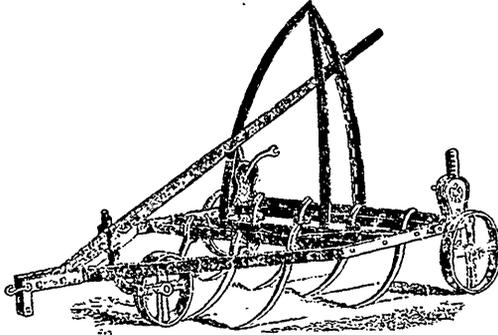


bent: and being difficult of repair, wood was preferred. We have observed the same evil in the imported iron ploughs, when working among the roots in Canada. This defect, Mr. Ransome has obviated, by the application of what is mechanically called the "Truss principle." The beam is split vertically, or composed of two pieces of iron rivetted together in such a manner as to brace each other, and prevent lateral vibration. The Journal of the Royal Agricultural Society of England contains the following among other observations highly laudatory of Messrs. Ransome's ploughs:—

"The beams of these ploughs are constructed on the Truss principle, which, though novel in its application to the plough, has long been appreciated by mechanics, as possessing the greatest stiffness, combined with lightness. It is this consideration which has induced those makers to abandon the use of wood, hitherto used by them for this part of the

plough, in preference to a beam of solid metal. The structure of their improved iron beam is such as to destroy lateral vibration, particularly at its root or juncture with the body of the plough. It admits also of a neat and powerful fixing, as well as ready adjustment of the coulter.

"Tremor in mechanism is well known to consume power uselessly: and, in the case of the plough, vibration in the beam, though it be insensible to the eye, renders the guidance of the implement more difficult, and its work less exact. The circumstance of increased stiffness attending mere weight of matter, may have been one cause why the heavier ploughs have not unfrequently been found to require less force of draught than lighter ones, for an equal weight of soil moved; but stiffness is not incompatible with lightness, and the diminution in the weight of an implement, when perfection is otherwise secured, must be attended with economy of power, or, what is the same thing with a diminution of resistance, whence truer work results."



#### FINLAYSON'S PATENT SELF-CLEANING HARROW.

We present our readers with a cut of an English, or, as the inventor was a Scotchman, we ought perhaps to say a Scotch implement, of established character, and highly spoken of by those who have used it. We have no doubt that this machine, or a modification of it, would be of great service in the cultivation of many farms in Canada. It is particularly adapted to the clearing of land which has become foul with weeds. We are well aware that many implements which the farmer could not do without in England, are, either from their great cost or the form of their construction, unsuited to the wants of the Canadian cultivator. The soil of Canada is not so diversified, and is generally lighter than that of the British Islands. The form and character of our implements must therefore vary to suit the different nature of our soil. But we find that long-continued cultivation approximates our soil to that of the mother country in several of its

features. Thus it becomes advantageous and in many cases necessary to adopt English implements, or improvements upon them, constructed on the same principles. We shall occasionally describe such as appear to us worthy of adoption or imitation, or from which a useful hint might be taken by some of our ingenious mechanics or farmers. The principle on which the above machine operates, is very obvious from an inspection of the cut. We insert, however, the following observations of the maker:—

"This well-known implement may be called the parent of several of the same description, which, in improved forms, have subsequently come into use. It is formed of iron, and, according to the inventor, has the following advantages:—1. From the position in which the tines are fixed, their points hanging nearly on a parallel to the surface of the land, it follows, that this implement is drawn with the least possible waste of power. 2. From the curved form of the tines, all stubble, couch, &c., that the tines may encounter in their progress through the soil, is brought to the surface, and rolled up to the face of