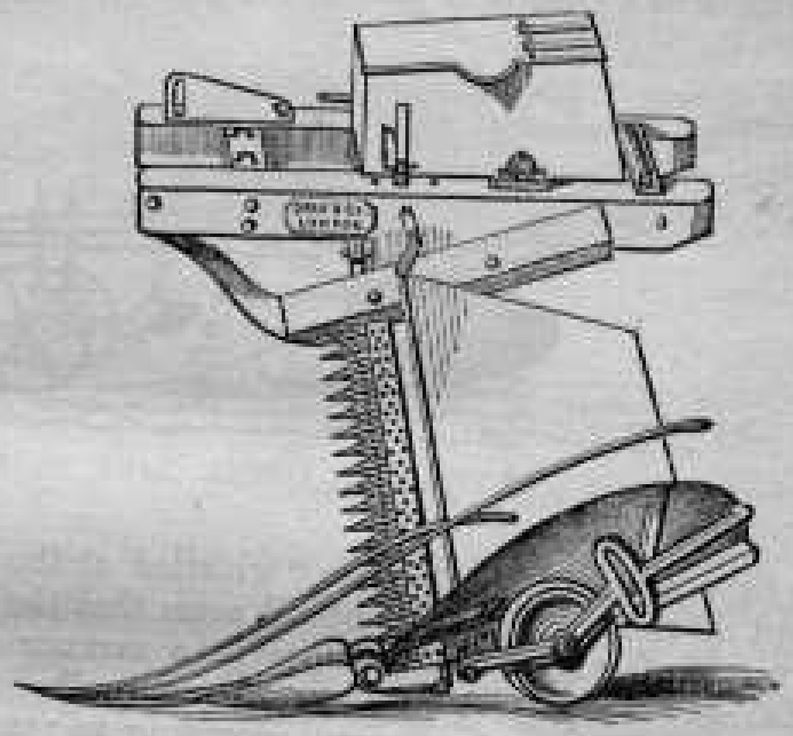
"long lever handles, long flowing concave share, and pair of wheels," had a harder matter to cut its way into use than it had to pass the heaviest soil.

The invention of the reaping-machine is illustrative of the peculiar difficulties which have attended the application of mechanical improvements to agricultural machinery. The account of its invention we extract from an able article in "Household Words."

"In 1827 the Rev. Patrick Bell, son of a farmer, and at that time a student for the Scotch ministry, determined

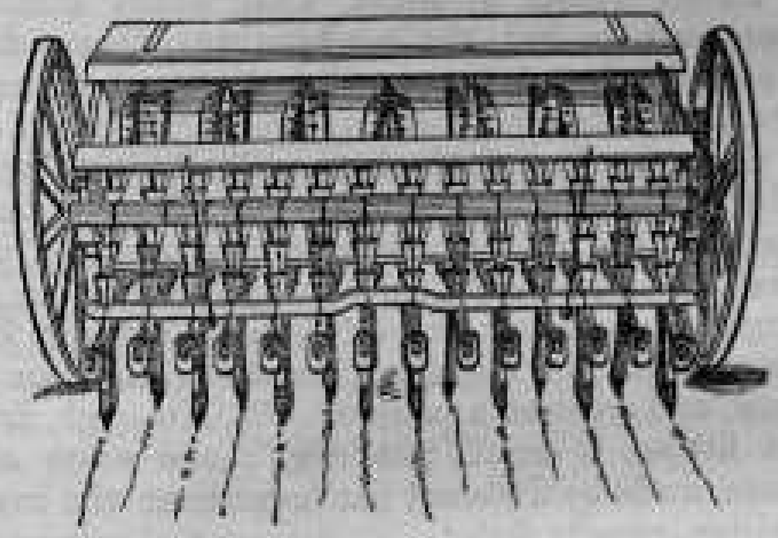


REAPING MACHINE.

to invent a reaping-machine. He had thought of the subject for years; and had, when a boy, seen a print of such a machine constructed by Smith, of Deanston, which, by the way, was ingenious, but useless.

"One evening, after tea, while walking in his father's garden, his eye was attracted by a pair of gardener's shears sticking in the hedge. He took hold of them, and began to cut the twigs of the blackthorn, perhaps idly,

for want of thought; but, while so engaged, it struck him that this was the principle that might be applied to cutting corn. At the present day, when Bell's machine stands at the top of the prize-list, it is curious to find that the very motion which suggested his whole invention has been totally abandoned. After much consideration, he constructed a model, and then prepared a machine on a large scale. In order to keep his secret, he made patterns in wood of every part that required to be made of metal. These he sent piece by piece, separately, as he required them, to the blacksmith, with instructions to make a thing



DRILL PLOUGH.

of iron or of steel as like that sent as possible. When he received them back, he filed, ground, or otherwise finished them with his own hands; and at length was able to put the whole together. His first experiment was made in a long, narrow, empty outhouse. Into this outhouse, when every one was away on the farm, he conveyed with a wheelbarrow as much earth as covered the floor to the depth of six inches, and pressed it down with his feet; then drew a sheaf of oats from the barn-yard, and planted the stubbly stalk in the mould. He then shut and barred the door; and, putting himself in the horse's place, pushed the machine through the artificial crop. On

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