

(No Model.)

R. W. WHITEHURST.

BALING PRESS.

Patented Nov. 28, 1882.

No. 268,334.

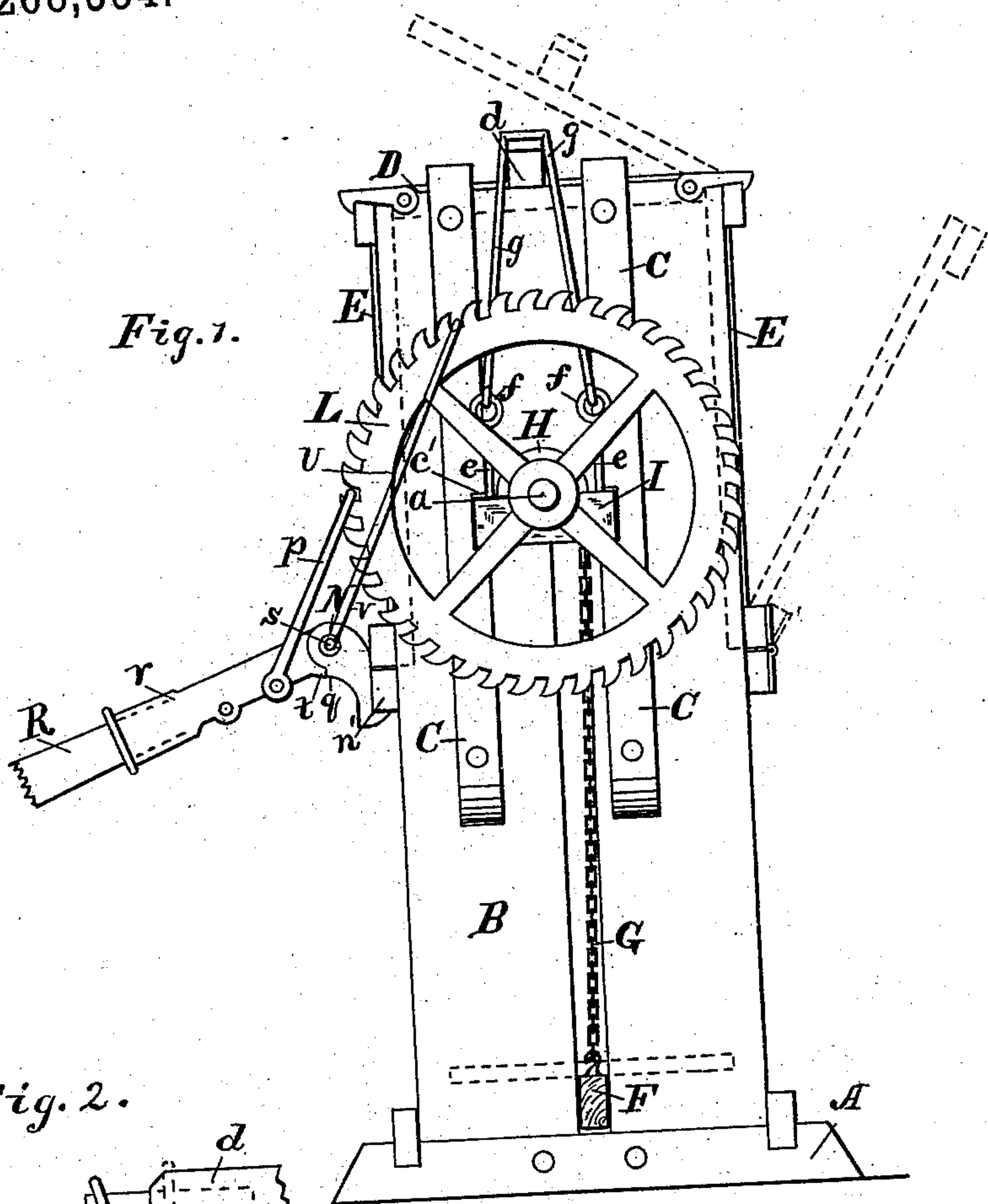
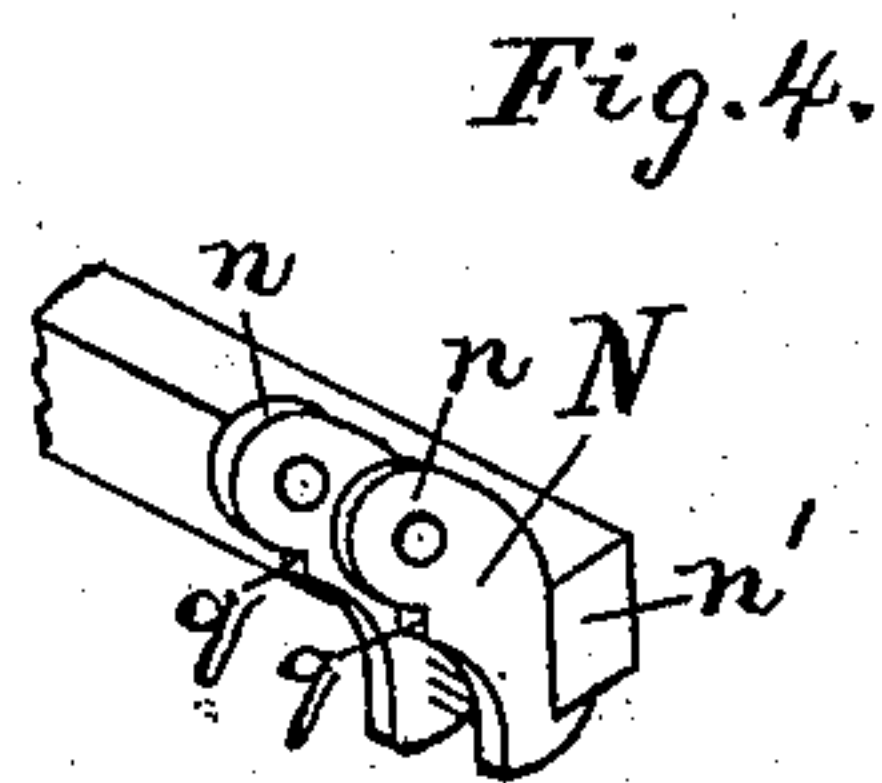
