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BALING-PRESS.

No. 180,471. Patented Aug. 1, 1876.

Fig. 1.

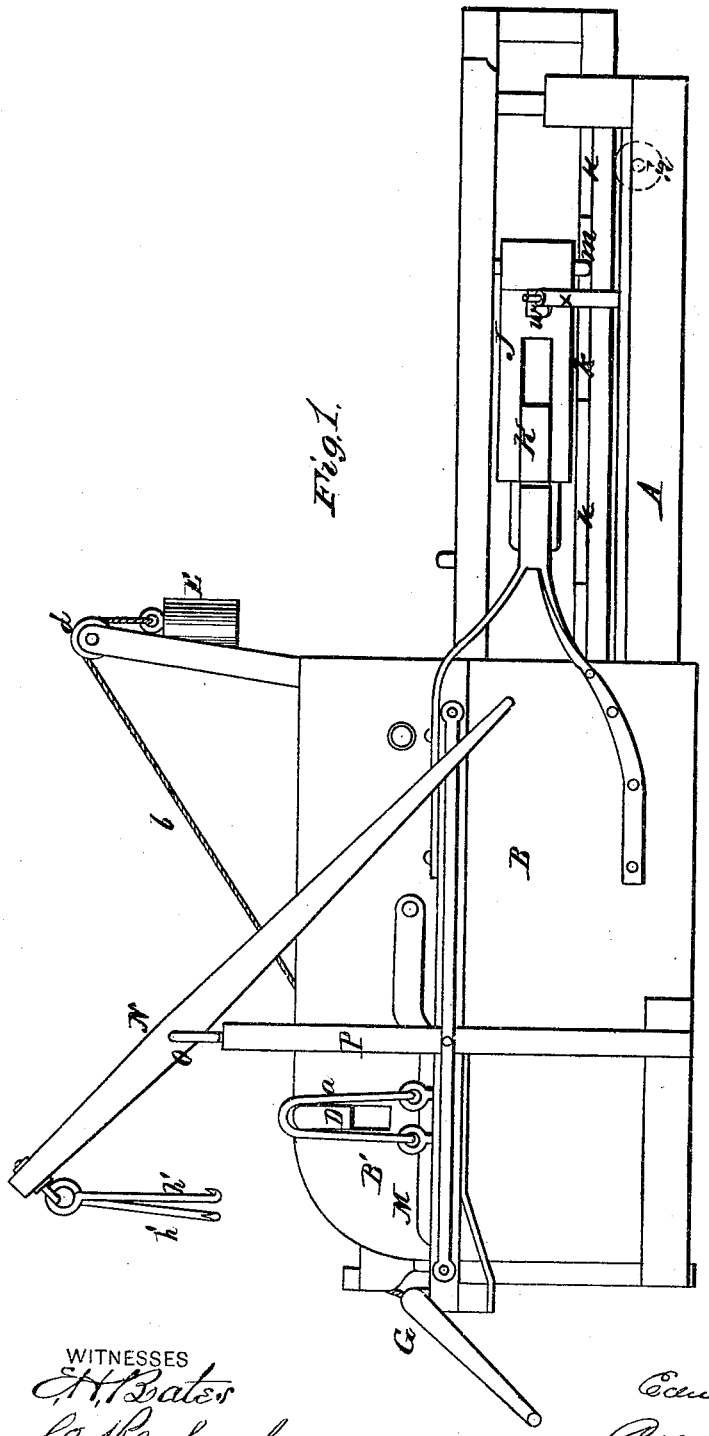

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Fig. 3.

