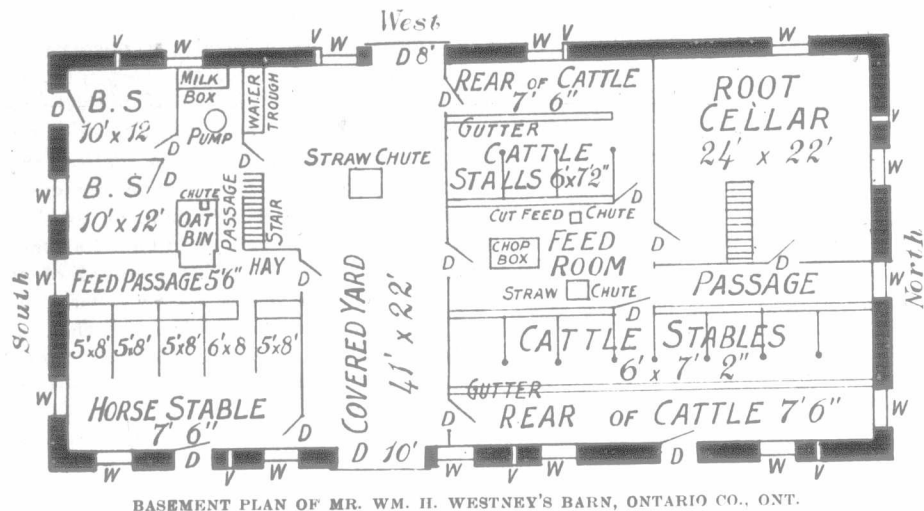




BASEMENT PLAN OF MR. WM. H. WESTNEY'S BARN, ONTARIO CO., ONT.

Combined Horse and Cattle Barn.

The barn illustrated herewith was built by the late Stephen Westney, of Ontario county, in 1901. The short posts are 17½ feet, while the purlin posts are 26 feet. Barn is 93 x 45 feet. The cattle-stable floors are all cement, and also feeding passage for horses. The gutter behind the cattle is not a ditch, but drops about 5 inches just behind them, and then runs for about 22 inches level; then it raises 2 inches in the distance of 5 inches, and then runs with a gentle slope to the wall. The cement was finished rough with a wooden trowel and is not found slippery; the bedding remains on it even better than on plank. The racks are low and the mangers have cement bottoms, but raised about 2 inches higher than where the cattle stand. The places in the wall marked V are ventilators, and are 5-inch sewer pipe placed about 3 feet from the floor. They work very well except in windy weather, when they are stopped by butting in a handful of straw. The horse stable is planked with pine in the rear of horses and maple in the stalls, all bedded in mortar. All the manure is put in the covered yard and cleaned out when full, spreading it immediately on the ground. Several calves can be tied behind the cattle; several yearlings run loose in the covered yard, thus making room for over thirty head. The granary floor and sides are dressed hemlock, while the bin boards are basswood. The 10-foot space adjoining is a continuation of the granary, with open ends, which we use for the cutting box, grinder, etc. The straw chutes are coops built up about 3 feet high, with perpendicular doors hung from the top, so that when the straw is shoved against them they open. The basement is roomy and well lighted, twelve windows, containing eight 10 x 12 inch panes (one half sliding past the other), let in the light. They have a 2 x 4 inch support in the center. There are also fanlights over all the small doors. There are also windows above each of the east barn doors and tip doors in ends of barn.

WM. H. WESTNEY.

A Vivid Idea.

Dear Sir,—I have to thank you for sending me your Christmas number of the "Farmer's Advocate." I must have sent this acknowledgment before had I not been away on my holiday.

It certainly is a most creditable production, and for one who, like myself, was brought up upon a Canadian farm, the reading matter and the illustrations are alike deeply interesting. The copies of photographs are in many cases wonderfully good, and give a most vivid idea of what farming life is like in different parts of our wide-spread country. Work such as yours must help to make the life of the farmer, and especially of the farmer's boy, more interesting, and I know of few things more desirable for Canada than this.

With thanks for your courtesy, and with every good wish for your work in the future,

Believe me,

Yours sincerely,

GEO. R. PARKIN.

Upper Canada College, Toronto, Jan. 24, 1902.

New Chief Veterinary Inspector.

