

(No Model.)

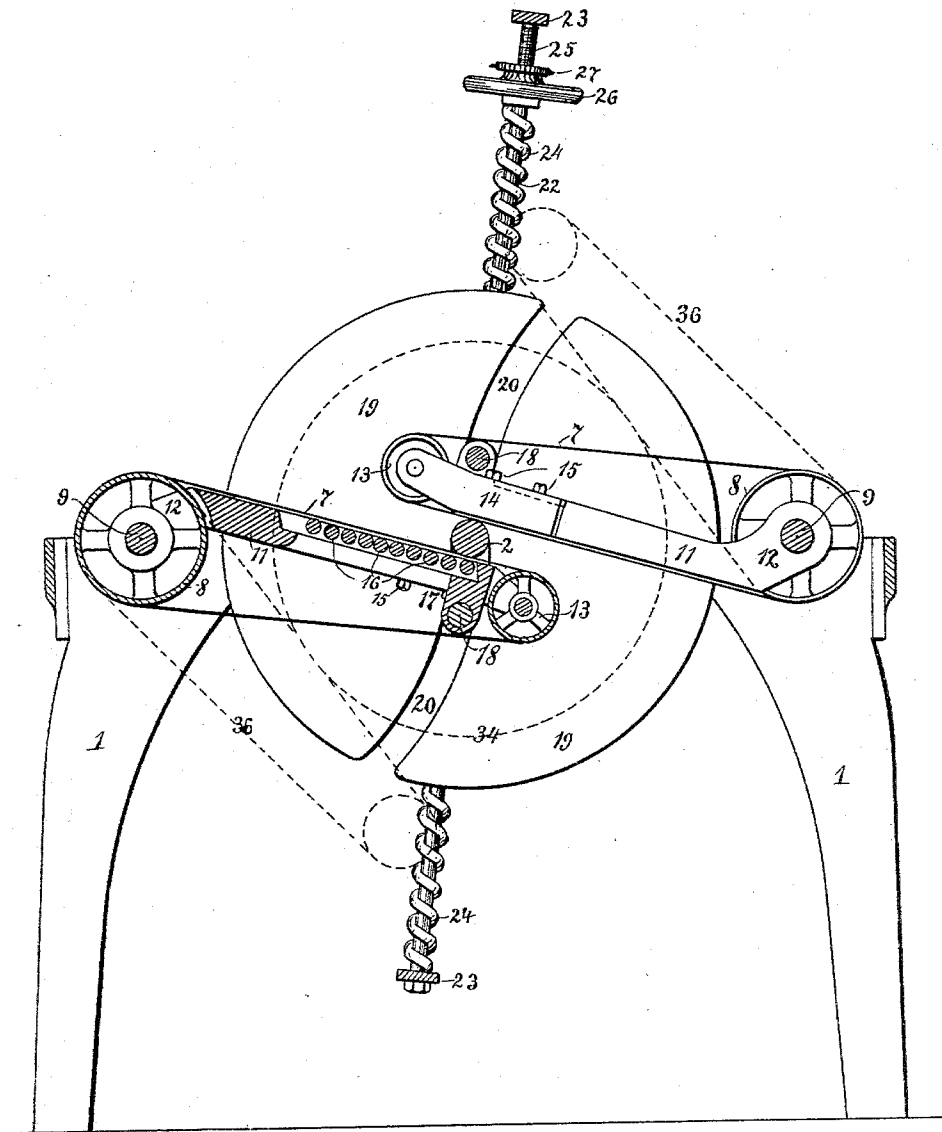
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H. G. ELLIS.
COTTON PRESS.

No. 565,069.

Patented Aug. 4, 1896.

Fig. 1.



