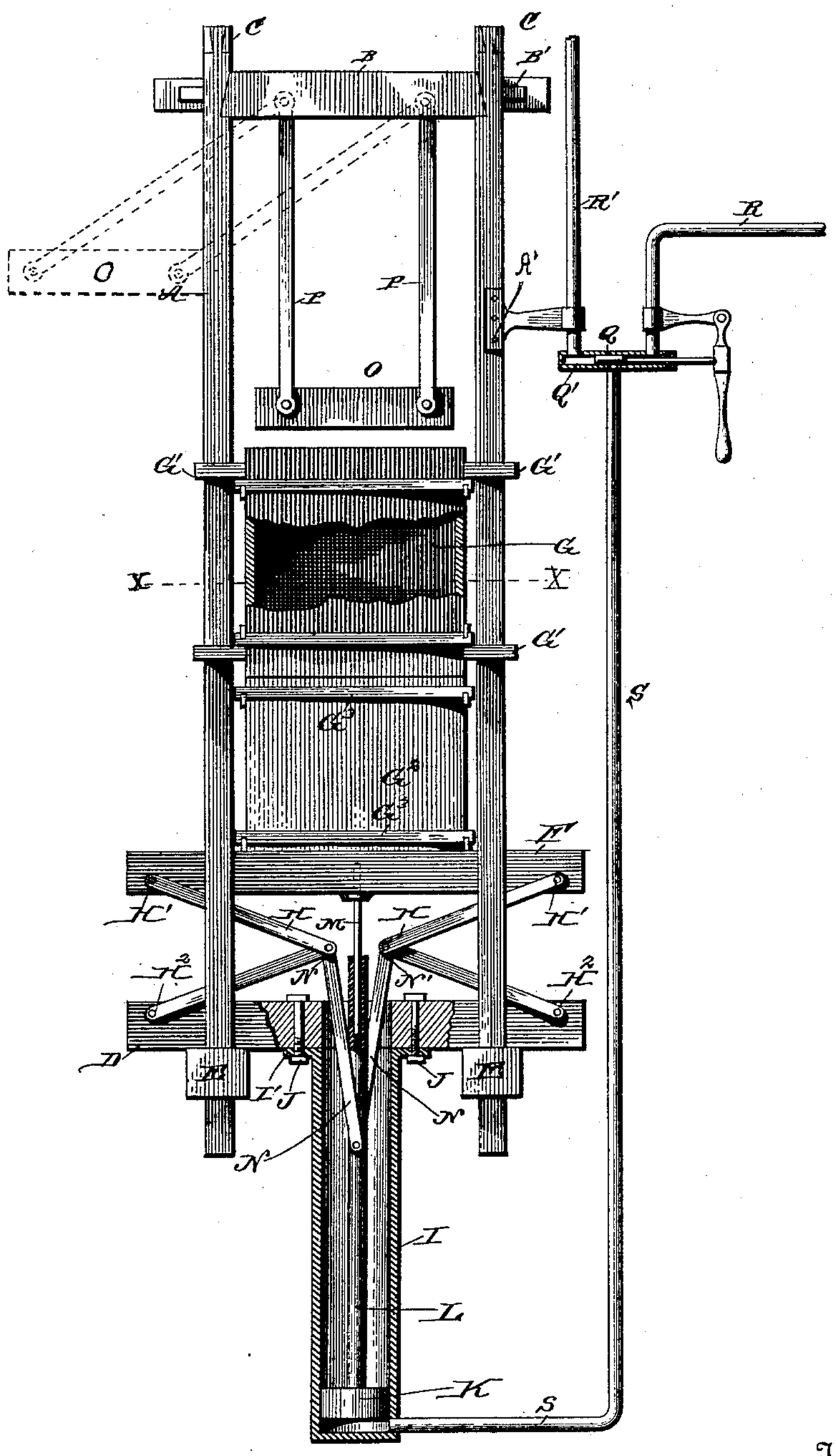
(No Model.)

S. J. WEBB.

BALING PRESS.