Dr. D. McEachran, of Montreal, has resigned his position as Dominion Veterinarian. He has been succeeded by Dr. J. G. Rutherford, ex-M. P. for Macdonald, Manitoba. The latter spent last year in Great Britain, testing for tuberculosis cattle intended for shipment to Canada. Dr. McEachran's services will be retained in an advisory capacity. He will act as honorary veterinarian, at a salary of \$1,000. Dr. Rutherford's salary will be the same as that paid to his predecessor, \$2,500 a year. For many years Dr. Rutherford was a successful veterinary practitioner at Portage la Prairie, is an enthusiastic horseman, taking at all times an active interest in the advancement of his profession, the breeding of improved live stock, as well as the public affairs of the country. A portrait of the Doctor appeared in our last Christmas number.

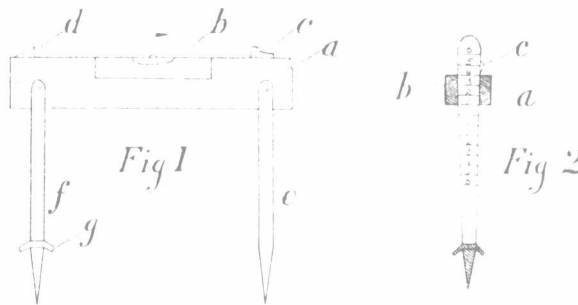
Draining, and Device for Taking Levels.

So much draining is required, and so many improperly-laid tiles are wasted, that the accompanying article and cuts will be of interest to our readers.

A correspondent who has laid-out many drains writes: "There is no necessity for employing an engineer to take levels and settle disputes about drains if farmers are intelligent and agreeable.

The value of underdraining is now so well understood that nothing need be said as to that point. Many a farmer who knows the value of drainage hesitates about undertaking to drain a piece of wet ground because the natural outlet for the water is through the land of some neighbor who is not willing to spend the money to drain his land. It may be because he has the land under pasture, or it may be out of pure "cussedness," and in the hope that his neighbor's necessity will afford him the opportunity to get his land drained largely at his neighbor's expense. In either case, the man whose land lies the highest, but is flat, often suffers for years rather than call in the services of the township engineer and risk incurring the enmity of the neighbor from whom, if he follows the natural water course, he must seek an outlet.

"I have known many such cases, and more than once have been able to afford relief to the sufferer without troubling the man through whose land the water would have gone to the natural outlet, and have, at the same time, given the man who sought the outlet a far greater benefit by taking the water off the natural course to a stream or large drain on his own farm. And I



DEVICE FOR TAKING LEVELS.

have seen very expensive lawsuits between neighbors—suits which cost more than the drains—which might have been avoided by the exercise of a little common sense. It frequently happens that the water from a piece of ground can be taken off in opposite directions with practically the same depth and size of drain. Draining in one direction, towards a neighbor's farm, may require only a few rods of drain to reach the line fence, but a great many to reach a natural outlet; while draining in the other direction may mean the digging of three times as many rods as the distance to the line fence, but to a good outlet on one's own land. In every such case, it is unwise to trouble the neighbor. Drain your own land with the labor you would have to expend in digging what the engineer would likely award as your share of the drain through your neighbor's land.

"First, you must ascertain that you have sufficient fall to your own outlet. Say the distance from the place you wish to drain to the outlet is 60 rods. You wish to have your drain two feet deep in the shallowest place. Find the place where the water stands deepest, and you have the place where your drain will be the shallowest. Take your level from this point to your outlet, and if you find that you have a fall of fifteen inches in the 60 rods do not hesitate to put in your drain.

"It is important that your levels be taken correctly, and as you have not a surveyor's instruments you must find some of your own. Get a piece of board seven inches wide and four feet long, 1½ inches thick; make the edges parallel (a, fig. 1); cut a gain in one edge, and fit in a good spirit level (b, fig. 1); cut a V sight at one end (c, fig. 1) and a pin sight at the other (d, fig. 1), taking care

that the bottom of the V is exactly the same height as the top of the pin. Make two legs (e and f, fig. 1) of 2½ x 2½ timber, 4 ft. 6 in. long; sharpen the ends of these and on f put a collar (g), or bore a hole and drive a pin through 6 in. from the point, as a guide for the depth it is to go into the ground. Gain out the top of each leg to receive a, and fasten e and f to a with two bolts, as shown; now plane out another piece of timber 1½ x 1½ inches and 8 ft. long (fig. 2); put a collar or pin for a guide, as in g, fig. 1. Find the exact distance from the bottom of the collar or pin (g, fig. 1) to the top of the sight pin (d, fig. 1), and make a mark on a (fig. 2) the same height from the bottom of the collar as d (fig. 1), and make and number inch marks up and down from this point; now make a target (b, fig. 2) to slide up and down, and hold in place with a wedge (c, fig. 2).

