

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

Coloured pages/
Pages de couleur

Covers damaged/
Couverture endommagée

Pages damaged/
Pages endommagées

Covers restored and/or laminated/
Couverture restaurée et/ou pelliculée

Pages restored and/or laminated/
Pages restaurées et/ou pelliculées

Cover title missing/
Le titre de couverture manque

Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées

Coloured maps/
Cartes géographiques en couleur

Pages detached/
Pages détachées

Coloured ink (i.e. other than blue or black)/
Encre de couleur (i.e. autre que bleue ou noire)

Showthrough/
Transparence

Coloured plates and/or illustrations/
Planches et/ou illustrations en couleur

Quality of print varies/
Qualité inégale de l'impression

Bound with other material/
Relié avec d'autres documents

Continuous pagination/
Pagination continue

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

Includes index(es)/
Comprend un (des) index

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.

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

Additional comments: /
Commentaires supplémentaires:

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

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

RURAL CANADIAN

Farm Journal, Canadian Farmer and Grange Record.

VOLUME IX. No. 1.

TORONTO, JANUARY, 1886.

\$1.00 in advance.

RELIABLE BREEDERS.

Cards of four lines inserted in this column and a copy of THE RURAL CANADIAN sent for one year for \$5 per annum, cash in advance.

W. S. HAWKSHAW, Glanworth P.O., breeder of Shorthorn Cattle and full bred Shropshire Sheep.

ALEXANDER BURNS, Maple Lodge Farm, Rockwood, Ont., breeder of Shorthorn Cattle. Young stock for sale.

THOMAS IRVING, Logan's Farm, Montreal, breeder of Ayrshire Cattle, Clydesdale Horses, Yorkshire and Berkshire Pigs, and Leicester Sheep.

WILLIAM SMITH, Columbus P.O., Ont., importer and breeder of Clydesdale Horses and Shorthorn Cattle. Breeder of high-class Grade Stock and Pure Bred Long Wool Sheep.

MAJOR THOS. HODGSON, Myrtle, Ont., breeder and importer of HIGH-CLASS POULTRY. Price Lists on receipt of 3 cent stamp. Splendid farm of 145 acres for sale, drained and well watered.

JOHN DRYDEN, Brooklyn, Ont., breeds the best and sells at reasonable rates Shorthorn Cattle, Shropshire Sheep and Clydesdale Horses.

WILLIAM LINTON, Aurora, Ont., P.O. Box 99, importer and breeder of Shorthorns (Booth's strain, Sowerby family), Cotswold Sheep and Berkshire Swine. All recorded.

SETH BEACOCK & SON, Oakland Farm, Kettleby P.O., Ont., Aurora Station, breeders of Shorthorn Cattle and Southdown Sheep. Some choice young Bulls and other stock for sale.

JAS. LEASK AND BROS., Ryland Farm, Taunton P.O., Oshawa Station, breeder of Clydesdale Horses, Shorthorn Cattle, Shropshire Sheep and Berkshire Pigs. Seed Grain a specialty.

WAL. J. SMITH, Angus, Ont., breeder of Jersey Cattle. Young stock for sale. Also high-class Plymouth Rock and White Leghorn Fowls. Eggs (in season) \$1.50 per setting of thirteen.

JOHN JACKSON, Woodside Farm, Abingdon, Ont., importer and breeder of Southdown sheep, Gold Medal Flock at Ottawa, and 115 prizes at the leading fairs in 1881; also Shorthorns and Berkshire stock for sale.

VIRGINIA FARMS VERY CHEAP. Climate mild—taxes low—health perfect. Schools and Churches convenient. Send stamp for Catalogue. C. D. Epes, Nottoway, C. H., Va.

FOR SALE—Twenty Colonies of Italian and Hybrid Bees, mostly pure Italians, in Jones' hives, for which I will take \$7.00 a colony, delivered on board Cars at Meaford.

WELLINGTON SAUNDERS, Meaford, Ont.

GOOD THE YEAR ROUND.—National Pills are a good blood purifier, liver regulator and mild purgative for all seasons.

FIRST-CLASS DELAWARE FARM for sale 1 1/2 miles from town of Farmington, on Delaware R. R., 90 acres high state of cultivation, 75 bushels corn, 30 bushels of wheat per acre, 25 acres in timothy and clover, 62 acre in grain, 700 peach trees, apples, pears, cherries and grapes, two-story dwelling, modern finish out-buildings, three tenant houses; healthy location; school and church convenient. Will be sold at a bargain, less than cost of buildings, Address AMOS COLE, Harrington, Delaware.

HOME STUDY. Thorough and practical instruction given by mail in Book-keeping, Business Forms, Arithmetic, Penmanship, Shorthand, etc. Low Rates. Distance no objection. Circulars free. Address, BRYANT & STRATTON'S COLLEGE, Buffalo, N.Y.

THE Standard Fertilizer & Chemical Co. (Limited.)

Manufacture Superphosphates, Artificial Manures and Special Fertilizers, for Field and Garden purposes. For prices and circulars address, R. J. BRODIE, Manager, Smith's Falls, Ont.



THE NOVELTY Rug Machine

(Pat. March 6th, 1882.)

Makes Rugs, Ties, Hoops, Mittens, Door Mats, etc.

With ease and rapidity. Price only \$1. Single machines, with full directions, sent by mail on receipt

of price. Agents wanted. Apply for circulars to R. W. Ross, P.O. Box 541. Sole Manufacturer, Guelph, Ont. Also dealer in Rug Patterns.

A PRIZE.

Send six cents for postage and receive free a costly box of goods which will help all, of either sex to make money right away than anything else in this world. Fortunes await the workers, absolutely sure. Terms mailed free. TRUE & Co., Augusta, Maine.

USE

GOLD SEAL

Baking Powder.

ABSOLUTELY PURE.

Ladies who are particular about their baking must use it in preference to any other.

ASK YOUR GROCER FOR IT!

THE SIGNS OF WORMS are well known, but the remedy is not always so well determined. Worm Powders will destroy them.

CANADA PERMANENT

Loan & Savings Co.,

INCORPORATED A.D., 1855.

SUBSCRIBED CAPITAL . . . \$3,000,000
PAID-UP CAPITAL . . . 2,200,000
RESERVE FUND . . . 1,100,000
TOTAL ASSETS . . . 8,539,476

Office—Company's Buildings, Toronto Street, Toronto.

The Company has now on hand a large amount of English money which it is prepared to lend on first-class securities at low rates of interest.

Apply to J. HERBERT MASON, Mang. Director.

GRANGE SUPPLIES

FOR SALE AT THIS OFFICE.

Applications for Membership, per 100.....\$0 50
Blank Duplicates, per 100..... 1 00
Membership or Trade Cards, per 100..... 0 50
Books of Secretary or Treasurer, each..... 0 02
Receipts, bound (100 in a book)..... 0 70
Orders on Treasurer (100 in a book)..... 0 70
Letter heads, full size, per 100 (Grange or business cards printed on)..... 1 05
Letter-heads, note size, per 100 (Grange or other business card printed on)..... 0 70
Envelopes, per 100 (Grange or other business printed on)..... 0 55
(No orders will be received for letter heads, note heads, and envelopes for less than 100).
Blank Quarterly Reports for Subordinate Granges furnished to Div. Granges at the rate of, per 100..... 1 00
Blank Deeds (in duplicate), special blank for use of Granges acquiring property 0 20
Sent post free.

Thin, Pale-Faced Ladies.

For 50 cents we will send you sealed, what will in a very short time DEVELOP the CHEEKS, making them PLUMP AND ROSY, and fill out the NECK. Never fails. No medicine. MCKAY BUREAU, 122 Queen Street East, Toronto, or full particulars sent for 3 cent stamp.

ONTARIO

VETERINARY COLLEGE,

Temperance Street, Toronto.

Session begins October 21st. All experienced teachers.

PROF. SMITH, V.S., Toronto.

FOR THE COMPLEXION.—For Pimples, Itches, Tans, and all itching tumors of the skin, use Prof. Low's Magic Sulphur Soap.

THE LINE SELECTED BY THE U. S. GOV'T TO CARRY THE FAST MAIL.

Burlington Route C.B. & Q.R.R.

It is the only line with its own track from **CHICAGO TO DENVER**, either by way of Omaha, Pacific Junc., St. Joseph, Atchison or Kansas City. It connects in Union Depots with through trains from NEW YORK, PHILADELPHIA, BOSTON and all Eastern points. It is the principal line to **SAN FRANCISCO, PORTLAND & CITY OF MEXICO**. It traverses all of the six great States of ILLINOIS, IOWA, MISSOURI, NEBRASKA, KANSAS, COLORADO with branch lines to all their important cities and towns.

From CHICAGO, PEORIA or ST. LOUIS, it runs every day in the year from one to three elegantly equipped through trains over its own tracks between **Chicago and Denver, Chicago and Omaha, Chicago and Council Bluffs, Chicago and St. Joseph, Chicago and Atchison, Chicago and Kansas City, Chicago and Topeka, Chicago and Cedar Rapids, Chicago and Sioux City, Peoria and Council Bluffs, Peoria and Kansas City, St. Louis and Omaha, St. Louis and St. Paul, Kansas City and Denver, Kansas City and St. Paul, Kansas City and Omaha.**

For all points in Northwest, West and Southwest. Its equipment is complete and first class in every particular, and at all important points interlocking switches and signals are used, thus insuring comfort and safety.

For Tickets, Rates, General Information, etc., regarding the Burlington Route, call on any Ticket Agent in the United States or Canada, or address **T. J. POTTER 1st V.P. & GEN. MGR., CHICAGO. HENRY B. STONE, ASST. GEN. MGR., CHICAGO. PERCEVAL LOWELL, GEN. PASS. AGT., CHICAGO.**

KNABE PIANOFORTES.

UNEQUALLED IN
Tone, Touch, Workmanship and Durability.
WILLIAM KNABE & CO.,
Nos. 204 and 206 West Baltimore Street,
Baltimore. No. 112 Fifth Avenue, N. Y.
Send for Catalogue and prices.

JOSEPH RUSE,

68 King Street West; - - - TORONTO.

\$500 REWARD.

We will pay the above reward for any case of Liver Complaint, Dyspepsia, Sick Headache, Indigestion, Constipation, or Constiveness we cannot cure with West's Vegetable Liver Pills, when the directions are strictly complied with. They are purely Vegetable and never fail to give satisfaction. Sugar Coated. Large boxes, containing 31 pills 25 cents. For sale by all druggists. Beware of counterfeits and imitations. The genuine manufactured only by **JOHN O. WEST & CO., "The Pill Makers,"** 81 and 83 King Street East, Toronto, Ont. Free trial package sent by mail prepaid on receipt of 3 cent stamp.



CAN RUPTURE — BE — CURED ?

We answer it can by using **EGAN'S IMPERIAL TRUSS**, having a Spiral Spring Pad, with a Graduated Pressure, Movable Face yielding to every motion, retaining the Hernia always, with no pressure on the spine causing Paralysis, Spinal and Kidney Troubles, as other Trusses will. And being a perfect support for the back and bowels it does away with wearing a double Truss in many cases, and varying in size from 1 to 10, enabling us to meet almost every case. Worn day and night with ease and comfort. Send for circular containing price list, your neighbours' testimony, and questions to answer. Call or address, "**EGAN IMPERIAL TRUSS CO.,**" 23 Adelaide Street East, Toronto Ont. Please mention this paper.

REDUCED IN PRICE TO \$2.00 PER ANNUM.

A first-class Magazine in every respect.

Lippincott's Magazine.

A Popular Monthly of General
Literature.

With the issue for January, 1886, important changes will be made in the literary character and typographical appearance of Lippincott's Magazine, which, while more than maintaining the former standards of excellence, will, it is expected, materially increase its popularity and widen its sphere of usefulness. The distinctive features of Lippincott's for the coming year will be as follows:—

It will be a live periodical, interesting itself in all the current topics of the day, literary, artistic, political and social, and enlisting in their discussion the ablest pens in England and America. A fair hearing will be accorded to all sides of a controversy, though the magazine will strictly preserve its own neutrality.

It will be especially strong in fiction. A new novel entitled "Hope," by W. E. Norris, author of "Matrimony," "No New Thing," etc., who is perhaps the clearest of the rising authors of England, will run through the year, accompanied by a brilliant serial, dealing with the literary and dramatic life of New York City, from the pen of a writer who prefers to keep his name a secret, but whose every touch reveals an intimate acquaintance with the scenes which he describes.

It will be rich in short stories, poems and sketches.

By special arrangement it will be the authorized medium through which the latest utterances of the most eminent transatlantic writers will reach the American public simultaneously with their appearance abroad.

It will number among its American contributors such writers as Gail Hamilton, Julian Hawthorne, Harriet Prescott Spofford, John Bach McMaster, "J. S. of Dale," J. Brander Matthews, etc., etc.

It will be the cheapest first-class magazine issued in America. Recognizing the needs of the time for good literature at moderate prices, the publishers have decided to lower the subscription price, commencing with the new volume, to a sum that will place Lippincott's Magazine within the reach of all.

For sale by all Newsdealers. 25 cents per copy. \$2.00 per annum.

A SPECIMEN COPY SENT FREE ON APPLICATION.

J. B. LIPPINCOTT COMPANY, Pub.

715 and 717 Market St., Philadelphia.



—THE—
IMPROVED

Model Washer and Bleacher

ONLY WEIGHS 6 LBS.
Can be carried in a
small valise.

Pat. Aug. 5, 1884.
C. W. Dennis, Toronto.

SATISFACTION GUARANTEED OR
MONEY REFUNDED.

\$1,000 REWARD FOR ITS SUPERIOR. Washing made light and easy. The clothes have that pure whiteness which no other mode of washing can produce. No rubbing required—no friction to injure the fabric. A ten-year old girl can do the washing as well as an older person. To place it in every household, the price has been reduced to \$2.00, and if not found satisfactory, money refunded within one month from date of purchase.

See what *The Baptist* says: "From personal examination of its construction and experience in its use we commend it as a simple, sensible, scientific and successful machine, which succeeds in doing its work admirably. The price, \$2.00, places it within the reach of all. It is a time and labour-saving machine, is substantial and enduring, and is cheap. From trial in the household we can testify to its excellence."

See what the *Canada Presbyterian* says about it: "The Model Washer and Bleacher which Mr. C. W. Dennis offers to the public has many and valuable advantages. It is a time and labour-saving machine, is substantial and enduring, and is very cheap. From trial in the household we can testify to its excellence."

Send for circulars. Agents wanted.

C. W. DENNIS,
TORONTO BARGAIN HOUSE,

213 Yonge Street, Toronto.

Please mention this paper.

Buy only the Genuine.

GURNEYS & WARE'S

1st PRIZE AT

24 PROVINCIAL EXHIBITIONS.

1st PRIZE AT

EVERY EXHIBITION.

When tested with other Scales

SCALES FOR ALL PURPOSES.

SCALES FOR WEIGHING

HAY, COAL, Etc.

Dairy Scales, Family Scales,
Counter Scales, Etc.

STANDARD SCALES.

Send for Price List and Circulars to

GURNEYS & WARE,

HAMILTON, ONT.

The Rural Canadian.

VOLUME IX. No. 1..

TORONTO, JANUARY, 1886.

\$1.00 in advance.

"The best paper of the kind published in Canada to-day."—*Durham News.*

THE RURAL CANADIAN,

— WITH WHICH IS INCORPORATED THE —

FARM JOURNAL, CANADIAN FARMER AND GRANGE RECORD,
An Illustrated Monthly Magazine for the Farm and Home.

— AT \$1.00 A YEAR. —

A Live Agent wanted in every Village, Town and Township in the Dominion. Liberal Inducements to suitable parties. Apply at once to

C. BLACKETT ROBINSON, - - 5 Jordan St., Toronto.

TO ADVERTISERS

The already large and rapidly growing circulation of the RURAL CANADIAN renders it a good medium for reaching a most desirable class of our population. Card of rates mailed to any address on application.

The Rural Canadian.

TORONTO, JANUARY, 1886.

THE FAT STOCK SHOW.

This show, under the auspices of the Agricultural and Arts Association, was held in Guelph on the 10th and 11th December. The display of abnormally fat animals was about the finest that has been held in Canada. The commodious buildings were well-filled. Mr. Still, of East Oxford, showed an enormous ox, weighing about 2,560 pounds—a perfect giant among giants. Messrs. J. & R. McQueer, of Salem, had a five-year old steer, weighing about 2,500 pounds, a very symmetrical beast. They also exhibited a five-year-old roan cow, weighing about the same. Mr. John Kelly, of Shakespeare, had a three-year-old steer of 2,475 pounds. As might have been expected Messrs. H. & J. Groff, of Elmira, were on hand with a couple of magnificent steers only two and three years old, and weighing 2,280 and 2,275 pounds, respectively. These gentlemen are always to the fore with fat stock. Mr. George Keith, of Salem, exhibited a pair of good steers, weighing about 1,400 pounds, just the class of animals a butcher would delight in. Mr. Walter West, of Guelph, exhibited a grand white steer of 2,000 pounds. Mr. Simon Beattie had two splendid steers, two and three-year-olds, weighing something like 2,100 pounds each. There were not many better looking animals in the show than these.

Of pigs there was a good display. A Berkshire sow one year and ten months old weighed 700 pounds. Life was not exactly a pleasure to this poor animal, the property of Mr. Walter West, of Guelph.

The sheep were exceptionally fine. Mr. Rutherford, of Waterloo, had a Leicester ewe weighing 325 pounds, and a wether, of a cross between Southdown and Cotswold, 290 pounds in weight. The promoters of the show are to be congratulated on the result.

THE POTATO ROT.

One of the saddest events in the history of Ireland was the outbreak of the potato rot in 1847. In that and two or three succeeding years the people of Ireland were in a state of famine, and only for the help that reached them from Canada, the United States and elsewhere, a large mass must have perished. In those days, and even at the present time, the potato is one of the chief articles of food in Ireland, and when for any reason the crop fails the consequences are very serious. On this side of the Atlantic, fortunately, we are not to any great extent dependent on the potato as an article of food. And well that it is so; for, although this edible is cheap, nutritive and healthy, it is not the kind of food that alone will build up a strong and healthy man. The average Irishman of to-day, fresh from the old sod, will hardly compare with the average Canadian in strength or endurance—at all events not until the potatoes are sweated out of him, as we once heard an Irishman say—and those who have studied the natural history of the race are of opinion that since the cultivation of the potato in Ireland the Irishman has visibly deteriorated. Here we have wheat flour, beef, mutton and pork in plenty, not to mention a large variety of fruits and vegetables that make up valuable parts of our daily food. True, we would greatly miss the potato, should the supply for any cause fail; but we could survive a failure of the crop without any fear of famine.

During the past season rot has prevailed over a large extent of territory in America. In our own Province it has extended throughout the whole southern ranges of counties from the St. Clair to the Ottawa Rivers, and northward as far as the counties and districts bordering on Georgian Bay. In the United States, too, it has extended from Minnesota to Maine, including Iowa, Wisconsin, Northern Illinois, Indiana, Michigan, Ohio, Pennsylvania, New Jersey, New York and the New England States. In some of these States, and notably in New York and Michigan, millions of bushels have rotted, and the latest accounts show that there, as in Ontario, the disease shows no abatement since the crop was taken up and stored for the winter.

The nature and causes of the rot have been carefully investigated by Prof. Spalding, of the Botanical Laboratory, University of Michigan, and the results are given in the December Crop Report for the State of Michigan. The disease is stated to be identical with that which caused the great famine in Ireland in 1847, being due to a minute parasitic fungus, the *Phytophthora infestans*. It attacks the tops as well as the tubers, and often spreads from plant to plant and from field to field with great

rapidity. The destructive effects of this fungus are usually observed on the tubers late in the fall; but it is present in the plant much earlier in the season and may be recognized by the blotched, black, or brown-spotted dead appearance of the stems and leaves. Numerous small white spots may be observed upon closer inspection, and when highly magnified these are found to be miniature forests of slender stems growing out of the tops of the potato. The seeds of this fungus, called spores, are developed in millions, and are small enough to rest easily on the point of a pin, and light enough to be blown readily from field to field. The mature fungus develops in the tops and tubers of the potato, and consists of very numerous, colourless, irregular, branching, tube-like threads. These threads grow through the tissues of the potato, feeding upon its juices and rendering it a prey to low forms of life, which induce putrefactive decomposition. The summer spores are the product of this mature fungus, and while the former live only a short time, the latter is perennial and hardy and the least portion of it is capable of reproducing a new plant. These two important facts are regarded by Prof. Spalding as being well ascertained:

"(1) The fungus spreads from one plant to another during the growing season by summer spores, rain-washed or wind-blown;" and

"(2) It depends primarily for its spread the following season upon its perennial mycelium (the tube-like threads) always to be found in the diseased tubers and tops."

Experiments have shown that with only moderate watering the summer spores will penetrate the ground to the depth of several inches, their jelly-like contents pushing out a long, slender tube capable of growing down into any part of the potato plant to begin a new cycle of growth; hence it is assumed that hilling up will afford no protection. Nor is it known that any treatment can be applied to the growing plants—such as Paris Green to the Colorado bug—that will have any effect on the parasite without also destroying the potato plant as well. The preventive measures recommended are the following:

1. The parasite may often live over winter in the tops of decaying tubers left in the fields after harvest. Prudence would therefore dictate the complete removal and destruction of such refuse. It should be buried or burned. It should not be used for compost.

2. Store the harvested crop in dry cellars, and sort over several times at short intervals, carefully removing from the bins every tuber which shows the least sign of decay. Remove also to a separate pile those tubers which have been lying in contact with the diseased ones. The sorting will be facilitated and the decay hindered by storing the tubers in casks, barrels, or small boxes. Potatoes buried in quantity in fields will be liable to rot *in toto* during the coming winter if, by chance, any infected tubers were buried with the sound ones.

3. Plant next season only tubers which are entirely sound outside and inside. The black spots contain the fungus. Some tubers may appear sound on the sur-

face and be diseased within. Determine the soundness of the tubers by cutting at planting time. To plant diseased potatoes will ensure a continuation of the rot.

4. Even if direction No. 1 has been followed, more or less of the potato fungus will probably remain over winter in the fields, ready to grow if there is an opportunity. Do not, therefore, plant in the same fields as last year, nor in adjoining ones, nor near fields planted by neighbours, if some more remote locality can be found.

5. Take advantage of the prevailing direction of the wind. Our summer and autumn winds are chiefly from points between south and west. There is, therefore, a chance of escaping wind-blown spores by planting to the south-west of other potato fields, or to the north-east of woodlands or other large uncultivated tracts.

