but not awkward-fat. Why not make preparation for a good lot of early lamb? Ewes put to the ram about the middle of August should lamb in January, and if the lambs are well treated, with cake and white pease as well as their natural food, they should be a little better by the end of March than those wretched little black rats we see every season in Ste-Catherine street butchers' shops.

We hear from our energetic friend, M. le Comte des Etanges, that he is working 70 acres of *sugar-beets* at Sorel! A large undertaking. If our health permits, we hope to see the crop this month: but, alas we have had but a poor life of it this summer

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HILL-SIDE WATER-MEADOWS.

BY THE EDITOR.

Any one who has driven along the upper-road from Richmond to Coaticoke must remember the innumerable rills which, gushing from the rock on the south side of the hills, run trickling down the slopes, wandering here and there through the meadows, and freshening up the grass for a few feet on each side as they pass; supplying this farmhouse and that cattleyard with the finest and most pellucid water; and gradually augmenting in volume, by and by form brooks of moderate width, which feed trout, the beauty, activity, and quality of which I, with my fifty years experience of that fish, have never seen surpassed.

Ten years ago, happening to pass the summer in the neighbourhood of Compton, we tried an experiment, on a very small scale, to see if the water of one of these bright, clear streams would act on grass in the same manner as streams of the same character act on grass in England. Beginning on the second of May, we led the water over about a quarter of an acre of old, rugged grass; let it run for four days; then dried it for three days, working thus until the end of the month, which, fortunately for our experiment, remained cold and backward throughout its duration. We showed the piece to an old inhabitant of the district on the 25th of June, without having told him what fantastical tricks we had been playing with it, and his opinion was, that there was three times as much grass on the plot as on any other part of the meadow. We think he overrated the crop, but the difference was very striking, and could be seen from afar. And this, remember, was an experiment under great disadvantages, autumn being, as was stated in the last number of the Journal, the best season for watering.

Now, this little stream, a mere rill, runs past three farms, and, trifling as its volume is, it would irrigate, if properly managed, at least seven acres on each of them. Any one can see it: it crosses the road abvove the ravine between Compton Centre and Mr. Cochrane's farm at Hillhurst. A lovely spot—nothing more beautiful in our own dear old country: an immense admission for us to make! The trout, many in number, are brillant in colour; the grass on each side of the stream is of good quality, and the land, being rocky and uncomfortable to plough, would be all the more useful if it could be kept in permanent meadow. It is no trifling advantage on a farm of 150 acres, to have 7 acres of meadow, yielding a maximum crop, or crops, of hay, with good pasturage afterwards, and, at the same time, absolutely independent of manure. Neither, in such a situation as I have described—and there are hundreds of similar ones in the townships—would the cost be worth talking about: We have seen on Exmoor, Devonshire, many an acre laid out for $4 each, including large and small water-carriers, culverts under fences, hatches, and flood gates. A great part of the work may be done with the plough, in the hands of a skilful ploughman, and the annual expenditure for dressing-up the carriages &c., would be a mere nothing.

The main carriages, which take the water in the first instance from the brook, are formed three feet wide and six inches deep on the *lower* side, and

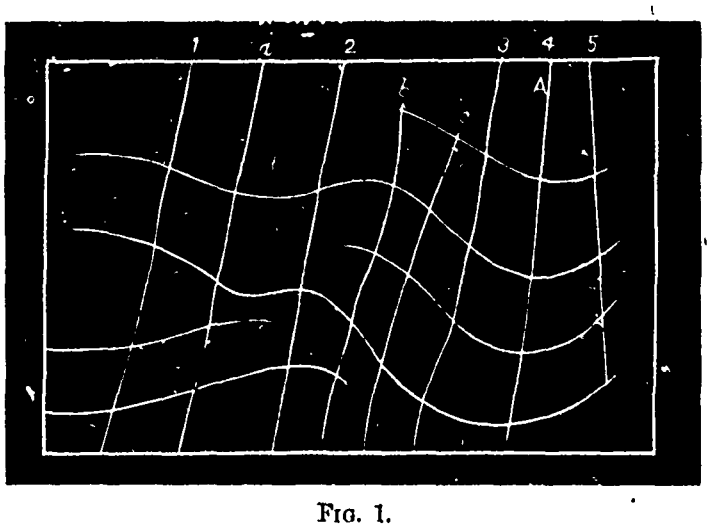

FIG. 1.

forty-four yards apart, with a fall of two inches in a chain of twenty-two yards, or one in 396. Between these a smaller gutter is cut, eighteen inches deep, at a distance of three-fifths from the upper carriage, and two-fifths from the lower one. The gutters again collect the water into a sheet, that it may be the more evenly distributed over the piece then under treatment: but for this, the water would get into little streams, and cut its way in small furrows.