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Florence Pailan

Inventor:-
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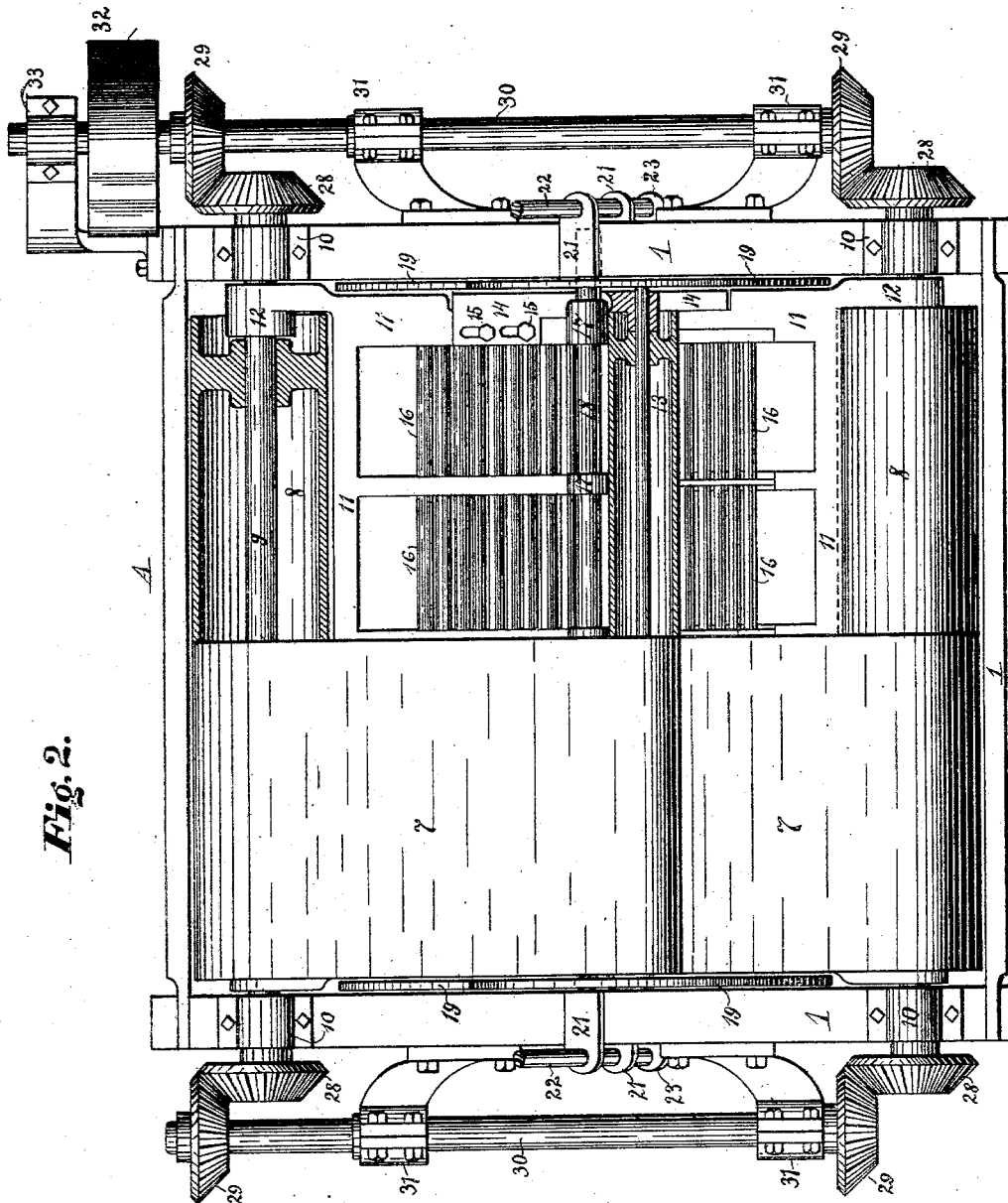


Fig. 2.

