

(No Model.)

3 Sheets—Sheet 1.

W. DEARBORN.
ROLLER COTTON GIN.

No. 504,775.

Patented Sept. 12, 1893.

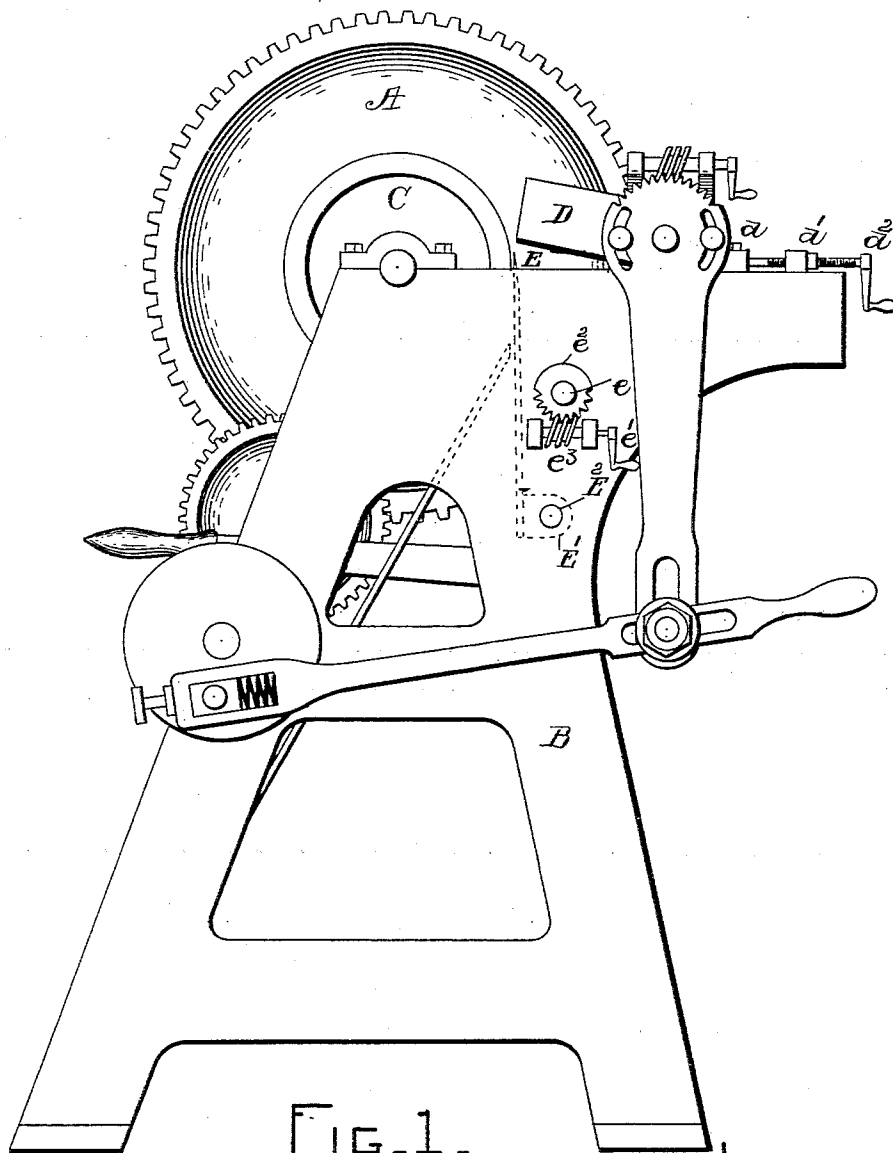


FIG. 1..

WITNESSES.

