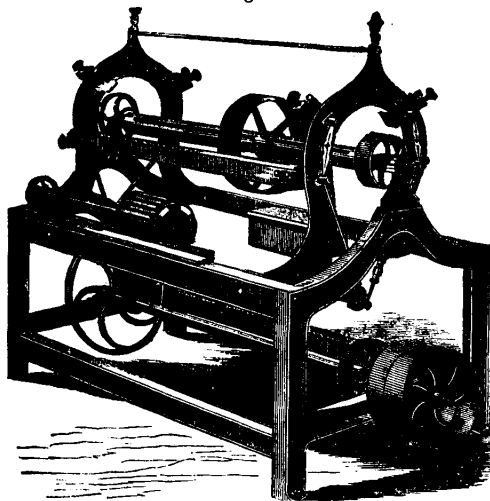


Card'-grind-ing Ma-chine'. A machine for grinding the card clothing of carding machines, to give the shape and sharpness to the ends of the wires.

The card roller or flat is placed in bearings or clamps in the machine, and the grinding wheel traversed back and forth in front of it. The wheel runs clear past the end of the roller or flat, as the case may be, before it stops and commences the backward motion. The traversing grinding roller is held to be an improvement upon a full-length roller, the inequalities of which are repeated upon the card-roller or flat.

Fig. 542 represents the *Hardy* traverse-wheel grinder, for grinding from 1 to 4 top-flats at a time, with a cylinder

Fig. 542.



Traverse-wheel Card-grinder.

brush for cleaning out the teeth before the grinding is done perfectly. The motion of the grinding wheel is caused by a screw inside of the slotted and hollow shaft on which the wheels slip and with which it rotates.

Fig. 543 shows *Roy's* mode of traversing the grinding-wheel; the motion is rapid, the wheel traversing from 10 to

Fig. 543.



Roy's Traverse-wheel Card-grinder.

20 times per minute, according to the length of the card. The motion of translation is by an endless chain and bevel gears inside of the sleeve, which is at the same time the axis of the wheel.

Edwards's mode of clothing the grinding cylinders with emery cloth is described in

"*Scientific American Supplement*" *vi. 2179.

The grinding machine of *Platt Bros.*, of Oldham, Britain, shown at the Centennial Exhibition, in 1876, was arranged for grinding either two rollers or two clearers at the same time, and for carding-engines both 40' and 48' on the wire.

In the most modern construction the machine carries a ventilating fan, and has setting-on apparatus to move the parts to be ground parallel with the emery cylinder; this machine, however, is not adapted for two widths of carding engines.

The machine of *Dobson & Barlow*, of Bolton, Britain, is for grinding rollers and flats, one of each at the same time.

It has a cylinder 12" in diameter, and can have a fan applied. It occupies but a small space. The flat passes slowly over the cylinder while grinding, and returns quickly, thus saving time in grinding. This is a small-sized machine, but they are made to grind two or more rollers or flats, as required.

In the machine of *M. A. Forbush*, of Philadelphia, the grinding cylinder has an angular thread cut from one end to the other, and the card cylinder rests in bearings on the frame and is revolved by a belt from a pulley on the grinder-shaft. Flour of emery and oil are used, and the shape of the end of each wire on the card agrees with that of the angular tooth.

In the carding machine of *Platt Bros.*, of Oldham, Britain, the card clothing on the flats is ground when the machine is in full work, thus avoiding any loss of time and any necessity for a separate grinding machine.