

(No Model.)

J. GARSIDE.

MECHANISM FOR GRINDING FLATS IN CARDING ENGINES.

No. 550,125.

Patented Nov. 19, 1895.

Fig:1.

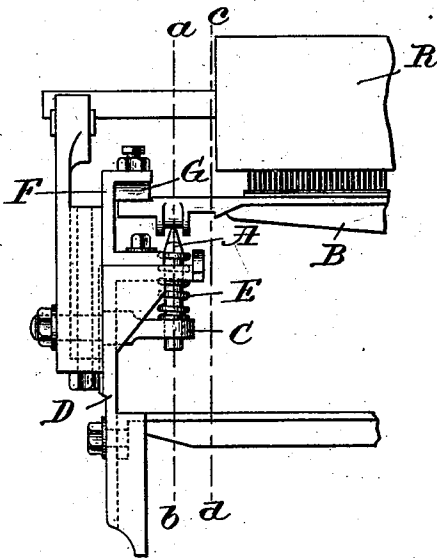


Fig:2.

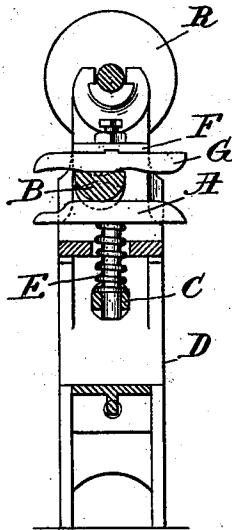


Fig:3.

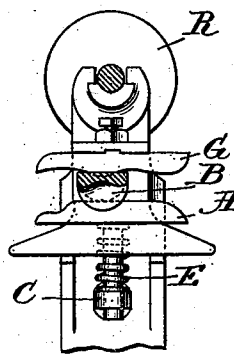


Fig:6.

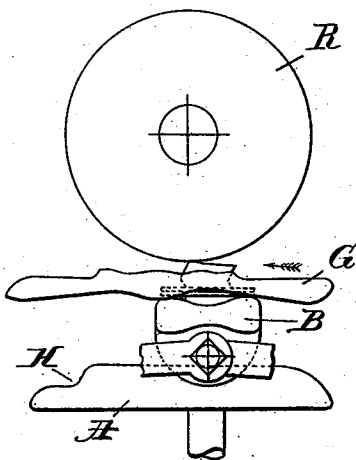


Fig:4.

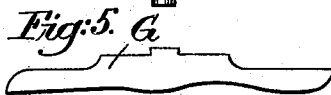
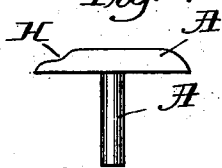


Fig:8.

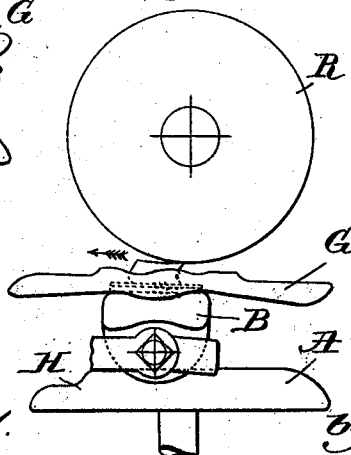
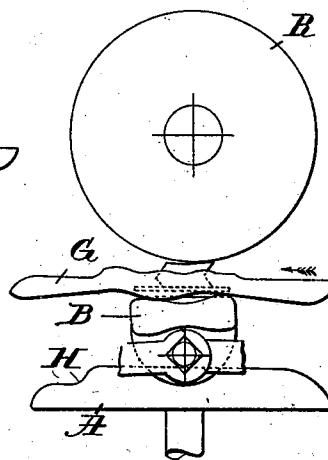


Fig:7.



Witnesses.

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UNITED STATES PATENT OFFICE.

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MECHANISM FOR GRINDING FLATS IN CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 550,125, dated November 19, 1895.

Application filed June 29, 1894. Serial No. 516,081. (No model.) Patented in England May 31, 1893, No. 10,678.

