Information for the Farmer.

"A Handful of Soil."—R. S. Farr, in Cornell Nature Study Quarterly.

Note.—Hereafter the Semi-Weekly of Tuesday will contain a department devoted to farming intelligence and information of interest to those engaged in agricultural pursuits. This department has been placed in charge of a gentleman who is an authority on the subject. Inquiries on farm topics addressed to "Agriculture" Semi-Weekly Colonist, will receive due attention, and as far as possible, will be answered in this column. Letters, however, must be brief.

Wind drifts a seed from the parent plant until it settles to the ground, perhaps in a field or by the roadside, or even in the schoolyard. There it remains through the long winter; but with the return of spring, encouraged by the warm sunlight, the seed awakens from its dormant condition, breaks open the seed-cover and sends leaves into the air and roots into the ground. No one planted the weed; but it has made its way in the world and it thrives until it has given to other seeds the same opportunity to start in life.

Had the seed fallen upon a board or a stone, it might have sent out leaves and roots; but all in vain, for something was lacking and that seed was a failure in life. What is there in the soil that is so necessary to the success of plant life? And how has it come to be there? Indeed, what is this soil that plants need so much? These are some of the questions which we will try to answer.

One readily sees that the soil furnishes a place for the plants to fix themselves; an anchorage, as it were. It is also easy to see that from the soil the plants obtain a supply of water; and, moreover, that this water is very necessary, for the vegetation in a moist country suffers greatly in time of drought and few plants are able to grow in a desert region because there is so little water. You can make a desert in the school room and contrast it with moist soil by planting seeds in two dishes of soil, watering one dish, but furnishing none to the other.

That water is necessary to plants is also proved by the plant itself. The sap and the moisture which may be pressed out of a grass stem or an apple are principally water taken from the soil by the roots. But there is more than water, for the juice of the apple is sweet or sour, while the sap and juice of other plants may be sweet or bitter. There are some substances dissolved in the water.

It is these dissolved substances that the plants need for their growth, and they find them ready for use in the soil. There is a plant-food which the roots seek and find, so that every plant which sends roots into the soil takes something from it to build in the plant tissue. The sharp edges of some sedges, which will cut the hand like a dull knife, and the wood ashes left when a wood fire is burned, represent in part this plant-food obtained from the soil.

Let us take a handful of soil from the field, the school yard, or the street and examine it. We find it to be dirt that "soils" the hands; and when we try to brush off the dirt we notice a gritty feeling that is quite disagreeable. This is due to the bits of mineral in the soil; and that these are hard even harder than than a pin, may often be proved by rubbing soil against a piece of glass, which the hard bits will scratch, while a pin will not.

Study this soil with the eye and you may see the tiny bits, though in sandy soils one may easily notice that they are bits of mineral. Even fine, loamy and clay soils when examined with a pocket lens or a microscope will be found to be composed of tiny fragments of mineral. It is evident that in some way mineral has been powdered up to form the soil; and since the minerals come from rocks, it is the rocks that have been ground up. That powdered rock will make just such a substance as soil may be proved by pounding a pebble to bits, or by collecting some of the rock dust that is made when a hole is drilled in a rock. Much the same substance is ground from a grindstone when a knife is sharpened on it, making the water muddy like that in a mud hole.

It will be an interesting experiment to reduce a pebble to powder and plant seeds in it to see if they will grow as well as in soil; but in preparing it try to avoid using a sandstone pebble, because sandy soils are never very fertile.

Not only is soil made up of bits of powdered rocks, but it everywhere rests upon rock. Some consider soil to be only the surface layers in which plants grow; but really this is, in most places, essentially the same as the layers below, down even to the very rock, so that we might call it all soil, though, since a special name, regolith (meaning stone blanket), has been proposed for all the soft, soil-like rock-cover, we may speak of it as regolith and reserve the word soil for the surface layers only.

In some places there is no soil on the bare rocks; elsewhere the soil-cover is a foot or two deep; but there are places where the regolith is several hundred feet deep. In such places, even the wells do not reach the rocks; nor do the streams cut down to it; but even there, if one should dig deep enough, he would reach the solid rock beneath.

How has this hard rock been changed to loose soil? One of the ways, of which there are several, may be easily studied whenever a rock has been exposed to the air. Let us go to a stone wall or among the pebbles in a field, for instance, and, clipping off the surface notice how different the inside is from the outside. The outer crust is rusted and possibly quite soft, while the interior is hard and fresher. Many excellent examples of this may be seen in any stone field or stone wall.

As hard iron rusts and crumbles to powder when exposed to the weather, so will the minerals and the rocks decay and fall to bits; but rocks require a very much greater time for this than does iron. It happens that the soil of New York has not been produced by the decay of rock, and, therefore, although most soils of the world have been formed in this way, we will not delay longer in studying it now, nor in considering the exact way in which rocks are enabled to crumble.

