

orse power implement, costing 60*l.* 10*s.*, thrashed the same quantity in 4 minutes, "clean," the straw being little broken.

It is right that we refer to the Peg-drum Machine, in which the grain in ear being fed into the machine in the usual way, is seized by the pegs on a revolving cylinder and dashes against the pegs in the cover of the cylinder, between which they pass. The principle which one would suppose very faulty is, nevertheless, found in practice, we understand, to answer admirably, the straw being cleanly threshed without being much broken.

We did not notice much novelty in the Winnowing Machines exhibited. Mr. Cooch, of Harleston, near Northampton, carried off the prize. Clyburn's Corn-separator, consisting of an Archimedian screw, surrounded by a cylinder wirework of a fineness increasing from one end to the other, was exhibited by Mr. Hornsby. The grain introduced at the one end, gradually passes, by the revolution of the machine, to the other, and is thus subjected to the action of an increasingly-coarse sieve, and as it passes through is caught in different bags, the small, imperfect, and broken grains in that near the fine end of the revolving sieve, and the larger and finer grains at the other. Under this class of Barn implements, we must also refer to Bartley Hummellers. We notice two; both of them had been formerly exhibited, one by Mr. Cooch, of Harleston, which supplies its own hopper with the grain, by means of an elevator, an excellent contrivance, as we know from experience that the efficiency of this kind of machine depends greatly on the regularity with which it is supplied. Then grain raised by this elevator falls into an upright cylinder, in which it is allowed an exit, at such a rate, as to keep it always at a certain height within the cylinder; and an upright shaft, furnished with cross-bars, revolving within it, grinds and breaks the awn, reducing it, in fact, to powder, so that the grain escapes entirely denuded of it.

**Chaff Cutters.**—The prize was awarded, as it was last year, to Mr. Cornes, of Barbridge, near Northampton. It consists of three radiating curved knives, fixed in the ordinary way on a wheel at right angles to the feed-box, and the feed is continuous, not intermittent. In other machines, as Mr. Gillet's Guillotine Chaff-cutter, those manufactured by Messrs. Ransom, &c., the straw or hay

in the feed-box is stationary while being cut; and this is necessary if the cutting surface be in a plane directly at right angles to the straw, because the knife would then be a hindrance to the forward motion of the material, but if the knives be inclined so that their edges only shall move in that plane, while their surface trends away from the straw in its forward motion, then there is no need of the somewhat cumbersome and expensive apparatus for producing the intermittence to which we allude. Mr. Cornes' machine is thus described in the catalogue:—"A Chaff-cutter machine, with three knives; invented and manufactured by the exhibitor, to be worked either by two men or machinery: breadth of cut 12 inches, depth 2½ inches; and makes five different lengths of chaff—two for horses, two for cattle, and one length of 4 inches for litter. It is also fitted up with an additional pair of feeding-rollers, which regulate the materials before entering the front rollers next the cut, whereby the danger of the feeders getting their hands entangled in the hay or straw is entirely avoided, when the machine is driven by steam or other power at a great velocity. Price, delivered at Barbridge, 14*l.*" Mr. Gillet's machine, already alluded to, is thus described:—"The knife is actuated by a crank moving it up and down; it has two edges, and cuts both ways, passing through a groove, whereby the feed gets a bearing on both sides whilst it is cut, the perpendicular motion preventing the roller from becoming clogged. There is also a delay motion in the working of the machine, by which the feed is at rest during the ascent and descent of the knife. Price at the factory, 5*l.* 5*s.*" It is certainly the prettiest, and, taking its construction into account, we should consider it one of the cheapest machines of the kind we have seen. It appeared, too, to be very efficient. We must not omit reference to a very simple attachment to a chaff-cutter, exhibited by Mr. S. Smith, of Northampton, by which the knives can be instantly put out of work in the event of accident. This contrivance is worked by the foot, and the pedal which works is placed so that the first instinctive kick of the person feeding, whose hand he may feel is being drawn between the rollers, shall suffice, in the first place, instantaneously to stop the rollers, and in the next place, by means of a break, rapidly to stop the knives.

**Old-Grushier.**—Mr. Crosskill's well-known