing the bees. One pound of the raw cotton holds sufficient honey for a thousand cages at a cost of ten cents for the cotton. During the season we shipped nearly all our queens on food prepared in this way and we found that in the majority of instances, they reached their destination in splendid shape. I wish to particularly emphasize the idea that nothing but the purest of sugar should be used—adulterations of this article have cost us the lives of a good many queens.

MODE OF CAGING.

Complaints are sometimes heard, of queens which do not lay on introduction after arrival at their destination, even though they may have been good layers before being shipped. The treatment of queens before shipment and the mode of handling when caging, has a good deal to do with this trouble. If a queen be taken out of the hive when she is actively engaged in egg laying there is considerable danger of injury, through close confinement and through the jarring and shaking which she will receive in the transportation by mail, and we have known such queens to cease laying almost entirely after a long journey. The remedy for this is to allow them to rest a day or two before shipment. We have seen students, in catching queens, take hold of them by the abdomen or the head. This is detrimental in many cases to the egg-laying qualities of the queen, especially if any pressure is exerted. She should always be caught by the wings and held only as short a time as possible.

They should be handled very carefully and gently so that they may not become excited, and on being taken from the hive they should at once be transferred to a dark spot as near the temperature of the inside of the hive as possible. If allowed to remain in the hot sun they receive what we might call a sort of sun-stroke, and their egg laying qualities seem to be impaired. We generally ship queens by a mail which leaves Beeton late in the day, and, if possible, we always like to have the queens caged, and placed in a dark room for two or three hours before they are sent off. They are thus less excited and stand the journey better.

F. H. MACPHERSON.

E. R. Root—Had with him a Benton shipping cage which he exhibited as being just the thing for shipping queens a long distance. He said that they had arranged this cage so that it might also be used for introduction. He had

watched the matter closely but had not seen any proof that queens were injured by shipping immediately after caging.

C. P. Dadant.—Instanced a case where twelve queens were forwarded by mail to Major Shallard in New South Wales, the time occupying some thirty days, and all the queens arriving in in good order. The queens were forwarded by Mr. Thos. Wallace, Clayton, Ill.

O. L. Hershiser.—Had received from Frank Benton a queen in good order which was 40 days en route.

Rev. W. F. Clarke.—Emphasised what Mr. Macpherson said about catching queens, and suggested the use of an implement called a "queen catcher" to be obtained of Mr. Root.

E. R. Root.—Said that they had tried the queen catcher and found it to work very nicely but it was too slow.

The next paper on the programme was by E. R. Root, entitled

Riding Hobby-Horses.

BEE-KEEPING AS A RECREATION FROM OTHER PURSUITS, AND AN ANTIDOTE FOR DISEASE.

A hobbyist, or one who rides hobby-horses, is, according to Webster, one who pursues any thing unduly, or to the weariness of others. I am not one who would advocate riding hobby-horses to such an extent, but I am one who would by all legitimate means encourage healthy enthusiasm in bee-keeping, or in any other hobby. Riding hobby-horses has been a characteristic of the Medina Roots. In harmony with such characteristics, perhaps I have inherited my due share. I am going to talk to you to-day on the benefit of having a mild hobby, not one that will make its rider get so crazy as to neglect his legitimate business, but one that will help in his pursuit.

Coming down to the subject, the first question I ask is, "What do we keep bees for?" You answer, "For the production of honey and wax; that is for the money there is in them." But is this the only reason? Nay, verily. We not only keep them for the money there is in them, but for the real fun we can get out of them, a sort of fun that is akin to a healthy enthusiasm, a fun that lightens the burden of our daily toil, gives zest to life and a new lease to it. In a late number of that most excellent periodical, the Bee-Keepers' Review, Prof. Cook says, "In every business, one can do better work if some variety comes into the life. This rests the mind, brightens the hopes, and makes the success better in both lines. Thus the minister, the

lawyer, and the teacher, think and speak to better purpose; from their work and experience in the apiary. The bee-keeper has clearer thought and better success from his rest period, when he wrestles with the problems of how he may save souls, save property, or educate his fellows.

The professor is in a position to know whereof he speaks, and he hits the point exactly. All work and no play makes Jack a dull boy. Close application to work of the every day sort, year in and year out, wears on the constitution; but if a man has a hobby-horse to release the tension during the odd hours, he will not only enjoy the work more, but live more and better as Prof. Cook puts it. Several instances come to my mind.

A business man of my acquaintance gave such close attention to his business as to become morbid, even despondent. When he arose in the morning, it was his business, when he ate his meals, it was his business; when he went to bed, it was his business; and in his dreams it was his business, and the result was, melancholia came upon him, and the end was suicide. A mutual friend, in speaking of this sad event (who was considerable of a horseman, and who enjoys breaking colts, and whose hobby, by the way, is horses,) said: "If that man, (Mr. W.) had had a fine colt, and had gone out mornings to take a little drive, breathing in the fresh air and watching the development of this noblest of animals, he might have been alive now, and such a thing as dependency might have been unknown to him."

Another friend of mine, a teacher of music and most musicians are more or less nervous, confessed one day that thoughts of suicide continually entered his mind, and as a confidential friend, he asked my advice. Said I, "You lack variety in work. You need recreation in the shape of a hobby, to interest you, aside from your duties." Of course I advised him to keep bees. But he had such a natural aversion to them that the thought was out of the question. I next suggested poultry, he embarked in the business, and now his health is not only much improved, but the dreadful thing that sometimes afflict humanity, melancholia, is gone. He has obtained a new lease of life, and enjoys the work of his profession; and when he goes home from his work he works with a keen zest among his poultry.

I might take one more example, and a very familiar one, I doubt not, to many of you. My father once was, as you know, a jeweler by trade. Close application to business, however, brought on paralysis. The doctor advised him to get out doors and work with his

bees. The result was, the jewelry business was in time abandoned, and bee-keeping as a pursuit adopted. His health returned, and a new lease of life was added. Again, editorial work, [together with general business, broke down his health. The green-house and garden hobby was next taken up, and health has again been restored. Instead of dying worn out, he is possessor of almost his full vigor.

Once more, if you will pardon the allusion, I will refer to my own experience. At a comparatively early age in life I had hobbies, not because my health demanded it, but because I inherited these tendencies. First it was electricity, then that most interesting of pastimes, the study of the microscope. Later on in life, when I began to assume responsibilities in the work in which I am now engaged, namely, bee journalism and bee keeping, I felt constantly the need of a change. Amateur photography attracted my odd spells, and very soon became a most enjoyable pastime, and at the supper-table it often used to be about "that last photograph took" "instantaneous exposure," "and flash-light negatives," until my hobby-horse was, indeed a weariness of flesh to my better half. The result of the hobby was, that it gradually incorporated itself into my general work, and the consequence was, that many of the articles in Gleanings were illustrated, which would not have been otherwise. Later, out-apiaries began to attract my attention, and feeling the need of a good horse, one that could get over the ground pretty lively, was soon in possession of a fine colt, an animal that was intelligent, and one that reciprocated in many ways the little attentions that I gave him. He was a hobby-horse in very fact. I read up all I could find on the subject of horses; I enjoyed driving him, and when I got back to my regular work, I hardly know why, but everything possessed a joy that it had not before. Gleanings was made better perhaps, and some of my long prosy articles made more concise. While these hobbies did not build up a broken-down constitution as in the other instances, they served admirably to preserve a general good health, on the principle that "a stitch in time saves nine." They did another thing, they kept me away from the street corners, and from contracting bad habits at that age in life when boys are easily led astray.

