

W. Sewell, Jr.,

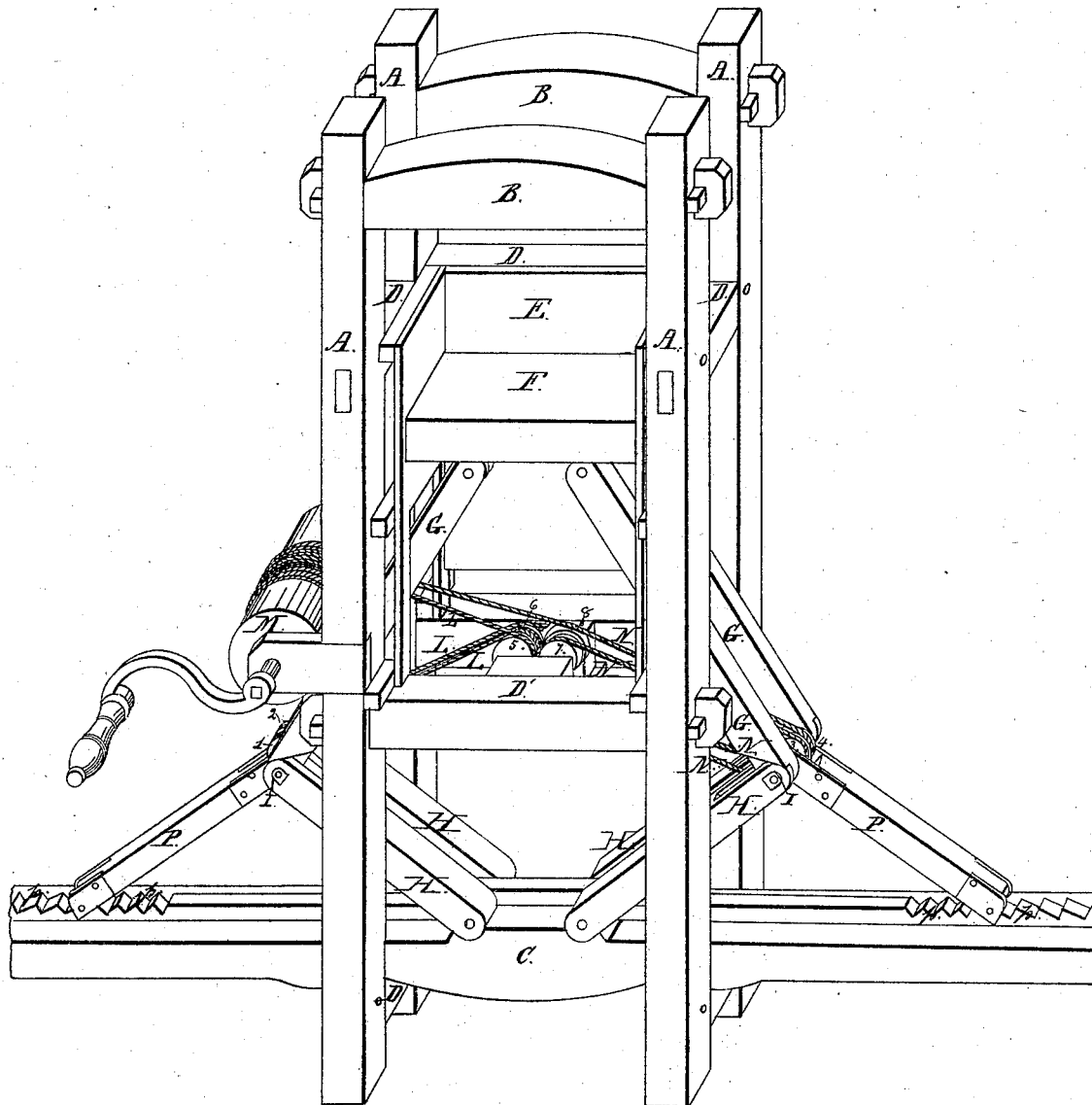
2 Sheets, Sheet 1.

Cotton Press.

N<sup>o</sup> 3631.

Patented June 15, 1844.

Fig. 1.