6. The growth of the parasite is favoured by moisture and stopped by drought. It is rapid in rainy weather and when there are heavy dews. Usually the rot is much worse upon clay lands or other soils which retain moisture. Choose, therefore, a light and dry soil for planting.

These directions are well considered, in view of what is known of the natural history of the fungus to which the disease is due, and if our farmers and market gardeners will but observe them carefully, the disease may in large measure be abated.

In Huron Districts winter has fairly set in. On the 4th ult. we had snow for two days, the ground well covered, but no frost in the land. A bad prospect for wheat unless the snow keeps loose and not fall much heavier.

The pulse-beat of a healthy horse at rest is forty to the minute, of the ox fifty to fifty-five times, and of the sheep and the pig seventy to eighty times. Any material variation from these figures may be considered as a sign of disease.

To milk a cow before the calf comes is to disturb the natural habit, and bad consequences may follow. When it is necessary to relieve the cow only a very little should be drawn, and the secretion of milk should be discouraged by the use of dry food.

WHAT Henry Ward Beecher once wrote about butter-making in Indiana is not inapplicable to butter-making at the present day in some districts of Ontario—we should not like to say in how many: "Oh for a reformation in the dairy!" exclaimed the preacher.

It is estimated that the cattle range area of the United States embraces 1,365,000 square miles, or forty-four per cent. of the total area of the Union. It is further estimated that 7,500,000 cattle graze on the green plains east of the Rocky Mountains, and that their value is over 200,000,000. English syndicates and English noblemen, it is stated, occupy 21,000,000 acres of this grazing lands, together with the herds thereon.

THE eminent English physician Sir Henry Thompson, says that a fish diet is particularly suitable for persons who are unable to take much exercise, but he declares that there is no foundation whatever for the notion that such a diet tends especially to feed the brain.

THE value of the milch cows of the United States is put down at \$7,000,000 in excess of the entire capital stock of all national banks and trust companies of the country. The product of the 650 butter and cream factories of Iowa alone is valued at \$50,000,000 for the year 1884.

It is becoming more and more the practice with our best farmers to feed all the fodder and coarse grain they grow at home, and they gain by it in two ways: (1) The feed is converted into a more valuable product; and (2) rich manure is made to restore and preserve the fertility of the land.

To promote the laying of eggs in winter, hens should be kept quiet and comfortable, fed liberally with green and animal food, and supplied with fresh and clear water. A healthy hen will drink fifteen or twenty times per day, so that the supply should be ample for the wants of each day.

A WRITER on poultry advises that in the breeding of stock all males should be got rid of at the end of the season; select the best birds from among the females, and cross up next year with males in no way related to these. If thoroughbred cocks are secured the improvement will be all the more visible.

AN experienced dairyman is of the opinion that the reason why so much difficulty is found in churning in the winter season is that cows are not given a sufficient supply of salt with their food. Prof. Sanborn says that salt in a liberal and regular ration is indispensable in the dairy when fine butter is desired.

Food to make muscle and bone is as necessary in the fattening of stock as food to make fat simply. Corn cannot make flesh or bone, for it is nearly all carbonaceous matter and will make fat only. A liberal supply of hard water, which contains lime in solution, answers a general purpose with corn fodder, for lime goes to form bone.

THE advantage of feeding grain at home instead of shipping it abroad may be illustrated in this way: The freight on a hundred pounds of corn is the same as on a hundred pounds of pork. But, packed into pork, the hundred pounds of corn represents only twenty pounds, and the freight charge on the latter would be only one-fifth of the charge on the former. In other words, when it costs \$100 to move a certain quantity of corn to market, it costs only \$20 to move its equivalent in pork to the same market. So also with beef, mutton, poultry, cheese, butter, etc., and what is saved in freight is clear gain to the producer—or nearly so.

Stock go into winter well and smooth; coarse grain cheap, but not much stall feeding, owing to the depression in European markets and an over supply for home consumption. Too much money, which should be in circulation, locked up in farm stock. We appear to have dropped from the top to the bottom of market values in two years.

HE is a poor farmer who cannot, under ordinary circumstances, make enough to feed and clothe his family. He is a fortunate working man in the towns and cities who can do so, and in far too many cases his larder is scant. Yet how common it is to find the farmer envying the life of the townsman—the farmer whose crops are growing and whose cattle are taking on flesh as well in his sleeping as in his waking hours!

MR. F. MALCOLM, of Innerkip, claims that in his part of the country \$50 to \$55 per cow is no uncommon return for milk supplied to cheese factories. It is not likely that such good results will be obtained this year. But it will easily be understood that where \$50 or even \$40 is obtained as the season's product of a single cow, the value of land must be considerably higher than where the yield is \$30 or \$35.

It is sometimes said that three-fourths of the milch cows in the country do not pay for their keep. The best way to test this is to weigh and record the quantity of milk given by each cow at each milking, and from time to time to test its value in the production of butter and cheese. No man should keep a cow which consumes more than it produces, and only by a careful record of consumption and production can a profitable herd be established.

IN a paper read by Commissioner Colman at the American Convention of Cattle Growers, he showed that in the whole of Europe there is a yearly deficiency of 797,000 tons of meat. This must be supplied chiefly from America, yet Mr. Colman is of opinion that unless greatly increased attention is given to meat production in the United States, it will not be many years until in that country the home demand will tax the resources of the home supply. The country has doubled its population every twenty-five years since 1790, and this a much faster rate than the increase of the stock of cattle.

WHATEVER excuse there may be for leaving implements without cover in a prairie country, where lumber is scarce or dear, there is none in this Province; yet, in far too many instances ploughs, harrows, cultivators, etc., may be seen on Ontario farms where the last stroke of work was done with them for the season. Even the reaper is sometimes left to winter in the open field—its wood-work absorbing moisture, and its iron-work covered with rust. This ought not to be. It is a waste of working capital under which no farmer can prosper. Every farm implement should be kept in a dry place when out of use, and a coating of paint or oil will make it last all the longer.

IN a leading Agricultural College (so called) of the United States there are this year 600 students, and of these only eighteen have been taking the agricultural course. The rest have taken mechanical engineering and courses of a kindred character, and the reason is stated to be that whereas in the agricultural course no attention is given to practical studies, in the other courses instruction is given by means of the use of every machine, tool and implement known to the artisan.

THE self-binder is \$50 cheaper now than it was four years ago, and the makers might afford to make the price still lower in view of the steadily growing demand. Indeed it may be said that the cost of almost every implement is more than it ought to be. Combinations are the general rule now amongst the manufacturers, and prices are kept up by mechanical means. This system will not last always, and when it is broken the manufacturer will probably be the greatest sufferer. The farmer cannot afford to pay the bulk of his profits as interest on his working capital.

THE "afternoon farmer" is the ne'er-do-well of his class. It is not enough that the successful husbandman should be employed the whole day, but that he should be employed diligently and faithfully. With the best of weather our working season is short and none of it can be spent in lounging. But we would not have any man work the whole livelong day, as the habit of some is. Only one with a frame of steel can labour from sunrise to sunset of a summer's day, and even such a one is liable to go off with a snap. Ten hours per day of steady work is enough for the man of the best constitution.

AN experiment made by Prof. Sheldon, of the Kansas Agricultural College, shows the economy of keeping fattening animals in warm quarters. Five Berkshire pigs were put in a warm pen in the basement of a barn, and five others of the same kind in an open rail pen outside. Both lots were fed exactly alike, and on 2,880 pounds of corn the lot in the warm pen made 604 pounds of live weight, while the other lot made only 478 pounds. That is to say, the first five made a pound of flesh for every 4.7 pounds of corn and the second five a pound of flesh for every six pounds of corn—equal to a waste of 634 pounds of corn in feeding the exposed lot.

THERE is no farmer so well off this year as the one who has carried on mixed farming. It is a good thing to follow specialties; but it is a great mistake to put all one's eggs into one basket. Every owner of a farm of one hundred acres may easily enough carry on operations along half-a-dozen different lines, and if one or two should fail he may succeed in getting a fair living out of the rest. Thirty years ago but little else was grown in this country excepting wheat. Then the weevil and the midge came, and with them a period of severe distress; but our farmers were taught their first lesson on the necessity of branching out, and year by year they are seeing the wisdom of mixed husbandry.

"THE scrub bull must go" is one of the sayings of the country people now, and we like the sound of it. What man of forty or forty or forty-five years but remembers the days of the brindled bull, and how he used to stalk up and down the concessions and to and fro on the cross-roads? He was thought to be an institution in those days, and the pioneer farmers possibly thought they could not get along without him. But to-day he is almost as extinct as the dodo, and if by some chance he should re-appear in any of the old settlements, he would stand a good show of being shot at sight. But there are districts where his scrub successor is yet to be found, and it is high time that he, too, should go.

HE is a man of large conceit who thinks he knows everything, even in his own special line. The tiller of the soil cannot possibly know everything that relates to his occupation, no matter how long or how carefully he studies the features of it which interest him. His nearest neighbour could doubtless give him some useful ideas, learned in the school of experience; and a weekly meeting of half-a-dozen neighbours held to discuss topics and exchange opinions could not fail to be instructive and profitable to all of them. The agricultural journal takes the place of these meetings, and week after week it gives its readers the best counsels of the best men. There is many a paragraph in it worth a year's subscription.

MR. D. JAMES, of Markham, makes this thoughtful observation on the present position of his class: "Their profits being small, farmers are more careful how they expend and invest their money. They are just now receiving a good education, which will be of great advantage to them all through life." There is no other class, indeed, who are less likely to forget a wholesome lesson than the farmer. Less than ten years ago business men were in a state of distress owing to reaction from a season of speculation, and within five years they were as deep and reckless in the whirl as ever before. This can't be said of the farmers, and if the state of business is not as bad now as it was ten years ago, it is largely because of the farmers' solid sense.

A CELLAR should be dry, light, airy and well drained. The drain should be laid on all sides of the cellar, at least a foot under the floor, and it should have a safe outlet. It is desirable that the windows should be above the line of the ground, as otherwise they become receptacles of dampness. The temperature of the cellar should never fall below the freezing point; but, on the other hand, it is not well that it should be many degrees above freezing. Fruit, vegetables and dairy products keep best in cool places, and here it may be observed that the compartments of a cellar should be numerous enough and close enough to prevent the contamination of one article by the odours or vapours of another. Milk, butter, eggs, meat, fruit, etc., are speedily affected by the cabbage and the turnip. It is hardly necessary to utter a word of caution against permitting any decayed fruit or vegetables to remain even during the coldest days of winter. The health of the household demands that the contents of the cellar be wholesome.

FARM AND FIELD.

FOR THE RURAL CANADIAN.

*WALKS AND TALKS AMONG THE
FARMERS.—NO. XX.*

BEFORE the December issue of THE RURAL CANADIAN came to hand, I had jotted down as the first topic to be treated in this article, that of making farm-houses comfortable in winter. The admirable article on "The Farmer's Home in Winter," which appeared in that issue, anticipates much of what I intended to say; but the subject is one of great importance, and will bear further discussion without becoming threadbare. If any of THE RURAL CANADIAN'S large and increasing circle of readers have skipped over that article, or only read it in a cursory manner, let me call special attention to it, particularly on the part of heads of families, one of whose obvious duties is to make home a scene of comfort, where life can be spent pleasantly at all seasons of the year.

It is undeniable that many country dwellings are not comfortable places of abode in winter. During the summer, farmers and their families pass the greater portion of their time in the open air, and if the house is thoroughly ventilated, as it usually is, and easily can be, there are at any rate, the prime conditions of health and comfort; but, in winter, it is different. The female members of the family spend most of the time indoors, and the "men-folks" also are there much more than at other seasons. In most farm-houses, an ample kitchen forms the living-room. There the meals are taken, and there, in the evening, the domestic circle is formed. Few country houses have more than one fire constantly going. This warms the living-room, and perhaps one bedroom, which opens out of it. The rest of the house is cold most of the time. There is, very likely, a sitting-room or parlour; but a fire is kindled there only on "high days and holidays," on Sundays, on wedding or funeral occasions, and when there is company. There are exceptions to this. In some farm-houses there is a hall-stove kept going. In others, a fire is constantly burning in the parlour, or sitting-room. But, from my travels and observations, I am inclined to think these cases are largely in the minority.

MANY of our better-class farm-houses are built of stone. This material makes a most substantial and durable building, but it is one that is extremely cold in winter, unless artificial heat is supplied. A stone wall becomes permeated with dampness, absorbing moisture from the earth by means of capillary attraction. Flesh and blood are more sensitive to damp cold than to dry cold. A frame house, being to a greater or less extent porous, admits both cold and heat more freely than a stone house. In a severe spell of weather, cold gets into a stone house and stays there, while a frame house becomes sensibly warmer when the temperature moderates out-of-doors. Brick houses are open to the same objection as stone ones, though in a lesser degree, unless built on the hollow-wall principle, as few brick

houses are. But all houses, of whatever material, they may be constructed, need some artificial heat in winter, especially during a blizzard, or down-below-zero spell.

I STOPPED overnight in a stone farm-house one night in November last. The spare-bed was very nicely fixed up, oven to "pillow-shams." There was a pile of bed clothes, and the sheets were woollen ones. The bed was soft, I was tired, and everything seemed to invite repose. But I could not get warm all night, though I kept on my flannel shirt and drawers. In the middle of the night, I shook as with an ague chill. Already, though winter had scarcely begun, the damp cold had gained foothold in that room, and the heat of my body was insufficient to overcome it. Next day some conversation sprang up about warming bedrooms in winter. Of course, I did not complain of my quarters. But, in an "aside," some of the young folks told me "pa" and "ma" had no idea how cold it was upstairs in winter. They dreaded going to bed. They had often expressed a wish to have a stove in the upstairs hall, but "pa" and "ma" did not see the necessity of it. I sympathized with those young people more than I felt at liberty to say, and I now voice their grievance, in the hope that it may lead to redress, not only in their cases, but in that of many more, similarly situated.

LAST week I spent a night in an old, square-built, spreading cottage farm-house. It was a frame one, rough-cast. I had stayed there before, and found the spare bedroom pretty cold, so much so, that I rather shrank from another experience of it. But, lo and behold, in the interim, my friend had put a Boynton's improved coal-furnace into the cellar, which made the whole house comfortable. A register in the hall created a pleasant atmosphere upstairs. Registers in the living-room and parlour made them comfortable. Open fire-places in the two rooms just mentioned gave an opportunity for adding the pleasantest of all charms to a winter home, both for the family and for visitors. I said to myself, "this is the perfection of winter comfort—would that it were enjoyed in all farm-houses!"

"But, then, think of the cost of it," exclaims an economist. To quote, in substance, from Hood's well-known "Song of the Shirt," what a pity that fuel is so dear, and "human life so cheap!" It is not so very expensive, after all. My friend lives near a large town where wood is scarce and dear. His fuel costs him, under the old plan, about \$95 a year. Of course, he was one of those who kept more than one fire going in winter. Usually, there were three stoves in constant operation, and sometimes one or both of the fire-places. The furnace cost \$150, including the expense of building it in. From eight to ten tons of coal ran it all winter. Those who laid in their coal early the present winter got it for about \$6 per ton, and it is seldom higher than \$7. It might be less but for the coal-tax. A good base-burner in a hall will consume about three tons of coal during the winter, possibly four. Does it pay, my economical objector, to suffer discomfort and perhaps endanger health, by living in cold houses? No doubt

many bad colds and other ailments are traceable to this cause, and doctor's bills are not so pleasant to pay as fuel bills.

Let me plead for a sitting-room in the farm-house. "Music hath charms," and the majority of country houses now have a parlour organ in them. The girls can only practise in a cold room at the risk of health, and so nice a piece of furniture as a parlour organ cannot be kept in the kitchen. Music would be enjoyed to a much greater extent by residents in the country, but for the bugbear of a second fire. Winter, with its long evenings, is the time for the practice and enjoyment of music. There is also reading, and there are social games, for which a sitting-room is needed. Farmers do not visit one another enough. They would do so oftener, and many a pleasant evening would be passed at one another's houses, if it were known that there was a sitting-room, cosy and warm, always ready to welcome them. Winter is the time for social intercourse among residents in the country. They have some leisure for it then, at any rate, in the evening of the day.

The trouble of it is that too many of us are all the time getting ready to live. We look forward to a future of comfort when we have made some money, and prospered sufficiently to have all things pleasant about us. Meantime, we pinch and punish ourselves and those dependent on us, and wait indefinitely for "a good time coming," which is very long in arriving, and perhaps does not come at all. The poet Young says:

Of all man's ruinous mistakes, this bears the palm,
That all men are *about to live*,
Forever on the brink of being born.

Meantime, the years are gliding by. Age is creeping upon us. Our children are leaving the homestead, and setting up for themselves, carrying away with them the recollection of summers passed in hard outdoor labour, and winters that have been cold and dreary—work in the barn-yard or kitchen during the day, a brief "cuddle" around the cooking-stove after supper, and then ascent to a cheerless, chilly bed-room, where, after many preliminary shivers, forgetfulness of all trouble and discomfort is found in sleep. Is it not desirable, if possible, to put a little more brightness and comfort into our own and our children's lives? We hang up "Home, Sweet Home," on our walls; but do we translate the motto into daily experience? I make all due allowance for the struggling and calculating necessary in many families in the country as well as in the town; but I know some farmers whose land is clear, whose buildings are good, and who have money out at interest, who, from carrying the practice of economy too far, deprive themselves and their children of comforts that could well be afforded, and would make life far more worth the living.

It will be argued by some that we must have plenty of fresh air, and that it is not wise to make ourselves and our children delicate and tender. Readily granted.

But fresh air and cold air are two very different things. The air is fresh in summer but warm, and in our houses, the same should be true of the indoor air we breathe in winter. Out-of-doors we counteract the coldness of the atmosphere by exercise, or, if we are riding, by wraps and robes. Indoors, both correctives are largely out of the question. Therefore, we must moderate the temperature by artificial heat. Robust people can set hardships and exposures at defiance, but they are not agreeable, all the same. Moreover, all the members of farmers' families are not robust. You cannot toughen them by subjecting them to a severity of cold which taxes their vital energies to the utmost. You may possibly thus enforce the law of "the survival of the fittest," though even that is not certain to be the case. Many who are not robust are as fit to live as the hardiest—life is as sweet to them as it is to anybody else, and it ought not to be cut short or made undesirable by hardship or discomfort, unless they are unavoidable. Many a precious life that has gladdened and blessed the circle in which it has been passed has been prolonged by prudent care and precaution, which would have been lost by opposite treatment, while not a few premature graves have been dug by hardship and exposure.

Well, well, my spate is filled, and I have not exhausted the one topic with which I started. I had jotted down some other subjects: Blanketing horses, the rights of dumb animals, winter recreations, etc.; but must give them the go-bye for the present. Before the January number of THE RURAL CANADIAN is in the hands of its readers, the holidays will be over, and "the compliments of the season" will be rather out of date; but, as I sit, pen in hand, beside my open wood-fire, toasting my toes, and thinking how pleasant and comfortable all things are this nineteenth day of December, with a frosty air outside in which the merry sleigh-bells are jingling, I do most sincerely wish all, "A Merry Christmas and a Happy New Year!"

W. F. C.

UNDERDRAINING.

Under this heading in THE RURAL CANADIAN for November last, boards for underdrains are recommended five inches wide, one and a quarter thick, nailed together like an inverted V. The two-board system was pretty generally adopted in this vicinity some years ago, but has not given satisfaction. It was used on the score of economy; not only theory but test proves this to be the worst form of pipe owing to the greater width of bottom and greater friction on so wide a surface, by which the current is almost entirely overcome by friction against the bottom, except when the fall is very great. The result is that the lower part soon gets filled up with sediment. We have dropped that plan and now use three boards when tile cannot be got, and find that they come as cheap and make a much better drain, as is easily proved. To make twelve feet of drain with two boards, 5x1½, twelve and a half feet of lumber will make a drain about equal to nine inches discharge, when by using boards 1x3 for sides and 1x5 for cover we get the same size.

of pipe of a much better shape with eleven feet of lumber. In the first case we have a bottom surface of five inches and in the second only three inches, so that the friction on the latter will be only three-fifths of the friction on the V-shaped one, and consequently the square shaped drain will be nearly double as effective. Good green hemlock put in fresh, not less than three feet deep, will last an indefinite time. No underdrain should be put down less than three feet deep and as much deeper as the outlet will allow. The deeper the drains the wider they can be placed apart and the farther they will drain. When underdrains are constructed of wood, tile or stone should be used fifteen or twenty feet from the outlet. Some farmers are of opinion that on stiff clay two feet and a half is quite deep enough. We have not seen it tested, but prefer the deeper drain, since nearly all clayey soils would soon become porous enough to drain that depth in time to give good results.

There may be a few places of limited extent where nearly pure clay underlies the soil, rendering drainage difficult, or where there is no sand in the subsoil; in such cases underdraining will not serve the purpose, open drains are required. When a deep clay pan overlies sand or gravel, bottom drainage may be got by boring sink holes in the lowest places and letting the water down to the lower watersheds which occur in some localities; but where no such formation exists with almost a pure clay subsoil and not a good outlet for open drains, or where they would be very numerous, a good substitute would be the sinking of ponds in the lower corners of fields and allow evaporation to assist in draining. This, like every other of the farmer's operations, must vary with the surrounding conditions and no one can lay down a general rule applicable to every soil, though many will be benefited by the advice and experience of each practical farmer on this important subject and our papers raised in value by the number of contributors, while he who commits his facts to paper will have the satisfaction of believing that he has done his duty to his co-labourers, with whom rests the progress of our Provincial prosperity. S. D. G.

THOUSANDS of tons of cheese are made in France from the milk of sheep, and in some of the European markets it brings the highest price.

OUR WEDDING PRESENT of a free copy of THE RURAL CANADIAN for one year to every bride is a new feature. This offer amounts practically to a year's subscription to THE RURAL to every newly married couple in Canada, the only conditions being that the parties (or their friends) apply for the present within one year from the date of their marriage, and such evidence as will amount to a reasonable proof that they are entitled to the magazine under this offer. Be sure to observe these conditions fully. Nearly every bride can send a copy of some newspaper giving notice of her marriage, or the notice itself clipped in such a way as to show the date of the paper, or a statement from the clergyman or justice who performed the ceremony, or from the town clerk or postmaster acquainted with the facts, or some other reasonable evidence. But do not send us names of parents or other witnesses who are strangers to us, nor "refer" us to anybody—we have no time to hunt up the evidence—the party making the application must do that. Marriage certificates, or other evidence, will be returned to the senders if desired, and postage enclosed for the purpose. Address, RURAL CANADIAN, 5 Jordan Street, Toronto.

CREAM.

WHEN a couple are making love by moonlight their feeling is one of in-fine-night bliss.