It is to be observed that I have had several hobbies. I have looked the field all over. I know something of the attractions in raising fine poultry; I have experienced the passion of studying and working with electricity, I have seen a little of the hidden beauties revealed un-

der the lens of the microscope. I know what it is to appreciate and enjoy a good photograph; I believe I can tell when I see a good horse whether he has got a good action, whether he is sound, whether he can travel a mile in 4 minutes, or in 2.10, but not one of these hobby-horses presents half the attractions that the study of bees does. Bee-keeping is eminently well fitted as a pursuit and as an amusement for the busy man who spends long hours in the office. There is nothing of the kind that stimulates study, that fires up enthusiasm, that rests the mind and so gives a new lease of life, as does bee keeping. To ministers there is an unlimited field of illustration in the bee hive. D. A. Jones once said to me, that he did all he could to induce ministers to take up bee-keeping, not only because it gave them another means of livelihood but because it opened up to them a world of illustrations, and at the same time gave them one of the most delightful of pastimes.

And now let me glance briefly at the latter end of my long tailed subject—bee-keeping is an antidote for disease. Many of the minds of those present will recur to Mrs. Sarah J. Antel, of Roseville, Ill., an invalid who is confined to her couch during the greatest part of the year. When the bees begin to work in the fields, little by little she gets out into the apiary, and finally is able to accomplish the work of most strong men. Her husband, likewise, has poor health, and yet they both experience better health while at work among the bees. In a single season, from 180 colonies they once obtained 39,000 pounds of honey, and sold the whole for cash. If my time and space were not so limited I might mention scores of similar instances.

I think it is safe to say, that a very large percentage—perhaps a half of those who keep bees were attracted to that business, not because of the money there might be in it, but because of the delightfulness of the occupation, and because of its influence upon the health. Dr. J. C. Miller, as a musician, has had offers of large salaries that would dazzle the eyes of most of us, but no, he prefers God's pure air, and out-door work with the bees.

But, you say you are going to get everybody to go into the bee business and so break our prices. Oh, no, not at all. Intelligent reading people who need recreation or diversion in the garb of a hobby, are not the ones who would break down prices. We get from the ranks of such people such scholarly men as Prof. Cook, Dr. C. C. Miller, P. H. Elwood, S. Corneil, and scores of others whom I might name. My object in writing this is not to point out how bee-keepers can earn more money, but to call the attention of

professional and business men, and overworked men in general, to something that will lighten their daily toils, give them a new lease of life, and open their hearts to a new world.

ERNEST R. ROOT.

(Balance next week.)

Read at the I B K A Convention.

Alimentary Apparatus of the Bees.

If there be truth in the doctrine of organic inertia, and if modification of organs and organisms has arisen wholly or in part through infringement upon their surroundings, then for the maximum of differentialism, we should look to organs and organisms most used, or those most important in the organic economy. Nutrition is the great function of animal life. To secure and prepare the food is the chief work, at least of all the lower forms of animal life. We should expect then to find differentiation most marked in such organs as are useful in procuring the daily bread. Among insects, the legs, wings and alimentary organs are the real weapons in this important work of "bread winning." In bees, where the habits are so marvellously varied, we should expect a marvellous variation or modification in these organs, nor would we be disappointed. I think we would hardly except man himself, in the remark that nowhere in the whole animal kingdom, do we find more interesting and startling structural developments than are to be found in our study of the honey bee. Two years ago, at the New York meeting of this Association, I showed how vividly this is illustrated in the modification of the legs. The modified hairs, antennæ cleaner, wax jaws, pollen baskets, and pulvilli are marvels of structural modification, for the attainment of specific purposes. The functional complexity of the legs of these insects, is only equalled by their marvellous development and structural differentiation.

In this paper, I wish to explain the anatomy and physiology of the alimentary system of the bee. In the tongue, and digestive system of this insect, we find a structural modification even more surprising than that of the legs, equally, if not more marvellous than is to be found in any other organic structures.

In this respect I shall confine myself to a discussion of the tongue, the glands, the stomach, mouth, honey-stomach, and true stomach.

It is a curious fact that long and familiarly as the bee has been known, yet in all the descriptions no one has rightly understood the bees tongue. I know not a single description that is entirely accurate. Many of our latest writers are not as correct as was the grand old master Swammerdom. Even the last editor of the Encyclopedia, Britannica, is wholly wrong. It

says (Vol. III, p. 485), "it is not tubular, as Swammerdom had supposed, but solid throughout, and the minute depression at the extremity is not the aperture of any canal through which liquid can be absorbed. It performs strictly to the office of a tongue, and not a tube for suction." Every statement in this paragraph is entirely untrue: The bee's tongue is a double tube. The inner or central tube of the tongue is perforated at the end, and through this, nectar is drawn from tubular flowers. This tube is slit to near the end, on the under side, and the edges of this rigid slit are united with the corresponding edges of the outer tube by a somewhat folded membrane. The length of the tongue varies from .23 to .26 of an inch. It is longer in the yellow than in the black races. At the base of this double cylinder just anterior to where the ligula joins the mentum, the central tube opens by a short slit on its upper side. By holding bees by the wings and permitting them to sip colored liquids, and then by cutting off their heads while still sipping, it is easy to learn just how to sip. When they have access to a large drop of nectar, they not only draw the liquid through the central tube, but also through a much larger extemporized tube formed by approximating their innoxillae. This is the way they suck their honey from such bountiful sources as the linden, where a single colony of bees may store fifteen pounds in a day. In case the nectar is at the bottom of long corolla tubes, then the bee can only use the small central tube and must sip very slowly. Again in case the nectar is spread out thin on any surface, the bee can throw the central tube out by tightening the folded membrane, and by parting the slit can draw in and lop up the spread out liquid. This is also a slow process. The outer tube is imperforated at the end, and by filling this with blood the tongue is speedily elongated. Thus the tongue is extended by the action of muscles, aided by this protrusive force of the nutritive fluid which is also forced into the tongue by muscular action.

Connected with the digestive apparatus, are three pairs of glands. The upper head glands are high up in the head cavity, and in structure resemble a compound leaf, or the melboman glands in our own eye lids. That is, a central tube receives the ducts from numerous follicles. The main ducts empty one on each side at the base of the mouth. Below the glands just mentioned are the lower head glands. These are compound racemose glands, and empty into a long duct, which also receives the ducts from a second pair of similar glands located in the throat. The common duct from these four glands empties just at the position of the slit at the base of the ligula, just where any

secretion could be best poured into and mixed with the stream of nectar that might be drawn through the tongue in any of the three ways already mentioned. The function of these glands has, I think, been misunderstood in part, by even such authorities as Leuckart and Schiementz. They think that the upper head glands secrete the larval food. I feel sure that this is wrong. I believe they secrete the saliva of bees, a substance analogous to own saliva in that it is mixed with the pollen or bee bread render it soft and plastic. More than this, I think the secretion from the glands doubtless furnish the ferment which adds to digest the pollen or albuminous food of the bees. The fact that the nurse or young bees furnish chyle or digested food to nourish the thousands of larvae of each hive, and also to feed the queen and the drones explains why these glands are so large in the nurse bees. My reasons for this view are that the mouths of the ducts on the floor of the bee's mouth are just where they should be, the large size of the glands, in nurse bees is also in harmony with this view, and except for this secretion we cannot explain the deglutition of the pollen. The function of the secretion from the other four glands is without doubt to digest nectar of flowers. As is well known this nectar is neutral and contains cane sugar. Honey is acid and contains reducible sugar. This honey is digested nectar, and the secretion from the large rosemose glands of the bee is the agent which effects this transformation. The common duct from these glands empties just where the stream of honey from the tongue enters the mouth. This honey must be digested while in transit from flower to hive. The fact that a colony of bees may gather twenty pounds of honey in a day, explains the necessity of the great size and number of these glands. The fact that all honey is not equally reduced, and that some honey has even a right handed rotation, is also explained. When honey is collected very rapidly as is often true in the linden season it is not fully digested. This makes the analysis of honey a difficult matter. I much question whether any chemist can certainly determine whether or not honey is pure. I positively know that some of our best chemists have pronounced honey of undoubted purity to be adulterated. To one acquainted with the physiology and habits of bees, this is not surprising.

