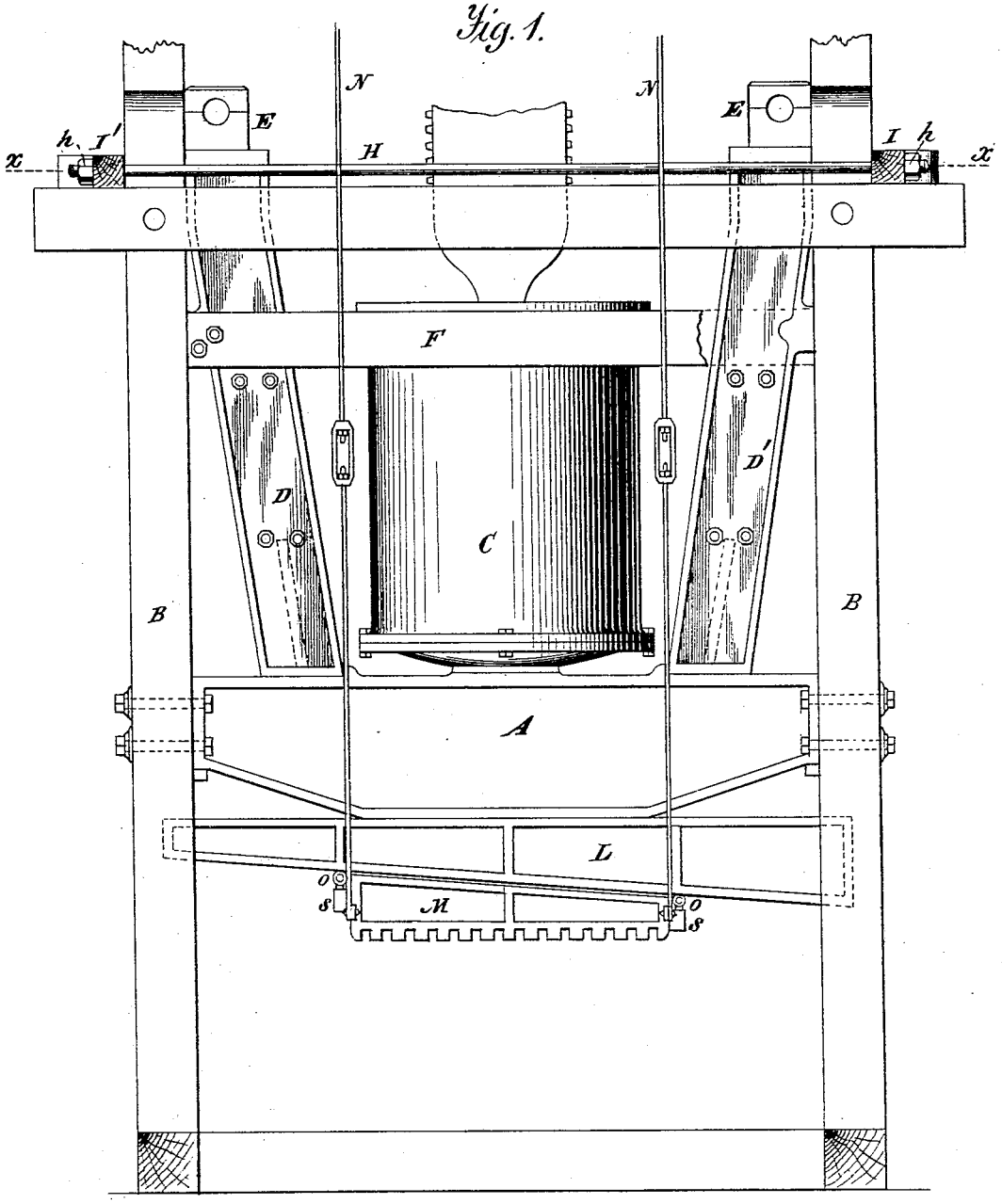
2 Sheets—Sheet 1.

W. GOLDING.

COTTON-PRESS.

No. 181,572. Patented Aug. 29, 1876.

Fig. 1.



Witnesses.
A. Ruppert.
W. E. Chaffee

Wm Golding
Inventor.
by [illegible]
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2 Sheets—Sheet 2.

W. GOLDING.

COTTON-PRESS.

No. 181,572. Patented Aug. 29, 1876.

