

BRUISED OATS FOR HORSES.

A HORSE fed upon whole oats and uncut hay, expends a large proportion of his motive power in the process of mastication. After a hard day's work he has before him the task of reducing to pulp 15 or 20 pounds weight of hard food, and the operation is carried on during the hours which ought to be devoted to repose. Not unfrequently is the animal so tired that he is unable to properly chew his food; he therefore bolts the oats, a large proportion of which passes unchanged through his body. Those who desire to render fully effective the motive power of the horse, must pay attention to the mechanical state as well as to the

quality and quantity of his food. The force expended by the horse in comminuting his food—when it is composed of hay, straw, and oats—may be set down at least equal to the power he expends in one hour and a half of work, such, for example, as plowing. The preparation of his food, by means of steam or water power, or even by animal motive power, would economise by at least one-half the labor expended in its mastication: this would be equivalent to half a day's work in every week—a clear gain to the animal's owner. It has been objected to the use of bruised oats, that they produce a laxative effect upon the animals, but this disadvantage may be easily obviated by the addition of cut straw to his food.

ENGINEERING DEPARTMENT.

THRESHING GRAIN BY WATER POWER.

IN some sections of the country and in some places in this state, threshing machines have been put in in connection with other machinery, and operated by water power, with good success.

In such cases the machines answer for threshing the grain raised by farmers for miles around, and, so far as we know, give satisfaction. The annual job of threshing by traveling machines is always an unpleasant affair, and any plan by which our grain may be the most readily threshed, with the least expense and labour, will be the best.

Our neighbour of the *Journal of Agriculture*, recommends the use of machines operated by water power for reasons which we fully endorse. He says:

"The machine is set up so that the straw drops from the apron directly upon the rack, while the grain passes to a room below, where it is winnowed and measured up. The owner of the machine furnishes men to do everything except load the straw, and charges five cents a bushel for oats, and other grain in the usual proportion. This plan involves the least labour of any that has come under our notice, and consequently the least expense; and then again we get rid of the dust that would be made in the barn—especially if machine threshing were done there—and a greater nuisance was never in barn to man or beast. It covers everything, lodges in the hay, and every time the cattle are fed, they and their keeper have to inhale a cloud of dust. By the

above plan this is completely done away with. As the grain is handled but little before threshing, and being taken directly from the field before it is dried, as it would be after lying in the barn a few weeks, but very little scatters out, nor is any destroyed by hens, rats or mice. Another advantage is, the job of threshing—always a hard and unpleasant one—is completed with the harvesting. Whatever grain you have had the good luck to grow, has been secured and stowed away, ready either for the market, if that should be favourable, or for home consumption. We have just harvested and threshed in this way, ten as large loads of oats as are generally seen upon an ox-rack, and after carefully comparing the cost with that of having it threshed in the barn, either with a machine or by hand, are fully satisfied of its advantages.

STIRRING THE SOIL—CULTIVATORS vs. PLOWS.

THE gradual extension of steam power in the cultivation of the soil in England, has tended to produce sounder views as to the advantages which result from stirring the soil by cultivators or grubbers. At one time it was deemed essential for the luxuriant growth of a grain or bulbous crop, that the soil should be inverted. This is now proved not to be necessary; on the contrary it has been shown that on retentive soils the crops produced on lands which have been stirred but not inverted, are more abundant than where the soil has been turned over by the plow. An intelligent correspondent resid-