

P. K. DEDERICK.

BALING-PRESS.

No. 170,997.

Patented Dec. 14, 1875.

Fig. 1.

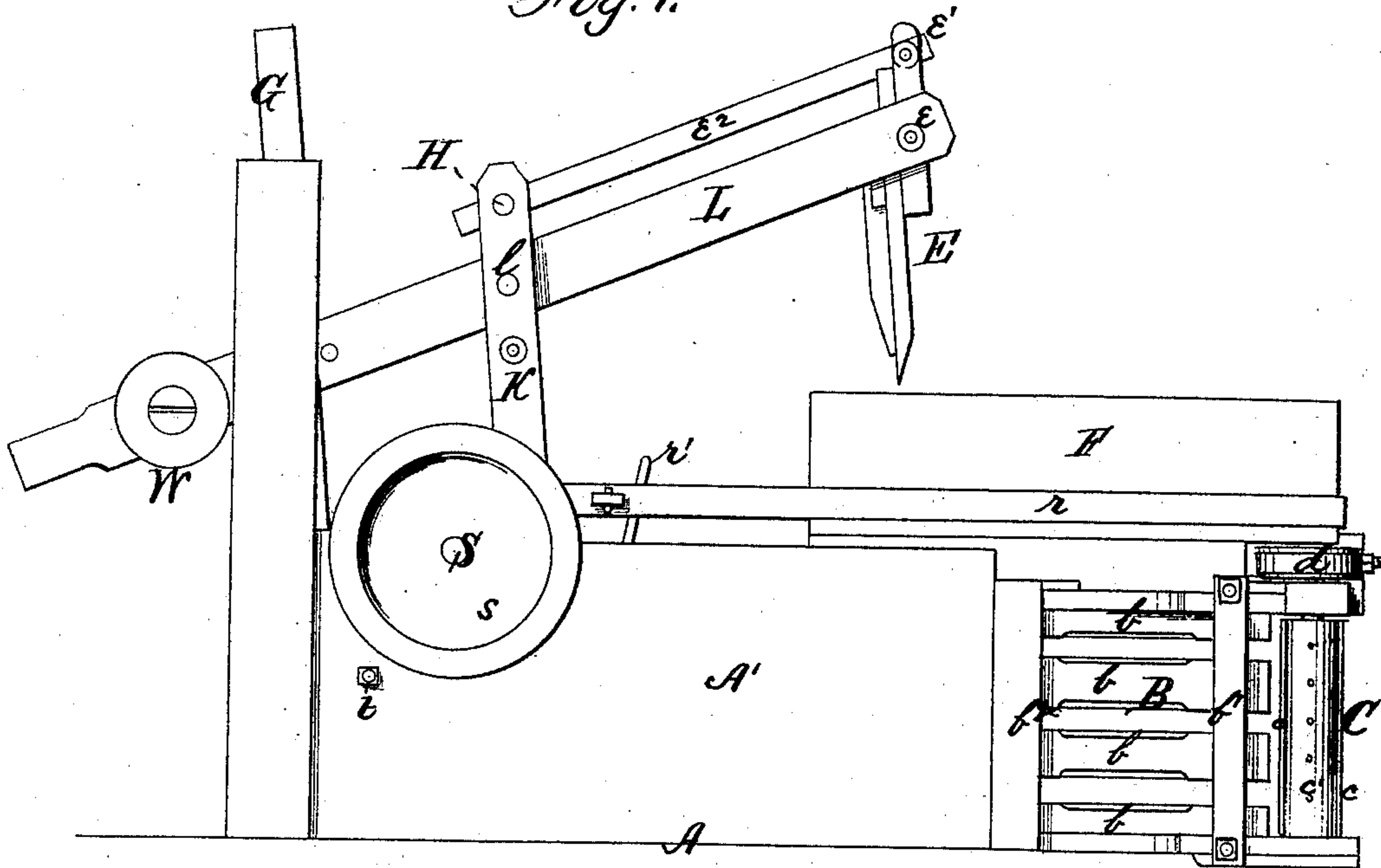


Fig. 2.

