Perpetual Motion.

When George Stephenson was asked, "Do you believe in perpetual motion?" he replied, "Yes, if you lift yourself by the waist-band of the trousers, and carry yourself three times round the room."

Just so, and a woman would just as soon believe that she has not to pay dearly for common premium soaps, in the low quality of soap, in ruined hands and clothes. She would be kept in perpetual motion trying to do with common soap what she could so easily do with Sunlight Soap—Octagon Bar. 216

IMPROVING OF OUR LANDS

SHALLOW CULTIVATION AND ROTATION.

By J. H. Grisdale, Agriculturist, Experimental Farm, Ottawa.

For many years farmers in Eastern Canada were grain growers merely. Necessity forced the inception of such a system of agriculture. Habit and ignorance prolonged the practice of such farming. The wonderful strength, and seemingly inexhaustible fertility of the soil made its long continuance possible. The discovery of the possibilities of the Northwest and the gradual exhaustion of our fields called a halt. Hence, for some years past change has been in the air.

Live stock farming, the system making the smallest demands on soil fertility, is rapidly supplanting grain growing. Parts of nearly every farm are now much better in condition than they were a few years ago; and, further, such is nature's wonderful recuperative power, since the partial cessation of the tremendous drain of grain exportation the average crop returns for Eastern Canada have gone up very considerably. But, as every farmer knows, even live stock farming long continued means a gradual loss of fertility unless considerable food other than that produced on the farm is fed to stock and the manure properly cared for and utilized.

This fact has led to a study of the methods for cheaply restoring lost fertility and profitably cultivating soils so that "improved, rather than impoverished" may be the annual verdict.

It is impossible to discuss the subject exhaustively in such an article as this, but one plan of cultivation found to give good results is where the meadow or pasture is plowed in August, the sod being turned to a depth of 3½ or 4 inches only. Immediately after plowing, if in a dry time, the land is rolled, then harrowed with a light harrow. It is then left untouched until grass and weeds start to grow when it is again harrowed, care being exercised to prevent the sod being disturbed. The harrowing or cultivating process is continued at intervals (as the weed seeds germinate) until October, when by means of a (3 plow gang) double mould-board plow the surface soil to a depth of about 4 inches is put into drills about 22 inches apart and 8 to 10 inches high. This is found to be a most satisfactory preparation of the soil for corn, roots or grain. Where grain is sown, the soil is ready for seeding at a considerably earlier date than where late fall plowing is practised.

If along with this system of shallow cultivation a proper rotation is adopted, most excellent results are sure to follow. As clover is the only crop which, while giving a profitable harvest still serves to enrich rather than to impoverish the soil, it is evident that clover should take a prominent place in August rotations in this country. With this fact in mind, a few rotations suitable for the improving of our lands may be offered, as follows:

Three-year rotation—(1) grain, (2) clover hay, (3) pasture.

Three-year rotation — (1) corn and roots, (2) grain, (3) clover hay.

Four-year rotation — (1) corn and roots or pease, (2) grain, (3) clover hay, (4) hay or pasture.

Five-year rotation — (1) grain with 10 lbs. clover seed to plow down for fertilizers, (2) corn and roots, (3) grain, (4) clover hay, (5) hay or pasture.

Six-year rotation — Same as five year, but left one year longer in pasture.

The reason for surface cultivation and the use of such short rotations as given above is to increase the quantity of and place properly the chief factor making for soil fertility.

Dead vegetable matter exposed to moisture and warmth soon breaks down to a form called humus or black earth, the factors above mentioned. Our prairie and newly-cleared soils contain immense quantities of this material. Exposure to heat and the intermixture of earthy matter serve to waste. Thus, repeated grain cropping with deep plowing provide the conditions best calculated to dissipate this matter most rapidly and most effectively.

The functions of this common, yet easily lost, substance are varied and important. Being, as anyone can find out for himself, of the nature of a sponge, it retains the moisture in a dry time, but will allow all superfluous water to rapidly and harmlessly percolate to the lower soil layers.

It holds loose, porous solids together, and so otherwise loose sands become staple and provide a good root hold for plants. It renders dense, impermeable soils open and porous, permitting the free circulation of air and water and allowing the weak rootlets to penetrate the erstwhile impenetrable space in search of food. In brief, it is the chief requirement of good physical condition in our soils. It contains much plant food, since it is really vegetable matter, and a large percentage of this food is in available forms. It aids also in the conversion of the non-available forms of the elements of fertility into available forms. Further, it retains near the surface the dissolved plant food which must otherwise have sunk into the subsoil.

