

OUR OVERFLOWED LAND

A LESSON THAT CAN BE LEARNED FROM HOLLAND.

How the Dikes and the Sluices for Drains are Made—Rich Land that May be Everywhere Reclaimed From the Watery Wastes.

Millions upon millions of acres of land are lying under water close to already existing farms, and, as it were, in the midst of our civilization. A writer in the Country Gentleman devotes considerable time to showing how these may be reclaimed at much less initial cost than in the Holland country. His remarks and argument are for United States readers, but in many regards they are applicable to Canadian sea and lake wastes, and hence we condense them for the benefit of our subscribers and the country generally. He says:

To understand fully the value of these lands we have only to turn to that prosperous and wealthy country—Holland—of which a very large proportion of the most productive and valuable land once consisted of precisely this kind of ground, and most of it actually under water. Of these Atlantic coast lands on tidal rivers and estuaries, we have about as much as the whole area of Holland, and these lands are far more easily reclaimable than the Dutch marshes. The Dutch farmers value these low lands at fully \$500 an acre, and the luxuriant meadows and pastures which have been thus reclaimed



THE DIKE.

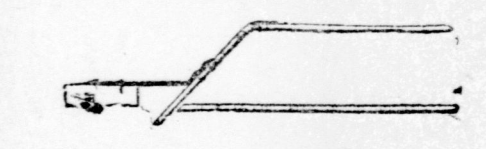
pay a much higher income on this value than our common farm lands do on one-fifth of this valuation. We have only to look at the magnificent dairy cows which we have brought from that country, to realize the great importance to us of this large reserve of land when these millions of acres are reclaimed and made verdant meadows and prolific fields, and are covered by herds and flocks.

These lands that have been reclaimed already, are valued by the owners of them at \$150 to \$400 an acre, while uplands adjoining are worth only \$40 to \$50 an acre. When diked and drained the product is from 2 to 4 tons of timothy hay, besides the value of the aftermath for pasture. But for the complete pasturing of cows and sheep the income is still greater. For sheep pasture, these lands are especially valuable, for the destructive fluke worm—the cause of the sheep rot—is unknown on them. In Southeastern England, there is a special breed of sheep most highly valued for its wool and mutton, known as the Romney marsh sheep, that thrive in the best manner on the pastures and make them more valuable than even the noted hop plantations of that district.

Here is field for enterprise right at our gates. The improvement of the lands is easy and needs no skilled labor. The location of them is most healthful, and many of them possess valuable privileges for oyster culture, that will add several times the actual value of the land to the property.

The lands are reclaimed from the tides that now flow over them at certain seasons by means of dikes or embankments. These are constructed in this way: The tough sods are first cut from the land on which the dikes are built, so as to get a good foundation that will exclude the water. These sods are laid aside to build into the embankment as shown in the illustration. These hold the clay of which these lands mostly consist, against the washing of the weather or any high water, and soon strike their tough roots all through the bank. It is desirable to lay small brush in the bank as a further help to make the work solid.

If it is thought necessary on account of outside washing, the front of the bank is protected by stones heaped against it, or if these are not more easily procured the face is covered with boards spiked to stakes. A ditch is dug inside, the earth being thrown into the bank. This gathers the water of any stream that may run through the land and discharges it into the outside, and if there is a tide outside, automatic gates are built in the bank which open as the tide falls, and let out the water from the inside ditches. The form of gate needed for this purpose is also shown.



SLUICE FOR DRAINS.

In a short time the coarse herbage dies, and may be burned off when the land is plowed and prepared for a crop. The first crop is usually oats, and the land is then sown with such grasses as may be desired; timothy and clover always do well and produce large yields. Or a mixture of grasses may be sown to suit the purpose of the owner. In many cases it has been found that what are called in New-England English grasses grow spontaneously and make excellent meadow.

When the land is so low that the wash from above comes down, as is often the case, and floods the enclosed land, advantage is taken of this to cover the surface with mud, of which the richest soil is formed, and instances are known in which as much as 20 inches of such soil have been deposited in a few months a year at the most. When the tide is utilized in this way the deposit of soil is sometimes even greater than this, the water being impounded for a few days until the sediment is all deposited, when the water is drained off and the process is repeated.

The soil thus formed contains a large

quantity of organic matter which fertilizes the land so that it is practically inexhaustible; and it may be repeated at intervals, after the grass has been established, the salt thus brought on to the land adding much to the luxuriance of the herbage. This process is carried on mostly in cases in which the land is rough and covered with tussocks of the roots of sedges and coarse grasses, these being killed in a short time and covered by the rich alluvium.