The honey stomach is a strongly muscular organ, richly lined with epithelial cells, and in no wise peculiar, except for the interesting and complex stomach mouth at its lower end. This is a slightly oblong, nearly spherical organ, with a central passage. The four segments which

comprise the anterior end are jaw like, slightly moveable, and have a peculiarly snapping motion, as is easily seen by viewing a fresh specimen under a low power objective, short bristle-like hairs, form a thick lining to the central cavity. These hairs point downward. The function of this unique organ is as interesting as is its structure. The fine pollen grains of flowers, as you all know, are light and airy, and so float in every breeze. As they fall from the overhanging anthers, they often lodge in the same nectar that attracts the bees. Thus as the bee sucks the nectar from the flowers, it secures at the same time more or less of this rich nitrogenous pollen. The pollen and nectar pass together into the honey stomach. When the bee reaches its brood-nest, it desires to pass the honey, for by this time the nectar has been digested into the cells, where it is stored for the future needs of the bees. But while we find a small amount of pollen in the honey, we find much less than is found in the nectar. But how can the bees separate this pollen from the nectar. It is done by this stomach mouth, the jaws of which are constantly opening and shutting as the bee is gathering from flower to flower, and is bearing its full load to the hive. Thus the mixed nectar and pollen are drawn into the central cavity of the stomach mouth, when the jaws close pressing the nectar back into the honey stomach, while the pollen is retained by the bristles, and passed into the true stomach. This constant motion also mixes thoroughly the nectar and saliva thus promoting the digestion of the nectar or the formation of honey. We see then, that the stomach mouth is a sort of screen, whose purpose is to separate the nitrogenous from the carbonaceous food. The former is in small quantities, just the sufficient for the daily needs, while the honey comes in large quantities, and is stored up for times of scarcity. When the stomach mouth enters the true stomach, the central opening is continued in a free membranous tube which hangs in the true stomach. This, of course, serves as a valve and prevents the digested material, as it is pressed by the muscular action of the stomach, from returning through the stomach mouth into the honey stomach. It is now a well-known fact that the nurse bees digest the food for the larvae, the queen, and the drones. It is probably true that all the albuminous food of both queen and drone is prepared by the nurse bees. The upper head glands are not found in the drones, and are very rudimentary in the queen. Thus these bees are not able to take and digest pollen. They can take the honey, and so have the rosemose glands, which in case the nectar was not fully digested by the worker bees, enables th

queen and drone to complete the digestion. Thus the queen, during the active season, while she is often laying 2,000 or 3,000 eggs daily, receives her food all prepared for absorption, and so we understand how it is that the queen may lay nearly twice her weight in eggs daily. I have weighed laying queens several times, and find them to weigh about .23 of a gramm or about 35 grains. I have found that 3,000 eggs weigh about .4 of a gramm, or about 6 grains. This wonderful performance is only possible, in that the queen's food is wholly digested for her by the nurse bees.

The nature of the food given by the nurse bees to the brood, and to the queen and drones has been much discussed, Dufour that it was chyle, or food thoroughly digested and ready for absorption. Schiemenz argues that it is the secretion from the upper head glands. Schonfield believes that Dufour was correct, digested pollen with additions of honey. Schiemenz thinks that the valve that reaches from the stomach mouth into the true stomach, would make it impossible for the bee to regurgitate any food which had really entered the true stomach, and so argues despite the location of the mouths of these ducts and the necessity of saliva for the liquification of the pollen, that the jelly or larval food is really the product of the upper head glands. From several experiments which I have tried, I believe Schonfield and Dufour are correct and Schiemenz in error. One experiment which, in itself seems critical, I will explain: I removed from a small colony of bees all honey, gave them a frame of brood, and shut them in their hive. I then mixed some finely pulverised charcoal with some dilute sugar syrup, and fed it to these bees. As the charcoal is insoluble and indigestible, of course, it can not and does not pass through the walls of the stomach into the blood, and so can not even pass to the glands. Even if it were in the blood, it could not enter into secretion, as it is non osmotic, and so could not appear in the saliva. Yet this charcoal appears in the food given to the larva. This food then cannot be a secretion but must be the chyle or digested food of the nurse bees. That the strongly muscular structure of the alimentary tract, may draw the stomach mouth up to the esophagus, and thus draw the valve up so that its valvular nature is destroyed, is the view of Schonfield, and is I believe, correct. This is then a sort of adjustable valve, and may prevent regurgitation or not as the function of the bees require. Thus we have in the stomach mouth as well as in the tongue of the honey bee, examples of differentiation which are not surpassed anywhere in the organic world.

A. J. Cook.

60 POUND TINS AND STRONG HANDLES.

We find that our tinsmith, without our knowledge has been making the handles of these tins too light, much too slender for the weight which each one has to carry. One or two complaints reached us during the Fair at Toronto, and we have at once removed the defect. The handle as it has been put on, will lift all right if it is not wrenched or jerked, but it will not stand rough handling. We shall not likely have any more complaints from this date.

CONVENTION NOTICES

The next annual meeting of the Ontario Beekeepers Association will be held in the City of Belleville on the second Wednesday and Thursday, 8th and 9th, of January 1890. All members are respectfully requested to be present. There will be a good programme prepared.

Railroad certificates for reduced rates will be sent to any persons desiring to attend the meetings if they will apply for them. W. COUSE, secretary. Streetsville.

MICHIGAN STATE BEE-KEEPERS' ASSOCIATION

The 24th annual meeting of this Association will be held at Lansing in the Capital building, on Dec. 26 and 27.

Reduced rates have been secured at the Hudson House. Half fare on nearly all railroads. A few roads charge one and one-third fare for the round trip.

Several very interesting papers have been promised from our leading apiarists.

The question box will be one of the important features. Come prepared to ask and answer questions. A cordial invitation is extended to all. H. D. CUTTING, Sec.

Clinton, Mich., Dec. 1, 1889

12 CENTS PER POUND FOR EXTRACTED.

For No. 1 extracted honey, put up and shipped us in 60 pound tins—we will pay 12c. per lb, delivered at Beeton, payment to be made in any kind of supplies wanted at prices marked in our catalogue. This is the most we have offered for honey in a wholesale way for years.

TO THE DEAF.—A person cured of Deafness and noises in the head of 23 years standing by a simple remedy, will send a description of it FREE to any Person who applies to NICHOLSON, 30 St. John St. Montreal.

Prof. Loissette's Memory System is creating greater interest than ever in all parts of the country, and persons wishing to improve their memory should send for his prospectus free as advertised in another column.

Send five cents for samples of our lithographed and other honey labels. It pays to have your packages bear your name and address. Honey tastily labelled finds ready sale.

You can make money with little effort by taking advantage of our special offers and inducing neighbors to subscribe.

POULTRY ♥ WEEKLY

W. C. G. PETER,

EDITOR.

All communications intended for publication must be sent to W. C. G. Peter, Angus. All advertisements, subscriptions and business letters to be addressed to the Publishers, Beeton.

Our Leading Premium.

To POULTRYMEN:—Christie's Automatic Feeder is the leading premium in this department of the CANADIAN BEE JOURNAL AND POULTRY WEEKLY. The price of the feeder itself is 50c., but we will send it, prepaid, to all those who send to this office, \$1 as a year's subscription, either new or for a renewal of one full year. We also give choice of other premiums, and subscribers are at liberty to choose which they will have.

What to do for Sick Birds.

AS soon as the average poultry keeper finds a bird or two ailing or dumpish, he hunts up the list of diseases the birds are subject to and taking up the one that seems to suit the case of his birds proceeds to dose and bathe the unhappy victims, which nine times out of ten get worse for every treatment instead of better. And every day or so brings new patients to the chicken infirmary and he wonders why all his birds are getting sick and the sure cures "don't work worth a cent." The reason (we are inclined to think) of this failure is, that in the first place no disease is present and that if instead of looking to a disease as the disturbing cause the poultry man would examine his system of

management for errors, he would more often succeed in overcoming the trouble.

