3 Sheets—Sheet 1.

P. K. DEDERICK.

BALING-PRESS.

No. 170,998. Patented Dec. 14, 1875.

Fig. 1.

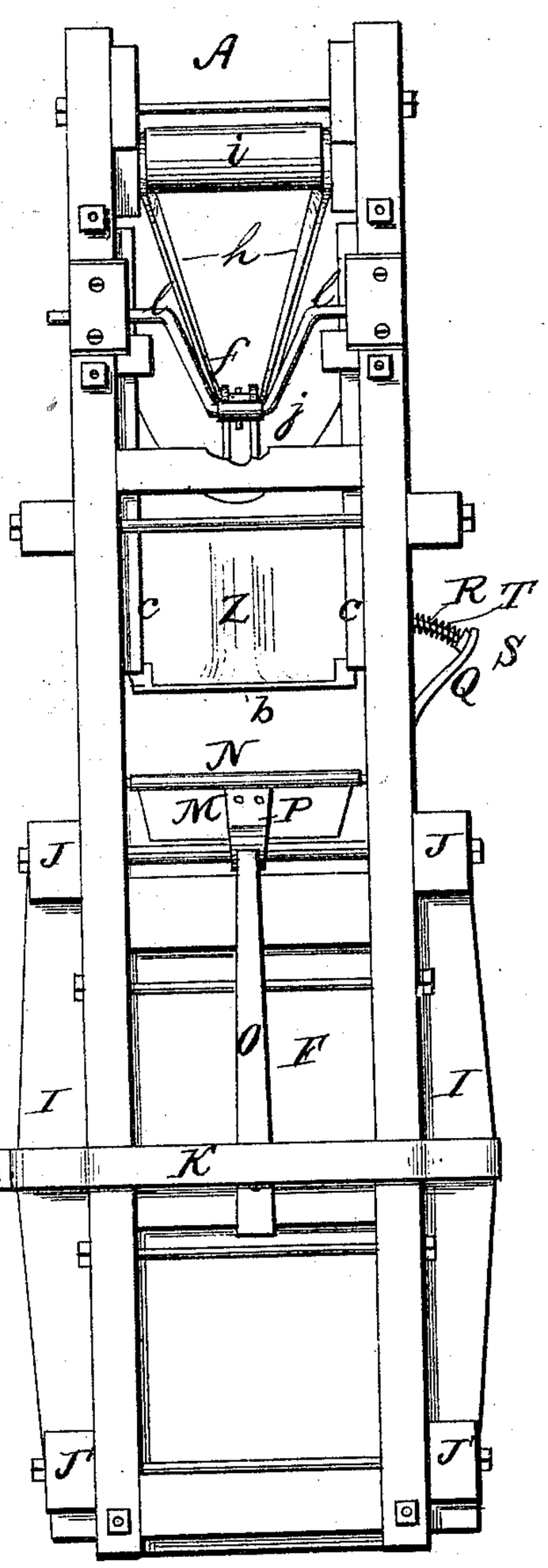
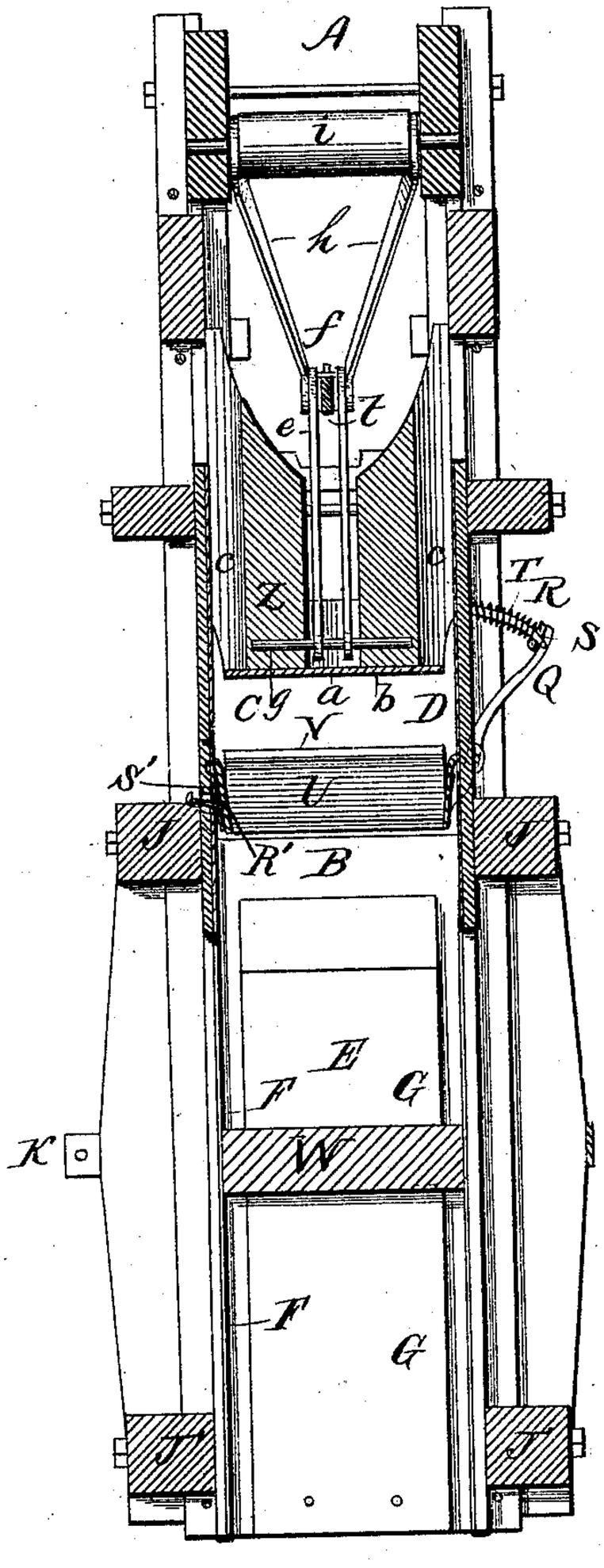


