

(No Model.)

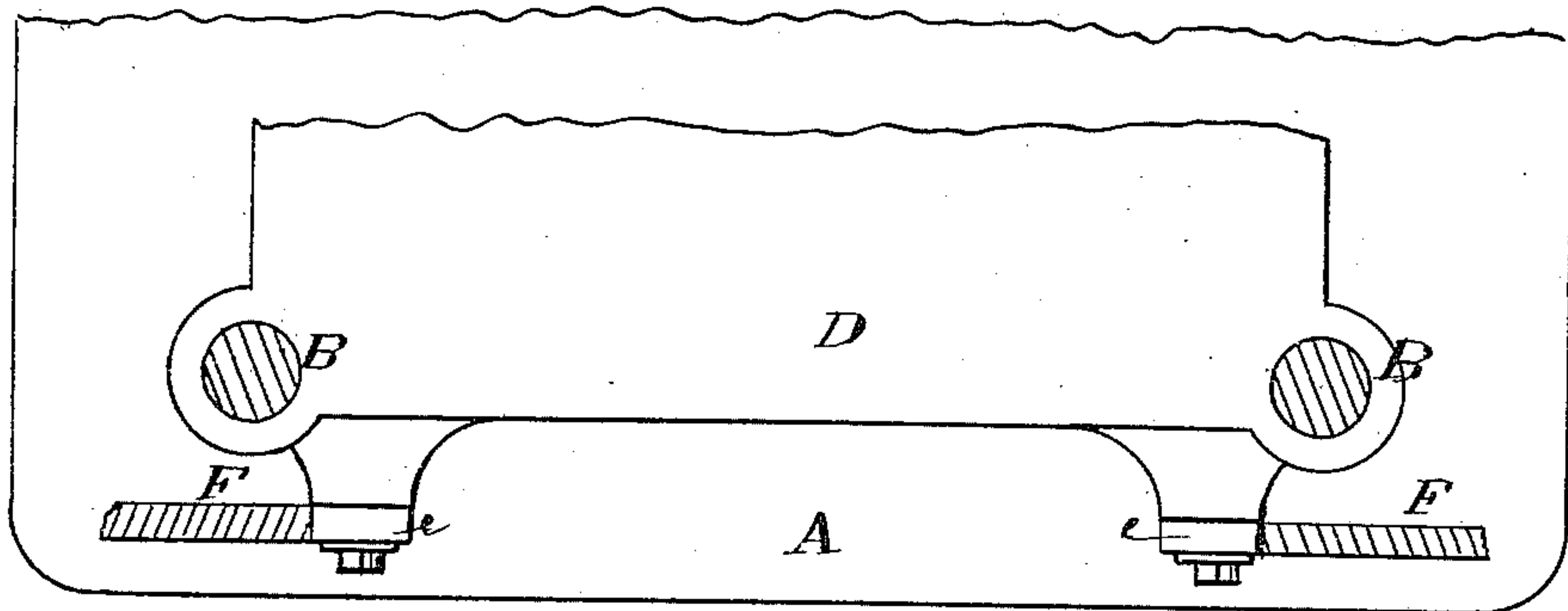
