

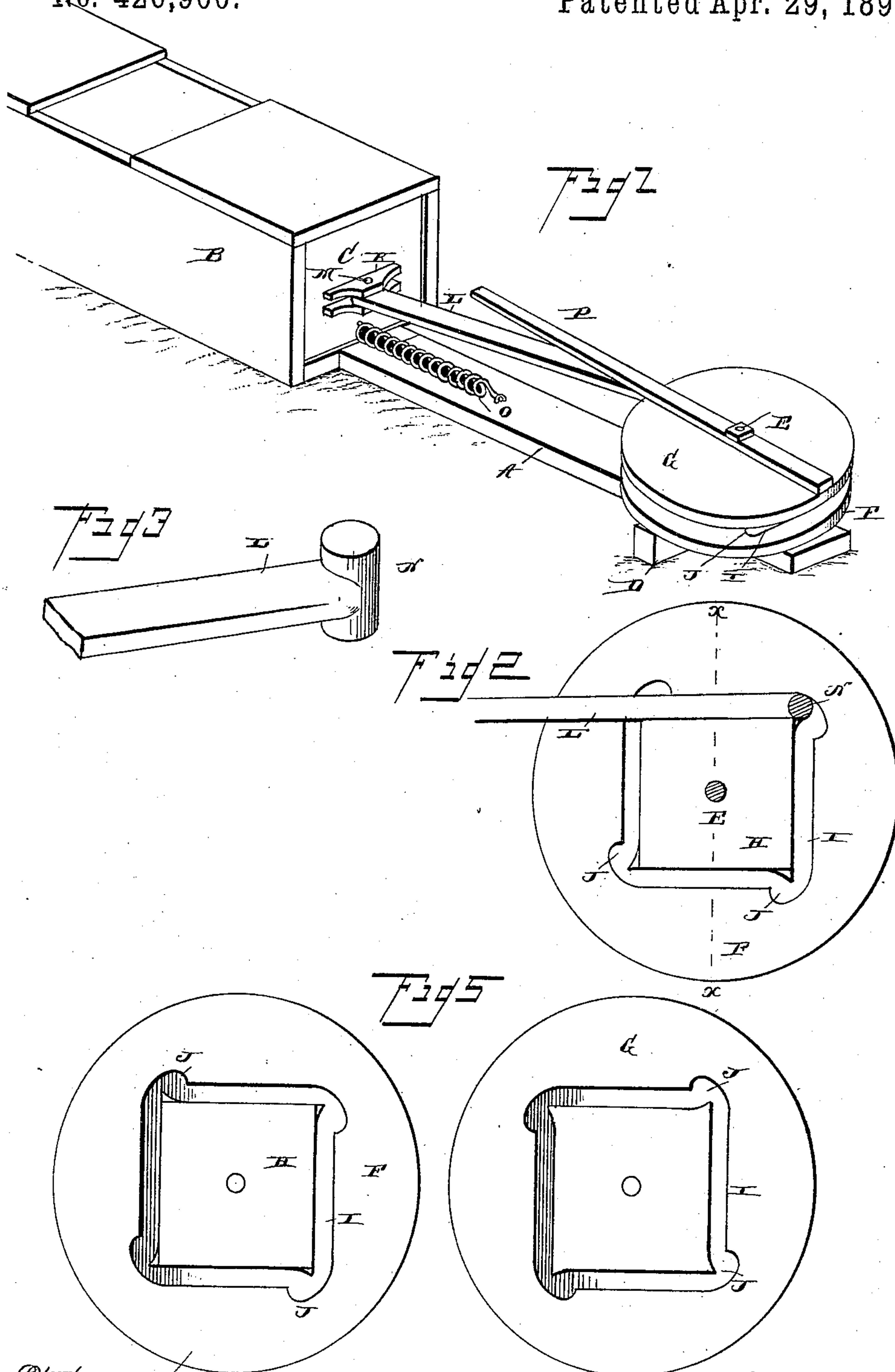
(No Model.)

2 Sheets—Sheet 1.

Z. J. ANDERSON.  
BALING PRESS.

No. 426,900.

Patented Apr. 29, 1890.



Witnesses  
John Amrie  
Wm. Bigger.

