No. 633,513. Patented Sept. 19, 1899.

W. C. GUNLOCK & G. W. THWING.

BALING PRESS.

Application filed July 20, 1898.

(No Model.) 2 Sheets—Sheet 1.

FIG. 1.

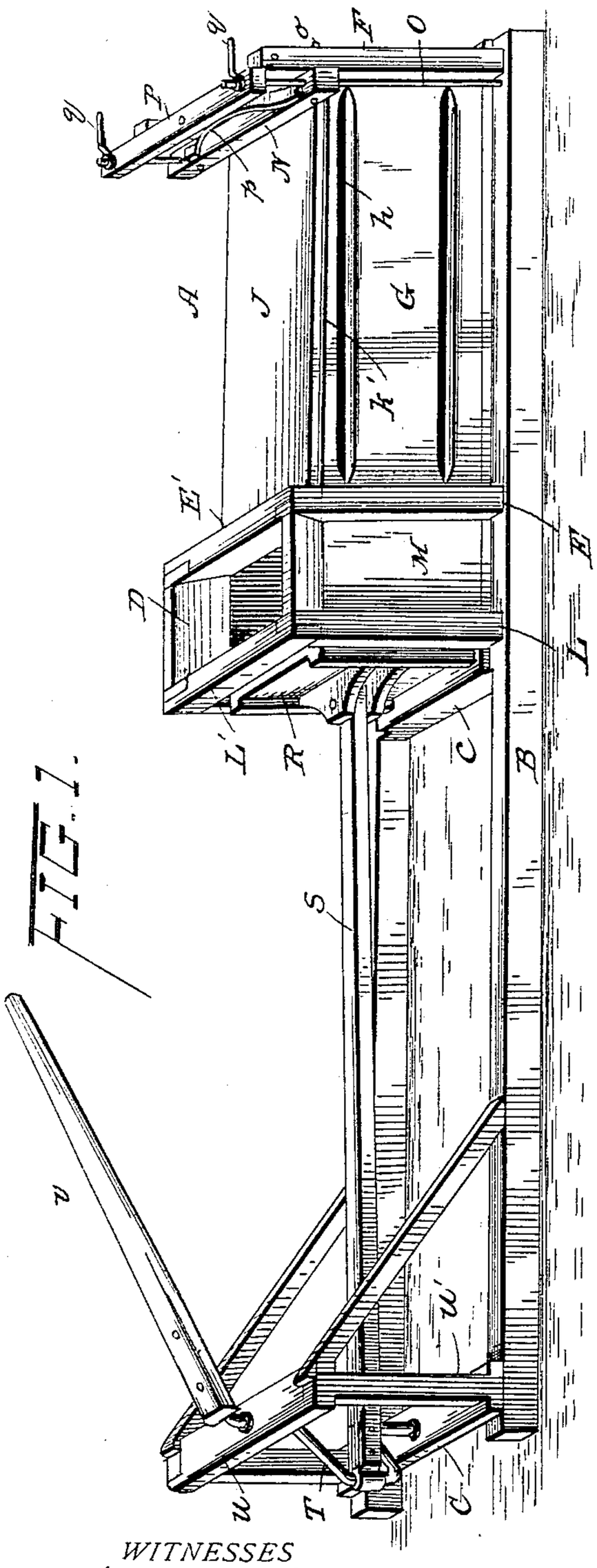
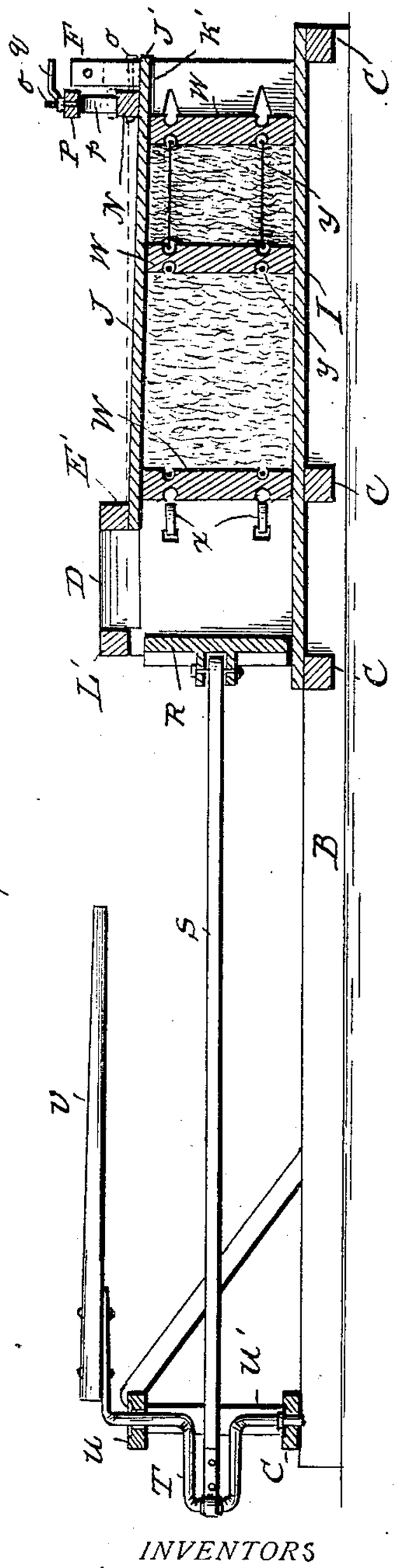