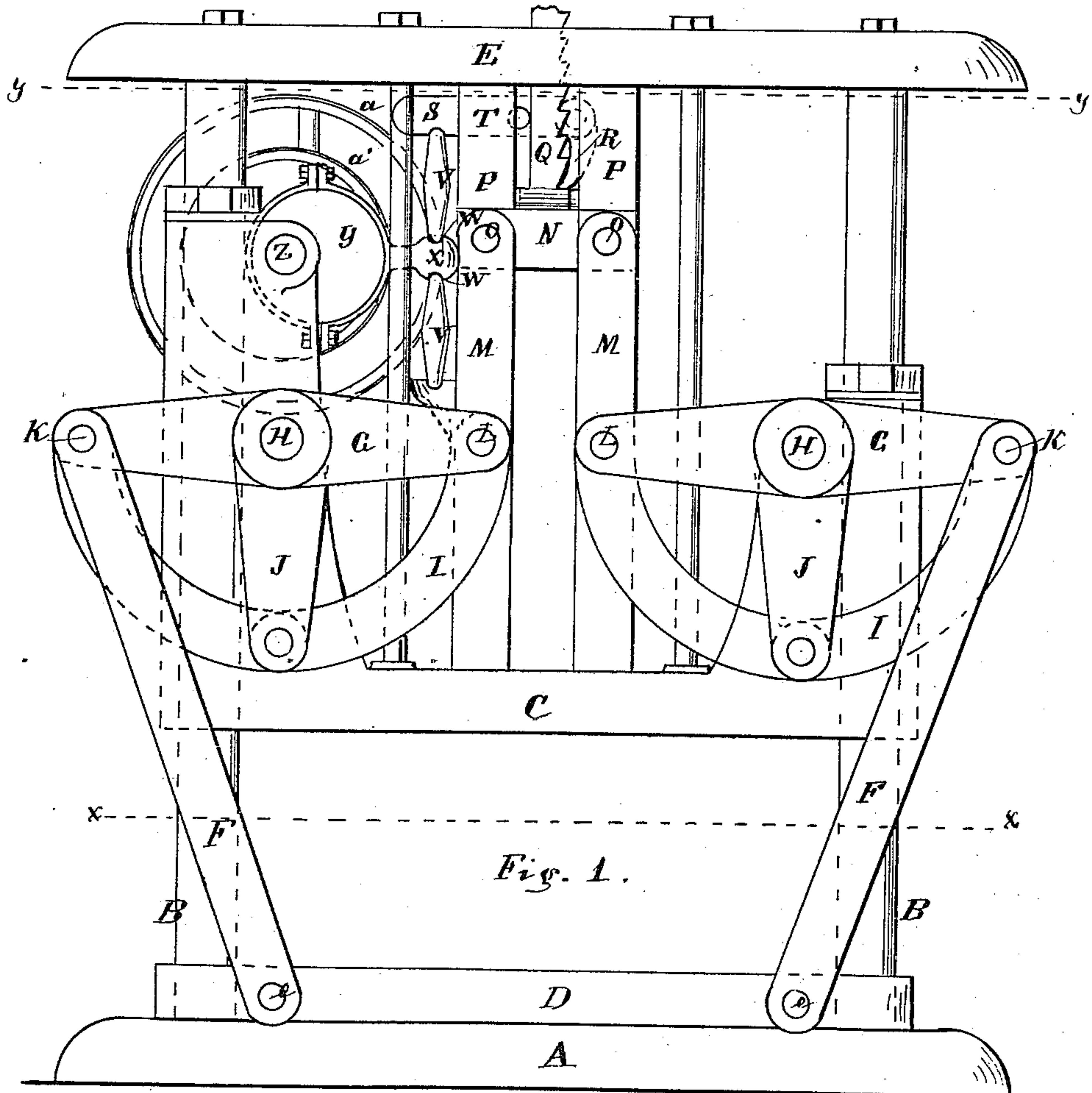
2 Sheets—Sheet 1.

