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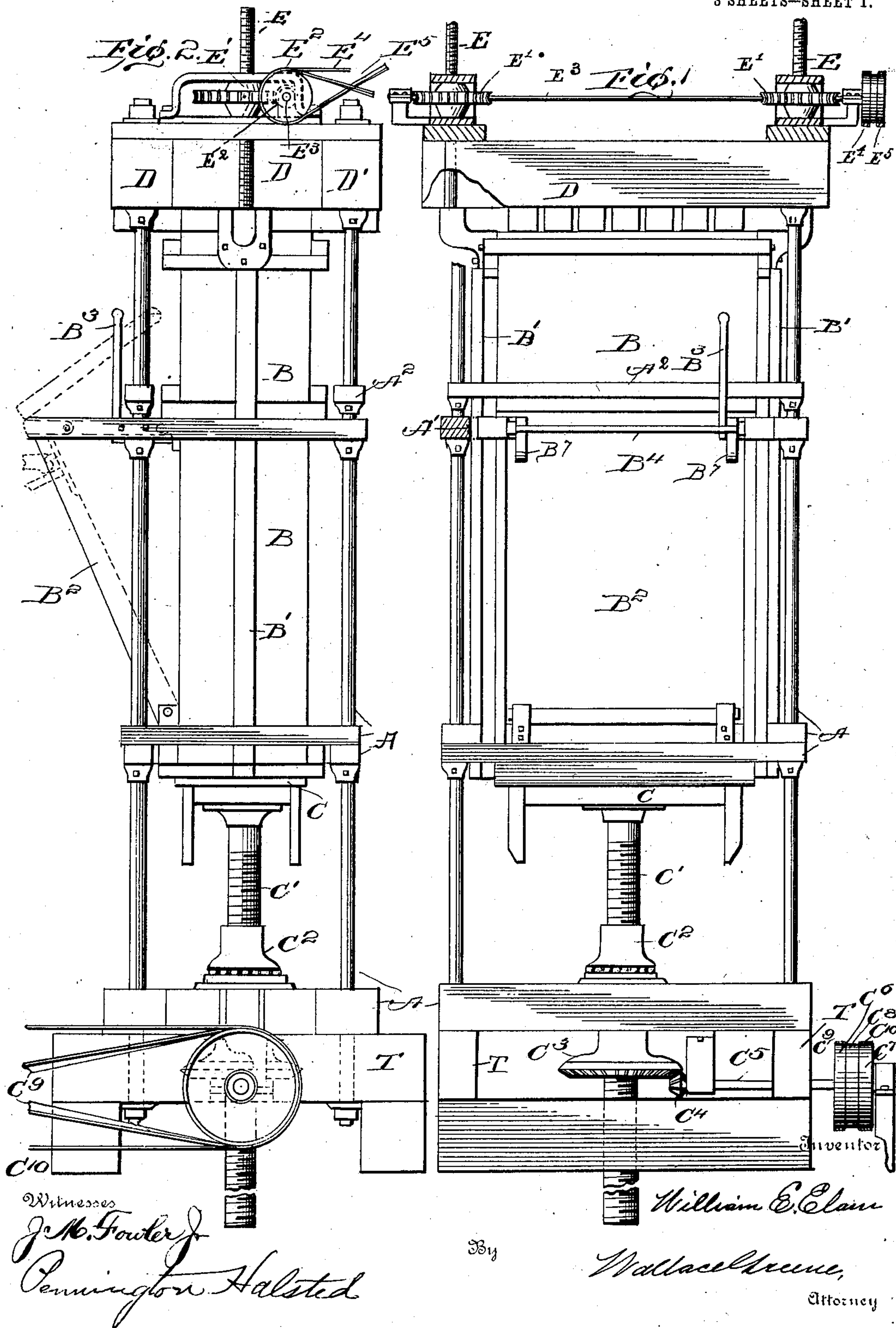
PATENTED FEB. 9, 1904.