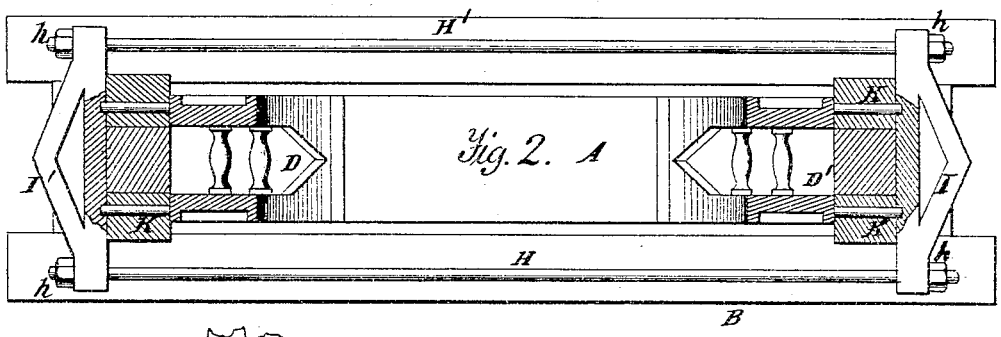


Fig. 2. A

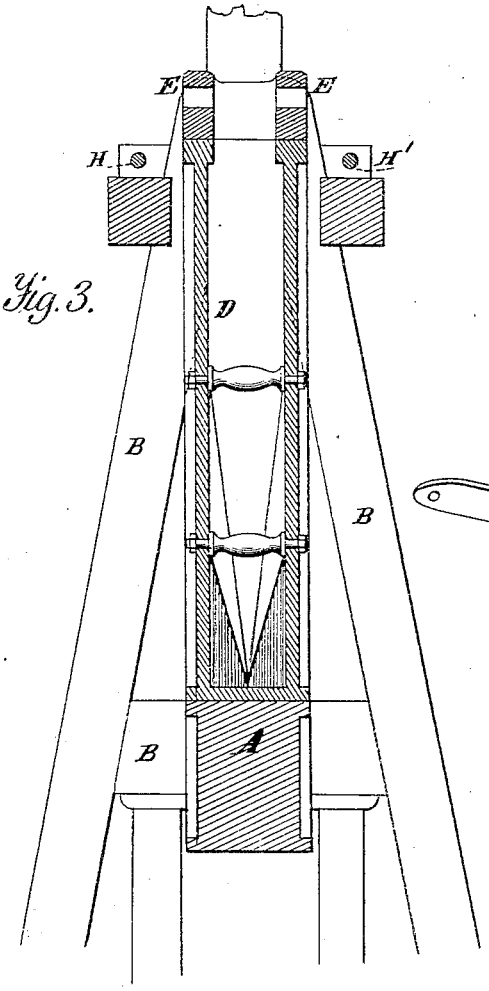
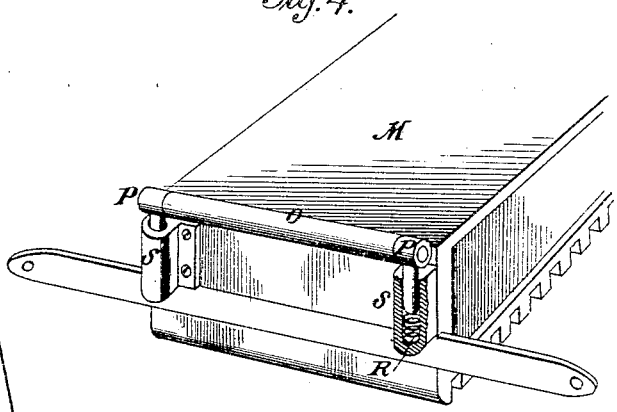


Fig. 3.

Fig. 4.



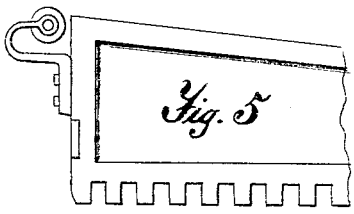


Fig. 5

Witnesses.
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W. E. Chaffee.

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by Chas J Eils
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UNITED STATES PATENT OFFICE.

WILLIAM GOLDING, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **181,572**, dated August 29, 1876; application filed July 15, 1876.

To all whom it may concern:

Be it known that I, WILLIAM GOLDING, of New Orleans, in the parish of Orleans and State of Louisiana, have invented a certain Improvement in Cotton-Presses, of which the following is a specification:

This invention relates, more especially, to what are known as "Tyler cotton-presses," used for repressing bales of cotton before shipping them. These presses are now built to exert immense pressures, ranging as high as twelve hundred tons, and above. It will be obvious that it is of the first importance to so dispose the parts principally subjected to the strains due to such great pressures that great resisting-strength may accompany a comparative lightness of the parts.

The prime object of the first part of my invention is to shorten the distance between the points of support of the abutment-beam, to reduce the weight of the latter. This I accomplish by setting the columns which support the trunnions of the cogged segments for operating the lower movable platen in a slanting position upon the abutment-beam, bringing their bases as near together as may be permitted by the steam-cylinder between them without lessening or changing the distance between the bearings for the said trunnions at their upper ends. To compensate for the increased lateral thrust due to the slanting position of the columns or struts the ordinary frame-work is strengthened by a tie-yoke at the upper ends of said columns, or thereabout.

