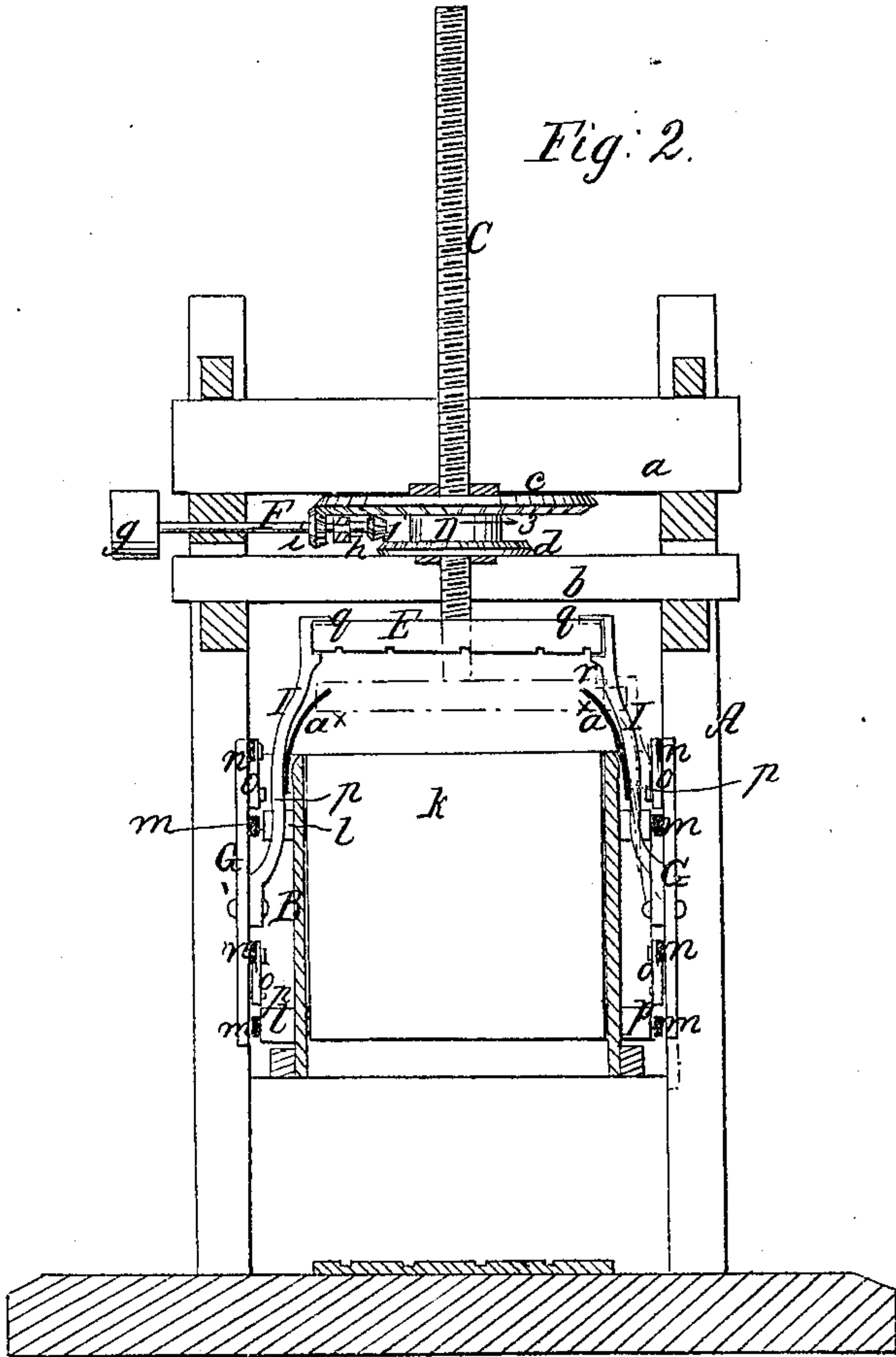
