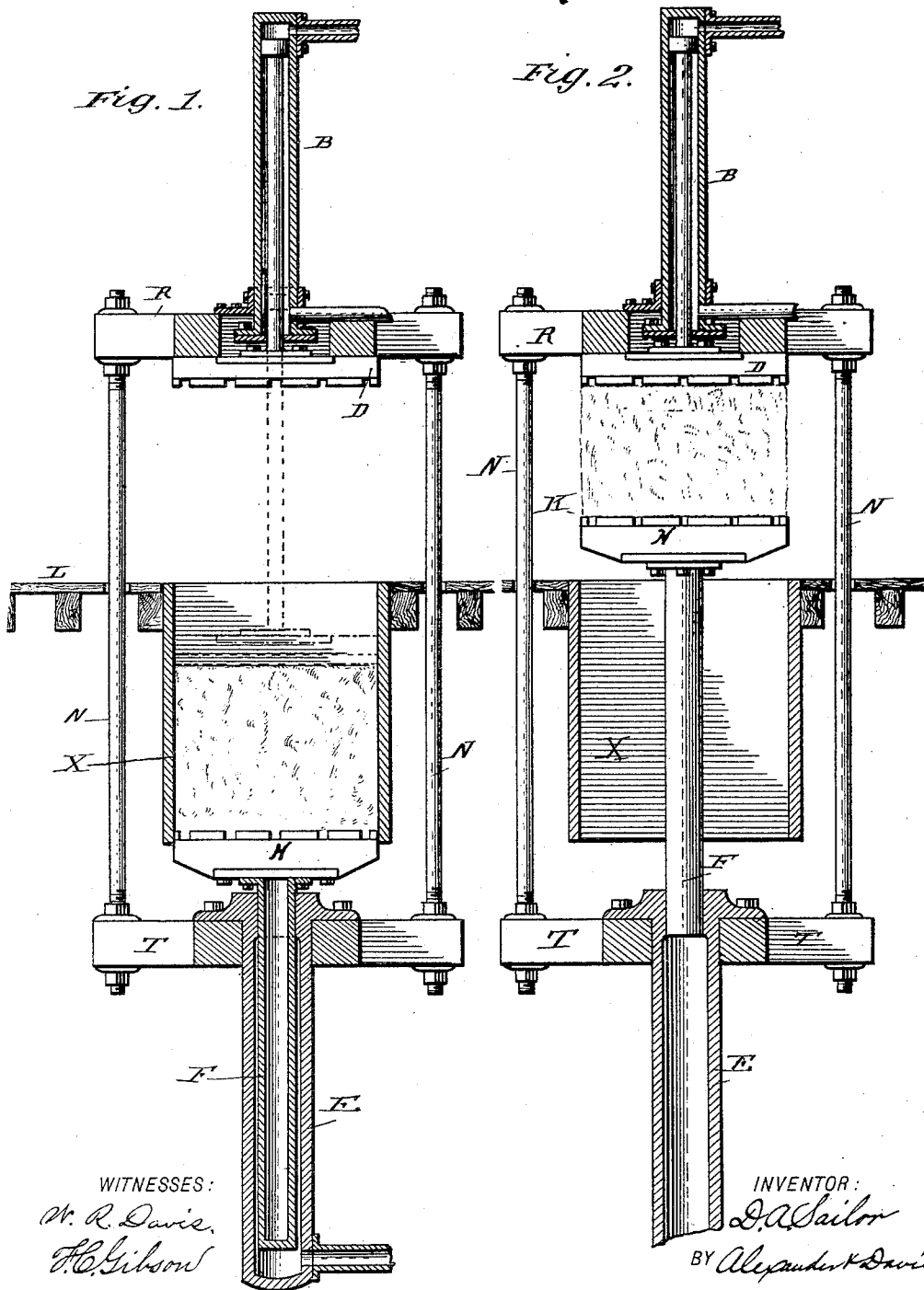


(No Model.)

D. A. SAILOR.
COTTON PRESS.

No. 467,783.

Patented Jan. 26, 1892.



UNITED STATES PATENT OFFICE.

DAVID A. SAILOR, OF LITTLE ROCK, ARKANSAS.

COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 467,783, dated January 26, 1892.

Application filed September 30, 1891. Serial No. 407,313. (No model.)

To all whom it may concern:

Be it known that I, DAVID A. SAILOR, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented certain new and useful Improvements in Cotton-Presses, of which the following is a specification, reference being had therein to the accompanying drawings.

In the drawings annexed, Figure 1 represents a vertical sectional view of one form of my improved press; Fig. 2, a similar view showing the platens in position for imparting the final pressure to the bale.

