

(No Model.)

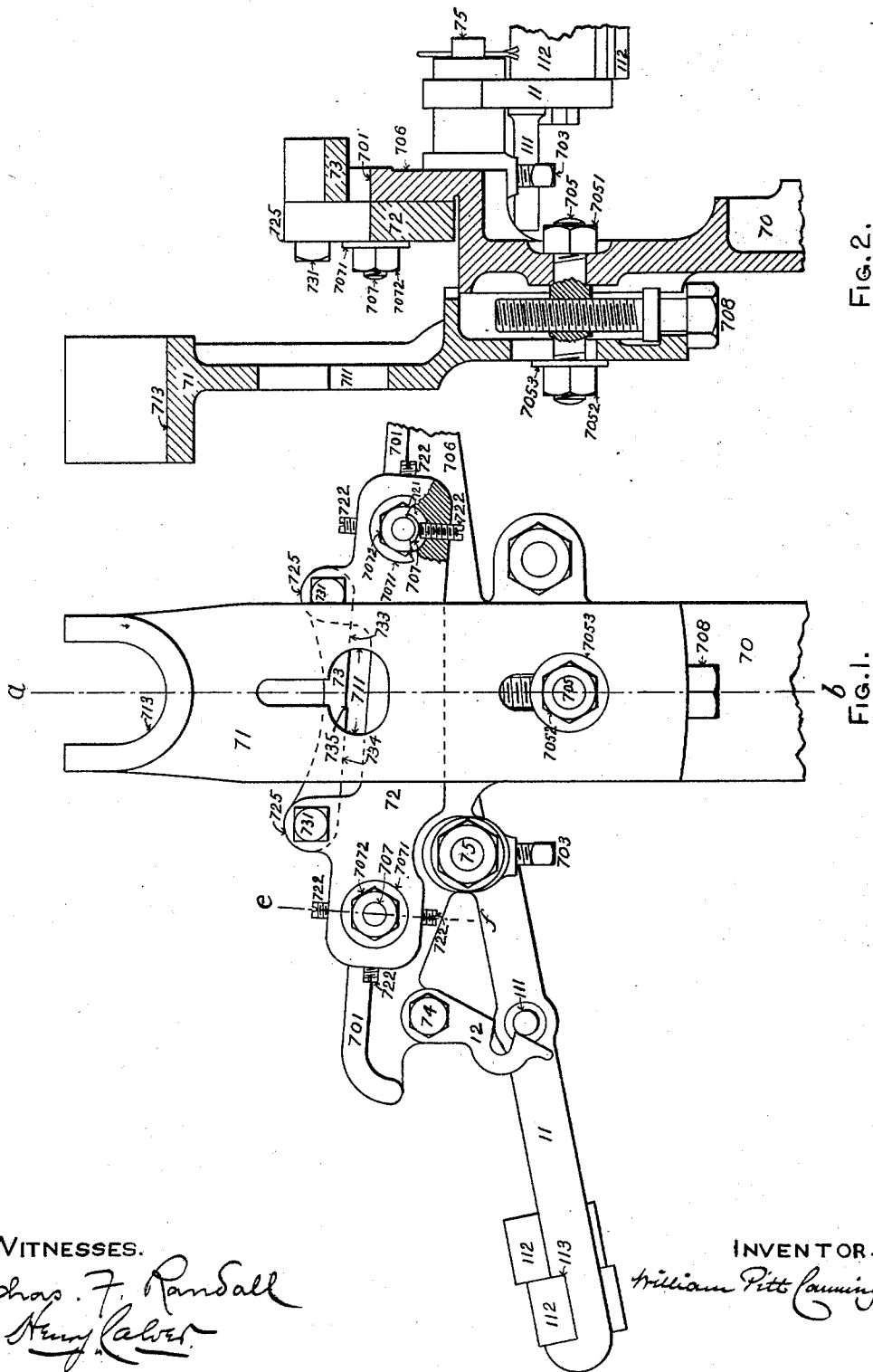
3 Sheets—Sheet 1.

W. P. CANNING.

GRINDING MECHANISM FOR THE FLATS OF TRAVELING FLAT
CARDING ENGINES.

No. 483,535.

Patented Oct. 4, 1892.



WITNESSES.

Chas. F. Randall
Henry Calver

INVENTOR.

William Pitt Canning.

(No Model.)