"Now, to find the amount of fall from the lowest point of land to be drained to the outlet, take the staff (fig. 2) to the outlet and drive it into the bottom of the water course the depth of the collar or pin, whichever is used. Take the level (fig. 1) to where you wish to commence your drain; force the front leg (f) into the ground to the collar and the rear leg (e) down until the bead stands in the center of the spirit level; look over your sights and direct your assistant to raise the target on the slide until the bottom edge is in line with your sights, and then let him fasten it there by tightening the wedge. The number of inches that the target has been raised above the center mark on the slide is the amount of fall you have from the surface of the ground where you wish to commence to the bottom of the water course which is to serve as your outlet. Deduct from this the depth you wish to have your drain at the upper end, and you have the true fall. Say this is 15 inches. Now divide the length of your drain into ten stations; this gives you an easy distance to sight—six rods—and a fall of 1½ inches for each station. At the first station you find that to bring the target level with the sights it has to be lowered 10½ inches below the center mark. This means that the surface of the ground here is 10½ inches higher than where you wish to commence your drain, and that to level the drain it must be dug 34½ inches deep at that point, and to give the necessary fall it must be 36 inches deep at station No. 1; drive down a picket here, marked No. 1, 36 inches. Now go to station No. 2 and set up the stake; move the level to No. 1 station and set the front leg in the hole left by the stake; level and sight as before, and make your calculations as before. Continue to the finish, and if care is exercised in doing the work, there is no fear of the drain not working."

Implement Manufacture in Canada.

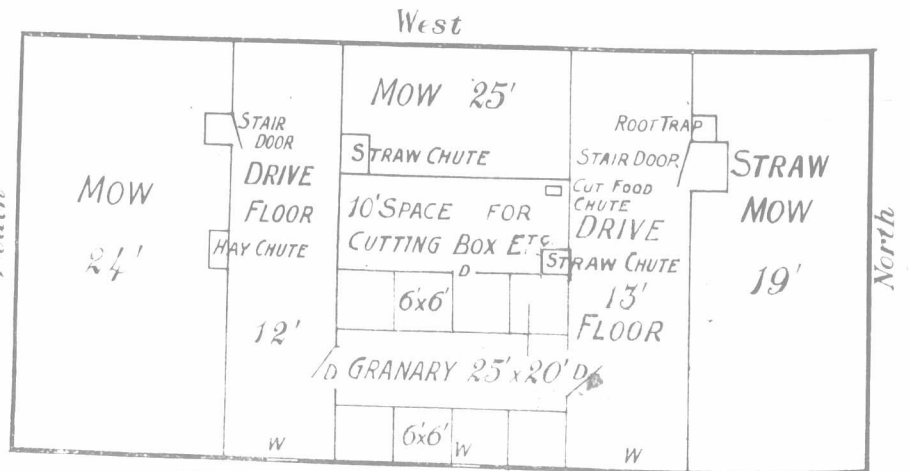
We notice by the local press that the Deering Harvester Company, of Chicago, some time ago secured the Mann Works, of Brockville, Ont., turning out seeding and tillage machinery for the Canadian and export trade largely in British possessions. The firm now purpose establishing, at some suitable Ontario center, entirely new works for that department of their business, comprising six large buildings, besides powerhouse, with 25 acres of land, and employing, to begin with, 1,000 hands, to be subsequently increased to 2,000 as the demands of business may require.

The Harrow in Clover Seeding.

We have had best results with clover when sown at same time as the fall wheat. We have also had good results by sowing in the early spring on the wheat field, and then using the harrow to cover the seed. On our land, which is rather light, we had poor results when we neglected to use the harrow. When seeding with oats we try to sow early, and have found ashes to be a great help in getting an even catch. Almost all the crops are fed and returned to the farm, and each year brings better results.

Middlesex Co., Ont.

F. W. CREALY.



UPPER FLOOR PLAN OF MR. WM. H. WESTNEY'S BARN.