2 Sheets—Sheet 1.

W. D. RIDDICK.

Baling-Press.

No. 207,896. Patented Sept. 10, 1878.

Fig. 1.

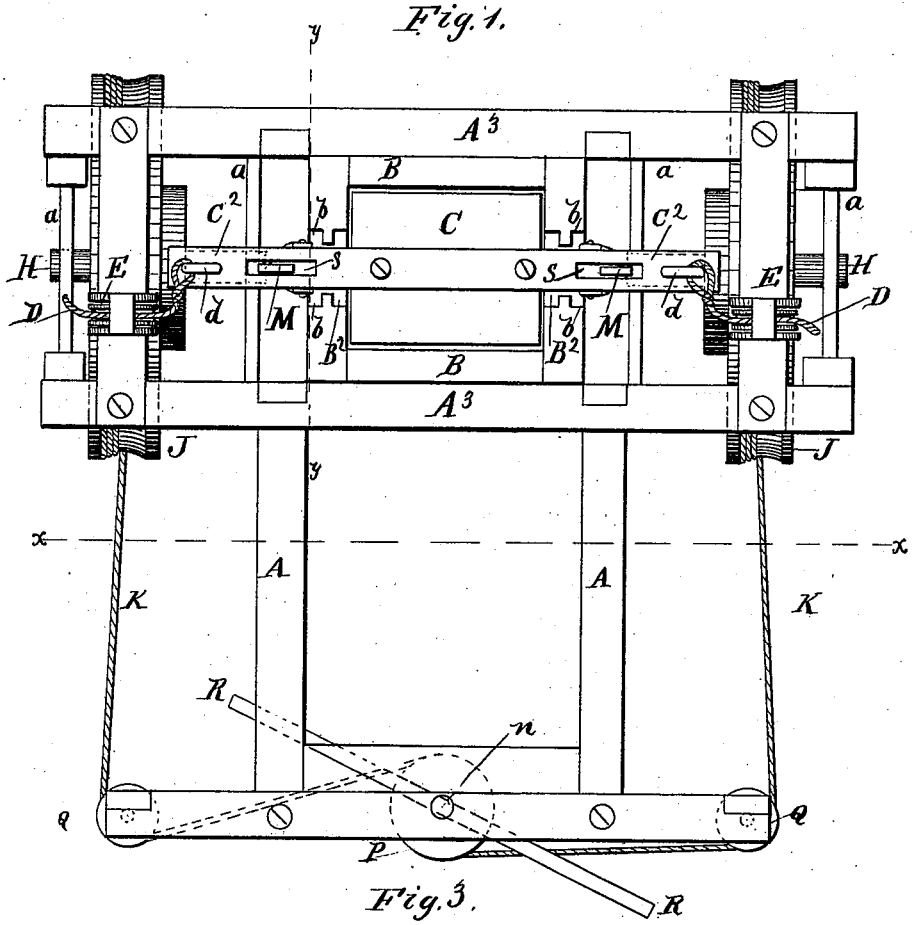
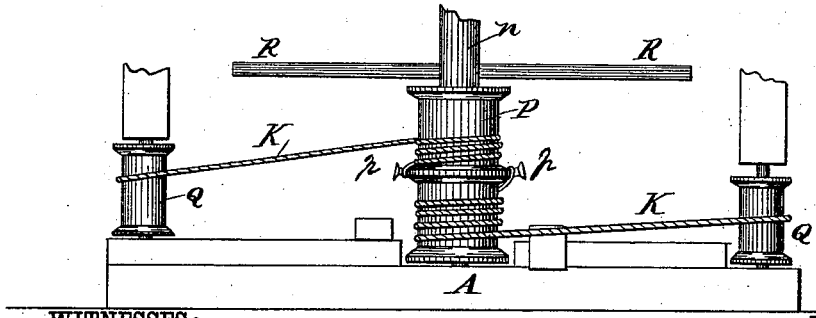


Fig. 3.



WITNESSES:

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2 Sheets—Sheet 2.

W. D. RIDDICK.

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No. 207,896. Patented Sept. 10, 1878.

Fig. 2.