IN cold northern countries, by a wise provision of nature, the mountains are clad in firs.

"Good gracious," said the hen when she discovered the porcelain egg in her nest, "I shall be a brick-layer next."

STABLE-KEEPER: "By-the-way, shall I put in my extra buffalo?" English stranger: "Couldn't you let me 'ave an 'orse, you know? Er-er rather not drive a buffalo first time, you know."

"JOHN, when you die would you like to be cremated?" "No, Jane, no cremation for your fond husband. Put me on ice. I have had a hot time enough of it while alive." His wife has not sewed on a button for him since.

"WHAT do you think of my moustache?" asked a young man of his girl. "Oh, it reminds me of a western frontier city," was the answer. "In what respect, pray?" "Because the survey is large enough, but the settlers are straggling."

IN Germany apothecaries are not allowed to sell miscellaneous articles, on the ground that such sales are likely to divert the clerk's attention from the delicate duty of compounding medicine. Soda water with a wink in it is a miscellaneous article.

THE dressmaker recommended that a shirring be put upon some part of Dot's new dress. "Mamma," said Dot, "what is shirring?" "Well, my child, a shirring is—is—a gathering." "Oh, yes, mamma; I had a shirring in my ear last winter."

ETHEL (who really thinks she must clean some of her old gloves this winter, times are so bad): "Do you sell kid-revivers?" Chemist: "Ye—yes, m'm. I think you'll find 'Mrs. Grummidge's Infant Cordial' a most excel—" (Confusion).—*English Paper*.

ONE morning Freddie arose, looking very much out of sorts, and soon showed that he was in a very ill humour. "What is the matter with my Freddy this morning?" said mamma. "Are you sick?" "No, ma'am," he said, with a sigh; "but I got up wrong side out."

"BAGSTOCK, I pity you—I do indeed." "Pity me, sir!" "I do. You live such a useless existence. You are languid and weary, and have no occupation in life." "You are mistaken, Mr. Budge. My business is with my fellow-man. I go about doing good." "Ah! That accounts for your getting tired so easily."—*Philadelphia Call*.

MRS. BREEZE: I am so sorry, Delia, to hear that you have had trouble with your husband. Mrs. Geeze: You have been misinformed, Amelia; merely a little disagreement. You know married people cannot always agree. Mrs. Breeze: Can't they? Well, we always agree. In fact, I make it a point to see that we do agree; or rather that John agrees with me, which amounts to the same thing.—*Philadelphia Call*.

HORSES AND CATTLE.

FOR THE RURAL CANADIAN.

FAT STOCK SHOWS.

The utility of these displays is open to great doubt. The stuffing and gorging of animals after the beast has got to a certain size is not very profitable, as has been proved again and again by the largest stock feeders all over the world, and we do not think there is much satisfaction in making any animal so fat that it is uncomfortable, and its life becomes a burden. One old farmer at the recent Fat Stock Show said he had tried it for years, and had come to the conclusion that the empty honour of having an abnormally fat animal did not compensate for the time, trouble and feed bestowed upon it. Talking the matter over with an experienced butcher, he gave it as his opinion that these enormously fat beasts were of very little value to the butcher and, therefore, to the public. Take a beast of say, 2,000 pounds weight, the shrinkage would be at least one-third; that would bring the weight of the carcass, say, to 1,400 pounds, and from this might be deducted another 300 pounds for tallow and fat taken from the brisket, etc., leaving about 1,100 pounds of meat with lumps of fat on it that few purchasers will take, to say nothing of the exclusively fatty rind which the ordinary consumer takes little stock in, as it melts away to dripping in the cooking. Then, again, if the animal has been feeding for any length of time—and which it has to do—the flesh is sure to be tough, no matter how young the beast may be. To make good, juicy, tender meat, the flesh must be put on rapidly. Take a steer or heifer from off the grass, in the fall of the year, and when in poor condition put in a stable, and feed it all it will take for four or five months, and the result will be beef of the very choicest quality. In the case of a majority of the animals exhibited, the accumulation of fat has been the work of time. The process has been slow, the meat is therefore sure to be tough. Animals over 1,400 to 1,600 pounds will, if they have been fed quickly, kill to nearly as much meat as their larger and fatter brethren. It is useless accumulating fat at the present price of tallow (two and three cents per pound). Then, again, dealers will always pay a higher average price for well-fed stock than for excessively fat animals.

O. E.

FOR THE RURAL CANADIAN.

MORE ABOUT SCRUB STOCK.

Conversing on "Scrubs" with a prominent breeder of Shorthorns, he related the following interesting incident: A neighbouring farmer, being too penurious to pay for the services of our informant's pure bred bull, preferred taking his cow some distance to a scrub bull. This had generally to be done during the busiest time of the year, and the weather none of the coolest. Leading or driving a cow when it is in season is perhaps not the easiest or pleasantest task imaginable. So one day, he being without a hired man—they were scarce—he tried to take an unruly cow to Mr.

"Scrub." Time was precious; cow would go in the opposite direction to that desired. Sweat poured from Mr. Penurious, valuable time was going to waste, crops were waiting the gatherer, yet he was saving money by losing his time taking the cow so far; the service of the pure bred bull close at hand was dear; he could not afford it. But the cow was not to be coaxed or driven. So, at last, he came to the conclusion that for once, and only this once, because the day was hot, he would pay the exorbitant charge demanded; and, until the calf was dropped, lamented that he had not persevered in taking Bonney to visit Mr. "Scrub." But when the calf came he changed his mind. This very cow had presented him with other calves; but somehow they were not so good looking as the last one. The cow was improving with age. No credit was given to the bull, not at all. It was the cow, was she not a scrub? And he was taught that scrubs, bred by scrubs, will improve and make the best of cattle. The calf grew and waxed strong. Other cows coming in season, he thought perhaps it was not worth while toiling along with them to Mr. Scrub; so he would take it cool, and be off with them to the pure bull. The marked improvement in his young stock soon became apparent. Dealers, who before this time would not bother calling to see his stock, now came out of their way to do so, and the higher prices realized amply repaid him for the increased sum he paid for the services of a pure bred. He now thinks it better to attain results by the quickest method. RUSTICUS.

BIND THE BROKEN LEG.

The case of the heifer with the broken leg, mentioned in the November number of THE RURAL CANADIAN, should be heeded and applied when such "accidents" occur, and no doubt could be duplicated many times by those who are not too rash to kill the unfortunate animal. Some years ago we had such a case with a two-year-old heifer, with the difference that the hind leg was broken above the pastern, and dislocated at the hock joint. The break was almost complete, as only the skin on one side of the leg was left, keeping the foot attached. We could not kill her without giving her some chance for recovery; and the case seemed too hopeless to call a farrier. We got her on her three legs, one man supporting the broken leg till we got her into a stall. We then doubled up the front feet, so as to get her quietly down on her side. Having got help enough to hold her in place, then with two boys pulling on the leg above the break and pressing the leg firmly across my knee, we got the joint in place. We then made splints for the break; that would take the weight off the broken part, thus avoiding the need of a sling.

Every one has a plan of his own—and many may have better than mine—still in this case the results were all that could be desired. We got five laths, three inches longer than from the knee to the point of the toe, rounded the inside edge at the upper end so as not to chafe the knee-joint, placed a cloth around the leg and commenced to bind with a fine rope, which brought the leg into shape and threw the weight on the end of the

splints and against the leg below the hock-joint. After five or six days the splints were removed and the break washed with a carbolic lotion. The heifer could rise up and lie down without assistance, and move around with a halt, and was quite well inside of six weeks. The pain lasted about a day after the splints were applied. We were sorry that we had no plaster of Paris to make a splint with; but, under the circumstances, the laths proved quite satisfactory. After such a case, we will never kill a beast with a broken leg, without first giving a chance to live.

S. G.

FOOD FOR HORSES.

The oat is pre-eminently the food for the growing horse, and always should be used when obtainable, if you want to get the best results from him. A colt should be so fed and handled as always to be kept growing and thriving, without any checks either from want of food, food of poor quality or unsuited to his needs, or from sickness. Another extreme should always be avoided, and with as much care as poverty of flesh, and that is excessive fatness, which usually occurs from too much fat-producing food, excessive feeding, or want of exercise. Fatness in any animal means disease, not health, and the worst of all places is to find it on the horse. Lay on all the muscle you can, but never allow yourself to be deluded into the folly of mistaking fat for it. The best of all places to raise a horse is in a pasture with running water, with a comfortable stable, where he can go in and out at pleasure with such feeding in kind, quality and quantity, regularly given, as will keep him in growing condition at all times. If not so situated as to command the above conditions, you can modify them to suit your case.—*H. H. Cunningham, in Duncan's Monthly.*

CANADA SHORTHORN HERD-BOOK.

Below we give a list of transfers of thoroughbreds reported from November 20 to December 20, 1885. In the following list the person first named is the seller and the second the buyer:

B. Elmsley Duke [18480], by Gambetta [18056], E. Frizell, Perth; Wm. L. McVeety, Perth.

F. Irish Lady [15228], by Turk [11172], Thos. Treharne, Denfield; B. Harkett, Denfield.

B. Manitou [18493], by Royal Heir [7805], A. McIntosh, Guelph; John Routledge, Hilly Grove, Algoma.

B. Young Prince 2nd [18497], by Hardy, Andrew Aitkin, Park Hill; Robt. Hudson, Park Hill.

B. Coleman [18488], by Bruce [10824], A. C. H. & H. McCormick, Paris; R. P. Irving, Glenmorris.

B. Cato [18940], by The Cavalier [7944], John Glenn, Lumley; John Stafford, Walton.

F. Primrose [15849], by Elma Prince [11727], John Shearer, Listowel; J. G. Campbell, Molesworth.

B. Duke of Riverbank [18444], by Waterloo Champion [11554], Edward Hoelscher, Kossuth; Elias Weber, Breslau.

F. Russeldale Beauty [15251], by British Crown [9720], Robt. Clark, Russeldale; Alex. Roy, Russeldale.

B. Lobo Duke [18454], by 2nd Duke of Moundale [18022], E. W. & C. Charlton, Duncrief; Samuel Dinmore, Granton.

B. Pride of the West [18451], by Earl of Dumfries, Geo. Rock, Mitchell; Wm. Troeger, Brodhagen.

F. Catharine [15253], by Lord Elcho [10154], Geo. Rock, Mitchell; Pat. DeCorsey, Bernholm.

B. Rhine [18450], by Lord Elcho [10154], Geo. Rock, Mitchell; Aug. Eckmeir, Brodhagen.

B. Shamrock [18449], by Lord Elcho [10154], Geo. Rock, Mitchell; Ferdinand Quenengesser, Brodhagen.

B. Duke of Elgin [18445], by Hero of Kingsmill [10076], E. J. Hutchison, Luton; M. Carlton, Aylmer.

F. Snowball [18466], by Hero of Kingsmill [10076], E. J. Hutchison, Luton; Wm. Leeson, Iona.

F. Lal [15267], by Baron Rowton [8112], H. W. Peterson, Hawksville; C. D. Bowman, Montrose.

F. Maude [15266], by Baron Rowton [8112], H. W. Peterson, Hawksville; Alex. Peterson, Hawksville.

F. Psyche [15200], by Baron Rowton [8112], H. W. Peterson, Hawksville; Alex. Peterson, Hawksville.

B. Louis Riel [18455], by Sir William [11374], L. D. Misener, Wellandport; M. Robins, Candasville.

B. Prince Nimrod [18468], by Prince Sirod, Jas. Pole, Appin; D. B. Black, Appin.

B. Duke of Caradoc [18467], by Duke of Argyle [6868], Jas. Pole, Appin; Henry Hardy, Longwood.

F. Maud's Duchess [15280], by Ed. Hanlan [7046], Wm. W. Macallister, Stony Mountain, Man.; D. McDonald, Greenwood, Man.

B. Kildonan Chief [18404], by Lord Byron [8819], Wm. W. Macallister, Stony Mountain, Man.; H. J. Gunn, Kildonan, Man.

B. Donald's Duke [18463], by Ed. Hanlan [7046], Wm. W. Macallister, Stony Mountain, Man.; D. McDonald, Greenwood, Man.

B. Highland Lad [18477], by Lord Albert Nyanza [11006], John Buchanan, Branchton; Wm. Menzies, Kirkwall.

B. Duke of Middleport [18470], by Royal Briton [18469], Henry Hammond, Cainsville; D. Deagle, Tuscarora.

B. Duke of Braemar [18475], by Roan Duke [11249], T. C. Rowe, Hickson; N. Murray, Braemar.

B. Rob Roy [18478], by Earl of Goodness 5th [8514], W. Douglas, Caledonia; Wm. Reith, Hensall.

IMPROVED Stock Breeders advance the interest of their stock and benefit their neighbours by extending the circulation of THE RURAL CANADIAN.

CRUSHED oats make the best feed for horses. Old horses cannot easily masticate whole grain, and the crushing of the oats consequently adds twenty-five per cent. to their value.

ALL the extra care of the colts now will be handsomely repaid in the early developing of the young horse, and the better horse it will make gives a better return in ready cash for the extra feed and care of the colts:

SHEEP AND SWINE.

DORSET SHEEP.

An opportunity was afforded us, a few days ago, of seeing this variety of sheep which is being boomed at the present time in the United States and Canada. If they can stand this climate, we should think they are just the sheep to fill the bill. Their wool is of medium quality, not quite so close in texture as that of the South-down, but is a trifle longer; the clip will average about eight pounds. In bone they are larger than Southdowns, and we should judge carry a fair share of meat. We were informed that they do not put on so much fat as some of the other varieties, but their flesh is equal to the best; in fact, they are just the class required and sought after by butchers. From a list of prize winners at the last Smithfield cattle show, we see that three ewes weighed 792 pounds. The Dorsets are horned sheep and, in their native country, drop their lambs *twice* each year. The number of young at a birth is above the average, single lambs being the exception, twins and triplets the rule. We went to see some ewes that had recently landed and found both them and their lambs in excellent health; they did not seem at all affected by the cold weather. Dorset lambs come to maturity very early. It is claimed for them that they are ready for the butchers at an earlier age than any other class, that alone is a great consideration. If the same state of affairs can be maintained in this country as in their native place, these sheep will prove a most valuable acquisition to our flocks, and we cannot see why, with tolerably warm quarters, they could not be raised advantageously. Then good-bye to the proverbial spring lamb, for we should have young lamb all the year round.

IMPROVING THE COMMON SHEEP.

There is probably no other time when flock masters in the Western States and Territories could so cheaply improve their flocks as the present. While the depression in the wool business has affected breeding stock of the highest quality less than any other, still it has had to bear its share to a greater or less extent in the general depression. Many breeders, moreover, have been making fewer sales of their best breeding stock, and there is consequently a larger supply to pick from. Having secured a well-bred ram of the type you propose to breed to, do not forget the important part played by the ewe in this matter of improvement. Bakewell effected the extraordinary improvement he made in the *Worcesters* without the aid of any other breed, merely by exercising his skill in judicious selections of individuals from that breed alone. Let the improved blood when obtained, therefore, be crossed upon the best fleeced ewes of the flock, and the lambs of the first cross will show an improvement no less surprising than gratifying. The next cross will show more decided improvement, and soon it will take a practised eye to tell the grade from the pure-bred. The improvement will be rapid, too, and in five or six years a remarkable trans-

formation can be effected in the flock. At the end of the second year another pure-bred ram should be procured for use on the year-old past ewes of the first cross. Many would now begin to use carefully selected rams of the second cross; but it would be best to postpone using the male until the type, by repeated crossing, had become fixed.—*Ex.*

In feeding sheep, the more the feed can be varied, the better results will be obtained.

Put the pigpens in good condition. Keep them clean and decent. Too little concern is given to the cleanliness and comfort of the swine.

Growing more and better wool on less legs, should be the motto, rather than keeping a less number of sheep on a farm. Wool is a product that does not take fertility from soil like the growing grain, but actually adds to the value of the farm for grain-growing purposes.

At a recent sale of high-bred, pedigreed and imported sheep in Michigan, prices ranged from \$8.50 to \$85 for imported and home bred. Two imported South-down ewes sold for \$42 each. Hampshires were the next favourites, selling at \$22 for thoroughbreds. The rams were sold singly at from \$10 for spring lambs to \$150 for a one-year-old Hampshire, purchased to go to Cherry Valley, Ill.

Other things being equal, the men who make the most money from rearing pigs have learned to mature them early. To do this it is necessary to provide good, warm quarters for the breeding stock and young pigs during the cold weather, and feed as liberally as possible with a variety of nourishing food. It costs just as much to sustain the animal life, and the shorter time that life has to be sustained, in order to obtain a given result, the greater will naturally be the profit.

It is claimed, with considerable justice, that there is no class of stock that receives so little attention as the swine, and no other kind of stock will better repay a little care and attention. Swine have always been allowed to root for themselves principally, for a subsistence, and to go with meaner quarters, poorer feed and more filthy drink, and in every way be subjected to worse treatment than any other kind of stock. Swine should be treated at least in an intelligent manner, and in a way that will insure health as well as thrift.

It is readily seen that of all farm animals sheep are the best for bringing up worn out land. Such land cannot support a succulent, nutritious growth. It can produce only herbs, weeds, briars, and a few dry grasses. Upon these cattle or hogs would not make sufficient growth to make their keeping profitable; but sheep would make a profitable growth at the same time they cleansed the land and also enriched it by their manure, thus fitting it for better growths. I have seen more than one farm so unproductive that it was unprofitable, and given over to weeds and briars, made above the average in fertility and hence highly profitable, by keeping on it for fifteen years all the sheep it could pasture; and all the time the sheep brought in a fair income for the money invested and labour expended.

THE DAIRY.

WHY DON'T THE BUTTER COME?

Why don't the butter come, says the *New England Farmer*, is a question that is asked by a great many managers of small dairies at this season of the year. Superintendents of creameries and managers of large private dairies seldom fail in getting butter out of the cream in a reasonable time at all seasons, and for the simple reason that having a business at stake large enough to be well worth looking after, they learn their business in all its little details. The lowering temperature as the season advances toward winter is the chief cause of all the trouble with the churning of the cream. Not only is the cream often churned when it is too cold, but the milk, when set for the cream to rise, is kept at a temperature not favourable to the best results. Cream will rise under almost any condition, but it separates much more readily, and gives the best results at the churn, when the conditions are most favourable. If cream is raised by deep cold setting, it is usually only necessary to bring it into a warm room some little time before churning to give it a chance to ripen. The ripening process may not be easy to fully explain, but it is quite certain that sweet cream, allowed to stand in a warm room till a slight acidity can be detected, is much more readily churned, and will make a better quality of butter, and to the practical butter maker a knowledge of the mere fact is of more importance than the knowing why. Sweet cream is more slippery and offers less resistance to the churn dash or floats than does cream that is ripened by souring.

Again, cream rising slowly in the open air, as when set in shallow pans, at this season is inclined to take on a slight bitterness, due, it is claimed, to a certain kind of fermentation, which takes place only at a low temperature. The remedy for all this trouble with the cream in cold weather is to set the milk in a clean room that is warmed artificially to such a temperature as will invite acidity within thirty-six hours, or to bring the cream to the warm room some hours before attempting to churn it. Cold, sweet cream may be ripened quite rapidly by adding a little soured cream, and warming the whole, stirring constantly during the process. An easy way to do this is to set the vessel of cream into another larger vessel of warm water. If the water is very warm, really hot, it will be very necessary to stir the cream constantly to prevent the outside portion from getting scalded. Were every particle sweet, this high temperature would do little harm, but the sour cream added might be changed to cheese by the heating, or rather the sour milk in the cream might be so changed. There is no harm to be expected from letting the cream become ten degrees too warm for immediate churning, say seventy degrees. The souring will go on more rapidly at this temperature. Before churning, however, the temperature must be brought to about sixty degrees, the exact degree to be determined by experience. We never like to have it higher than sixty-four, nor lower than fifty-eight at any season of the year. Of course, the

butter in cold weather will be much better if the cows are well fed with good fodder, and a liberal amount of grain, and are kept in clean, comfortable stables. It will usually be better, too, from a large herd than from a single cow. When the quantity of cream collected is small, the temptation is strong to keep it too long before churning it. *Old cream can never make the best of butter.* It is hard to keep cream in perfect condition for butter making more than a week, and half a week is much better than a longer period.

If a French cheese-maker don't get 150 to 200 pounds of cheese per cow, he considers such a cow too poor to keep.

DAIRYING may not be more profitable in some sections than regular farming, but, supposing such to be true, yet the farm that is devoted to dairying will annually become richer in fertility and larger crops grown every year.

CREAM rises rapidly as the milk lowers in temperature, but if the cooling is carried below a certain point the results are less satisfactory. From fifty-five to sixty degrees seems the temperature advocated by dairy authorities.

If turnips are fed to cows immediately after milking they will give no unpleasant flavour to the milk. The food is eaten, digested and passed off before the bulk of the milk is secreted in the bag. Even onions may be fed to cows without flavouring the milk, if given long enough before milking.

THE first cold snap is when cows show the greatest tendency to fall off in their milk flow, and if they can be tided over this period without failing materially it will be found comparatively easy to maintain a full flow of milk when more severe weather comes. Great pains should be taken now to keep up the yield of milk, as now is just the time when milk and all dairy products are becoming more valuable, and the money is to be made out of the dairy business if ever.

DAIRYMEN who have believed that the test of the churn was a safe criterion upon which to base a judgment of the character and value of their cows should not be misled by the statement prominently made to the effect that "the quantity of butter produced in the churn may not be a guide to the amount of butter that is in the milk." This is equivalent to saying that the amount of wheat in the granary or corn in the crib is no guide to the amount of the farmer's crop. There may be exceptions, but as a rule the statement is wholly fallacious. It is put forth to excuse the poor yield of some cows of certain breeds which are notoriously ill adapted for butter dairying. It is always safe to weigh what one hears and reads by one's own judgment and experience in this respect, and when a cow will not yield her butter to the churn, however high she may stand in the herd records or from a chemist's point of view, that cow should be turned off to the butcher or the sausage maker. But such cows are often excellent cheese cows, and while they are unprofitable for buttermakers they still have their valuable uses.

POULTRY AND PETS.

THE TOULOUSE GOOSE.

