

ourselves for the Worcester Royal. The mishaps amongst the steam ploughs, however, were numerous. One missed the boat at Hull; another received a severe "shaking" on the journey; a third toppled over when at work on four-acre lands, and a fourth may probably pull through, and receive the reward of merit!

Summary of entries from Great Britain and Ireland; Horses, 67; cattle, 132; sheep, 400; pigs, 89; implements, 73; produce department, 4—total, 737. Total of entries from all countries: Horses, 524; cattle, 265; sheep, 1,766; pigs, 223—total, 3,518. Implements, 2,911; poultry, 328; produce, 786.—Grand total of all, 7,603.

### PLOUGHING AND PLOUGH JUDGES.

The following remarks from an editorial in a recent number of the *Irish Farmer's Gazette* contain much that is highly important and suggestive, and that is as applicable to farmers on this side the Atlantic as on the other. The mechanical methods of cultivating the soil have for several years been undergoing a slow but certain change; and from the recent introduction and improvements of steam ploughs and cultivators the rate of progress will undoubtedly be greatly accelerated. On this continent, we particularly need all the appliances which modern mechanical science can render in effecting a cheaper and more thorough working of the soil.—Eds. C. A.]

We have repeatedly advocated the extension of tillage in this country, by which we mean that system of mixed farming which gives us not only summer food for our stock, but also ample supplies to carry them over winter, and fatten them for the butcher during a part of the year when the latter cannot be done, if we are to depend, as many depend entirely on pastures. The propriety of such a system of management is self-evident, and we feel convinced that its general adoption is merely a question of time.

It must be borne in mind that there are very different kinds of tillage. We have, for example, the rude and imperfect cultivation of the soil which is to be found in so many cases among the poorer class of farmers, where the surface is little more than stirred year after year, and cropped in such a manner that in a short time its productive powers become so enfeebled that the land cannot yield much more than the seed sown, and it is then left to be recruited through the action of natural agencies. Then we have, as a contrast, the beautiful workmanship of the skilled ploughman, with his highly finished modern plough and his powerful team; and, as a still greater contrast, the "smashing" action of the steam cultivator—that great step, for it is as yet but a step, towards the perfection of an art upon which the prosperity of the nation so much depends.

There have been greater changes effected in the form of the plough, and the material of which it is constructed, than perhaps, in any other farm implement. There is wide difference between the highly finished and almost self-working implement of modern Royal shows and the rough-pointed stick with which primitive tillers of the soil stirred the ground, an implement little better in its capabilities than the pig's snout, which Jethro Tull considered the first model of the plough. And even in modern ploughs there has been much done to alter the form, effecting the substitution of a light and really elegant implement for the cumbersome ploughs used by our fathers.

A question, however has arisen, whether in this refinement which the plough has undergone the work it is intended to perform has not, in reality, been in a great measure lost sight of, that work being "the most expeditious and effectual comminution of the soil and its conversion into a seed-bed." The investigation of this point has been very ably handled by "An Old Norfolk Farmer" in the last number of the *Journal of Agriculture*.\*

Alluding to the beautiful appearance of the work produced by modern ploughs at competitive trials, and the decisions of judges, he states that the object appears to be, "first to produce a continuously smooth and unbroken furrow-slice, lying at an angle of forty-five degrees; and secondly, to effect this at the smallest expenditure of power." He objects to furrow-slice "without even a crack," quoting in these words the laudatory language of one of the judges at a competitive trial, on the ground that the real object of ploughing—"the speedy preparation of the seed-bed—is sacrificed to the mere appearance of the surface," and asserts that "whilst a well-pulverized soil is admitted to be an essential condition of a proper seed-bed, the preservation of the form of the sod, which presents it in one hard, elongated, smooth, and unbroken furrow-slice, leaves it in a very unfit state for the purpose." Every practical man must assent, we think, to this. It is true that if such a furrow-slice as that which "An Old Norfolk Farmer" describes is allowed to remain for a length of time, particularly when exposed to frost, &c., the action of the weather will reduce the hard, unbroken mass of earth into a state better suited for attaining the object contemplated by its inversion; "but what," says the writer in the *Journal*—

"What of the clover leys sown with wheat in the autumn upon the up-turned flags, without any other preparation? and ploughed too, upon the new principle laid down by the judges—of "a furrow-slice without a crack in it"—a hard, continuous, square mass of clay, the upward edge well defined, and the surface smooth and perfect as a brick just turned out of the mould; for such, in plain phrase, is the ideal perfection of ploughing, in the