Another way in which rocks may be powdered may also be seen in most parts of New York. The rains wash soil from the hillsides and the streams become muddy. In them there are also many pebbles, representing the larger fragments that have fallen into the stream after having been broken from the ledges. The current carries them along down the stream, and, as they go, one piece striking against another, or being dragged over the rocks in the stream bed, the pebbles are ground down and smoothed, which means, of course, that more mud is supplied to the stream, as mud is furnished from a grindstone when a knife or scythe is being sharpened on it. On the pebbly beaches of the sea or lake-shore much the same thing may be seen; and here also the constant grinding of the rocks together, wears off the edges until the pebbles become smooth and round.

Supplied with bits of rock from the soil, or ground from the pebbles and rocks along its course, the stream carries its load onward, perhaps to a lake, which it commences to fill, forming a broad delta of level and fertile land, near where the stream enters the lake. Or, possibly, the stream enters the sea and builds a delta there, as the Mississippi river has done.

But much of the mud does not reach the sea. The greatest supply comes when the streams are so flooded by heavy rains or melting snows, that the river channel is no longer able to hold the water, which then rises above the banks, overflowing the surrounding country. Then, since its current is checked where it is so shallow, the water drops some of its load of rock bits on the flood-plain, much as the muddy water in a gutter drops sand or mud on the sidewalk when in time of heavy rains it overflows the sidewalk.

Many of the most fertile lands of the world are flood-plains of this kind, where sediment, gathered by the streams further up their course, is dropped upon the flood-plains enriching them by new layers of fertile soil. One does not need to go to the Nile, the Yellow or the Mississippi for illustrations of this; they abound on every hand and many thousands of illustrations, great and small, may be found in the state of New York. Doubtless you can find one.

There are other ways in which soils may be formed, but only one more will be considered, and that is the way in which most of the soils of New York have been made. To study this let us go to a cut in the earth, such as a well or a stream bank. Scattered through the soil numerous pebbles and boulders will doubtless be found; and if they are compared with the solid or bed rock of the country, which underlies the soil, some of them will be found to be quite different from it. For instance, where the bed rock is shale or limestone, some of the pebbles will no doubt be granite, sandstone, etc. If you could explore, you would find just such rocks to the north of you, perhaps one or two hundred miles away, in Canada; or, if your home is south of the Adirondacks you might trace them in those mountains.

Of some of the pebbles, especially the softer ones, such as limestone, you will find scratches, as if they had been ground forcibly together. Looking now at the bed rock in some place from which the soil has recently been removed, you will find it also scratched and grooved; and if you take the direction of the scratches with the compass, you will find that they extend in a general north and south direction, pointing in fact in the same direction from which the pebbles have come.

All over northeastern North America and northwestern Europe the soil is of the same nature as that just described.

Not only is the soil peculiar within this district but there are many small hills of clay and sand, or sometimes of both together. They rise in hummocky form and often have deep pits or kettle-shaped basins between, sometimes, when the soil is clayey enough to hold water, containing tiny pools. These hills extend in somewhat irregular ranges stretching across country from the east toward the west.

For a long time people wondered how this soil, with its foreign pebbles and boulders, all together called "drift," came to be placed where they are; they were especially puzzled to tell how the large boulders called erratics should have been carried from one place to another. It was suggested that they came from the bursting of planets; from comets, from the explosion of mountains, from floods, and in other ways equally unlikely; but Louis Agassiz, studying in the glaciers of the Alps and the country round about, was impressed by the resemblance between the "drift" and the materials carried by living glaciers.

Agassiz therefore proposed the hypothesis that glaciers had carried the drift and left it where we now find it; but for many years his glacial hypothesis met with a deal of opposition because it seemed impossible that the climate could have changed so greatly as to cover what is now a temperate land with a great sheet of ice. Indeed, even now, although all who have especially studied the subject are convinced, many people, even those who are educated in some directions, have not accepted Agassiz' explanation, just as years ago, long after it was proved that the earth rotated each day, many people still believed that it was the sun, not the earth, that was moving.

The glacial explanation is as certain as that the earth rotates. For some reason which we do not know the climate changed and allowed ice to cover temperate lands, as before that the climate had changed so as to allow plants like those now growing as far south as Virginia, to live in Greenland, now ice covered. When the ice of the glacier melted away it left only signs of its presence; but when the temperate latitude plants grew in Greenland they left seeds, leaves and tree trunks which have been imbedded in the rocks as fossils. One may now pick the leaves of the temperate climate trees from the rocks beneath a great icecap.

Nevertheless, to one who studies them the signs left by the glacier are as clear proof as the leaves and seeds. From these signs we know that the climate has changed slowly, but we have not yet learned why it changed.