3 Sheets—Sheet 2.

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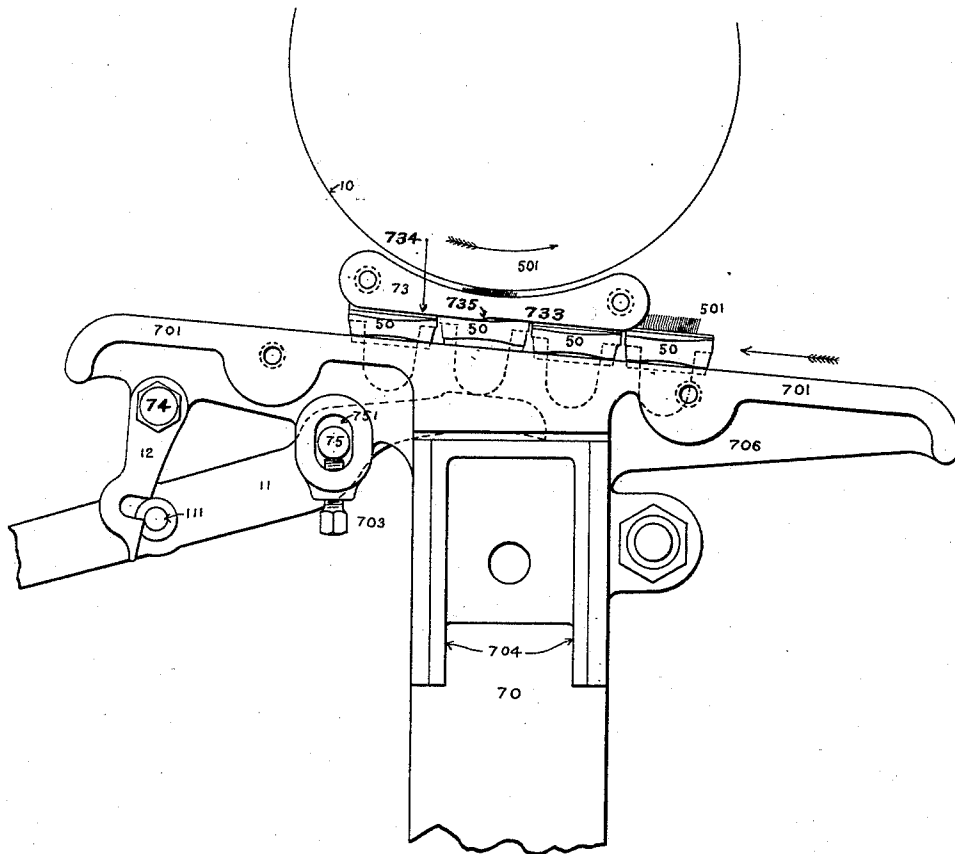


FIG. 3.

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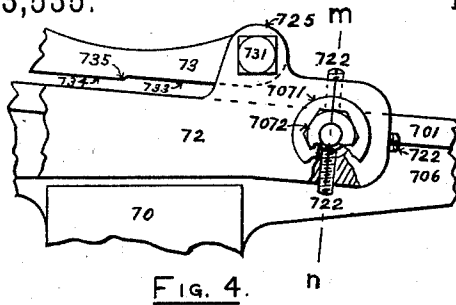


FIG. 4.

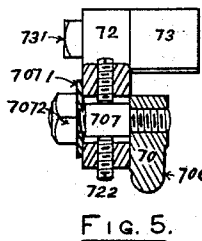


FIG. 5.

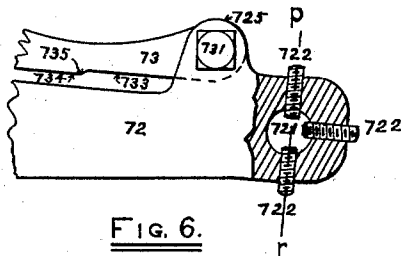


FIG. 6.

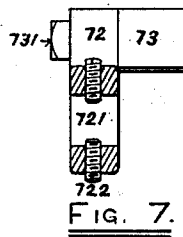


FIG. 7.

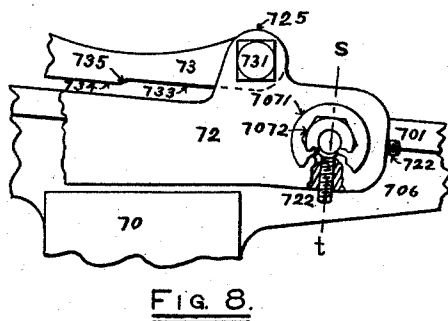


FIG. 8.

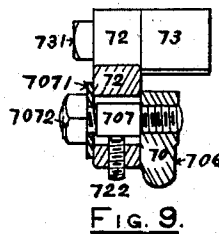


FIG. 9.

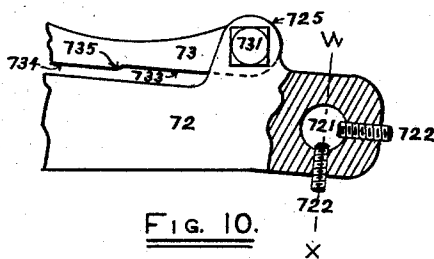


FIG. 10.