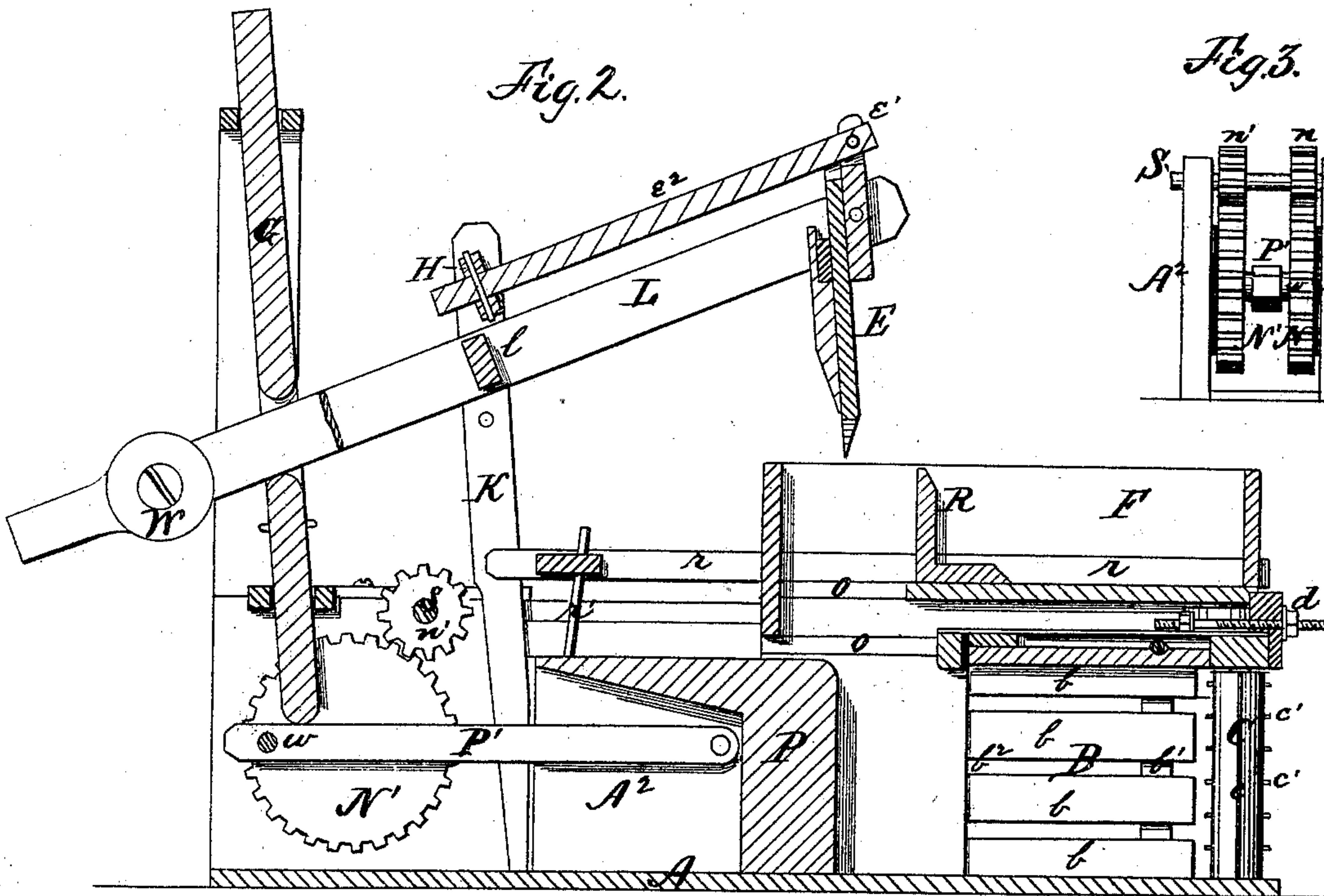
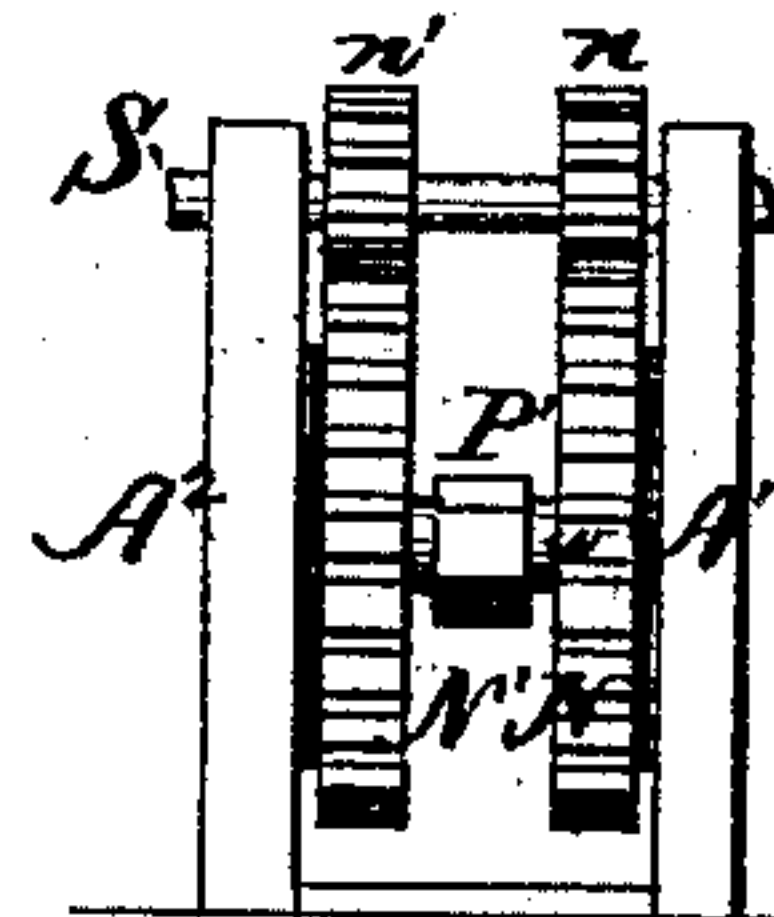