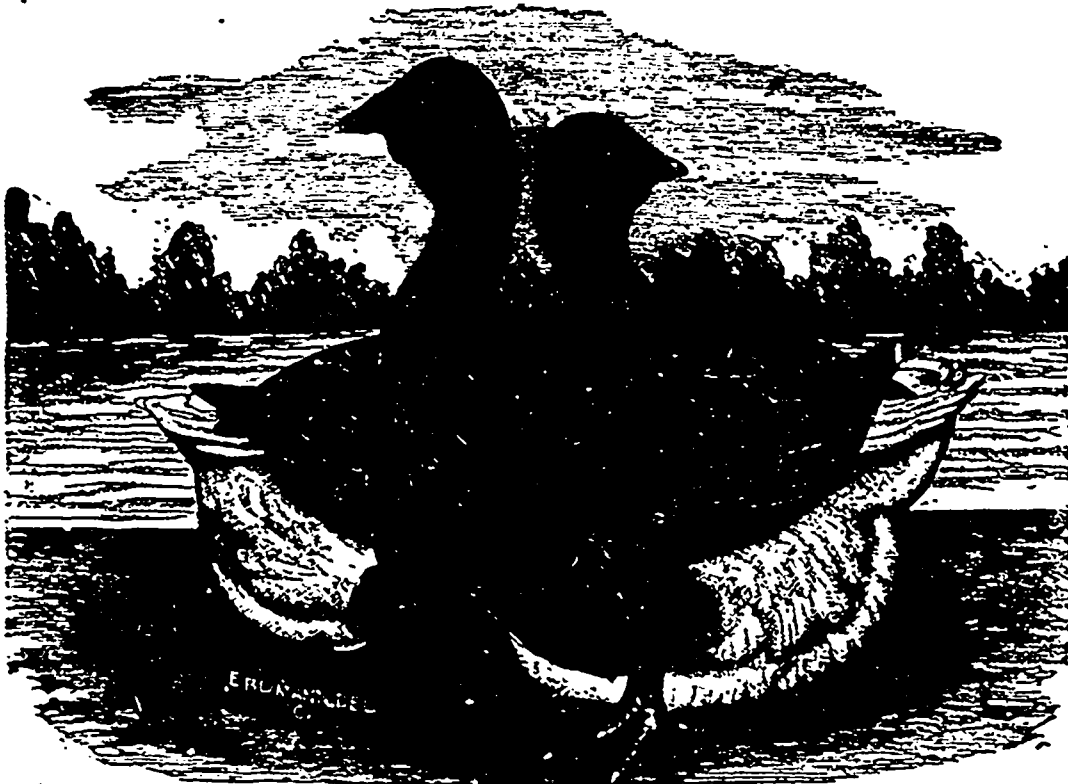
When we revert to our grandmother's day we see the vast improvement since then in domestic poultry. The common goose of "ye olden time" was a sorrowful picture of neglect and degeneracy. Eight, ten and, perchance, twelve pounds were the maximum weight of Madame Anser. The ordinary goose that weighed fifteen pounds was a wonder.

The Toulouse Goose originated at a city of that name on the Garonne River in the South of France. They are extremely large, weighing when fattened and matured, at three years old, forty-five and fifty pounds, and, in some cases, even sixty pounds per pair. The geese lay thirty to forty eggs each in a season, and seldom offer to sit. We find them good to hatch, easy to

The accompanying cut is a beautiful illustration of these geese, and a most faithful representation as to style, carriage, and form.

TORONTO POULTRY, PIGEON AND PET STOCK SHOW.

This Society held its annual exhibit in the city of Toronto on the 9th, 10th and 11th of December. The display was exceptionally fine; many of the varieties of fowls shown were nearly perfection. The old-fashioned method of judging, just stating which were the best birds and leaving the defeated exhibitors in the dark as to the failings of their birds, was here abandoned, and the services of Mr. Felch, an American judge of high repute, were enlisted. A card was affixed to each pen, a copy of which is here given, showing the number of points required for absolute perfection. The card we



THE TOULOUSE GOOSE.

raise, and much stronger when young than common goslings. They grow so rapidly that at four weeks they will weigh from six to eight pounds each, and at three months, fifteen to eighteen pounds. They yield half a pound of feathers to a "picking." They are small feeders for their size, and require no food but pasture, except in winter. In colour, geese and ganders are exactly alike, viz., a uniform, handsome gray, with breast and under part of body a shade lighter. They are gentle in disposition, not unruly, and can be fenced easier than sheep; breed at one year old, and, in all respects, are very profitable. Would pay well almost anywhere, and especially in sections where grain and grass are cheap. The sexes can be distinguished by their forms and voices—ganders are taller, more upright, with larger necks, and gabble in higher, finer, and more rapid tones than the goose, the voice of which is low, deep bass, and slow.

give is for White Dorkings, but will be sufficient to illustrate the method:

WHITE DORKING.

DISQUALIFICATIONS—Absence of fifth toe; coloured feathers in any part of the plumage; legs other than white or flesh colour; yellow tinge in plumage of adult cocks objectionable, but not a disqualification; crooked backs; wry tails.

	Standard	Out.	Score.
Symmetry.....	15		
Size.....	15		
Condition.....	10		
Head.....	5		
Comb.....	10		
Ear-lobes and Wattles.....	5		
Back.....	6		
Neck.....	5		
Breast and Body.....	9		
Wings.....	5		
Tail.....	5		
Legs.....	10		
	100		

It will be here seen that if the bird is deficient in any point the number of such defect is marked in the centre column, and then the total of such defects deducted. This plan shows exactly to the exhibitor how many good or bad points his bird possesses, and does away with a deal of cavilling over the judges' decisions. To our mind it is the only and just system, and does away with any suspicion of favouritism.

Plymouth Rocks were the most numerous, and the getting together of a better exhibit of high-class birds would indeed be difficult. The competition was very keen. We did not notice a card that showed a competitor having less than ninety-two points; -so near in quality were they that one-half points were considered. Mr. T. M. Goffat, of Orillia, exhibited the greatest number in this class, all fit to take prizes at ordinary shows. Mr. W. Sunley, of Guelph, had some birds that we considered almost perfect. The Light Brahmas mustered strong and looked very beautiful. We never saw a better collection. The competition in this class was also very keen. Mr. B. Large, of Orangeville, had some grand birds, as also had Mr. A. J. Willson, of Seaforth. If we might be permitted to find fault, we should say that the birds in this class were a trifle too long in the legs for our fancy. The tendency of breeding seems to be in that direction. We prefer them short in the legs, otherwise they lose that gracefulness of carriage for which they are noted. The Langshans made up in quality what they lacked in quantity. Strange this excellent variety does not get more into favour. The only way we can account for it is their sombre coat; black fowls of any class do not long remain favourites with the fickle public. Then again, when dressing for table, the black pins are difficult to remove, and are easier seen than on the lighter-coloured varieties. No fewer than thirteen pens of Black Spanish were shown, all birds of superior merit. This valuable class for many years did not receive that recognition of their merits which they deserve. As egg layers they are unsurpassed. Their eggs are all of large size, unlike those of some of the other good laying varieties. It is said of them that they are tender and unable to stand the rigour of our climate; but give them tolerably warm quarters and they will stand the cold all right. The Black Spanish at this Toronto Show were equal to any that we have seen at the best exhibitions either here or in the Old Country, where this variety are favourites. Mr. A. F. Banks, of Toronto, showed a bird registering ninety-four and a half points.

The Leghorns were good, especially the Whites. Hamburgs were well represented, and Houdans were very fine. The Games were nearly all that could be required. Competition was good in each of the different varieties of this really excellent class. If it were not for their fighting proclivities they would exactly fill the bill for farm fowls. As table birds their flesh is unequalled in flavour and delicacy, and is the nearest approach to that most delicate of flavoured birds, the English Pheasant, to which they are closely allied. What pleased us most was the pens of birds, three hens and a cock. This, to our mind, is the correct way of judging the capabilities

of a breeder's yard, it being far more difficult to get together four high-class birds than a solitary one. Frequently an exhibitor has only one good bird, which is carried from fair to fair, taking the prizes which should justly be awarded to other exhibitors. One good bird does not constitute a flock. The idea of poultry associations and their exhibitions is to encourage the breeding of better class poultry; and it is only by making breeders show that they have a sufficient number of birds in their possession for that purpose that this object can be attained. Quite recently an exhibitor had two cockerels (no occasion to name variety) which took prizes at the principal fairs last fall. We naturally expected their possessor would have had a number of other birds of the same class. Happening in the neighbourhood, we dropped in to look at his birds. To our astonishment the two cockerels were all of that variety he possessed, obtaining the eggs that produced them from a friend. Yet that exhibitor had cleaned out other and genuine breeders of that class.

Our old friends the Dorkings were very poorly represented. We are sorry that this really fine class is going out of repute, for there are not many better all-round varieties, especially for the barnyard.

Only five pens of ducks; but what birds, the Pekin winner scoring ninety-eight points, nearly perfect! Now for a little fault-finding. Why should the Association call itself the Poultry, etc., Association, and exclude some of the most useful varieties of poultry? The fragrant goose and delicate turkey were conspicuous by their absence. Why this? Is it that for Thanksgiving, Christmas and New Year Days the consumption of these valuable birds is going out of fashion? We doubt the fact very much. Nor do we think the directors of the society would like to be deprived of these favourite holiday dishes. Yet here we find no prizes offered to encourage the better breeding of the most highly prized table poultry. Is it because the Toronto men have not sufficient land at their command for this purpose, and this is a Toronto society? Well, if so, exclude those exhibitors of chickens who come from a distance as well as breeders of turkeys and geese. Giving prizes for these would, we think, be a long way better than giving them for toys, such as rabbits, bantams and fancy pigeons, of no earthly use excepting to please the fancy and the hobby of a very limited few. Guinea pigs, white mice or rats, peacocks, or perhaps some of the influential members may have a tame squirrel or monkey, which will be next in order. If it is to be a poultry association banded together for the improvement of poultry breeding, then let it act accordingly, and bestow its honours in a proper direction.

SELECT your best shaped and most vigorous hens for spring layers.

Old nails, bolts, etc., put in the drinking vessels will give vigour and appetite to your chickens.

Why not raise more geese? They are but little trouble and are not dainty nor high livers, and pay well in feathers as well as meat.

GARDEN AND ORCHARD.

FRUIT AND FRUIT-TREES.

In the report of Agricultural Returns to the Ontario Bureau of Industries we find the following :

The fruit product of the year has been, on the whole, a good one. No section of the Province has been without a fair supply of fruit of one kind or another for the home wants of the inhabitants, and in most cases they have had a surplus to send abroad.

The apple crop, although considerably smaller than last year's, has been exceptionally large for an "off year." In almost every one of the older-settled counties where apples are regularly cultivated, a surplus of generally excellent quality is reported. Fall and winter apples, especially, have turned out much better than they were expected to do at the time of the midsummer report. In some of the counties on the north shore of Lake Ontario wind storms blew a good many apples to the ground. There is occasional mention, also, of the ravages of the codling worm; but the principal fruit districts of the Province have been less affected by this pest than in other years, and the apples are as a rule sound and firm in flesh, and clean in skin. The exportations of apples to England and the North-West, especially from Western Ontario, have been great. Some farmers, however, say that the sluggish demand and low prices have induced them to keep their apples to feed to their cattle and hogs.

With regard to other fruits, the conclusions of the August report are generally borne out. In the Lake Erie, Lake Huron and West Midland districts, in the Niagara Peninsula, and in the counties of Northumberland and Prince Edward, pears were moderately plentiful, with a fair surplus above local needs, and the crop was sound and healthy. The supply of peaches was so extremely limited as to be almost wholly confined to a few sheltered localities in the Niagara Peninsula. The severity of the last two winters was terribly fatal to peach trees. The effects of the curculio and black knot have been sadly felt throughout Western Ontario in a greatly diminished yield of plums. This loss was to some extent counterbalanced in the Lake Ontario, St. Lawrence and Ottawa, and East Midland districts, as well as in some portions of the Georgian Bay and Lake Huron counties, where these troubles are less prevalent, and where considerable surpluses of plums were obtained. The cherry crop was an insignificant one, owing to the widespread destruction of trees by black knot. There were enormous quantities of grapes and all small fruits, while wild berries of all kinds were never more abundant.

The greatest scourge of the orchards during the year has been frost, either last winter, which was unusually severe, or last spring, which was unusually late, long and cold. From this cause large numbers of trees have died. In the Northern and Eastern sections of the Province all kinds of trees, old and young alike, were affected; throughout Western and Southern Ontario the loss was confined chiefly to peach trees and young

apple-trees of the more tender varieties. The apple-tree borer has also wrought considerable damage during the summer. At present, however, the orchards are everywhere reported to be in a highly promising condition. Under the influence of the long spell of fine, open, growing weather we have had and are having, the trees are recovering rapidly, and show a large addition of well ripened wood.

NEW AND OLD SEEDS.

A writer in the *London Garden*, referring to the well-known fact that new seeds usually germinate more quickly than old ones, says that many old ones will germinate well with heat that would perish in cold ground—a fact which should be borne in mind by those who are testing seeds this year in warm rooms. Among those which may be kept two seasons are named onions, salsify and some others, while lettuce, tomatoes and artichokes will continue good three seasons; cabbage, turnips, spinach, kales, etc., four seasons; and melons, cucumbers and beets, for five or six seasons. It must, however, be borne in mind that such rules as these are more or less arbitrary, as much depends on the condition of the seeds and the temperature and dampness of the place where they are kept, and on the condition of the soil which receives them, favourable influences sometimes more than doubling their keeping, and favouring or preventing germination altogether.

Another good authority says: "Many vegetable seeds, properly kept, are good to a 'green old age.' For instance, beet seed has been found good at ten years; celery at ten, pumpkin at ten, melon at ten, and seeds of all the melon family are better over than under two years; turnip four, lettuce three, cauliflower two, beans four and over, cabbage four, peas four, etc. Still, new seeds of all but the melons are best if fresh. Especially is it preferable to get them direct from reliable seedsmen each year than to trust to those sold on commission at the village store. Before planting any seed, whether home grown or from any other source, test each variety before entrusting them to the soil."

VARIOUS SMALL FRUITS.—E. W. Wood, of Boston, in his paper on small fruits, read at a meeting of the Massachusetts Horticultural Society, recommended as the best strawberries for amateur culture, in value according to the order named, the Hervey Davis, Wilder, Seth Boyden, Hovey, Jucunda, and La Constante. He said the large Belmont growers took but one crop, planting vegetables between the rows the first year, ploughing in and planting vegetables as soon as the fruit is gathered the second year, thus getting one crop of berries and two of vegetables in the two years. Last year a neighbour raised common currants and got \$2 a bushel; Mr. Wood raised the Versailles, and sold them for \$4.80. Of raspberries he recommended Franconia and Hestine for red, and Souhegan and Gregg for black-caps. Clarke is too soft for market, but of fine quality; the same of the Saunders. Col. Wilder said one mammoth strawberry is enough, and we have it in the Sharpless.

SEASONABLE HINTS.

There is little to be done in the vegetable garden now except by way of preparation for another year. Manure can be placed on the ground wherever required, and asparagus beds, if not already done, should have a slight covering of it. Bean poles, pea brush and stakes of all kinds should be got now, the tool house gone over and put in order, and everything kept studiously in its proper place.

If there is an abundance of leaves or manure at command and small frames, beds may be put up for early spring salads at the end of the month. Radishes and lettuces are very impatient of too much heat. They will come on well if the temperature be kept at forty-five degrees. When it goes above that, the sashes should be lifted entirely off.

For those who have time to attend to it, nothing pays better than an annual washing of the stems of fruit trees. It helps to keep the tree clear of dead bark, which is an advantage in itself, and then it keeps away the shelter for insect eggs and the spores of injurious fungi. The old-fashioned lime wash with sulphur, and some soot or clay to keep down the glare of the lime, is very good, but even if this covering be objected to, there is soft soap, potash, or any of the numerous articles which have been found to be not injurious to the tree itself. The mere wash is a benefit.

Surface manuring is also a benefit, and even here the exact material is not such a very grave question. Leafy vegetable matter, with the sand of roadside clearings, has been found to be very beneficial. We have rarely seen a tree suffer from too rich feeding when that food was applied to the surface.

Plant growers have much trouble from insects, the little diminutive red spider especially, the work of which is often not known until the injury is done. It can readily be detected by a small pocket lens, which every plant grower should have. For a few plants in a window, an occasional sponging of the leaves with water in which a little tobacco has been infused is about the best thing known. In a plant cabinet, tobacco dust or snuff scattered over damp leaves is very good, but it does not reach the under surface of the leaves. Water heated to 180 degrees is very effectual, and an occasional syringing at this temperature will keep down the insects, and is much preferable to the filthy smoke and nauseous compounds so often recommended.—*The Gardeners' Monthly*.

For every person interested in flowers and gardens twenty years ago there are now a hundred persons.

Flowers are everywhere over the earth, evidently a reminder that there is an Eden and we may regain it.

If those having a lawn to sow, think that no grass but a mixture will answer, they are mistaken. One kind alone, say the Kentucky Blue Grass, usually gives the best of results. Do not understand by this that we oppose good mixtures.

WINTER TREATMENT OF ONIONS.

A warm place never answers in which to store onions over winter. Warmth will start the bulb into growth—a direct blow at its vitality for keeping. Onions keep much better in a frozen state, through the winter, provided the thawing out in the spring can be gradual, and provided further, that there is no liability of alternate freezing and thawing during this time.

In a barn loft, covered with hay or straw a foot or more thick, the conditions for perfect keeping are well met. The onions should not be in large piles, but rather in layers of not more than one foot through. By this course of treatment, the risk of keeping is light indeed, and those who assume it may expect a reward, in much higher prices in the spring, than if sales had been made before winter.

A STRAWBERRY vote reported from six different Western States, to the *Prairie Farmer*, ran thus: The most profitable strawberry stood, Crescent, nine; Wilson, four. The vote on second best was, Wilson, four; Crescent, three; and the others scattering.

The accomplished editor of the *Gardeners' Monthly* has little faith in varieties running out. Varieties may be moved to soil or climate or both unfavourable to health, and here wear out. There is no known reason why varieties should not last hundreds of years.

One high American authority declares that it does not matter whether the water used on plants in winter is cold or not. We differ. Experience has shown us that plants do better with the water at the same temperature as the room in which they grow, than if colder.

If any farmer who reads THE RURAL CANADIAN has not a supply of fruit for home use, let him purchase such trees and plants as are needed of some reliable agent or nurseryman, this winter, for spring setting. The agents are not all liars or humbugs, as sometimes represented. Devote a part of the farm to trees and small fruits, and have them on your table in their season. It will be the best investment you can make, and your wife and children will rise up and call you "blessed."

An Ohio amateur gooseberry grower succeeds in growing very fine fruit, both in size and quality, on a cool, clay soil, keeping the plants open in the centre by pruning. When they start into growth in the spring he immediately disbuds, to prevent them from becoming too dense, and thus admits a free circulation of air. He mulches heavily during the summer. With this treatment he is little troubled with mildew.

LIST OF PEACHES.—An extensive grower of peaches for market, who aims to secure a regular succession of ripe fruit from near midsummer till frost, gives the following list. Alexander, Mountain Rose, Early Crawford, Foster, Wager, Late Crawford, Oldmixon, Smock and Hills' Chili.

AVOCADO PEARS, commonly called "alligator," are delicious for breakfast or lunch. Quarter them, and remove the pulp with a silver knife; spread it on slices of bread and season to taste.

Bees and Honey.

OFFICERS OF ONTARIO BEEKEEPERS' ASSOCIATION FOR 1885-6.

OFFICE.	NAME.	POST OFFICE.
President	S. T. Pettit.....	Belmont.
1st Vice-President.....	Allan Pringle	Solby.
2nd Vice-President	Mrs. R. McKechnie	Angus.
Sec'y-Treas.	Wm. Couse	Meadowdale.

EXECUTIVE COMMITTEE.

D. A. Jones.....	Beeton.
S. Cornell	Lindsay.
Jacob Sponco	Toronto.
Dr. Thom	Streetsville.
R. McKnight.....	Owen Sound.

NORTH AMERICAN BEE-KEEPERS' ASSOCIATION.

The sixteenth annual meeting of the above-named organization was held at Detroit, from the 8th to the 10th December, 1885. It was a large and truly representative gathering, prominent bee-keepers being in attendance from ten States of the American Union, and from various parts of the Dominion of Canada. Our limited space does not admit of a minute report of this important meeting; but, omitting matters of routine, we shall endeavour to lay before our readers all the proceedings of practical utility to those engaged in bee-culture.

L. C. Root, of Mohawk, N. Y., son-in-law of the late Moses Quinby, occupied the chair, having been appointed President of the Association at the Rochester Convention in October, 1884. The treasurer reported \$48.09 in the treasury. Reports of the past honey season were given for Vermont, Delaware, Pennsylvania, Quebec and Ontario. We have only room for the two last named, which we give in full, because they are of special interest to Canadians.

QUEBEC.

Mr. H. F. Hunt, Vice-President for Quebec, Canada, reported as follows: "The knowledge of bee-culture, by the improved methods of manipulation, is still in its extreme infancy in Quebec, and has only within the past few years begun to be disseminated among the people, the southern and south-western parts having more bee-keepers than the other parts. There are numerous box-hive bee-keepers throughout the country, who still take their honey by the old-fashioned method of 'brimstoning'—a method which I now hope is on its 'last legs.' My report, therefore, will not bear comparison with that of our sister Province—Ontario—but I hope that in the not far distant future we shall be able to make as good a showing. The success attending the labours of bee-keepers in Ontario will act as a stimulus to those in Quebec.

"In common with the rest of the North American Continent, the losses last winter were heavy, but bee-keepers, as a rule, have not been much discouraged, and are hoping for better success this winter. Our losses were not so heavy as those further south, which I attribute to our being compelled to protect the bees well, on account of the severe cold, which once or twice every winter touches thirty degrees below zero, the average being five to ten degrees above.

"I have not received as many responses as I could wish to my request for reports, but I generalize from what I did receive. The past season has been a very

poor one indeed, owing to the extraordinary cold season, which seriously curtailed brood-rearing and the secretion of nectar in some parts of the Province, notably in the vicinity of Lake Megantic, and in the county of Beauce. The spring was so dry that certain crops had to be replanted, and would, no doubt, have acted unfavourably to the secretion of nectar in the white clover. Some honey was gathered from basswood, which yields more freely to the south than to the north of the St. Lawrence. Fall flowers also have not given much, and many colonies have had to be fed for winter."

ONTARIO.

Mr. S. T. Pettit, Vice-President for Ontario, Canada, made the following report:

"Bee-keeping in Ontario, for the last year, has not been of the most profitable kind. During the past winter and spring about seventy-five per cent. of our bees perished. This great loss was brought about by three principal factors, viz.: poor stores, long-continued cold in both winter and spring, and inexperience.