No. 353,101. Patented Nov. 23, 1886.



Witnesses
Edwin L. Yewell,
Wm. T. Huntemann

Inventor
Samuel J. Webb
By his Attorney
Frank A. Foute.

UNITED STATES PATENT OFFICE.

SAMUEL JACKSON WEBB, OF MINDEN, ASSIGNOR OF ONE-HALF TO REUBEN N. McKELLAR, OF SHREVEPORT, LOUISIANA.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 353,101, dated November 23, 1886.

Application filed July 24, 1886. Serial No. 208,958. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL JACKSON WEBB, a citizen of the United States, residing at Minden, in the parish of Webster and State of Louisiana, have invented certain new and useful Improvements in Hay and Cotton Presses; and I 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.

My invention relates to a cotton and hay press; and it consists in the parts, which will be described, and pointed out in the claims.

The accompanying drawing represents a side view of my improved press. In this view the cylinder and throttle-valve pipe are in section. A part of the compressor-box is also broken away.

There are four corner-posts in the machine, two of which are shown in the accompanying drawings. These are represented by the letters A A'.

B and B' are stationary sills secured to the tops of the posts.

C C are caps upon the tops of the posts A A'.

D is a fixed base-sill resting on the ends of cross-sills E E.

F is a sill vertically movable in the frame-posts A A'. The compressor-box G is rigidly secured on the upper side of the sill F. The sills D and F are connected together by a toggle-joint, H H. The upper arms of this joint are hinged at H' to the sill F. The lower arms thereof are hinged at H^2 to the stationary sill D.

I is a steam-cylinder provided with a circumferential flange, I', upon its upper side. This flange is provided with openings, and it is secured to the sill D by means of the bolts and nuts J J. The upper end of the cylinder is open. There is a circular opening in the sill D corresponding to and registering with the inner diameter of the cylinder I.

K is a piston, and L the piston-rod in the cylinder I. The piston-rod is provided with a central longitudinal opening in its upper end. M is a vertical rod centrally secured to the under side of the movable sill F. This rod is inserted into the opening in the piston-rod. Both rods when in action move in the same line, the rod M serving as a guide to the piston-rod, whereby said piston-rod is maintained in a vertical line during its action and the piston maintained at all times in a horizontal plane within the cylinder.

N N represent two rods, jointed at N' to the inner ends or joints of the toggles H.

O is a compressor-block suspended by arms P P from the stationary sill or cross-piece B. The lower ends of the arms P P are hinged to the block O, the upper ends of said arms being hinged to the fixed sill D. The box G is rectangular in form, and it is provided with guide-projections G', which are vertically movable on the posts A A'. These guide-pieces serve to hold the box and its sill F in a fixed relative position with the posts A A' at all times. G^2 represents a door on the bottom side of the box G. This door is held in position by latch bars G^3.

Q represents the throttle-valve, longitudinally movable in the short horizontal pipe Q'.

R represents the steam-supply pipe leading into one end of the pipe Q'.

R' is an exhaust-pipe leading from the pipe Q'.

S is a pipe connected at one end to the valve-pipe Q'. The lower end of the pipe S enters an opening in the cylinder I under the piston K.

The operation of the device is as follows: When hay or cotton is to be pressed, the block O is swung outside of the posts A A'. The hinged arms P permit of this movement of the block. The face of this block is rectangular in form, and conforms substantially to the opening in the box G—that is to say, the block O fits snugly within the box G. Now, when the box G is to be filled with a material to be compressed, the block O is swung to one side and the box G filled from its upper side. The block O is then permitted to gravitate back, so that the arms P are substantially in a vertical position. Steam is then admitted through the pipes R, Q', and S into the under side of the cylinder. This is done by moving the valve Q inward, so as to establish communication between the pipes R S. The piston and piston-rod are thereby elevated. This action forces up the arms N. The upper ends of said arms are thereby forced outward in the arc of a circle. This action forces up the movable block F and the box G through the medium of