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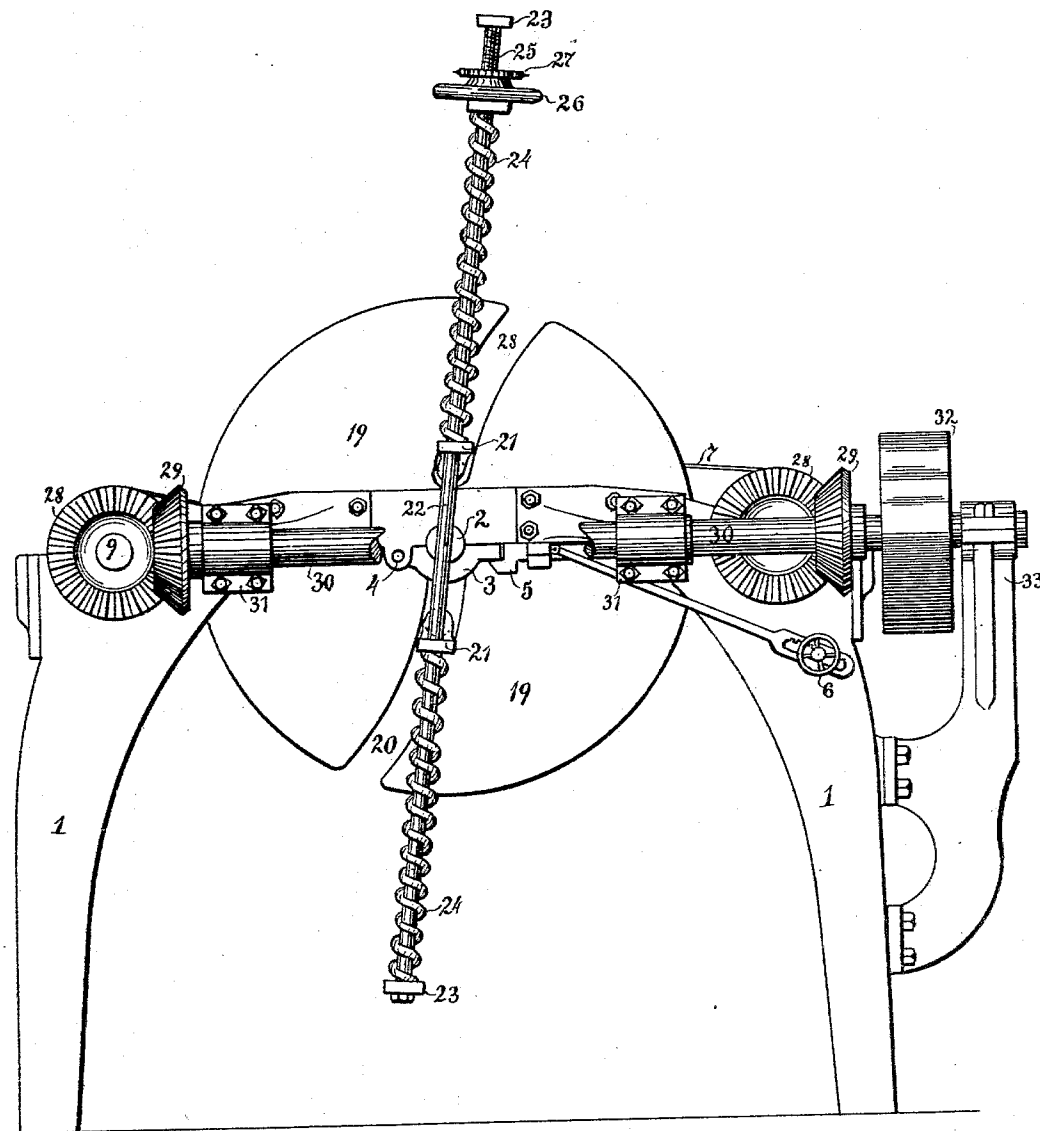
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Fig. 3.



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UNITED STATES PATENT OFFICE.

HALCOLM G. ELLIS, OF ST. LOUIS, MISSOURI.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 565,069, dated August 4, 1896.