Here is a great field for the owners of such lands, or for others who may purchase seaside farms, with swamps or marshes adjacent, to cultivate the great profit, and enter into such industries as dairy or sheep herding.

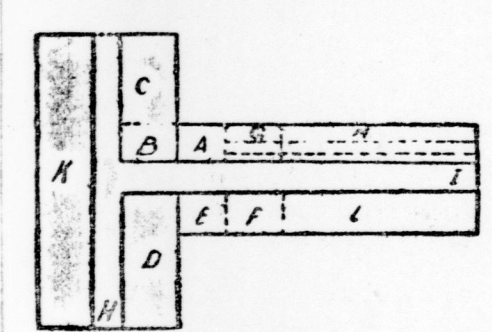
On the drainage of these lands by ditching the timber is floated out at very small cost. It is on such lands as this that all our rice fields have been formed.

PLAN FOR GREENHOUSE.

Full Directions for the Building With Interior Arrangements.

The accompanying illustration shows the plan for a greenhouse which is cheap and gives a different temperature in the various parts of the house, yet is heated with only one fire. It really consists of two small greenhouses joined together as shown. The front part is ten feet wide and twenty-two feet long, and the rear part is eight feet wide and twenty-two feet long. I have used this greenhouse for two winters and it works admirably. I grow palms and hothouse plants in one section, and primroses, cinerarias and cool greenhouse plants in the other, and all thrive satisfactorily. To build the house I dug in the ground two and a half feet, then set in oak posts eight feet long, sinking them three feet in the ground. This left the walls five feet high, except the south wall, which is only four feet high. This wall being low lets in plenty of sunshine. The framework is oak scantling two by three inches, and the walls are made of oak boards one inch thick. Then earth is banked up to the top of the wall, and sodded. The rafters on the south side are seven feet long; all the other rafters are four and one-half feet long.

The letter A indicates the position of the stove, which is an old-fashioned wood heating stove, for which I paid \$1.50. The legs are left off and it is set on bricks so as to place it low down, and over it is built the cutting bench, the bottom of the bench being two feet from the top of the stove. A large pot



GROUND PLAN OF GREENHOUSE.

of water is kept on the stove to maintain due moisture in the air. A large piece of sheet-iron is placed between the stove and the wall; another piece is arranged so as to be easily moved in and out between the top of the stove and the bottom of the cutting bench. The dotted lines show where the flue passes from the stove. The flue is made of six-inch tile except one joint of stove pipe next the stove. This tile is supported by strong galvanized wire fastened to the wall at one end, and to the rail on the flower bench at the other end. The joints of tile are luted together with wet clay, which makes it easy to take them down for cleaning out the soot, which must be done about once a month in winter. The bench indicated by b and c is built high enough to allow two and one-half feet space under it, which gives room to get under to put wood in the stove; b is a bed of heliotrope which is always in bloom, and c is where the carnations are grown for winter blooming.

The fire is allowed to burn its full force only in zero weather, when it must be looked after every four hours. In moderately cold weather it may be left all night. There is always a difference of ten to twelve degrees between middle and the ends of the greenhouse. At d in the rose bench, where roses are grown for cut flowers, a Marchal Niel being in the end nearest the fire. The bench is two feet high; e is the place for begonias and young palms; f, smilax, the bench low down; g, coleus, begonias, etc.; h, a large palm; i, a tall plant. All the benches, k, l and m, are used for plants for sale. The walks are two feet wide. The door is in the west end, and a storm door is built outside. I did all the work myself, and the greenhouse cost me fifty dollars. With a few cold frames in addition it will, if well managed, turn out \$300 to \$500 worth of plants and cut flowers per year.

Still, if the purse will admit, I advise to build it on the level ground and not dig. Use two thicknesses of boards and put tarred paper between them, as the building will then last much longer, will not be so damp in continued wet weather, and will then allow cold frames to be placed outside the east wall. My house has a good drain, which is indispensable for a house built below the level of the ground.—Orange Judd Farmer.

Rabbits and Mice.

Where rabbits and mice are plentiful it is indeed a difficult matter to keep them from injuring young trees, and it is well to take measures to destroy them, or at least, not to harbor them. The most practical way to deal with rabbits is with a shot-gun, and with mice is to see that there is no good place for them to nest near the trees. Poisoning is neither safe nor very effective.

Any bloody or greasy substance rubbed on the bodies of the trees will keep rabbits away as long as it is fresh.

