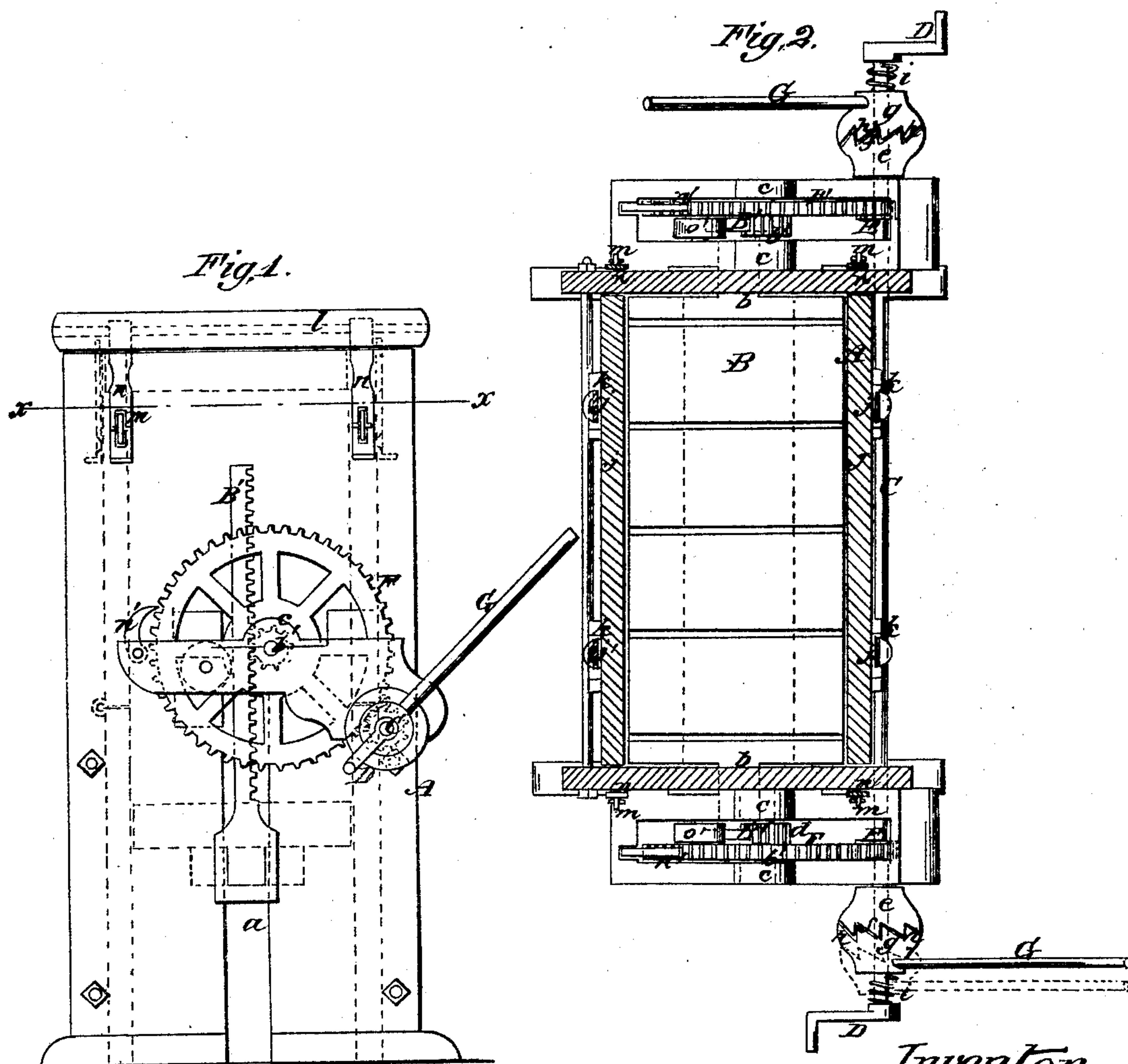


*I. S. Schuyler,*

*Cotton Press.*

*N<sup>o</sup> 35203.*

*Patented May 6, 1862.*



*Witnesses.*

*James David  
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*Inventor.*

*Isaac S. Schuyler.*



# UNITED STATES PATENT OFFICE.

ISAAC S. SCHUYLER, OF NEW YORK, N. Y., ASSIGNOR TO JOHN J. ECKEL,  
OF SAME PLACE.

## IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. 35,203, dated May 6, 1862.

*To all whom it may concern:*

Be it known that I, ISAAC S. SCHUYLER, of the city, county, and State of New York, have invented a new and Improved Press for Compressing Articles for Baling; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side view of my invention; Fig. 2, a horizontal section of the same, taken in the line *xx*, Fig. 1.