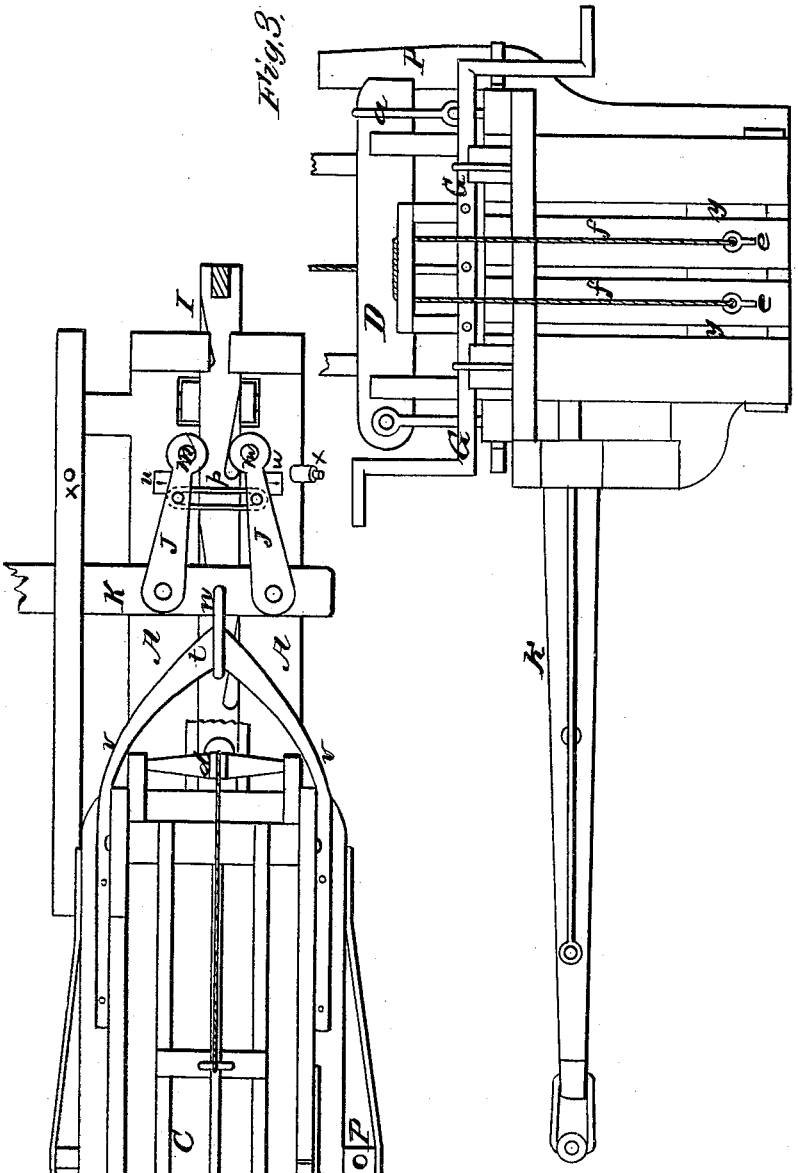

Fig. 2.