J. M. Dolan.
M. M. Fague.

INVENTOR

Wm. Dearborn
by his atty
Clark & Raymond

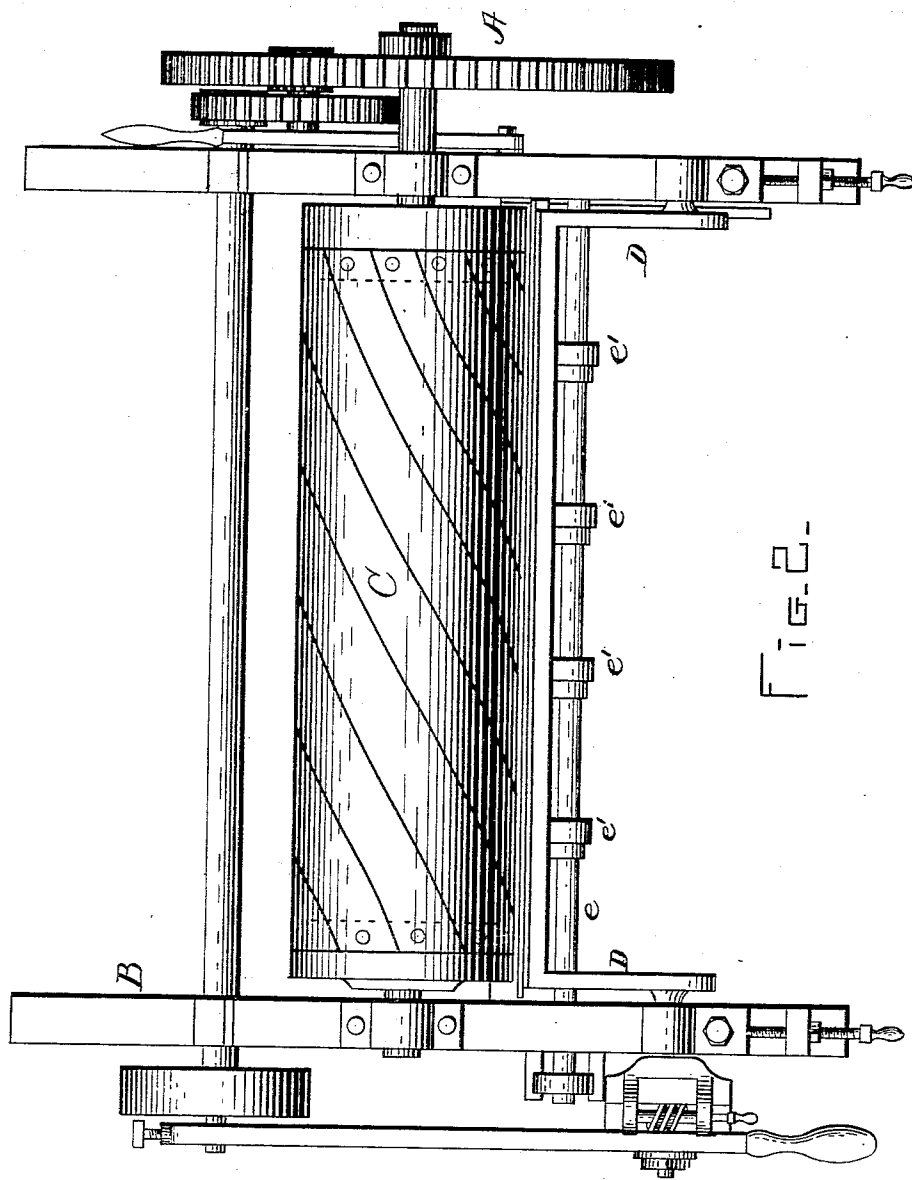
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WITNESSES.

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INVENTOR.

