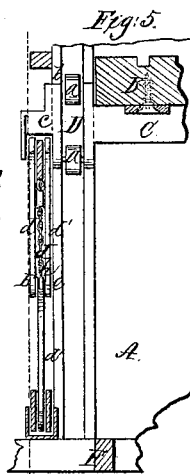
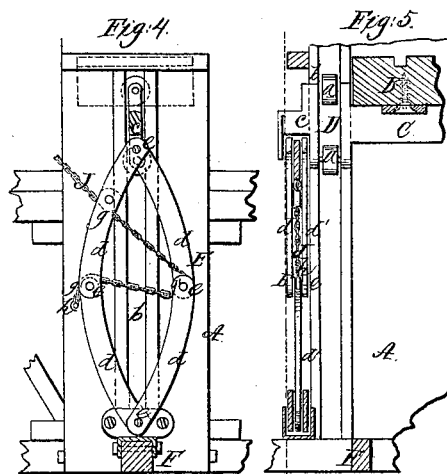
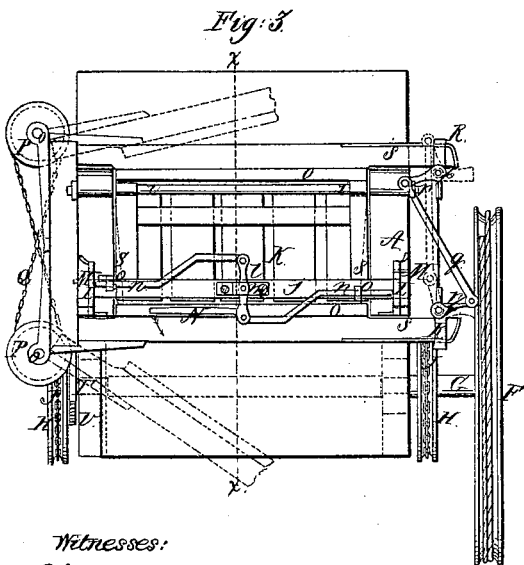
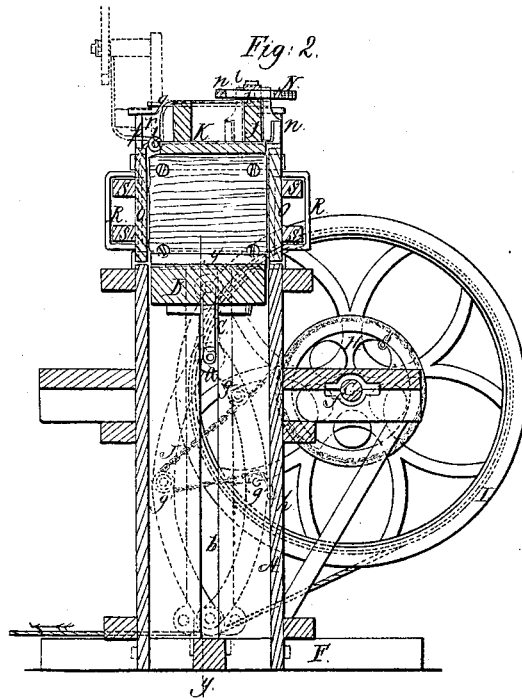
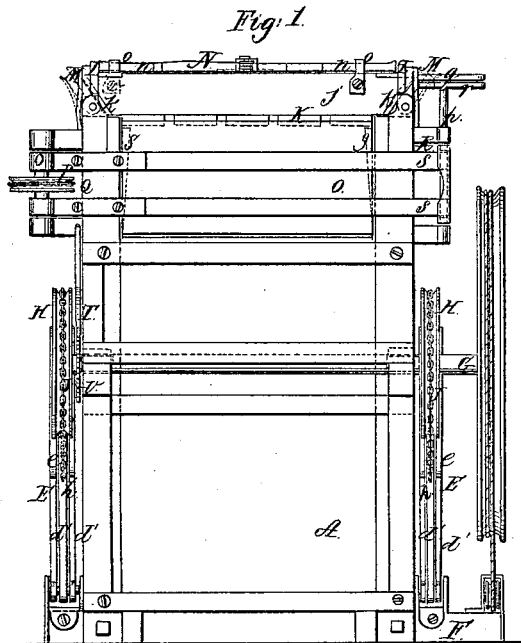


G. C. Paine,
Cotton Press,
No. 47,124, *Patented Apr. 4, 1865.*



Witnesses:

H. J. McFarlane
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UNITED STATES PATENT OFFICE.

GEORGE C. PAINE, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. 47,124, dated April 4, 1865.

To all whom it may concern:

Be it known that I, GEORGE C. PAINE, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Baling-Press; 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 front view of my invention; Fig. 2, a side sectional view of the same, taken in the line *x x*, Fig. 3; Fig. 3, a plan or top view of the same; Fig. 4, a side view of a portion of the same; Fig. 5, a vertical section of a portion of the same, taken in the line *y y*, Fig. 2.

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

This invention relates to a new and improved press of that class designed for compressing substances—such as cotton, hay, hops, &c—for baling.

The invention consists in the employment or use of toggles, arranged and applied to the press in such a manner as to afford a very compact and efficient mechanism for operating the follower and compressing the substance within the press-box.