Ailments in poultry are yet somewhat doubtfully treated, because very difficult to diagnose correctly. Oftener than not the patient has been ailing long before any symptoms manifested themselves. A quick and practised eye readily detects anything wrong by the movements of the bird, and casting about in his mind for a cause, will consider first of all what contributing items have brought it about, and by studying the conditions of life of the specimen, will furnish a remedy without much trouble. For instance if the bird is in heavy moult, he will give a little iron or meat, Nature's restorer of wasted strength and the elements for sustaining the great waste going on in the system. If a bad cold and rattling in the throat, a half teaspoonful of Electric Oil poured down and allowed to touch the throat as much as possible on its journey, followed by a quarter teaspoonful of good ginger mixed in a tablespoonful of molasses and hot water, just as you would do for one of the youngsters, will fetch the bird right, if done for two nights in succession, especially if you will take the trouble to give an iron pill in the morning.

While on this subject of doctoring, we may say that any medicine you give should be allowed time to act before changing the treatment. We can highly recommend Carter's Iron Pills in cases where birds require any form of iron and it is imperative that they get enough. One pill at night is a dose;

in "going light" from moulting it is a valuable remedy and so easy and clean to handle. Last winter we had a hen at stock-taking time going light and just about through moult. She was very weak and being a great pet was brought into the kitchen to die in comfort, she was then over six years old. When we came to her pen on the list we would not count her in, as she was then too far gone to open her eyes. When I went in Mrs. P. said "I am going to give poor Brownie one of those iron pills, she is not sick but weak." Between us we gave her one and the act of swallowing was too much for her and she fell over in Mrs. P's lap. "She's gone" we both said and my wife then laid her in the coop very gently, but in the morning she was alive, and had her eyes open which she had not had for two days. Mrs. P. gave her some egg and brandy beaten together and that night another iron pill. In all she had eighteen pills and by careful nursing she got well and is alive now, the sleekest looking hen ust like a pullet yet, though she has spurs an inch or so long as evidence of her mature years. That was our first experience of Carter's Iron Pills and we have found them in every case where it is not convenient to use the simpler and cheaper forms of iron, to act in the most satisfactory manner. We used them then just because the hen could not bear the effort of swallowing much and the case was urgent, and because we (or rather Mrs. P.) happened to think of it. The bird referred to had, as Mrs. P. said, a splendid constitution to work upon and that is one thing necessary if any good result is to follow doctoring fowls.

If you notice symptoms of cold in the head, do not be in a hurry to call it roup, but give an injection up each nostril of a few drops, say three or four, of kerosene. Feed some ginger in soft food and keep the birds indoors until the pores of the skin opened by the ginger, have recovered their normal condition. Also if you bathe the head, keep the bird indoors and warm until the treatment is over. If rattling in

the throat give the ginger tea and take a wing feather saturated in coal oil and put it well down the throat, turn it round once or twice, wipe the feather and do it again with the oil, twice should do the business. But if you notice quickly you will seldom be called upon to doctor, because the cause that hurts one bird must be removed or all will suffer. Let us impress upon you the necessity of separating at once any bird that is decidedly sick. And do not depend upon your doctoring doing much, while you do not alter the system of management that induced or existed at the time of the disease.

Clean Water In Clean Vessels.

THIS maxim should be put up in every poultry house and acted upon. Not long since we saw a lad watering several lots of birds. Some of the tins had a lot of dirty straw and manure at the bottom. This was dumped out on the floor of earth, and as there was a little water among it, the birds picked the dirty moistened sand and ate it. It had formed the floor of their pen some time I should say. In some tins a little dirty water remained and these were filled up by the clean water without any idea of emptying the dirty stuff out. Altogether it sickened me, and I thought "how many causes of disease and lack of thrift in the birds are due to neglect of the clean water supply, and how many poultrymen send along just such a lad as this to water the stock without deeming it worth a thought as to how it is done.

A good plan is to empty the pans every night, have an old whisk in the house and brush the pan. Empty out the water every evening as soon as the birds are at roost, take a pail along to receive the water instead of allowing it to make the floor damp by being emptied thereon. You know that water left in your sleeping apartment would make a most disgusting draught for yourself and the atmosphere of the poultry house is not even so pure.

Read our special premium offer and go to work.



For the Poultry Weekly.

He Kept a Record.

AND FINDS IT FALL SHORT OF HIS ESTIMATE.

HAVING kept a daily record for the last six months of the eggs laid by my hens, I send you a statement of the gross number, as perhaps you may think it worth while taking notice of it in your **POULTRY WEEKLY** and passing your opinion thereon.

Well then, I started, Dec. 15., 1888, with 36 hens, and with the exception of two or three, about the half of them were that year's pullets and the other half the previous year's. They were nearly all Plymouth Rocks, or an approach thereto. Three or four died during the year and seldom were there more than three or four clucking at the same time. During winter or I may say for six months of the year, there was always feed before them, such as wheat screenings, oats, etc., the rest of the year they got as much as they could eat once a day with plenty of outside range. They laid then for the year 259 dozen eggs. This falls far short of the lowest estimate a hen ought to lay, viz: 175 eggs for each hen, according to an estimate in your **WEEKLY** of May 22nd, under the heading of "What it costs to keep a hen"

I kept a similar record with 60 hens a number of years ago, and if I remember well, the result was about the same in proportion to the number of fowls. Yours truly,
Mountsberg, Ont. JOHN MACPHERSON.

We are glad to notice that you have kept account of the laying, but your record is hardly conclusive as to what the hens would do for a year. Half of them you say were pullets of the year you began your record so that all the time they (the pullets) lay idle the account tells against your hens. Say six of the hens died, to bring it to even numbers, that only gives you 103½ eggs each for the 30 hens. But (to be a little Irish) half of those hens were pullets and not in the flush of egg-production, and as they were sitters there was time lost over the hatching period, or, till "broken up" if not allowed to sit. So maybe, as they were not of any pure race, they did well considering all things.

We would like you to keep a record this next year, of the same flock which is now mature and in the best period for egg-production viz: yearlings and two-year hens. We think that you will find in this low record room for hope.

Putting the proceeds at only 15c. per

dozen for the 259 doz eggs you get \$38.85 independent of the chick raised—the eggs for the production of the latter would of course be deducted from the above amount and the value of the product of the eggs estimated in their place.

Our own record for last year for all breeds combined, mostly yearling hens and early pullets of Leghorns and Wyandottes was 206½, exceeding my neighbor's, Thos. Barrétt's, about four and a fraction. I have many Leghorns and Wyandottes, and his breeds are heavy ones, except a pen of Wyandottes, so he may be proud of his record. This year he has kept the account as usual and I will ask him for it for the **WEEKLY** when the year has expired. We feel sure as you are so much interested that it would pay you to procure thoroughbred birds of noted egg-producing breeds, i. e., if eggs are your prime object. The Rose or Single-comb Leghorns would be perhaps the best because they are non-sitting varieties. The pullets lay early and with good care they are capable of attaining a respectable size for the table, and as your range is good they would be under the very best conditions for the variety. But let us draw your attention to a frequent loss that attends large range, viz: the disposition of every hen to make a sly nest, and consequent loss of the eggs if not found soon enough.

For the **POULTRY WEEKLY**.

Large and Small Breeds.

AND A BATCH OF INTERESTING QUERIES.

SINCE reading your article on the eating capacity of the large and small breeds, I have taken a good deal of notice on the subject, and I am going to differ with you.