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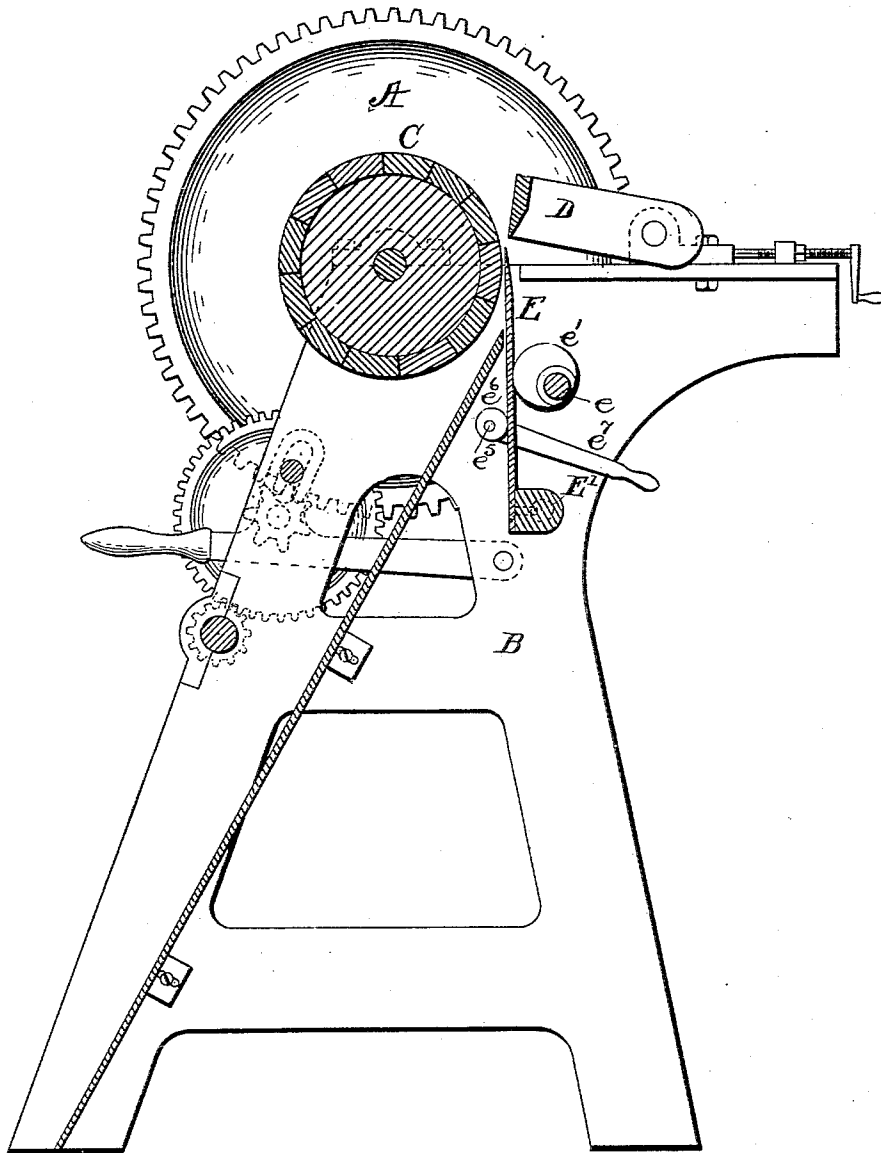


FIG. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

WYMAN DEARBORN, OF BOSTON, MASSACHUSETTS.

ROLLER COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 504,775, dated September 12, 1893.

Application filed August 3, 1891. Serial No. 401,562. (No model.)

To all whom it may concern:

Be it known that I, WYMAN DEARBORN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Roller Cotton-Gins, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

This improvement relates to the roller gin and consists in a new combination and arrangement of the parts which control the presser bar and in a new and improved form of presser bar.

In the drawings—Figure 1 is a side elevation of a gin of my improved construction containing the new presser bar. Fig. 2 is a plan of said gin, and Fig. 3 is a section through the center of the gin on the plane parallel to the elevation shown in Fig. 1.

In the drawings B is the frame of the machine. A is the driving wheel on the axis of which is mounted the roller C. The presser bar, the top of which appears in Fig. 1 is shown in Fig. 3 at E. This presser bar is made of sheet steel and is screwed or fastened along its lower edge to a heavy transverse bar of iron or steel E' shown in Fig. 3 in transverse section. This bar of iron is pivoted to the frame of the machine as shown in Fig. 1 at E² by a screw that passes through the frame of the machine upon which the presser bar E may be moved so that the upper end of it, which is somewhat chisel shaped, may be brought nearer to or carried farther from the periphery of the roller C. The upper edge of the presser bar E rises somewhat above the horizontal diameter of said roll C and hence the upper edge of it is a little farther from the surface of the roll C, than its side, a little below the edge.

