

The £500 prize was awarded to Mr. Fowler, while a large gold medal of honour was awarded to Mr. Smith. Noticing, in passing, the steam machines that had been constructed by the Marquis of Tweeddale, Mr. Usher and others, as implements which had been of great advantage in turning public attention in the direction of steam ploughing, the lecturer proceeded to give a description of Fowler's steam plough, illustrating his remarks by a number of large and well constructed diagrams, suspended on the walls of the lecture room. The principle of Fowler's plough by steam traction was essentially different from that of other inventions, in which the plough moved across the field, carrying the shares along with it. After showing the amount of saving—in some light soils from $2\frac{1}{2}$ to 25 per cent., and in clay soils from 20 to 50 per cent.—which the steam plough could effect in the tillage of the ground, the Professor noticed in succession the main features of the different ploughs that had been invented, and proceeded to consider other advantages which it possessed over the hand plough. The careless labourer can no longer scamp his work by running a shallower furrow either for the sake of less work for himself, or that his horses may look sleeker and in better condition. The furrow will be regular throughout—the width and depth throughout alike—set up at the same angle, and capable when weathered or torn down by the harrow, of forming a seed bed in which germination would proceed under the best conditions. And, better than all, not only is the subsoil freed from the lever pressure of the plough sole, but both the upper and the lower soil are tilled without the trampling and kneading of iron shod hoofs—harmless it may be on light sandy soils, but wofully injurious on the moist loams or tenacious clays, which are the steam plough's own domains. The steam cultivator breaks up and pulverises the soil far more effectively than could be done by mere horse-flesh, on account of the continuous and equal force it applies, and the rapidity with which it moves. No animal power could be used in such an unconcentrated form, neither could we, by any other means at present known to us, leave the torn and displaced soil in such an open condition, and so suitable for the action of drainage, and the subsequent processes of cultivation. But it is in deep tillage, and on the strong clays, in work too heavy for the ordinary strength of a farm, that our new friend shews to greatest advantage. The heavier the draft, and the moister the soil, the more our teams pull at disadvantage to strength, and the greater the relative cost per acre—and there is a limit to the power of horses which we can profitably employ. The Professor also pointed out its great advantages in saving time, and allowing the farmer to seize the opportunity of a favourable break in the weather for prosecuting his ploughing, without the vexatious delays to which he was at present exposed. In getting in spring corn between the catching showers of February, March and April, how much, he said, would the average yield be raised, and the success of the crop be secured, by a machine that could reduce weeks into days, and begin its work before a horse would be allowed to put his foot upon the soil. What proportion of our root crop is backward and inferior in bulk to the rest, for want of having been able to get in all at that golden moment when the best portions were sown! One of the boasts of drainage was, that it rendered the farmer independent of the seasons; but it remained for the steam cultivator to complete his independence, by giving him the power to choose his own time for his necessary tillage operations. Again, on light soils, where the climate gives an early harvest, advanced farming claims more than one crop a year; it is simply want of power to carry out the processes of preparation quickly enough that limits the spread of so desirable and so profitable a system. Then the rapidly increasing practice of autumnal cultivation, for which our leading farmers are providing themselves with steam machinery, scarcely looking for any further advantage from them. After the clover leas and spring corn stubbles are