W. E. ELAM.  
BALING PRESS.

APPLICATION FILED JUNE 13, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses

Witnesses  
J. M. Fowler &  
Pennington Halsted

William E. Clarr

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No. 751,487.

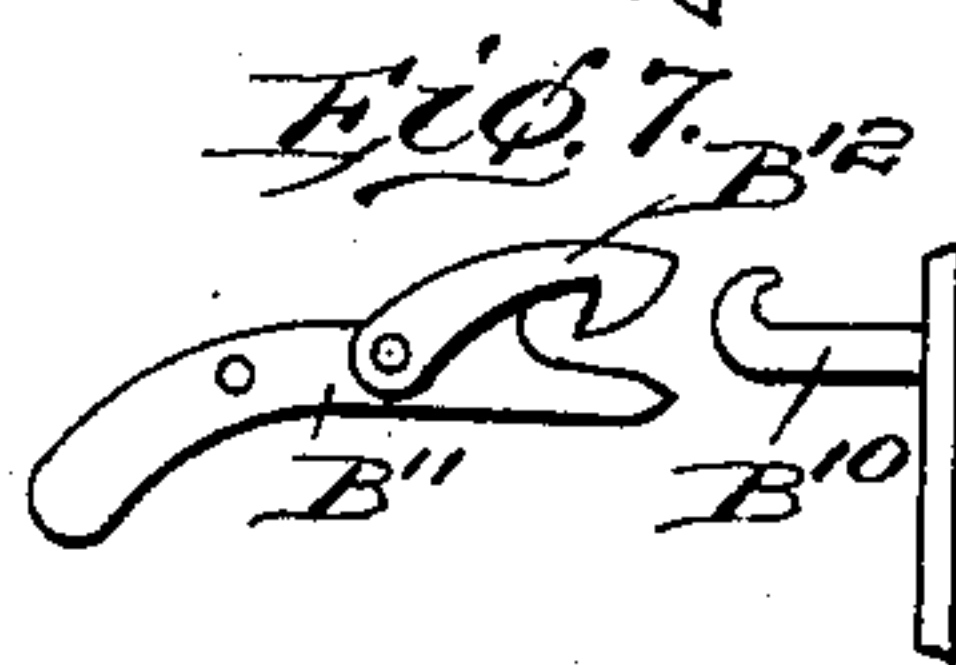
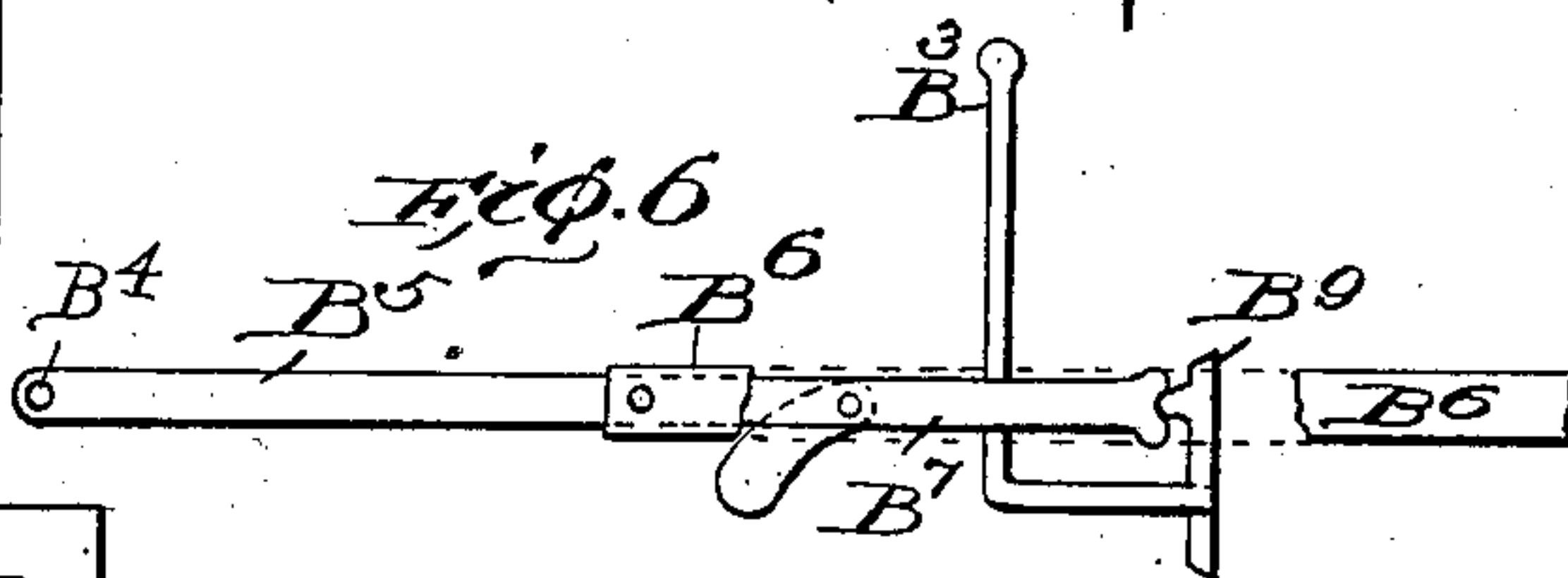
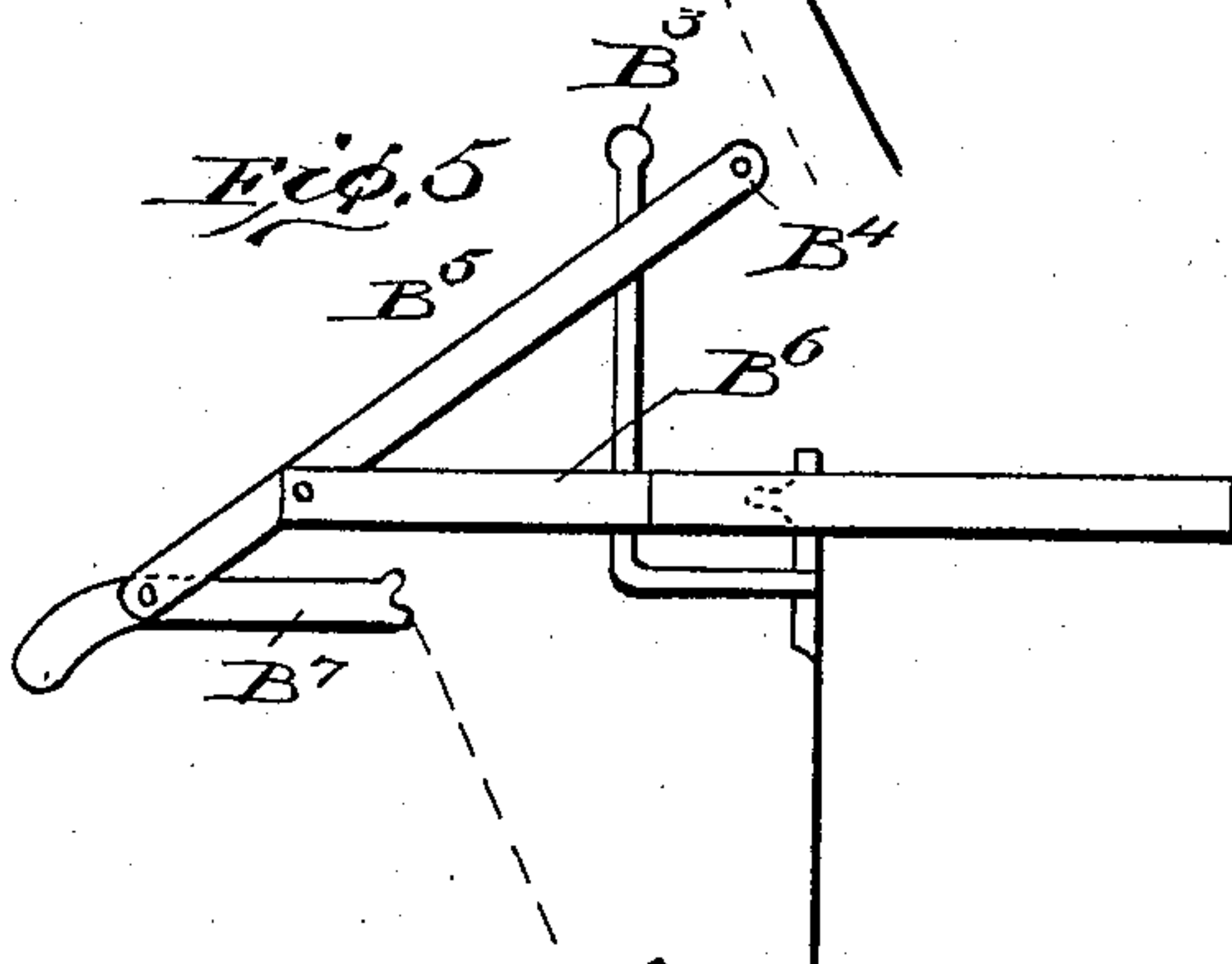
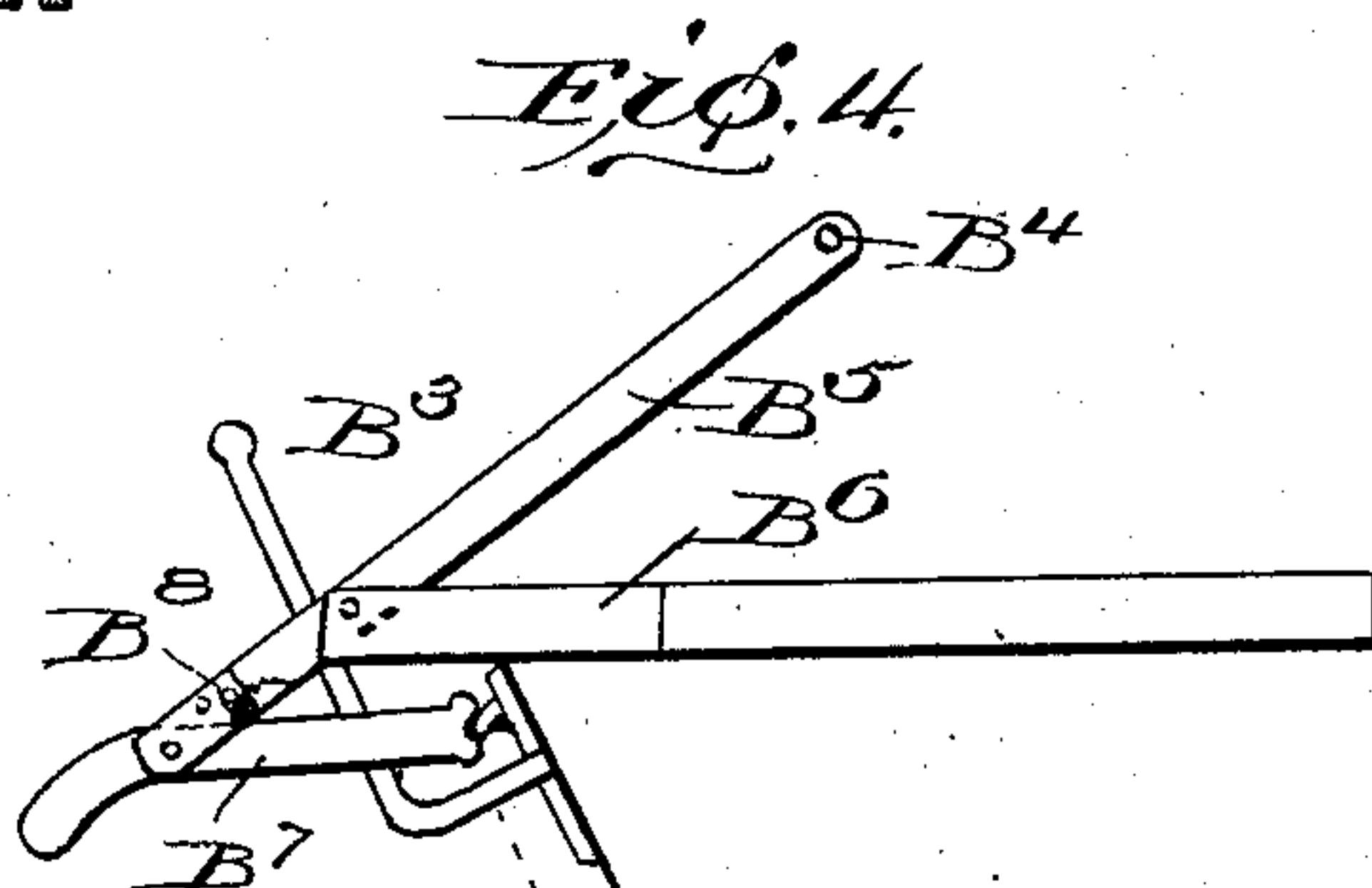