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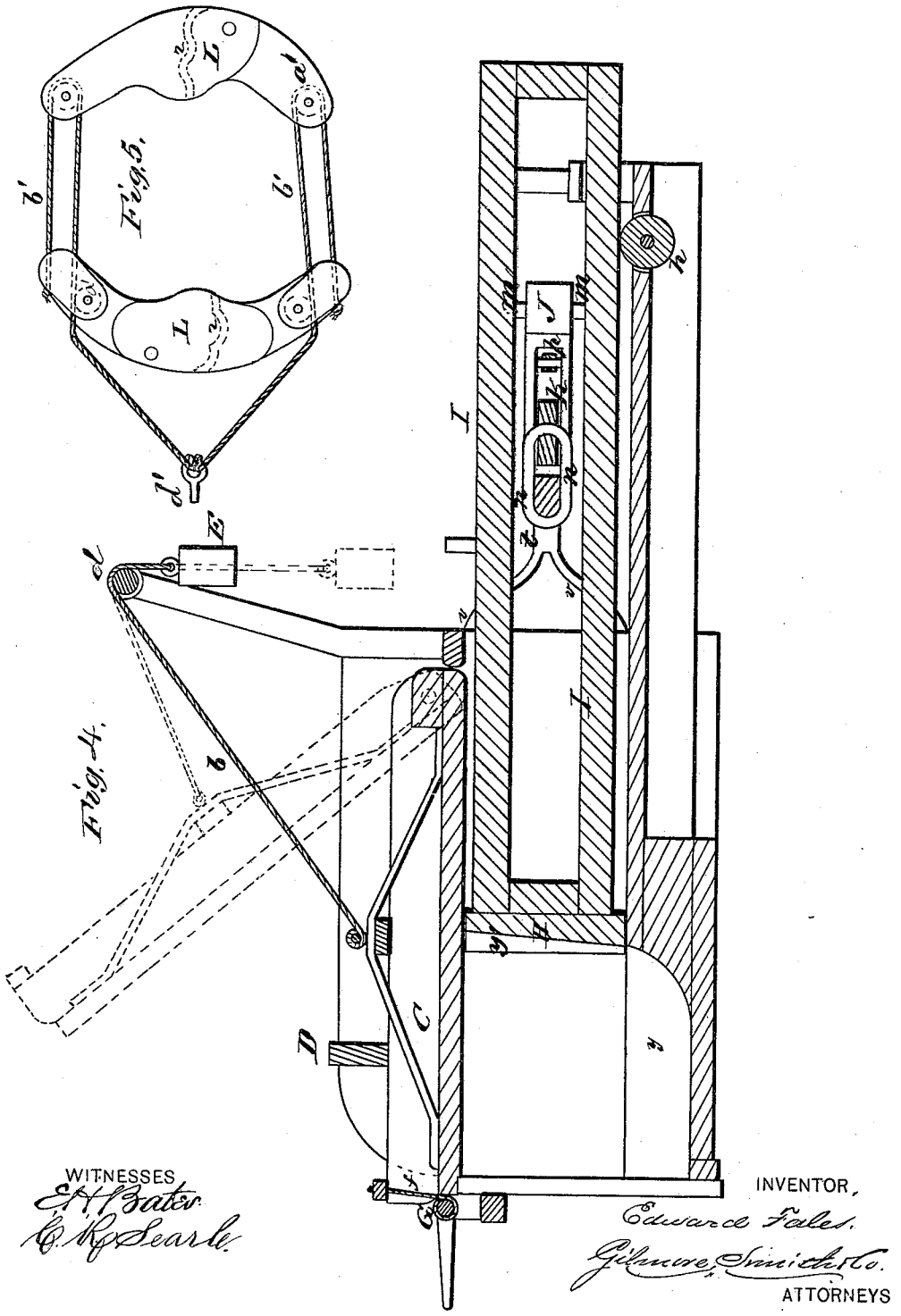