FIG. 2.



WITNESSES

Saml R. Turner

C. C. Hines.

INVENTORS

William C. Gunlock.

George W. Thwing.

By R. H. B. Lacey.

Attorneys.

No. 633,513. Patented Sept. 19, 1899.

W. C. GUNLOCK & G. W. THWING.

BALING PRESS.

(Application filed July 20, 1898.)

(No Model.) 2 Sheets—Sheet 2.

FIG. 2.

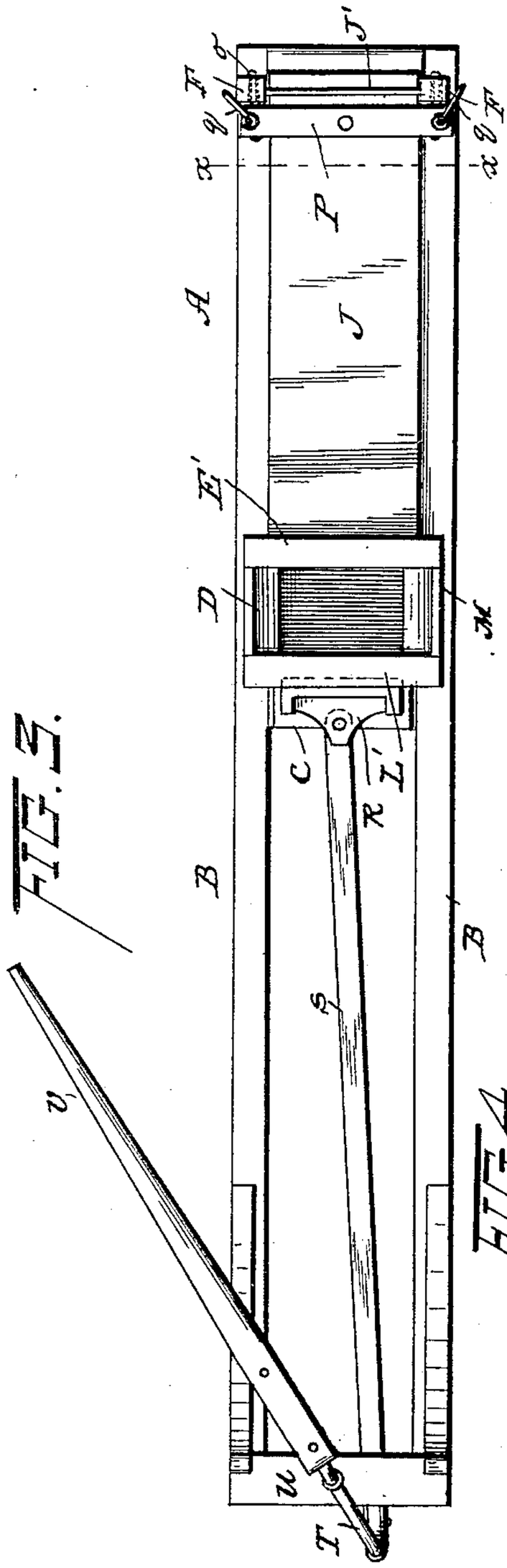


FIG. 3.

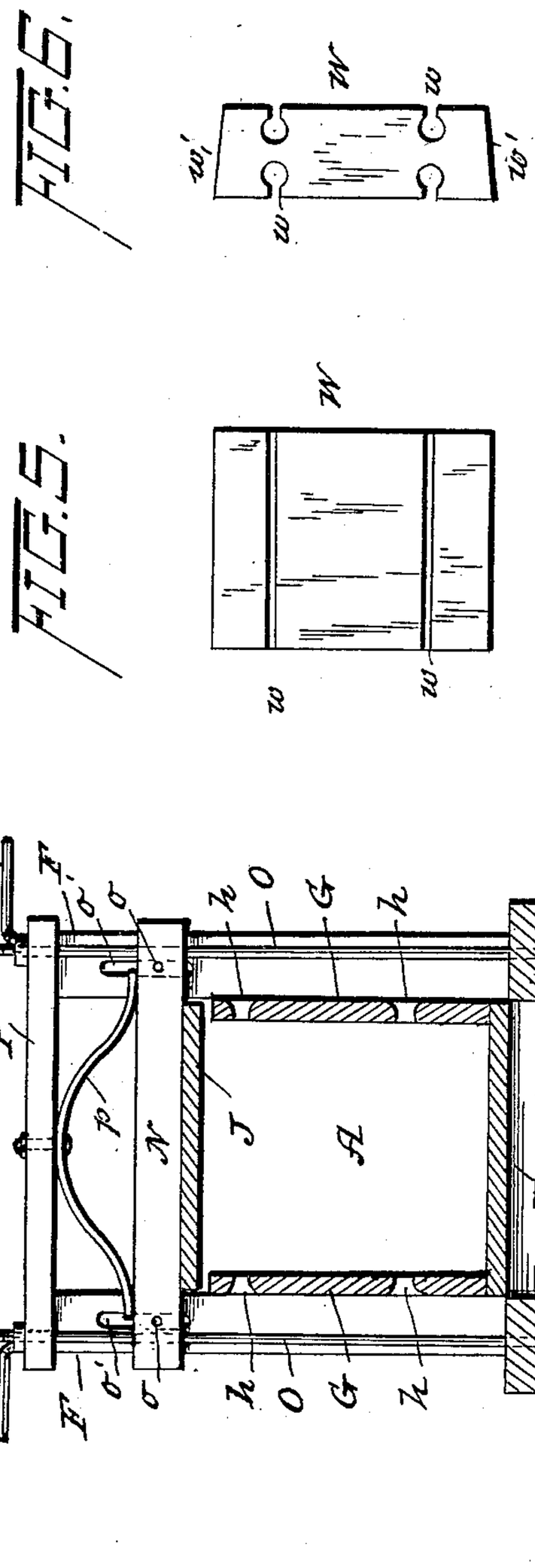


FIG. 4.

WITNESSES

Saml R. Turner

C. E. Hines

INVENTORS

William C. Gunlock

George W. Thwing

By R. D. A. B. Lacey.

Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM C. GUNLOCK AND GEORGE W. THWING, OF VICTORIA, TEXAS, ASSIGNORS OF ONE-THIRD TO J. E. PALMER, OF SAME PLACE.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 633,513, dated September 19, 1899.

