(No Model.)

S. J. WEBB.

BALING PRESS.

No. 353,102. Patented Nov. 23, 1886.

Fig. 1.

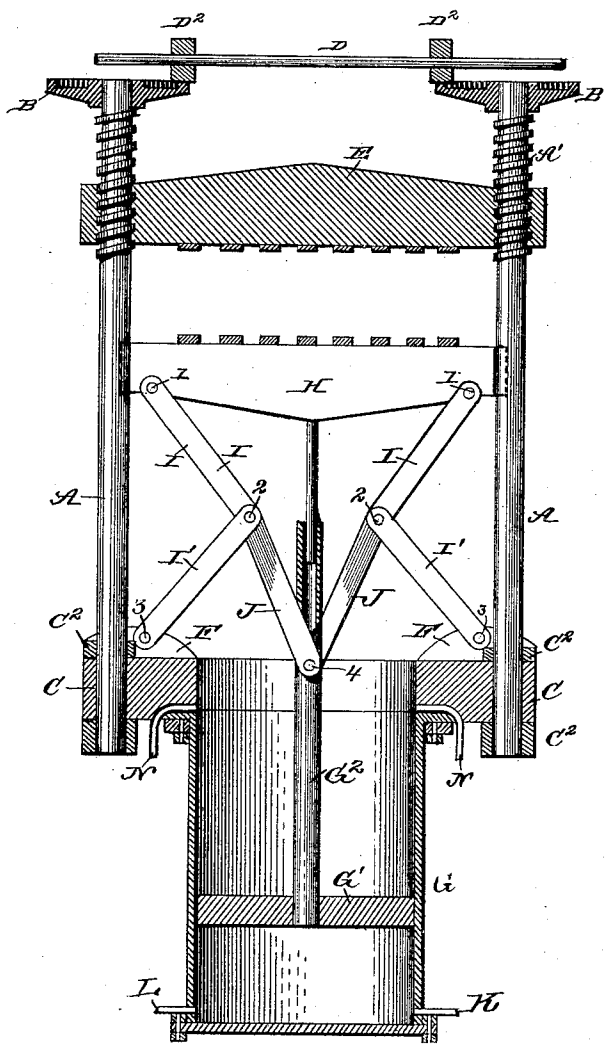
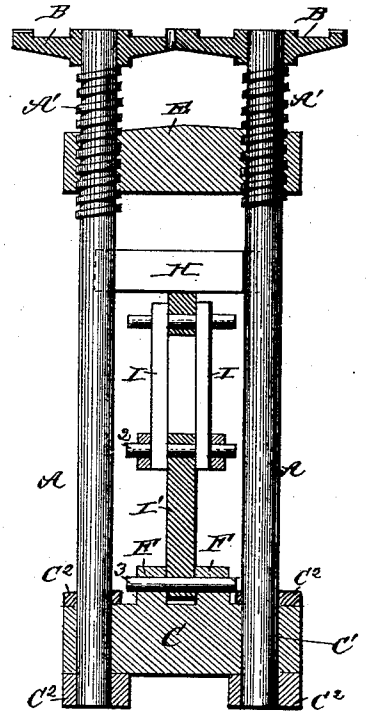


Fig. 2.



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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. 353,102, dated November 23, 1886.

Application filed July 24, 1886. Serial No. 208,959. (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 is a cotton or hay press; and it consists in the parts which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation, partly in section, of my improved press. This view shows a cylinder vertically mounted and secured to the under side of the bed-plate. Fig. 2 is an end view in elevation, also partly in section.

Like letters indicate like parts in the two views.

The four corner frame posts or rods are represented by the letter A. These posts are screw-threaded on their upper ends at A'. The upper end of each post is provided with a horizontally-mounted cog-wheel, B. Each cog-wheel is keyed or otherwise secured to its post. Each wheel is provided with spurs or cogs facing upward, and are also provided with circumferential spurs or cogs on their peripheries. The two end cogs gear, as shown in Fig. 2. The posts are mounted in openings C' in the fixed bed plate or sill C. Said posts turn in the openings C'.

C^2 are shoulders or nuts on the rods. By means of these shoulders the rods are revolubly held in the bed-plate openings.