The second part of my invention consists in the introduction between the running wedge and the upper platen or counter-wedge of spring-seated anti-friction-rollers, which maintain a slight distance between them, so that the running wedge may move on the rollers without coming into frictional contact with the surface of the platen when there is no pressure on the latter, while the rollers will yield to the upward pressure of the platen, and permit a solid contact between this platen and the running wedge during the compression of a bale. These spring-seated anti-friction rollers effect automatically what has heretofore been accomplished by a workman through the medium of a cumbrous lever mechanism.

In the annexed drawings, Figure 1 is a front elevation of so much of a cotton-press of the Tyler style as it seems neccssary to illustrate for a full comprehension of my improvement in connection with the ensuing general description. Fig. 2 is a horizontal section in the plane indicated by broken line $x\,x$, Fig. 1. Fig. 3 is a vertical transverse section. Fig. 4 illustrates, in perspective, one end of the upper platen or counter-wedge, showing more clearly (being drawn on a larger scale than the preceding figures) one of the spring-seated anti-friction rollers. Fig. 5 shows a modification in the application of the spring-seated rollers.

The same letters of reference are used in all the figures in the designation of identical parts.

The abutment-beam A is secured at its ends to the side timbers of the frame-work B of the press, supporting the the steam-cylinder C in the usual manner. D and D′ refer to the columns or struts, the bases of which are seated and permanently secured upon the abutment-beam on opposite sides of the steam-cylinder. They stand in a slanting position, gradually approaching the side timbers of the frame-work B, against which they abut with their outer sides at the upper ends. Each of these columns or struts consists preferably of two metal beams, the webs of which are provided with flanges, as shown, for the sake of strength, and which are suitably fastened together by stay-bolts. Each beam of each column or strut carries at its upper end a journal-box, E, for giving a bearing-support for the respective trunnions of the segmental racks, not shown, for operating the movable lower platen, also omitted from the drawing. Of course these journal-boxes might be supported upon separate beams or timbers, and the columns be used simply as struts between these beams or timbers and the abutment-beam. The columns or struts are also secured by bolts to the horizontal timbers F and G of the frame-work. A tie-yoke, consisting of the rods H H′ and the cross-heads I I′ held together and tightened up by nuts h, is placed around the frame-work at the upper ends of the columns or struts, as best seen in Figs. 1 and 2, to prevent the lateral strain of the slanting struts from spread-

ing the two sides of the frame-work apart; and, to prevent the crushing of the timbers of the frame-work between the metal struts and the metal cross-heads of the tie-yoke, I insert strong iron bars K in said timbers, as clearly shown in Fig. 2, one end of which bars may enter shallow cavities in the cross-heads for the purpose of holding the tie-yoke in position around the frame-work.

It will be readily understood that by setting the columns or struts in a slanting position, in the manner shown and described, the unsupported length of the abutment-beam is considerably shortened, and that to withstand a given pressure it can be made much lighter than it could safely be made did the columns descend vertically from the journal-boxes.

In actual practice I find that this construction can be followed by a reduction in the weight of the abutment-beam of nearly one-half—a consideration the importance of which will be at once appreciated by persons familiar with the construction and operation of these presses. The running wedge L, arranged between the abutment-beam A and the upper platen M of the press, may be supported and operated in any preferred manner. The platen M is suspended by rods N from a balancing-lever (not shown) overhead, as usual. It is customary to slightly lower the upper platen when the running wedge is to be run in or out to adjust the platen for the purpose of lessening the friction on the wedge. Heretofore a lever mechanism, adapted to be operated by a press-hand, has been employed to effect this. To simplify the means to this end, and to accomplish the result automatically, I provide the platen M with anti-friction roller O, so seated on springs that they will maintain a slight distance between the contiguous surfaces of the wedge and the platen when there is no pressure on the latter. In this instance the rollers are journaled in the heads of T-bearings P, which are seated upon springs R in the sockets S secured to or formed on the platen. The springs are strong enough to keep the surface of the platen from the wedge, which only touches the anti-friction-rollers; but they will yield to the upward pressure on the platen during the compression of a bale, so that then there will be a solid contact between the contiguous surfaces of the platen and the wedge.

The anti-friction rollers may be mounted in spring-brackets, as shown in Fig. 5, the curve of the bracket possessing the required elasticity.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a cotton-press, the combination, substantially as specified, of the abutment-beam, the slanting columns or struts, and the journal-boxes for supporting the axes of the cranks or cogged segments for operating the movable platen.

2. The combination, substantially as specified, of the abutment-beam, the slanting columns or struts, the journal-boxes for supporting the axes of the cranks or cogged segments for operating the movable platen, the frame-work, and the tie-yoke.

3. The combination, substantially as specified, of the side timbers of the frame-work, the metal bars inserted therein, the slanting column or strut, and the cross-head of the tie-yoke.

4. The combination, substantially as specified, of the runing wedge, the upper platen or counter-wedge, and the elastically-seated anti-friction-rollers.

5. The combination, substantially as specified, of the upper platen or counter-wedge, the anti-friction-roller, the T bearings, the sockets, and the springs.

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

WM. GOLDING.

Witnesses:
CONRAD GREEN,
E. L. STREAM.