"Generally speaking, those of long experience in apiculture, who have given much time, study, painstaking and exacting care—in a word, those who make bee-keeping a specialty, and who are adapted to the business, sustained comparatively little loss; hence it is plain that this great loss fell principally upon those who, as a rule, neglected some other business to enjoy an immense amount of pleasure and grow suddenly rich by 'keeping bees.' The large amount of dead, filthy honey thrown upon the market the past spring has done no little harm to the pursuit. Interested parties are constantly promulgating the idea that everybody should keep bees, which results in no inconsiderable loss to the country.

"Beside the indirect loss by diverting the minds of many from their legitimate calling, I believe a fair calculation would show the startling fact that every pound of honey produced in Ontario, for the last six years, has cost the producers, on an average, not less than twenty-five cents per pound.

"The teaching that everybody should do everything for himself is a retrograde movement, undermining the best manufacturing, producing, carrying and commercial interests, and tends to semi-barbarism; no matter how persistently or plausibly put, 'the trail of the serpent is over it all'; 'every man to his trade' is a noble motto, and brings 'the greatest possible good to the greatest possible number.'

"The season was a poor one; the amount of honey taken being about fifty per cent. below the average. The weather was too cold and wet, with occasional hot spells. The principal honey-producing flowers were abundant, but the elements failed to get into the proper humour to inspire them with their natural love for the secretion of the delicate, sparkling sweets, and the friendly visits of the honey-bee. In spite of all this some of the short crop of 1884 is yet on the markets; but we will have a clean market for 1886.

"There are several practices that militate against the true progress of apiculture in Ontario, besides those already referred to:

"1. Extracting green or unripe honey. It is impossible by human art or skill to impart that exquisitely fine, finished flavour that the bees give it when left with them until it is capped.

"2. The practice of feeding sugar either for stimulating or wintering purposes. It is very difficult to disabuse the public mind. They know that we feed sugar, and they seem determined to cherish the belief that in

some way or other it gets into the honey. If we all fed honey instead of sugar, a less quantity would be thrown upon the markets, and a correspondingly higher price would be obtained, besides inspiring confidence in the purity of our honey.

"8. Small bee-keepers demoralize our markets sadly, and give a good deal of trouble by allowing their bees to be robbed.

"4. And last, but not least, I fear the most of us will have to plead guilty to the charge of painting the bright side of bee-keeping too bright, while we keep the dark side obscurely in the dark; in fact it is much easier to show up the bright side than the dark side—it seems to loom up so easily.

"In conclusion, I desire to say that the practice of exhibiting granulated honey in glass at our expositions is doing good service by way of an educator; both dealers and consumers begin now to regard granulation as a proof of purity."

ADDRESS OF WELCOME.

Hon. Edwin Willets, President of the Michigan Agricultural College, gave an address of welcome, from which we make the following extract:

"You represent no mean vocation. Ever since and before Jacob sent as a present to propitiate the hard master in Egypt, a little balm and a little honey, spices and myrrh; ever since Columella wrote, and Virgil and Horace sang, the sweet elixir has tempted the palate of mankind. There is no substitute for it; the analysis of the chemist is unable to produce it; man cannot make it, or grow it, or rectify it, and till millennium's dawn it will be nectar to men and gods.

"Yours is no insignificant industry. You represent 3,000,000 colonies of bees, with an annual product of surplus of 100,000,000 pounds. Under the impulse of this and kindred associations, the product is increasing annually. The cheap sugar of to-day has no perceptible influence upon the demand or the price of the commodity. As the country increases in wealth and luxury, the demand grows with its growth, and increases with the means to gratify the appetite. The best minds in the field of science have contributed to the more successful promotion of the industry. Aristotle, Virgil, Columella, Pliny, Swammerdam, Ray, Latreille, and a host of others, ancient and modern—not to forget Langstroth, Cook, Quinby, Root and others of our day—have studied, observed, experimented and written about bees and their habits, till we know how best to rear them, and how best to utilize their harvest of sweetness, so that we can use the words of a learned judge of one of our courts, who said: 'In modern days the bee has become almost as completely domesticated as the ox or the cow. Its habits and its instincts have been studied, so that it can be controlled with nearly as much certainty as any of the domestic animals.'

"You have almost taken it out of the class *feræ naturæ*. The propensity to mischief has been so diminished that serious injury is almost as rare from a bee as from the horse, and far less than from the dog. The courts take kindly to the bee. They look with favour upon animals or insects that are useful to man; with disfavour upon such as are purely noxious or useless. There is no question of the utility of bees. I note this fact, as I observe a little apprehension among apiarists about the attitude of courts occasionally, and the fear that there may grow up some legal limitation or liability that shall destroy your industry. Bees were here before courts or juries, and they have the right of way, and will keep it so long as their product is desirable. The recent case that has caused some apprehension will be

found, I hope, to be based upon an utter misconception of the bee and its habits. It will be found, I have no doubt, that a sound grape is absolutely armour-proof to the attack of the bee. It is only when the armour is broken that the attack is made. A grape with a broken shell is practically valueless—worthless, except for the wine-press; and, for one, I frankly say, gentlemen, that, as between the wine-press and the bee—as between alcohol and honey—I am for the bee and for the honey and I believe the Courts will give the bee the case."

NATIONAL BEE-KEEPERS' UNION.

Mr. T. G. Newman, editor of the *American Bee Journal*, gave an account of this society, which had been formed in the defence of the rights of bee-keepers, and narrated the successful issue of the lawsuit, of which mention was made in THE RURAL CANADIAN for December.

PRESIDENT'S ADDRESS.

President Root gave an address embodying valuable suggestions. After some introductory remarks, he said:—

"We have reached a crisis in the history of bee-keeping which must be met by those who are interested in the pursuit, in a broad, honest, and unselfish way. Every well-informed bee-keeper is reminded in the most unmistakable manner that the time when large profits may be realized from keeping bees has passed. Each year the prices of our products have been reduced, until at the present time we find many of our markets overstocked, and our honey selling at rates which allow us little profit for producing it. These are stern facts which must be fairly met. It is not my purpose to attempt to instruct those who are already experts in the business. Their lessons have been taught them by dearly bought experience, the results of which are due to the beginner, and to those whose experience has been more limited.

"We have passed through a period of great enthusiasm, and have indulged in much that has been unwarranted and injudicious. We have been far too selfish. As supply-dealers and publishers of bee-literature, we have been far too anxious to present the bright side of our calling. If we have been unwise in the past, we should be thankful that by the light of these past experiences we are able to see more clearly our way for the future. Many years ago, beginners were heard to ask if it were advisable to engage in bee-keeping as an exclusive business. The answer should have been then as now, 'Commence moderately, and let experience decide as you advance.' The real question now seems to be, 'Shall we commence at all?' or 'Shall those of us who are already engaged in it continue?'

"In answer to such questions I would offer the following suggestions: 1. Our calling is an honourable one, and is an essential branch of agriculture, in that the honey-bee is indispensable to the fertilization necessary in the vegetable kingdom. Wherever civilization advances, there the honey-bee is found. 2. Honey is a wholesome and desirable article of food. 3. It is furnished to us at our very doors, and if we fail to preserve it, the odour of wasting sweetness constantly reminds us of our neglect and loss.

"With these points in view, is it not evident that a great work is to be accomplished in applying the lessons of economy and industry taught us by the bees themselves, to the accumulation of this freely-given production in the most desirable and profitable way?

"We have been extravagant in many of our expenditures. These we must endeavour to reduce, to correspond as much as possible with the reduction in prices

We have incurred a large expense by the great amount of labour which we have required in unnecessary manipulation. In this I anticipate a change as we advance, which will result not only in economy of time and labour, but also in avoiding many serious consequences. It is evident that we yet need much light upon many of the simple and practical, as well as on the scientific phases of our calling. With every advance made in apiculture, it becomes more apparent that there are new fields of investigation and research, which promise to yield information, and are destined to work marked changes in our methods of managing bees. Only those will succeed who are willing to practise the most rigid economy, and who will be satisfied with moderate pay for honest work performed.

"It is evident that the effort has been too much in the direction of increasing the production, rather than to create a corresponding demand for the same. I think I am safe in the assertion that no effort of ours is needed which shall tend to an increased production of honey for our present generally overstocked market. Last season extracted honey was shipped to New York from California by car-loads. The market was already overstocked with the best grades of Eastern honey, and the result was such that Californian bee-keepers will hardly care for a repetition of the experience. The present season has afforded another illustration. Honey has been shipped very largely from the Eastern and Middle States to New York and the outcome of this has been that the choicest white honey in sections has sold at ruinously low rates, and some of it has actually been returned to grocers in our own vicinity. By these methods we practically establish these unprofitable prices ourselves.

"The resource seems to be that we must enlarge our field of consumption. This can be done by each bee-keeper, by encouraging home consumption in his own immediate vicinity, and also by opening up new avenues for the uses of honey. A demand thus created would measurably relieve the overburdened city market, and in this way we would be able in some degree to maintain reasonable prices. With the present facilities for disposing of our products, it is difficult to avoid the conclusion that there is over-production. Whether this will grow to become a positive fact, or whether bee-keepers will succeed in causing the demand to keep pace with their success in producing, is the problem to be solved in the near future."

PRODUCTION OF COMB HONEY.

Mr. G. M. Doolittle, of Borodino, N. Y., read a paper on the above subject. He said there were four things important in the production of comb honey: First, a good queen; second, the getting of the bees at the right time to secure the harvest; third, a skilful apiarist; and fourth, the right kind of a hive. Remarks were made on each of these points, and Mr. D. said that we could divide and subdivide these four heads, especially the last three, yet the fundamental principles would not be changed.

The discussion on comb foundation took a general and rather desultory course. Mr. J. T. Hall was asked to state his method, and confined himself to his experience with comb foundation.

Rev. W. F. Clarke said that Mr. Doolittle's essay was professedly on the production of comb honey; but what he said was just as applicable to the production of extracted honey. A good queen, plenty of bees to gather in the honey harvest, a skilful apiarist, and a good hive—were not these just as needful for the production of extracted as comb honey? What we want

are the points of a skilful apiarist required to get large crops of comb honey. We want to know how to do it. Our most successful producers of comb honey rather tell us "how not to do it." They appear not to like to explain things. They take Burns's advice to his friend Andrew:

Still keep a secret in your breast
Ye never tell to any.

For several years at these conventions he had tried to get Mr. Hall to explain how he gets such large crops of splendid comb honey, but he had never done it.

Mr. Hall: "I should have to make the man."

Mr. Clarke: "Well, here he is; take the raw material and make the man. That's just what I want."

Much amusement and bantering of Messrs. Doolittle and Hall to explain the *how* were indulged in, but the wily veterans did not come to the scratch.

Amid much laughter the subject was laid on the table, and the next order of the day taken up, viz.: an essay by Mr. C. P. Dadant, on

EXTRACTED HONEY.

He said: "Comb honey is nice, but it is a fancy article, and too costly for the general public, who want an article not costing more than sugar, with which it competes; and if honey can be supplied as cheaply as sugar, it will, to a large extent, supersede it. In their experience, their sales had largely increased, and the home market now readily consumes all their crop. Extracting honey checks swarming, without a doubt. It enables the apiarist to take care of a larger number of colonies. A larger quantity of honey can be obtained, and much outlay for combs, crates and boxes is saved. Mr. Dadant considered it a mistake to suppose that there is an over-production of honey. It is only beginning to be considered a staple. When honey is as common on the tables of the farmer, and even labourer, as sugar, and when it is found as common by the keg and barrel in wholesale stores as sugar, then only shall we produce as much honey as the country can use."

A general discussion followed on the production of extracted honey, in the course of which Mr. S. T. Pettit gave his experience. He had missed it by not leaving the honey in the hive long enough to ripen. One season his honey was all of an inferior quality, owing to this cause. He did not believe that we could ripen the honey as well as the bees themselves do it. He said that we should have at least one-third of the honey capped before extracting, and he believed it was better if all was capped over.

Rev. L. L. Langstroth did not know that he could add much to the ocean of intelligence that was tiding all around, but he wished to say a word or two. He believed that there were many things that the bees could do—certain things better than we can—and ripening honey was one of them. There was too much artificial work in bee-keeping. One bee-keeper had invented nippers to pull dead bees out of the cells, but live bees would do it better.

Rev. W. F. Clarke wished to ask if formic acid in honey was not the element which gave it its keeping qualities. He put the question to Prof. Cook. For his own part, he believed that the formic acid was added by the bees in the capping process, which was carried on mainly by the use of their tails—the stung being the last polishing tool. It was because the formic acid was thus added that honey must be one-third capped to be good, and all capped to be first-rate.

Prof. Cook thought that no one knew how or when the formic acid was added.

CARE OF HONEY FOR MARKET.

Mr. R. F. Holterman, of Fisherville, Ont., read a paper on the above subject, for which we hope to find room in a future number of THE RURAL CANADIAN.

Mr. Boardman considered this matter of great importance. That honey was often deteriorated by keeping was undeniable, and he would like to know how it happened, so that it might be guarded against.

Mr. Jones said honey thickened by evaporation, and that it was liable to be injured by evaporating too fast or too slow.

Prof. Cook explained the difference between evaporation and crystallization. Honey can only thicken by evaporation, and to evaporate it must have the air; therefore the sealing is not air-tight. Crystallization is a different affair, and is akin to formation of ice, resulting from the cooling process.

A member said that he thought honey thickened with age.

Mr. Doolittle gave an instance in which honey was spoiled by moisture swelling the honey, so that the cells were broken, and the honey turned sour in the course of a few months.

Mr. Thompson, of New York, said that he had been greatly troubled by the moth getting into comb honey. He had tried sulphur fumigation with them, but had not succeeded as he could have wished.

Mr. J. B. Hall, of Ontario, on being called upon, gave his experience and practice. He said that the moth would give no trouble unless there was bee-bread in the sections. He was in the habit of fumigating a room 8x10 feet with a pound of sulphur, as a precaution against the moth, and then kept up an even temperature. He had kept it two years as good as new.

Mr. Heddon said there was but little danger of deterioration, if honey was taken proper care of. It should be kept in a temperature higher than the common atmosphere, else it would attract and absorb moisture, and thus be injured. He had no trouble with the moth-worm, and did not believe that the moth would live on pure beeswax. There must be some pollen—some nitrogenous matter in order to form animal tissue.

Mr. C. P. Dadant would confirm the statement that the moth-worm could not exist on pure beeswax.

Mr. Jones asked if any had been troubled with the moth in parcels of wax forwarded for manufacture into comb foundation. He had.

Mr. Hodden said that there was always more or less pollen in such beeswax.

Prof. Cook said that there could not be animal life without nitrogen, and there could not be putrefaction without nitrogen.

Mr. Heddon said that we should take such precautions as would keep out flies, wasps and other insects. By this means the moth-worms would be effectually excluded. He had his honey house protected with wire screens, and the moth gave him no trouble.

A PLEASANT EPISODE.

The friends of Mr. A. J. Root, having learned that his forty-sixth birthday occurred on the second day of the Convention, it was suggested that those who desired to do so should, during the intermission, contribute ten cents each to Mr. Muth, with which to purchase a birthday present. A copy of Milton's "Paradise Lost," beautifully printed and bound, and illustrated by Gustave Doré, was purchased, and the Rev. W. F. Clarke was selected to present it to Mr. A. J. Root during the morning session, which he did in a brief congratulatory address. Some other friends presented him with a

bouquet of flowers. Mr. Root replied briefly, thanking those who had been so thoughtful. He valued the kind thoughts much more than the gift, though that was beautiful. He felt that such kindness was undeserved.

Mr. C. F. Muth, of Cincinnati, Ohio, then gave an address on

MARKETING HONEY.

He referred to the low price of honey, which was caused by the cheapness of other sweets, adulteration of honey, and ignorance of the many uses of honey. To secure the best price, we must practise the most scrupulous cleanliness in every manipulation. Extracted honey is often damaged by being put into whiskey barrels. There is charcoal on the inside of the staves, and specks of it get into the honey, spoiling its appearance. Clean barrels should always be used. Comb honey must be white, well-capped, and put up in a neat, attractive manner. Only thus need the top figure of the market be expected.

A discussion arose as to the most salable size of sections. There was a very full expression of opinion, which was strongly in favour of one pound sections. It was not deemed advisable to make any size exclusively, as there was a limited demand for other sizes, particularly in certain markets.

An essay was then read by Mr. T. G. Newman on

PASTURAGE FOR BEES,

which we hope to publish hereafter.

Several members concurred in the importance of attention being given to sowing and planting for honey production.

Mr. S. F. Newman, of Norwalk, O., spoke of the great reduction in the number of basswood trees, owing to the demand for the timber by those who were manufacturing sections. Ten years ago there were sixty large basswood trees within sight of his apiary; now, all but five were gone. He had, however, succeeded in getting them more than replaced by giving away young basswood trees to all who would plant them and care for them. A number planted thus ten years ago, this year yielded a magnificent crop of honey. The basswood was a fine shade tree, and if bee-keepers would encourage its multiplication, they would find their account in it.

Rev. L. L. Langstroth mentioned the case of a bee-keeper who was thought by his neighbours demented, because he sowed the seeds of sweet clover in a sort of wilderness locality; but as a result he had now a splendid range of bee-pasturage.

Several members spoke warmly in favour of Alsike clover.

Rev. Wm. F. Clarke mentioned that it would grow in low, wet, undrained land, where red clover would not take. He also said that bee-keepers should use their influence to have stock prevented from running at large. It was a just and good law in other views of it, and its passage would double the value of bee pasturage.

A member suggested that all who had tried the Alsike clover and found it valuable, should intimate the same by rising, when about one third of the members present arose.

BUSINESS.

Indianapolis, Ind., was selected as the next place of meeting, and it was voted that St. Louis be in contemplation for the following year.

The following officers were duly elected:

PRESIDENT—H. D. Cutting, Clinton, Mich.

RECORDING SECRETARY—Frank L. Dougherty, Indianapolis, Ind.

CORRESPONDING SECRETARY—Mrs. Cass Robbins, Indianapolis, Ind.

TREASURER—C. F. Muth, Cincinnati, O.

Vice-presidents were elected for each of the States, Territories and Provinces comprised in the Association. Mr. J. B. Hall, of Woodstock, being appointed for Ontario, and Mr. H. F. Hunt for Quebec.

SELLING AND SHIPPING BEES BY THE POUND.

A communication on the above subject from E. M. Hayhurst, of Kansas City, was read, in response to which there was general concurrence as to the utility and convenience of the traffic in bees by the pound.

EXCELLENCE OR CHEAPNESS—WHICH?

An essay on the above question was read by Mr. A. J. Root, of Medina, Ohio, embodying many useful hints.

Mrs. Harrison referred to a remark made in Mr. Root's essay on wearing gloves when handling bees. She found that gloves were necessary, but rubber ones did not work well, they were too close, and caused inconvenient sweating. She used a species of fine cloth. She cuts the tips of the fingers off, which allows the perspiration to escape, and makes them more comfortable and durable.

Rev. W. F. Clarke said that rubber gloves did not last long, the honey and propolis soon rot the material. He had experimented largely with gloves, and preferred two kinds, the one a harvest glove, largely used in Canada, and made of sheep-skin; these were very cheap, costing 30 to 40 cents. But he preferred a glove, or rather gauntlet, made of two separate materials—the inside a species of Canton flannel, a fluffy material, and the outside, a species of finelinen, very glossy. Such a glove is thick enough to prevent the point of the sting reaching the flesh, and the beauty of it is that when these gloves are on you can dip your hands in water which keeps you cool, and causes the bees to fly as soon as they alight on the glove, for they are dainty and do not like to wet their feet.

J. B. Hall—Wear smooth clothing, singe the hairs from the hands and wrists, and but few stings will be received.

Rev. L. L. Langstroth—Bees dislike to alight upon a cold surface; have dishes of iced water in the yard, and occasionally plunge the hands into the water when the bees are cross.

Prof. Cook—I think that a nervous, irritable person may be more likely to be stung; aside from this, I do not think that bees are any "respecters of persons." I question if sweat of horses is objectionable to bees. If a horse is severely stung, cover it with blankets wet with cold water.

Mrs. Temple, of Michigan, said that she could handle bees any way she wished, and they scarcely ever stung her. When they did, she suffered no particular inconvenience. She did not mind a bee-sting more than a mosquito-sting.

Mr. Heddon was in favour of wearing veils, but would not recommend gloves. They were very much in the way. He did not think there was the difference in people that Mr. Clarke would make out, some being bee-loved and others bee-hated. He thought that the difference was only in the actions and behaviour of people when among bees.

G. M. Doolittle was satisfied that there was a real difference in different persons as to liability to being stung. He had a visit from a gentleman who said that bees never stung him, and Mr. D. acted so as to irritate the bees. They stung him (Mr. D.) very freely, but never touched the visitor.

James Heddon—I have seen nothing to indicate that bees are more likely to sting one person than another.

Rev. L. L. Langstroth said that the poison of a bee-sting was very virulent in the case of some, while others did not mind it at all. At one time of his life he was very susceptible to bee-virus, and dreaded being stung; but, after having been laid aside from bee-keeping for some time, and cautiously resuming, he found to his great surprise and pleasure that he had become so inoculated with the poison that he scarcely felt any pain whatever.

Mr. Broadman brought up another point in the essay—"Excellence or Cheapness"—as it respects sections. He said that much might be done to preserve our honey-flora, by using something else than basswood for sections. He never uses basswood; honey stains it, so does water.

J. B. Hall—I use and prefer white spruce. It is hard, and the honey does not soak into it.

James Heddon—I do not use basswood.

Rev. L. L. Langstroth—Upon the subject of the essay read, I would say that excellency is cheapness.

BEE-KEEPING AS A BUSINESS.

A paper on the above subject from Dr. C. C. Miller, of Marengo, Ill., was read by the Secretary. After discussing the topic generally, the doctor gave his own experience as follows:

"I have been in the business some twenty-four years, making it my sole business for the last seven years, simply producing honey to sell, and I am obliged to confess that I could make more money to give up bees entirely. If asked why I continue at the business, I answer: I like it. It keeps me outdoors, and is good for health. It allows me to be with my family more than any other calling at which I could make as much, and for the privilege of these enjoyments I am willing to pay the price of the additional money I would make at a more lucrative calling. Whether the price may not become too large for me to afford to pay, is an open question."

A. J. Root—I think that none of our bee-periodicals now advise everybody to keep bees. Dr. Miller should have mentioned that he was receiving a large salary when he embarked in bee-keeping. He has frequently told me how he enjoyed bee-keeping. If it brought him health, what more could he ask?

S. T. Pettit—Mr. Root's speech is a sample of showing the bright side, and leads us to think that there is nothing like bee-keeping for health.

J. B. Hall—Editors like to tell good news; if I tell how much honey I produce, the bee papers tell of it, the newspapers take it up and spread the story all over the world, and everybody thinks that "if he can make money in producing honey, I know I can." I know of many people who have engaged in the business and lost money at it.