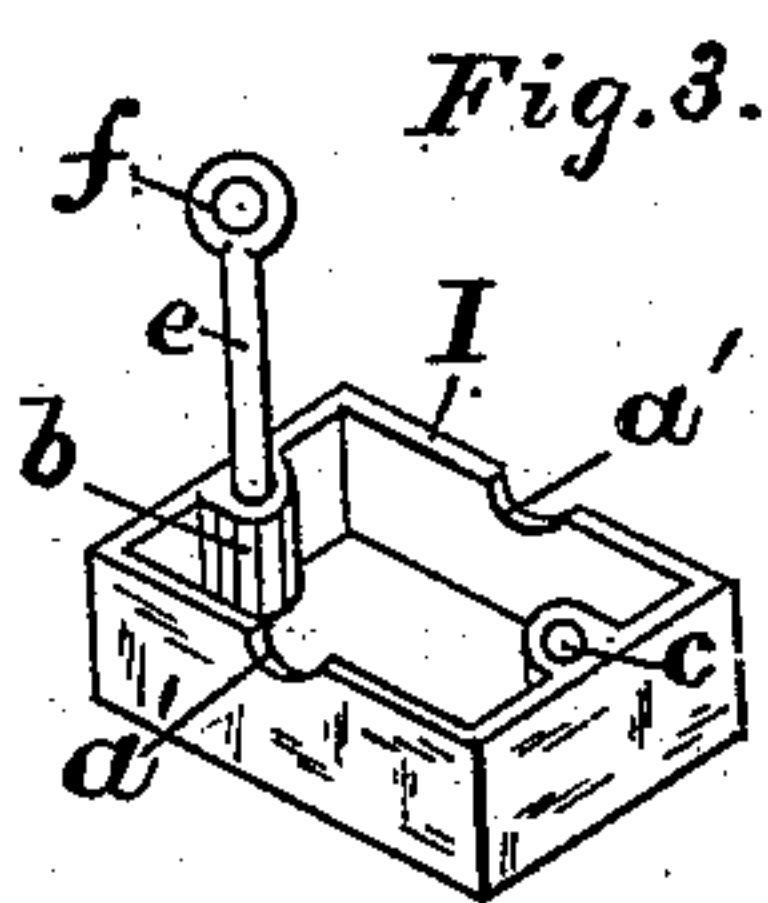
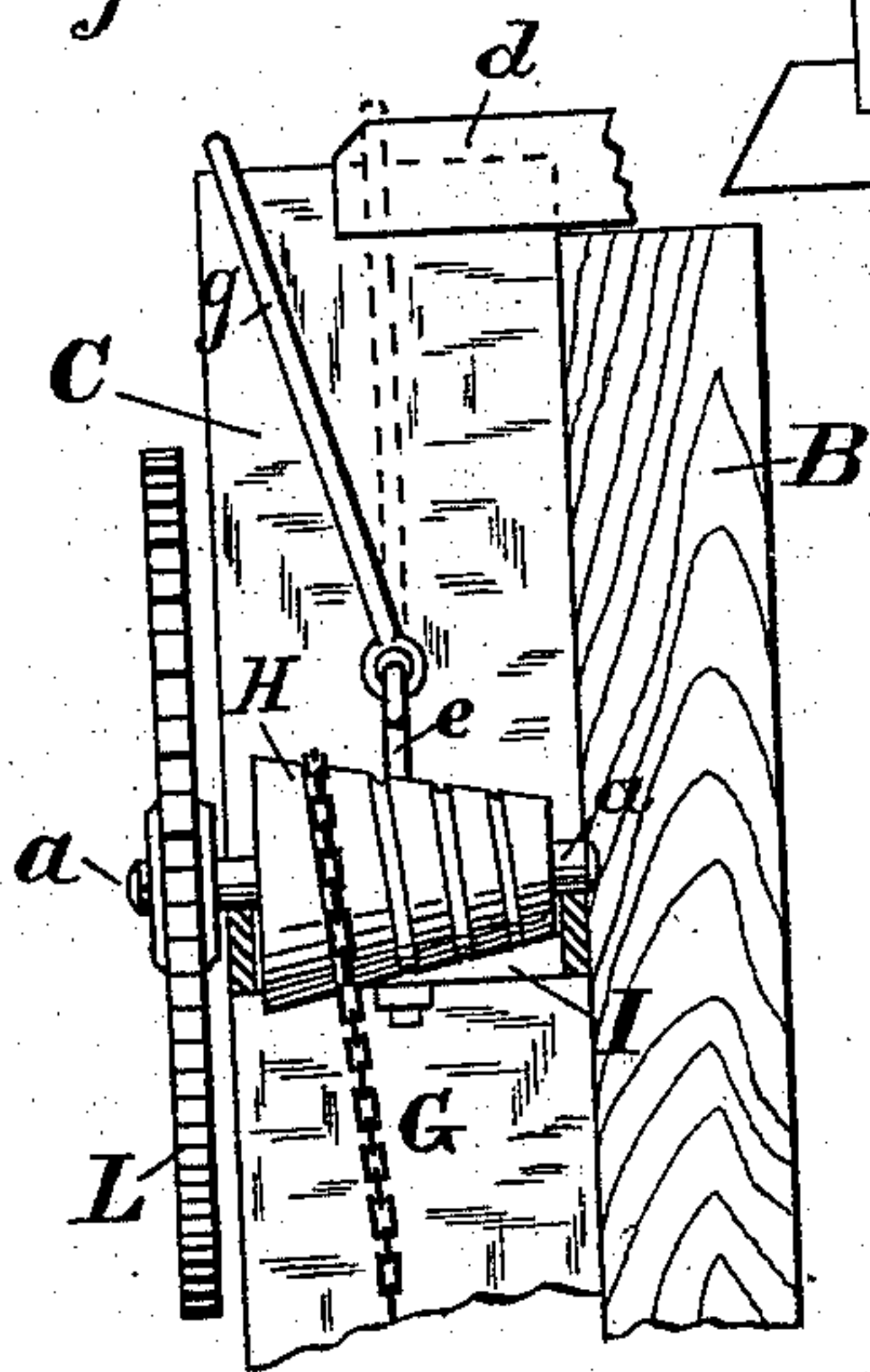