D is a horizontal shaft provided with spur-wheels D^2, which gear with the spurs on the upper side of the cog-wheels B.

E is an adjustable platen provided with corner screw-threaded openings, in which the threaded portion of the posts A works. The spurs D^2 are keyed to the shaft D. By rotating said shaft the spurs D^2, cog-wheels B, and posts A are rotated. This action raises or lowers the platen E to any desired position. By reason of the gear-wheels the posts have a uniform motion when the shaft D is rotated, and the platen E is thereby raised or lowered in a uniform manner.

G is a steam-cylinder, open at its upper end and bolted to the under side of the bed-plate C. Said plate is provided with an opening corresponding in diameter to the opening in the upper end of the cylinder.

G' is the piston, and G^2 the piston-rod. The upper end of the piston-rod is provided with a central longitudinal opening.

H is a movable platen, provided on its under side with a vertical rod, H', projecting downward and fitting into the opening in the upper end of the piston-rod. When the piston is up to the end of its stroke, the piston-rod extends up to the bottom of the platen H, thereby inclosing the rod H' in the opening in said piston-rod. This action on the part of the piston-rod and platen H prevents the piston from coming out of the cylinder.

I I' are toggle-jointed arms. The outer ends of the arms I' are hinged to the ears or lugs F on the bed-plate C. The outer or upper ends of the arms I are hinged to the platen H.

J J are two toggle-arms pivoted to the sides of the piston-rod G^2.

K is a steam-supply pipe leading into the under side of the cylinder, and L is the exhaust-steam pipe on the opposite side of the cylinder. Said pipes are provided with suitable valves to let the steam in and out of the cylinder at pleasure. The toggle-arms are held together and in their proper positions by pins 1 2 3 4.

The operation of the device is as follows: Steam is admitted to the cylinder through the supply-pipe K. The piston and piston-rod are thereby elevated. This action forces the arms J upward and outward until they assume a horizontal position, the outer ends of said arms describing the arc of a circle in their movement. This movement of the arms J (they being jointed at 2 to the toggle-arms I I') forces the arms I I' outward and upward until said arms I I' assume a substantially vertical position when the arms J are in a horizontal position. This upward movement of the piston and arms elevates the platen H, and compresses the hay or cotton which may lie between it (the platen H) and the upper platen, E. The power of leverage on the toggle-arms is increased as the platen H ascends, thereby multiplying the force of the piston and its rod

in their ascent. The application of the power of leverage of the toggles increases in a corresponding ratio with the increase in the resistance offered by the material being compressed.

N N are pipes leading outward from the upper end of the cylinder. These pipes permit the steam to exhaust from the cylinder when the piston shall have passed above their inner ends. Said openings are therefore in the nature of safety-valves. When a bale has been compressed, the piston, its rod, the toggle-arms, and platen H will gravitate to their lower normal position.

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

1. A cylinder open at one end, said cylinder being provided with a piston and a piston-rod, and also provided with supply and exhaust ports near one end, and exhaust-ports near the open end of the cylinder, whereby when the piston passes above the exhaust-ports near the open end of the cylinder the steam is automatically exhausted from the cylinder and the pressure of steam removed from the piston, all combined substantially as described.

2. The base-plate C, provided with corner-openings, revoluble posts A, provided with shoulders and seated in the base-plate openings, the posts being screw-threaded on their upper ends, the movable platen E, provided with screw-threaded openings into which the screw-threaded portions of the posts work, the wheels B, provided on their peripheries and upper outer surfaces with spurs, the shaft D, and wheels D^2, said spurs being keyed to the shaft, the wheels B being keyed to the posts, all combined substantially as described, and for the purposes set forth.

3. In a cotton or hay press, the bed-plate C, provided with lugs F, and having standards or posts mounted thereon, a cylinder secured to the under side of said plate, said cylinder's piston extending upward and having the arms J pivoted thereto, the movable platen H, and toggle-arms I I′, the arms I′ being pivoted to the lugs F, the outer ends of the arms I being pivoted to the platen H, the outer ends of the arms J being jointed to the jointed ends of the toggle-arms I I′, all combined and operated substantially as described, and for the purposes set forth.

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

SAMUEL JACKSON WEBB.

Witnesses:

C. G. RIVES,

R. C. SIMS.