

(No Model.)

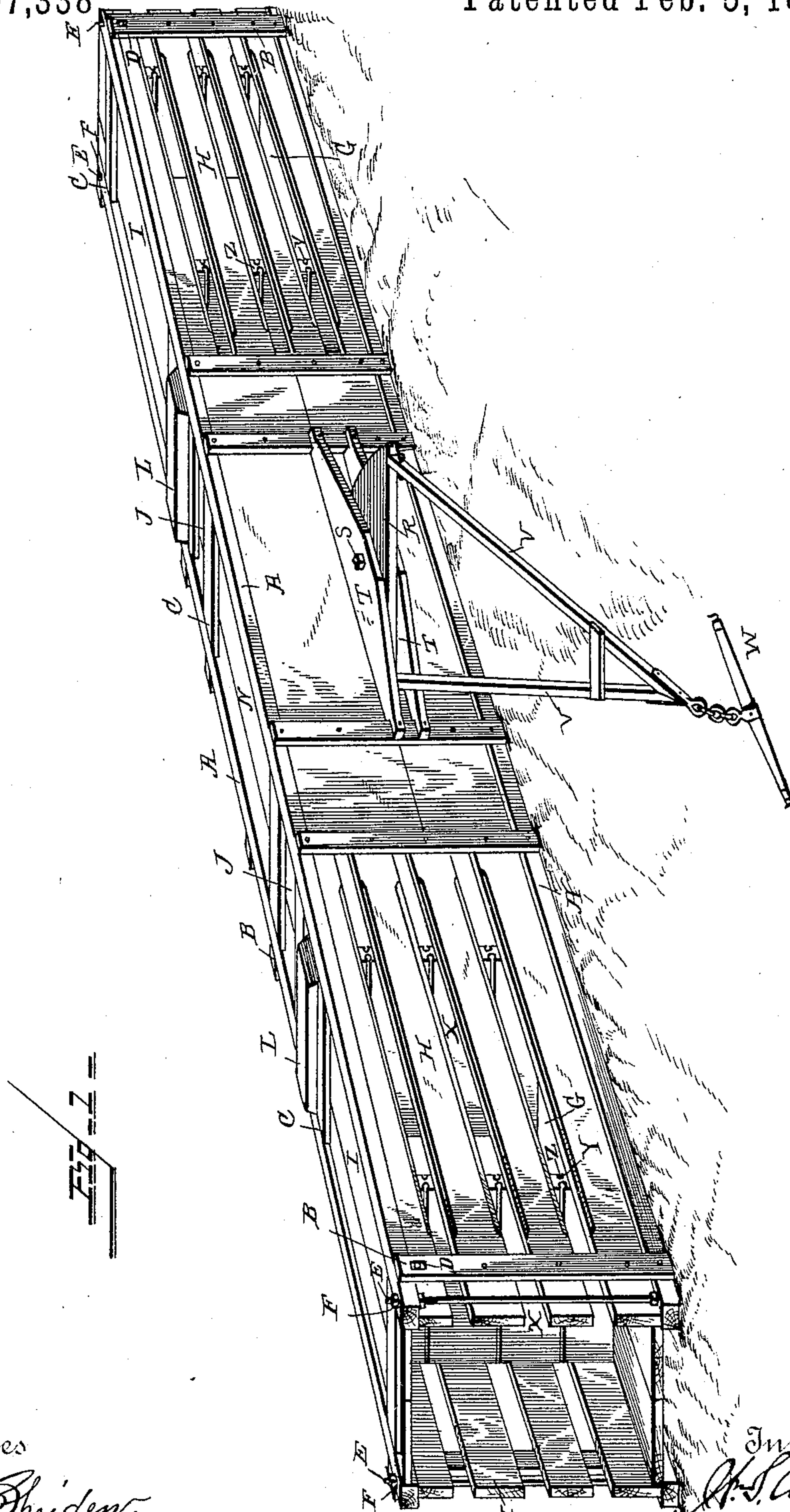
2 Sheets—Sheet 1.

W. S. CHAMPION.

HAY PRESS.

No. 397,338

Patented Feb. 5, 1889.



Witnesses

Albert Spiden.