The most important sources of humus on the average farm are farmyard manure and crop residues. Upon the proper application or use of these materials depends the future of Canadian agriculture.

Where the supply of humus is limited its location becomes a very important consideration. Now, most of our crops draw the greatest part of their food from the surface soil, for, while some roots of most plants penetrate to a considerable depth, most roots of all plants are near the surface. Plants of nearly all descriptions thrive best where the surface soil is mellow and rich in humus. The great crops produced by newly-cleared fields and prairie lands exemplify this, as does also the rank growth of plants in our forests, where the sub-soil is never stirred, or where the annuals and smaller perennials must depend for their nourishment upon the surface soil almost exclusively. It would, therefore, seem to be clear that available plant food should be near the surface of our fields and that our surface soil should be in particularly good physical condition of tilth.

How to secure these two requirements of rapid, rank and desirable plant growth must, therefore, be the first consideration of every would-be successful farmer. Experiment and long practice seem to prove that shallow cultivation and some rotation, more especially the three-year or the four-year in dry districts, and the five-year in rainy districts, are most serviceable in increasing the humus in the surface soil, and so "improving the physical condition"; which means "increasing the productivity" of our fields.

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Black, Mixed and Green.

Japan tea drinkers try "Salada" Green tea.

Ask for Minard's and take no other.

Forest covers 36 per cent. of Russia's total area, or, in all, 464½ million acres. In other words, there are 4 acres of forest to every inhabitant of Russia.

A POSITIVE MAN.

HE SEEMS ABLE TO PROVE THE TRUTH OF WHAT HE SAYS.

Mr. Chalker Makes Some Very Strong Statements — Explains That He is Prepared to Prove the Truth of Every Assertion He Makes.

Housey's Rapids, Ont., Sept. 22.—(Special)—Mr. George C. Chalker, a well known resident of this place, has authorized the publication of a letter containing some very startling statements.

Those who know Mr. Chalker will not ask any proof of the truth of any statement he makes, but to convince those who do not know him, he has announced that he is prepared to substantiate in every detail, the truth of his published statement, which is as follows:—

"It is with pleasure that I certify to the merits of Dodd's Kidney Pills.

"I was laid up with Kidney Trouble and was so bad that I could not do a day's work. My back was very sore, I had heavy aching arms, dull bloated eyes. I was very weak and much reduced in weight.

"After I had used six boxes of Dodd's Kidney Pills I was ten pounds heavier. I often wonder about the powerful virtue of this medicine. I do not know anything about what Dodd's Kidney Pills are said to cure but I know a great deal about what they will actually do for Lame Back and Kidney Trouble, and I can prove it.

"They are worth their weight in gold to any one suffering as I suffered. The six boxes of Dodd's Kidney Pills cured me completely and there has been no return of my old trouble. That is over three years ago, and I still enjoy good health."

This, is, indeed, a very strong testimonial for Dodd's Kidney Pills and one which will have very great weight with all who have the pleasure of Mr. Chalker's acquaintance or friendship.

Dodd's Kidney Pills have made many friends and are to-day, without doubt, the most popular family medicine.

AN UNIMPORTANT EMPLOYE.

"You have been with that firm a long time," said the old school friend.

"Yes," answered the man with the patient expression of countenance.

"What's your position?"

"I'm an employe."

"But what's your official title?"

"I haven't any official title. It's like this. When the proprietor wants something done he tells the cashier, and the cashier tells the bookkeeper, and the bookkeeper tells the assistant bookkeeper, and the assistant bookkeeper tells the chief clerk, and the chief clerk tells me."

"And what then?"

"Well, I haven't anybody to tell, so I have to go and do it."

London consumes 11 tons of salt a day.

ST. JACOBS OIL

For Stiff and Swollen Necks.

Mr. Hooper, 57 Grosvenor street, Belfast, writes:—"Having from a cold got a very stiff and painful swollen neck, I tried all the usual remedies without effect. I was almost giving it up, when a book was placed on my counter describing St. Jacobs Oil. I procured a bottle, and had scarcely rubbed it on my neck when I felt better. In a short time the pain left me and the swelling went down. Finding it so good in this case, I then tried it on my ankle, which I had sprained, and which was frequently very painful. I soon had the pleasure of finding that pain also disappear. I must say I consider St. Jacobs Oil of great value.