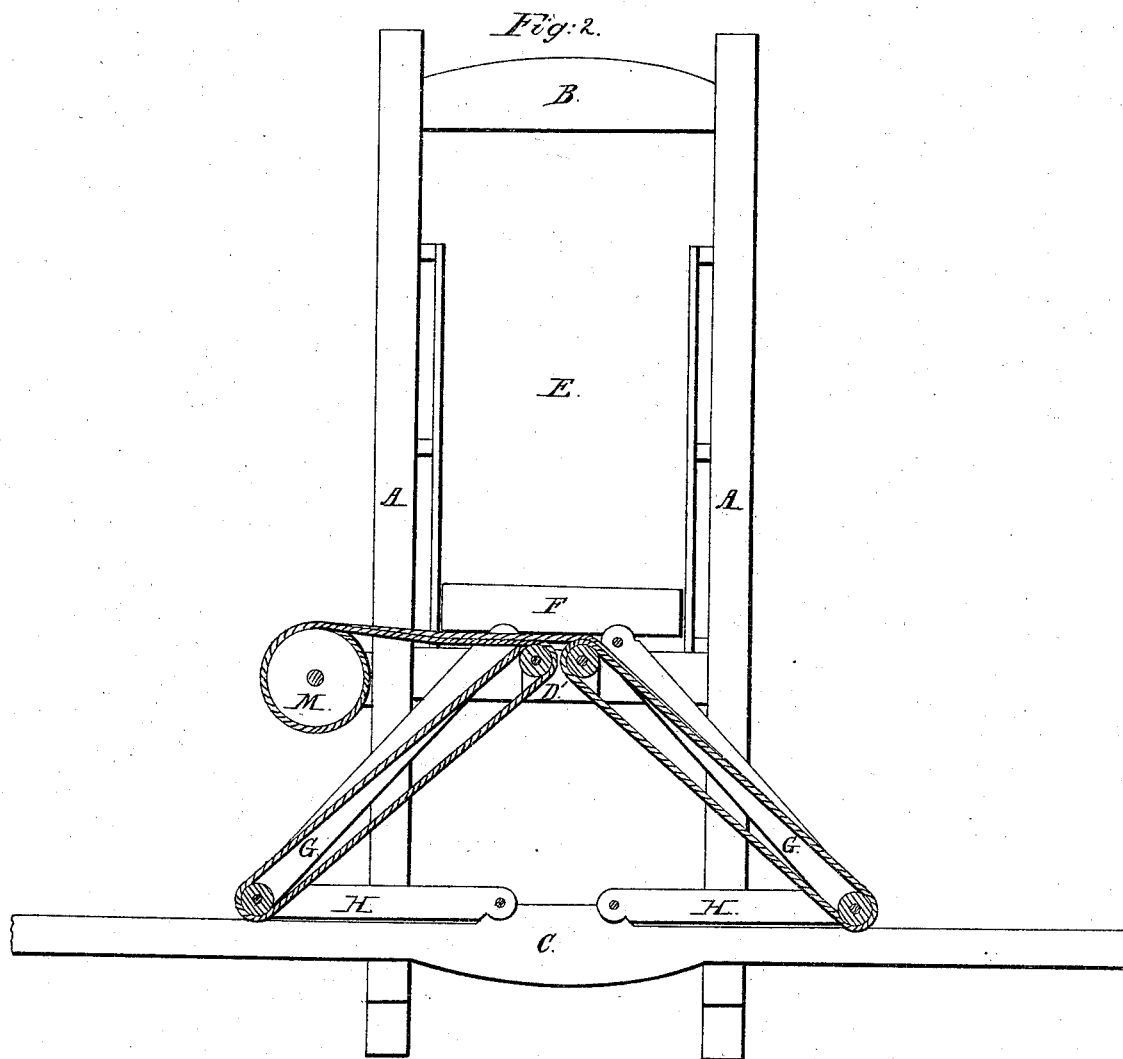
2 Sheets, Sheet 2.

W. Sewell, Jr.,

Cotton Press.

N<sup>o</sup> 3,631.

Patented June 15, 1844.



# UNITED STATES PATENT OFFICE.

WM. SEWELL, JR., MACON, GEORGIA.

## IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 3,631, dated June 15, 1844.

*To all whom it may concern:*

Beit known that I, WILLIAM SEWELL, Jun., of the city of Macon, in the county of Bibb, and in the State of Georgia, have invented certain new and useful Improvements in Toggle-Joint Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 on Sheet 1 is an isometrical projection of a complete press with the said improvements, and Fig. 2 on Sheet 2 a geometrical vertical section.