Application filed December 9, 1895. Serial No. 571,513. (No model.)

To all whom it may concern:

Be it known that I, HALCOLM G. ELLIS, a citizen of the United States, residing in the city of St. Louis, State of Missouri, have invented a certain new and useful Machine for Baling Cotton, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form and are made a part of this specification.

This invention relates to that class of machines which take the cotton as it comes from the condenser and roll it into cylindrical-shaped bales, and has for its object features of novelty which will be more specifically pointed out in the description of the drawings, in which—

Figure 1 shows a vertical cross-section. Fig. 2 shows a plan, with parts in section to disclose the construction. Fig. 3 shows an end view, with part broken away.

The principle of operation of this machine consists of leading the cotton-bat to a spindle held in fixed journals. Past this spindle, on opposite sides, there move continuously and in opposite directions a pair of endless belts. These belts are held in contact with the spindle and with the roll of cotton as it increases in size by a pair of hinged platens which press against the inside of the belts, means being provided for applying pressure to the platens.

Referring to the drawings, 1 is the framework upon which the working parts are mounted, consisting of four legs connected together at the top by a rectangular frame. 2 is the spindle about which the cotton is rolled. This spindle 2 extends across the upper framework and is mounted in journals on the under side of said framework. The caps 3 of these journals are hinged on one side, as shown at 4 in Fig. 3, and are held closed by spring-latches 5 on the opposite side from the hinge 4. These spring-latches 5 are simultaneously released by the small hand-wheel and rack 6, the hand-wheel being mounted on a rod that extends from one side to the other of the machine.

7 are the endless belts which bear against the spindle 2 and against the roll of cotton as it is rolled on the spindle. As there are two of these belts and their dependent and operating mechanisms, but one will be described in detail, the two being in every way

similar. A pulley 8 is mounted on shaft 9 and revolves with it, said shaft 9 being mounted in journals 10 on the framework 1.

11 is a platen composed of a flat gridiron-like frame and loosely mounted on the shaft 9 by arms 12. At the front end of the platen 11 a smaller pulley 13 is mounted on sliding arms 14, said sliding arms 14 being secured to the platen 11 by the bolts 15. The belt 7 passes over the pulley 8, surrounds the platen 11, and over the smaller pulley 13. The upper surface of the lower platen and the lower surface of the upper platen are parallel with and very close to the belts 7. To prevent the friction which would result in the movement of the belt 7 over a flat surface while under pressure, the pressing-surface of the platen 11 is composed of a series of small antifriction-rollers 16, parallel with the shafts 9. On the back of the platen 11 there is a series of lugs 17, through which passes a rod 18, which extends out some distance on either side of the belt 7.

19 are circular end plates secured to the inside of the frame 1. These end plates limit the length of the bale, and the belts 7 are as wide as the distance between the plates 19. Arched openings 20 perforate these end plates 19, the shafts 9 being taken for centers of the arcs, the lower opening in each plate extending from the circumference to the center and is of a width to permit the spindle 2 to be passed through the same. The upper opening 20 is similar to the lower one, except that it does not extend quite to the center. Through these openings 20 the ends of the rods 18 extend, and on the ends of the rods 18 are fitted movable shoes 21, each made with a flat surface having a hole through the center. A rod 22 extends through the holes in the upper and lower shoes 21 and for some distance beyond each shoe. The ends of the two rods 22 are connected together by cross-bars 23, extending from one end of the machine to the other. Surrounding the rods 22 and bearing on the shoes 21 are coil-springs 24. The upper ends of the rods 22 are turned with a thread 25 and provided with a hand-wheel 26. This hand-wheel 26 can be screwed down on the rod 22, thereby compressing the springs 24, and as the rod 22 passes freely through the shoes 21 the springs 24 will always equalize

themselves. A sprocket-wheel 27, fixed to the hand-wheel 26 on one of the rods 22, is connected by a chain (not shown) to a similar sprocket-wheel on the rod 22 at the other end of the machine. In this way the tension on the two ends of the machine is kept equal.

