

The Field.

Irrigation.

The artificial irrigation of land has been practised from time immemorial, and is in some countries absolutely indispensable to successful agriculture. The ends sought by the operation are both the supply of requisite moisture in countries or seasons of deficient rainfall, and the addition to the soil of rich alluvial deposit left by the overflow and subsequent draining of river water. The most costly works have been constructed to effect the desired object; but in favourable situations the end has sometimes been attained by comparatively simple and inexpensive means. It is usually along the course of rivers only that this method of watering has been adopted, though in some instances water had been conducted for the purpose to a considerable distance, artificially raised above its natural level, and stored in ample reservoirs for the purpose of irrigating otherwise arid and sterile land. Most frequently fields thus irrigated have been sown to grass, and called water meadows; but in many countries the same plan of operations has been adapted to arable land, and water is thus regularly supplied to corn crops, being conducted over the ground between the ridges or drills of the growing grain. Great advantages have thus been secured, and the expense, however great, has been well repaid by the increased productiveness of the land.

Most of the water meadows in Britain are met with in Gloucestershire, Wiltshire and Dumfriesshire. In the first-named county a striking instance of the benefit derived from the process was afforded in the following case: A meadow of eight acres, in South Cerney was thus artificially watered, and the ordinary yield, even in dry seasons, is thus stated. The land was untouched till the end of April, when it was let to be fed for five weeks by stock, as follows: 107 sheep, 8 cows, and 4 colts. After this the grass was allowed to grow, and fifteen tons of hay were cut; and subsequently the after-feed, valued at 15 shillings the acre, was again eaten off by stock. The profit was estimated at nearly £10 the acre. This land, which is now in the possession of a miller, was formerly occupied by a farmer, between whom and the miller some disagreement arose, in consequence of which the farmer was deprived of the use of the water. During that season, which was unfortunately dry, the whole produce of the eight acres was only three tons of hay. On the estate of the Duke of Bedford, there is a water meadow of nine acres, the yield of which is thus given: During March 240 sheep fed on the grass for three weeks; in June, eighteen tons of hay were cut from the field; in August, thirteen and a-half tons were again mown; and in September, during the whole month, there was pasture for eighty sheep. The *Farmer* (Scottish), of the 5th August, contains an illustration of the value of artificial irrigation, in the following extract:—

"Robert Malabar, of Newcastle, in this county, describes the poor state of the grass crops on the land adjoining the Trent, which he says might have been improved by irrigation, and he gives an instance:— 'A few years ago I designed and directed a diversion of a portion of the river Trent over nearly twenty acres of land, which was then partly a bed of rushes, &c., and on the whole worth about 20s. an acre to rent. It is now free from rushes, and affords a bulk of early spring eating, having this year mainly enabled the tenant to feed the lambs from 100 ewes till the latter end of May, and has since produced about two tons of hay per acre—(this may be considered an excess over the original produce, as the spring eating and after-math are now more valuable than the year's produce was ere the improvement

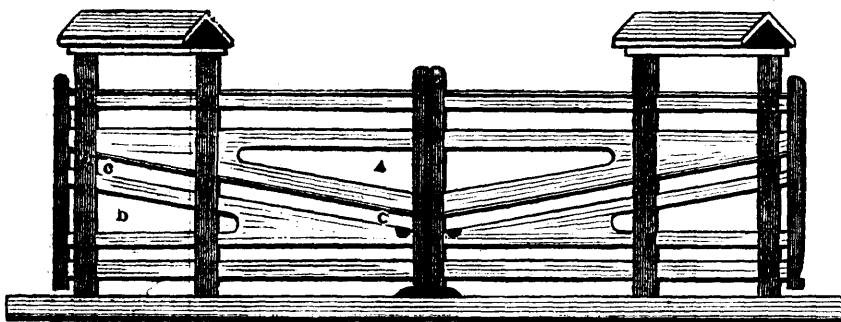
was made)—which is now safe in the stack, and the tenant can apply the stream at once again if he chooses. The rental is now 60s. per acre. Thus, having seen the enriching capabilities of the Trent stream in this instance, I can see no good reason why a similar improvement might not be more generally made on the lands through which the river passes.'"

There is another very important application of irrigation which has quite recently received special attention, namely, the utilization by its means of the sewage of towns, which are thus emptied of what is noxious and pestilential to the residents, while land in the vicinity is at the same time vastly enriched.

The subject is one which may well engage the attention of thoughtful and practical men in this country, and is especially pressed upon the attention of agriculturists by the drought of the present season, indeed, we may almost say, by the yearly recurring drought of the country. It is beset, we admit, by difficulties of no trifling character, but in this age of ingenuity and enterprise these are not surely insurmountable; and while we would place our chief reliance on deeper cultivation, subsoiling, and underdraining, we do not think the subject of irrigation should be altogether ignored or neglected.