In order to govern the relation of the presser bar E with the roller C two shafts are extended across the machine from side to side, one of them marked *e* Fig. 2 on which eccentrics *e'* are mounted. The other is marked *e*⁵ and eccentrics *e*⁶ are mounted upon that. The shaft *e* is in front of the presser bar and the rod *e*⁵ is behind the presser bar. The position of the rod *e*⁵ may be adjusted by the handle *e*⁷, and the position of the rod *e* may

be adjusted by a worm and gear *e*² *e*³ as shown in Fig. 1 or by any other suitable and convenient means. Of course as cotton will pass between the top of the presser bar E and the roller C and tend to press the presser bar out, the shaft *e* and the eccentrics *e'* and the means for holding the shaft *e* in position will be necessarily stouter than the eccentrics and rods on the back side of the shaft. This construction of presser bar out of sheet steel fastened at its lower edge to a heavy bar of iron and clamped very securely in position by eccentrics which press it back and forth as described makes the adjustment very delicate and very perfect. The rod *e*, and eccentrics *e'* on the front side, are placed about half way up the sheet steel portion E of the presser bar, and, in combination with an abutment on the back side and below put a strain upon the steel, which causes its edge to tend toward the roller, while the width of the steel above the eccentrics gives an elasticity to the presser bar very useful in practice. The same result is produced by the rod *e*⁶, and its eccentrics *e*⁷, in combination with an abutment on the front side above them. Either set of the eccentrics, but not both, could be omitted, and its place supplied by a fixed abutment, with something of the same useful result as when both sets are used.

The place for the upper adjusting bearing is about half way from pivot E² and the edge of the sheet steel E. The place for the lower adjusting bearing is rather more than a third of this distance from pivot to edge. The lower bearing should be on the back side of the steel. The clearer D reciprocates on an arc directly in front of the presser bar. It is formed with knife edges. The axis of oscillation of this clearer is higher than the horizontal diameter of the roller C, and the edge of the presser bar E, the axis of rotation of the roller C and the axis of oscillation of the clearer D are all substantially in the same right line. In order that the tangent circles of the roller C and of the arc of oscillation of the clearer D shall have their points of tangency at or about the upper part of the edge of the presser bar and that the edge of the clearer D may rapidly recede from the edge of the presser bar and thereby comb away the seeds of cotton the length of the said arms of

the clearer D is made quite short. It has been customary to have the clearer reciprocate almost in a line with the presser bar. For short staple cotton it is desirable that the clearer shall reciprocate on the arc of a circle of comparatively short diameter and the length of the radius of this arc ought not to exceed once and a half the radius of the roller C.

The complete gin has been described in this specification, but the clearer and its combination with the presser-bar and roller are not herein claimed, being sub-divided from this application, before allowance of the patent and forming the subject of another application, Serial No. 462,045, filed February 13, 1893, simultaneously pending herewith.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A presser bar composed of the transverse bar E' and the sheet of steel E fastened thereto, the same being furnished with, and pivoted to the frame of the machine by the pivots E² which engage with the transverse bar E', in combination with the roller and frame of a roller gin, and with the rod e and eccentrics e', which bear upon said sheet of steel in front and about half way from the pivot E² to the upper edge of said sheet of steel, and with suitable sustaining devices on the

back side of said sheet metal E and below said rod e, substantially as described.

2. A presser bar composed of the transverse bar E' and the sheet of steel E fastened thereto, the same being furnished with, and pivoted to the frame of the machine by the pivots E², which engage with the transverse bar E', in combination with the roller and frame of a roller gin, and with the rod e⁵ and eccentrics e⁶ thereon, situated below the middle of said sheet of steel, and with suitable sustaining devices on the front side of said sheet of steel and higher than said rod e⁵ and eccentrics e⁶, substantially as described.

3. A presser bar composed of the transverse bar E' and the sheet of steel E fastened thereto, the same being furnished with, and pivoted to the frame of the machine by the pivots E², which engage with the transverse bar E' in combination with the roller and frame of a roller gin and with the rod e and eccentrics e' on the front side of said sheet of steel E at about the middle of its height, and with the rod e⁵ and eccentrics e⁶ on the back side and below the position of the rod e and eccentrics e', substantially as described.

WYMAN DEARBORN.

Witnesses:

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