AN ENGLISH FARM.

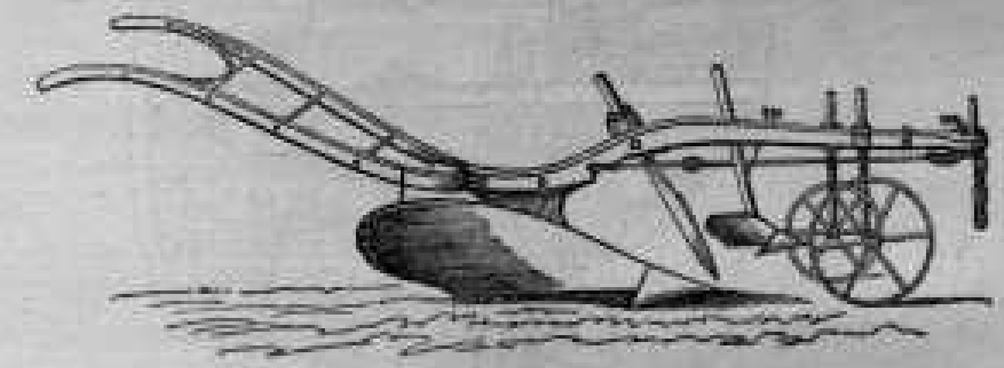
CHAPTER XIV.

PATRICK BELL AND AGRICULTURAL MACHINERY.

AGRICULTURE is the first step towards civilization. An utterly barbarous people may subsist on wild fruits or on the flesh of animals taken in the chase, but at the first dawn of civilization they begin to till the ground, to sow and reap; and so on, step by step, towards the highest achievements in farming. Agriculture is, then, the eldest-born of arts. The earliest contrivances of a primitive people for tilling the ground must of necessity be of a very crude and simple nature, and the instruments and practices thus adopted would remain for a very long time without alteration. The earth would yield her increase to the hand of man, human labour would be sufficient for all the necessary purposes of the field, mechanical invention to abridge manual toil would not occur, so long as no necessity existed for its employment. Necessity is rightly said

to be the mother of invention, and when want is felt, the means of supplying that want are generally discovered.

It is only within the last few years that any important alterations have been introduced into farming operations in England. In the East they are still conservatives in agriculture; and in some parts of Europe they still pursue the methods which have been practised from time immemorial. But in manufacturing England, and in our own mechanical age, more speed, more certainty, and more success is positively necessary, and so the farmer has to consult the chemist as to the quality of the manure, and the engineer as to the best plan of sowing and reaping.



A PLOUGH.

We have heard of people who "whistled at the plough for want of thought," and it would seem that the plough makers manufactured the machine in a manner equally thoughtless. They went on for years—centuries—making ploughs, as lawyers get up cases, according to precedent; and as every parish had its own precedent, and indeed every hamlet—to say nothing of the particular crotchets of every farmer—Hodge had to drive all sorts of ploughs—good, bad, and indifferent—number two the most popular. At last the idea occurred that it might be as well to ascertain the form of ploughshare—on which the result of the work depended—which was the best adapted for the purpose, and this having been satisfactory ascertained, ploughshares be made on that pattern. There was of course a large amount of opposition, and the new iron plough, with its

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