Thos. G. Newman—Editors publish just what bee-keepers write them for publication, and try to fairly represent the pursuit. At least, I know that is the case with the *American Bee Journal*.

Martin Emigh, of Holbrook, Ont., was called upon and asked if he had made bee-keeping pay. In reply he said he had paid for his farm out of the proceeds of his bees. Last year he put 180 colonies in cellars and took out 178 alive; sold 71 colonies and now has 177 colonies, and they produced 6,000 pounds of comb honey and 5,000 pounds of extracted honey.

U. S. GOVERNMENT ACTION.

Mr. Nelson W. McLain, manager of the Experimental Station of the United States Agricultural Department

at Aurora, Ill., read from the advance sheets of his forthcoming report to Prof. C. V. Riley, United States Entomologist; but he requested that what he read should not be reported, because it had not yet been published by the Department, and it was only by the courtesy of the Agricultural Department that he had been permitted to present it to this Continental Society of Bee-Keepers. He assured them that each one of the bee-periodicals would be furnished with proof-sheets in time so that they could publish the matter simultaneously with Prof. Riley's forthcoming report. The subjects treated upon were, "Bees and Fruit" and "Artificial Fecundation of Queens." The report detailed the results of investigations and experiments carried on by him at the Government's Experimental Station. It demonstrated that the bees cannot injure fruit; and gave the account of several experiments in fecundating queens artificially.

At the close of Mr. McLain's remarks, the Rev. L. L. Langstroth offered the following resolution which was unanimously carried:

Resolved, That this society highly appreciates the movement now at length made by the United States Department of Agriculture, in the promotion of bee-culture, and welcomes its representative, Mr. Nelson W. McLain, to whose explanatory address and the extracts from his forthcoming report the society has listened with much interest, especially concurring in the suggestion that statistics of the honey crop be included in the report of the Department.

REVERSING COMBS.

Mr. James Heddon, of Dowagiac, Mich., read an essay on the above topic, which, together with the discussion which arose on it, will keep for a future issue of THE RURAL CANADIAN, as the working season among bees is not yet.

Prof. A. J. Cook then read an essay on the Pollen Theory. It was a scientific dissertation on the nature of different food elements, and the process of digestion. The upshot of it was that bees, during their long winter imprisonment, should not have nitrogenous food, as it rendered them uneasy, and necessitated exertion. The Professor's paper was an argument in favour of what is known as the pollen theory, from a chemical standpoint.

WINTERING BEES.

The discussion of this point was, by all odds, the most interesting and important part of the proceedings. An essay by Mr. Ira Barber of De Kalh Junction, N. Y., was read, in which the author detailed his experience of cellar wintering for a quarter of a century. He packs his bees in a warm and somewhat moist cellar, where the temperature is from 60 to 90 degrees. They invariably do well, coming out in spring vigorous, and with plenty of young brood in the hives.

J. B. Hall endorsed the views and practice of Mr. Barber from his own experience. He accidentally discovered that bees will winter well in a high temperature. He had forty-eight colonies in a small bedroom off the kitchen. While he was absent a warm spell came in winter. He feared the loss of his bees. When he came home they were roaring loudly. He gave them up for lost in his own mind. But they wintered safely, and came out strong in the spring with plenty of brood in the hives.

C. F. Muth asked if he understood Mr. Hall correctly yesterday, that his honey harvest closed about July 20, and that last year he did not put his bees out until May

2. If so, how did he obtain a sufficient force of bees to get in the honey during so short a harvest?

Mr. Hall replied that the secret lay in the bees being kept so warm they bred early. He expected his hives to have several combs with brood in them by the time he put them out in the spring. By May 20, there would be not only brood in six or seven combs, but that number full of brood. He could not winter without pollen, because if he did, he would not have his bees bred early enough in the spring to gather in the honey. If they started without brood they would not build up to strong colonies until near winter. He did not agree with Mr. Heddon upon the pollen theory, but must thank him for his surplus case.

James Heddon—I expect to be as successful as Mr. Barber. I think that nothing has been said that disproves the pollen theory. Pollen does not injure bees unless they consume it. Prof. Cook has explained that bees may breed without taking pollen into their intestines. In some instances honey may be free from pollen; in others it is not, and the bees cannot avoid its consumption. I kept bees in a cellar in which the temperature often fell to 20 degrees. Those having natural stores suffered from diarrhoea, some perished from it; those having sugar stores were free from it. I will furnish the facts that in many instances one colony has survived and another perished under exactly the same conditions except food. Who will furnish the explanation?

STATISTICAL REPORTS.

Thomas G. Newman, chairman of the Committee on Statistics, reported. The smallest report received was: One colony last spring increased to five, giving forty-three pounds of extracted honey. The largest report was: Forty-seven colonies in May, 740 in the fall. Honey obtained, 38,000 pounds in comb, and 6,000 pounds extracted; 125 pounds of beeswax. All other reports varied between these.

MISCELLANEOUS.

Mr. D. A. Jones, of Beeton, Ont., read a paper on "Different races of bees," in which he advocated the best crosses in preference to any one pure, unmixed race. The Committee on Resolutions reported a string of them, which were unanimously adopted. Among them were several of thanks; one complimentary to Rev. L. L. Langstroth; another to the revered memory of the late Moses Quinby, to accompany the present of a portrait of him to his widow; another appreciatory of the efforts of the Commissioner of Agriculture to promote bee-keeping; and last, but not least, one expressive of pleasure at the presence of lady bee-keepers in larger numbers than ever before. After the passage of these resolutions, there were some discussions on beeswax, the best methods of queen rearing, the importance of more attention to raising first-class drones, and the introduction of queens.

Ex-President Root then addressed the meeting, summing up some of the interesting features of the present gathering, expressing his satisfaction at the success which had attended the convention, and said that the hour had now come when we must part.

Thus closed a convention which, for sustained interest, lively debate, perfect cordiality of feeling and exposition of the best methods of bee-keeping, eclipsed all others that have ever been held on the North American continent, and probably anywhere in the known world. All intelligent bee-keepers who were present at it will not fail to recall it as a most memorable epoch in their history.

The Grange Record.

OFFICERS OF THE DOMINION GRANGE.

OFFICE.	NAME.	POST OFFICE.
Worthy Master.....	Robt. Wilkie	Blenheim, Ont.
" Overseer.....	A. B. Black.....	Amburst, N.S.
" Secretary.....	Henry Glendinning	Manilla, Ont.
" Treasurer.....	J. P. Bull.....	Davenport, "
" Lecturer.....	Chas. Moffat.....	Edge Hill, "
" Chaplain.....	Goo. Lethbridge.....	Strathburn, "
" Steward.....	Thos S. McLeod.....	Daiston, "
" Ass't Steward.....	Wm. Brock.....	Adelaide, "
" Gatekeeper.....	L. VanCamp.....	Bowmanville, "

LADY OFFICERS.

Ceres.....	Mrs. G. Lethbridge.....	Strathburn, Ont.
Pomona.....	" T. S. McLeod.....	Daiston, "
Flora.....	" C. Moffat.....	Edge Hill, "
L. A. Steward.....	" E. H. Hilborn.....	Uxbridge, "

EXECUTIVE COMMITTEE.

Jabel Robinson.....	Middlemarch, Ont.
Robert Currie.....	Wingham, "

AUDITORS.

Chas. Moffat.....	Edge Hill, Ont.
T. S. McLeod.....	Daiston, "

OFFICERS OF ONTARIO PROVINCIAL GRANGE.

OFFICE.	NAME.	POST OFFICE.
Worthy Master.....	R. Currie.....	Wingham.
" Overseer.....	Thos. S. McLeod.....	Daiston.
" Secretary.....	A. Gifford.....	Meaford.
" Lecturer.....	D. Kennedy.....	Peterboro.
" Treasurer.....	R. Wilkie.....	Blenheim.
" Chaplain.....	D. Wright.....	Banks.
" Steward.....	Thos. Reazin.....	Cashtown.
" Ass't Steward.....	Wm. Brock.....	Adelaide.
" Gatekeeper.....	J. P. Palmer.....	Fenelon Falls.

LADY OFFICERS.

Ceres.....	Mrs. C. Moffat.....	Edge Hill.
Pomona.....	" G. Lethbridge.....	Strathburn.
Flora.....	" E. M. Crysler.....	Delhi.
L. A. Steward.....	" J. McClure.....	Williscroft.

EXECUTIVE COMMITTEE.

Thomas S. McLeod, Esq.....	Daiston.
Chas. Moffat, Esq.....	Edge Hill.

AUDITORS.

W. H. White, Esq.....	Chatham.
S. Bollachey, Esq.....	Paisley.

FOR THE RURAL CANADIAN.

RURAL RAMBLES.—II.

BY OUR SPECIAL COMMISSIONER.

This trip we wended our way to Richmond Hill, a pretty town, situated on Yonge Street, distant from Toronto some sixteen miles, and surrounded by a good farming country. Our object in visiting this neighbourhood was to see Springbrook Farm, owned by

MESSRS. J. AND W. RUSSELL,

the well-known breeders of Shorthorns, and the champion turnip growers, being the winners this year of the prize given by a well-known seedsman of Toronto for the largest and best crop. Eight hundred bushels to the acre was, we understand, the crop. The farm is about 375 acres; nearly level, and well watered, making it a very desirable stock farm. The buildings are very fine, affording excellent accommodation for the large herd.

Although not exhibitors at the principal Fairs during the past year, the Messrs. Russell have taken so many honours in previous years that they consider they have had their fair share, and now stand to one side to allow others to participate. Numerous cups and medals adorn their rooms. It was from a bull belonging to the Messrs. Russell that the celebrated young bull Sir Ingram, which has been sweeping the board,

was got; and several half-brothers of his are here to be seen, one, a two-year-old steer, weighing about 1,800 lbs., and not fat, at that; and a two-year-old roan bull. At the head of the herd stands "Royal Booth 2nd," a pure Booth of the "Bright-eyes" family—a grand animal. There is also the beautiful red cow "Rose of Autumn," mother of the sire of Sir Ingram; and eight females from "Isabella," the cow shown at the Centennial at Philadelphia, and accorded the gold medal for the best animal of any class, male or female. The herd comprises some thirty-five head of pure-bred Durhams, besides which there are to be seen about forty Cotswold ewes of high class, several Clydesdale mares, and the two-year-old Clyde stallion "Young Hartington," to whom were brought twenty-two mares last season, without being taken from the premises. He is a nice level, compact horse, not too heavy, and just of the stamp required by farmers. Mr. Russell, father of the present proprietors, is eighty-four years of age, well and hearty, and takes an active part in all matters pertaining to the establishment. He is a great believer in turnip growing, and informed the writer that he would rather have a good crop of roots than a good crop of wheat; and the former would be more profitable to the farm.

IMMEDIATELY adjoining, on Lorridge Farm, is the residence of

MR. ROBERT MARSH,

whose fame as a breeder of Southdown sheep is spread far and wide. The Lorridge flock has been in existence upwards of thirty-three years. As a breeder and exhibitor Mr. Marsh has been very successful. During the past ten years he has taken nearly three hundred first-class prizes, and nearly the same number of seconds. Medals and diplomas he has in abundance, including nine of each taken at the Centennial, of which he is justly proud. The flock has been built up by importations from the best flocks in Great Britain, including those belonging to his Royal Highness the Prince of Wales, Lord Walsingham, Mr. Jones, Mr. Webb and Mr. Coleman. Most of the imported stock were winners of the highest honours at the Royal shows in England. The walls of the different sheep-pens are fairly covered with prize tickets. Mr. Marsh is the possessor of two very fine ram lambs, twins, called "Remus" and "Romulus," remarkably fine animals; but the ram at the head of the flock is "Lord Cardigan," a splendid creature, and winner of numerous prizes.

About sixty ewes comprise the breeding stock of Lorridge Farm. The farm consists of three hundred acres, with a large creek running through it. At the first glance, it would appear as if the land were perfectly level; but we were informed that there is a slight fall, quite sufficient for draining purposes. Mr. Marsh had the misfortune, a few years ago, to have two fires, cleaning off all his buildings. The present ones, although commodious, are not all that Mr. Marsh requires and intends putting up.

Our next stopping place was

AURORA,

one of the liveliest towns to be found on this continent, and a credit to Canada. On stepping from the cars the clean and business air of the place is very striking: no loiterers, all on business intent. The sidewalks are excellent, and may be paced without fear of a plank springing up and barking your shins—or being tripped up, or stubbing your toes; and hearken, ye city fathers of more pretentious places, a man was kept scraping the mud off the roads and keeping them clean! One of the best school-houses we ever saw, with a playground extending under the whole of the basement, so that in cold or inclement weather the scholars can play without exposure. Yes, Aurora is a live town. The residents rather pride themselves on having some of the best trotting horses ever produced in Canada. The hotels are marvels of order and cleanliness. We were informed that more barley is shipped from, or passes through, the place than any other town or city in the Dominion.

The land immediately around the town is level and surrounded by a ridge of hills, forming, as it were, a natural amphitheatre. The soil is capable of growing almost any crop, and the farms are so valuable, and in such demand, that, unlike most neighbourhoods, there are none to let, or for sale. There being so many good farms here it was impossible to see all during this trip, so we had to be content with visiting the farm of

MR. WILLIAM LINTON,

well and favourably known as an importer and breeder of Shorthorns. This gentleman is an enthusiast on the Durham question, in fact with him it almost amounts to a mania. He is one of the best posted men on Shorthorns we have ever met, and has a perfect fund of information. Mr. Linton is a whole-hearted, genial Yorkshireman; and, as he says, inherits his love for Durhams from both his parents, they being descended from families who had bred that class for generations. His father on two occasions took the Royal prize for best farm in England; and, as our Mr. Linton was brought up on his father's farm, it is his own fault if he does not thoroughly understand how to farm. Judging from what we saw we are inclined to the opinion that he rather does know. His farm is only 105 acres; but, as Mr. L. goes on the principle of doing a little well, he therefore thoroughly cultivates his land, obtaining all the manure he can from the town, besides that made by his own stock. He rarely sells anything off his farm, unless, as he says, it walks away on four legs; and rather than sell his wheat this season he has had it ground and feeds it to his stock. He is also a believer in feeding oil-cake, and from experience says it pays to do so. On turnip growing he is very positive of the benefit to the farm. "Couldn't do without growing turnips, sir." This farm is admirably adapted for stock-raising purposes, being watered by no fewer than six live streams.

Mr. Linton has just received home his latest importation of Shorthorns; they were in very miserable condition from being kept in quarantine at Quebec, although the modest sum of \$300 was charged for feed during

their detention there. Pretty good for eight head! They are all females, and of the Booth strain. Of the merits of this strain Mr. Linton is a great advocate, believing there is no other class to equal them. One of the imported cows, a white, is a perfect model. We hope to see them again when in better condition.

Mr. Linton's father was the breeder and exhibitor of "Sir Arthur Ingram" [32490, English Herd Book], and "Lord Irwin" [29123], each animal being three times winners of first honours at the Royal. Their pictures adorn the walls of the sitting-room; and some of the cups won by them grace the sideboard. One cup is very large, of solid silver, standing about eighteen inches high; and could be appropriately described as a silver urn. The old gentleman was the founder of the "Sowerly" family of Shorthorns, winning no few than one hundred and forty-seven first prizes at Royal shows in England, and thirty-two gold and silver cups. Our Mr. Linton has on hand at present only about fourteen to fifteen head of Shorthorns; his sales during the past year having been heavy. He is also a breeder of Cotswold sheep and Berkshire pigs (recorded). So enthusiastic is he in promoting the breeding of his pet class (Durhams) that he is only too glad to give any information about them, and to inform correspondents where the best animals can be obtained. A volume could be filled with his interesting yarns about Shorthorns. Had it not been for Mr. Linton the now celebrated champion bull of Canada, "Sir Ingram," would most likely have been consigned to oblivion. He says: After selling his dam the purchaser did not care for keeping the calf, and wrote to Mr. Linton offering to sell it back to him again cheap, or if Mr. Linton did not wish to buy would he find a purchaser? Mr. L., being rather overstocked with young bulls, wrote to several prominent breeders, telling them of the grand qualities of the youngster; but most of them never replied to his communications. One morning, regretfully talking the matter over with his good wife, he remarked that it was a pity so good a bull should be used for grading up purposes, for he could not find any one willing to take him for breeding pure stock. The wife replied: "If you think so much of the calf why not buy it yourself?" These words he pondered over and wisely determined to take the calf for himself. After the young one had been in his possession a few weeks its good qualities began to rapidly develop; and it was not long ere he was disposed of for \$500, with the proviso that he was to be exhibited at the Fair. When the time approached for doing the latter, his owner was rather dubious about showing him unless heralded by newspaper puffs; and wrote Linton to that effect, who replied very tersely: "Show the bull; he will puff himself!" Which he did with the result now so well known to the numerous breeders of Shorthorns.

Mr. LINTON has been remodelling his cow stables. The mangers are so arranged that the hay cannot be dragged down under the animal's feet. A trough is on the floor, and the front of the stall is boarded up close, reaching down to within about twelve inches from the bottom of the

trough. The rack is placed at the back of the boarding. The animal can only pull as much as it wants into the trough, or manger, without being able to trample on it.

After bidding adieu to our pleasant friend, and promising to pay another visit in the near future, we proceeded to

MR. SETH HEACOCK AND SON'S, NEAR KETTLEBY.

The house and buildings are placed a long way back from the highway; and are approached by a private road. The explanation of this is that, being among the first settled places in the neighbourhood (the present dwellers therein being the fourth generation), the surrounding country was not then surveyed, and an old bush track went past the house between it and the barn. The ruins of the old house consist of the cellar with the roof covering it; the walls have long since disappeared. The roof of the barn is the same as first put on about fifty years ago, never having been re-shingled. This speaks well for the shingles made in those days. Messrs. Heacock have about twenty head of pedigreed Shorthorns, one, a splendid bull calf out of a Gwynne cow. Nearly all the cattle at this establishment are reds; and ought to find favour with our American cousins, as this is their favourite colour. These cattle are nearly all descendants of the cow, "Rose of Athelstane."

Messrs Heacock are extensive breeders of Southdown sheep, of which they have a large flock, keeping thirty breeding ewes. They also have on hand some twenty-three ram lambs, all of superior merit. Mr. Seth Heacock informed us that the cattle in the neighbourhood are steadily improving in quality; and the breeders of scrubs avail themselves of the services of his thoroughbred bulls more and more, each season, as they find better prices can be obtained for their cattle.

Mr. Heacock kindly volunteered to accompany us to

MR. SIMEON LEMON'S,

another Shorthorn breeder, residing about four miles from the village of Kettleby. The farm is situated on the side of a big hill, facing the south and commanding a most extensive view. The country here is a little rough, and improvement is not so marked as in the previously-mentioned localities. Mr. Lemon has some very superior stock, notably the two-year-old bull, "Royal Charlie," a very true animal. The herd was founded about forty years ago. The most celebrated animal among them is "Woodburn Queen," a ten-year-old cow, and mother of nine calves. She is now being fattened and weighs 1,750 pounds; but as her owner suspects her in calf again, he is going to thin her down. She is certainly a splendid model of a Durham. Mr. Lemon's cattle are of the Campbell strain, good beef makers, and first-class milkers. We were also shown some first-rate Oxford Down sheep, from which he is about to start a flock. From here we drove along Yonge Street, over the oldest turnpike road in Canada, passing some of the most magnificent farms in the Dominion, to call at even a few of which would have taken more time than we had at our disposal, but we hope in the near future to take a "trip up Yonge Street."

We next moved on to Bondhead, and called on

MR. EDWARD JEFF.

who has a grandly situated farm of two hundred and fifty acres, fronting on the high road from Bradford to Bondhead. At the rear of the buildings the land rises to a considerable height, sheltering the house and barnyard, forming a nice protection from the bleak north-west winds. The land on top of the hill is level and very rich, bearing heavy crops. We were given to understand that the soil in this immediate neighbourhood is unsurpassed in richness; and were informed that the land in Tecumseth is about the finest to be found in Canada, capable of growing any crop, and judging from what we saw of it, we are inclined to the same opinion. It has never been our pleasure to see such splendid looking fields of winter wheat. A great acreage was sown with that cereal. Fields of twenty to thirty acres were of frequent occurrence; and in one place we saw about one hundred and fifty acres *en-bloc*. The country is rolling, in places hilly, but not too hilly.

Let us now return to Mr. Jeff's farm. There are not many more desirable places to be seen in America. It is called Grange Park, and comprises two hundred and fifty acres. The buildings are excellent and comfortable. The pure bred Durhams are of high quality. "Flower of the Grange," a red and white heifer, is a perfect picture. "Zorra's Duke," a red bull calf, is also a remarkably good animal, long, low and level. The herd comprises some twenty-two head, all first-class. Diadem, a grand old cow, fourteen years old, has contributed her share, having borne no less than thirteen calves. Her day has gone and she is now being fed. Most of the stock are by that grand bull, "British Statesman," which Mr. Jeff obtained from Mr. Seth Heacock. A calf out of the cow "Wallflower," is almost without horns—the second we understand she has dropped of that description. It is only by feeling that the small soft stump of horns can be found. Mr. Jeff is an extensive breeder of Southdowns. His flock of breeding ewes numbers about thirty, led by the celebrated ram, "Coleman," imported by the Ontario Government for the Model Farm at Guelph.

Although we saw so many magnificent farms we could not help noticing the great lack of shade trees. Take the road from Bradford to Bondhead, excepting in front of the dwellings, there was scarcely a tree planted. If it were only to improve the appearance of the farm a few might be planted.

"I CAN'T complain of the times," said an Ottawa young man. "I have my salary, \$1,500, then I make \$500 a year by my literary labours, that makes \$2,000, then I run in debt \$100, that makes \$800. A single man who could not subsist on that ought to be ashamed of himself."

COLONEL FIZZLETOP was under the painful necessity of administering a severe castigation to his son Johnny. After he had completed his labours, he said sternly to the suffering victim: "Now tell me why I punished you?" "That's it," sobbed Johnny, "you nearly pound the life out of me, and now you don't even know why you did it."—*Texas Siftings*.



WINDSOR CASTLE.

Only a Rose from Mother's Grave.

SONG AND CHORUS.

Words and Music

By JOHN T. RUTLEDGE.

Andante gravo.

Piano.

1. On - ly a rose from moth - er's grave, That I plan - ted long a - go,.....
 2. On - ly a rose from moth - er's grave, The flow'r she lov'd when she was here,
 3. On - ly a rose from moth - er's grave, Kiss'd by dew from heav'n above,.....