I will grant that the Leghorn is quicker, and that out of a given quantity of grain (less than they require) a Leghorn would come out ahead. But give them all they will pick up, and though the Leghorn would be ahead at first, the Brahma would still be there when the Leghorn was taking his after dinner drink. Of course this is only natural if the Leghorn picks up two grains to the Brahma's one and though the assertion does not prove anything, I would back my Brahma in a pea-eating competition against your Leghorn, even though he didn't feel vey hungry. In support of my opinion I quote from a table before me, of an experiment on the subject tried in England. The daily

amount of good consumed by the different breeds was as follows:

Dorkings	6 ounces.
B. Cochins.....	17 "
Lungshans	7 "
Dominicks.....	4 "
Leghorns.....	4 "
Hamburgs.....	4 "
Games.....	4 "

One is often asked the question, if you want eggs and market poultry would not common fowls do just as well as thoroughbred ones, and though I always answer in the negative from the fact that it costs no more to keep thoroughbred fowls than scrubs, (I was going to say crosses but I said I would not mention crosses again) and if uniformity is to be obtained you must have a distinct breed.

Of late I have been killing off my old hens to make room for my favorites, the Brahmas, and on examinining the egg-sacs of each I found embryo eggs about the size of a large pin's head. How long a time would elapse before those diminutive eggs would find their way into oviduct and from there to the nest? Feed, care and circumstances generally being favorable.

If cabbages, potatoes, etc., are boiled daily and mixed with the morning hot meal in winter, do fowls require green feed in addition? Would a liberal supply of cooked meat mixed with the morning meal be too fattening for laying hens, or would three times a week be better? I ask this question because I read somewhere the other day that in a fattening experiment cockerels fattened on boiled meat and corn improved much faster than those fed on corn alone.

I tender my thanks to Mr. Lawton for the offer of his hand to "lay out" the Advocate man but I would rather he joined hands with me in producing a weekly contribution for the columns of the Weekly, in fact if there was a general joining of hands in this respect, of men like Mr. Lawton there would be no room or need for novices like myself contributing.

I may say from my own experience, every copy of this little journal should be carefully filed away, and it will pay them to look back into the old numbers every now and then as they will often come across useful points that they had quite forgotten.

It is not generally known among non-professionals that "in breeding" can be carried on with success in the breeding of fowls. If I am not mistaken pullets can be bred back to their sire three times, (that is three generations) provided the sire and dam are of different strains and the sire all that can be desired. If I am

right, this will be very welcome news to some who are continually changing their male birds.

It has been said before and will bear repeating like all truths, that it is not after all any one particular breed that pays best, but the care and strict attention to details that ensures success. I think a good idea for a novice would be to write a list of details and paste it up in the hen house, and until he or she had got into a regular routine this list should be examined every day to see that all had been faithfully done. A person is wont to forget, but a hen cannot forget her requirements.

AGRICOLA.

Guelph.

Many thanks for your interesting letter. We must say a word re 'novices' as you seem inclined to disparage their powers in general, and their sphere of usefulness in the columns of the poultry journals, your own efforts among them. Allow us to say that very often the most interesting reading is from the novice department, and were it not for the continual opening up of subjects from them there would not be much interest taken in poultry literature. Too often the novice's queries are a confounding problem to the veteran and frequently the subjects broached by amateurs open up a new field of investigation to the old expert in poultry culture. We want more questions and experience from the beginners, and we are gradually getting it in. So we "agree to disagree" on the eating capacity of Brahmas and Leghorns. Practically we are right as our object was partly to show the fallacy of feeding the two breeds in mixed flocks, and if the quantity of feed was not a good deal in excess of the Leghorn's requirements they would starve the Brahmas. The table is good in its way but is no solution of the problem as to the necessary amount to keep the birds in good laying condition. Certainly a Brahma would eat more than it ought if allowed to do so; but our experience (after 16 years with Leghorns) is that the food required to keep them in first rate condition the year round, is very near if not quite sufficient to keep the large breed in a healthy, thrifty laying condition.

Your query re eggs is rather difficult to answer. If the birds were over molt and of light breeds about six to eight weeks, as the eggs mature faster

in small breeds; the Houdan embryo eggs also mature rapidly. But in Brahmas, Cochins, etc. more slowly, and if the egg-sac contained only such minute eggs, a Brahma would not lay all winter. The reason a Brahma lays well in winter is because it virtually stops laying early in the season and the eggs for winter laying are maturing during the period of rest. A Brahma pullet if destined for a large specimen will hardly begin to lay till about ten months old, and is better for it.

Although boiled vegetables are good we prefer to feed the cabbage raw, boiling frees the valuable element in cabbage (sulphur) and it is partly lost. We would also say a raw mangold now and then is better than all cooked and it is a fine thing to keep them out of mischief.

A liberal supply of cooked meat every day is too fattening and too gross, it would cause liver troubles and bowel disease. When the birds are indoors in winter they cannot work off by fresh air and out door exercise the effects of high living. A small quantity of meat twice per week is sufficient, and corn is not good for heavy breeds except an occasional feed at night in extremely cold weather, at other times in very limited quantity just enough to give the birds a change. Meat and corn certainly would fatten cockerels quickly. Another thing to remember is that you can feed a hen that is laying twice as much meat as one that is not because it is very rapidly taken up in the production of the eggs.

Your remarks re "in-breeding" are correct, but only when the stock is in the prime condition. Again, some strains will not bear 'in-breeding' at all, and some are so redundant in vigor that I have known stock to be inbred four generations, and after one introduction of new blood go back to their strain and do as well as ever. It is always better to breed back to sire than to mate brother and sister. Most beginners in changing blood go to an altogether strange strain, and so lose type in the breeds difficult to overcome. If changing blood in made breeds that are difficult to get to uniform type or plumage it is better to go back to the original before in-breeding too much. Or one could by reserving males from the first stock, and keeping a record of pullets

as advised in Mr. Rayson's interesting article some week or two since, not inbreed too much, and get a stock from the original strain for years.

FOR THE POULTRY WEEKLY

Poultry Under a Hay Mow.

SOME time ago a friend of mine, who was once the proprietor of a large store in Dakota, told me how a farmer in that country managed to get lots of eggs to sell when others got none. This man kept bringing basketsful when others would bring them a dozen at a time. How do you manage to get so many eggs this cold weather? said the merchant. Do you keep a stove in your poultry house? "No sirree," said the poultry man, "I can beat that dea." "How is that!" "Why" said he "I have the whole house covered over a foot deep with manure." This set me thinking. I could not think of covering my poultry house in that way, not much! But I will tell you how I accomplished the same object in a much neater way.

If possible select a part of the barn where you can put in a south window and have it level with the floor if possible, or nearly so. Before the hay or straw is thrown in take some old boards about seven feet long and place them in pairs in a standing position, then nail a board over the top about two feet long, then spread them until they are as high as you wish them in the center. Tack strips along the floor to hold the bottom in position. The pairs of boards thus arranged need not be placed closely together. Throw your hay in and cover the boards up, the deeper the better. Now put in a roosting pole with drop board underneath. Have a door to come in from the barn, pack in straw or hay at sides of window, keep the pen scrupulously clean, keep litter of some kind on the floor. Make the hens work for all they get, feed judiciously and if they don't just fill your egg basket, well then you haven't the right kind of hens, that's all.

J. F. DUNN.

Ridgeway, Ont.

The above plan from Mr. Dunn would make a most excellent warm house for the laying stock, and just the place for those that have breeds with large single combs to take care of. The place should be as friend Dunn says, kept scrupulously clean, if not horses would reject the hay that was contaminated by the odor of the pen, if the latter was allowed to become too dirty. The plan is a great improvement on the heating from manure, the idea of which is repulsive.



PIGEONS AND PETS.

Conducted by E. F. Doty, 47 Wellington Place Toronto, to whom all queries and communications concerning this department should be addressed.