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

This invention relates to an improvement in that class of presses in which racks and pinions are employed for operating the plunger or follower.

The object of the invention is to obtain a press of the class specified which will admit of having its plunger or follower operated by a direct application of power to the driving-shaft by means of cranks, so that speed may be obtained when pressure is not required—as, for instance, in moving the plunger or follower to and from its work—and also admit of having the power applied through the medium of levers arranged with clutches in such a manner that the two operators may work at opposite sides of the driving-shaft, and one press upward while the other presses downward, in order to operate it, and thereby obtain a more uniform application of the power when pressure is required, or when the plunger or follower is at work.

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

A represents a rectangular box, which may be of any suitable dimensions, and B is a plunger or follower, which is placed in the box A and allowed to work freely up and down therein. The sides of the box A are slotted vertically, as shown at *a*, and the ends of the plunger or follower are provided with lips *b b*, which pass through the slots *a a*, and are fitted in the lower ends of vertical rack-bars *B' B'*.

C is the driving-shaft of the press, which extends horizontally across its front side, and is fitted in suitable bearings attached to or connected therewith. This shaft C has a crank, D, at each end, and also has two pinions, E E,

upon it—one at each side of the box A—and these pinions gear into wheels F F, the shafts *b' b'* of which are fitted in bearings *c c* at each side of the box A. (See Fig. 2.)

On the shaft *b'* of each wheel F there is placed a pinion, *d*, and these pinions gear into the racks of the bars *B' B'*, and on the shaft C there are permanently secured two hubs or collars, *e e*, which have ratchet-teeth *f* on their outer or face sides, the teeth of the collars *g* facing or being opposite the teeth of the collars *e e*. Each collar *g* has a spiral spring, *i*, bearing against it, and these springs have a tendency to keep the collars *g g* in connection or gear with the collars *e e*, which are attached to the shaft C. The upper parts, *j j*, on the front and back of the box A, form doors, which are connected by hinges *k* with the lower parts, and the top *l* of said box is also removable, and is connected to the box by staples *m* and hasps *n*. Friction-rollers *o o* are placed one behind each rack-bar B, to serve as bearing-surfaces for the same.

The operation is as follows: At the commencement of the work the doors *j j* of the box are thrown open, the top *l* removed, and the plunger or follower B run down to the bottom of the box by turning the shaft C through the medium of the cranks D D, holding-pawls *n' n'*, which engage with the wheels F F, being thrown out from said wheels. When the plunger or follower is fully lowered, the substance or article to be compressed is put into the box A, the doors *j j* closed and secured by catches *j'*, and the top *l* secured down on the box. The operators then turn the shaft C through the medium of the cranks D D, the holding-pawls being thrown in connection with the wheels F, and the plunger or follower is run up in consequence of the pinions E E thereon gearing into the wheels F F, and the pinions *d d* on the shafts *b* of said wheels gearing into the racks of the bars *B' B'*. In the upward movement of the plunger or follower B the substance is compressed between the plunger or follower and the top of the box. As the plunger or follower moves upward and more power is required, the operators grasp levers G, which are fitted in the loose collars *g g*, and turn said levers so that they will be at opposite sides of the shaft C, as shown in Fig. 2. The shaft C is then turned through the medium of



these levers and the loose and fast ratchet-collars *g e*, which are simply clutches, and the power, it will be seen, is increased, the levers *G* being sufficiently long to effect such result, and as said levers are at opposite sides of the shaft *C* it will be seen that one operator in turning the shaft will press down while the other will press upward. This arrangement insures a uniform application of power to the shaft *C*, and greatly relieves the workmen or operators. It will be seen that the loose collars *g g* admit of the adjustment of the levers *G* to either side of the shaft *C*. In consequence of the shaft *C* extending the whole width of the box *A* and connected with both rack-bars *B'*, the plunger or follower will be moved up and down horizontally, as one end cannot be moved faster nor slower than the opposite end.

This press may be constructed at a very moderate cost, is extremely simple, and it contains no parts that are liable to get out of repair or become deranged by use. The compressed sub-

stance, when bound, is removed from the box *A* with the greatest facility, the doors *j j* being thrown open and the top *l* removed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The two rack-bars *B' B'*, attached to the plunger or follower *B*, in combination with the gearing *a a F F E E* and shaft *C*, all arranged and applied to the box *A*, to operate as and for the purpose herein set forth.

2. The fast and loose ratchet-collars *e g*, placed on the shaft *C*, and the collars *g* arranged with springs *i* and levers *G*, substantially as shown, when said collars are used in connection with the gearing and rack-bars described, as and for the purpose specified.

ISAAC S. SCHUYLER.

Witnesses:

JAMES LAIRD,

WM. A. CROMWELL.