A. LEYDEN.

BALING PRESS.

No. 259,561.

Patented June 13, 1882.



WITNESSES:

*Wm. H. Hines*  
*C. Sedgwick*

Fig. 2.

INVENTOR:

*A. Leyden*  
BY *Mum & Co*

ATTORNEYS.

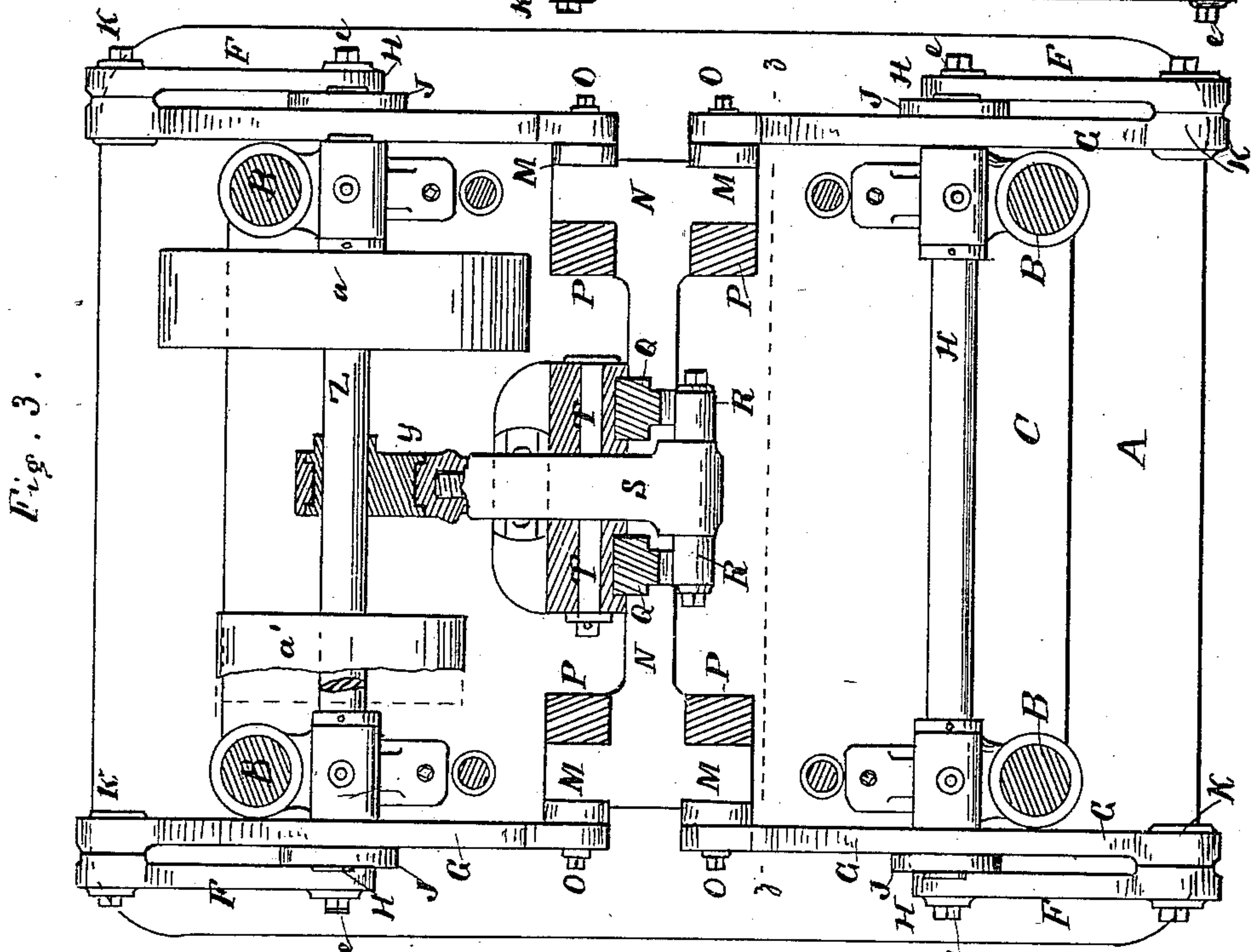
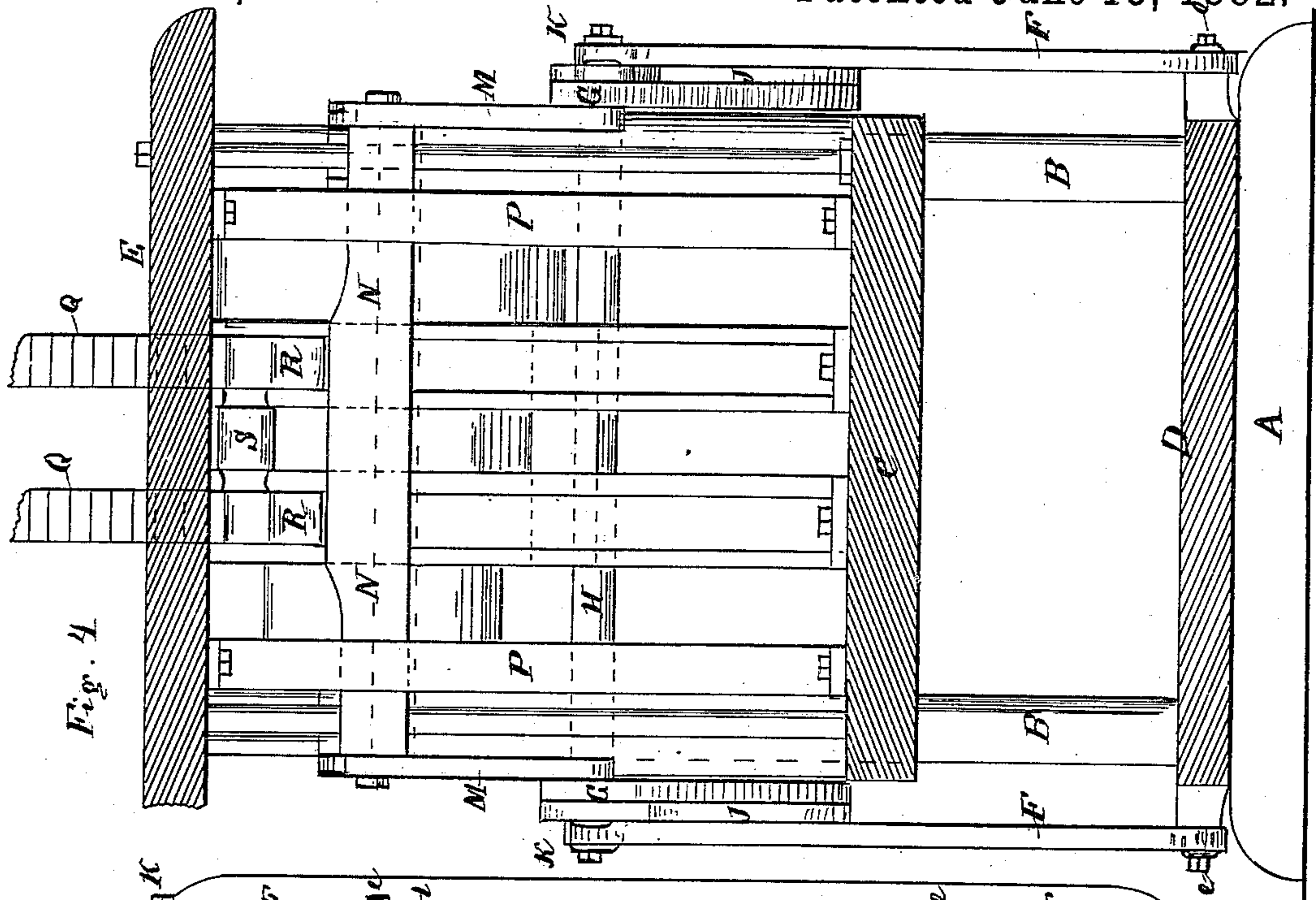
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**WITNESSES :**

