

STEAM PLOUGHING IN ENGLAND.

It would seem that Boyddell's engine, with revolving railway, is about to furnish the long-sought improvement in agriculture—a practicable steam-plough. We have always doubted, and still doubt, the economical application of any locomotive engine power to the cultivation of small farms, and on uneven or hilly soil. But on tolerably even surfaces, and upon extensive fields, such as may be found in England and on the Prairies of the West, there seems no reason to doubt that steam power may be profitably employed.

The following account of some recent experiments with Boyddell's Traction Engine, in England, is from the *London Agricultural Gazette*, an authority which may be relied upon for intelligence and honest statements :—

"The trials having been advertised, we attended on Tuesday and Friday, the 16th and 19th inst., and shall present the readers of the *Agricultural Gazette* with a brief account of what came under our observation.

"On Tuesday the engine was trench-ploughing a small field on Steam Farm, with two of Cotgreaves' trench-ploughs, Mr. Cotgreaves himself superintending them. The work was being done about twelve inches deep, and at the rate of five acres per day, or half-an-acre per hour. The engine, to appearance, would have hauled nearly another plough, as it was never working up to its full pressure of steam; but the two ploughs being all that were at command, we had not an opportunity of bringing this to the test of experiment. The quality of the work gave great satisfaction, especially to the market-gardeners of the neighbourhood, some of whom offered to give 30s. per acre for land so trenched, assuring Mr. Middleton—who lets out engines—that a large area of market garden-grounds of the capital could be had at this rate.

"The daily expense of the engine and hands was estimated at about 30s., so that the cost per acre would be 6s.; consequently the profit would be 24s. per acre at the above estimate—equal to £6 per day, or £36 per week.

"On Steam Farm there was also a good deal of ploughing done by the engine, in two large fields, with four of Howard's P. P. ploughs, the depth of the furrow being nine inches, and the rate of ploughing from eight to ten acres per day. The quality of the work was superior—fully equal to what could have been done by four horses in each plough. Both fields were well adapted for traction-engine work, being comparatively level, and of great length.

"On Friday the engine was at work in a large field on Butts' Farm. It was again hauling four common ploughs, ploughing nine inches deep, and at the rate of an acre per hour when timed. The field was still better adapted than the former, being nearly as level, of greater length, and rather lighter in quality of soil. Both fields on Steam Farm, although of a gravelly character, were yet rocky hard in the bottom; but here the soil was more friable and sandy, consequently the ploughs were more easily held—enabling the ploughmen to make far better work than that done by them with horses in the same field.

"The steady, equal draught of the 'steam-horse' deserves especial notice, as it differs widely from that of horses. Accustomed to the latter, we think little about the irregularity of their traction force, when holding the plough behind them, but we have only to examine their mechanism and the ever-varying position of the fulcra (footprints on the ground) over which their muscular force acts, and compare them with those (the endless rails) of the traction-engine, to perceive that the difference is great, and wholly in favour of the latter. In point of fact, Howard's P. P. ploughs, after being entered behind the steam-horse, almost went alone, for we saw Mr. Middleton remove his hand from one of them for a considerable distance, and how much further it would have gone cannot be said. The expense of ploughing nine inches deep, with four ploughs, is thus given :—

"An engineman or stoker, at 4s. per day	£0	4	0
A steersman and four ploughmen, at 2s. 6d. per day	0	12	6
Ten cwt. of coal, at 1s. per cwt., per day	0	10	0
Tear and wear, &c., per day	0	10	0

Total expenses per day £1 16 6