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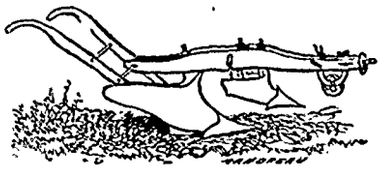
Ploughs and the Work they Do.

PLOUGHING is the most important operation carried on upon the farm. In order that land may be fit for the reception of seed, and brought into a state in which it will yield to the fullest extent, it must be thoroughly mellowed and pulverized. In its usual hard and consolidated condition, nothing will grow upon it to any advantage. In countries where land is dear and labour cheap, spade husbandry is practised, but it is only in such circumstances that this mode of loosening the soil and preparing it for a crop can be adopted The plough is the implement usually employed in breaking up land, and it is the most economical tool that can be used for the purpose. Without it, successful farming would be impossible in a country like this, where hand-labour is costly and difficult to obtain. We propose in the present article to refer briefly to some of the different styles of ploughs now in use, and describe the mode in which they operate upon the soil; introducing a few illustrations, in order to give a clear idea of the various points that seem to require attention. We shall suppose that the implements about to be described are set to work in an old meadow or pasture, where a stiff sod is to be thrown under, and the surface made loose and mellow. The first illustration represents a common plough, fully rigged with coulter and wheel. The coulter cuts through the sod in advance of the share, and the wheel regulates the depth and steadies the implement. In passing through the soil the plough cuts off and turns over a slice of earth, cutting it both vertically and horizontally. The furrow made should be deep, straight, and of such a width as admits of being either turned completely over or left on its edge, as may be desired. Our second engraving shows the manner in which sod ground is usually operated upon by the common plough. The darker portion of the cut represents the top soil—to the left unbroken, and to the right laid in ridges by the plough. The horizontal lines show the subsoil. A common plough drawn by an ordinary team of oxen or horses, will loosen the soil to a depth of about five or six inches. But it is desirable to have, if possible, a deeper seed-bed than this. Five or six inches forms but a thin crust in which to grow all manner of crops. It may be safely affirmed that no plant grown on the farm will develope itself in perfection without more room to strike root downwards, and there is little doubt that shallow ploughing is one of the worst defects in our present system of agriculture. A most effective implement for deepening the soil is represented in our next engraving. It is known as the Michigan or



double-mould board plough. The smaller share cuts off a thin slice of the greensward and turns it into the last furrow, where it is completely covered with finely pulverized soil, thrown up by the second and principal share This plough is usually made of two sizes, small and large. The smaller size requires three horses to work it, and will run a furrow nine inches deep. The larger size requires nearly double the force, and will cut a furrow twelve inches deep. It is said to work well with three yoke of oxen. The operation performed by this plough will be better understood by the help of the subjoined cut. On the left, the dark and light portions of earth represent the top and subsoils, which are shown reversed on the right. Nothing is equal to this implement for turning sward under deeply, or effectually burying any vegetable growth in the top soil. It is obvious, however, that this plough can only be used with immediate advantage where the subsoil is of a fertile nature. Where the subsoil is sterile, it is best either to deepen the seed-bed gradually by ploughing about half an inch or an inch deeper each time, till it is worked deep enough; or, adopting a totally different mode of procedure, the desired result may be brought about by the use of the subsoil plough, two styles of which are given in our next illustration. If too much of a poor subsoil be brought to the surface at once, the farmer will have to wait from two to four years before he will be able, by means of manure and the action of atmospheric influence, to bring it into a fertile state, though in the end he would thus secure the benefits of deep tillage. The subsoil plough merely loosens the earth, but does not turn it up to the surface. It follows in the furrow made by the common plough. The mode in which it operates will be understood by a glance at the subjoined cut:—

The surface or sod is here shown lying high up on the loosened subsoil, as the result of the work done by the common plough followed up by the subsoil plough. The advantages of subsoiling are very great. It deepens the seed-bed and enables the roots of plants not only to obtain scope for growth, but to come in contact with nitrogen and other fertilizing substances, which are known to exist far below the surface. It has, to some extent, the same effect as draining, though its most beneficial action takes place where land is well drained prior to its being subsoiled. Gradually, by this means, even a barren subsoil may be rendered fertile, the manure put into the top soil being brought into contact with it by admixture and filtration. Another style of subsoil plough is shown in the next and last engraving illustrating this subject. This implement is so constructed that when the cast blade and point become worn they may both be reversed, and so made to wear much longer. This implement is said to work exceedingly well, except where the land is stony. The *Rural Register* commends it strongly. The editor says:—"We have used it in the bottom of a nine-inch furrow, ploughed by three horses, the subsoiler being drawn by two horses, and running down seven inches more, making sixteen inches in all, or over twenty inches, if measured from the top of the inverted sod." Deeper cultivation is, perhaps, the improvement most of all needed in our present system of farming, and we cannot too earnestly press upon our readers the importance of their giving early attention to this matter. "A little farm well tilled," will yield more profitable returns than a large one merely skimmed over, to say nothing of the satisfaction that is always felt in connection with work thoroughly and skilfully done.