Fig. 3.



WITNESSES

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IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. **170,997**, dated December 14, 1875; application filed April 9, 1875.

To all whom it may concern:

Be it known that I, PETER K. DEDERICK, of Albany, in the county of Albany and State of New York, have invented new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings forming part of this specification, in which—

Figure 1 is a side elevation. Fig. 2 is a longitudinal vertical section, and Fig. 3 is a rear elevation of the frame and wheels.

Similar letters of reference in the accompanying drawings denote the same parts.

This invention pertains to that class of baling-presses in which the hay, cotton, wool, or other material is compressed against a yielding base; and it relates especially to the apparatus connected with such presses for feeding the material into the press-box, and for regulating and adjusting the resistance offered by or at the yielding base.

The first part of the invention consists in a new combination and new combinations of devices for feeding and beating the material into the press-box, for the purpose of increasing the rapidity, certainty, and effectiveness of the press in respect to that part of its work; and the second part of the invention consists in a new mode of, and new and improved devices for, regulating the resistance of the yielding base to the forward movement of the material in the press.

In the press shown in the drawings, and upon which my improvements are applied, the material to be compressed and baled is introduced through an opening, *o*, into a horizontal press-box, *B*, where it is forced forward and compressed, layer upon layer, by repeated strokes of a plunger or follower, *P*, the front end of the press-box being open and slightly contracted, and the compressed material in front serving as a yielding base, against which the fresh layers in rear are compressed and compacted in their turn.