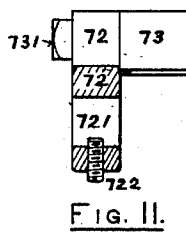


FIG. 11.

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UNITED STATES PATENT OFFICE.

WILLIAM PITT CANNING, OF LOWELL, MASSACHUSETTS, ASSIGNOR TO THE
LOWELL MACHINE SHOP, OF SAME PLACE.

GRINDING MECHANISM FOR FLATS OF TRAVELING-FLAT CARDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 483,535, dated October 4, 1892.

Application filed June 3, 1892. Serial No. 435,417. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM PITT CANNING, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Grinding Mechanism for the Flats of Traveling-Flat Carding-Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to the grinding mechanism which is employed in traveling-flat carding-engines for grinding the card-clothed surfaces of the traveling flats, and particularly to mechanism of the character of that which is shown and described in United States patent to Thomas Knowles and Roger Tatham, No. 464,029, dated December 1, 1891.

My invention consists in an improved means for supporting with capacity for adjustment the milled seat against which the working faces of the ends of the flats rest in turn while the card-clothed surfaces of the said flats are being ground, and will first be described with reference to the accompanying drawings, and then will be particularly pointed out and clearly defined in the claims at the close of this specification.

My present invention is designed as an improvement on that which is presented in my application for Letters Patent, filed April 28, 1892, Serial No. 431,112.

In the drawings, Figure 1 is a view in side elevation, with a part of the grinder-stand broken out to show parts behind the same, of sufficient of the grinding mechanism of a traveling-flat carding-engine to illustrate the character and relations of my invention, the said invention being represented as embodied in the devices which are shown in the said view. Fig. 2 is a view, mainly in section, on the line *a b* of Fig. 1, showing certain parts which are represented in the latter figure. Fig. 3 is a view in side elevation of certain devices which are shown in Fig. 1, but with the grinder-stand and support for the milled seat removed, this view showing, also, part of the grinding-cylinder and part of the endless chain of traveling flats. Figs. 4 to 11, inclusive, are views in detail hereinafter referred to, in part showing modifications.

In the drawings I have shown only the devices which are employed at one side of a carding-engine; but it will be understood that the devices represented in Figs. 1 and 2 will be duplicated, one set thereof being placed at each side of a carding-engine, as usual.

At 70 is represented the upper portion of a grinder-bracket. The said bracket in practice is suitably mounted in known and desired manner upon the framing of a carding-engine.

At 71 is represented the grinder-stand, which at its upper end is formed with a bearing 713 for one journal of the grinding-roller 65 10, the said roller being shown in part in Fig. 3. The outer face of the grinder-bracket is formed with slideways 704, (see Fig. 3,) to which are fitted corresponding portions on the grinder-stand, the said stand being held in place against the said bracket by clamp-screw 705 and its nut 7052 and washer 7053 and being adjusted lengthwise thereon by the adjusting-screw 708, all as usual.

At 73 is shown the milled seat, against the under face of which the working faces at the ends of the flats successively are pressed as the said ends of the flats come successively between the said face and the upper surface of the inner arm of the presser-lever 11, the rear arm of this lever being provided with a weight 112, as heretofore, the said weight being shown in Fig. 1.

At 701 is an inclined surface forming a guide, along the top of which the backs of 85 the ends of the flats slide as they approach and pass the grinding-roller. This guiding-surface is at the upper edge of a vertical web 706, forming part of the bracket 70, and is shown located immediately beneath the outer lateral half of the milled seat 73, the weighted lever 11 being located at a point between the said guide 701 and the middle of the carding-engine, so as to cause its inner arm to support the flats at a point intermediate the middle of each flat and one end thereof.

At 12 is a hook or latch, which is pivoted on the stud 74, projecting from the web 706, and which may be engaged with the pin 111, carried by the rear or outer arm of the lever 11 whenever it is desired to retain the said rear or outer arm elevated and the inner arm

depressed. As heretofore, the under face of the milled seat 73, along which the working faces of the flats travel, is formed with two different surfaces 733 and 734 and a connecting-incline 735, these operating in known manner to secure the grinding of the face of the wire of each of the flats with the proper incline-relatively to the working surface at the ends of the flat. The upper surface of the said seat is formed as shown, so as to permit of the unobstructed endwise traverse of the grinding-roll over the said upper surface to such an extent that the wires at the extreme ends of the flats shall be ground uniformly with those on the other portions of the flats and as perfectly on the said extreme ends of the flats as those on any other portions thereof.