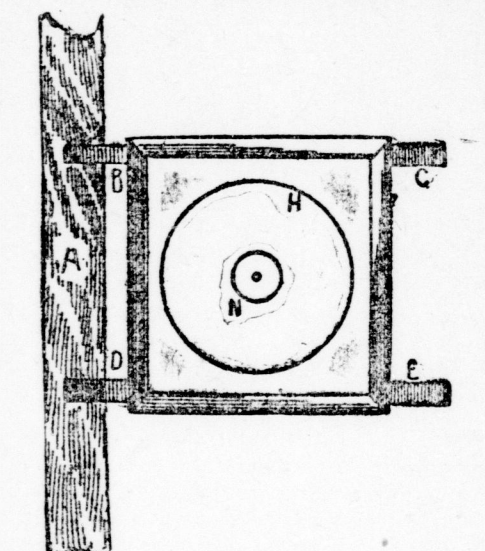
A FARMER'S TELEPHONE

HOW TO CONSTRUCT ONE AT AN OUTLAY OF A FEW DOLLARS.

One That Will Work Short Distances Without Electricity—Neatness in Erecting the 'Phone Will Make It a Thing of Beauty as Well as of Use.

A reader asks if there is not some cheap and simple way that a telephone can be erected that will work satisfactorily for short distances, without electricity. Certainly. Telephones can be made that give perfect satisfaction for short distances, and I presume would for half a mile. I have had one for several years between my house and my brother's, a distance of twenty-five rods, and it conveys sound so perfectly that on a still night I can hear their clock tick by putting my ear to the vibrator, or if a watch is held against it the ticking is plainly heard at the other end of the line, and we converse over it with perfect ease.

To make it, we first make a box of light wood, eight inches square and three inches deep. On the back side of it we cut an inch hole, in the centre, for the wire to pass through, and at-



FARM TELEPHONE.

tach two strips (B and D E) an inch wide to fasten it to the wall by. On the front side we cut a circle four inches in diameter, and over this we securely nail a piece of drumhead (H) for the receiver or vibrator. This should be soaked in warm water before it is put on so that it will be pliable, and when it dries it will be stretched tight. I bought a toy drum for 15 cents which furnished the two vibrators. It makes the box look better, and holds the drumhead securely, to fasten a moulding over the drumhead around the edge of the box, mitered together at the corners.

You must use brass or copper wire. We pay 50 cents for a spool of 300 feet. I tried a nice, smooth iron or steel wire for one line, and it worked just as well at first, and as it cost but 10 cents for 300 feet, I thought I had made a valuable discovery; but in a week or two the wire broke and after repeated patching we were obliged to give it up. We have had very little trouble with the copper wire, and have not had to repair it at all for a year at a time.

In putting the box up we screw the projecting ends of the strips to a door or window casing at one end (at B and D) and then set spools behind the other ends of the strips (at C and E). We attach the wire to the drumhead by passing it through the centre and then through a button mold, N, an inch in diameter. This distributes the pressure over a large enough space so that there is no danger of tearing it. The wire should be stretched so tight as to depress the centre of the drumhead about an inch, and if at any time the tension gets slack it should be tightened. Keep the wire from resting against the wood where it passes through the hole into the house. This can be done by driving three or four nails around it, leaving the heads out so you can tie strings to them, and pass them around the wire so as to keep it in the centre of the hole. Set the poles to which the wire is to be attached a little out of line, so the wire when stretched will be a few inches from them, and then hold it in place by a short cord or loop of wire attached to the pole. If the wire passes through a tree top or hedge, see that the branches are cut away where they would rest on the wire. It seems to me that these directions are plain enough so that any one can put up a satisfactory telephone.—Waldo F. Brown.

Nothing New Under the Sun.
The dominant idea in the minds of men who have advocated small farms and holdings is that the small holders should have sundry things in common—a plow, for instance, a small cart or sundry implements. In theory the idea seemed good, but possibly few persons were aware that a very old practice was being advocated. In connection with early Northern agriculture there was a measure called the 'husband land,' which consisted of twenty-six acres, being the extent of land held by a single husbandman; the 'ploughgate' was 104 acres, and each holder of the husband land furnished two oxen to the common plow, and with the four pairs thus supplied the 'ploughgate,' which was a joint occupancy, was tilled. There was also another curious joint holding, known as the 'run jig' system, where two tenants cultivated alternate ridges in the same field. Anything better calculated to check business and enterprise cannot be imagined, and so every one found it, with the result that the landlords caused to be drawn up rules of 'good neighborhood,' under which each joint tenant or occupier was obliged to perform his proper share of the work and to find his share of oxen labor in sight of the barley men—a sort of overseers chosen by the men themselves.

There are some good old practices that are lost arts, yet worthy of restoration. This machine-age is destined to destroy small holdings or compel us to cultivate some of the Christian virtues known to the fathers.

INTERBREEDING POULTRY.