There are now two places on the earth where vast glaciers, or ice sheets, cover immense areas of land, one in the Antarctic, a region very little known, the other in Greenland where there is an ice sheet covering land having an area more than ten times that of the state of New York. Let us go to this region to see what has been done in New York.

In the interior is a vast plateau of ice, in places over 10,000 feet high, a great icy desert, where absolutely no life of any kind, either animal or plant, can exist and where it never rains, but where even in the middle of summer the storms bring snow. Such must have been the condition in northeastern America during the glacial period.

This vast ice sheet is slowly moving outward in all directions from the elevated centre, much as a pile of wax may be made to flow outward by placing a heavy weight upon the middle. Moving toward the north, east, south and west this glacier must of course come to an end somewhere. In places, usually at the heads of bays, the end is in the sea, as the end of our glacier must have been off the shores of New England. From these sea ends, icebergs constantly break off; and, floating away toward the south, often reach, before they melt, as far as the path followed by the steamers from the United States to Europe. Between the bays, where the glacier ends in the sea, the ice front rests on the land, as it did over the greater part of New York and the states further west. There it melts in the summer, supplying streams with water and filling many small ponds and lakes. The front stands there year after year, sometimes moving a little ahead, again melting further back so as to reveal the rocks on which it formerly rested.

Examining this rock it is found to be polished, scratched and grooved just like the bed rock in New York, and the scratches extend in the direction from which the ice moves. Resting on the rock are boulders and pebbles, sometimes on the bare rock, sometimes imbedded in a clay as they are with us. As we found when studying the soil in our own region so here the pebbles are often scratched, and many of them are quite different from the rock on which they rest.

Going nearer to the ice we find the lower part loaded with pebbles, boulders and bits of clay quite like those on the rocks near by. The bottom of the ice is like a huge sandpaper, being dragged over the bed rock with tremendous force. It carries a load of rock fragments, and as it moves, obtains more by grinding or prying them from the rocks beneath. These all travel on towards the edge of the ice, being constantly ground finer and finer as wheat is ground when it goes through the mill. Indeed the resemblance is so close that the clay coming from this grinding action is often called rock flour.

Dragged to the front of the ice, the rock bits, great and small, roll out as the ice melts, some, especially the finest, being carried away in the water, which is always muddy with the rock flour it carries; but much remains near the edge of the ice forming a moraine. This moraine dumped at the edge of a glacier, very closely resembles the hummocky hills of New York, mentioned above, which are really moraines formed at the ice edge during the glacial period. While their form is quite alike, the New York moraines are generally less pebbly than the Greenland moraines, because the Greenland glacier carries less rock flour than did the glacier which covered New York.

In the Greenland glacier, there is much dirt and rock; in the glacier of the glacial period there was even more. When it melted away the ice disappeared as water, but the rock fragments of course fell down upon the rock beneath and formed soil. If over a certain region, as for instance, over your own home, the ice carried a great load of drift, when this gradually settled down, as the ice melted, it formed a deep layer of soil; but if the glacier had only a small load a shallow soil was left. Again, if the ice front remained for a long time near a certain place, as near your home, it kept bringing and dumping rock fragments to form moraines, which, of course, would continue to grow higher so long as the ice dumped it, much as a sand pile will continue to grow higher so long as fresh loads are brought and dumped.

There are other causes for difference in the glacial soils, but most of them cannot be considered here. One of them is so important, however, that it must be mentioned. With the melting of so much ice, vast floods of water were caused, and these came from the ice, perhaps in places where there are now no streams, or at best, small ones. These rapid currents carried off much of the rock flour and left the coarser and heavier sand gravel or pebbles, the latter often well rounded, with the scratches removed by the long continued rolling about in the glacial stream bed.

One often finds such beds of sand or gravel in different parts of the state, telling not only of ice where it is now absent, but of water currents where is now dry land. The rock flour was in some cases carried to the sea, elsewhere to lakes, or in still other places deposited in the flood plains of the glacier-fed rivers. Now some of this rock flour is dug out to make into bricks.

Enough has been said to show that the soils of New York were brought by a glacier and to point out that there are many differences in the thickness of the soil as well as in kind and condition. The agriculture of the state is greatly influenced by these differences. In some cases one part of a farm has a deep, rich soil, another part a barren, sandy, pebbly or boulder covered soil, while in still another part the bed rock may be so near the surface that it does not pay to clear it. Moreover, some farms are in hummocky moraines, while others, near by, are on level plains, where a broad glacial stream built up a flood plain in a place where now the stream is so small that it never rises high enough to overflow the plain.

There are even other differences than these and one who is familiar with a region is often puzzled to explain them; but they are all due to the glacier or to the water furnished by its melting, and a careful study by a student of the subject of glacial geology will serve to explain them. Each place has had peculiar conditions and it would be necessary to study each place carefully in order to explain all the differences much further than has been done here.