Inventor  
 Zachariah T. Anderson

By his Attorneys *C. A. Snow & Co.*

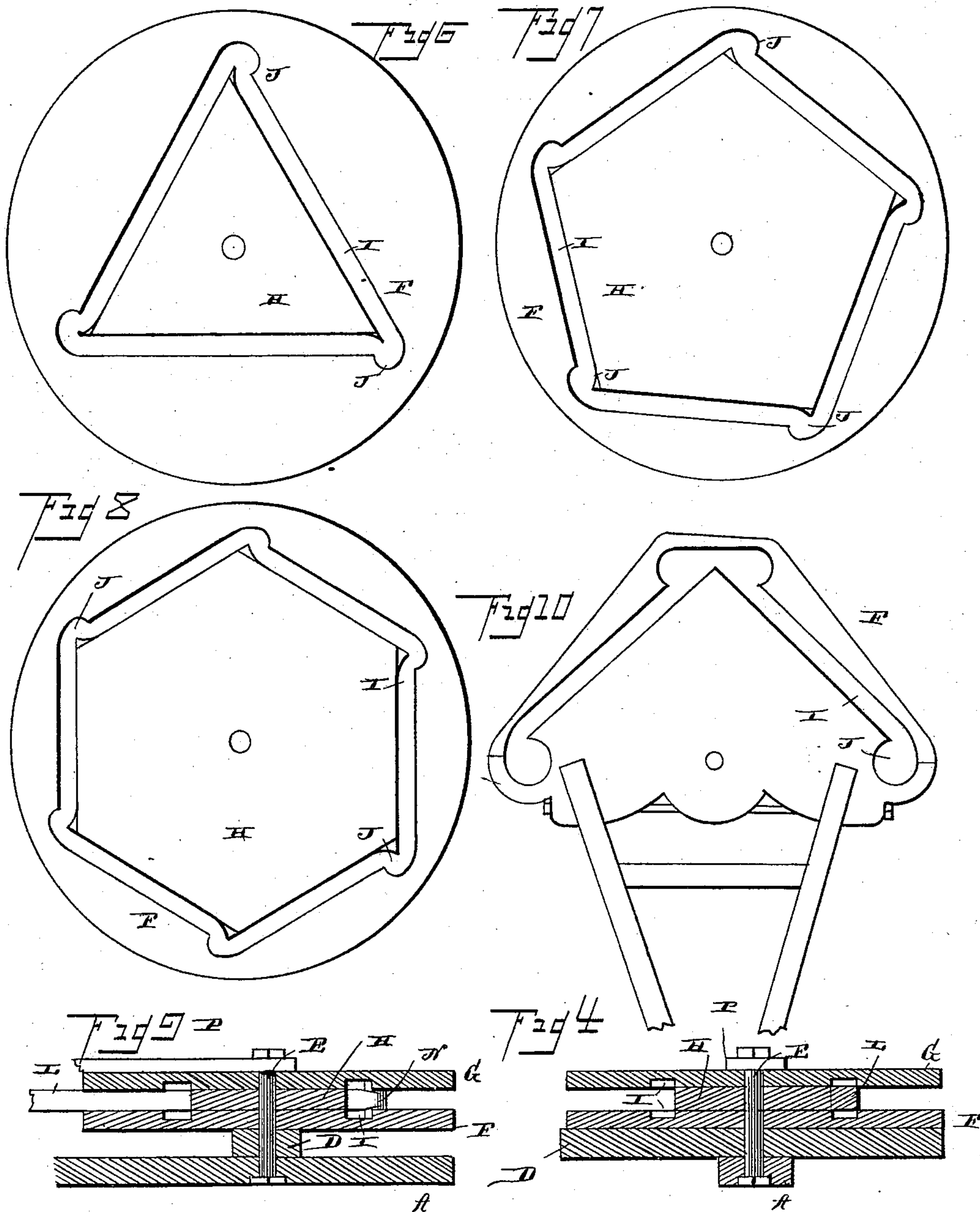
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*John Smilie*  
*Wm. Bagger*

By his Attorney

Inventor  
*Zachariah J. Anderson*

*Chas. Snow*



# UNITED STATES PATENT OFFICE.

ZACHARIAH J. ANDERSON, OF FORT WORTH, TEXAS.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 426,900, dated April 29, 1890.

Application filed May 14, 1889. Serial No. 310,717. (No model.)

*To all whom it may concern:*

Be it known that I, ZACHARIAH J. ANDERSON, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented a new and useful Baling-Press, of which the following is a specification.

This invention relates to devices for operating the plunger of presses—such as baling-presses, brick-presses, and other devices in which a forward movement is to be imparted with considerable force to the plunger or follower, which may easily rebound or be returned to its normal position; and it has for its object to provide a device of this class in which the necessary motion may be imparted to the plunger in a rapid and effective manner, and which shall be productive of considerable saving of labor and power.

With these ends in view the invention consists in the improved construction and arrangement of parts, which will be hereinafter described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view showing a hay-press equipped with my improved device. Fig. 2 is a horizontal sectional view of the same. Fig. 3 is a perspective view of the end of the pitman connecting the plunger with the cam-grooved plates. Fig. 4 is a vertical sectional view taken on the line  $xx$  in Fig. 2. Fig. 5 is a plan view of the upper and lower cam-plates, showing the former in an inverted position. Figs. 6, 7, and 8 are detail views illustrating modifications in the construction of the cam-grooved plate. Fig. 9 is a longitudinal vertical sectional view of a press equipped with my improvements. Fig. 10 is a detail view illustrating another modification in the construction of the cam-grooved plates.

