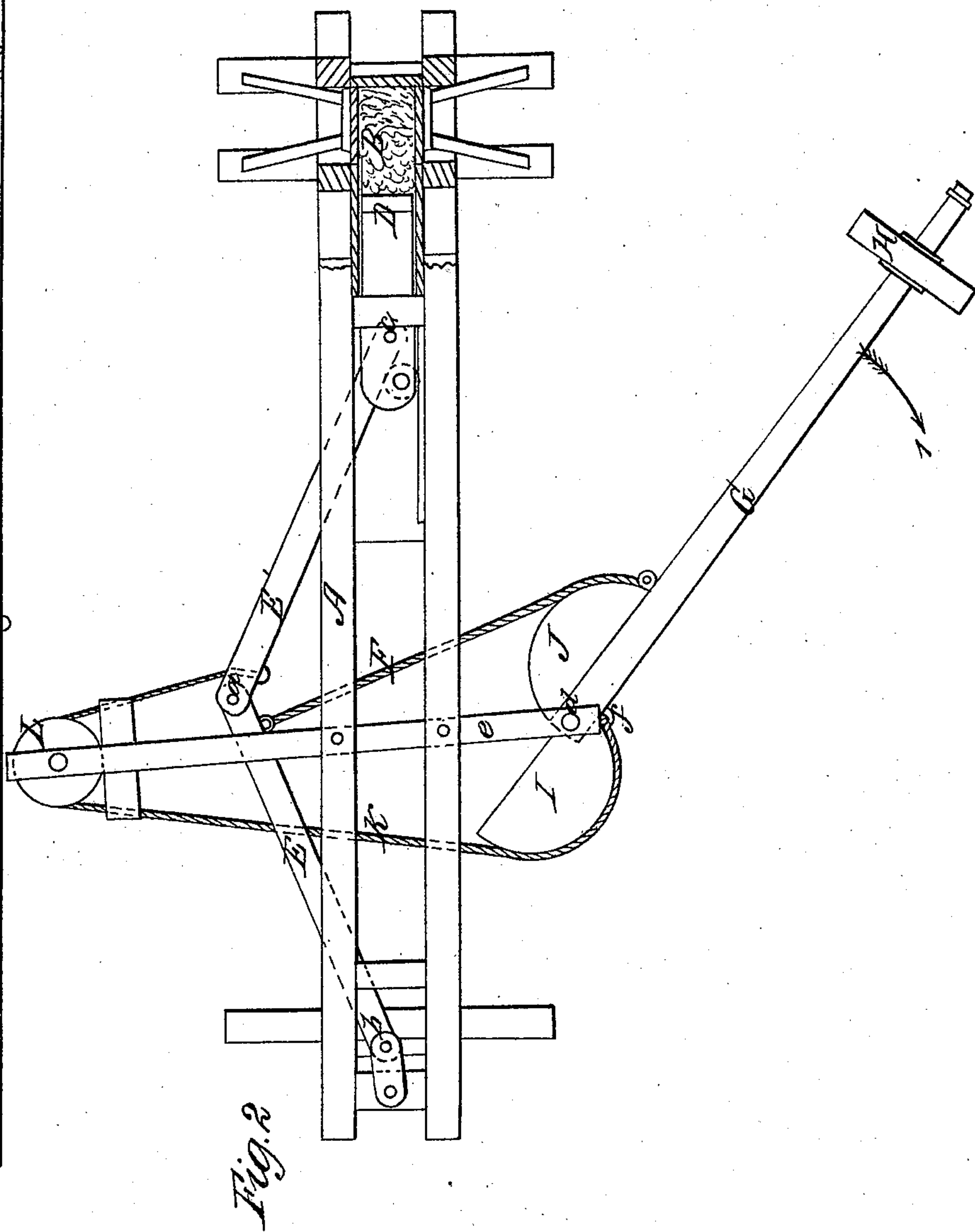
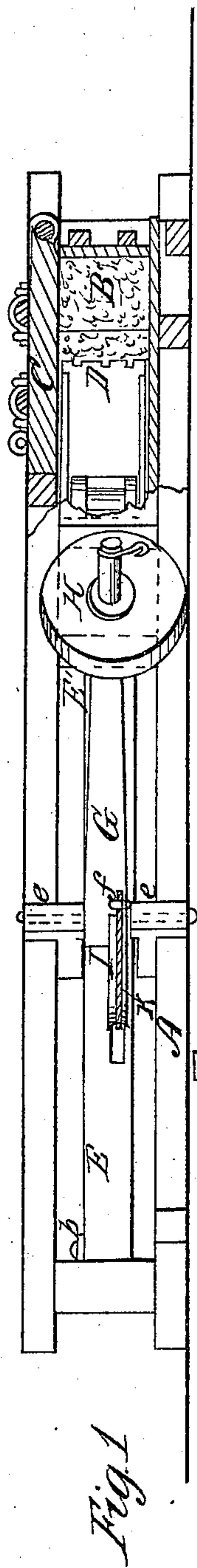


*H. Ross,*  
*Cotton Press.*

*N<sup>o</sup> 19,714.*

*Patented Mar. 23, 1858.*



# UNITED STATES PATENT OFFICE.

HIRAM ROSS, OF ROCKPORT, INDIANA.

## IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 19,714, dated March 23, 1858.

### *To all whom it may concern:*

Be it known that I, HIRAM ROSS, of Rockport, in the county of Spencer and State of Indiana, have invented a new and useful improvement in presses for compressing cotton, hay, and other substances or articles which are compressed and baled for carriage or transportation; 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—

Figure 1 is a side view of my improvement, the press-box being bisected longitudinally and vertically. Fig. 2 is a plan or top view of the same, the press-box being bisected horizontally.

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

This invention relates to an improvement in that class of presses in which a progressive power is obtained; and it consists in the employment or use of toggles in connection with a lever arranged to operate as hereinafter described, whereby the desired work is performed expeditiously with but a moderate application of power and by a very simple and economical arrangement of means.

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

A represents an oblong rectangular frame, in one end of which a press-box, B, is placed. The frame A is placed in a horizontal position, and may be constructed in any proper way to insure a requisite degree of strength. The upper end of the press-box B is provided with a door, C.

D is the follower, which works within the press-box B.

E E' represent two levers or toggles, which are placed within the frame A. The inner ends of these levers or toggles are connected by a joint or pivot, *a*, as shown clearly in Fig. 2. The outer end of lever E is attached to the end of the frame A by means of a link, *b*, and the outer end of lever E' is pivoted to the follower D, as shown at *c*.

To the inner part of the lever or toggle E, near the point *a*, one end of a rope or chain, F, is attached, the opposite end of said rope or chain being attached to a lever, G, the fulcrum *d* of which is at one end of cross-pieces *e*

*e*, attached to the frame A. The outer end of lever G has a wheel or roller, H, fitted on it, and the inner part of said lever has two semicircular projections, I J, formed on it. These projections extend horizontally from the lever at opposite sides, but not from the same point, one projection, I, being at the extreme inner end of the lever, and the other farther forward, as shown clearly in Fig. 2, and the bolt which forms the fulcrum *d* of the lever G passes through the lever at the junction of the projections I J, said projections slightly overlapping each other. The rope or chain F, it will be seen, is attached to lever G at the outer end of the projection J.

To the outer part of the lever or toggle E' a rope or chain, K, is attached. This rope or chain passes around a pulley, L, at the end of the cross-pieces *e e* opposite to the end containing the fulcrum *d* of lever G. The rope or chain K is attached to the lever G at the inner end of the projection I, as shown at *f*.

The operation is as follows: The team is attached to the outer end of the lever G, and when said lever is moved back parallel with the frame A the follower D will be drawn out from the press-box. When the lever G, therefore, is in that position, the press-box is filled with the material to be pressed, door C being raised. When the press-box is filled, the door C is closed, and the lever G is drawn around by the team over a space of ninety degrees, so that the lever G will be in line with the cross-pieces *e e*. (See Fig. 2, in which the direction of the movement is indicated by arrow 1.) By this movement the follower D is forced into the box B, and the material is compressed, the power of the press gradually increasing and in greater proportion than the increasing resistance of the material being compressed. This effect is due to the toggles E E', in connection with the semicircular projections I J, connected with the toggles by means of the chains F K. It will be seen that as the lever G is moved in the direction of arrow 1 the cord or chain F will draw inward and straighten the toggles E E', and the speed of the toggles will be gradually decreased as the chain F passes on the periphery or edge of projection J, for the bearing of the chain F on said projection gradually approaches the fulcrum *d*, and consequently the leverage-power of G is gradually increased, as well as that of the



toggles E E', the speed of the follower D of course correspondently decreasing as the power increases. The cord or chain K and projection I draw out the follower D from the press-box as lever G is moved to its original position for a succeeding operation, the cord or chain K passing off projection I while the cord or chain F is being drawn on projection J, and vice versa.

By this improvement a very simple and economical progressive power-press is obtained, one that will work with but little friction, and consequently requiring but a moderate expenditure of power.

I would remark that I do not confine myself to any particular means or power for operating the press, although animal-power will probably be chiefly employed.

I do not claim separately the toggles E E', for operating the follower D, for they are a common and well-known device, and have been previously used for similar and analogous purposes; but,

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

The toggles E E', in combination with the lever G, provided with the semicircular projections I J, and connected with the toggles by cords or chains F K, the whole being arranged to operate substantially as and for the purpose set forth.

HIRAM ROSS.

Witnesses:

JOHN CRAWFORD,

JAMES P. BENNETT.