Not only is agriculture influenced greatly by the differences in the soil from place to place, but also by the very fact that they are glacial soils. In a soil that has been formed by the decay of rock some of the material needed by plants, the plant foods, have been leached out and carried off by the water while the rock was decaying; but the glacial soils have most of these foods still stored up for use. Here the minerals are simply ground up and not much decayed, while in the other case they are badly decayed, the difference being somewhat like that between iron filings which are able to rust and decay, and iron rust which is already decayed.

Slowly the glacial soils are decaying, and, as they do so, are furnishing plant food to the water which the roots greedily draw in. So the glacial soil is not a mere storehouse of plant food, but a manufactory of it as well, and glacial soils are therefore "strong" and last for a long time. That decay is going on, especially near the surface, may often be seen in a cut in this kind of soil, where the natural blue color of the soil is seen below, while near the surface it is rusted yellow by the decay of certain minerals which contain iron.

Few materials on the earth are more important than the soil; it acts as the intermediary between man and the earth. The rocks have some substance locked up in them which animals need; by decay, or by grinding up, the rocks crumble so that plants may send roots into them and extract the substances needed by animals. Gifted with this wonderful power the plants grow and furnish foods to animals, some of them the very plant foods from the rocks; and so the animals of the land, and man himself, obtain a large part of their food from the rocks. It is then worth the while to stop for a moment and think and study about this, one of the most marvellous of the many wonderful adjustments of Nature, but so common that most people live and die without even giving it more than a passing thought.

Two carloads of pure-bred stock will be shipped by the Ontario department of agriculture to the Dairymen's Association of British Columbia on the 10th of February. Part of the stock consists of private orders, but the greater portion will be sold by public auction without reserve at New Westminster, on Friday, March 1. The shipment contains cattle, principally milking shorthorns; sheep, Oxford, Shropshires and Southdowns; swine, mostly Berkshires; and poultry, Plymouth rocks and Wyandottes. A list for distribution will be made out as soon as the pedigrees are forwarded.

INSTALLATION OF OFFICERS

Foresters, True Blues and Workmen Hold Their Annual Meetings.

Columbia Lodge C. O. F. on Thursday evening, installed officers for the ensuing term as follows: Past Chief Ranger, Geo. Leonard; Chief Ranger, J. D. McNiven; Vice Chief Ranger, T. M. Griffin; Recording Secretary, G. Smith; Financial Secretary, A. E. Hames; Treasurer, George McCandless; Chaplain, F. G. Wyatt; Senior Woodward, D. Y. Givens; Junior Woodward, W. Neill; Senior Beadle, F. Butler; Junior Beadle, F. Wilson; Court Deputy, W. M. Foster; Court Physician, Dr. Hall; Auditor, A. Peden; Trustees, A. Heathorn, C.E. Banfield and C. Cooper; Conductor, B. C. Alexander.

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The Loyal True Blues held their regular meeting on Wednesday evening, when two candidates were initiated into the Order, after which the following officers were installed by Bro. J. J. Walsh, D. D. G. M.: W. M., Sister L. Campbell; D. M., Sister M. Brenen, Recording Secretary, Sister J. Walsh; Financial Secretary, Sister E. Painter; Treasurer, Bro. J. McLeod; Chaplain, Sister M. McLeod; D. of C., Sister A. Dockings; Con., Sister L. McAfee; I. T., Bro. A. D. McCullam; O. T., Bro. T. Worrell. At the close of the installation the D. D. G. M. called for speeches from the newly elected officers, and a pleasant time was spent.

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Vancouver Lodge A. O. U. W. met at their hall Friday and R.G.M.W., J. E. Church, installed the following officers, who were elected at the last meeting of the lodge: P. M. W., Bro. G. Gilchrist; W. W., Bro. W. Scowcroft; Foreman, Bro. R. Seabrook; Overseer, Bro. W. J. Hardy; Recorder, Bro. H. O. Edwards; Financier, Bro. W. Jackson; Receiver, Bro. A. Stewart; Guide, Bro. J. T. McIlmoyl; Inside Watchman, H. R. Sellich, Outside Watchman, J. F. Silner. After the regular business of the lodge had been disposed of refreshments were served and an enjoyable time spent.

Broadbrim Twice First

Victoria Colt Making His Mark on the California Tracks.

Association Football Matches to Be Played Here This Afternoon.