If, from too-long persistance in mowing, the grass has given place to *moss*, the best plan is to let the water flow over it for a week at a stretch. This will soon kill out the moss, while

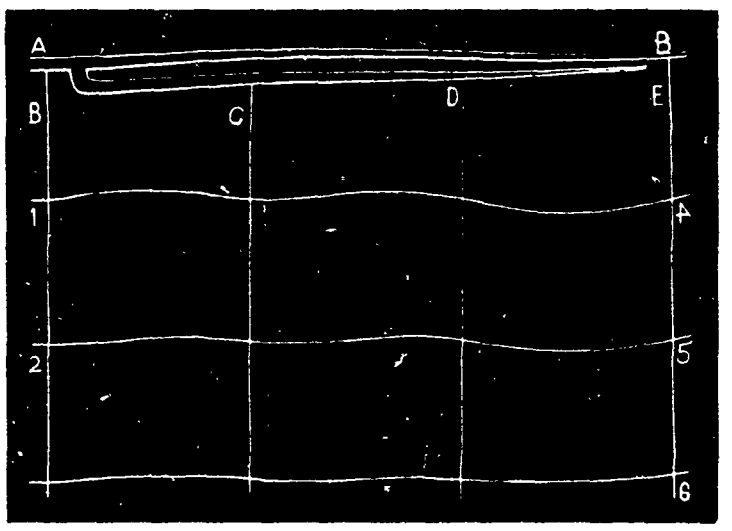

FIG. 2.

a thin sheet of water has but little effect. Continue the watering at intervals; always letting the land get dry between whiles, but never allowing the land to get sodden by the water remaining on it too long a time; by neglect of this sort, coarse aquatic grasses are sure to take the place of those of superior quality.

Liquid manure tanks.—As we have before remarked in this Journal, we have seen many liquid manure tanks built, and many carts for its distribution bought, but never saw their use persisted in; the tremendous labour connected with the system soon frightens even the most enthusiastic improver. But where, as in the Compton case, the brook travels close to the side of the farm-building, there is no trouble at all in carrying out the contents of the tank. The urine from the cattle, the contents of the privies, the sewerage, in fact, of the whole establishment, might be collected by the stream, and carried over the meadows at any time thought desirable. As the water filters over the grass—or rather through it—nothing is lost, but all is deposited where it is wanted; and, thus, early and abundant crops are produced for pasturage, or for soiling in the cattleyard or stables, the manure made from the consumption of which may be carried on to the arable land, and so increase, in a very short time, the gross produce of the entire farm It is a well known fact, that, after passing over the grass, the water, however foul it may have been at first, becomes perfectly clear, and fit for all domestic purposes. And these meadows will pay for any judicious labour you may lay out on them. When eaten bare, they should be bush-harrowed, and heavily rolled when the land is moderately damp. After the hay crop is severed, a gentle watering for, say, 24 hours, will do no harm, but, as I mentioned last month, summer flooding had better be avoided altogether, if sheep are to be pastured: fear of rot.

There is no reason why—where, as at Compton, land, exposure, and water, are all propitious—strawberries should not be cultivated for the market. Irrigation—in summer, of course, in this case—would double the size of the berries, and consequently, more than double the value of the crop: fine fruit, as my readers know, always fetches an extra price. It would pay well to lay out the beds for the strawberries as described in the December, 1883 number of the Journal, p. 124 eng. bedwork. A very thin sheet of water, running for about 12 hours at a time, will be sufficient. In the early stages of growth, the land should be stirred frequently with the hoe round the plants. The last watering should be given just before the berries begin to colour; after which the beds should be kept as dry as possible: strawberries ripened in rainy weather have no flavour. The wild strawberries on the slopes below the upper road at Compton are, without any exaggeration, enormous; many of them as large as our thumbnail! Superb in colour, and full of flavour, if the season is suitable. We fancy there are many hundred acres in the Townships which offer equal inducements to the fruit grower, but we know what we am talking about as to Compton. We studied the country thoroughly in 1873, and we are sure that an enterprising man, who would be willing to invest a few thousand dollars in *intensive* farming on any of the sunny, well-watered banks along the hill-side, might double his capital in a very few years. The soil is willing to grow any *thing you like to ask it.* We never saw such swedes in England—the station is handy, and the neighbourhood pleasant beyond description.

And, now, having described as well as we could the advantages and the general plan of the simplest and cheapest form of water meadows, we proceed to show how such a meadow, in land of the most irregular shape, may be laid out. The level used for the purpose is the ordinary one, an engraving of which was given in our Dec. 1883 number. Many of our readers are, *doubtless, accustomed* to its use, in ditching, &c, but others may be glad of information on the subject. It is to be observed that on the cross-pieces above the weight there is a notch in which, when the line lies straight, the plumb-level is attained.

Taking the fig. 3 to be a meadow, or a piece of a meadow, we must first consider where the irrigating stream can most easily be introduced, consideration being given to cheapness combined with practical utility. Let us suppose that *the point A is the* most convenient spot. Next, consider in what direction the water, if left to itself, would probably run: take the line, for instance, from 1 to 2. Take the level, and proceed to mark out that line in the following way: set the feet 1 and 2 level on the ground by means of the plumb line 3; mark the place of no. 1; then advance the level, putting no. 1 in the place of no. 2, and finding a new place for no. 2 by means of the plumb-line. Go on in the same way *until you have got a level line across* the meadow. Some one, following, should make a mark with a hoe or other tool at every other move of the level—there will thus be a *sign* at every ten feet. Now, begin this levelling at B, and, if the ground is tolerably flat, you will get a line somewhat in the same direction as B. C. The *arrows* indicate the way in which the water is to be made to run on in the gutter-line. To manage this, you must deviate a little from the precise level, letting the plumb-line drop a *little before* the level mark when you are inclining *down* the meadow, and *behind* it when the inclination is *up* the meadow. The water will, then, run out of the low places, and upon the high places. Follow all the indications, of the level, however curved or crooked they may be.

When you have finished the line B C., return to a point D, which should be, generaly speaking about thirty feet from B. Going on as before, you will probably make a *line* something like D. E. You see by fig. 3 that the distance from C to E is too great, therefore, a subsidiary gutter, F G must be inserted