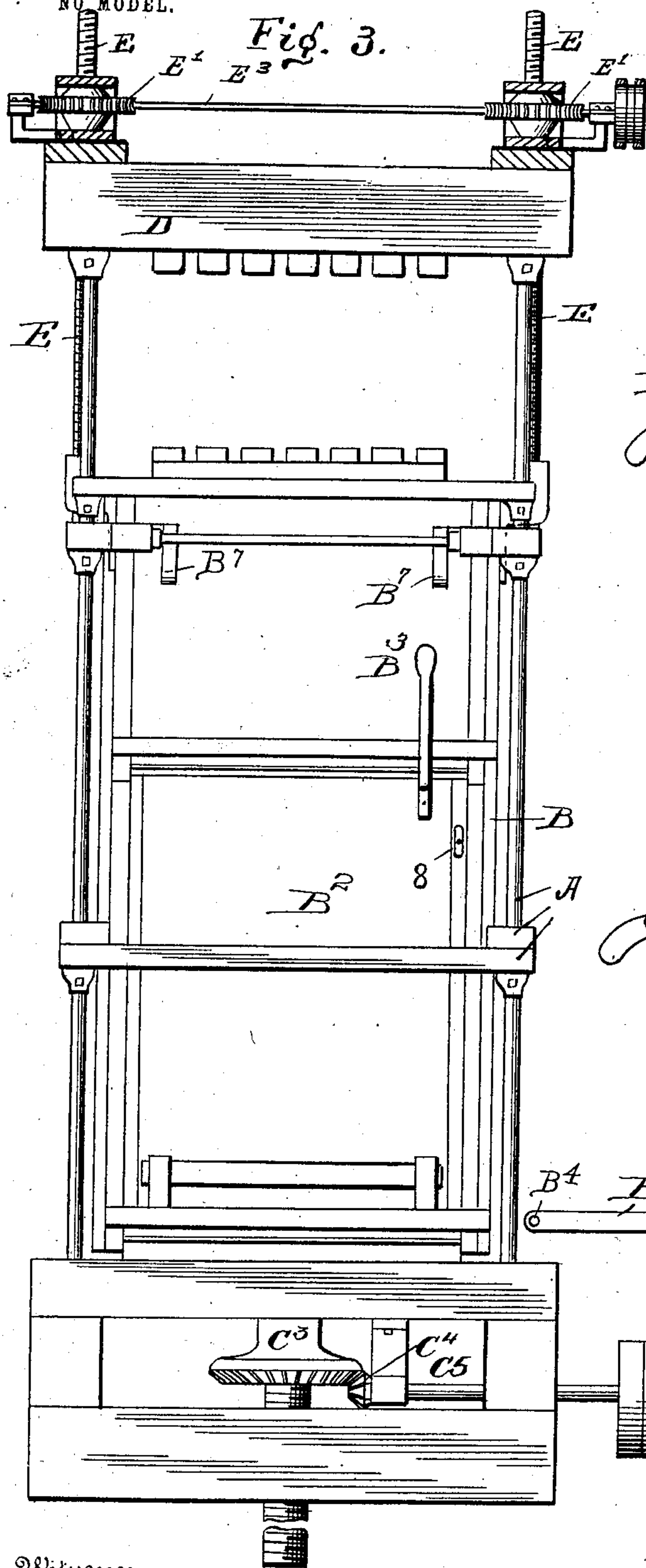
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3 SHEETS—SHEET 2.