Another British Columbia bred horse, Broadbrim, a black colt, owned by Mr. R. P. Rithet and raised at Broadmead, his stock farm on the Saanich road, has been making his mark on the California race tracks. Friday seems to be his lucky day. A week ago yesterday at Oakland he won the seven-furlong event from a field of ten. The track was very heavy, but Broadbrim finished stoutly, his time being 1.30. In this same event Mary Alice, from Mr. W. J. Taylor's stock farm at North Saanich, ran last. Again yesterday Broadbrim won another good race, and is entered for one of the big stake events which is to be run today. Broadbrim is a handsome black colt, out of the black mare Marcelle, which Mr. Rithet imported from Australia, his sire being Broadmead, which died a couple of years ago. Both Marcelle and Broadmead were raced in California, but without much success. If Broadbrim continues as he is running, he will give a standing to the colts raised at his home at Saanich.

SPORTING NOTES.

The monthly medal competition of the United Service Golf Club for ladies will take place on Wednesday, and for gentlemen on Thursday of this week.

The members of the Victoria Hunt Club will assemble at Richardson street at 2:30 this afternoon to participate in a paper-chase.

ARRANGEMENTS COMPLETED.

Boys From South Africa to Act as Guard of Honor When House Opens.

Arrangements have about been completed by the provincial government for the carrying out of the suggestion that all the returned British Columbia members of the Canadian South African contingent should act as a guard of honor to the Lieutenant-Governor on the occasion of the opening of the legislature on February 15 next. It is anticipated that about 30 men will assemble.

His Worship Mayor Hayward has under consideration the form of entertainment which will be provided for the "boys in khaki" during the visit to the Capital. An address of welcome will probably be delivered at the Drill hall, and a public banquet has been suggested.

TENDERS.

NOTICE TO CONTRACTORS.

Highway Bridge, Kettle River, Columbia, B. C.

Sealed tenders, superscribed "Tenders for Bridge, Kettle River, Columbia, B. C.," will be received by the undersigned up to and including Saturday, the 9th February next for the construction and completion of a woden highway bridge across the Kettle River at Columbia, B. C.

Drawings, specifications and form of contract may be seen on application to Mr. J. A. Dinsmore, Provincial Constable, Grand Forks, B. C., and at the Lands and Work Department, Victoria, B. C., on and after the 14th inst.

Each tender must be accompanied by an accepted bank cheque or certificate of deposit on a chartered bank of Canada, made payable to the undersigned, for the sum of eight hundred ($800) dollars, which cheque shall be forfeited if the party tendering decline to enter into contract when called upon to do so, or if he fail to complete the work contracted for. The cheques of unsuccessful tenderers will be returned to them upon the execution of the contract.

Tenders will not be considered unless made out on the forms supplied and signed with the actual signatures of the tenderers.

The lowest or any tender not necessarily accepted.

W. S. GORE,
Deputy Commissioner of Lands and Works.
Lands and Works Department,
Victoria, B. C., 4th January, 1901.

NOTICE RESPECTING THE REBATE ON EXPORTED TIMBER.

Notice is hereby given that the intimation dated 3rd December, 1900, under this heading is rescinded, and that under the authority of an Order in Council of the 8th instant the payment of a rebate on all timber exported beyond the limits of the Province was allowed to and was discontinued from and after the 31st of December, 1900. The said order of the 8th instant further provides for the payment of a rebate on shingles exported.

J. D. PRENTICE,
Provincial Secretary.
Provincial Secretary's Office,
10th January, 1901.

PROVINCIAL SECRETARY'S OFFICE.

His Honor the Lieutenant-Governor in Council has been pleased to make the following appointments:

4th January, 1901.

Robert Francis Mills, Joseph John, and Julius Brethour of North Saanich, Esquires, to be Fence Viewers for and within the District of North Saanich.

NOTICE TO CONTRACTORS.

Highway Bridge, North Fork Kettle River, at Hardy's Crossing.

Sealed tenders superscribed "Tender for Bridge, North Fork Kettle River," will be received by the undersigned up to and including Saturday, the 9th February next, for the construction and completion of a wooden highway bridge across the North Fork of Kettle River at Hardy's Crossing.

Drawings, specifications and forms of contract may be seen on application to Mr. J. A. Dinsmore, Provincial Constable, Grand Forks, B. C., and at the Lands and Works Department, Victoria, B. C., on and after the 14th instant.

Each tender must be accompanied by an accepted bank cheque or certificate of deposit on a chartered bank of Canada, made payable to the undersigned, for the sum of eight hundred ($800) dollars as security for the due fulfilment of the contract, which cheque shall be forfeited if the party tendering decline to enter into contract when called upon to do so, or if he fail to complete the work contracted for. The cheques of unsuccessful tenderers will be returned to them upon the execution of the contract.

Tenders will not be considered unless made out on the forms supplied and signed with the actual signature of the tenderer. The lowest or any tender not necessarily accepted.

W. S. GORE,
Deputy Commissioner of Lands and Works.
Lands and Works Department,
Victoria, B. C., 4th January, 1901.

NOTICE TO CONTRACTORS.