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT W. WHITEHURST, OF NORFOLK, VA., ASSIGNOR OF TWO-THIRDS
TO AURELIUS WRENN AND McDONALD L. WRENN, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 268,334, dated November 28, 1882.

Application filed August 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, ROBERT W. WHITEHURST, a citizen of the United States of America, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain improvements in presses for baling hay and cotton, and will first be described, and then designated in the claims.

In the drawings, Figure 1 is an end view of a press embodying my invention. Fig. 2 is a view transverse to that seen in Fig. 1 of the cone-drum, its bearing, rod anchored to the bearing, and the link jointed to the rod. Fig. 3 is a view of the cone-drum bearing. Fig. 4 is a view of the casting to which the lever is jointed.

The letter A designates the foundation-frame; B, the press-box; C, two vertical beams at each end; D, the movable or hinged top; E, hinged sides, and F the follower-beam.

A chain, G, is attached to the end of the follower-beam, and is wound on a cone-drum, H, beginning to wind on the large end of the drum, and as the follower is raised gradually winding toward the small end, thereby affording an effective leverage, which increases as the contents of the press-box become condensed. The cone-drum is mounted on a shaft, *a*, or the drum may be cast with a journal projecting at each end, which has its bearings on the rectangular metal box I. The four sides of this box are integral—i. e., constitute one casting. The shaft or journals *a* have bearings *a'* on two opposite sides of the box. The inner side of each end is provided with a boss, *b*. Each boss has a hole, *c*, passing through it vertically. The cone-drum sets within the four sides of the metal box and occupies the space between the two bearings *a'*, and as these are parts of one casting, it will be seen the cone-drum has a very stable support.

Each of the two vertical beams C, which are on the outer side of the press-box B, is cut out on the sides which confront each other, as shown at C', to allow the ends of the metal box

I to set in, and thereby this box is secured very firmly against the outer side of the press-box and between the two vertical beams.

The movable top D has a beam, *d*, which extends across it, with ends projecting. Two rods, *e*, have their lower ends securely anchored or made fast to the metal box I. Any suitable means may be employed for attaching the rods to the box. In the present instance, the end of each rod is inserted in one of the holes *c*, and there secured by a nut on the lower side. The upper end of each rod has an eye, *f*, and a link or yoke, *g*, is jointed to the eyes on the rods, and is thereby adapted to swing over the projected end of the beam *d*.

I am aware that a hinged link has heretofore been employed to swing over the end of the beam on the top of baling-presses, and thereby secure the top; but heretofore in such devices there has been difficulty, owing to the great strain in presses, to so hinge the link as to afford the requisite strength and rigidity. I have overcome this difficulty by directly connecting, by means of the two rods *e*, the hinged link with the bearings on which the chain-drum is supported.

Inasmuch as the follower also is directly connected, through the medium of the chain and drum, with the same bearings, it will be seen that both the top and bottom (the follower) of the press-box are connected to one and the same central point, thereby relieving the vertical beams and bolts or other fastenings of strain, and preventing such parts of the press from getting out of order.

In order to secure the requisite leverage, a large ratchet-wheel, L, must be used. As the diameter of this wheel has a dimension greater than the depth of the press-box across the end, it has been found necessary to contrive a bracket, N, to be attached to the side of the press, which shall project outward from the side far enough to give such an inclination to the link *p* on the lever R as will insure the said link to lie against the ratchet-wheel. The bracket N has two ears, *n*, which curve away from the beam *n'*, to which the bracket is attached. The lower edge of each ear has a shoulder, *q*, which serves as a stop to prevent the lever R from dropping too low. A socket, *r*, is jointed

to the bracket N by a pin, *s*, which passes through both. The link *p* is attached to the shank of the socket, while the end of the lever is inserted into the socket. A shoulder, *t*, on the under side of the socket-shank, abuts against the shoulder on the bracket, and thereby prevents the lever from dropping any lower. This insures the link *p* to constantly remain in contact with the ratchet-wheel, and leaves the lever in convenient position to be grasped by the operator.

In order to prevent the ratchet-wheel from turning back when pressing, an improved device, to serve the purpose of a pawl or detent, is employed. This device consists of a stirrup or loop, U, which is in position to engage with the teeth of the ratchet-wheel, and the two arms, V, of the stirrup have position—one at each side of the bracket N—while the pivoting pin or bolt S passes through both arms. A pawl like this, having two arms at its pivoting end and the pivoting-bolt passed through both arms, avoids many objections which pertain to pawls of the ordinary kinds, which are pivoted by means of a pin passing through the pawl and into the beam or timber of the press. An ordinary single-bar pawl, when pivoted in this last-named manner, is liable to have its pivoting-pin bent by the constant side-pressure, and the pressure on the pin may be so great as to split the beam or timber. In the present instance the two arms of the pawl are pivoted by the same bolt which forms the joint of the lever R.

While the foregoing is a description of one

end of the press and of the parts for moving the follower, it will be understood the other end is constructed in the same manner.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The hinged link *g*, connected by means of rods *e* directly to the bearings on which the chain-drum is supported, as set forth.

2. The metal box I, having four sides integral—that is, constituting one casting—and having bearings *a'*, in combination with the cone chain-drum H, setting within the said metal box, as set forth.

3. In combination with the ratchet-wheel and link, the bracket N, projecting outward from the press, provided with two ears, *n*, having on their lower edge shoulders *q*, and the lever *r*, having a shank provided on its under side with a shoulder, *t*, as and for the purpose set forth.

4. The herein-described device to prevent the ratchet-wheel from turning back, consisting of the combination of a bracket, N, the stirrup-pawl U, having two arms at its pivoting end, one arm being at each side of the bracket, and a pin or bolt passed through the arms and bracket, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT W. WHITEHURST.

Witnesses:

GEO. W. DEY,
GEO. D. DEY.