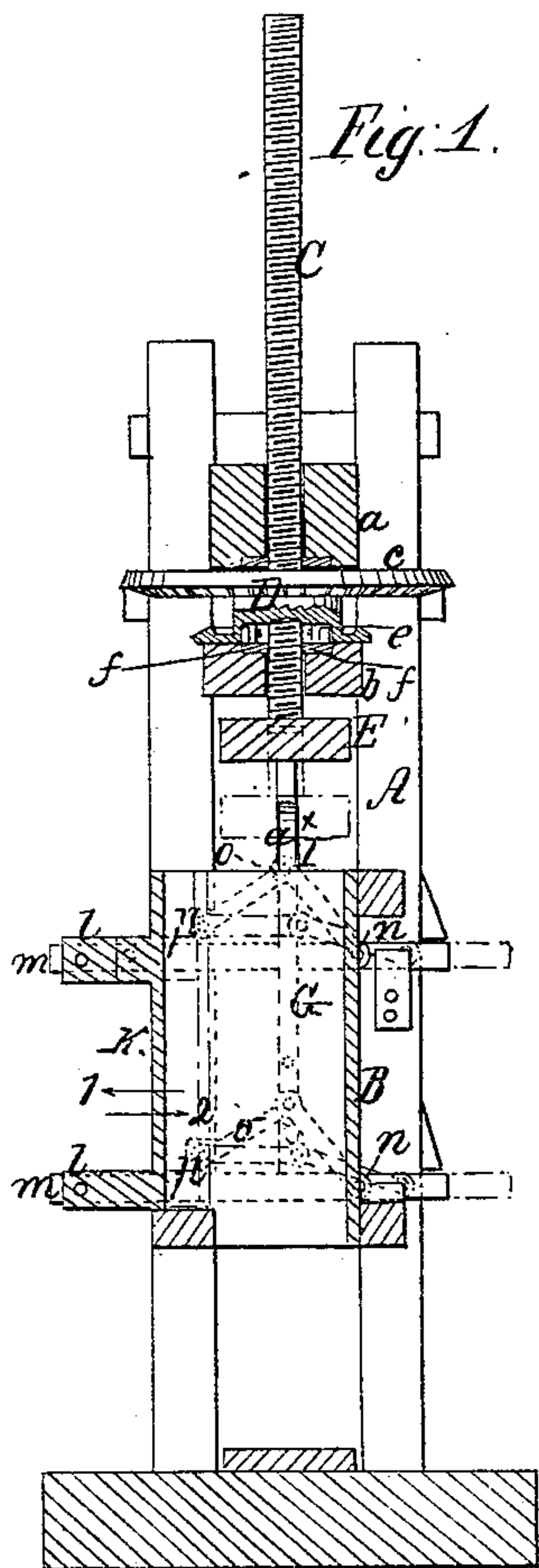


