F. J. GARDNER.

Baling-Press.

No. 216,392. Patented June 10, 1879.

Fig. 1.

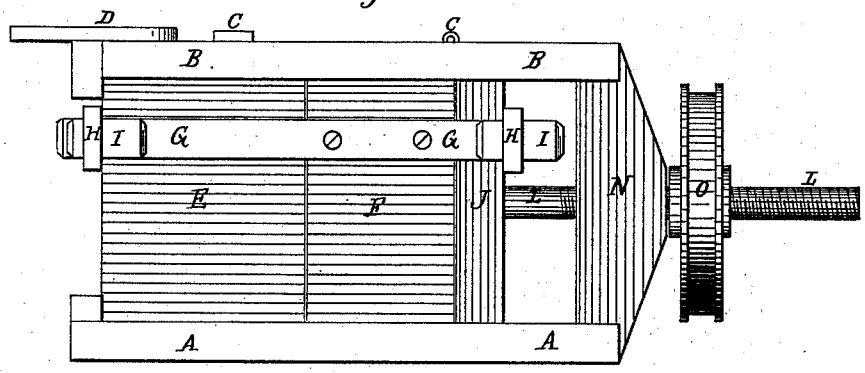


Fig. 2.

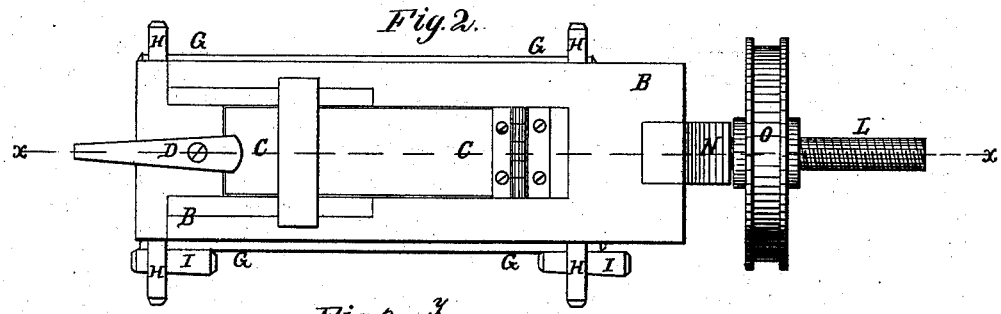


Fig. 3.

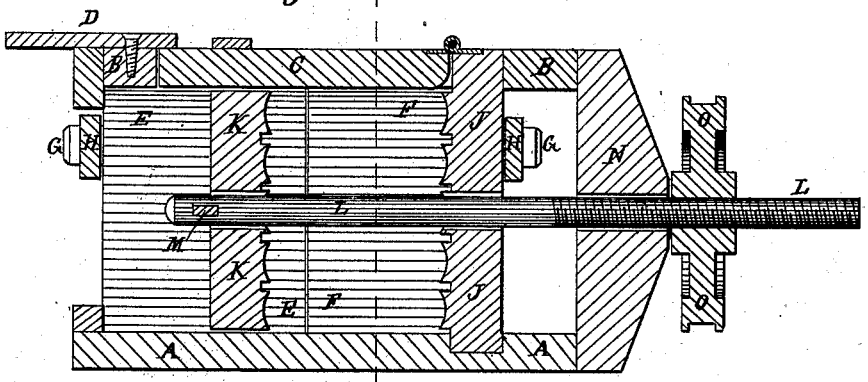
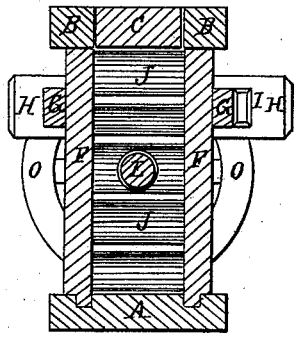


Fig. 4.



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UNITED STATES PATENT OFFICE.

FREDERICK J. GARDNER, OF WASHINGTON, NORTH CAROLINA.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. **216,392**, dated June 10, 1879; application filed February 6, 1879.

To all whom it may concern:

Be it known that I, FREDERICK J. GARDNER, of Washington, in the county of Beaufort and State of North Carolina, have invented a new and useful Improvement in Baling-Presses, of which the following is a specification.

Figure 1 is a side view of my improved press. Fig. 2 is a top view of the same. Fig. 3 is a vertical longitudinal section of the same, taken through the line *x x*, Fig. 2. Fig. 4 is a vertical cross-section of the same, taken through the line *y y*, Fig. 3.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved press for baling cotton, hay, and other substances, which shall be simple in construction, light, strong, and durable, and at the same time powerful and rapid in operation, so that the bales may be firmly compressed, and so that the machine may be easily moved from place to place.