In the drawings, *A* indicates the floor of the press, and *A*¹ *A*² side walls extending to the rear end of the press-box, which latter is made of horizontal slats *b b*, supported by uprights *b*¹ *b*². Either of the uprights can be set in or out to contract or enlarge the interior dimen-

sions of the press-box at either or both ends, for the purpose of retarding or facilitating the forward movement of the material. For the same purpose rollers *C*, provided with blades or corrugations *c* or teeth *c'*, and an adjustable friction-brake, *d*, of any suitable construction, may be arranged at the open end of the press-box, as shown. By adjusting the uprights or the friction of the brakes upon the rollers, or both, the outlet end of the press-box can be expanded or contracted, or caused to offer more or less resistance to the escape of the compressed and compacted bale, and thus the resistance of the yielding base above referred to can be regulated and controlled, and the bale pressed more or less compact. The mechanism for feeding the hay or other material into the press-box and compressing it therein is all operated from a shaft, *S*, to which power is applied at a pulley, *s*. Two small pinions, *n n'*, are fixed upon the shaft, one near the wall *A*¹ and the other near the wall *A*², so that there shall be space enough between them to allow the pitman *P'* to work freely. Each of the pinions drives a large spur-wheel, *N* or *N'*, which is mounted upon a stud, *t*, projecting inward from the wall *A*¹ or *A*², as the case may be. The two large wheels are connected by a common wrist-pin, *w*, which operates the plunger *P* by means of the pitman *P'*, working between the two wheels. The shaft *S* having its bearings in the walls *A*¹ *A*², and the pinions *n n'* being arranged immediately at the ends of the journal-boxes, the shaft can be made of a minimum size without danger of bending, which desirable result is further assured by the division of the power between the two pinions. The two wheels *N N'* serve to guide the pitman and support it from lateral wrenching and straining under the great power applied to it, and also support and steady the movements of each other. The whole construction is such as to equalize the strain upon both sides of the frame, thus conducing greatly to the durability and constant efficiency of the apparatus.

In operating the press the hay or other material is pitched into an open box, *F*, and, at every backward movement of the plunger *P*, is drawn back over the opening *o* by means of a slide or rake, *R*, connected to the plunger

by a rod, r , and bolts r' , or any other suitable device. As soon as the material to be pressed is thus brought over the opening o a beater, E , of suitable form, descends upon it, and thrusts it down through the opening into the press-box in front of the plunger. The beater then rises out of the way, and the plunger moves forward, compressing the charge of material, in the form of a new layer, into or against the partially-finished bale, and moving the latter slightly forward. The beater may be made in the form of a smooth blade, as shown in the drawings, when it will double up the stalks of hay or fibers of cotton, wool, &c., and thrust them down through the opening o , and the fact of their being doubled up with the ends projecting upward will prevent them from springing back when the pressure of the blade is removed. The blade E is supported by a lever, L , pivoted at l to a pair of standards, K , and is depressed by the movement of a bar, G , and raised by the gravity of a weight, W . The bar G is so arranged that when the rear end of the pitman moves backward and upward it strikes under the bar and raises the latter vertically, or nearly vertically, till the pitman passes from under it, when the rear end of the bar drops suddenly, raising the blade E quickly out of the press-box. It is desirable that the plate or blade E should move in as nearly a straight line as possible, and to secure this result it is pivoted to the lever L at e , and is articulated at e^1 to a rod, e^2 , connected to a rock-bar, H , having its bearings in the standard K , the operation of which combination of mechanism

will be readily understood from the drawings without further description.

The weight W may be made adjustable either by moving it along on the lever or by adding to or taking from it the plates, rings, or other parts of which it is composed.

The rod r , which operates the rake R , is flush with the interior of the feed-box F , so as to offer no obstruction to the feeding of the hay or straw through said box, and extends throughout the entire length of said box, and beyond the extremities thereof to such a distance that when it is in operation its ends will in no case enter the feed-box and catch into the material therein.

I claim as my invention—

1. In a baling-press, the combination of the beater or feeder E with the lever L and rod e^2 , for the purposes herein set forth.

2. The combination of the feed-box F and rake R with the countersunk rod r , extending throughout the entire length of the box, and projecting beyond both ends thereof, substantially as described, for the purpose specified.

3. In a press having its front end open, the side slats b , secured in adjustable standards b^1 b^2 , substantially as and for the purpose described.

4. In a press having its front end open, the rollers C , combined with an adjusting-brake, substantially as and for the purpose described.

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Witnesses:

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