Chinvers  
C. Sedgwick

INVENTOR:

BY *A. Leyden*  
*Mum Ho*  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

AUSTIN LEYDEN, OF ATLANTA, GEORGIA.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 259,561, dated June 13, 1882.

Application filed April 12, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, AUSTIN LEYDEN, of Atlanta, in the county of Fulton and State of Georgia, have invented a new and Improved Baling-Press, of which the following is a full, clear, and exact description.

The invention consists of an improved arrangement of means for operating the follower of a press, the object being to employ a quick-running driving-shaft and an eccentric and toggle device for quickly working a ratchet-lever and toothed rack with great force by successive impulses, from which racks the motion is transmitted to the follower by a system of levers, by which the leverage increases as the resistance increases, and thus providing more efficient, substantial, and convenient operative mechanism for presses than any now in use, as will be hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a press with operating mechanism constructed according to my invention. Fig. 2 is a horizontal section of a portion of the press, taken on the line  $xx$  of Fig. 1. Fig. 3 is a horizontal section on the line  $yy$  of Fig. 1, and Fig. 4 is a sectional elevation of Fig. 1 on line  $zz$  of Fig. 3.

A represents the base-plate of the press; B, the standards; C, the press-head, against which the bale is compressed.

D is the follower, and E the cap of the press-frame. The follower is connected at each side by rods F to rock-levers, which rods are pivoted to said follower at  $e$ , said levers G being fixed on fulcrum-pivots H, and having the arcs I and arms J for strength. The said rods F connect to levers G at K. The opposite ends of these rock-levers are connected at L to rods M, which are connected to cross-head N at O. The cross-head N slides in vertical ways P, and has toothed racks Q extending upward from it, to be worked by pawls R.

The pawls R are operated by the pawl-lever S, mounted on pivots T and operated by the toggle-bars V, jointed at W to the rod X, worked by the eccentric Y on the driving-shaft Z. The power is applied to said shaft Z by belts on the driving-pulleys  $a$  or  $a'$ .

The pawls R may have a spring to hold them in contact with the teeth of the rack and insure their proper engagement with the teeth; or they may engage the rack by gravity.

It will be noticed that by the application of the power to the pawl-levers by the short throw of an eccentric, and by the transmission therefrom to the press-lever G by the lever-pawl and ratchet mechanism, very great leverage is obtained by simple and direct connections, and the apparatus may be made to work with the desired speed by speeding the driving-pulleys up as needed for the purpose, or by pulleys of different sizes, as here shown, all the parts being adapted to work quickly without undue noise or jar.

The follower will be raised until the pivots K arrive at the perpendicular lines of the axes of levers G, and it will be noticed that by the course of pivots K the follower moves with greatest speed at the beginning of the work, when the resistance is least, but gradually diminishes in speed and increases in force to the end of its movement, as required by the nature of this kind of work, in which the resistance increases as the material compresses.

For the descent of the follower it is only needed to disconnect the pawls R, when the weight of the follower will cause it to descend and raise the toothed racks ready for the next operation, for which it only requires to permit the pawls to engage with the toothed racks to begin again.

There is a toothed rack, Q, for each side of the pawl-lever, to balance the resistance on the pawl-lever and to have better effect on the cross-head.

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

1. The combination of the toggle-bars V and eccentric driver Y therefor with the toothed racks Q, pawl-lever S, and pawls R, the said rack-bars being connected with the follower of a press, substantially as described.

2. The follower D of a press connected by rods F, levers G, rods M, and cross-head N with toothed racks Q for working said follower thereby, the said racks being provided with pawl and ratchet lever driving mechanism, substantially as specified.

3. The combination, with the press-follower D, of rack-bars Q and connecting apparatus, substantially as herein described, for transmitting the power from said rack-bars to said  
5 follower, substantially as specified.

4. In a press having rack-bars Q and apparatus connecting the follower thereto, the said rack-bars having pawls and a pawl-lever connected to and operated by a single eccentric  
10 driver, Y, substantially as specified.

5. The combination of rack-bars Q, cross-head N, guides P, and connecting-rods M with the rock-levers G, connecting-rods F, and press-follower D, substantially as specified.

6. The combination, in a press, of the eccentric and toggle mechanism, and the pawl-lever, pawls, and rack-bars, to transmit the driving-power to the follower of the press, substantially as specified. 15

7. The combination, in a press, of the eccentric and toggle mechanism, pawl-levers, pawls, and rack-bars, and the cross-head, connecting-rods, and rack-levers, to transmit the driving-power to the follower, substantially as specified. 20

AUSTIN LEYDEN.

Witnesses:

E. A. ANGIER,

G. H. TANNER.