

nencies. The cart-wheel fellows are cut out in segments by the machinery of the engine, and much other work done by steam agency. Mr. Hudson has 40 work horses and 18 working bullocks. The latter work double (7 half shifts, viz., two oxen in a plough—he keeps 4 ploughs at work 10 hours a day, and they plough from one and a quarter to one and a half acres daily each plough. The straw is cut into chaff; the turnips are sliced and other roots are cut by the steam machinery. Mr. Hudson has two suits of clothes, one fine and the other coarse, and his wife has a beautiful shawl, all of their own wool. As for a thistle growing on the farm, you might safely offer a guinea for it; and the land is, for 1400 acres, like a garden. Women and boys are constantly employed picking up every stray weed, and sometimes they contract for it by the acre. Altogether, the farm, the farmer, and the style of farming, is such as few Cumberland farmers can have any idea of."

ON SOWING, BROADCAST, DRILLED, AND DIBBED—
THICK AND THIN—AND AT DIFFERENT DEPTHS.

We have briefly noticed the numbers of the "Farmer's Guide to Scientific and Practical Agriculture" by H. Stephens, F. R. S. C., assisted by Professor Norton of Yale College, as they have appeared. It is an admirable work, and is now published in a form and at a price that will enable every intelligent farmer to possess himself of a copy. Nearly every operation of the farm is explained and illustrated in a plain and simple manner. We have at some expense procured the engravings which follow, showing the importance of good ploughing, and drill-sowing. We shall copy other useful matter from this excellent book, in future numbers.

Broadcast sowing.—Of all the modes of sowing the seeds of the cereal crops, none requires so much seed as the broadcast. The usual quantity of seed sown is 3 bushels of wheat, 4 bushels of barley, and 6 bushels of oats to the acre. Thirty years ago the quantities of seed sown were larger, viz., 4 bushels of wheat, 6 of barley, and 7½ of oats. These quantities I myself have sown.

However well the land may be ploughed, the seed sown broadcast will braid irregularly—some falling into the hollowest part of the surface, some upon the highest, and some being scarcely covered with earth by the harrows—some sliding gently into the rut after the tines have passed, whilst others are carried as deep into the ruts as the tines themselves penetrate. To harrow the land smooth, previous to the sowing of the seed, would not cure the inconvenience of irregular covering, since it is impossible to cover so large a seed as that of the cereals, merely with the action of the tines of the harrows, without the assistance of a rough surface of mould. On smooth harrowed ground the seed would be left on the surface, and even harrowing, as presently conducted, leaves

many seeds exposed, to be picked up by granivorous birds. What I have stated may be illustrated by the following figures, where from c to d, fig. 1, are represented furrows, well and regularly

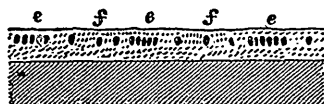
Fig. 1.



WELL-PLOUGHED REGULAR FURROW-SLICES.

ploughed; but it is obvious that although the seeds will fall successively more into the hollows between the furrows than upon the sharp points, when scattered broadcast from the hand, yet some will fall on the points and sides of the furrows. The seeds will lie in the ground, as shown in fig. 2, where those are thicker at e, which fell into the hollows of the furrows, and thinner at f, which stuck upon their apex, or on their sides. But even their position will not be so regular as is here represented, where all the seeds are at the same depth from the surface, for some will be deeper

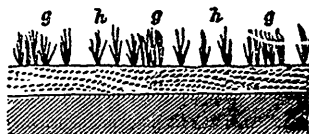
Fig. 2.



THE POSITION OF SEEDS WHEN SOWN ON REGULAR FURROW-SLICES.

than others, some too deep, and others too shallow, whilst not a few will have been left exposed on the surface. From such a deposition, as in fig. 2, the plants will come up in the irregular manner represented in fig. 3, where g are clumps

Fig. 3.

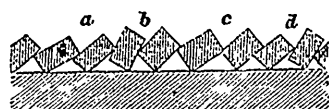


IRREGULAR BRAIRDING FROM EVEN REGULAR FURROW-SLICES.

of too many plants, and h straggling ones too far asunder. But in reality, the seeds having been deposited at different depths, the plants will present greater irregularity of height than is shown in fig. 3.

But when the land is ill ploughed, the case is still worse. Fig. 4 shows the irregular manner

Fig. 4.



ILL-PLOUGHED IRREGULAR FURROW-SLICES.

in which the furrows are placed by bad ploughing.