Pulled from the stem, it used to wave Where the winds were soft and low.
 Press it a-way in a book, and save It through nev - er-end - ing years.
 O - ver her form it used to wave In its ten - derness and love.

On - ly a flow - er, white and fair; That she used to love so well.
 No - ther was like this snow - white rose: Gen - tle at heart and love - ly, too.
 On - ly a rose, but, through the years, Keep it in some hallowed shrine.

Sweet the perfumes that fill the air 'Round her grave down in the dell.
 Soon came the twi - light with ro - pose : An - gels made her bed a - new.
 Oft - en our eyes will fill with tears, Ga - zing on this flow'r di - vine.

CHORUS :

pp
 SOPRANO. On - ly a rose, a fragrant rose, That bloom'd so sweetly on mother's grave,
 ALTO. *pp*
 TENOR. On - ly a rose, That bloom'd so sweetly on mother's grave.
 BASS. *pp*
 PIANO. *pp*

Peace to her soul and blest re- pose, Where the bright ro - ses a - bove her wave.
 Peace to her soul and blest re- pose, Where the bright ro - ses a - bove her wave.

HOME CIRCLE.

A VOICE FROM THE FARM.

You say that my life is a round of toil !
The stalwart farmer said,
That I scarce can wrest from the oft-tilled soil
My pittance of daily bread !
Well what you tell me in part is true,
I am seldom an idle man,
But I value the blessing of rest, as you,
Who have much of it, never can.

And surely, I have never worked in vain,
From the spring to the golden fall ;
The harvest has ever brought waving grain,
Enough and to spare for all.
And when in the evening, free from care,
I sit at my farm-house door,
My wife and little one waiting there,
Oh, what has the millionaire more ?

My children may never have hoarded wealth ;
Their lives may at times be rough ;
But if in their homes they've love and health,
They will find these riches enough.
The only land they will ever own
Is the land that the strong right arm
And the patient fearless heart alone
Can till to a fertile farm.

I have nothing beyond my simple wants
And a little for cloudy days ;
But no grim spectre my threshold haunts,
Such as silver and gold might raise.
Around me are eyes that with sparkling mirth
Or with placid contentment shine—
And no wealth-clogged lord upon all the earth
Has a lot more blessed than mine.

THE ART OF GOOD DINING.

Let the table, when no one is present but the home circle, be the model of what it should be when surrounded by guests. Lay a piece of thick Canton flannel under your table cloth. Even coarse napery will look a much better quality with a sub-cover than if spread directly over the bare table top.

Avoid the cheap trick of hotels and restaurants in the arrangement of napkins and table utensils. Simplicity is never ridiculous, while pretension usually is. Place the napkin on the left side of the plate with a piece of bread in its folds, the fork on the right hand, next to that the knife with the sharp edge turned from the one who is to use it, beyond this the soup spoon.

At the point of these set the tumbler and individual butter plate. Mats, tablespoons, salt cellars and pepper cruet may be arranged to suit one's taste.

Banish the heavy caster from the centre of the table and put there instead a vase of flowers, if it be nothing more ambitious than some bits of ivy or evergreen brightened by a spray of bittersweet.

At the carver's place spread a white napkin, the point toward the middle of the table, to protect the cloth from splashes of gravy.

Let the soup be served by the mistress and eaten with no accompaniment except a piece of dry bread in the hand. Buttering is only less vulgar than thickening the contents of the plate with crumbs. When this course has been removed the meat and vegetables may be placed on the table.

If there is salad, it should be served separately, in a course by itself.

The heavy part of the dinner eaten, the maid should be summoned and commence the clearing of the table by carrying out first the meat, then the dishes of vegetables, and after that plates and butter plates, placing one on top of the other and using a tray to transfer everything except the large platters.

Do not permit her to go through the operation of scraping the contents of one plate into another, with a clatter of knives and forks, and then bearing off the whole pile at once. Two plates at a time are enough for one load.

Next after the soiled dishes, have taken off mats, salt cellars and other table furniture but tumblers, water bottle or pitcher, napkin rings and ice bowl, and then have the crumbs brushed and tray used.

The dessert is then served, and except at a ceremonious dinner the tea or coffee, which should never appear earlier in the action, and the work of waiting is done.!

When one realizes the exceeding simplicity of this much-dreaded branch of domestic service it seems incomprehensible that in so many families dainty waiting should be unknown. I am well aware that the question of serving is generally the sticking point.

It is very hard—sometimes impossible—for the mistress with but one maid-of-all-work to demand that the one shall be a practical waitress. It is much easier to have the food jumbled on the table in a helter-skelter fashion than to run the risk of making trouble by insisting that it shall be served in courses. But the matter is not so difficult, after all, if the servant understands from the beginning that this will be required of her.—
Good Cheer.

RESTLESSNESS OF OLD AGE.

Those who have been much with the aged have observed in them a chafing against the infirmities of their years, which expresses itself in restlessness and a desire for change. They grow weary of the inactivity which has succeeded the busy time when they bore the heat and burden of the day, and so, sometimes they wander here and there, dropping in to visit a friend or talking with a chance acquaintance, trying thus to while away the tedious hours. In mistaken kindness and unkind affection, we often oppress dear, aged people by our very care. They dislike supervision. The tender watchfulness which to us seems due to their physical feebleness, as well as a fit return for their care for us in earlier days, is by them resented as restraint. It annoys them. Then, too, we try to take all the work out of their hands, and that they don't like. Nobody who has been active and useful enjoys the feeling of being laid on the shelf.

Grandfather's step is uncertain and his arm less vigorous than of old ; but he possesses a rich treasure of experience, and he likes to be consulted. It is his privilege to give advice ; his privilege, too, at times to go into the work with the youngest, renewing his youth as he keeps bravely up with the hearty men not half his age.

Grandmother does not want to be left out of the

household. When the days come round for pickling and preserving, and the domestic force is pressed into service, who so eager and full of interest as she? It is cruel to overrule her decisions, to put her aside because "she will be tired." Of course she will be tired; but she enjoys the fatigue, and rests the sooner for the thought that she is still of some use in the world.

To those whose homes are honoured by the presence of an aged parent, we would say, deal very gently with those who are on the down-hill of life. Your own time is coming to be where they are now. You, too, are "stepping westward." Soothe the restlessness of age by amusement, by consideration, by non-interference, and by allowing plenty of occupation to fall into the hands that long for it. Only let it be of their own choosing, and cease to order them as if they were children. A hoary head at a fireside is a crown of glory to the house in which it dwells. The blessing of the aged is as a dew on the pasture, as the falling of sun-light on a shadowy place.

TURNING GRAY.

Many persons begin to show gray hairs while they are yet in their twenties, and some while in their teens. This does not by any means, says a recent writer, argue a premature decay of constitution. It is a purely local phenomenon, and may co-exist with unusual bodily vigour. The celebrated author and traveller, George Borrow, turned quite gray before he was thirty, but was an extraordinary swimmer and athlete at sixty-five. Many feeble persons, and others who have suffered extremely both mentally and physically, do not blanch a hair until past middle life; while others, without assignable cause, lose their capillary colouring matter rapidly when about forty years of age. Race has a marked influence. The traveller, Dr. Orbigny, says that in the many years he spent in South America he never saw a bald Indian, and scarcely ever a gray-haired one. The negroes turn more slowly than the whites. Yet we know a negress of pure blood, about thirty-five years old, who is quite gray. In this country sex appears to make little difference. Men and women grow gray about the same period of life.

MECHANISM OF THE BEE.

An investigator into the mysteries of animal life asserts that the bee's working tools, comprise a variety equal to that of the average mechanic. He says that the feet of the common working bee exhibit the combination of a basket, a brush, and a pair of pincers. The brush, the hairs of which are arranged in symmetrical rows, is only to be seen with the microscope. With this brush of fairy delicacy the bee brushes its velvet robe to remove the pollen dust with which it becomes loaded while sucking up the nectar. Another article, hollowed like a spoon, receives all the gleanings which the insect carries to the hive. Finally, by opening them, one upon another, by means of a hinge, these two pieces become a pair of pincers, which render important service in the construction of the combs.

HOUSEHOLD HINTS.

HAY water is a great sweetener of tin, wooden, and iron ware. In Irish dairies everything used for milk is scalded with hay water. Boil a handful of sweet hay in water and put in the vessel when hot.

The best way to brighten a carpet is to put a half tumbler of spirits of turpentine in a basin of water, and dip your broom in it and sweep over the carpet once or twice, and it will restore the colour and brighten it up until you would think it new.

SILVER spoons that have become discoloured, in contact with cooked eggs, may be easily brightened by rubbing with common salt. A lump of gum-camphor in the closet where silver or plated ware is kept will do much toward preventing tarnish.

To make pretty napkins for spreading over dishes on the table, cut a yard of bird's eye linen into eight square pieces, fringe one-half an inch deep, overcast with red working cotton, coral stitch a border of same or work a sheaf of wheat, a monogram or initial in the corner. These brighten up a table wonderfully, wash well, and are within the reach of all.

Sets of table mats can be made by cutting oval and round pieces of pasteboard, size one for pattern, two for tureen, three for coffee urn, four for teapot. Cover one side with red or blue worsted cloth, sew agate or any kind of small buttons; an initial in centre of each and a row around the edge an inch apart, trimming them with narrow lace or fringe, lining the whole with cambric. They will look nicely and are very useful.

An apron to be used while hanging out clothes, and with two or three pockets to carry what pins are needed, can be made of any strong cloth. Old bed ticking answers well. Length is not required. Cut a second piece of the same shape as the bottom of the large one, but somewhat wider, so as to gather on a little. This outer piece is to be seven or eight inches deep, when hemmed and sewed on. Divide this into two or three compartments by stitching, so as to prevent the clothes-pins from slipping to one side too much. Put a band at the top, which may be tied or buttoned behind, as may suit one's convenience.

A LOVELY lounge cover or cover for an invalid can be made of cast-off neckties, old bonnet pieces, and scraps of silk. Cut the pattern of a hexagon, five inches from the centre of the outer edge. Put a centre of black silk on velvet about two inches in diameter, and piece around this in log-cabin style, preserving the form throughout. Twelve will make a very good sized coverlet. Put together with squares of black silk or velvet, and lined with bright flannel pinked on the edges, so that it projects a little on the right side. Wool pieces make a very pretty one, too. Mosaic broidery is very effective for mantel drapes, piano covers, and screens, and is quite easily made. Take whatever material is chosen for the ground work, and sew on to it with some fancy stitch odd patterns cut from various coloured plushes.

Miscellaneous.

SHAKESPEARE was not a broker; but does any one know of another man who has furnished so many stock quotations?

At a San Jose concert a lady sung, "Would I Were a Bird," and a miner cried, "Would I were a gun."

A HINT to old bachelors.—Mr. Oldbeau (to young rival, before young lady to whom they are both attentive): "Why, bless me, Charley, how you've grown!"

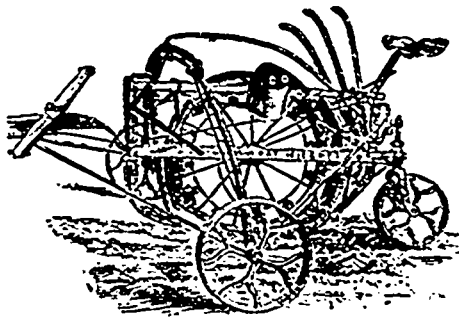
CORNS are not confined to the feet. A newly arrived chiropodist says he "removed corns from several of the crowned heads of Europe."

HOSTESS: "Are you a musician, Mr. Jones?" Jones, who is dying to give an exhibition of his ability: "Well—yes, I think I may lay claim to some knowledge of music." Hostess: "I am delighted to know it. My daughter is about to play, and I should be very glad if you would kindly turn the music for her."

AN exchange says "a plate has been discovered on which a pie can be baked without burning while the mistress of the house is finishing her novel, and the cook is having a few last words with the policeman." This oughtn't to be very hard to do. The man of the house comes downstairs and looks after the pie, probably.

PEDDLER (to woman at the door): "Can I see your mother, miss?" Woman: "My mother?" Peddler: "Yes, miss, the lady of the house. I have some beautiful articles that she will be glad to see." Woman (graciously): "Well—er—I am the lady of the house, sir, and if you will step into the parlour I will be glad to look at what you have got."

DURING a discussion of religious topics young Brown said: "I tell you that if the other animals do not exist after death neither will man. There is no difference between man and a beast." And good old Jones mildly replied: "If anybody could convince me of that it would be you, Brown."



ELEVATOR DITCHING MACHINE FOR UNDERDRAINING.

One man with this machine can do more work than 40 men with spades. Circulars mailed free on application.

WM. RENNIE, TORONTO.

SEEDS.

Rennie's Seeds are the best

Annual Descriptive Catalogue of Field, Garden and Flower Seeds for 1885 mailed FREE upon application.

WM. RENNIE, Toronto.

PHYSICIANS RECOMMEND IT.

H. SIROIS, M.D., Frasersville, P. Q., writes that he has sold WISTAR'S BALSAM OF WILD CHERRY for many years, and knows it to be one of the oldest as well as the most reliable preparations in the market for the cure of Coughs, Colds, and Throat and Lung Complaints. He knows of no article that gives greater satisfaction to those who use it, and he does not hesitate to recommend it.

DR. J. PARADIS, of the same place, writes, "I have tried DR. WISTAR'S BALSAM ON WILD CHERRY for the cure of Coughs, Colds and Throat and Lung Complaints, in several cases, and it has worked wonders. In consequence of its satisfactory effects I recommend it to all in preference to any other preparation for these diseases. I know of no article that gives greater satisfaction to those who use it, and I take pleasure in certifying this."

"Maryland, My Maryland."

... "Pretty Wives,
Lovely daughters and noble men."

"My farm lies in a rather low and miasmatic situation, and

"My wife!"

"Who!"

"Was a very pretty blonde!"

Twenty years ago, became

"Sallow!"

"Hollow-eyed!"

"Withered and aged!"

Before her time, from

"Malarial vapours, though she made no particular complaint, not being of the grumpy kind, yet causing me great uneasiness.

"A short time ago I purchased your remedy for one of the children, who had a very severe attack of biliousness, and it occurred to me that the remedy might help my wife, as I found that our little girl upon recovery had

"Lost!"

"Her sallowness, and looked as fresh as a new-blown daisy. Well, the story is soon told. My wife, to-day, has gained her old-time beauty with compound interest, and is now as handsome a matron (if I do say it myself) as can be found in this country, which is noted for pretty women. And I have only Hop Bitters to thank for it.

"The dear creature just looked over my shoulder, and says I 'can flatter equal to the days of our courtship,' and that reminds me there might be more pretty wives if my brother farmers would do as I have done."

Hoping you may long be spared to do good, I thankfully remain,

C. L. JAMES.

BELTSVILLE, Prince George Co., Md., }
May 26th, 1883. }

None genuine without a bunch of green Hops on the white label. Shun all the vile, poisonous stuff with "Hop" or "Hops" in their name.

Scientific and Useful.

"BROMLEY, is it true that you lost your hired girl?" "Yes, Mr. Dusenberry; she died." "Ah! What of?" "Corroboration." "Of what?" "Corroboration. She wanted to know whether there was really any risk in lighting the fire with coal oil."

RHEUMATISM, Gout, Lumbago, and similar troubles, will not linger with you if your blood is pure; if it is not, we would recommend you to take Burdock Blood Bitters at once.

"Has given the most unqualified satisfaction in this section," writes John B. Dale, druggist, Wyoming, of the great blood purifying tonic, Burdock Blood Bitters.

OXALIC acid is used for removing ink and rust stains and remnants of mud stains, which do not yield to other means. The best method of applying it is to dissolve it in cold or lukewarm water, to let it remain a moment upon the spot and then rub it with the fingers.

BUY the Boss Zinc and Leather Ankle Boots. (Others become worthless as soon as wet.) The zinc lined bowl keeps the boot in shape and place in wet weather, and lasts a lifetime. Sold by Harness Makers on 60 days' trial. Manufactured by DEXTER CURTIS, Madison, Wis.

LIQUID ammonia is the most powerful and useful agent for cleaning silk stuffs and hats. In this latter case it is often necessary to expose the spots to the vapour of the ammonia, which makes them disappear entirely. It does not injure silks, but if too strong injures the colour in woollen goods. It is also used in restoring black silks which have been damaged by damp.

When exhausted by physical or mental labour or by any weakening drain upon the system restore nervous tranquillity and lost vitality by Burdock Blood Bitters.

"A constantly increasing sale with the same satisfactory results for which it was first noted," writes W. W. Branscombe, druggist, of Picton, of the noted blood and liver remedy—Burdock Blood Bitters.

CORN BISCUIT.—Sald two cups of corn meal in one pint of sweet milk. Then stir together three-quarters of a cup of butter, two cups of sugar and a little salt, and add to it. Then add three eggs well beaten, a little flour and half a cup of hop yeast. Let it rise the second time; then roll out, and let rise the third time. Bake and send to the table hot. This amount makes about twenty-five biscuits.

A Profitable Investment

can be made in a postal card, if it is used to send your address to Hallett & Co., Portland, Maine, who can furnish you work that you can do and live at home; few there are who cannot earn over \$5 per day, and some have made over \$50. Capital not required; you are started free. Either sex; all ages. All particulars free.

Wonderful New Iron-Clad Plum

MARIANA

FRUIT, ORNAMENTALS, EVER-GREENS, ROOT GRAFTS, GIONS—EVERYTHING.
STARK NURSERIES 52nd Year, 300 acres—LOUISIANA, MISS.

SAMUEL SMAKE, Cannington, Ont., Breeder of Jersey Cattle of the most fashionable strains. Stokes Pegis, St. Lambert and Victor-Hugo blood combined. Some always on hand for sale.

AN EXTRAORDINARY OFFER.

To All Wanting Employment.

We want Live, Energetic and Capable Agent in every County in the United States and Canada, to sell a patent article of great merit, ON ITS MERITS. An article having a large sale, PAYING OVER ONE HUNDRED PER CENT. profit, having no competition, and on which the agent is protected in the exclusive sale by a deed given for each and every county he may secure from us. With all these advantages to our agents and the fact that it is an article that can be sold to every houseowner, it might not be necessary to make an "EXTRAORDINARY OFFER" to secure good agents at once, but we have concluded to make it to show not only our confidence in the merits of our invention, but in its salability by any agent that will handle it with energy. Our agents now at work are making from \$150 to \$600 a month clear, and this fact makes it safe for us to make our offer to all who are out of employment. Any agent that will give our business a thirty days trial and fail to clear at least \$100 in this time, ABOVE ALL EXPENSES, can return all goods unsold to us and we will refund the money paid for them. Any agent or general agent who would like ten or more counties and work them through sub-agents for ninety days and fail to clear at least \$750 ABOVE ALL EXPENSES, can return all unsold and get their money back. No other employer of agents ever dared to make such offers, nor would we if we did not know that we have agents now making more than double the amount we guaranteed; and but two sales a day would give a profit of over \$125 a month, and that one of our agents took eighteen orders in one day. Our large descriptive circulars explain our offer fully, and these we wish to send to everyone out of employment who will send us three one cent stamps for postage. Send at once and secure the agency in time for the boom, and go to work on the terms named in our extraordinary offer. We would like to have the address of all the agents, sewing machine solicitors and carpenters in the country, and ask any reader of this paper who reads this offer, to send us at once the name and address of all such they know. Address at once, or you will lose the best chance ever offered to those out of employment to make money.

RENNER MANUFACTURING Co.,
116 Smithfield St., Pittsburg, Pa.

Nervous Debilitated Men

You are allowed a free trial of thirty days of the use of Dr. Dye's Celebrated Voltaic Belt with Electric Suspensory Appliances, for the speedy relief and permanent cure of Nervous Debility, loss of Vitality and Manhood, and all kindred troubles. Also, for many other diseases. Complete restoration to health, vigour and manhood guaranteed. No risk is incurred. Illustrated pamphlet, with full information, terms, etc., mailed free by addressing Voltaic Belt Co., Marshall, Mich.

CONSUMPTION CURED.

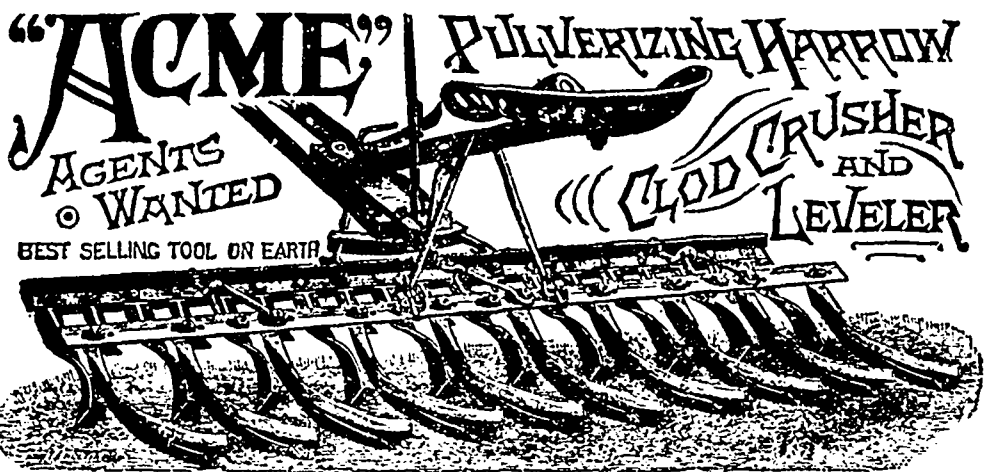
An old physician, retired from practice, having had placed in his hands by an East India-missionary the formula of a simple vegetable remedy for the speedy and permanent cure of Consumption, Bronchitis, Catarrh, Asthma and all Throat and Lung Affections, also a positive and radical cure for Nervous Debility and all Nervous Complaints, after having tested its wonderful curative powers in thousands of cases, has felt it his duty to make it known to his suffering fellows. Actuated by this motive and a desire to relieve human suffering, I will send free of charge, to all who desire it, this recipe, in German, French or English, with full directions for preparing and using. Sent by mail by addressing with stamp, naming this paper, W. A. NOXES, 149 Power Block, Rochester, N. Y.

GRINDING MILLS.

Wilson's Hand, Bone, Corn and Shell Grinding Mills are specially adapted for grinding all kinds of Grain, Oyster Shells and Dry Bones for Poultry.

Descriptive circular on application to

WM. RENNIE - TORONTO.



Subjects the soil to the action of a Steel Crusher and Leveller, and to the Cutting, Lifting, Turning Process of Double Gangs of Cast Steel Coulters. Immense cutting power. Crushing, Levelling and Pulverizing performed at the same time. Entire absence of Spikes or Spring Teeth avoids pulling up rubbish. Only Harrow that cuts over the entire surface of the ground.