Coquitlam, Maple Ridge, and Pitt Meadows Dyking Districts.

Sluice Gates.

Sealed alternative tenders for Concrete and Wooden Sluice Gates, superscribed "Tender for Concrete Sluice Gate" and "Tender for Wooden Sluice Gate," will be received by the undersigned up to Saturday, the 2nd February next, for the erection and completion of six sluice gates in the dykes of the above mentioned Districts.

Drawings, specifications, and form of contract may be seen at the office of the Inspector of Dykes, Lands and Works Department, Victoria, and at the office of the Provincial Government Timber Inspector, Court House, Vancouver, on and after the 16th instant.

Each tender must be accompanied by an accepted bank cheque or certificate of deposit on a chartered bank of Canada, made payable to the undersigned, for the sum of fifteen hundred ($1,500.00) dollars, as security for the due fulfilment of the contract, which cheque shall be forfeited if the party tendering decline to enter into contract when called upon to do so, or if he fail to complete the work contracted for. The cheques of unsuccessful tenderers will be returned to them upon the execution of the contract.

Tenders will not be considered unless made out on the forms supplied and signed with the actual signature of the tenderers. The lowest or any tender not necessarily accepted.

F. C. GAMBLE,
Inspector of Dykes.
Office Inspector of Dykes,
Lands and Works Department,
Victoria, B. C., 4th January, 1901.

CLASSIFIED ADVERTISEMENTS ONE Cent Per Word Per Insertion. Cash No Advertisement Inserted for Less Than Twenty-Five Cents.

WANTED.

WANTED—Unfurnished house, four bedrooms with ground preferred. Give particulars and rent. Box X R, Colonist office j9

WE MUST HAVE AT ONCE a number of reliable persons and families in this locality to work for us, whole or spare time; good wages paid; no canvassing. Write for position today. People's Syndicate, Dept. A, 130 Yonge Street, Toronto. j9

WANTED—An office boy in law office. Apply K., this office. j12

WANTED—Middle-aged woman as ward-maid. Apply immediately to Matron, Jubilee Hospital. j12

WANTED—An experienced teacher, holding not lower than second class certificate, as First assistant, Wellington Public School. Appointment to be made about the 19th inst. T. F. Haggart, secretary Board of Trustees, Wellington, B. C. j11

WANTED—At once, good general servant. Apply A. J. W. Bridgeman, 41 Government street. j11

MESSENGER BOYS WANTED—Apply C. P. R. Telegraph Co.

WANTED—Girl for housework; 24 South Turner street. j10

WANTED—A lady to canvas the city and district for subscriptions to the Delineator. Apply at the White House. Henry Young & Co. j8

MEN—Our catalogue explains how we teach the barber trade in eight weeks, saving two years. Mailed free. Moler's Barber College, San Francisco, Calif. j9

WANTED—Everybody who intend to assist in the upbuilding of our glorious country, and in warding off those tribulations and wars and rumors of wars, which history tells us are inevitable during the first decade of the twentieth century, to set to work right now to build their constitutions up and make themselves strong and robust, that their days may be long in the land. The one sure and safe way of obtaining this is by providing the body with good, nutritious and invigorating food. This will knock all other methods silly, even pink pills, electric belts, etc. To demonstrate the truth of the above you cannot do better than start at the beginning of the New Year and purchase your supply of prime beef, pork and mutton at the B. C. Market Co., Ltd., where you get the very best that the country can produce, and honest weight guaranted every time. This is the genuine muscle producer to be had at the B. C. Market Co.'s Store.

WANTED—A girl to assist with housework and care of one child. Mrs. Wolfenden, Russell Street.

WANTED—Parties requiring Japanese or Chinese help, either as cooks or in any other capacity, may be accommodated by applying at rooms 1 to 4, No. 1 Pandora street. Tel. 272. d22

WANTED—Magazines and sheet music to bind; cheapest rates compatible with first class work at the Colonist Bookbindery. n24

56 FORT STREET—The People's Boot & Shoe Shop and Repair Depot is the best place to buy men's boys' youths' and misses boots and shoes, where the sale price is marked in plain figures on each pair in window and open for your inspection in seven large glass cases inside. Shop open till 9:30 every evening for the accommodation of workingmen to buy and bring repairing. Dont be misled by silver tongued advertisers. Nangle, the Anatomical and Prize Boot and Shoemaker, is in a position to undersell all other shoe shops in Victoria. You don't have to pay high expense, shop or credit prices. Remember the number, 56 Fort street. o24

FOR SALE.

FOR SALE CHEAP—Smart, high well balanced two-wheel cart. On view at Mable's 115 Johnson St. j8

FOR SALE—Hotel furniture, almost new; sufficient for 140 rooms. Premises can also be rented very cheap. B. C. Land & Investment Agency. d28

MISCELLANEOUS.