WE respectfully invite correspondence of an interesting character from all localities, either local or otherwise. The editor of a live-stock paper of whatever description should not be wholly relied upon to produce at every issue of his journal, reading matter of an interesting character sufficient to fill up the space at his disposal. The subscribers and those who have an interest at heart in live-stock should endeavor to make the department interesting, by contributing from time to time articles which are original. Come, now, in a few days we will have the New Year upon us and let us try and make the pigeon department of *THE POULTRY WEEKLY* a lively and interesting feature. You are one of those who can help us if you will.

Our continued article on the Carrier will appear in our next owing to the haste in which this issue was gotten up. We will give as far as our experience permits, rules for mating Carriers also several hints on rearing and caring for both and young.

Any person who does not agree with us in any way regarding the above article is at liberty to dictate to us if he has good grounds for doing so.

We paid a visit to the lofts and rabbitry of Mr. Wm. Fox a short time ago and found things progressing favorably. He has the largest and finest collection of pigeons, rabbits, covies, fancy rats, etc., in Toronto at least. To begin to mention each and every one

would fill volumes but suffice to say that he has almost every variety in pigeons rabbits and other pet stock and that he can always hold his own at the exhibitions. We may if circumstances permit, pay visits to the leading fanciers of this locality, and give in these columns as interesting a report of our visit as we are capable of.

THE CHICKEN'S SOLILOQUY.—"Turn back, turn backward, oh time in your flight, make me an egg again, smooth, clean and white; I'm homesick and lonely, and life's but a dream, I'm a poor chicken, born in a hatching-machine; compelled in this cold world to roam—no mother to shelter, no place to call home—no mother to teach me to scratch or to cluck; I can hardly tell whether I'm chicken or duck."

There is a sprouting poet in Ingersoll who thus sings of the hen:

And in Ontario the hen
Is worthy of the poet's pen,
For she doth well deserve the praise
Bestowed on her for her fine lays

COMING SHOWS.

Poultry Association of Ontario, St. Catharines, Ont., January 7, 8, 9 and 10, 1890. R. Hamill, Secretary, J. C. Rykert. M. P. President.

Eureka Poultry Association Chatham Jan. 20 to 23rd, S. Butterfield judge, C. M. Baskerville, secretary, Chatham.

Milton, December 30 and 31, 1889, and Jan 1, 1890. Judges, Bicknell and Smel. John Dewar, secretary.

Bowmanville, December 31st, 1889, Jan 1, 2, 3, 1890. S. Butterfield, judge. J. M. Hern, Secretary.

OHIO.

Central Ohio, at Mt. Gilead, Ohio, January 7th to 11, 1890. J. Y. Bickdell, Judge. W. F. Bruce, Secretary.

Cleveland, January 14th to 19th, 1890. C. C. Schellentrager, Sec., Glenville.

Fayette Association, at Washington C. H., January 14th to 16th, 1890. J. B. Collier, Sec. Union, at Cardington, Dec. 17 to 21, 1889. G. S. Singer, Secretary.

Poultrymen should note the fact that the *JOURNAL* is issued weekly and that it visits the homes, and the advertisements catch the eye four times as often as the monthlies, at no higher scale of charges. The circulation is rapidly increasing.

The attention of all our readers is called to the unique and unparalleled offer which we make on page 928. Please go right to work, and see that each one of you, does your own share,—
our list will then be double

To Our Subscribers.

WHE special announcement which appeared in our columns some time since, announcing a special arrangement with DR. J. B. KENDALL Co., of Enosburgh Falls, Vt., publishers of "A Treatise on the horse and his diseases," whereby our subscribers were enabled to obtain a copy of that valuable work free by sending their address to B. J. Kendall Co. (and enclosing a two-cent stamp for mailing same) is renewed, for a limited period. We trust all will avail themselves of the opportunity of obtaining this valuable work. To every lover of the horse it is indispensable, as it treats in a simple manner all the diseases afflicting this noble animal. Its phenomenal sale throughout the United States and Canada, make it standard authority. Mention this paper when writing for "Treatise."

A Grand Trial Trip.

We want every poultry fancier or breeder in the country on our list of subscribers, and to them we make the following liberal offer:

There are none of you but either have something for "sale or exchange" or some "want," and we offer to all who send us \$1.00, subscription to CANADIAN BEE JOURNAL AND POULTRY WEEKLY for one year, a

Free Trial Advertisement

In the "Exchange and Mart" column of the C. B. J. & P. W. Upon receipt of One Dollar we will credit you one year ahead on our subscription list, and will insert at any time during the next six months a FIVE LINE advertisement as above, for two consecutive weeks.

Cash must accompany the order.

If you do not need the advertisement at once we will, on receipt of your remittance, send you a coupon which will be good at any time during the continuance of this offer.

It applies to anybody and everybody who desires to take advantage of it, and who conforms to the conditions, viz.: pay one full year in advance.

Our regular price for such advertisements as this is 25c. per week, per insertion, and should you wish the advertisement longer than two weeks, it will be charged at the above rates, or five times for \$1.00.

W. B. DUNN, CO., 221, 2nd St., Boston.

GOOD BOOKS

—FOR THE—

Farm, Garden AND Household.

THE FOLLOWING VALUABLE BOOKS WILL BE SUPPLIED FROM THE OFFICE OF THE CANADIAN BEE JOURNAL. ANY ONE OR MORE OF THESE BOOKS WILL BE SENT POST-PAID DIRECT TO ANY OF OUR READERS ON RECEIPT OF THE REGULAR PRICE, WHICH IS NAMED AGAINST EACH BOOK.

POULTRY AND BEES.

Burnham's New Poultry Book.....	1 50
Cooper's Game Fowls.....	5 00
Felch's Poultry Culture.....	1 50
Johnson's Practical Poultry Keeper Poultry: Breeding, Rearing, Feeding, etc.....	Boards... 50
Profits in Poultry and their Profitable Management.....	1 00
A Year Among the Bees, by Dr. C. C. Miller.....	75
A.B.C. in Bee Culture by A. I. Root. cloth.....	1 25
Quinby's New Bee-Keeping, by L. C. Root, Price in cloth.....	1 50
Bee-keepers' Handy Book, by Henry Alley, Price in cloth.....	1 50
Production of Comb Honey, by W. Z. Allen's (R.L.&L.F.) New Am. Farm Book	\$2 50
Beal's Grasses of North America.....	2 50
Brackett's Farm Talk, Paper, 50c. Cloth	75
Brill's Farm Gardening and Seed- Growing.....	1 00
Barry's Fruit Garden. New and revised	2 00
Farm Appliances.....	1 00
Farm Conveniences.....	1 50
Farming for Profit.....	3 75
Hutchinson. Paper.....	25
The Hive and Honey Bee, by Rev. L. L. Langstroth. Price, in cloth...	2 00
A Bird's-Eye View of Bee-Keeping, by Rev. W.F. Clarke.....	25
Success in Bee Culture, paper cover...	50
Cook's Bee-keepers' Guide in cloth...	1 25
Foul Brood, its Management and Cure by D. A. Jones. price by mail.....	11
A. B. C. in Carp Culture, by A. I. Root, in paper.....	50
Queens, And How to Introduce Them	10
Bee-Houses And How to Build Them	15
Wintering, And Preparations Therefor	
Bee-keepers' Dictionary, containing the proper definition of the special terms used in Bee-Keeping.....	
Standard of Excellence in Poultry....	1 00
Stoddard's An Egg Farm, Revised...	50
Wright's Practical Pigeon Keeper., ...	1 50
Wright's Practical Poultry Keeper.....	2 00

ADVERTISEMENTS.

EXCHANGE AND MART

25 CENTS pays for a five line advertisement in this column. Five weeks for one dollar. Try it.

POULTRY

FOR SALE, single comb Brown Leghorn chicks and four pair Black Spanish chicks choice birds and from good layers. Per pair \$2.00. Cockerel and 3 pullets \$1.00. Will ship in light crates. Geo. A. GUMMER, Colborne, Ont.