How to Improve or to Prevent Degeneracy of Fowls.

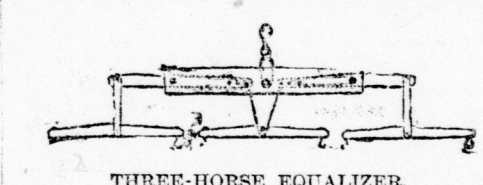
An English writer remarks, says a correspondent of Farm Poultry, that he has bred in and in from almost all varieties of pigeons, rabbits, pigs, canaries and numerous varieties of flowers and vegetables. In each and every case he found that for the first few generations they improved and finally degenerated; in animals, invariably, diseases of the head are prominent; in flowers and vegetables it produced general delicacy.

So long as man confines himself to the species and does not breed too near akin he will be successful in producing useful animals, especially in the first cross, but it is against nature to decrease the natural size of any animal's head. It is against nature also to see a 4-year-old heifer standing on four legs that would well become a full bred yearling colt.

If all this is true in other stock, why not in poultry? If judicious crossing will give the farmer increased benefit, why should he resort to inbred stock? We do not wish to be understood that we consider pure bred stock unfit for the farmer, but we do say that a changeable standard has compelled our fanciers to resort to methods that have in a measure spoiled the utility points of many of our best breeds, driven them to the wall and scared the farmer to such an extent that he is afraid of pure bred stock. The white face of the Spanish, the huge crest of the Polish and the lacing and barring and other requirements have crippled and almost killed the worth of the noblest varieties we have ever had. Rather than farm with such stock the farmer had better use first crosses.

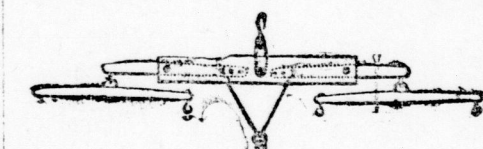
But we must not go beyond the original cross. In other words, if we must not remate the progeny. It would be suicidal and would drift us on to mongrelism. The dunghill is the result of haphazard crossing. We can use three breeds if we wish in our experiments—for instance, Minorca on Plymouth Rock, and to the pullets of the cross mate Langshan. In that way we get a part benefit of the three breeds in one. The prime reason for crossing is to get better meat qualities. We do not believe that any cross can be originated that will give better egg records than the birds in their purity—that is, we believe that the best laying cross breed will not lay any more eggs than the best laying pure bred. But, on the other hand, we know that a flock of cross bred hens will give more eggs during winter than a like flock of thoroughbreds. The prime cause for this is hardness, the former being more hardy than the latter.

Three and Four-Horse Equalizers.
I send sketches of, I think, says S. M. Edwards in Country Gentleman, the best equalizers for three and four horses. The three-horse equalizers came with a



THREE-HORSE EQUALIZER.

sulky-plow that I purchased; the four horse I contrived myself. I use them on a wagon by slipping straddle of the tongue, and on a plow by putting a



FOUR-HORSE EQUALIZER.

clevis in place of the tongue. I have three holes in the inside end of the short eveners. The hole next to the centre is equal distance from the centre with the hole in the outside end. With the other two holes I can favor the leaders as I choose. The driver can see whether his leaders are doing their share of the work or not by watching the short eveners. They are so satisfactory that I do not work four horses to a wagon without them. I have a different rig for one-gang plow.

In the three-horse equalizer, the short eveners are attached to the long one by good swingle-tree centres and clevises. We need something to equalize our horses in this country, where we use a four-horse team so universally—four horses to the drill (7 to 12 feet), to the harrow (16 to 26 feet), to the binder (6 to 9 feet), to the grain tank (100 to 150 bushels), and to the plow (24 to 30 inches).

Rational Food for Hogs.

Corn has always been the great food for hogs, but an exclusive corn diet will injure the digestion, make the animals feverish and produce too much fat. This last is a very serious objection, now that public taste has changed and lean pork is desired. Clover and grass are excellent food if used in combination with grain, but are not in themselves sufficiently nutritious. Wheat tends to the development of meat and muscle, and would give the necessary increase of frame, and as the great value of corn is a fat producer, it would seem as if a ration composed of nearly equal parts of these two grains should meet all requirements.

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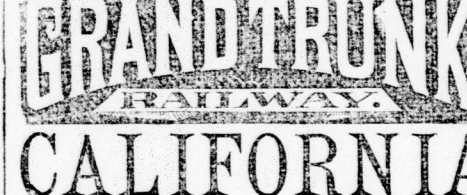
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*MAJESTIC.....Dec. 5
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UMBRIA.....Saturday, Dec. 22, 2 p.m.
LUCANIA.....Saturday, Dec. 29, 6:30 a.m.
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RAILWAY TIME TABLES

CANADIAN PACIFIC RAILWAY.