Fig. 2.



WITNESSES

Granville Lewis

W. T. Henry

By

INVENTOR.

O. K. Dederick

Hill Ellsworth

His Attorneys

3 Sheets—Sheet 2.

P. K. DEDERICK.

BALING-PRESS.

No. 170,998. Patented Dec. 14, 1875.

Fig. 3.

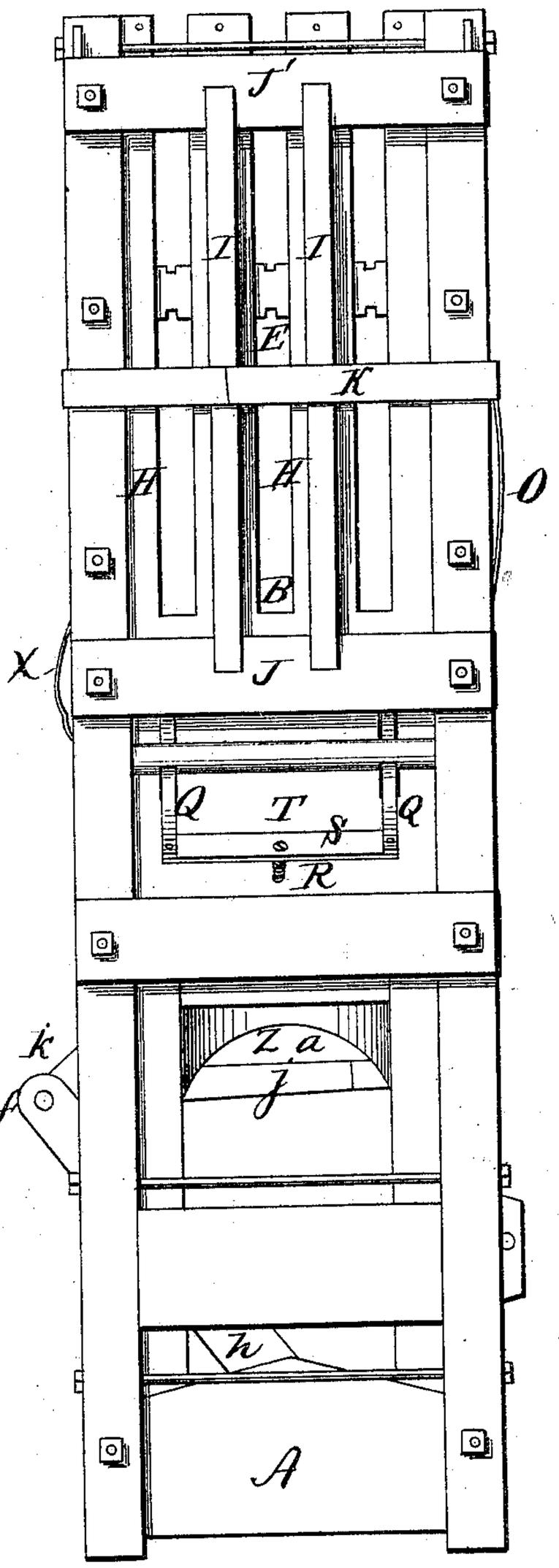