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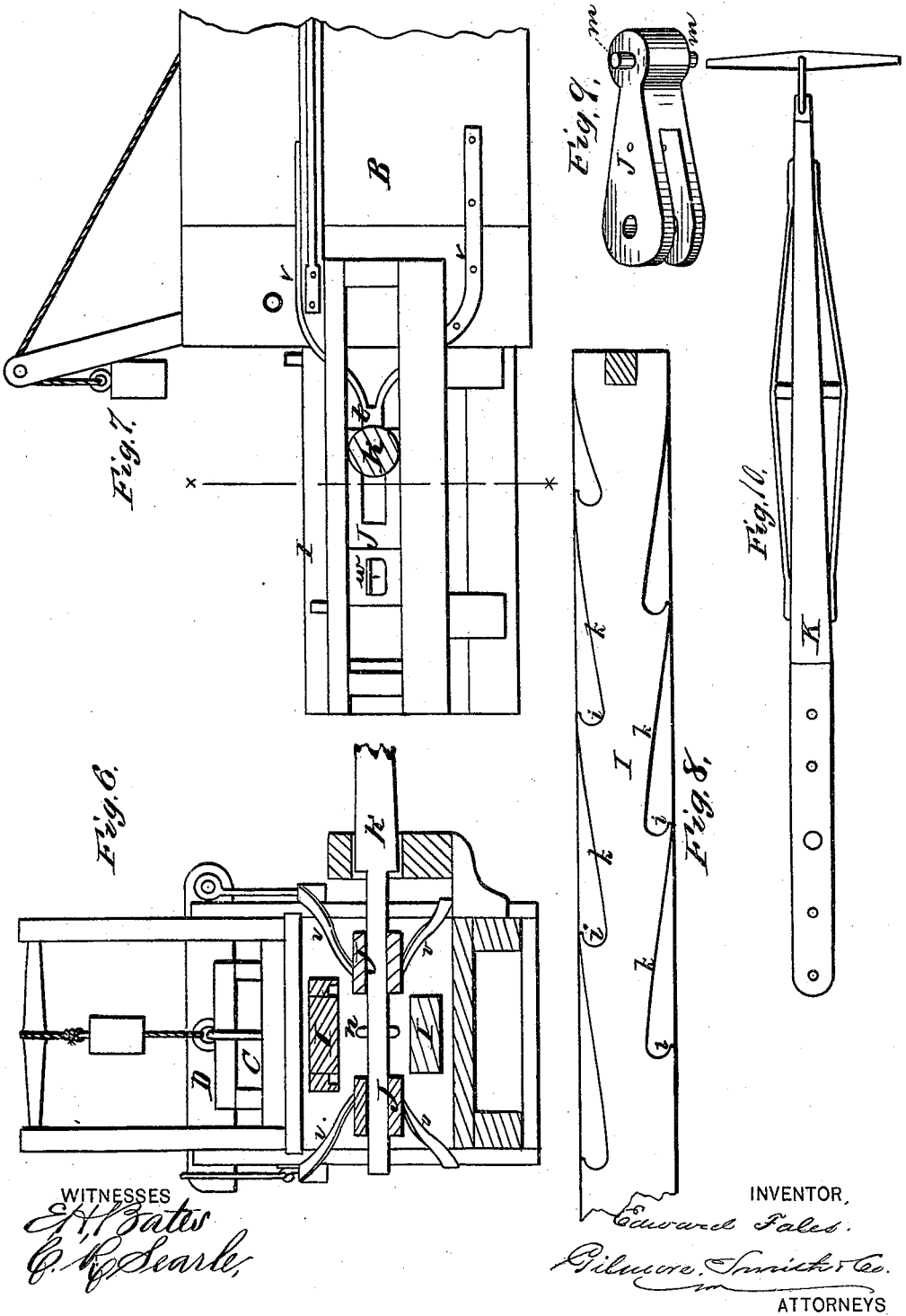

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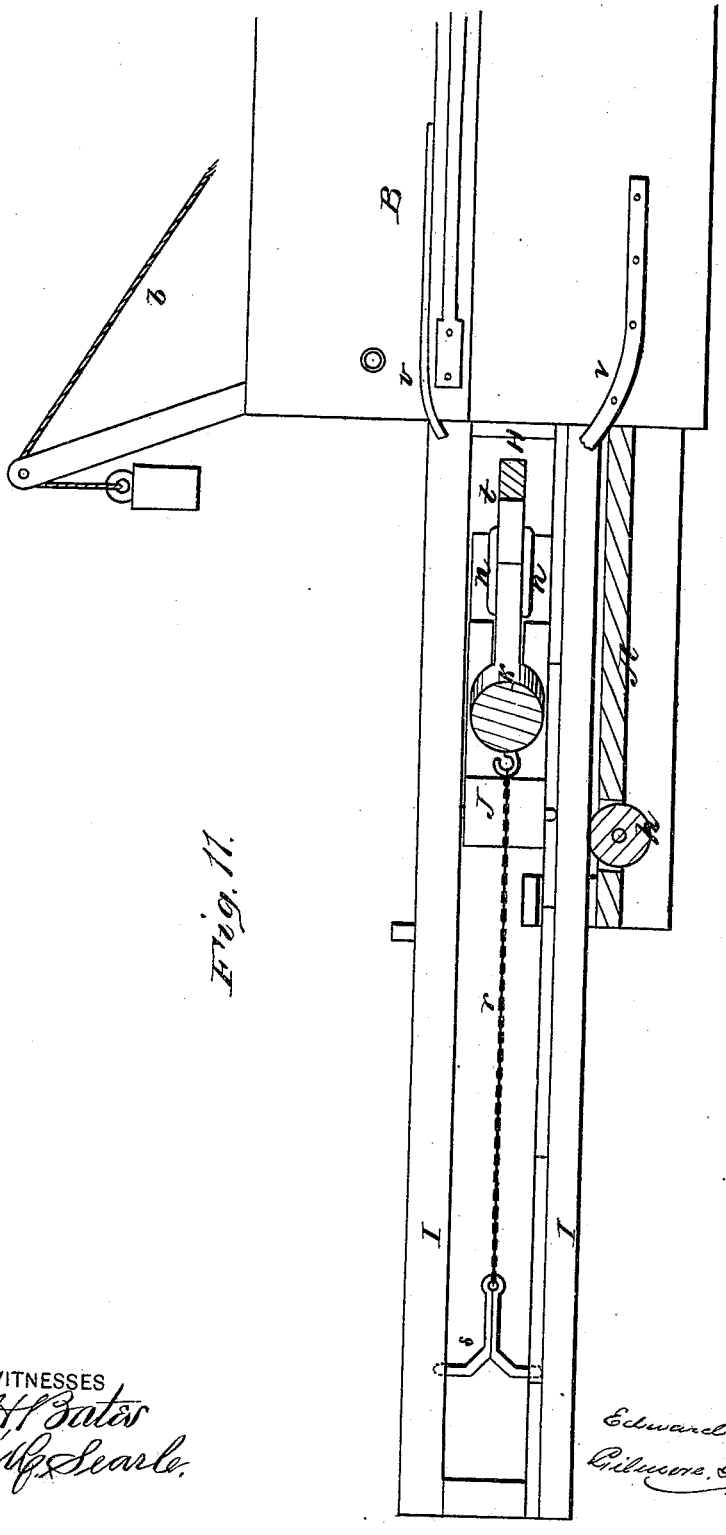

