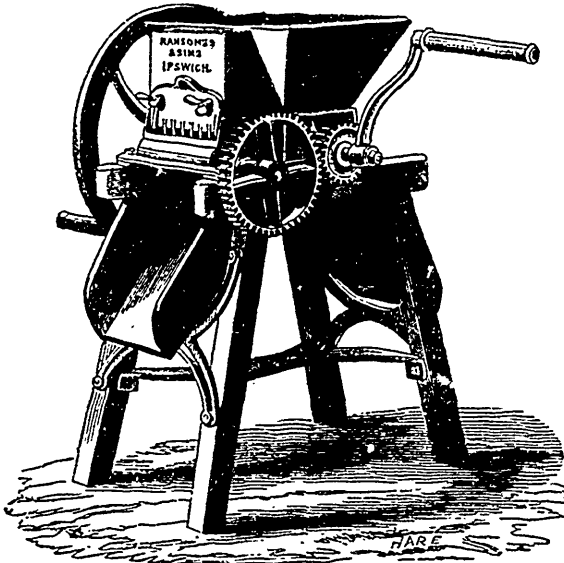


GRAIN AND OIL CAKE BREAKERS.

Agricultural mechanics have of late years rendered the farmer the most essential assistance, not only in cultivating the soil, but in reaping, threshing, and preparing grain for market; also in crushing or breaking it for the feeding of sheep, horses, and cattle. It is now well known that grain, when crushed, is brought into a much more favorable condition as food for stock, than when it is given whole. Not

hand. *Third: breaking and grinding by the common grain mill stones, and, therefore, chiefly, worked by water or steam power. Linseed bruisers, from the oleaginous nature of the seed, are apt to have their rollers clog up, and to get out of order, unless made perfectly smooth, and with the greatest care. To grind or break into small fragments the cake, after the oil has been expressed, is found in practice to be both convenient and beneficial in feeding it to cattle.*



The accompanying figure represents an admirably constructed Hand-power Mill, made by Ransomes & Sims, of Ipswich, which will be found exceedingly useful. It essentially consists of three distinct mills on one frame. (1) A BIDDELL'S PATENT BEAN MILL, which will cut or crush 3 bushels of beans per hour, irrespective of their size and dryness. The great novelty of this machine consists in the teeth or cutters being made of separate pieces of hardened steel, fixed in a cylinder; each tooth

only is the labor of mastication reduced, but grain when broken is more thoroughly acted upon in the stomach, and is thereby more readily and completely assimilated so as to repair the waste, or add to the growth of the animal tissues. As might be expected, the varieties of machines applied to these purposes are quite numerous, but they may all be arranged under three kinds. First: such as act on a principle that partakes of cutting and bruising, by means of grooved metal cylinders, and which is applied to those chiefly driven by the hand. Second: machines adapted to bruise only by means of smooth cylinders; this is applied exclusively to those driven by steam, or other agency more powerful than the human

has three prepared cutting edges, so that when one edge, or set of edges, becomes dull, they may be taken out, turned one-third round, and put in again, and a *new edge, or set of edges* is obtained; and when these fail, they may be again taken out and turned one-third round, and it makes a *second fresh set*; and when this resource fails, they may be taken out and *easily replaced* with new teeth by an ordinary laborer, at the small cost of five shillings. (2) A BIDDELL'S PATENT OAT MILL, capable of cutting or crushing from 3 to 5 bushels of oats per hour. Its construction is of the most simple form, and not liable to derangement, and the labor of working it is very light for one man or stout