THE YORK LAUNDRY MACHINERY & Supply Co., Limited, 82 Church street; works, North Toronto. o7

LODGES AND SOCIETIES.

VANCOUVER & QUADRA LODGE, No. 2, A.F.&A.M., meets 3rd Wednesday of each month—Masonic Temple, 80 Douglas St.—8 p.m. A. MAXWELL MUIR, Secretary

TO LET OR LEASE.

TWO LARGE BEDROOMS and one sitting room required for one week from 19th inst., with board for gentleman and lady. State terms. D. Drawer N, Rossland, B. C. j13

FIRST CLASS private boarding house with every home comfort, also comfortably heated bedrooms, 173 Pandora avenue. j10

To LEt—Furnished rooms with board. 55 Vancouver street. j8

TO LET—Furnished housekeeping rooms at Elsmere House, 104 Pandora street. Apply 97 Quadra street. j8

COMFORTABLE furnished front rooms, with use of kitchen, if required. 139 Michigan street.

TO LET—Private board and room, $20 per month and up, at the Osborne House. Fine furnished rooms, $1, $1.50 and $2 per week. Call and see us. Cor. Pandora and Blanchard streets. Mrs. Phil. H. Smith, proprietor. d29

EDUCATIONAL.

EDUCATIONAL—Miss C. G. Fox has reopened her school, at 36 Mason street. 21

SHORTHAND SCHOOL—15 Broad street. Individual instruction in shorthand, typewriting, book-keeping. n30

LOST OR FOUND.

LOST—On New Year's Eve, between James and Frederick St., a gold enamelled brooch in shape of a crown. Finder please return to W. Blair, 60 Yates St. Reward. j12

FOUND—An enamelled gold brooch. Owner can have same on proving property and paying for advertisement at this office. j8

STRAYED—To the premises of A. Cameron, Admiral's Road, one yellow and white cow. If not called for within ten days will be sold. j6

Properties For Sale by the B.C Land & Investment Agency, Limited, 40 Government Street, Victoria, B.C.

In nearly all cases easy terms can be obtained.

We have many properties for sale not included in this list. Inquire at 40 Government street.

VICTORIA WEST (cor. of Mary and Frederick streets)—Two lots for $800; handsome building site; fine view of the Straits; easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

SECOND STREET—Good 2 story house and full sized lot. $2,100. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

NIAGARA STREET—1¼ lots and 2 story dwelling, $1,500; exceptionally easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

BATTERY STREET, Beacon Hill—Full sized lot and good 2 story dwelling, $2,100. This is cheap. Apply 40 Government street. B. C. Land & Investment Agency, Limited. e

METCHOSIN DISTRICT—An exceptionally fine farm of over 300 acres; about 100 acres under cultivation, which yields very heavy crops; orchard, etc.; good buildings, $15,000; can arrange to purchase live stock, implements, etc. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

HOTELS FOR SALE—Call and see our list. 40 Government street.

OAK BAY—3¼ acres, cleared; very pretty site; cheap; $1,000; $200 cash, balance on time. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

NORTH SAANICH—Three or four very good farms. Call and see our list. Apply 40 Government street. B. C. Land & Investment Agency Limited.

VICTORIA AND LAKE DISTRICTS—About 700 acres; within five miles from post office; 200 acres under cultivation; splendid soil; or will sell in lots to suit purchaser; very cheap. Apply 40 Government street. B. C. Land & Investment agency, Limited.

GORDON HEAD ROAD—11 acres, all cleared and fenced; barn; ready for cultivation; $1,800. B. C. Land & Investment Agency, Limited.

GORDON HEAD—Part of section 84, Victoria district; 10 acres; well adapted for small fruit or chicken ranch; $525; easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

COR. YATES AND COOK STREETS—Two story dwelling, $3,500, $500 cash and balance at 6 per cent. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

ESQUIMALT ROAD—Handsome building sites, just opposite naval recreation grounds; about 1¼ acres; cheap in order to close an estate. Apply 40 Government street. B. C. Land & Investment Agency.

LAKE DISTRICT—About 50 acres, partly slashed; adjoining a beautiful farm; very good soil and level ground; cheap. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

HIGHLAND DISTRICT—Three farms for sale in this district; building on each; from $1,600 to $3,000. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

TWO LOTS—Off Oak Bay avenue; good building site; $500. B. C. Land & Investment Agency, Limited.

ESQUIMALT ROAD—Corner lots, all cleared and fenced; nice building site. B. C. Land & Investment Agency, Limited.

THE ARM—1¼ acres, cleared; waterfront; fine site for bungalow; electric light and water pipes running past premises; whole amount of purchase money may remain on mortgage at 6 per cent.; $3,000. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

MOUNT TOLMIE ROAD—Opposite Jubilee Hospital; 8 acres; all cleared; will sell in single acreage; extremely cheap; good building site.

