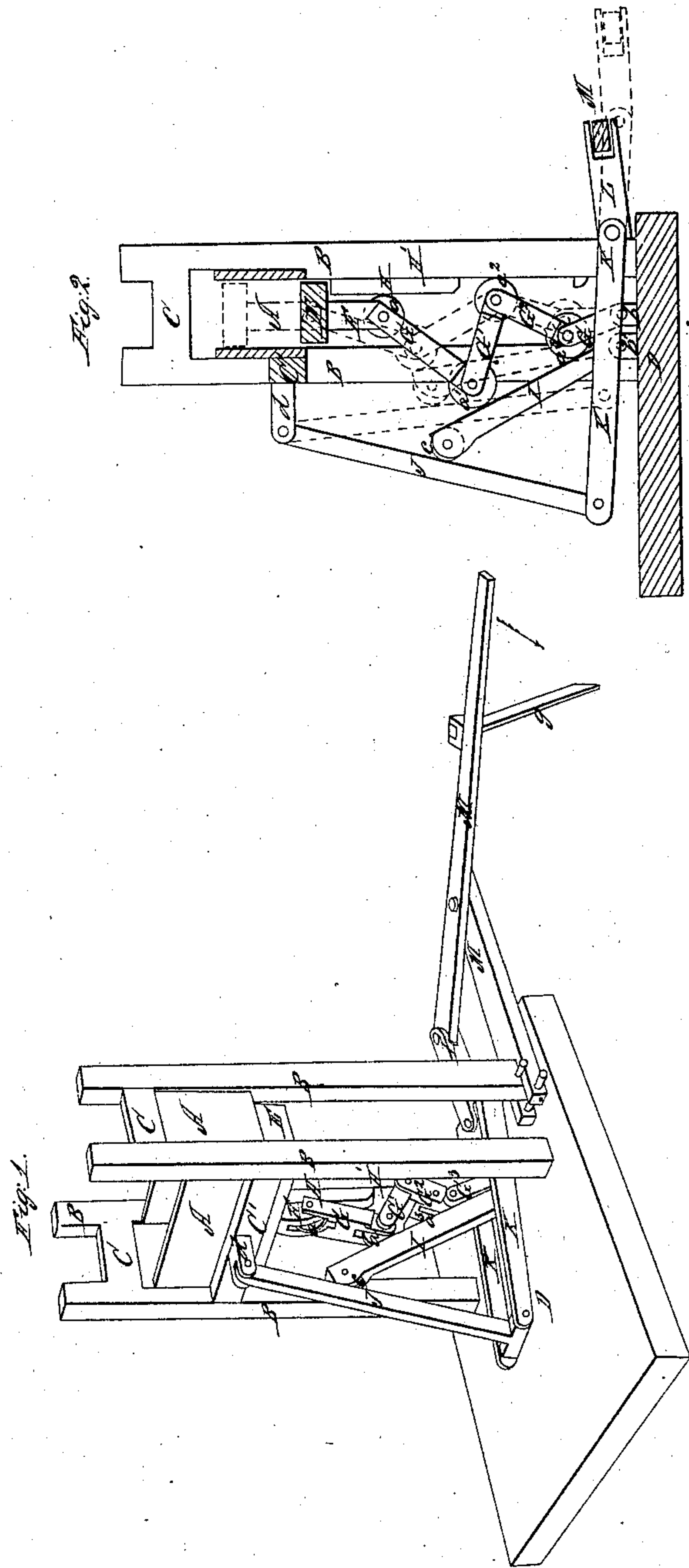


No. 29,904.

PATENTED SEPT. 4, 1860.

W. T. OPIE.
COTTON PRESS.



Witnesses:
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UNITED STATES PATENT OFFICE.

W. T. OPIE, OF SCARBOROUGH, GEORGIA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 29,904, dated September 4, 1860.