Witnesses  
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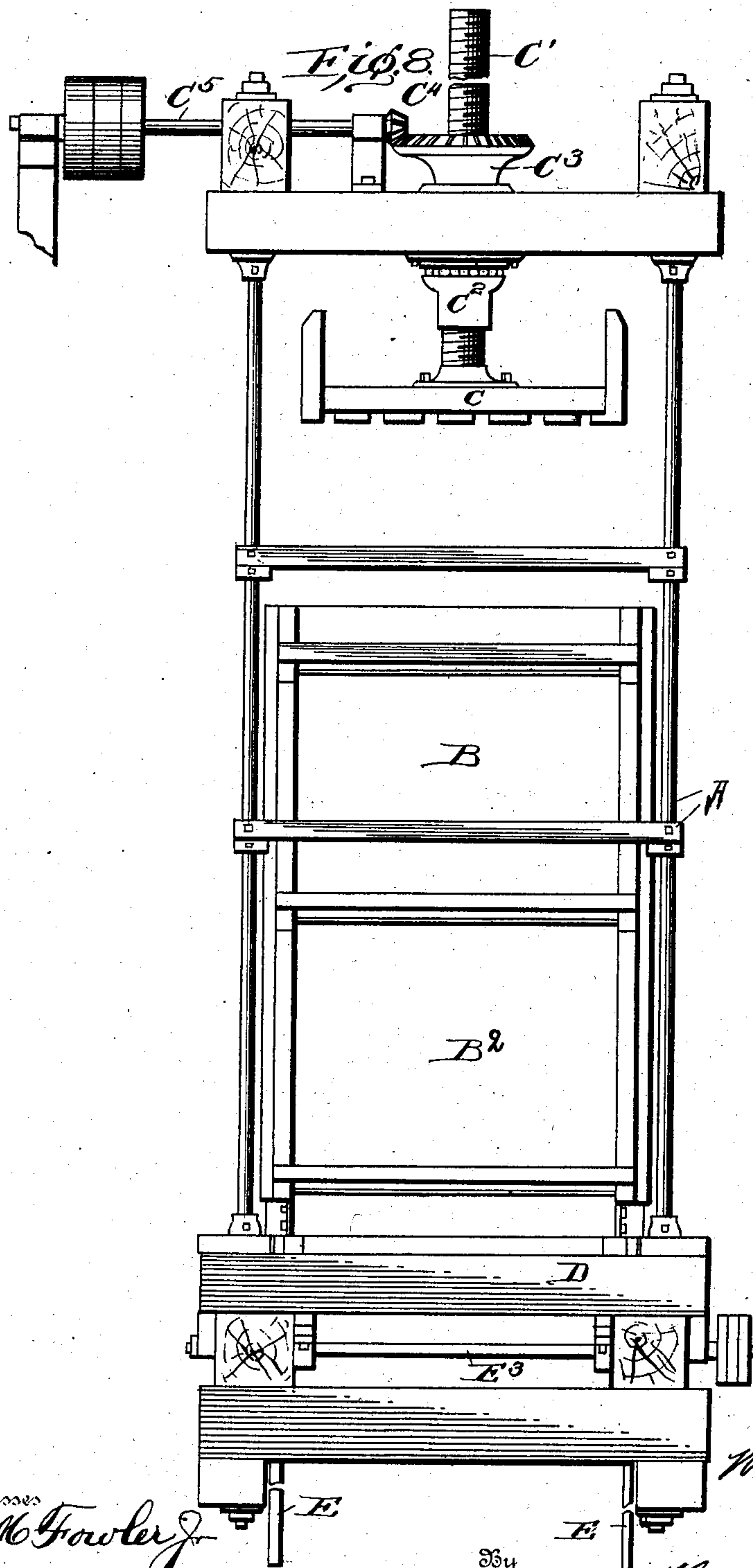
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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM E. ELAM, OF ATLANTA, GEORGIA.

## BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 751,487, dated February 9, 1904.

Application filed June 13, 1903. Serial No. 161,314. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. ELAM, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

One of the leading objects of my invention is to provide a simple, convenient, and effective press in which the completed bale is exposed for applying wrappings by sliding the press-box longitudinally instead of opening it laterally.

In the accompanying drawings, Figures 1 and 2 are respectively front and side or end elevations of the press. Fig. 3 is a view similar to Fig. 1, the box being lowered to expose the bale. Figs. 4, 5, and 6 are detail views. Fig. 7 is a modification of the devices shown in Figs. 4, 5, 6; and Fig. 8 is a view similar to Fig. 1, showing a modified construction.

In Figs. 1, 2, and 3, A represents a suitable frame, in which a press-box B is mounted to slide longitudinally through a distance a little greater than the thickness of a bale and is provided with guiding-ribs B', which slide in grooves A' in the horizontal members of the frame A. Cotton is introduced into the lower part of the box through a door B<sup>2</sup> and is then forced into the upper part of the box and against a bed D by a platen C, carried by a threaded shaft C', upon which works a nut C<sup>2</sup>, mounted in suitable cone-bearings and rotated by a gear C<sup>3</sup>, driven by a pinion C<sup>4</sup> upon a shaft C<sup>5</sup>, bearing two loose pulleys C<sup>6</sup> C<sup>7</sup> and an intermediate fast pulley C<sup>8</sup>. Upon one loose pulley runs a crossed belt C<sup>9</sup> and upon the other a non-crossed belt C<sup>10</sup>, and hence the shaft is rotated in either direction according as one or the other belt is thrown upon the fast pulley C<sup>8</sup>, and thus the platen or plunger C is caused to move back and forth, compressing successive charges of cotton until the aggregate is enough to form a bale or, say, five hundred pounds, more or less. The whole mass is then compressed by the platen until it has the desired thickness and lies between the bed and plunger and above the plane of the press members A<sup>2</sup>. The box is then forced down, leaving the bale exposed.

The rappings and ties are arranged upon the latter in the usual way, and the bale is then released by lowering the plunger and discharged. The box is forced downward by means of threaded rods E, projecting upward from its opposite sides and engaging threaded gears E', driven by worms E<sup>2</sup> upon a shaft E<sup>3</sup>, itself impelled in either direction by belts E<sup>4</sup> E<sup>5</sup>, arranged like those already described as driving the shaft C<sup>5</sup>. Obviously this construction is capable of at will raising or lowering the box positively.

The door B<sup>2</sup> is hinged at its lower side and provided with a handle B<sup>3</sup> above, by which it may be swung upon its hinges. It may be forcibly closed, and it is normally held in closed position by toggle-joint bars B<sup>5</sup> B<sup>7</sup>, acting near its lateral edges, the ends of the bars B<sup>7</sup> being pressed against the door or suitable projections B<sup>9</sup> thereon. This mechanism is shown detached and in detail in Figs. 4, 5, and 6. The bars B<sup>5</sup> are centrally pivoted upon fixed bars B<sup>6</sup>, projecting from the frame and are connected at their outer ends by a rod B<sup>4</sup>. Their opposite ends are pivoted to the bars B<sup>7</sup>, whose outer ends form counter-weights, normally throwing the inner end portions against stops B<sup>8</sup> and into position to receive the projections upon the door when the latter is opened. Fig. 6 shows the parts as they appear when holding the door closed, and if when the parts are in this position the rod B<sup>4</sup> be swung upward the members take the position shown in Fig. 5, leaving the door free to open so far as this device is concerned.