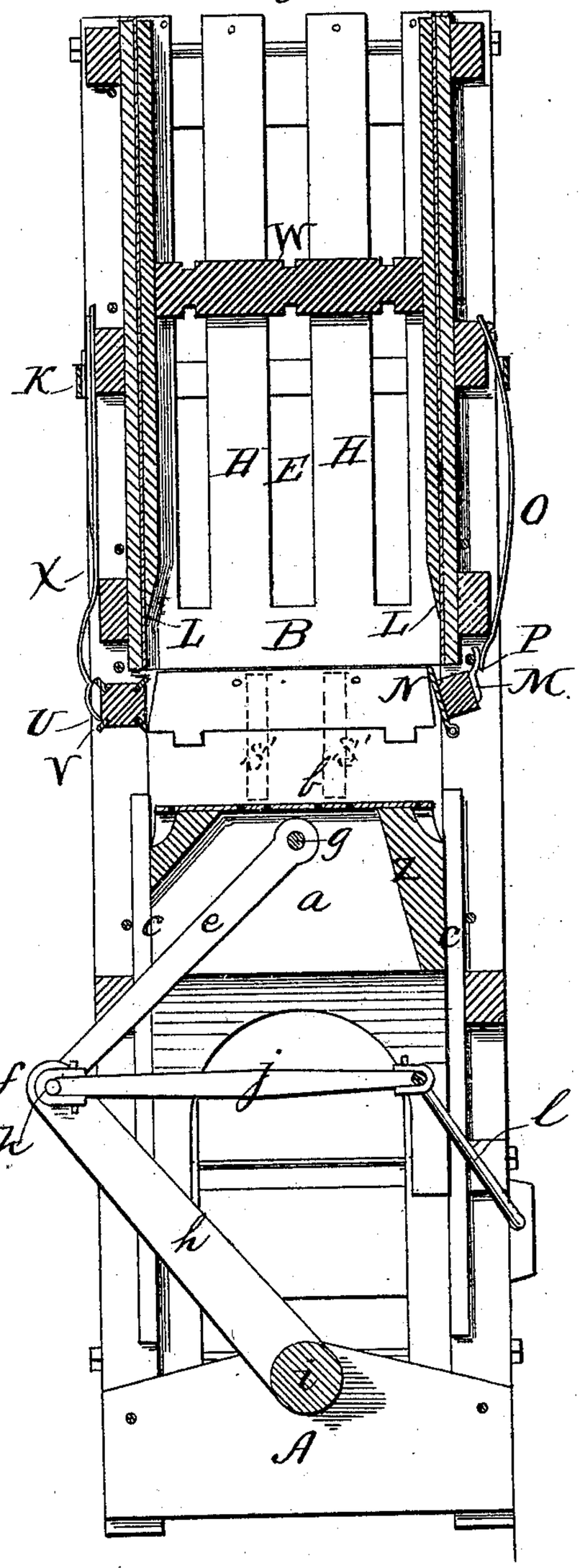


Fig. 4.



WITNESSES

Granville Lewis

F. W. Kenny.

By

INVENTOR

P. K. Dederick

Hill Tillinghast

His Attorneys

3 Sheets—Sheet 3.

P. K. DEDERICK.

BALING-PRESS.

No. 170,998. Patented Dec. 14, 1875.