Lewis' Incline or Self-closing Gate.

At the last Provincial Exhibition Mr. Lewis exhibited a number of gates, and among those that received the commendation of the judges was the incline gate represented in the accompanying illustration, which will be readily understood by aid of the maker's own description as follows:—The cut



shows the side or front elevation of gate. It is made to slide on rollers placed between the upright frames and in the opening C. C. The gate is made in two parts, consequently this description of the left hand gate applies equally to the other half.

The top and bottom rails are made in the ordinary way, but the middle part of the gate is made by cutting a board anglewise. The board should be 10 feet long and 17½ inches wide, and is cut from 3½ inches down from the upper edge at one end, and 3½ inches up at the other end. This will form an incline of about one inch to the foot. The pieces when cut are then separated parallel from each other about 6 inches, which will admit of a batten, 1 inch thick and 3 inches wide, being nailed on the lower edge of the upper board, and of a 5 inch roller being inserted for the gate to work on. There are two rollers to each gate, there being one between each pair of posts, and in a line with the opening C. C. To lighten the appearance of the gate, tapering pieces are taken out of the wide ends of the centre-boards, as at D and A. It is very simply made, the battens being all scored into the uprights, and an inch batten is nailed on the face, thus dispensing with morticing.

The gate is made to close itself. A person passing through would simply push it open sufficiently to pass, and the gate will close after him spontaneously. If, however, it is required to open to the full width, to let a vehicle through, it is only necessary to push it to its full extent, when it will stop of its own accord.

The following are the chief advantages claimed for this invention. It cannot be left open by children or careless persons, and therefore is particularly

adapted to dangerous places, or where it is absolutely necessary that the gate should be kept closed. Again, it lifts itself out of the snow in the winter, and further, it cannot easily get out of repair; as it does not swing out in the way, occupies no more space than merely its thickness, and even that will be close to a wall or fence, it takes but little room in a yard or enclosure of any kind. The hangings are cheap and the gate of good appearance.

Many of those gates are being erected in the city of Kingston, and in the counties of Lennox and Addington, and it will be on exhibition at the approaching Provincial Show in Quebec, and most probably also at Hamilton, where parties will have an opportunity of inspecting it and judging for themselves.

We direct attention to Mr. Lewis' advertisement in the present issue.

Soules Wheat.

To the Editor of THE CANADA FARMER:

SIR,—In your last number you notice having received a sample of very fine wheat from Mr. Samuel Berriman, of Stamford. And, from Mr. Berriman's remarks, the inference would be naturally drawn that the Soules wheat was, regardless of the midge, by far more profitable to raise than either the Mediterranean or Midge-proof. Mr. B. may be right so far as his own farm is concerned, which he describes as "a light sandy soil with a subsoil of gravel over one hundred feet deep." I know other localities where the Queens-ton limestone comes near the surface and forms a natural under-drainage, where they have continued

to raise the Soules wheat with success. But what might apply to these exceptionally favoured localities will not form a rule for those not enjoying the same natural or artificial advantages of underdrainage. And I know from sad experience, that although I can raise straw six feet high and heads six inches long, since the advent of the midge the raising of the Soules wheat has been a decided failure with me, one fine crop of straw on fifty acres not paying for thresh-

ing. I know of some farmers in this neighborhood who persisted in raising Soules wheat until it nearly ran them ashore, which they richly deserved for continuing to propagate a pest in the country.

I do not think that Mr. B's comparison in the yield between the red and white wheat is quite right during the present reign of the midge. My two adjoining neighbours have threshed their crops, the one Mediterranean and the other Midge-proof, and in either case the yield was thirty-three bushels to the acre; had it been Soules, and no midge, I should have judged the yield would have been forty bushels per acre. And as regards the price, Mr. Berriman says that when red is \$1.30 white is worth \$1.75, which will not agree with the trade reports, which generally rate red the same as spring wheat, about 12½ cents lower than white. I have made the above remarks for fear that some not possessing the advantages of Mr. B. might be induced to follow his example to their loss.

R. N. BALL.

Holmehurst, August 10, 1868.

Salt.—Phosphoric Acid in Ashes.

To the Editor of THE CANADA FARMER:

SIR,—In your number of July 15th, I notice an extract from Johnstone's Lectures on Agricultural Chemistry on the value of salt as a manure. Some of our farmers in this section of the Province of Quebec have been using it latterly with great benefit to their grain crops, and in conjunction with animal manures there can be no doubt of its good effects, especially on dry soils.