Sizes, 3 to 15 ft. wide. With and without Sulky attachment. We deliver free at distributing Depots.

Send for pamphlet containing thousands of testimonials from 48 States and Territories.

Branch Office: **HARRISBURG, PENN. [NASH & BRO.,]** Mfg. and Principal Office, Millington, New Jersey
N.B.—"TILLAGE IS MANURE" and other essays sent free to parties who NAME THIS PAPER.

"MAUD S." CONDITION POWDERS

For Horses, Cattle, Sheep, Pigs and Poultry.

So vast is the importance of these extraordinary preparations to the Stable, the Farm and the Barn Yard, they have become indispensable to both in this Dominion, to all who are engaged in the growth of the management of Live Stock of any description, whether Fowls, Pigs, Horses, Cattle, or Sheep. So suddenly do they arrest disease in Poultry or in any of these animals, their virtues have passed into a proverb, and their sale has become enormous.

It is a truth beyond a shadow of doubt, that on the farm or in the Barn Yard or Stable, where "MAUD S." CONDITION POWDERS are occasionally mixed with the food of fowls and animals, or administered according to the directions that accompany each package, disease becomes all but impossible, while the general condition of the stock insures the most remunerative results. Try them, you who may not yet have used them.

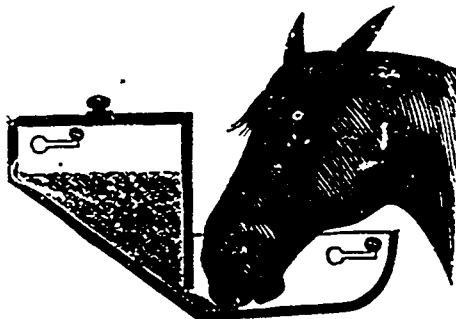
BE SURE AND ASK FOR THE "MAUD S." MADE BY

THE DAVIS & LAWRENCE CO., Limited,

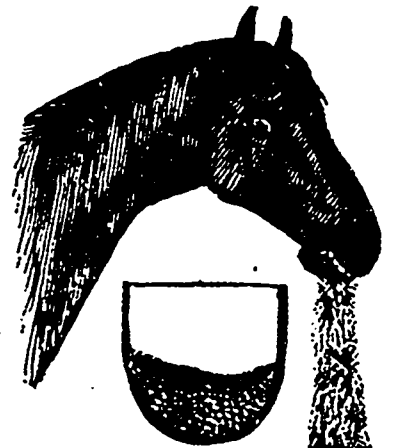
MONTREAL.

THE MAGIC BOX.

THE OLD BOX.



THE



MAGIC Patent FEED BOX

Makes no Waste. Saves one-quarter the quantity of oats usually fed. PRICE \$3.25. Discount to parties wanting a number.

—: SEND FOR DESCRIPTIVE CIRCULAR OF THE :—

MAGIC PATENT FEED BOX

And Catalogue of our

IRON STABLE FITTINGS.

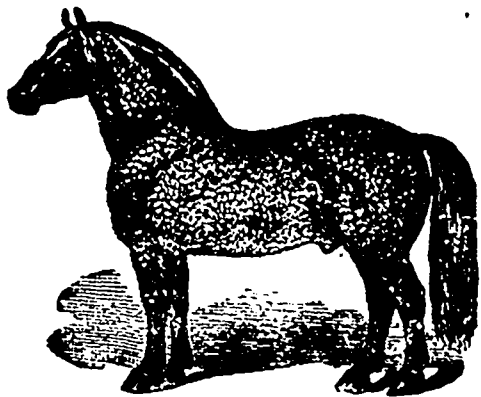
B. G. TISDALE, | Brantford Stove Works

BRANTFORD, - ONTARIO.

We lead Canada in the manufacture of Iron Stable Fitting

ISLAND HOME Stock Farm,

Grosse Ile, Wayne Co., Mich.
SAVAGE & FARNUM, PROPRIETORS.



Patrole No. 2620 (1167).

— IMPORTED —

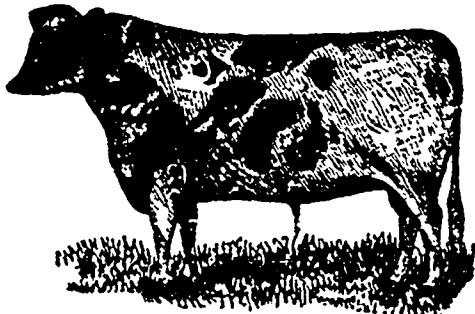
Percheron Horses.

All stock selected from the get of sires and dams of established reputation and registered in the French and American stud books.

ISLAND HOME

Is beautifully situated at the head of Grosse Ile in the Detroit River, ten miles below the City, and is accessible by railroad and steamboat. Visitors not familiar with the location may call at city office, 52 Campau Building, and an escort will accompany them to the farm. Send for catalogue, free by mail. Address, SAVAGE & FARNUM, Detroit, Mich.

MAPLE GROVE FARM,



S. SHUNK, Jr.,

EDGELEY P. O., ONT.

BREEDER OF THOROUGHBRED

HOLSTEIN CATTLE,

The herd consists of Four Imported Heifers and One Barrington Bull. Lady Mol has dropped a fine b. c. This Heifer took First Prize in Holland. Milk record 93 lbs. per day. Heifer Jessilino dropped c. c. This herd was imported by B. B. Lord & Son, Cinclairville, N. Y., with a view to secure only the best that could be got. Stock for sale, visitors welcome. For particulars, address as above.

2 Miles from Thornhill Station,
N. & N.-W. R. R.

ESTERBROOK STEEL PENS



Popular Nos.: 048, 14, 130, 333, 161

For Sale by all Stationers.

R. MILLER, SON & CO., Agts., Montreal.

A GOOD THING TO HAVE AT HAND!

During the hot weather we cannot be too careful of ourselves, if we would be free from such unpleasant companions of summer as

Cramps, Chills, Diarrhoea, Dysentery, Cholera Morbus, etc.,

and one cannot do better than to make assurance doubly sure by having always at hand a bottle of the old reliable

PERRY DAVIS' PAIN-KILLER,

which is a sure cure for the above-named troubles, when taken in time. It has also been a wonderful success in the treatment of that dread epidemic

CHOLERA!

Be warned in time! Do not put off buying what you may have need of at any moment. Sold everywhere, 20c., 25c., and 50c. per bottle.

PRINTING!

Unequaled Facilities

for the execution of FIRST-CLASS

BOOK, PAMPHLET & JOB PRINTING,

On short notice and at reasonable prices.

Large Founts of New Type!

Modern Fast Steam Presses!

Careful & Experienced Workmen!

ESTIMATES FURNISHED ON APPLICATION

C. BLACKETT ROBINS DN,

5 Jordan Street, - Toronto.

TELEPHONE No. 630.

JUST PUBLISHED!

LETTERS FROM GOLDEN LATITUDES.

A large, finely-illustrated pamphlet, descriptive of the North-west. Statistics compiled from official sources. Sent FREE on application to

C. H. WARREN, G. P. A., St. PAUL, MINN.

COLMAN'S RURAL WORLD.

The oldest and best Agricultural Weekly in the West. Founded by HON. NORMAN J. COLMAN. Subscription price, \$1.50 per year. Sample copy sent free. Send your name and also your neighbour's on postal card at once to C. D. COLMAN, St. Louis, Mo.



DR. E. C. WEST'S NERVE AND BRAIN TREATMENT, a guaranteed specific for Hysteria, Dizziness, Convulsions, Fits, Nervous Neuralgia, Headache, Nervous Prostration caused by the use of Alcohol or Tobacco, Wakefulness, Mental Depression, Softening of the Brain resulting in insanity and leading to misery, decay and death. Premature Old Age, Barrenness, Loss of Power in either sex, Involuntary Losses, Spermatorrhea caused by over exertion of the brain, Self-abuse or Over-indulgence. Each box contains one month's treatment. \$1.00 a box, or six boxes for \$5.00, sent by mail prepaid on receipt of price.

WE GUARANTEE SIX BOXES

to cure any case. With each order received by us for six boxes, accompanied with \$5.00, we will send the purchaser our written guarantee to refund the money if the treatment does not effect a cure. Guarantees issued only by Jno. C. West and Co., 81 King Street East, Toronto

PILES. Instant relief. Final cure in ten days, and never returns. No purge, no salve, no suppository. Sufferers will learn of a Simple remedy FREE, by addressing C. J. MASON, 78 Nassau St., N. Y.



HERBY

CLIMAX FEED

FOR

HORSES, CATTLE, MILCH COWS,
SHEEP, PIGS AND PULTRY.

HIGHLY recommended by Prof. Brown in the Experiments of 1885, at the Model Farm, Guelph.

HOLDS the highest fattening record on the American continent, 5 lbs. 11 oz. daily increase in fattening stock.

GRANTED double the Awards of Merit by the leading Agricultural Societies over any other FEED in the Dominion, and is the Cheapest Feed in the market.

FARMERS, ask for the CLIMAX FEED and take no other.

For further information address

LONDON FEED CO.,

Boz 195, - LONDON, ONT.

ONTARIO
PUMP CO'Y
(LIMITED),
TORONTO, ONT.



SEVENTEEN SIZES
Geared Windmills
From 1 to 40 h. p.

For Pumping Water, running Grain Crushers, Straw Cutters, Root Pulpers, or any other machinery up to a 40 h. p. grist mill.



IRON FEED MILL

Guaranteed to grind from 10 to 20 bushels per hour according to size. These mills are the most durable, perfect and cheapest iron feed mill yet invented.



TANKS

From the smallest up to 2,355 bbls.

PIPE AND PIPE FITTINGS.

In fact a full line of Water Supply Material.

Send us your address on a post card and we will send you 104-page illustrated catalogue free.

DEDERICK'S HAY PRESSES.

Send us your address on a post card and we will send you 104-page illustrated catalogue free.

Manufactory at 90 College Street, Montreal, P. Q.
Address for circular P. K. DEDERICK & CO., Albany, N.Y.

A PRIZE. Send six cents for postage and receive free, a costly box of goods which will help you to more money right away than anything else in this world. All, of either sex, succeed from first hour. The broad road to fortune opens before the workers, absolutely sure. At once address, TRUB & CO., Augusta, Maine.



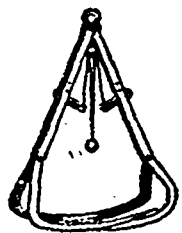
PUMPS.

Iron and wood,
Force or Lift,
Deep well pumps a
specialty.



Pumping Windmills

From 8 to 30
feet diameter.



Haying Tools.

A full line of the
Best.

Errors of Youth.

SUFFERERS FROM
Nervous Debility, Youthful In-
discretions, Lost Manhood,
BE YOUR OWN PHYSICIAN!

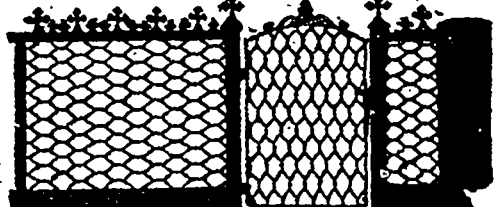
Many men, from the effects of youthful imprudence, have brought about a state of weakness that has reduced the general system so much as to induce almost every other disease, and the real cause of the trouble scarcely ever being suspected, they are doctored for everything but the right one. Notwithstanding the many valuable remedies that medical science has produced for the relief of this class of patients, none of the ordinary modes of treatment effect a cure. During our extensive college and hospital practice we have experimented with and discovered new and concentrated remedies. The accompanying prescription is offered as a certain and speedy cure, as hundreds of cases in our practice have been restored to perfect health by its use after all other remedies failed. Perfectly pure ingredients must be used in the preparation of this prescription.

℞—Cocain (from Erythroxylon coca), 1/2 drachm
Jerubabin, 1/2 drachm.
Helonias Dioica, 1/2 drachm.
Gelsemin, 8 grains.
Ext. ignatia amara (alcoholic), 2 grains.
Ext. leptandra, 2 scruples.
Glycerin, q. s. **Mix.**
Make 60 pills. Take 1 pill at 8 p.m., and another on going to bed. In some cases it will be necessary for the patient to take two pills at bedtime, making the number three a day. This remedy is adapted to every condition of nervous debility and weakness in either sex, and especially in those cases resulting from imprudence. The recuperative powers of this restorative are truly astonishing, and its use continued for a short time changes the languid, debilitated, nervous condition to one of renewed life and vigor.

As we are constantly in receipt of letters of inquiry relative to this remedy, we would say to those who would prefer to obtain it of us, by remitting \$1, a securely sealed package containing 60 pills, carefully compounded, will be sent by return mail from our private laboratory, or we will furnish 3 packages, which will cure most cases, for \$5.
Address or call on

NEW ENGLAND MEDICAL INSTITUTE,
24 TREMONT ROW,
BOSTON, MASS.

SEDGWICK STEEL WIRE FENCE



Is the best general purpose wire fence in use. It is a strong net-work without barbs. Don't injure stock. It will turn dogs, pigs, sheep and poultry, as well as horses and cattle. The best fence for Farms, Gardens, Stock Ranges and Railroads. Very neat, pretty styles for Lawns, Parks, School-lots and Cemeteries. Covered with rust-proof paint, or made of galvanized wire, as preferred. It will last a life-time. It is better than boards or barbed wire in every respect. The Sedgwick Gates made of wrought-iron pipe and steel wire, defy all competition in lightness, neatness, strength and durability. We make the best, cheapest and easiest working all-iron automatic or self-opening gate, and the nearest cheap iron fences now made. The best Wire Stretchers, Cutting Pliers and Post Augers. For prices and particulars ask Hardware Dealers, or address, mentioning paper.

SEDGWICK BROS., Richmond, Ind.

Sibley's Tested Seeds

Catalogue free on application. Send for it.
HIRAM SIBLEY & CO.,
ROCHESTER, N. Y. AND CHICAGO, ILL.

WORMS often cause serious illness. The cure is Dr. Lewis' Worm Syrup. It destroys and expels Worms effectually.



CURE SICK HEAD

Sick Headache and relieve all the troubles incident to a bilious state of the system, such as Dizziness, Nausea, Drowsiness, Distress after eating, Pain in the Side, &c. While their most remarkable success has been shown in curing

Headache, yet Carter's Little Liver Pills are equally valuable in Constipation, curing and preventing this annoying complaint, while they also correct all disorders of the stomach, stimulate the liver and regulate the bowels. Even if they only cured

Ache they would be almost priceless to those who suffer from this distressing complaint; but fortunately their goodness does not end here, and those who once try them will find these little pills valuable in so many ways that they will not be willing to do without them. But after all sick head

ACHE

Is the bane of so many lives that here is where we make our great boast. Our pills cure it while others do not. Carter's Little Liver Pills are very small and very easy to take. One or two pills makes a dose. They are strictly vegetable and do not gripe or purge, but by their gentle action please all who use them. In vials at 25 cents; five for \$1. Sold by druggists everywhere, or sent by mail.

CARTER MEDICINE CO.,
New York City.

The Sun

The Best Newspaper in America, and by far the Most Readable.

Agents wanted everywhere to earn money in distributing the Sun's Premiums.

The most interesting and advantageous offers ever made by any Newspaper.

No Subscriber ignored or neglected. Something for all.

Beautiful and Substantial Premiums in Standard Gold and other Watches, Valuable Books, the Best Family Sewing Machine known to the trade, and an unequalled list of objects of real utility and instruction.

Rates, by Mail, Postpaid:
DAILY, per Year (without Sunday) \$6 00
DAILY, per Month (without Sunday) 50
SUNDAY, per Year 1 00
FOR EVERY DAY IN THE YEAR 7 00
WEEKLY, per Year 1 00
Address, THE SUN, New York City.

Man Wanted SALARY \$75 to \$100 for our business in his locality. Responsible house. References exchanged. **GAY & CO., 19 Barclay St., N. Y.**

D. M. FERRY & CO'S
 ILLUSTRATED AND DESCRIBED
SEED ANNUAL
 FOR 1886

Will be mailed FREE to all applicants, and to customers of last year without ordering it. It contains about 120 pages, 600 illustrations, prices, accurate descriptions and valuable directions for planting all varieties of VEGETABLE and FLOWER SEEDS, BULBS, etc. Invaluable to all, especially to Market Gardeners. Send for it. Windsor, Ontario.
D. M. FERRY & CO., Detroit, Michigan.

A BEAUTIFUL HOUSE FOR \$1200



This marvelous house has been built more than 300 times from our plans; it is so well planned that it affords ample room even for a large family. 1st floor shown above; on 2d floor are 4 bed rooms and in attic 2 more. Plenty of Closets. The whole warmed by one chimney. Large illustrations and full description of the above as well as of 59 other houses, ranging in cost from \$400 up to \$6,500, may be found in "SHOPPERS' MODERN LOW-COST HOUSES," a large quarto pamphlet, showing also how to select sites, get loans, &c. Sent postpaid on receipt of 50c. Stamps taken, or send \$1 bill and we will return the change. Address, BUILDING PLAN ASSOCIATION, (Mention this Paper.) 24 Beekman St., (Box 2702) N. Y.

* Highly Commended at the Toronto Exhibition, 1885.



The "Stunner."

Is quickly and easily attached to the head of Cattle, Hog, etc., and retained there by Steel Springs; a smart blow given it instantaneously and painlessly deprives the animal of sensibility.

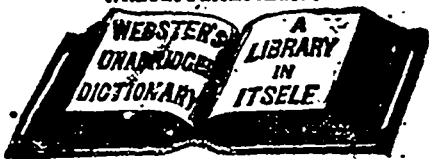
The "Stunner" is the only instrument that can be attached to the head of Stock for Slaughtering purposes. It enables the FARMER and PIG-KEEPER to kill his own Cattle and Hogs humanely, safely, speedily and quickly.

Humanitarians should use and advocate the use of the "Stunner."

A sample sent, Carriage paid, for 75 cents By J. B. STRINGER, Doncaster, Ont.—Patented in U. S. A. and Canada. Agents wanted in every district.

WEBSTER

In various Styles of Binding, with and without Patent Index.



JUST ADDED
 A NEW PRONOUNCING
GAZETTEER
 OF THE WORLD,

Containing over 25,000 titles, describing the Countries, Cities, Towns, and Natural Features of every part of the Globe.

GET Webster—it has 118,000 Words, 3000 Engravings, and a New Biographical Dictionary. Standard in Gov't Printing Office. 32,000 copies in Public Schools. Sale 20 to 1 of any other series.
BEST Holiday Gift
 It is an invaluable companion in every School, and at every Fireside.

G. & C. MERRIAM & CO., Pub'rs, Springfield, Mass.

WANTED LADIES and GENTLEMEN who wish to make \$3 to \$4 a day easily at their own homes. Work sent by mail. No canvassing. Address with stamp Crown Mt'g. Co., 294 Vine St., Cin'ti.O.

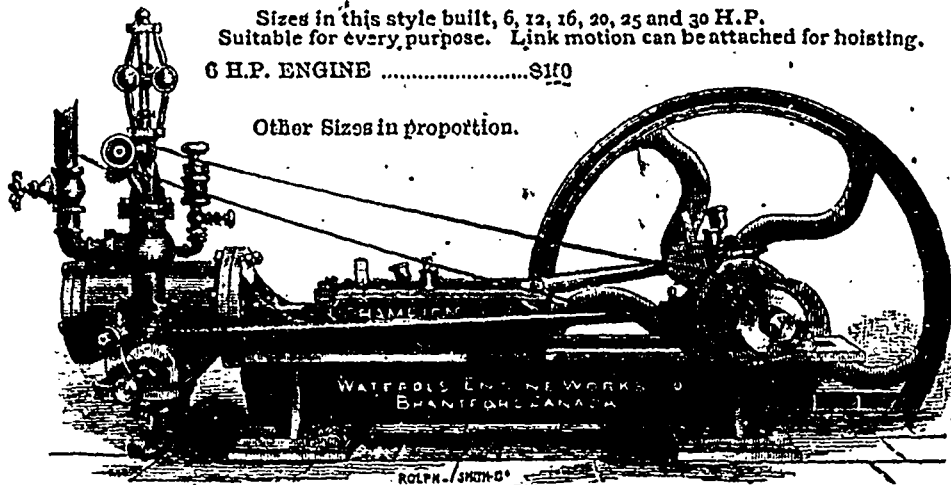
THE CHEAPEST THOROUGHLY GOOD ENGINES BUILT!

OVER TWELVE HUNDRED IN USE.

Sizes in this style built, 6, 12, 16, 20, 25 and 30 H.P. Suitable for every purpose. Link motion can be attached for hoisting.

6 H.P. ENGINE\$110

Other Sizes in proportion.



HEAVY Stationery Sawmills of all capacities. Portable Sawmills our specialty. Shingle and Wood-working Machinery, Grain Choppers, and Champion Fire-Proof Farm Engines. Send for Circular, stating your wants.

EASTERN OFFICE - 154 ST. JAMES STREET, MONTREAL.

WATEROUS ENGINE WORKS CO., BRANTFORD and WINNIPEG.

BURROW, STEWART & MILNE,

Imperial Standard

SCALE WORKS,
 HAMILTON, ONT.



Stock Scales, Dairy Scales,
 Hay Scales, Grocers' Scales,
 Farmers' Scales Butchers' Scales,
 Coal Scales, Steelyards, etc.

Wherever our Scales have been exhibited, they have been awarded **First Prize**, and have never once taken Second Place and we claim that for accuracy and for quality and beauty of workmanship they are **UNEQUALLED**. Send for Illustrated Catalogue. Every Scale Inspected, Stamped and Fully Guaranteed.

FARMERS! ATTENTION!—FARMERS!

—: GIVE YOUR SONS A COURSE AT THE :—

LONDON BUSINESS UNIVERSITY

And Telegraphic and Phonographic Institute.

COURSE:—Comprehensive and Practical Instruction, Rapid and Thorough. ROOMS:—Centrally and pleasantly located and elegantly fitted up.

For Circulars containing full particulars, Address W. N. YEREX, Principal, Box 400, London.



FAIR AND SQUARE DEALING.

Believing that if a man has dealt squarely with his fellow-men his patrons are his best advertisers, I invite all to make inquiry of the character of my seeds among over a million of Farmers, Gardeners and Planters who have used them during the past thirty years. Raising a large portion of the seed sold, (few seedsmen raise the seed they sell) I was the first seedsman in the United States to warrant (as per catalogue) their purity and freshness. My new Vegetable and Flower Seed Catalogue for 1886 will be sent FREE to all who write for it. Containing an immense variety, my friends will find in it (and in none other) a new drumhead Cabbage, just about as early as Henderson's, but nearly twice as large! James J. H. Gregory, Marblehead, Mass.