A. M. Hanson

Inventor:

W. S. Champion

By his Attorney

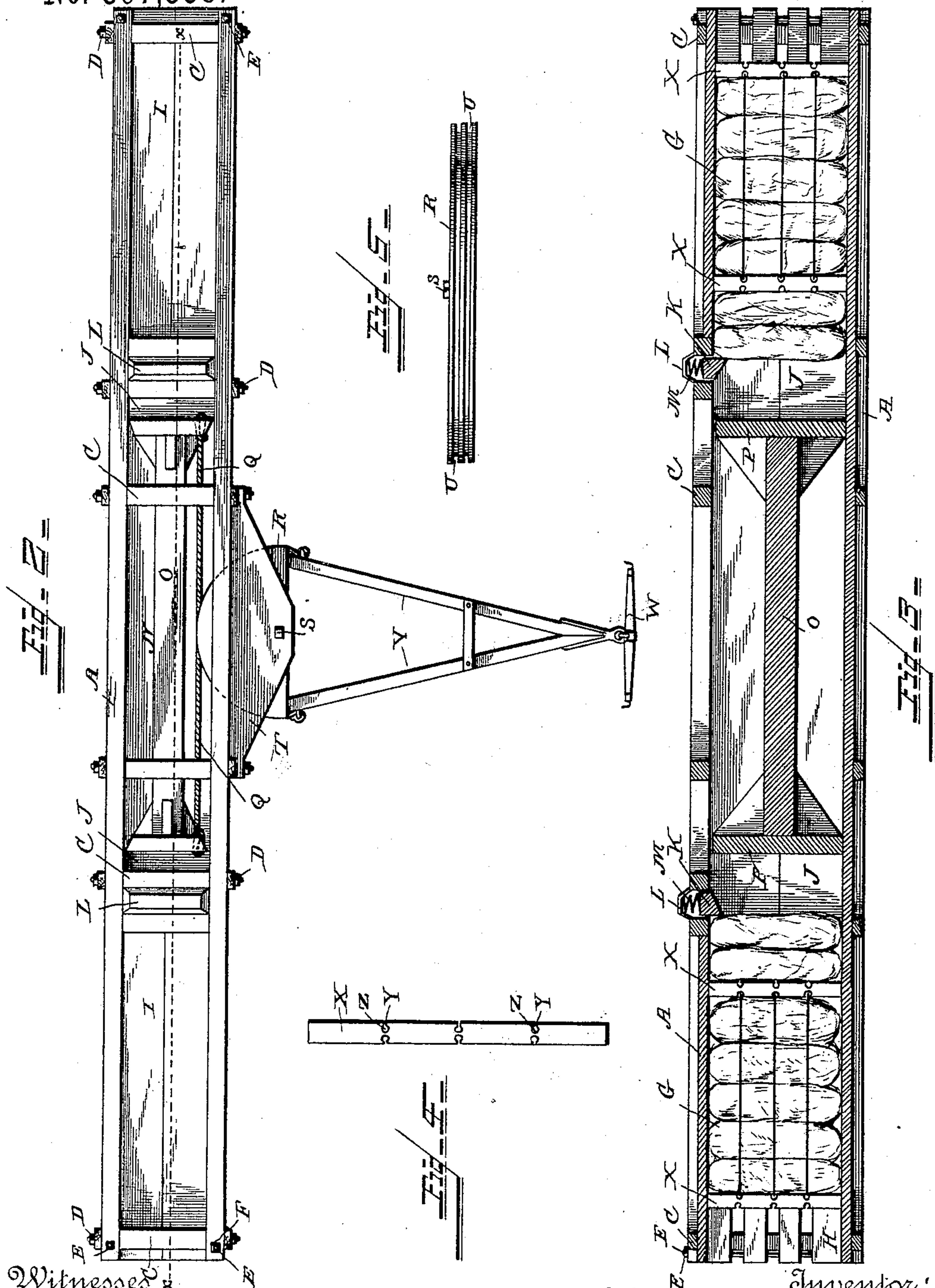
A. E. Henderson

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UNITED STATES PATENT OFFICE.

WILLIAM SMITH CHAMPION, OF GOLIAD, ASSIGNOR OF ONE-HALF TO BARTON PECK, OF GOLIAD COUNTY, TEXAS.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 397,338, dated February 5, 1889.

Application filed July 10, 1888. Serial No. 279,504. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SMITH CHAMPION, a citizen of the United States, residing at Goliad, in the county of Goliad and State of Texas, have invented certain new and useful Improvements in Hay-Presses; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to hay-presses, and has for its object to construct the parts so that two bales will be formed in the press, as hereinafter described, thereby saving time and labor, and also to simplify the construction of the parts without the sacrifice of power, strength, and durability; and with that end in view the invention consists in the construction and combination of parts hereinafter particularly described and claimed, reference being had to the accompanying drawings, forming part of the same.

Figure 1 is a perspective view of the press. Fig. 2 is a plan view. Fig. 3 is a vertical section on the line xx of Fig. 2. Fig. 4 is an end view of one of the follower-blocks. Fig. 5 is an end view of the segment detached from the press, showing the grooves.