Application filed July 20, 1898. Serial No. 686,448. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM C. GUNLOCK and GEORGE W. THWING, citizens of the United States, residing at Victoria, in the county of Victoria and State of Texas, have invented certain new and useful Improvements in Baling-Presses; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in baling-presses of that class wherein the hay, straw, or other material to be baled is compressed by means of a reciprocating plunger.

In the type of baling-presses having a movable side and a follower secured by a spring-clamp acting against the said movable side the construction is such as not to admit of the clamp as an entirety being removed at will and when in position serving to brace and strengthen the baling-chamber.

The present invention has for its object, among others, to construct the clamp independently of the press, to combine with the clamp attaching-rods which strengthen and brace the sides of the baling-chamber, to utilize the projecting ends of the posts between which the movable side of the baling-chamber has movement as means for bracing and holding the clamp in position, and to enable the use of a single fastening for the bow-spring and yet prevent a turning of the said spring should the fastening work loose.

To these ends the invention consists in certain novel features of construction, combination, and arrangement of parts, which will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, illustrating the invention, Figure 1 is a perspective view of the improved baling-machine. Fig. 2 is a longitudinal section of the same, illustrating the manner of forming a bale. Fig. 3 is a top plan view. Fig. 4 is a cross-section on line $x\,x$ of Fig. 3, and Figs. 5 and 6 show a side and an end view of a follower-block.

Referring now more particularly to the drawings, wherein like letters of reference designate corresponding parts throughout the several views, A represents the baling-chamber of the machine, which is of oblong rectangular form and mounted upon one end of a suitable frame, consisting in the present instance of a pair of longitudinal side sills B, connected by cross-bars C. This chamber is open at both ends and is in communication at its inner end with a feed chamber or hopper D, in which the loose straw or hay to be baled is deposited.

The baling-chamber comprises in its construction posts or standards E and F at the ends thereof, to which its sides G are secured, said posts E being connected by a lintel or upper cross-bar E′ and the sides of the chamber being provided with upper and lower longitudinal slots *h*, through which the tie-wires are passed and applied to hold the bale compressed. The bottom I of the chamber is mounted upon the adjoining cross-bars C of the frame, while the top J thereof is permanently secured at its inner end to the cross-bars E′ and has its outer end J′ free and unconfined and adapted to have a limited vertical movement, the upper edges *k* of the sides being inclined, as shown, to enable the said free end of the top to move down below the plane of its fixed end. The feed-chamber is formed by a three-sided frame composed of side posts L, united by a cross-bar L′ and connected by side pieces M to the posts E.

To the free end of the top of the baling-chamber is secured a transverse clamping-bar N, which is arranged to slide vertically on guide-rods O, projecting up from the sills B, and this bar carries guide-pins *o*, which move in slots *o′* in the posts F. Slidably mounted also on the guide-rods above the clamping-bar is a transverse presser-bar P, carrying a bowed plate-spring *p*, whose ends are adapted to bear upon the said clamping-bar and cause the same to press the free end of the top of the baling-chamber downward. The upper ends of the guide-rods are threaded to receive adjusting-clamps *q*, by which the presser-bar may be adjusted to regulate the tension of its spring.

The material to be baled is forced into the baling-chamber and compressed by a reciprocating plunger R, which moves within the feed-chamber and is jointed to the inner end of a connecting-rod S. This rod projects therefrom to the opposite end of the frame, where it is connected to a vertical crank-shaft

T, revolubly mounted in a bearing frame composed of the adjoining cross-bar C and an upper transverse bar U, carried by posts U', rising from the sills B. Connected to the upper end of said shaft is a lever or tongue V, to which a singletree or some other suitable draft appliance may be applied, so that horse-power may be utilized for operating the plunger.

