

### Straw Cutters.

The remarks hitherto made upon the advantage of chopping or cutting up food for cattle are equally, if not still more forcibly applicable to straw and hay. For in these, not only does the cutting enhance their value as food, but, in many cases, fodder which has become mouldy or musty through age or neglect, when cut up, and mixed with something more savoury, is rendered serviceable again, and all consumed. We have known of whole stacks being thus utilized which the animals would not taste in their natural state.

Corn stalks, moreover, and Hungarian grass—in fact, any of the coarser-fibred grasses, almost necessitate some crushing or softening preparation before they are served up.

Now, to perform this by hand, with a knife or shears, would be simply absurd—hence the introduction of the straw cutter.

The earliest, or amongst the earliest forms of the cutter, consisted of a box, in which the fodder to be cut was placed, with a small rectangular opening at one end, through which the fodder was pushed along towards the knife. When a sufficient quantity—say one or two inches—was pushed through, a foot lever at the side was stepped upon by the operator, who thus brought a wooden block down upon the fodder immediately behind the knife, with sufficient force to keep it well compressed for cutting. The knife was then brought down upon it. This latter was a simple blade attached to a wooden handle, one end of which was jointed to the box, and the other worked

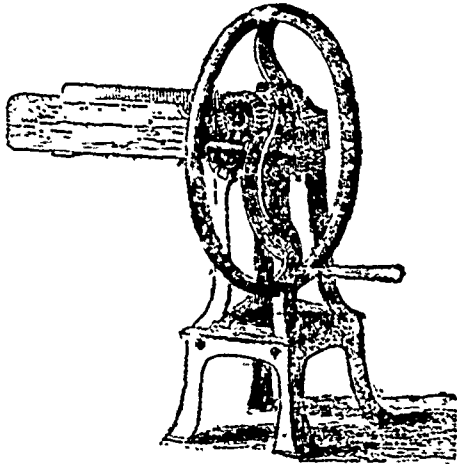


FIG. 1.

like a lever. This kind was soon superseded by another—which, in many respects, resembled its predecessor, but the knife, instead of being worked directly by the hand, was inserted in an iron framework, which, by the operator's turning a crank at the side, glided vertically up and down after the manner of upright saws. In it was also introduced the self-feeder. Another, of still later date, was the "Roller" machine—in which the cutting apparatus consisted of a series of steel blades set around a wooden roller, with their edges outwards, so as to work against another roller of the same kind, but without blades. In some cases the blades were arranged in a semi-spiral manner around the roller, but for the most part they were set straight. Many of these machines are still in use, being comparatively cheap, and give good satisfaction. They are also self-feeders—that is, the rollers constitute both the feeding and cutting apparatus at the same time—the length of cut being determined by the distance of the blades apart.

Our first cut in this number represents a very good hand-power, iron frame, concave knife, chaff-machine—one which has become very popular in its various modifications. It is made entirely of iron, except the tail-box. The shafts are wrought iron, with rising rolls and mouth-piece. It can be attached to

a horse-power by simply screwing on a coupling instead of a crank, and cuts easily into parts five-sixteenths of an inch long. Its mouth-piece is from eight to ten inches wide.

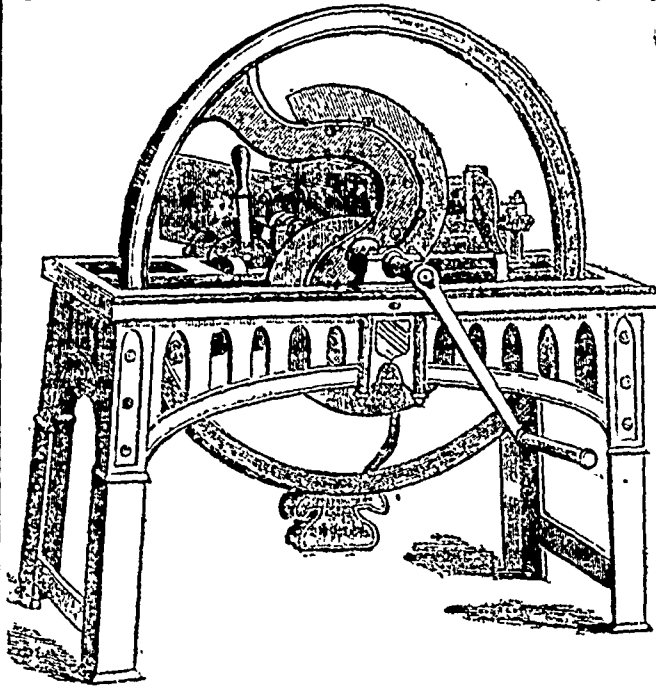


FIG. 2.