I sometimes replace the projection B<sup>9</sup> by a catch B<sup>10</sup>, Fig. 7, and substitute for the bar B<sup>7</sup> a bar B<sup>11</sup>, bearing a pivoted hook B<sup>12</sup>, adapted to engage the catch, but capable of being readily disengaged therefrom. With this arrangement raising the rod B<sup>4</sup> pulls open the door unless the hook be first disengaged, but in other respects the operation is similar to that above described. It is to be noted that the door-securing devices of the form first described are free from the box, being connected with the frame only. When the box is to be lowered, there is ordinarily no pressure within to open the door; but for security against accidental opening the door may be



temporarily secured by a button 8, Fig. 3, or by any suitable device.

Fig. 8 shows a "down-packing" press, the compressing and box-moving devices practically exchanging places. This form of press might also have the door arranged as above described; but, unlike the press first described, it does not necessarily have a door, and none is shown, the cotton being put in above while the plunger is raised and the latter serving for first compressing successive charges and for then exerting the final pressure needed to complete the bale in the lower part of the box. Were the door used, this press might be somewhat less in height, for with no door the cotton must be passed between the top of the box and the raised plunger. It is to be observed that when doors are used they are neither opened nor removed to expose the bale and that they need not be heavy enough to bear the strain of final compression. In other words, while we still have doors we have eliminated the objectionable doors of ordinary presses with all their disadvantages.

What I claim is—

1. The combination with a press-frame, of a platen and an opposing plunger of approximately the same area mounted in the frame, means for forcibly lessening the distance between the two to compress material between them, a sleeve-like press-box adapted to inclose both platen and plunger and form with them a press-chamber, and means for forcibly sliding the press-box longitudinally to expose the material while it is held under compression between the platen and plunger.

2. The combination with a press-frame, of a tubular press-box arranged for sliding longitudinally therein and provided with a lateral door in one end portion of the box, a plunger arranged to work in said end portion to force material therefrom into the opposite end portion of the box, a platen limiting the advance of material in said opposite end portion, and means for forcing the box to slide longitudinally to expose the material while the plunger still presses it against the platen.

3. The combination with a press-frame, of a press-box longitudinally movable in the frame, a platen normally in one end portion of the box

and adapted to receive ordinary bale-binding devices, a plunger arranged to enter the opposite end of the box and adapted to receive bale-binding devices while pressing a bale, and power-actuating devices for sliding the box parallel to the direction of compression and exposing the bale while it is still held under compression between the platen and plunger.

4. The combination with a press-frame, of a press-box provided with a lateral door near one end and arranged to slide in said frame, a platen and plunger arranged to compress material in the box, and devices upon the frame adapted to hold the door securely closed yet permitting the box to slide.

5. The combination with a press-frame and a press-box arranged for sliding longitudinally therein, of two screws connecting opposite sides of the box, respectively, with the frame, means for equally and synchronously advancing the screws to move the box with respect to the frame, a platen normally lying in one end portion of the box, and a platen arranged to move forward in the opposite end of the box and compress material against the platen.

6. The combination with a suitable frame, of a press-box arranged to slide therein and having a laterally non-openable end portion and a lateral door in the opposite end portion, a plunger arranged for pushing material from the second portion into the first portion, a platen limiting the advance of such material in the first portion, means for holding the door closed at proper times, and means for sliding the box longitudinally while the material is held between the platen and plunger.

7. The combination with a suitable frame of a press-box mounted therein and provided with a lateral door, of a toggle-joint bar mounted upon the frame and having its end pivotally and detachably engaging the door, and means for at will throwing the middle of the bar out of alinement and thereby opening the door.

In testimony whereof I have signed my name to this specification in presence of two witnesses.

WILLIAM E. ELAM.

Witnesses:

E. M. JOBSON,  
W. A. BOYLE.