The invention further consists in novel and improved fastenings for the side and top doors of the press, whereby the same may be very readily secured in a closed state, and also very readily opened.

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

A represents a press-box placed in an upright position, and provided with a follower, B, having a metal bar, C, attached longitudinally and centrally to its under side, and provided at each end with a vertical arm, D, in which two friction-rollers, *a a*, are placed, said rollers working in vertical slots *b b* in the ends of the press-box. These arms D have each a lateral projection, *c*, which extends through the grooves *b*, and to these projections *c* the upper ends of toggle-levers E are attached. The lower ends of these toggle-levers are connected to the base F, on which the press-box A rests, as shown clearly in Fig. 4. It will be seen, by referring to Fig. 4, that each system of toggles is com-

posed of four arms, *d d d' d'*, connected by joints *e*, the arms *d'* being doubled, or two placed side by side. (See Fig. 5.)

G is a shaft placed horizontally in bearings *f* at one side of the press-box A, and having two pulleys, H H, upon it, and a wheel, I. The pulleys H H are in line with the ends of the press-box, and have each a chain or rope, J, attached to them, said chains or ropes passing around pulleys *g g' g'*, the two latter *g'* being at the joints or junction of the upper and lower arms, and the chains or ropes being attached to the toggles, as shown at *h*. To the periphery of the wheel I the rope or chain is attached to which the draft-animal is connected, if such power is used.

From the above description it will be seen that when the follower B is down and the press-box filled with the substances to be compressed and baled, and the wheel I turned in the proper direction under the pull of the draft-animal or other power which may be applied to it, the pulleys H H will wind up the chains or ropes J, and the two systems of toggles E will be actuated so as to approach a vertical position, the follower B being raised under the movement of the toggles, and under said movement capable of exerting a powerful pressure upon or against the substance within the press-box. The friction-rollers *a a* reduce the friction attending the working of the arms D in the vertical slots *b b*.

K represents the top of the press-box, which is connected at one side by hinges or joints *i* to the upper end of the press-box. The bar *j* of the front or disengaged side of the top K is beveled at each end, as shown at *k k*, and to the upper surface of said bar a lever, *l*, is attached by a fulcrum-pin, *m*, which passes through the center of the lever *l*. To each end of the latter there is connected a bar, *n*, and these bars are bent or curved in such a manner that their outer parts will work through guides *o o* on the bar *j*. (See Fig. 3.)

On the upper part of the press-box A, at each end of it, there is a catch, L. These catches are made in the form of loops, so as to receive the beveled ends *k k* of the bar *j*. These catches have each a spring, M, bearing against their outer surfaces to throw the catches over the

ends of the bar *j* when the top *K* is shoved down in a closed state. The bar *j* is released from the catches *L L* by actuating a lever, *N*, which is attached to the front end of the lever *l* at right angles, as shown in Fig. 3. The object in having the lever *N* at right angles with the lever *l* is that when the lever is actuated, so as to throw out the bars *n n*, and the top *K* raised to a vertical position, the gravity of the lever *N* will draw inward the bars *n n*, so that the latter cannot interfere with the self-locking operation of the top *K*.

O O represent the side doors of the press-box, the former being connected at one end by hinges *o* to the press-box. On the pintles of these hinges there are secured pulleys *P P*—one on each—around which a cross-chain, *Q*, passes, as shown clearly in Fig. 3. By this chain and pulleys the two doors *O O*, which are at opposite sides of the press-box, are made to open and close simultaneously when either one of the doors is moved. These side doors are kept in a closed state by means of vertical loops or catches *R R*, which are attached to upright shafts *p p*, the upper ends of the latter being connected by a rod, *q*, the ends of which are attached to cranks *r r* on the shafts *p p*. By means of this connection the two shafts *p p* may be simultaneously turned, and the catches or loops *R R* made to pass simultaneously over and off from the ends of bars *s s* of the doors *O O*.

Within the upper part of the press-box, at each end of the same, there is secured a beveled plate, *S*. These plates are simply to facilitate

the discharging of the bale, which is bound, in the usual way, in the upper part of the press-box before the follower is allowed to descend, the follower being kept up by a pawl, *T*, which engages with a ratchet, *U*, on the shaft *G*.

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

1. The peculiar arrangement and construction of the double toggle-levers connected with the follower *D*, in combination with the chain or ropes *s s*, pulleys *H H*, and friction-rollers *g'*, whereby I am enabled to locate the shaft and wheel on the outside of the vertical press-box, for the purposes described.

2. The levers *l N* and bars *n n*, connected together and applied to the top *K* of the press-box, as shown, in combination with the catches *L L*, all arranged substantially as and for the purpose herein set forth.

3. The loops or catches *R R*, applied to the shafts *p p*, connected at their upper ends by the rod *q* and cranks *r r*, and arranged relatively with the sides *O O*, substantially as and for the purpose herein set forth.

4. The connecting of the pintles of the hinges *o* of the side doors, *O O*, by means of the pulleys *P P*, and cross-chain *Q*, substantially as and for the purpose specified.

GEORGE C. PAINE.

Witnesses:

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