the toggle-arms H H. As the piston descends the toggle-joint, working in unison with the upper ends of the arms N, describes the arc of a circle. With the ascent of the piston the toggle-joints are forced outward. When the block F is at the upward limit of the stroke, the toggle-arms H are substantially in a vertical line, the arms N at that point being in a horizontal line. As the pressure on the bale to be compressed increases as the block F ascends, so, also, does the power of leverage increase on the toggle-arms, thereby rendering the compression through the medium of the toggle-arms an easier matter than it would be if the piston-rod were connected directly with the sill F. The sill F is forced in its upward movement to about the line *x x*. This movement brings the upper end of the box near the sill B. When the bale is compressed, it is removed through the door G^2. By withdrawing the valve Q to the outer end of its pipe Q′ the supply of steam is cut off, and the steam within the cylinder is permitted to exhaust through the pipes S and R, whereby the sill F, box G, and operating parts may be permitted to gravitate to the position substantially as shown in the accompanying drawings.

The object in leaving the cylinder open at one end, as shown, is to make the parts more compact. It will be observed that when the parts are contracted, as shown in the drawings, the movable sill F is lowered close to the fixed sill D. This is effected by reason of the fact that the arms N are permitted to extend a considerable distance into the cylinder.

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

1. In a cotton and hay press, a cylinder provided with a piston-rod and piston, one end of the cylinder being open and secured to a fixed sill on the under side of the press, the lower end of said cylinder having an opening which communicates with a steam-pipe, a movable sill mounted above said fixed sill or piece, two toggle-arms jointed to the piston-rod, the upper or outer ends of said arms being jointed to the joints of two toggle-arms, the outer ends of said toggle-arms being pivoted to the fixed sill and movable sill, respectively, substantially as described, and for the purpose set forth.

2. In a cotton and hay press, a cylinder provided with a piston-rod and piston, the upper end of the cylinder being open and secured to a fixed sill on the under side of the press, the lower end of said cylinder having an opening which communicates with a steam-pipe, a movable sill mounted above said fixed sill or piece, two toggle-arms jointed to the piston-rod, the upper or outer ends of said arms being jointed to the joints of two toggle-arms, the outer ends of said toggle-arms being hinged to the fixed sill and movable sill, respectively, the upper end of the piston-rod being provided with the central longitudinal opening, the under side of the movable sill being provided with a vertically-suspended rod rigidly secured thereto, said rod entering the opening in the piston-rod and serving as a guide therefor, substantially as described, and for the purpose set forth.

3. A press provided on its under side with a cylinder open at its upper end, and provided on its under side with an opening communicating with a steam-pipe, a fixed sill, D, provided with an opening corresponding with the opening in the cylinder, said cylinder being provided with a piston and piston-rod, in combination with a toggle-joint, arms N and H, and the movable sill F, the arms N being pivoted to the sides of the piston-rod at a distance from the upper end of said rod nearly equal to the length of the arms N, whereby said arms may be folded and extended into the open end of the cylinder when the movable sill is lowered, the upper or outer ends of said arms being jointed to the toggle-joint of the arms H, the outer ends of the toggle-arms H being pivoted at H′ and H^2, respectively, to the fixed sill D and movable sill F, substantially as described, and for the purpose set forth.

4. The combination, with the standards, of a sill vertically movable on said standards, and provided with a box on its upper side, said box being open at its top and also provided with a door on the lower part of one side, a plunger or compression-block mounted above the opening in the top of the box, and means for actuating said sill and box, substantially as described, and for the purposes set forth.

5. The combination of the standards having top cross-pieces united therewith, the block O, and arms P, the upper ends of said arms being pivoted to the cross-pieces, the lower ends thereof being pivoted to said block, a movable sill provided on its upper side with a box having a top opening, and means for actuating said sill and box, substantially as specified.

6. In a cotton and hay press, a movable sill, F, and box G, mounted thereon, said box being provided with guide projections G′, and the posts A A′, in combination with the swinging block O, and hinged arms P, substantially as described, and for the purpose set forth.

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

SAMUEL JACKSON WEBB.

Witnesses:
C. G. RIVES,
R. C. SIMS.