In connection with the machine thus constructed a pair of follower-blocks W of the form illustrated in Figs. 5 and 6 are employed, each block being provided with upper and lower transverse grooves *w* and inclined top and bottom edges *w'*, which are adapted to exert a wedging action on the top and bottom of the baling-chamber when said block is employed at the outer end of the chamber as a stop-block against which the material to be baled is pressed. Spring-catches *x*, located at the mouth of the baling-chamber, are also employed to prevent the compressing follower-block from being forced back into the feed-chamber by the reactionary tendency of the compressed hay or straw preliminary to the application of the tie-wires.

In operation one of the follower-blocks is placed in position in the baling-chamber near the outer end thereof and firmly clamped by forcing the free end of the top of said chamber down upon it by the mechanism hereinbefore described. The plunger is then operated to compress the straw which is being fed into the hopper, and when a sufficient amount of straw to form a bale has been compressed the other follower-block is placed in the hopper and forced past the spring-catches *x* by the plunger to complete the compressing operation. The last-named follower-block will then be held in position by the spring-catches, and the tie-wires *y* may be readily and conveniently threaded through the transverse grooves *w* in the blocks and placed about the bale and secured to hold the bale compressed. The bale may be removed by releasing the clamped block and withdrawing it from the rear end of the chamber or by allowing it to be automatically forced out after said block has been removed by the material being compressed to form the succeeding bale, as preferred.

The posts F project above the plane of the top J a short distance, as shown, and receive between them the rear terminal portion of the said top. The top J is yieldable vertically at its rear end and is held against the follower W by the spring-clamp. Rearward displacement of the clamp is obviated by engagement thereof with the projecting ends of the posts F, and lateral movement is prevented by the pins *o* entering the slots *o'*. The guide-rods O are connected at their upper ends by the bars P and N, which are movable thereon by the independent or combined action of the hand-nuts *q*, bow-spring *p*, and top J. The clamp being attached to the body of the press by the rods O can be readily removed when required for any purpose and as easily placed in position. The bow-spring *p* is attached at a middle point to the presser-bar P by means of a single fastening and is free to rock, so as to equalize the pressure upon the bar N. To hold the bow-spring in the plane of the bars P and N and prevent its turning on the fastening, the terminal portions overlap the inner sides of the projecting end portions of the posts F, as shown most clearly in Fig. 4.

While we have shown for purposes of illustration the preferred embodiment of our invention, it will of course be understood that changes in the form, proportion, and minor details of construction may be made within the scope of the invention without departing from the spirit or sacrificing any of the advantages thereof.

Having thus fully described our invention, what we claim as new, and deslre to secure by Letters Patent of the United States, is—

1. In a baling-press, the combination with the baling-chamber having its top side confined at its inner end and movable vertically at its outer end, and posts rising from the rear end of the press and having the rear portions of the sides braced thereby, and having their upper ends projecting above said top and vertically slotted, of rods secured at their lower ends to the press and extending vertically with the said posts, and a spring-clamp connecting the upper ends of the rods above the top of the baling-chamber and bearing against the projecting ends of the aforesaid posts, said clamp consisting of a clamp-bar, a pressure-bar, a spring interposed between the said bars, and clamp-nuts mounted upon the threaded ends of the aforesaid rods, the clamp-bar having pins passing through the vertical slots of the upper ends of the posts, substantially as described.

2. A baling-press having the top of its baling-chamber movable at its delivery end, posts projecting vertically from the base to a point beyond the said top and having their projecting ends vertically slotted, and guide-rods, in combination with vertical rods, clamp and pressure bars mounted upon the upper ends of the said rods and movable thereon, pins projecting from the clamp-bar and entering the slotted ends of the posts, clamp-nuts mounted upon the threaded ends of the rods, and a bow-spring interposed between the two bars and secured at a middle point to one of the said bars and having its terminal portions overlapping the slotted ends of the aforesaid posts, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

WILLIAM C. GUNLOCK.
GEORGE W. THWING.

Witnesses:
WINFORD SLOAN,
J. W. THWING.