To all whom it may concern:

Be it known that I, JOSEPH GARSIDE, a subject of the Queen of Great Britain, residing at Dukinfield, county of Chester, England, have invented an Improvement in Mechanism for Grinding Flats in Carding-Engines, (for which I have obtained a patent in Great Britain, No. 10,678, dated May 31, 1893,) of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

Hitherto for grinding card-flats it has been the more general custom to press the flats, either directly or through the interposition of a suitable carriage, against a guide or abutment having a substantially straight and continuous guiding-surface or two substantially straight surfaces at different levels joined at or near the middle of the guide or abutment by a short incline.

My present invention comprehends the use of a guide or abutment having a crowning or convex guiding-surface with suitable approaches leading thereto at either end, I having found that such a surface produces a superior movement of the flat calculated to grind the latter with the greatest accuracy and uniformity. Such a surface when suitably shaped in accordance with this invention also causes the flats to be ground to present a slightly concave or hollow acting surface as distinguished from the flat surfaces, to produce which most devices are constructed.

In the accompanying drawings, illustrating one embodiment of my invention, Figure 1 is a front view of so much of a card-flat and the grinding-roller of a carding-engine as is necessary to illustrate the application of the invention. Figs. 2 and 3 are transverse sectional views of Fig. 1 on lines *a b* and *c d*. Figs. 4 and 5 are detail views showing on an enlarged scale the T-support and peculiar guide, and Figs. 6, 7, and 8 other details illustrating in diagram the motion imparted to the flat in passing under the grinding-roller.

In accordance with the invention, as shown, a T-shaped piece of metal A (hereinafter called the "T-piece") is employed, over the

top or horizontal portion of which the ends of the card-flats B travel. The shank or vertical portion of the T-piece passes through an opening in the "filbow" C, bolted to the ordinary grinding-roller bracket D, and surrounding said shank is a spiral spring E, pressing against the filbow C at one end and against the under side of the horizontal portion of the T-piece at the other end. Also fitted or secured to the grinding-roller bracket is another smaller bracket F, which at the top overhangs the T-piece A with an elongated bar of metal G, which constitutes a guide, the under or guiding surface of which, as herein shown, presents a central convexity 5, with suitable (herein represented as concave or hollowing) approaches 6 7 at either side. (Seen in Fig. 5.) On passing the card-flats over the T-piece, which is pressed up by the spring E, the working face of each flat will be pressed up against the overhanging guide G, and as such flats are revolved the peculiar contour of the grinding-surface causes them to pass under the grinder in a manner which will cause them to be truly and correctly ground, and, as herein shown and described, ground to present a slightly concave surface. (See Figs. 6, 7, and 8.)

Figs. 6, 7, and 8 illustrate three stages of the grinding of a card-flat. Fig. 6 shows the position of the flat at the moment the card-wires first come into contact with the grinding-roller R for grinding the "heel" of the card. Fig. 7 shows the flat a little farther advanced and the grinding-roller in contact with the "sole" or central portion of the card-flat, and Fig. 8 illustrates the flat still farther advanced, the grinding-roller being in contact with the "toe." In this way the peculiar form of the guide G causes the card-teeth to pass under the grinding-roller in a manner which gives them the right grinding-angle. Moreover, the said guide also causes the card-teeth, when in the position shown in Fig. 7, to be hollow-ground, a feature hereinbefore referred to and of great importance in good carding by reason of getting more wire on the cylinder. The face which presses against the guide G is the same face which travels upon the cylinder bend, and therefore if any

wear takes place in passing under the guide G it does not affect the position of the card-teeth in passing over the cylinder.

5 The extremities of the T-piece are curved or rounded off, as illustrated, to allow the flats to pass over more readily, and the top edge of said T-piece is recessed or shouldered down at H to allow each flat as soon as it has been ground immediately retire.

10 Having thus particularly described and ascertained the nature of my said invention and in what manner the same is preferably to be performed, without limiting myself as to details, I declare that what I claim is—

15 A mechanism for grinding flats in carding

engines containing a grinding roll and a guide for the flats having a guiding surface presenting a central convex surface and concave surfaces leading to the opposite ends thereof, the said convex and concave surfaces co-operating to position the flat relatively to the grinding roll during the grinding operation, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH GARSIDE.

Witnesses:

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JAMES WALKER.