Going East.

DEPART—	ARRIVE—	DEPART—	ARRIVE—
London	11:15 a.m.	St. Paul	11:45 a.m.
Woodstock	11:30 a.m.	St. Paul	11:45 a.m.
Guelph	11:45 a.m.	St. Paul	11:45 a.m.
Peterboro	12:00 p.m.	St. Paul	11:45 a.m.
Kingston	12:15 p.m.	St. Paul	11:45 a.m.
Ottawa	12:30 p.m.	St. Paul	11:45 a.m.
Montreal	12:45 p.m.	St. Paul	11:45 a.m.
Quebec	1:00 p.m.	St. Paul	11:45 a.m.
Portland, Me.	1:15 p.m.	St. Paul	11:45 a.m.
Boston	1:30 p.m.	St. Paul	11:45 a.m.
Halifax, N.S.	1:45 p.m.	St. Paul	11:45 a.m.

Going West.

DEPART—	ARRIVE—	DEPART—	ARRIVE—
London	11:15 a.m.	St. Paul	11:45 a.m.
Woodstock	11:30 a.m.	St. Paul	11:45 a.m.
Guelph	11:45 a.m.	St. Paul	11:45 a.m.
Peterboro	12:00 p.m.	St. Paul	11:45 a.m.
Kingston	12:15 p.m.	St. Paul	11:45 a.m.
Ottawa	12:30 p.m.	St. Paul	11:45 a.m.
Montreal	12:45 p.m.	St. Paul	11:45 a.m.
Quebec	1:00 p.m.	St. Paul	11:45 a.m.
Portland, Me.	1:15 p.m.	St. Paul	11:45 a.m.
Boston	1:30 p.m.	St. Paul	11:45 a.m.
Halifax, N.S.	1:45 p.m.	St. Paul	11:45 a.m.

Trains arrive from the east at 11:45 a.m. 8:50 p.m., 11:40 p.m.

THOS. R. PARKER, City Ticket and Passenger Agent, 161 Dundas street, southwest corner Richmond and Dundas.

GRAND TRUNK—Southern Division

CORRECTED Nov. 18, 1891.

MAIN LINE—Going East.

ARRIVE	DEPART
Lehigh Express (B).....	4:02 a.m.
Washington Express.....	4:15 a.m.
Accommodation.....	4:30 a.m.
Atlantic Express (A).....	12:17 p.m.
Day Express.....	10:45 a.m.
Washington Express (A).....	4:25 p.m.
Mixed (C).....	6:45 p.m.
Detroit Express.....	10:50 p.m.

MAIN LINE—Going West.

ARRIVE	DEPART
Chicago Express (A).....	2:15 a.m.
Accommodation.....	2:30 a.m.
Lehigh Express (B).....	10:45 a.m.
Washington Express.....	11:20 a.m.
Accommodation.....	11:35 a.m.
Pacific Express (A).....	7:00 p.m.
Mail.....	9:50 p.m.
Accommodation.....	7:45 p.m.

Sarnia Branch.

ARRIVE	DEPART
Lehigh Express (B).....	4:02 a.m.
Accommodation.....	4:15 a.m.
Atlantic Express (B).....	11:20 a.m.
Accommodation.....	11:35 a.m.
Mixed.....	5:25 p.m.
Accommodation.....	7:30 p.m.

Sarnia Branch.

ARRIVE	DEPART
Chicago Express (B).....	2:20 a.m.
Accommodation.....	2:35 a.m.
Lehigh Express (B).....	10:50 a.m.
Accommodation.....	11:05 a.m.
Pacific Express (B).....	7:10 p.m.

London, Huron and Bruce.

ARRIVE	DEPART
Express.....	9:45 a.m.
Mail.....	6:25 p.m.

St. Marys and Stratford Branch.

ARRIVE	DEPART
Mixed-Mail.....	11:10 a.m.
Express.....	2:05 p.m.
Express.....	5:40 p.m.
Express-Mixed.....	11:15 p.m.

Toronto Branch.

ARRIVE	DEPART
Hamilton-Depart.....	7:30 a.m.
Hamilton-Arrive.....	7:30 a.m.
Hamilton-Depart.....	7:30 a.m.
Hamilton-Arrive.....	7:30 a.m.

* These trains for Montreal.
(a) Runs daily, Sundays included.
(b) Runs daily, Sundays included, but makes no intermediate stops on Sundays.
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Trains South.

Stations.	No. 1	No. 2	No
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