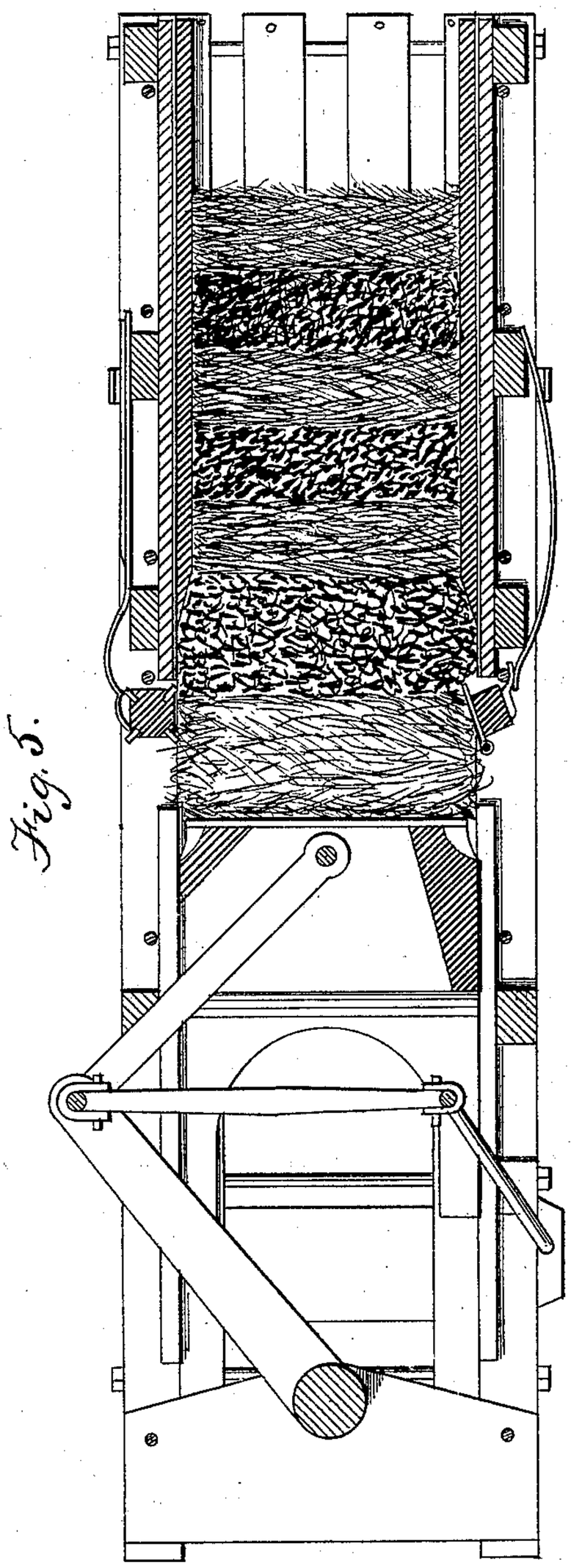


Fig. 5.

WITNESSES;
Granville Lewis
J. McKenney.

INVENTOR;
P. K. Dederick
By Hill Tillinghast
His attys

UNITED STATES PATENT OFFICE.

PETER K. DEDERICK, OF ALBANY, NEW YORK.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. **170,998**, dated December 14, 1875; application filed September 1, 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 certain new and useful Improvements in 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 represents a side elevation of a press embodying my invention, the bale-chamber being at the bottom. Fig. 2 is a vertical sectional view of Fig. 1. Fig. 3 is a front or rear elevation of the press, showing the bale-chamber at the top of the press; and Fig. 4 is a vertical sectional view of Fig. 3. Fig. 5 is a view of the press in use as a cider-press.

This invention relates to certain improvements in presses for pressing cider, brick, or peat, and for baling hay, cotton, sawdust, manure, &c.; and it relates especially to improvements in that class of presses in which the head of the press is formed by friction exerted on the material pressed or baled, or upon partition-followers by the walls of the cases; and it consists, first, of a bale-chamber, beveled on one, two, or all of its sides down to the press-box, thereby making the bale-chamber smaller than the press-box, for the purpose of permitting the material to be pressed to enter the bale-chamber to form the press-head; second, of a toggle-joint, in combination with a crank and a platen, for the purpose of operating the platen upon the material to be pressed or baled; third, of a double crank combined with a toggle-joint and platen, the said double crank being arranged to strike upon the top of the platen at the time when the crank begins its outward curve from the frame of the press, for the purpose of starting the platen toward the press-box while the toggle-joint is yet inoperative for that purpose; fourth, it consists of hinged retaining-plates, forced inwardly by springs, the object being to permit the retaining-plate to yield to the material as it is forced into the press-box, and to be forced inwardly after the material has passed by the springs, so as to retain the material in the press-box, and prevent it from following the platen as the latter is withdrawn.