POULTRY Netting.—See our advt. in another col- with prices. Also for shipping and exhibition Coops with owner's name printed on the canvas. THE D. A. JONES CO. Ld. Beeton.

H. V. N. Dimmock, Hubbardsville, N. Y., proprietor of the Chonungo Valley Poultry Farm, makes the breedinf. of high class Rod Cnps a speciality. Some very fine birds for sale both fowls and chicks, in pairs or trios only, prices reasonable.

FOR SALE—First-class A. 1.5 W. P. Rock hens, 1 cock \$20. 9 L. Brahma hens, 1 cock \$15, p. digreed, all yearling birds, to anyone taking the lot. Going out of business and must sell, no humbug. Address, A. H. BENNET, Barrie, Ont.

FOR SALE, cheap, to make room—1 Golden Wyandotte cockerel for \$1.50 and 5 Wyandotte pullets, \$1.50 each. White Leghorns, 12 hens and pullets \$1 to \$1.50 each 4 cockerels—exhibition birds—\$2 and \$3 each, all the above are splendid value. Speak quick if you want bargain. A. W. GRAHAM, St. Thomas, Ont.

FOR SALE OR EXCHANGE—A few very handsome R. C. W. Leghorn chicks, well in bred, 85 per pair; Also one pair R. C. B. Leghorn earlings, \$5. These are exceedingly beautiful and a good chance to get prime stock. As I am needing room to make im- provements at once will sell or exchange for honey at above price. Also a few P. Rock Hens left one dollar each. W. C. G. Peter, St. George P. Yards, Angus, Ont.

FOR SALE—S. C. White Leghorns, 1 cock and 1 cockerel, the cock a prize winner at St. Catharines 1888, the cockerel took 1st prize at Great Central Fair, Hamilton, 1889 and 2nd at Dunnville, Dec 1889. Prices reasonable. R. H. MARSHALL, Dunnville, Ont.

MISCELLANEOUS

BIRDS, Parrots, Dogs, Ferrets, Cats, Monkeys, Rab- bits, Bird Eyes, Goldfish, Song Restorer, Trap Cages, Distemper and Mange Cure. Wilson's Big Bird Store, Cleveland, Ohio.

WANTED—To exchange for honey or anything that is useful, some choice Canaries with extra goodbreeding and singing cages. Cost altogether over twenty-five dollars will sell for \$10.00 or exchange as above. Address T. BAINES Allandale Ont.

CHEAP!

LIGHT Brahmas, cockerels and pullets bred from L 1st cock at Toronto and Hamilton; P. Rocks, Cochins, Leghorns, Blk. Javas, G. Polands, Langshaus Games, Cayuga Ducks, Game and Seabright Santams. 10 Firsts, 8 seconds and diploma at Kingeton. 13 firsts and 10 seconds at Ottawa, 9 firsts, 7 seconds and diplo- mas at Toronto. 6 firsts, 1 second on 9 entries Bar- ton. 10 firsts, 8 seconds, 8 diplomas, Hamilton.

A. G. H. LUXTON,
Hamilton P.O., Ont.

BEES

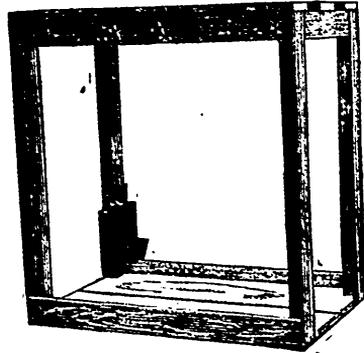
SECOND hand Foundation Mill wanted, must be at least 10in., in exchange for either honey or cash. Address, E. O. YOUNG, Hampdon, P. O., Ont.

FOR SALE—3,500 lbs. of choice extracted honey, Linden and clover at 10c, in 60 lb. cans. (Cans extra. Also 800 lbs buckwheat for which I want offers. W. E. MORRISON, Alvinston, Ont.

SEND your address on a postal card for samples of Dadant's foundation and specimen pages of "The Hive and Honey-bee," revised by Dadant & Son, edition of '89. Dadant's foundation is kept for sale in Canada, by E. L. Guild & Co., Brantford Ontario OHAS. DADANT & SON, Hamilton Hancock Co. Illinois.

MONEY FOR ALL

WANTED—A good energetic man or woman, to sell our Fruit Trees, Roses, Shrubs, Ornamentals, etc. Permanent employment. Write at once for terms, and secure choice of territory. We sell only first-class stock, handsome, outfit free.
MAY BROTHERS,
Nurserymen, Rochester N. Y.



SHIPPING COOPS

For Exhibition And Sale Purposes.

Save money in express charges by buying light, well made coops,—weigh only 5 1/2 lbs.
We keep in stock one size, only, 20 in x 13 in. x 20 in. for pairs or light trios.
PRICES MADE UP.

	Each	10	25	100
Skeletons, only,	30	4.75	6.25	22.50
With Canvas,	40	3.75	8.50	30.00

	PRICE IN FLAT.			
Skeletons, only,	25	2.50	5.00	18.00
Name and address printed on canvas 5c. each extra	\$3.00 per 100			

For Exhibition purposes, where coops are not furnished by the Fair Associations, strips are supplied, which are tacked on one side of coop, at 5c per coop.

OTHER SIZES.
We make coops in any size desired, and shall, at all times, be prepared to quote prices. In asking for estimates please give size and number wanted.

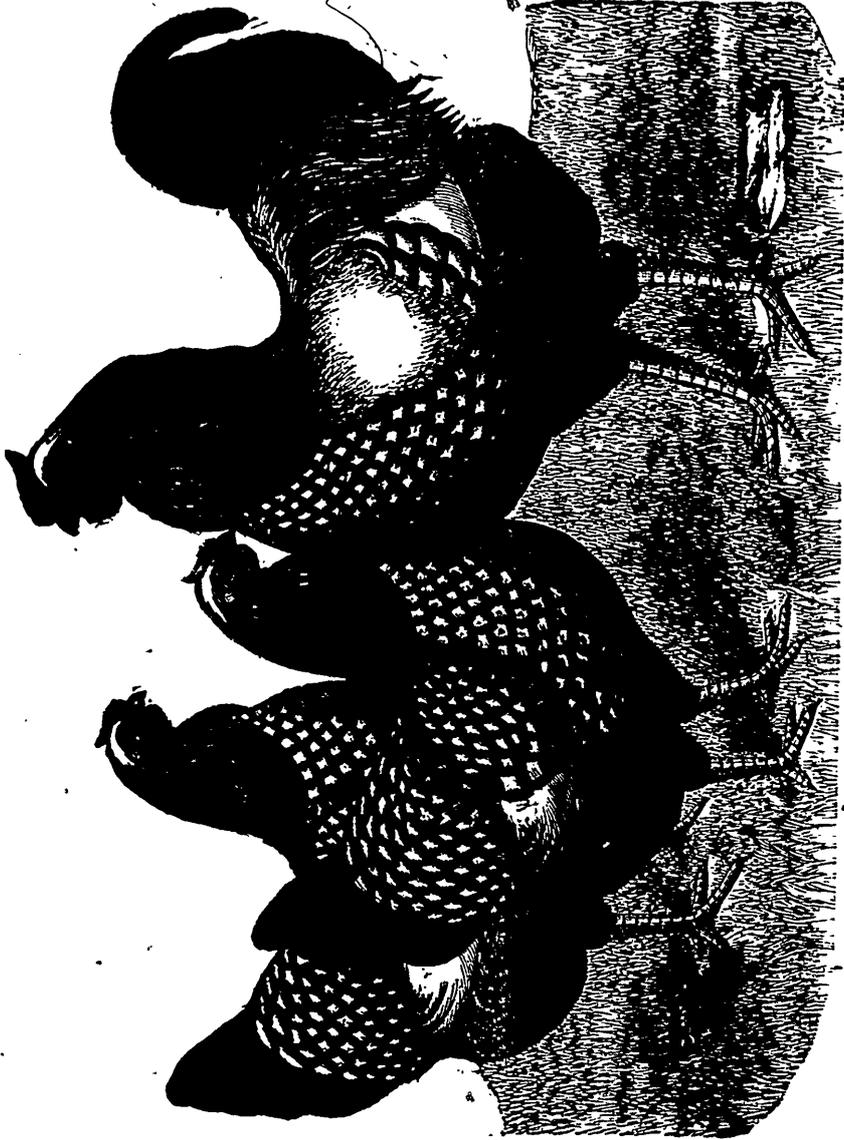
DRINKING FOUNTAINS

For shipping and exhibition coops, to hold one pint of water: Price,	each	10	25,	1 00
	15c.	1 40	3 25	12 00

The water cannot slop out or become dirty.