ST. LOUIS STREET—2 cottages and one 2 story dwelling; will be sold as a great bargain; either singly or together. Apply B. C. Land & Investment Agency, 40 Government street.

JAMES ISLAND—Off Saanich, 1 mile; 200 acres; 35 under cultivation; 100 acres cleared, balance good land; lots of good water; five roomed house, barns, etc.; can also arrange to buy live stock, steam launch, boats, etc.; plenty of fruit trees of all descriptions; easy terms. Apply 40 Government street.

VICTORIA ARM—5 acres, all under cultivation, and good building site. Apply 40 Government street.

LAKE DISTRICT—16 acres, all under cultivation; seven roomed modern house, good barns, etc.; orchard. (Will exchange for one acre and good house near town.) Apply 40 Government street.

SUBURBAN RESIDENCES—A nice choice; call and see our list. 40 Government street.

STRAWBERRY VALE PARK—3¼ miles from city; in blocks of five acres each; cheap and very easy terms; from $40 to $100 per acre. Apply 40 Government street.

TO LET—Handsome residence, nine rooms; modern in every respect; about one acre of ground, orchard, conservatory, lawn, etc., $30 per month, including water. Apply 40 Government street.

LAKE DISTRICT—10 acres, all fenced; 7½ cleared; good barns, etc; 3¼ miles from city; $3,000. One-third cash, balance at 5 per cent. Apply 40 Government street.

Many other farms in all parts of the province too extensive for publication. Call and get particulars. 40 Government street. B. C. Land & Investment Agency, Limited.

YOUNG STREET—(James Bay.)—Eight room modern house, lot 54x159, stable etc., $2,300; easy terms can be arranged. Apply 40 Government street.

VACANT LOTS—A number of good building lots in all parts of the town; call and see our list. 40 Government street.

SOMENOS LAKE—2½ miles from Duncan's 250 acres, modern 11 roomed house, cottage, barns, orchards, etc.; or will subdivide to suit purchaser. Full particulars at 40 Government street.

RITHET STREET—Good five roomed cottage, bath, hot and cold water; well drained; lot 180 feet deep; $1,400; very easy terms. Apply 40 Government street.

ESQUIMALT ROAD—Two good lots off Esquimalt road; cleared, good building site; $200 each; a bargain. 40 Government street.

COOK STREET (cor. of Chatham street)—Fine two-story dwelling; one acre of ground; conservatory; $6,000; easy terms. Apply 40 Government street. B.C. Land & Investment Agency, Limited.

BLANCHARD STREET—A nice cottage in good locality, $1,800. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

A NUMBER OF VALUABLE FARMS on the Mainland, and especially in Fraser Valley. 40 Government street. B. C. Land & Investment Agency, Limited.

DENMAN ISLAND—100 acres, giving evidence of coal, $750; terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited

FORT STREET—Part of the Heywood Estate; just above Cook street; fine building sites; prices reasonable; easy terms. 40 Government street. B. C. Land & Investment Agency, Limited.

YATES STREET—Near corner of Douglas; good full sized lot, $4,600. Apply 40 Government street.

ROCKLAND AVENUE — Fine two-story residence; one acre land; grand view; $6,500; terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

RICHARDSON STREET—Full lot and 7 roomed cottage, $2,000; easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

HARRISON STREET—Lot and nice cottage, $1,750; $250 cash and balance at 6 per cent. Apply 40 Government street. B.C. Land & Investment Agency, Limited.

COR. MENZIES AND NIAGARA STS.—One acre, $3,500; easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

ESQUIMALT ROAD—9 roomed house, modern in every respect; 1 acre of land; outbuildings, etc., etc., $5,000.

CADBORO BAY ROAD—Six roomed house, with bathroom, etc; lot 55x120; $1,700. Apply 40 Government street.

COOK AND NORTH PARK STREETS—Two story building, containing two stores leased to responsible tenant, only $2,500. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

JAMES BAY—Corner lot and four dwellings cheap. Must be sold to close an estate.

JOHNSON STREET (above Douglas)—Lot, 60x120; 3 story brick and basement, 60x120; well located for factory of any kind; only $10,000; exceptionally easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

CHATHAM STREET (near Cook Street)—Lot 60x120; cottage six rooms, $1,100; exceptionally easy terms. Apply 40 Government street. B. C. Land & Investment Agency, Limited.

FOURTH STREET—2½ acres; has been under cultivation; price $1,750; $250 down, balance on time with interest at 6 per cent. Apply 40 Government street. B.C. Land & Investment Agency, Limited.

JAMES BAY—Two five roomed houses, $850 each; will be sold on very easy terms. Apply 40 Government street.