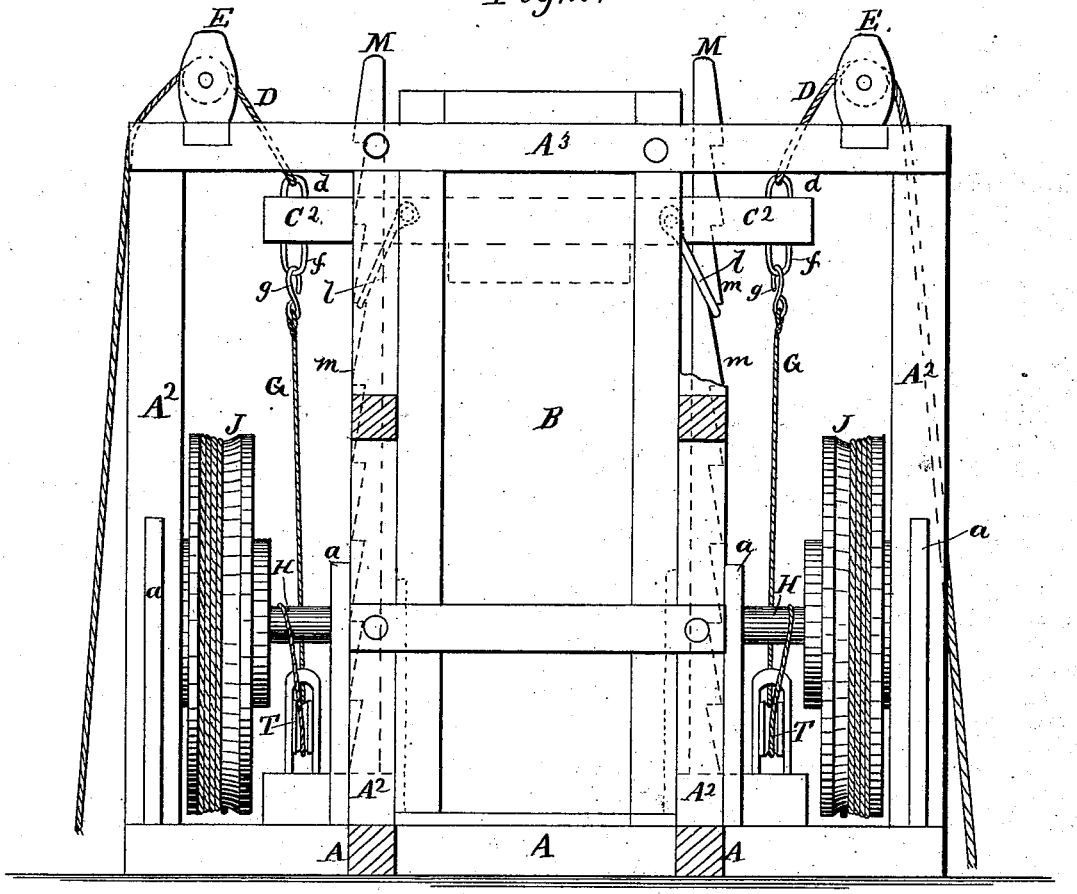
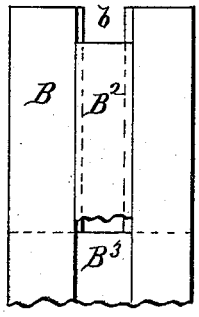


Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIS D. RIDDICK, OF BELVIDERE, NORTH CAROLINA.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. **207,896**, dated September 10, 1878; application filed July 15, 1878.

To all whom it may concern:

Be it known that I, WILLIS D. RIDDICK, of Belvidere, in the county of Perquimons and State of North Carolina, have invented a new and useful Improvement in Baling-Presses, of which the following is a specification:

My invention is particularly intended for use as a cotton-press, but may be employed for baling hay and other substances.

It will first be described in connection with the drawing, and then pointed out in the claim.

In the accompanying drawing, Figure 1 represents a top view of a baling-press constructed according to my invention. Fig. 2 is a vertical section of the same, taken in the line *x x* of Fig. 1. Fig. 3 is a detail side view, looking toward the top of Fig. 1. Fig. 4 is a vertical section taken in the line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

The working parts of the apparatus are supported by a frame-work consisting of sills A, vertical posts A^2, and horizontal top rails, A^3. At one end of the frame, about midway of the width thereof, is located the press-box B, which stands in an upright position, and is braced at its upper end between the top rails, A^3. In each of two opposite sides of the box B is a vertical slot, *b*, extending from the top of the box nearly to, or quite to, the bottom thereof, the upper end of the slot being open. (See Fig. 4.) In each of the slots *b* is a bar, B^2, fitted therein by longitudinal tongue-and-groove joints, and arranged to slide vertically. These bars are of a length corresponding with the desired length of a finished bale.