The object and nature of this invention will be fully understood and appreciated from the following description, when taken in connection with the accompanying drawings.

Referring to the accompanying drawings by letters, R and T designate, respectively, the upper cross head or bar and the bed-plate of the press, which are connected in the usual manner by the vertical tie-rods N N. Supported upon the bed-plate is a vertical cylinder E, open at its upper end, in which works a suitable ram or piston F, this ram having attached to its upper end the lower platen or follower H, which is provided with the usual bale-band grooves in its face. This lower platen works in the vertical stationary packing-box X, and when at rest at the lowest point of its stroke forms the bottom of said box, the upper open end of the box terminating about on a level with the floor-line L. Supported upon the upper cross-head over the open end of the packing-box is another vertical cylinder B, which is smaller in diameter and less powerful than the lower cylinder, this upper cylinder being provided with a suitable piston and piston-rod, the latter having attached to its lower end a platen or follower D, similar in area to the lower platen and adapted to fit and work within the upper portion of the packing-box. The platen D is also provided with the usual bale-band grooves in its surface.

As any suitable fluid may be employed to operate the piston and ram—such as steam, compressed air, or liquids under pressure—I do not wish to be confined in this respect.

As any suitable arrangement of valves, pipes, pumps, &c., may be employed to conduct the fluid to the cylinders, I have not

deemed it necessary to show and describe them in this specification.

Operation: Cotton is fed into the cotton-box by any suitable means and packed therein by means of the upper light-pressure platen until a sufficient quantity is obtained to form a bale. When this platen goes down with the last charge, the pressure is continued, so that it will remain pressed down against the cotton in the box. The lower and more powerful platen is then brought into action by admitting the pressing-fluid to its operating-cylinder, whereupon the bale and upper platen will be backed or forced up out of the pressing-chamber until the upper platen abuts against the cross-head, at which point the upper platen will stop and permit the lower platen to impart to the bale the final pressure to compress it to the tying-point K. This manner of forming the bale obviously possesses important advantages over the old cotton-presses now in common use. In most of the presses now in use the lower platen only is adapted to move and heavy cumbersome gates are hinged to the upper end of the packing-box and adapted to close up in such a manner as to form the remainder of the box up to the upper stationary grooved platen. The cotton is fed to this box by different means until there is sufficient therein to make the bale, whereupon the lower follower is forced upward until the bale is well formed in the gates. The gates are then opened and the follower allowed to press the bale up to the tying-point.

In the present invention the use of the cumbersome gates is obviated and a much more effective press in general produced.

While the foregoing details of construction constitute preferred devices for carrying out the principles of my invention and involve constructions which I regard as the best for such purpose, it will be apparent to those skilled in the art that various modifications and changes may be made without departing from the invention, and hence for the broader purposes of my invention I do not confine myself to the precise construction shown. For instance, any other suitable mechanism—such as screws, toggle-levers, rack-bars, &c.—may be employed to operate the platens, the essential feature of the invention being to

arrange, in combination with a pressing-box, two opposing platens or followers, one performing the initial light pressing of the cotton and the other adapted to perform the final pressure and at the same time overcome the resistance offered by the opposing platen and force the same, together with the bale, out of the pressing-box, as hereinbefore set forth.

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

1. The method of forming a cotton-bale, consisting in, first, inclosing or confining the material to form the bale; secondly, subjecting it to an initial endwise pressure while thus confined; thirdly, removing the initially-pressed bale from its chamber while still under the initial pressure; fourthly, increasing the initial pressure until the bale is pressed to its tying-point, and, finally, tying the bale, substantially as described.

2. The method herein described of forming a cotton-bale, consisting in, first, inclosing the fiber in a chamber and initially pressing it therein between a pair of platens having unequal compressive forces, the initial pressure being accomplished by the light-pressure platen; secondly, turning the pressure on the high-pressure platen while the pressure is still

on the opposing platen, whereby the bale initially pressed only is carried out of the chamber between the platens; thirdly, arresting the light-pressure platen and continuing the pressure on the high-pressure platen until the bale is pressed to the tying-point, and, finally, tying the bale while entirely out of the pressing-chamber, substantially as described.

3. In a cotton-press, the combination of an open-ended press-box suspended from an opening in the floor and having its upper open end approximately even with the same, an upper and lower cross-head connected together by rods, a high-pressure platen provided with bale-band grooves mounted on the lower cross-head and forming the bottom of the press-box, and means for forcing this platen entirely up through the press-box, a light-pressure platen provided with bale-band grooves supported on the upper cross-head above the press-box, and means for reciprocating this platen, substantially as described.

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

DAVID A. SAILOR.

Witnesses:

GEO. R. DAWNES,

W. C. BROWN.