In the drawings, the letter A designates the longitudinal timbers of the frame of the press, B the vertical timbers thereof, and C the cross-timbers, the several parts being secured together by bolts D, applied at such points as may be deemed necessary or best; and bolts E may be passed vertically through the longitudinal timbers A at the two ends of the press, and provided with nuts F for the purpose of tightening the ends of the press.

In order to allow the necessary movement to the longitudinal timbers of the press to permit the rods or bolts E to tighten the ends of the press, the end upright timbers, B, must be slotted, as shown, where the bolts D pass through them at the points shown in Fig. 1, so that the ends of the longitudinal timbers may be depressed. The effect of this is to contract the outer ends of the chambers, so that the

hay may be compressed as it is forced into this narrower portion of the chamber. When the bolts are manipulated to tighten the ends of the press, as indicated, the nuts illustrated as on the bolts beneath the top timber are first loosened, and then the upper nuts run down until the top timbers bear on the lower nuts. These bolts thus not only contract the outer ends of the chambers, but also brace the timbers.

The baling-chambers (designated by the letters G G) are formed with slotted sides composed of the slats H, and are provided with the closed tops I. These chambers are at each end of the press, and at their inner ends are the feed-chambers J, between which and the baling-chambers are the catches K, depending from sockets L in the top of the press, and acted on by the springs M, which will hold the catches down in front of the charges of hay as moved forward, so as to hold them in place.

One face of the catches is preferably beveled, as shown, so as to permit the charges of hay to pass by the same easily, the springs M yielding to the pressure of the charge as it is moved under the catches. In the space N between the two feed-chambers there is suitably supported and guided the beam O, provided at opposite ends with the plunger-heads P, the beam and heads constituting a double plunger adapted to be reciprocated so as to compress the hay in one chamber while the chamber at the opposite end is being charged with hay to be compressed by the plunger when its movement is reversed. It will thus be seen that the plunger is caused to compress hay in both its backward and forward movement, and thus perform the function of compressing hay for two bales in the same press at the same time.

The plunger is reciprocated by means of the cables Q, which preferably are of wire and connected to the plunger and to the oscillating segment R, which is pivoted by bolt S to the two sills T, bolted to the side timbers, and between which the segment fits, and by which it is guided and braced. The segment has formed in its periphery two grooves, U, in which lie the cables Q, one of which is

connected at one end to one side of the segment and at the other end to one end of the plunger, while the other cable is connected to the opposite side of the segment and to
 5 the opposite end of the plunger, so that when the segment is turned in one direction one cable is wound around it, and one of the plunger-heads is drawn away from its feed-box and the other plunger-head forced into
 10 its feed-box. When the movement of the segment is reversed, the cable just described as wound about it is unwound, while the other cable is wound upon it, thus moving the plungers in the opposite direction. The power
 15 thus transmitted to the plunger is direct, positive, and of much force, and applied at the expenditure of little effort on the motive power.

The effect of using the segment and cables
 20 and connecting the cables to the outer ends of the plunger beyond the fulcrum-point of the lever is that the point of resistance (taking the end of the plunger to which the cable is attached as such point) with reference
 25 to the fulcrum is constantly changing, so that when the least power is required, which is when pressure is first applied to the fresh charge of hay, the point of resistance is farthest removed from the fulcrum, and as the
 30 hay becomes compressed and more power must be exerted on it the point of resistance is brought nearer to the fulcrum, so that more leverage for the increased pressure is obtained.

From the segment R extend the levers V,
 35 joined together at their outer end and pro-

vided with a singletree, W, for hitching the horse. The follower-blocks X are applied and used in the manner customary in presses of this kind, and are formed on opposite faces
 40 with slots Y, opening into the circular grooves Z, to receive the binding-wire.

The action of the plungers is continuous, and the arrangement of the bale-boxes with reference to them constitutes a double press,
 45 in which two bales are formed, while the two precedingly-formed bales are ejected by the two bales in progress of formation. The parts are simple in construction, easily put together and operated, not liable to get out
 50 of order, strong and durable, and very efficient for the purposes intended.

Having described my invention and set forth its merits, what I claim is—

In a hay-press, the combination of the two feed and baling chambers, the reciprocating
 55 plunger-beam provided with a plunger-head at each end, the pivoted segment provided with a lever, and the cables connected to the inner ends of the segment and passing in opposite directions parallel to the length of the
 60 plunger and connected to the opposite ends of the plunger, as and for the purposes set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM SMITH CHAMPION.

Witnesses:

JAS. F. RAGLAND,
 B. F. FLY.