In the lower portion of the box B are two boards or plates, B^3, of a width nearly equal to the difference between the length of the bar B^2 and the height of the box B, and of a length equal to the width of said box. These boards or plates B^3 are attached to the sides of the inner surface of the box, so as to cover the lower portions of the slots *b*, and prevent the cotton from being pressed outward through them when the slides B^2 are elevated.

In the press-box B works a follower, C, provided with two arms, C^2 C^2, extending from opposite sides and working in the slots *b*. The arms C^2 are each provided with a staple, *d*, on the upper side, to which is attached a rope, D, passing over a pulley, E, attached to the upper part of the frame. Each arm is also provided with a staple, *f*, on the under side, for the attachment of a rope, G, as hereinafter described. The arms C^2 are further provided with swinging links *l*, for engagement with ratchet-teeth *m* on vertical bars M, arranged on two opposite sides of the exterior of the box B, and passing through slots *s* in the arms C^2. (See Figs. 1 and 2.)

On two opposite sides of the press-box B, journaled in boards or plates *a*, attached to the upright posts of the frame, are two shafts, H H, each of which carries a groove-faced wheel, J, fixed thereon. The diameter of the shaft H may be about four inches, and that of the wheel about eight feet, more or less.

At one end of the frame, about midway of its width and opposite to the press-box B, is a capstan or upright windlass, P, carried by a shaft, *n*, having its bearings in the lower and upper portions of the frame. This windlass and shaft are provided with horizontal arms R for turning it, and said arms may be at such a height as to enable them to be worked by hand, or may be so arranged and connected as to be worked by steam or horse power.

Two ropes, K K, connect the windlass or capstan P with the wheels J J, being partially wound around said wheels. One of said ropes has one end attached to a stud, *p*, on the windlass, and the other end attached to one of the wheels J, and the other rope has one end attached to a similar stud, *p*, and the other end attached to the other wheel, J. Both of said ropes K may be arranged to pass around pulleys Q, between the wheels J and the capstan.

The rope G, hereinbefore referred to, has one end provided with a hook, *g*, for engagement with the staple *f* on the arm C^2, and the other end is attached to the shaft H, being first passed around a pulley, T, carried by a block attached to the lower part of the frame.

The apparatus, constructed as above described, is operated as follows: The slides B^2 being raised until their lower ends are nearly as high as the upper edge of the board or plate B^3, the cotton is placed in the box B and packed down as closely as possible by hand until it reaches the height of the upper ends of the slides B^2. The follower C is then placed

in position in the box B above the cotton, with the arms C^2 resting in the slots *b* above the slides B^2. The ropes G are hooked to the arms, and power is applied to rotate the capstan or vertical windlass P. As the ropes K are wound upon the windlass P they are unwound from the wheels J, and by the act of unwinding they turn said wheels in a direction to wind the ropes G upon the shafts H, which thus serve as windlasses, while each of the wheels J serves as a combined windlass and lever.

By the arrangement of the parts and their proportions with relation to each other, as described, a comparatively small amount of power is required to obtain an immense pressure.

As the follower is drawn downward by the ropes G it carries down with it the slides B^2 until their lower ends reach the bottom of the press-box. The ropes G may then be detached, the follower removed, more cotton placed in the box, and the pressing operation repeated until the bale is completed.

When the ropes G are detached the follower may be removed by pulling on the ropes D.

The apparatus may be arranged to press from the bottom instead of the top, or in addition to the top, and it may be made to discharge the finished bale from either end.

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

In a press, the combination, with slotted box B *b* and slides B^2, of the follower C, having arms C^2, the ropes G K, vertical windlass P, shafts H, and wheels J, as shown and described, for the purpose specified.

WILLIS D. RIDDICK.

Witnesses:
ELIHU A. WHITE,
BURT S. RIDDICK.