The construction of the press is in the usual manner, as shown in Figs. 1 and 2, consisting of upright posts A, top rails, B, bottom rails, C, and intermediate and other rails, D, furthermore, of the box E and follower F, the upper arms, G, and lower arms, H. The above letters have reference to Fig. 2 as well as Fig. 1. The rail-pieces D are on a level with the top of the lower arms, H, of the toggle-joint when they stand vertical, and between the said rail-pieces the pulleys are situated, as hereinafter described, for drawing up the toggle-joints. The length of the lower arms, H, is shorter than the upper arms, G—that is, they are made in such proportion to each other that when the lower ones are in a horizontal position, as represented in Fig. 2, the upper arms shall be long enough to extend up above and clear of the pulleys, to their point of junction with the follower F, directly over the stationary joint of levers H, in a vertical line. By this construction and these proportions the maximum motion and power is given to the arms that they are capable of receiving, said arms having the purchase that they are raised by placed at a stationary point between them on a level with the upper end of the arms H when they are standing vertical. Ropes pass round pulleys connected with the arms G H G H at their junction I, and those placed at the stationary point between the toggle-joints form the purchase above named. In Fig. 1 are shown the pulleys 1 2 3 4, which revolve on the same pins I which connect the respective arms, and in the center of the frame, at the rail-pieces D', are introduced two sets of pulleys, each consisting of two pulleys, and which pulleys are marked 5, 6, 7, and 8. On the top of an addi-

tional piece to the connecting-rail D and to a pin, K, inserted therein, is fastened a rope or chain, L, which passes over pulley 2, thence around pulley 6, next over pulley 1, returning to pulley 5, and finally to drum M. Another rope, N, Fig. 1, is fastened to a pin, or by some other means, (not shown in the drawings,) at or near the center of rail D', and at its under side. This rope passes first round pulley 3, next over pulley 7, thence returning around pulley 4, and then passing over pulley 8 to drum M, where it is fastened, like the other rope. The pulleys 1, 2, 3, and 4, as above stated, are revolving on the same pins that connect the arms, but are located between them, the arms being twin arms—viz., each consists of two separate pieces for the purpose of introducing said pulleys, and; furthermore, for the purpose of allowing the rope to pass between them. The drum M is furnished on one end with a crank for the application of the moving power. The ends of the bottom rails, C, above mentioned, extend beyond the other stationary frame-work to such a length as to admit a sufficient number of indentations or notches, *p*, for the reception of the lower ends of the check-arms P, the upper ends of which are hung upon the pins I in the joints.

In Fig. 2, Sheet 2, the follower F is in its lowest position, and the lower arms, H, horizontal, and resting upon the bottom rail, C. The bottom arms in their motion describe one-fourth of a circle.

The operation is as follows: When the press is in the position shown at Fig. 2, and the box filled with cotton or other material to be pressed, the power is applied to the drum M, by which the joints I I, connecting the arms H G H G, are drawn up and inward. Through the intervention of the purchase connecting the joints I with the point D' the whole strain of the pressure being borne by the ropes and pulleys; but as the arms are brought more nearly into a vertical position, the strain is gradually shifted, as the power of the arms increases, from the ropes to the arms, which, when brought vertical, sustain the whole pressure. It is proper here to remark that the toggle-joints on each side are acted upon by separate sets of pulleys, as will readily be seen by reference to the drawings, the ropes to which are connected to the same drum for the

purpose of producing a parallel motion in the two sets of toggle-joints, so as to raise the follower level. The center pulleys may be either on two separate axes or on one common axis. It will be understood that any additional number of pulleys may be used, or the number reduced, as circumstances may require to increase or lessen the purchase. The check-arms P, Fig. 1, in consequence of their upper ends being hung to the pins I, as above described, will follow the movement of the arms G H at their joints, and their lower ends, falling into the indentations p of the bottom rail, C, will not only prevent the sliding back of the joints, which is very important in case one or both ropes should break.

I am aware that double toggle-joint presses have been constructed with a windlass stationed in the center between the said joints, and that pulleys have been used to draw to-

gether toggle-joints, in which the ropes extended straight across from the center joint of one to the center joint of the other. Toggle-joints have also been made with arms of unequal length. Therefore, I do not claim either of these general principles; but

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

The combination and arrangement of the toggle-joints, as herein described, with the purchase fixed between said joints, in the manner and for the purpose herein set forth, so that the lower arms are allowed to fall into a horizontal position, and are raised by a purchase placed at a stationary point above and between them.

WILLIAM SEWELL, JUN.

Witnesses:

FRANCIS BENNE,  
JOHN HITZ.