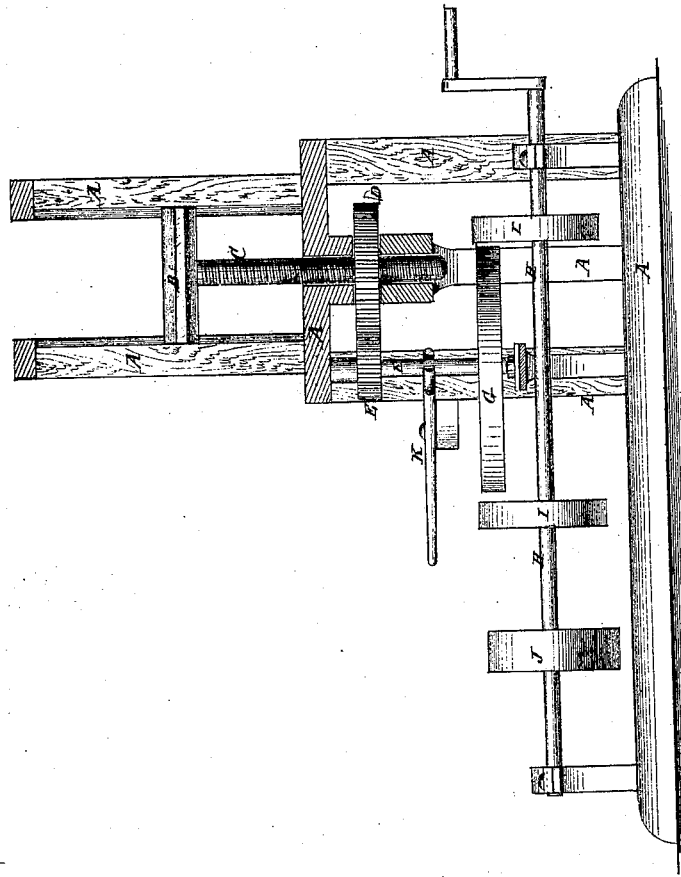


*W. W. Knowles,*

*'Cotton Press'.*

*No. 106,833.*

*Patented Aug. 30. 1870.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

WILLIAM W. KNOWLES, OF BASTROP, TEXAS.

## IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. **106,833**, dated August 30, 1870.

*To all whom it may concern:*

Be it known that I, WILLIAM W. KNOWLES, of Bastrop, in the county of Bastrop and State of Texas, have invented a new and useful Improvement in Cotton-Press; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The figure is a detail sectional view of my improved press.

My invention relates to screw-presses, and has in view the attainment of two important objects. The first is to simplify and reduce the number of parts now employed in the operative mechanism of machines known to the public, and to arrange them all within convenient proximity. The Parry press, as an illustration, operates the screw in both directions, but with a complication of parts which are cumbersome and inconvenient, and many of them sixteen feet high. He uses four bevel-gear wheels, while I use in lieu thereof three simple and inexpensive friction-wheels. He uses five spur-wheels—three external and two internal—while I use two simple spur-wheels. These differences alone enable me to manufacture and sell my machine to the public at fifty per cent. less cost than that of Parry.

Another machine for baling, sometimes used, is the Brooks press; but the peculiarity of this press is the net-work of belts and pulleys employed. It is, however, well known among machinists that where great power is to be obtained belts are always dispensed with, if possible; but they are particularly objectionable where the screw is used.

The second object is to produce a convenient arrangement of parts whereby the power may be shifted, so as to rotate the screw in either direction.

The invention then consists, first, in the arrangement of three friction-wheels with two spurs, so as to operate the actuating-screw, as hereinafter described.

It consists, secondly, in the arrangement of a lever, end sliding shaft, and friction-wheel, for the convenient and ready reversal of motion.

A represents the frame-work of the press. B is the follower, by the movement of which the bale is pressed, and which moves up and down upon guides or ways, in the ordinary manner. C is the screw, the upper end of which is rigidly attached to the center of the follower B.

D is a large gear-wheel, eight feet (more or less) in diameter, in the center of which is formed a hole, having a screw-thread cut in it, fitting into the screw-thread of the screw C, or having a nut secured to its center, through which the said screw C passes. The wheel D is secured and supported in place by suitable supports attached to the frame A, so that by revolving the said wheel in one or the other direction the screw C will be forced up or down, carrying with it the follower B.

Into the teeth of the large gear-wheel B mesh the teeth of the pinion or small gear-wheel E, which is eighteen inches (more or less) in diameter, and which is attached to the vertical shaft F. The upper end of the shaft F revolves in bearings attached to the frame A, and its lower end revolves in a step attached to the frame A, and so arranged that the lower end of the said shaft F may have a lateral movement. To the lower part of the shaft F is rigidly attached a large friction-wheel, G.

H is a horizontal shaft, placed directly below the vertical shaft F, and in the same vertical plane with it, and which revolves in bearings attached to the lower part of the frame A. To the shaft H are rigidly attached two friction-wheels, I, at such a distance apart as to just clear the friction-wheel G, so that when the lower end of the shaft F is moved a little in one or the other direction the face of the friction-wheel G will come in contact with one or the other of the friction-wheels I, and turn the screw C up or down, according to the direction in which the lower end of the shaft F is moved. This construction allows the screw C to be run up or down, or to be allowed to stand still, while the driving-shaft H revolves continuously in the same direction.

The shaft H may be driven by steam, water, or other power, applied to it by means of the pulley J, or in any other convenient manner.

The lower end of the shaft F is moved to

change the direction of the motion of the screw C, or to allow the said screw to stand still, by means of the lever K, which is pivoted to some suitable support attached to the frame A, and the forked end of which rides upon the shaft F. The friction-wheels G I I may be replaced, if desired, by bevel or other gear wheels; but this would necessitate the stopping of the driving-shaft every time the direction of motion is changed. For this reason I prefer the construction first described.

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

1. The arrangement of friction-wheels I I G and spur-gear D E on their respective shafts and screw, as and for the purpose described.

2. The arrangement of lever K, end sliding shaft F, and friction-wheel G, with respect to the two friction-wheels I I, as and for the purpose described.

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Witnesses:

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