The same letters refer to the same parts in all the figures.

A designates the base of an ordinary hay-press, B the press-box, and C the reciprocating plunger or follower, all of which may be of any suitable well-known construction. Upon the outer end of the base, at some distance from the press-box, is mounted a cross-piece D, staked firmly to the ground, in order to secure the device in position during operation.

Extending upwardly from the base A and cross-piece D is a vertical shaft or headed bolt E, which forms the axis of the device. Mounted revolubly upon the said axis are the base-plate F and cap-plate G, which are connected by an intermediate spacing-plate H. The base-plate F and cap-plate G are preferably circular in shape, and they are provided in their inner adjacent faces with the cam-grooves I, which surround or bound polygonal portions of the plates, as clearly shown in the drawings hereto annexed, in which Figs. 2 and 5 represent the portions bounded by the said cam-grooves as being approximately square, while in Figs. 6, 7, and 8 the portions bounded by the said cam-grooves are shown as being, respectively, triangular, pentagonal, and hexagonal. The sides of the polygonal figures forming the outlines of the said cam-grooves are slightly curved or sigmoidal in shape, thereby forming notches or recesses J J at the intersection of the sides, and the cam-grooves in the base-plate and cap-plate, respectively, are so constructed and located as to be in exact alignment with each other. The interposed spacing-plate H extends to the inner sides of the cam-grooves in the upper and lower plates, as will be seen by reference to Fig. 4 of the drawings.

The plunger or follower C of the press to which my invention is applied is provided on its rear side with brackets K, between which the forward end of the pitman L is mounted pivotally upon a vertical pin M. The rear end of said pitman is provided with a vertical transverse pin or cross-head N, working in the cam-grooves I of the disks F G.

O designates a spring, which connects the follower C with the base A of the press, for the purpose of assisting the rebound of the said follower.

P designates a lever or sweep, which is suitably attached to the cap-plate G, and to the outer end of which I hitch the team by which the device is to be operated.

The operation of the invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed. When a rotary motion is imparted to the device comprising the plates F G and the spacing-disk H, the pin N at the rear end of the pitman will enter the notches



J at the corners of the cam-groove, and will thus be carried in a forward direction until the side of the cam-groove next to the notch or recess occupied by the said roller comes in longitudinal alignment with the pitman. The latter will then be caused to rebound by the pressure in the press, assisted by the spring O, and the pin N will enter the next notch, and will thus continue while the plates are being rotated. The team in passing will step over the pitman L, which, if desired, may be covered or otherwise protected to prevent injury to the team. The number of operations of the plunger or follower to each revolution of the plates will be regulated by the number of sides to the cam-groove, as will be readily understood, and I do not wish to limit myself as to the number of sides with which the polygonal portion of each plate bounded by the said cam-groove may be provided. I also desire to have it understood that I do not wish to limit myself as to the construction of the details of this device, which may be altered and modified to suit various circumstances. Again, in some presses it may not be desired to rotate the device comprising the cam-grooved plates, but simply to oscillate it upon its axis in the manner shown in the former Letters Patent of the United States, No. 407,315, granted to me on the 23d day of July, 1889. In such case the cam-plates, in lieu of the above-described cam-grooves, will be provided with cam-grooves as shown in Fig. 10 of the drawings. In other respects the construction will remain unchanged.

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

1. A device for operating the plungers of presses, comprising a pair of plates having cam-grooves provided with notches or recesses at their meeting ends, an intermediate spacing-plate, a pitman having a transverse pin or cross-head to engage said cam-grooves, and means for operating the cam-grooved plates, substantially as set forth.

2. A device for operating the plungers of presses, comprising the base and cap plates provided in their adjacent faces with cam-grooves bounding polygonal spaces and having notches or recesses at their corners, an interposed spacing-plate, a pitman having a transverse pin or cross-head engaging the cam-grooves, and means for operating the cam-grooved plates, substantially as set forth.

3. The base and cap plates mounted upon a vertical axis and having their adjacent faces provided with cam-grooves bounding polygonal spaces and having notches or recesses at their corners, in combination with an interposed spacing-disk, a pitman having a transverse pin or cross-head engaging the cam-grooves, a reciprocating follower connected with the pitman, a spring to assist the rebound of the follower, and means for operating the cam-grooved plates, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ZACHARIAH J. ANDERSON.

Witnesses:

W. R. McLAURY,  
ROBT. S. BLAIR.