Fig. 1.

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UNITED STATES PATENT OFFICE.

EDWARD FALES, OF LANCASTER, MISSOURI.

IMPROVEMENT IN BALING-PRESSES.

Specification forming part of Letters Patent No. 180,471, dated August 1, 1876; application filed March 9, 1876.

To all whom it may concern:

Be it known that I, EDWARD FALES, of Lancaster, in the county of Schuyler and State of Missouri, have invented a new and valuable Improvement in Baling-Presses; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a front view of my baling-press, and Figs. 2 and 3 are plan views of the same. Fig. 4 is a longitudinal vertical sectional view, and Fig. 5 a detail view. Fig. 6 is a transverse vertical sectional view, and Figs. 7, 8, 9, 10, and 11 are detail views thereof.

The nature of my invention consists in the construction and arrangement of a baling-press, as will be hereinafter more fully set forth.

In the annexed drawings, A represents the bed of my press, at one end of which is the bale-box B. C is the top of the bale-box, pivoted in the sides of the box at the rear end, and closing toward the front end. This top is provided on its upper sides with longitudinal and transverse beams, and is suitably braced to make it sufficiently strong to withstand any pressure from within, and when closed it is fastened by means of a cross-beam, D, hinged or pivoted at one side, and locked on the opposite side by a bail or loop, *a*. From near the center of the top C passes a cord, *b*, over an elevated roller or pulley, *d*, at the rear end of the box, and said cord has a weight, E, suspended therefrom, which weight assists in raising the top C, and holds the same in an elevated position while the box is being filled. When the box is filled, the top C is pulled down partially by hand, after which two pins, *e e*, attached to cords *f f*, at the front end thereof, are inserted in holes on a windlass, G, at the front end of the box, and said windlass then turned, which brings down the top to its proper position, when the same is locked, as above described. H is the follower or plunger, secured to the front ends of two horizontal arms, I I, suitably connected at their rear ends. The lower one of these arms rests and moves upon one or more rollers, *h*, in the bed A. The inner surfaces of these arms or bars I are constructed as shown in Fig. 8—that is to say, along the edges at equal alternate distances are formed semicircular recesses *i i*, which are open toward the rear, and from the inner side of each recess is an incline, *k*, leading outward and rearward to the outer side of the next recess. Between the bars I I, from each side, is inserted an arm, J, constructed as shown in Fig. 9, the inner end being rounded and provided with a vertical pin, *m*, projecting above and below the same. The outer end of the arm J is slotted or forked horizontally, so as to straddle and be pivoted to a horizontal operating lever, K, the inner end of said lever passing between the bars I, and having an arm, J, pivoted to it on each side of said bars. The inner ends of the arms J J are connected by a spring, *p*, which holds them inward so that their pins *m* will engage in the semicircular recesses *i* in the bars I.