In the drawings, the frame A of the press is composed of four uprights, connected by, and strengthened by, suitable cross-beams and cross-bolts. The front and rear portions of the press above the press-box are closed by metal-lined pieces C D. The sides of the press-box B and the bale-chamber E are closed by metal-lined pieces F G. The front and rear of the press-box B and bale-chamber E are formed of metal-lined slats H, strengthened by heavy vertical timbers I, let into heavy cross-beams J J′, secured to the frame A by bolts running through the frame A at right angles to the beams J J′. A metal band, K, encircles the frame A and timbers I, to strengthen the timber of which the press is composed at this point. One or more, or all of the metal-lined sides L of the press-box B, are beveled down to the bale-chamber E, to permit the material to be pressed into said bale or press-chamber E. A retainer, M, consisting of a piece of metal or wood supported in bearings in two of the uprights of the frame A, provided with a face-plate, N, is caused to project into the press-box B by means of a lateral spring, O, secured to the outside of the frame A, so as to bear upon an arm or stud, P, secured to the outside of the retainer M. The retainer M may be used on two sides or upon the four sides of the press-box B. One modification of the retainer M is partially shown in Figs. 1, 2, and 3 of the drawing. This modification consists in securing the face-plate of the retainer to two curved arms, Q, which project through the walls C D of the press at the point where the material is fed to the press, and causing the said face-plate of the retainer to be projected inwardly by a spiral spring, R, secured to a cross-arm, S, and working upon a curved rod, T. Another modification is shown in Fig. 4, which consists of a rectangular piece, U, provided with blades, V, supported in bearings in the uprights of the frame A, and permitted to rotate inwardly and toward the partition-follower W, a contrary motion being prevented by the lateral spring X. Another modification consists of a plate, R′, hinged to the wall of the press, and forced inwardly by the springs S′.

The platen Z has a throat, *a*, extending down to the perforated face-plate *b*, and works in ways *c c c c*. One arm, *e*, of the toggle-joint

f, is secured by the rod *g* near the perforated face-plate *b*. The arms *e* and *h* of the toggle-joint *f* are bifurcated, and the arm *h* is spread apart at the outer end by a spool, *i*. One end of the lever *j* is secured to the pin *k*, in the joint of the toggle *f*, and the other is secured to the double crank *l*. The double crank *l* is of such length that it will strike upon the platen Z at the time when the said crank *l* is just beginning its outward curve from the frame A, thereby starting the platen Z toward the press-box B at a time when the toggle-joint *f* is itself inoperative for that purpose.

The material to be pressed or baled is fed to the press through the openings therein nearest the press-box B, and the platen Z drives it down, causing it to pass the retainers M, which yield to the material until it has passed them, when said retainers will be forced in by their springs O, and prevent the material from following the platen Z when the latter is withdrawn from the press-box. The beveled sides L extend down to the bale-chamber E. The latter is therefore smaller than the press-box, and the friction exerted by the walls of the press-box and bale-chamber, form the press-head. The partition-followers W are made to impinge upon the walls of the bale-chamber E, and thus to also form a press-head.

The followers are intended to be used continuously—that is to say, when one bale has been formed and is still in the bale-chamber, another follower, W, is to be introduced upon that bale, and the formation of a second bale commenced; thus, the continuous use of the partition-followers obviates delay in awaiting the removal of the bale already formed.

The metal sheathing or lining—the case may be made of solid metal—is intended for use in pressing cider, and in baling wet or damp materials, such as sawdust, manure, &c., cotton and hay being baled only when dry. For these latter wood would be as efficient as iron or other metal; but in baling wet or damp material it sometimes moves easily, at others it adheres to the wood and effectually stops the press. Cider should be pressed only in a press having a metal lining.

In Fig. 5 of the drawings the press is shown in use as a cider-press. In this instance alternate layers of straw, hay, or other suitable material and pomace are introduced into the press-box, and the press operated as in any other instance.

The press can be used with either end uppermost, as shown in the drawings, and it may be used in a horizontal position, and should be so used in pressing cider.

Any of the modifications of the retainer M herein shown and described may be used in lieu of the retainer M, but the latter is preferable.

The bank K which surrounds the bale-chamber is of great importance, as it strengthens the press at this point, and permits lighter timber to be used in the construction of the press.

Having thus described my invention, what I claim as new is—

1. In a press having the bale-chamber smaller than the press-box, beveling the mouth of the bale-chamber, substantially as described.

2. The toggle-joint *e f h*, in combination with the crank *l* and platen Z, substantially as and for the purpose set forth.

3. The crank *l*, constructed to strike upon the platen Z, when the latter is at a point where it cannot be driven toward the press-box by the action of the toggle-joint alone, in combination with the toggle-joint and the platen, substantially as and for the purpose set forth.

4. Hinged spring-seated retaining-plates, in combination with the press-box of a baling-press for the purpose described.

PETER K. DEDERICK.

Witnesses:

A. M. DEDERICK,

W. A. SKINKLE.