Larger sizes made to order—ask for prices.

The D. A. JONES CO., Ld.
Beeton, Ont



W. T. TAPSCOTT, BRAMPTON.

W. T. Tapscott

Importer and Breeder of

SILVER LACED WYANDOTTES

BLACK, WHITE AND BROWN LEGHORNS,
PLYMOUTH ROCKS, MINORCAS AND
OTHER VARIETIES.

A fine lot of high scoring chicks for sale now; offered at
great reduction until Nov. 1st.

Address, BRAMPTON, ONT.

ADVERTISEMENTS.

ORGANIZED 1874

INCORPORATED 1879.

Poultry **A**ssociation of **O**ntario
16th ANNUAL EXHIBITION
 at St. Catharines, Can. **O**
 Entries close Jan 3. Jan. 7, 8, 9, 10, '90.

J. J. Bykert, M. P.
 PRESIDENT.

R. Hamill,
 SECY.

W. C. G. PETER,

IMPORTER AND BREEDER OF

WYANDOTTES

Plymouth Rocks, Rose Comb, White & Brown Leghorns,

Single-Comb White Leghorns, Light Brahmas, Langshans,
 B. B. R. and S. D. W. Game Bantams.

My Stock is A1. Eggs in season \$3.00 per setting, two for \$5.00. Birds for sale at all times. At the late great Ontario Show, held in St. Catharines I exhibited 15 birds and obtained 13 prizes. Send for Circular.

ST. GEORGE POULTRY YARDS, ANGUS, ONT.

KEEP YOUR HENS BUSY IN WINTER.

Christy's New Improved Poultry Feeder!

Is designed first to give **CONSTANT EXERCISE** to the fowls and to facilitate the labor of feeding. Exercise, health, prolificness and vigorous progeny are some of the good results attained. The feeder is simply yet strongly made, there is nothing to get out of order. It is a tin pail which is suspended over a bed of litter, there is an opening and spring attachment in the bottom, to this is fastened a cord attached to a lath in the litter. In scratching the fowls move this treadle and bring down a few grains which fall on the disc shown in cut and scatter over the pen.

It is used and endorsed by H. S. Babcock, Editor of the "Standard of Perfection." P. H. Jacobs, Editor "Poultry Keeper." J. N. Barker, J. H. Lee, Hathaway Bros., and all the leading poultrymen and journals.



PRICES:

	1 qt.	2 qt.	3 qt.
Each, by mail free	\$ 50	\$ 60	\$ 75
Per 3.....	1 25	1 50	2 00
Per doz.....	4 00	4 80	7 50

SPECIAL FREE TRIAL OFFER

We will send to all desiring a quart size feeder (postage paid by us) on **TEN DAYS TRIAL**, after which time if it proves satisfactory they may remit us 50c. for the Feeder, or if not already a subscriber to the WEEKLY \$1 for this paper one year and we will give the Feeder as a premium.

We have the sole right of sale and manufacture of this Feeder in Canada.

D. A. JONES CO. Ld. BEETON.

ADVERTISEMENTS.

BEE - KEEPERS' SUPPLIES

Quality and Workmanship unsurpassed. We are prepared to furnish Bee-keepers with Supplies promptly, and with goods of uniform excellence as heretofore. Our hives all take the Simplicity Frame. The "FALCON" chaff hive and the "CHATAQUA" Hive, with DEAD AIR SPACES are both giving universal satisfaction. We manufacture a full line of Bee-keepers' Supplies, including

"FALCON" BRAND FOUNDATION.

We gladly furnish Estimates and solicit Correspondence. Send for Illustrated Price List for 1889, free.

THE W. T. FALCONER MFG. CO.,
Jamestown, N.Y. SUCCESSORS TO
W. T. Falconer.

MALTON POULTRY YARD
NEVER BEEN BEATEN.

WILLIAM MILNER, Malton, Ont.

—Breeder of—

Silver Penciled and Spangled Hamburgs, Buff
Cochins, Brown China Geese, and 12
other kinds Poultry.

Prizes on Silver Pencilled Hamburgs: At Milton
1888, 1st on Cockerel; 1st and 2nd on Pullet. At
Bowmanville, 1888, 2nd on Cockerel; 1st and
2nd on Pullet. At Buffalo International '89,
1st on Cockerel; 1st and 2nd on Pullet;
1st and 2nd on Breeding Pen.

Prices on application.

JOHN NUNN, Importer and Exporter. FOR SALE!

can part with 5 grand young Black Spanish cockerels
best on this continent, with clear faces and will
never go blind. Also my 1st prize cock, price \$25.00,
my 2nd prize cockerel, price \$25.00, also my 3rd
prize cock, price \$15.00. Any of these birds can win for
at any show; young cockerels \$6.00.

N. B.—Birds imported to order a speciality, nothing
but the best brought out; Pigeons, Rabbits or Dogs
which will be sent direct to the parties ordering the
same, charges can be paid in England which will come
much cheaper if parties w. a. l. A. stamp for reply. Ad-
dress, JOHN NUNN, 132 Euclid Ave., Toronto Ont

E. F. Doty 47 WELLINGTON PLACE. TORONTO, ONT.

Breeder and dealer in Game and Ornamental
Fowls, Game and Ornamental Bantams, Ducks, High
Class Fancy Pigeons, Fox terrier and Toy Dogs
Rabbits and Pet Stock. Hundreds of prizes awarded
my stock at leading shows. Birds and animals for
sale and

Sent on Approval.

PATENTS!

Patents Caveats and Trade marks procured, Rejected
Applications Revived and prosecuted. All business be-
fore the U. S. Patent Office promptly attended to for
moderate fees, and no charge made unless Patent is
secured. Send for "INVENTOR'S GUIDE."
FRANKLIN H HOUGH, Washington, D C

THE SEVENTH ANNUAL SHOW

—OF THE—
BOWMANVILLE POULTRY ASSOCIATION

To be held in the
TOWN HALL, BOWMANVILLE

—ON—
Tuesday, Dec. 31st, '89, Jan. 1st 2nd & 3rd '90

S. BUTTERFIELD, Judge.

For prize list and full information, ad-
dress:—

A. HOBBS,
President

J. M. HERN, SECTY.
B x 124, Bowmanville, O t.

250 ENVELOPES

—AND—

250 NOTE HEADS

FOR \$1.00

Good paper, sent postpaid on receipt of
price. Address all orders for Printing
to the

D. H. JONES CO. LD.
BEETON, ONT.

Game Fowls Exclusively

Irish Grey, English, Irish and American B. B. Reds,
English, D. rlys, Heathwoods, Claibournes, Dominiques,
Malays, Mexican Greys and Gristles. Free circular.
Send for it

C. D. SMITH,
Port Plain N. Y.

The Improved Monitor Incubator FIRST PRIZE

AT THE GREAT N. E. AGRICULTURAL
FAIR, WINCHESTER, MASS.

Send for circulars which contain valuable
information

A. F. WILLIAMS,
BRISTOL, CT, U.S.A.