The shafts of the pulley 8 extend through the journals 10 and terminate in beveled gear-wheels 28 at each end. These wheels 28 mesh with similar bevel-gears 29, mounted on shafts 30, the said shafts 30 being at right angles to the shafts 9, and supported by journals 31, secured to the sides of the framework 1. On one of the shafts 30 there is mounted a drive-pulley 32, and an outside journal-bearing 33 is secured to one of the legs of the framework 1 to support the end of the said shaft 30.

In Fig. 1 the lower platen 11, together with its connecting-pulleys, &c., are shown in section. The upper platen 11 and its pulleys and connections are shown as an end view. In Fig. 2 the pulley 8 and the smaller pulley 13 of the upper platen 11 are shown in section on one-half of their length, disclosing the method of hanging the platen 11 on the shaft 9. The belts 7 are shown on one-half the length of the pulleys in Fig. 2 and coil-springs 24. The hand-wheel 26 and connecting-bar 23 are removed. In Fig. 3 the middle of the shaft 30 is broken away to show the hinged journal-lid 3 of bearing of the spindle 2.

The operation of this machine consists in leading the cotton-bat, as it leaves the condenser, to belt 7 of the lower platen 11. This belt 7 is continuously moving toward the spindle 2. The bat is carried down to the spindle 2 and wrapped around it, the belt 7 of the upper platen 11 pressing on the upper side of the spindle and the bale of cotton as it increases in size. The coil-springs 24 are compressed as the bale of cotton increases in size, thereby increasing the pressure on the roll. When the bale is of sufficient size, as indicated by the dotted circle 34, the platens 11 assume the position indicated by the dotted lines 36, and the bale is then wrapped in a suitable cover, the spindle-journals 3 released by the hand-wheel 6, and the bale drops to the floor, the ends of the spindle 2 passing down the slots 20 in the end plates 19. The spindle 2 is then removed from the bale and replaced in its journals and the bale rolled from under the machine, which is now ready to repeat the operation.

I do not deem it essential to the embodiment of this invention that the details and mode of construction herein shown should be

closely followed. For instance, there may be only one or there may be more than two of the platens shown in the drawings and the operation of the machine be practically the same, or the platens may be made to slide instead of being hinged, as shown, or one platen might be used on one side and a roller or rollers used on the rest of the bale. The pressure on the platens may be made by any other suitable means or appliances than by springs.

Some of the advantages of this machine consist in its compactness, lightness, simplicity of parts, and low cost of construction.

I claim—

1. In a cotton-compress the combination of a spindle on which the cotton is to be rolled, a movable platen whose surface is parallel to the spindle-axis, a continuously-moving belt passing between the platen and the spindle a coating surface on the opposite side of the spindle, and means for compressing the platen and the coating surface together.

2. In a cotton-compress the combination of a movable platen, a spindle on which the cotton is to be rolled, an endless belt passing between the spindle and the platen, a second surface for pressing the bale, and a frame for supporting the parts substantially as described.

3. In a cotton-compress the combination of a continuously-moving belt, a spindle on which the cotton is to be rolled, a platen whose surface is parallel to the axis of the spindle for pressing the belt against the spindle and means for applying pressure to the platen, and a coating surface on the opposite side of the spindle, substantially as described.

4. In a cotton-compress the combination of the upper and lower platens, a spindle on which the cotton is to be rolled, endless belts passing between the respective platens and the spindle for pressing the cotton, means for keeping the belts in motion, and means for applying pressure to the platens.

5. The combination in a cotton-compress of the side framework, a spindle 2, the upper and lower platens, endless belts 7, the pulleys 8 and means for applying pressure to the platens, substantially as described.

6. The combination in a cotton-compress of a spindle, endless belts for pressing the cotton, pulleys for driving the belts, and platens hinged to the shafts of the aforesaid pulleys, for pressing the belts against the spindle.

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