A minister made an interminable call upon a lady of his acquaintance. Her little daughter who was present grew weary of his conversation, and whispered in an audible tone: "Didn't he bring his amen with him?"

Stops the Cough and works off the Cold

Laxative Bromo-Quinine Tablets cure a cold in one day. No Cure, No Pay. Price 25 cents.

Germany issues a steady average of 23,700 new books yearly.

For Over Sixty Years.

An Old and Well-Tried Remedy. — Mrs. Winslow's Soothing Syrup has been used for over sixty years by millions of mothers for their children while teething, with perfect success. It soothes the child, softens the gums, allays all pain, cures wind colic, and is the best remedy for Diarrhœa. Is pleasant to the taste. Sold by druggists in every part of the world. Twenty-five cents a bottle. Its value is incalculable. Be sure and ask for Mrs. Winslow's Soothing Syrup, and take no other kind.

"I noticed a large crowd gathered in front of your house this morning, Worrit; what was the matter?" "I was discharging the cook."

Keep Minard's Liniment in the House.

King Chulalonkorn of Siam has 45 other names.

STATE OF OHIO, CITY OF TOLEDO, } ss
LUCAS COUNTY.

FRANK J. CHENEY makes oath that he is senior partner of the firm of F. J. CHENEY & CO., doing business in the City of Toledo, County and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE.

FRANK J. CHENEY.

Sworn to before me and subscribed in my presence, this 6th day of December, A.D. 1886.

SEAL

A. W. GLEASON, *Notary Public.*

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The feathers of the mirasol, an Argentine bird, are worth $1,100 per pound—five times the price of the most perfect ostrich plumes.

WABASH RAILROAD

During the months of September and October, will sell one way second class tourist tickets at greatly reduced rates to California, Washington, Oregon, Utah, Montana, British Columbia and other Pacific Coast points. Tickets will be sold via all direct routes. The Wabash is the shortest, best and quickest route from Canada to the above points. Finest equipped passenger trains in America.

Rates, time-tables and all particulars from any ticket agent, or J. A. Richardson, Dist. Passenger Agent, N. E. Corner King & Yonge Sts., Toronto, and St. Thomas, Ont.

WHAT A TOREADOR EARNS.

During the last season a popular toreador in Spain took part in 65 fights and killed 133 bulls. His net profit was $60,000, and the only injuries he sustained were a bruise on his foot and a rather bad wound in the leg. Sometimes one will be badly gored, but a week or two in hospital will generally set him on his legs again.

Lever's Y-Z (Wise Head) Disinfectant Soap Powder is a boon to any home. It disinfects and cleans at the same time.

In Hungary the legal age of an individual dates only from baptism.

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Blue Ribbon Tea Co. pack Ceylon Black, Mixed and Green. All grocers keep them and each is the best of its kind.

Put up Black Mixed & Ceylon Green

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Can handle your APPLES, PEACHES, PEARS, PLUMS, ONIONS, POULTRY (dead or alive) BUTTER, EGGS, HONEY, to good advantage. Let us have your consignments, it will pay you. Stamps and pads on application.

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"Victoria"

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HULL, CANADA

Don't Experiment with other and inferior brands, USE EDDY'S

Lady (visiting asylum)—"And these poor creatures, how came they to be like that?" Doctor—"Ah, very sad, but they are quite harmless. One was jilted by a lady and lost his reason as a consequence. The other lost his reason through marrying the same lady."

TO CURE A COLD IN ONE DAY.

Take Laxative Bromo Quinine Tablets. All druggists refund the money if it fails to cure. E. W. Grove's signature is on each box. 25c.

The whole British Isles occupy only 1-1600 of the land surface of the globe.

Minard's Liniment is used by Physicians

There are 4,615 dentists in the United Kingdom, or about 1 to every 8 doctors.

MESSRS. C. C. RICHARDS & CO.

Gentlemen,—In June '98 I had my hand and wrist bitten and badly mangled by a vicious horse. I suffered greatly for several days and the tooth cuts refused to heal, until your agent gave me a bottle of MINARD'S LINIMENT, which I began using, and the effect was magical. In five hours the pain had ceased, and in two weeks the wounds had completely healed and my hand and arm were as well as ever.

Yours truly,

A. E. ROY.

Carriage maker, St. Antoine, P. Q.

No Danger—"My dear," said young Mrs. M'Flimsey to her husband, "I do wish you would not go about the house in your shirt-sleeves. People will think your father worked for a living." "They won't when they know his son."

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Preserves the teeth. Sweetens the breath. Strengthens the gums.

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