By working the lever K back and forth on its fulcrum, the arms J J are alternately moved back and forth, forcing the follower or plunger H forward into the box to press the bale, the arms operating on the well-known principle of a double ratchet. When the follower is first started inward, the resistance is comparatively little, requiring but small force to press, at which time the motion of the arms J would be too slow. To increase the speed at this time a chain, *r*, is attached to the operating lever K, which chain has a double hook, *s*, in its end. This hook is inserted and held in two corresponding recesses, *i*, of the bars I, so that when the lever K is moved, this chain and hook pull the follower inward. As soon as more power and less speed are required, the hook *s* is released, and the arms J then come into play to complete the pressing. The attachment of the chain and hook is shown in Fig. 11. The lever K is fulcrumed by a clevis or link, *n*, to a metal bar, *t*, between the bars I I, said bar *t* being secured by two bars, *v*, to each side of the bale-box. When the bale has been pressed and tied, the follower is to be run back. For this purpose the inner ends of the arms J are drawn outward and fastened by elastic connections *w* to pins *x* upon the bed A, when

the follower and its bars may be moved back by hand or otherwise, as desired. When it is to be moved for pressing again, the elastic connections *w* are released from the pins. When the bale is pressed, the top door C is opened, and the wires used for tying are passed down through the inclined grooves *y'* in the follower, and through grooves *y* in the bottom of that part of the bale-box. These grooves *y* are made curved or inclined forward, as shown in Fig. 4, so as to guide the wires out at the front end of the bale-box, which is slotted for that purpose. The wires are then passed on the front side of the bale, when the two ends of each wire are drawn together by a device shown in Fig. 5. This device consists of two clamps, L, each composed of two pieces pivoted together and forming at the junction a bend, *z*, to hold the wire firm when placed over the same. In the ends of these clamps are pulleys *a'*, around which is passed a cord, *b'*, in the manner shown in said Fig. 5. In the center of the cord *b'* is fastened a pin, *d'*, to be placed in the windlass G, which is then turned, drawing both ends of the wire toward each other. As one of the clamps will move faster than the other, this clamp should, after being moved a certain distance, be held stationary to the follower by a hook or other suitable means, and the other clamp only move the remainder of the distance. The wire is then tied by any suitable means, and the bale is ready to be removed. To do this, the follower is first run back, as above described. One side of the bale-box has a loose piece, B', which is held flush on the inside while pressing by a pivoted bar, M, inserted behind it. This bar is raised, allowing the piece B' to move or yield sufficiently to loosen the bale for removal. To remove the bale, two grappling-hooks, *h' h'*, are fastened in the bale, said hooks being connected to one end of a lever, N, and this lever turns upon a forked pin, O, which is inserted in the upper hollow end of a post, P, secured to the side of the bale-box.

By this means the bale can be raised entirely out of the box, and the lever then swung around to bring the bale on the outside of the press, and deposit it on the ground or on a vehicle.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a baling-press, the top C, pivoted in the sides of the box, and provided with the cord *b* and counter-balance E, in combination with the cord *f f*, pins *e e*, and windlass G, as and for the purpose set forth.

2. The combination of the follower H, horizontal bars I I, having alternate recess *i* and inclines *k* on their edges, the arms J J, with pins *m m*, and connecting-spring *p*, and the operating lever K, all constructed as and for the purpose set forth.

3. In a baling-press, the combination of the lever K, chain *r*, double hook *s*, bars I, provided with recesses *i*, and follower H, substantially as described, and for the purpose set forth.

4. The combination of the two pivoted clamps, L L, having bends Z, the pulleys *a'*, cord *b'*, and windlass G, as and for the purpose herein set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EDWARD FALES.

Witnesses:
JOHN F. ACKER, Jr.,
EUGENE W. JOHNSON.