F. W. Witting,
Cotton Press,
No. 19,399, *Patented Feb. 16, 1858.*



UNITED STATES PATENT OFFICE.

F. W. WITTING, OF YORKTOWN, TEXAS.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 19,399, dated February 16, 1858.

To all whom it may concern:

Be it known that I, F. W. WITTING, of Twelve-Mile Coletto Gin, (Yorktown P. O.,) in the county of De Witt, and State of Texas, have invented a new and useful Improvement in Cotton-Presses; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figures 1 and 2 are vertical central sections of my improvement, the two planes crossing each other at right angles.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in a peculiar arrangement of means for compressing the cotton, both vertically and laterally, by one and the same application of power. This end is attained by having one side of the press-box made movable, or so arranged that it may slide, and having toggles connected with it, the toggles being attached to the rods and so arranged with a follower connected with a power-screw that as the follower descends it will automatically engage with the mechanism alluded to and move the side of the box inward, compressing the cotton laterally, the side being after a certain time automatically disengaged from the follower, which then acts upon the cotton, compressing it vertically.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a suitable framing, in which a press-box, B, is secured; and C is a screw which passes vertically through cross-ties *a b* in the upper part of the framing.

D is a nut which is fitted on the screw C between the cross-ties *a b*. This nut has two bevel-wheels attached to it—one, *c*, at its upper end and the other, *d*, at its lower end—the wheel *c* being considerably larger than the wheel *d*. The nut D has within it two rings, *e e*, provided with friction-rollers *f*, one ring being fitted against the upper cross-tie, *a*, and the other resting on the lower cross-tie *b*. (See Fig. 1, in which the ring and rollers are shown.) This arrangement is to diminish friction, and is a well-known mechanical device.

To the lower end of the screw C a follower, E, is attached, and F is a horizontal shaft placed in the upper part of the framing, and

having a driving-pulley, *g*, on its outer end. The inner part of said shaft has its bearing in a lever, *h*, by which it may be raised and lowered, and by means of two pinions, *i j*, upon it thrown in gear with either the upper or lower wheel of the nut D.

The side *k* of the press-box B is made movable or allowed to slide laterally in either direction, (indicated by the arrows 1 and 2,) said side having horizontal bars *l l* attached to it—one at its upper and the other at its lower end. To each end of the bars *l l* there is attached a metal bar, *m*, and consequently there are two bars *m* at each end of the press-box. These bars rest on guides or cross-pieces in the framing, and to the front part of each bar *m* one lever, *n*, of a toggle is pivoted, the other levers, *o*, of the toggles being pivoted to the framing, as shown at *p*. It will be understood, therefore, that there are two toggles at each end of the press-box, and the toggles at each are connected by a vertical bar, G.

To the bars G, and near their lower ends, rods I I are attached—one to each bar. These are somewhat curved, and each is provided at its upper end with two horizontal projections, *q r*. The upper projections, *q*, are considerably longer than the lower ones, *r*, and the space between the two is about equal to the thickness of the follower E. (See Fig. 2.)

The operation is as follows: Suppose the follower E to be in an elevated state, as shown in black, Fig. 2. The cotton is placed in the box B and motion is given the nut D by throwing the pinion *i* in gear with the wheel *c*. The projections *r* on the upper ends of the rods I, when said rods are elevated, project underneath the ends of the follower E. The nut D is now rotated in the direction of arrow 3, and the screw C and follower E are forced downward, the follower E depressing or forcing down the bars G, which actuate the toggles and cause the side *k* of the press-box to be moved inward, as indicated by arrow 2. As the bars I I descend, they are gradually forced outward in consequence of springs *a^x*, which are attached to their inner sides, bearing against the ends of the press-box, and by the time the toggles are fully extended and the side *k* pressed or forced inward the required distance the bars I I are forced outward to such a distance that the projections *r* are beyond the ends or edges of the follower. The

follower then acts upon the cotton, compressing it vertically, and when the cotton is sufficiently compressed in this direction it is bound as usual, and the motion of the nut D reversed, so that the follower E may ascend, the follower, as it rises, catching against the projections *q*, which always extend over the edges or ends of the follower. The bars I I therefore rise with the follower, and the side *k* is moved outward, as indicated by arrow 1, and the movement of the side and follower are continued until they reach their original position, the projections *r* being then forced underneath the follower when elevated by the elasticity or gravity of the bars I I.

I am aware that cotton-presses have been previously devised wherein the cotton has been pressed laterally as well as vertically; but, so far as I am aware, a separate or special device has been used for producing or giving each movement, as shown in C. W. Fawkes' press, patented April 18, 1839, in which a cam-

lever is employed for operating the side of the press-box, the press requiring two different applications of power.

I do not claim, broadly, compressing cotton by giving or subjecting it to both a lateral and vertical pressure, for this has been previously done; but

I claim as new and desire to secure by Letters Patent—

The peculiar means employed for effecting such purpose, whereby the two movements are produced by one and the same application of power—to wit, having the side *k* connected to the toggles formed of the levers *n o*, in which the bars I G are attached, the bars I being provided with projections *q r*, arranged relatively, as shown, with the follower E, which is operated by the screw C, or its equivalent.

F. W. WITTING.

Witnesses:

JOHN Q. ADAMS,
DAVID P. OWEN.