The milled seat 73 is held to the bracket by means which will now be described. The said seat is fastened to the side of the seat-support 72 by clamping-screws 731, passing through holes in upwardly-extending lugs 725 of the seat-support and into the seat; and in turn the said seat-support 72 is clamped to the vertical web 706 of the bracket 70 by studs 707 and their washers 7071 and nuts 7072. Preferably the studs 707 are formed separate from the web 706 and provided with screw-threaded portions which fit correspondingly-threaded holes in the web. The outer ends of the said studs are threaded for the reception of the nuts 7072. The studs 707 pass through holes 721 in the seat-support, these holes being somewhat larger in each direction than the studs, so as to permit the seat-support to be moved on a vertical surface of the web 706 to a slight extent in any direction in a vertical plane without obstruction.

For the purpose of fixing the said seat-support accurately in the desired position of adjustment upon the bracket I employ setting devices which act against the said studs. These setting devices are formed, preferably, as screws 722, fitted to threaded holes in the seat-support and bearing at their inner ends against the sides of the studs 707. In the modification shown in Fig. 1 and also in Figs. 4 to 7 of the drawings I have shown three screws 722 employed in connection with each stud. One of these screws is horizontal and takes against the stud at one side horizontally of its center. The other two take bearing against the stud on opposite sides vertically of its center. The horizontal screw at one end of the seat-support and the corresponding screw at the opposite end thereof form a pair acting in opposite directions. The object of this construction and of the described arrangement of parts is to make it convenient to adjust the milled seats at both sides of the carding-engine into their proper position relative to each other and to other parts, so as that each flat when parallel to the axis of the main cylinder and being ground shall be acted upon by the grinding-roll on a line which is parallel to the axis of the main cylinder.

This action will be secured if when a straight line parallel to the axis of the main cylinder touches one of the milled seats at any position it will also touch in the position precisely corresponding the milled seat upon the opposite side of the carding-engine. In some cases I may dispense with the uppermost vertical screws and depend upon force closure applied through the presser-lever 11 and the flat to take their places, and thereby leave the arrangement of screws 722 as shown in Figs. 8 to 11.

In securing the proper relative position of the milled seats upon the opposite sides of the carding-engine the grinder-bracket on one side of the carding-engine first is placed with great but not absolute precision opposite to the grinder-bracket upon the opposite side of the carding-engine and is adjusted to correspond with it in height by devices comprising slideways, adjusting-screws, and clamping-screws, all such as ordinarily are used for the purpose of adjusting the brackets upon the sides of carding-engines. The grinder-brackets are thus found to be opposite each other, although not with absolute precision. Now upon loosening the nuts 7072 and turning the screws 722, as may be required and in the necessary direction, each milled seat may be located with great exactness and close precision just where it is desired to have it.

I do not herein lay claim, broadly, to a construction which holds the seat-support to the grinder-bracket and provides for its adjustment thereon universally in a vertical plane; nor do I claim herein the grinder-stand having therein the sight-hole, for these things have been claimed by me in my application for patent aforesaid.

I claim as my invention—

1. The combination, with the grinder-roll, the grinder-bracket, studs projecting from the said bracket having threaded outer ends, the milled seat with its surface, against which the working faces of the ends of the flats bear successively during the grinding operation, the seat-support having holes 721, through which the said studs project, and which holes are larger in every direction than the studs to permit of universal adjustment of the seat-support upon the bracket, and the nuts on the outer threaded ends of the said studs, whereby the seat-support may be held clamped to the bracket in the desired position of adjustment, of devices acting against said studs, whereby the desired position of the seat-support and milled seat may be fixed, substantially as described.

2. The combination, with the grinder-roll, the grinder-bracket, studs projecting from the said bracket having threaded outer ends, the milled seat with its surface, against which the working faces of the ends of the flats bear successively during the grinding operation, the seat-support having holes 721, through which the said studs project, and which holes are larger in every direction than the studs to

permit of universal adjustment of the seat-support upon the bracket, and nuts on the outer threaded ends of the said studs, whereby the seat-support may be held clamped to the
5 bracket in the desired position of adjustment, of screws passing through the seat-support and taking bearings by their inner ends against the sides of the said studs for fixing the desired position of the seat-support and milled
10 seat, substantially as described.

3. The combination, with the grinder-roll, the grinder-bracket, studs projecting from the said bracket having threaded outer ends, the milled seat with its surface, against which
15 the working faces of the ends of the flats bear successively during the grinding operation, the seat-support having holes 721, through which the said studs project, and which holes are larger in every direction than the studs to

permit of universal adjustment of the seat-support upon the bracket, and nuts on the outer threaded ends of the said studs, whereby the seat-support may be held clamped to the
20 bracket in the desired position of adjustment, of screws passing through portions of the seat- 25 support and taking bearings at their inner ends against the sides of the said studs for fixing the desired position of the seat-support and milled seat, said screws being arranged
30 in opposing vertical and horizontal pairs, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM PITT CANNING.

Witnesses:

CHAS. F. RANDALL,
HENRY CALVER.