The invention consists in the combination of the follower-block provided with a central opening, and having its inner face concaved between the bale-band grooves, and its outer face provided with a groove at right angles to the said central opening, the screw-rod passed through the baling-box, and secured to the said follower by a key, which rests in the groove on the outer face of the follower, and the screw-wheel, with the head-block having its inner face concaved between the bale-band grooves, and with the cross-bar of the frame; and in the combination of the longitudinal bars, the cross-bars, and the keys with the stationary sides, the detachable sides, and the head-block.

A represents the bottom of the baling-box, which is made close. B is the top of the baling-box, and in its middle part is formed a door, C, for convenience in putting in the material to be compressed. The door C is hinged at one end, and is secured at the other end against the outward pressure by a lever-button, D, or other convenient fastening.

The rear parts, E, of the sides of the baling-box are stationary, and are firmly connected with the bottom A and the top B. The forward parts, F, of the sides of the baling-box are detachable, for convenience in taking out the bales. The lower edges of the detachable sides, F, are inserted in grooves in the bottom A, or in the frame-work of the press. To the outer sides of the upper parts of the detachable sides F are attached bars G, which are made of such a length that their ends may project so far beyond the ends of the press as to pass through holes in the end parts of the bars H, that cross and rest against the upper parts of the said ends.

The holes in one end of the cross-bars H are made of such a size as to receive and fit upon the ends of the bars G; but the holes in their other ends are made larger, so as to receive the ends of the bars G, and also the wedge-keys I, which are driven through them along the outer sides of the ends of the said bars G, to lock the detachable sides F firmly in place and support them against the outward pressure.

J is the head-block, which forms the forward end of the baling-box, and is firmly attached to the frame-work of the machine. K is the follow-block, which slides loosely in the baling-box, and has a hole formed through its center to receive the inner end of the rod L. The inner or rear end of the rod L has a short slot formed through it, to receive a key, M, which rests in a groove in the rear or outer side of the follow-block K, so as to prevent the said rod L from being drawn out of, or being turned in, the said follow-block K. The rod L passes loosely through a hole in the center of the head-block J, and a hole in the center of the forward cross-bar, N, of the press-frame.

The rod L has a screw-thread cut upon its forward part, to fit into a screw-thread cut in the hub of the wheel O, which may be turned by hand or by any other convenient power.

The inner faces of the head-block J and of the follow-block K have grooves formed in them for the bale-bands to be passed through, and the said faces are concaved between the said grooves, as shown in Fig. 3.

With this construction, when the bagging is put into the press before the material, and the material is compressed into a bale, the said material will force the bagging into the concaves and draw it across the grooves, so as to prevent the said bagging from being forced

into the said grooves and clogging them, and thus preventing the bale-bands from being pushed through in tying the bales.

In using the press the door C is opened and the baling-box is packed full of the material to be baled, with the screw-rod L passing through the center of the said material. The screw-wheel O is then turned, drawing the follower K against the material in the baling-box, and compressing the said material against the head-block J. The detachable sides F are then removed, and the bale is tied in the usual way. The screw-wheel O is then turned back a little, which loosens the bale and allows the key M to be readily removed, the screw-rod L to be withdrawn, and the bale to be taken out. The screw-rod L is then put in, the key M is inserted, the screw-wheel O is turned out a sufficient distance, the screw-rod is pushed in, bringing the follower K to its place, the detachable sides are put in and secured, and the press is ready to receive material for another bale.

With this construction the bales have a loose place through their centers, so that the sample-hook can be readily inserted.

With this construction the strain upon the screw-rod is a tension strain, which allows the said screw to be made lighter than when subjected to a pushing strain without any danger of its bending or buckling.

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

1. The combination, in a cotton or hay press, of the follower-block K, provided with a central opening, and having its inner face concaved between the bale-band grooves, and its outer face provided with a groove at right angles to the said central opening, the screw-rod L, passed through the baling-box and secured to the said follower by a key, M, which rests in the groove on the outer face of the follower, and the screw-wheel O, with the head-block J, having its inner face concaved between the bale-band grooves, and with the cross-bar N of the frame, whereby provision is made for applying the pressure with a tension strain, and producing a bale with a loose place through its center, substantially as and for the purpose set forth.

2. The combination of the longitudinal bars G, the cross-bars H, and the keys I with the stationary sides E, the detachable sides F, and the head-block J, substantially as herein shown and described.

FREDERICK JONES GARDNER.

Witnesses:
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