Our next is a machine of English origin, which has a very high reputation on both sides of the Atlantic. It is also a hand-machine. The frame is cast-iron, with brass bearings for the principal shafts. The knives also are concave, and work against a steel mouth-piece.

A peculiar feature of this machine is the application to it of Gregory's delay motion, a contrivance which arrests the onward motion of the straw, whilst the knives are cutting—thus obviating a large amount of friction, which would otherwise have to be overcome by the power. By changing the crank for a pulley, it also may be driven by horse-power.

Our third represents perhaps one of the best cutters now before the public—a power machine, self feeding, and capable of cutting with ease a ton per hour into lengths of  $\frac{3}{4}$ ,  $\frac{2}{3}$ , or  $\frac{1}{2}$  of an inch, as may be desired, the change being effected by a different adjustment of the gearing. In the event of anything going wrong, it can be thrown out of gear in an instant

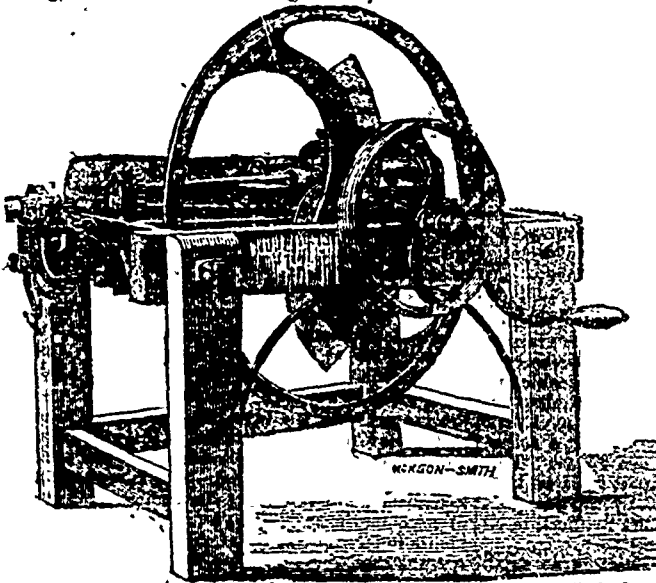


FIG. 3.

This machine answers admirably the purpose of a pea-thresher, leaving the straw cut up in the best possible manner for feeding.

This was the "large medal" machine at the recent International Exhibition, at Buffalo.

In using these machines, the utmost care should be taken to see that no pebbles, sticks, &c., are amongst the stuff to be cut, as if there are, the knives will be invariably chipped, perhaps broken, and accidents will ensue from the flying splinters.

The question is frequently asked, also, what kind of oil is best for our implements? In answer, we would say, that whilst oil in general rises in quality with its price, good olive, or sweet oil, is for all practical purposes the best that can be used.

As is the case with all other implements, the straw cutter should always be kept in a dry place, under cover, and when laid aside for a length of time, the blades should be well oiled, to prevent their rusting.

When they may have become dull, they may easily be sharpened again, either by taking them off the wheel, and applying them to the grindstone, or by the handier process of sharpening with a small file, applied to the bevelled side of their cutting surface.

### Using Nails.

Every farmer who has occasion to drive a nail into seasoned oak posts knows its liability to bend and

break. If the point be moistened in the mouth, it will usually drive more kindly. Oil is much better, but then it is inconvenient to dip each nail separately into it. Another point is that boards become loose eventually from the rusting of the nails, which communicating to the wood, causes not only an enlargement of the nail hole, but the wearing away of the nail itself, rendering the fence or building shaky and insecure.

This may be prevented by heating any rough grease, until it smokes, and then pouring it over the nails to be used. The grease will penetrate the pores of the iron, and cause the nails to last, without rusting, for an indefinite period. Besides this no difficulty will then be experienced in driving them into the hardest wood. The reason is that the coating of grease prevents contact by air, and consequently oxidation.

Oxygen is the great destroyer of iron, and moisture is the inducing cause. Anything which is kept from contact with the air is preserved indefinitely, and if it is kept dry, the effect is measurably the same. Paint upon buildings prevents the contact of air and moisture. If the whole fence can not be painted, the heads, at least, of the nails should be touched therein.—Exchange.

**BAROMETERS FOR FARMERS.**—In several papers, more or less agricultural, we notice that the barometer is recommended, and sometimes a particular barometer is named, made in New York or somewhere else, especially for farmers, which is a little suspicious. Farmers themselves, however, do not appear readily to fall in with the idea. And this is wise, unless they obtain a first-class instrument. The French one called *Aneroid* we prefer to all others. Its cost formerly was about \$15. It may be \$25

now. It is five inches in diameter, looks like a time-piece, and is hung up like a watch. But to understand it properly it must be carefully and constantly observed. Occasionally it completely baffles one, and we believe even the clerk of the weather himself does not know what sort of capers are about to be indulged in.—*German Town Telegraph*.