To all whom it may concern:

Be it known that I, W. T. OPIE, of Scarborough, in the county of Screven and State of Georgia, have invented a new and Improved Cotton-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 shows a perspective view of the improved cotton-press with the parts in their relative positions when the follower is at the bottom of the press-box and the levers are inactive. Fig. 2 is a longitudinal vertical section taken through the press-box one side of the levers that operate the follower. In this figure the movable parts are represented in two positions.

Similar letters of reference denote corresponding parts in both figures.

This invention, although it is specially intended for pressing cotton, is intended to be used, with a little modification of the press-box, as a hay-press, or for pressing anything requiring to be brought within a compact and small compass.

The invention and improvement consist in applying the desired power to the follower, that is moved up and down in a suitable press-box by means of a peculiar arrangement of toggle-joints, with friction-rollers applied at their knees or joints, which are acted upon by a number of compound levers, so as to extend the joints and force up the follower and rod with great force, and at the same time as rapidly as possible, the motion being given to the parts by a horse or by manual power, as it may be found most convenient.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The press-box A is supported and braced in a suitably strong manner in the top of a strong frame-work consisting of four posts, B B B B, and cross-bars C C C'. The upright posts B are mortised into the sill D, so as to be rigidly and firmly secured to it.

E is the follower or pressing-head, that is moved up and down within the box A perpendicularly, and F is its rod that projects down from it a suitable length, and is pivoted to a jointed rod, G, and in this joint is placed a friction-wheel, a, that plays up and down

against a stationary piece, H. (Seen in Fig. 2.) To this rod G is jointed a similar rod, G', with a friction-roller, a', applied at its joint. These two rods G G' form a knee or toggle-joint, and to the lower end of rod G' a similar rod, G², is jointed, with a friction-roller, a², at its knee, and this latter rod, G², is again jointed to another rod, G³, and so on the combination may be continued; but the rod G³ is pivoted to a stationary block, b, that is mortised into the sill D. This combination of jointed levers is to be operated so as to straighten out and force the follower upward to the position seen in red lines, Fig. 2. To effect this object in a simple and efficient way an arm, I, is employed, which is pivoted to a block, b', that is mortised into the sill close to block b. This arm acts against the two friction-rollers a' and a², and forces the friction-rollers a a² against the pieces (that are stationary) H H'. The arm carries on its upper end a friction-roller, c, that bears against an arm, J, that is jointed at its upper end to a block, d, projecting from the cross-bar C', and proceeds down and is pivoted by a T-piece on its end to two connecting-rods, K K, which pass in nearly a horizontal line on each side of the arm J, in front of the jointed rod G³, and connect by a link, L, to the lever M, which has its fulcrum at the end of a stationary arm, N. This lever M may be made of any desirable length, according to the power it is desired to apply to the arms I J and toggle-joints, and to this lever the animals, if animal-power be employed, are hitched, drawing this lever in the direction indicated by the arrow seen in Fig. 1. g is a stick jointed at its upper end to the lever M, and resting on the ground, that follows the lever, and prevents a sudden recoil of the arms and levers while the pressing is taking place.

The cotton is placed in the box when the follower is down, or in the position represented in black lines, Fig. 2. A suitable top is then secured down over the box and the motion is applied to lever M, as before described, until the parts assume the relative positions shown in red lines, Fig. 2, or nearly these positions, according to the distance the follower is to be forced upward. The bale thus compressed is suitably bound, and the parts returned back to their former position to repeat the operation.

I do not claim the toggle-levers for operat-

ing the follower by extending or drawing them together, for these will be found in several instances applied to cotton-presses already secured by Letters Patent; but

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

The combination of toggle-levers applied to the follower, and having friction-rollers at their joints, as set forth, when these levers are acted

upon by the arm I, pressing against their rollers, and extending them, as described, and when said arm is itself operated by arm J, connecting-rods K K, and link and lever M, as herein described and represented.

W. T. OPIE.

Witnesses:

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