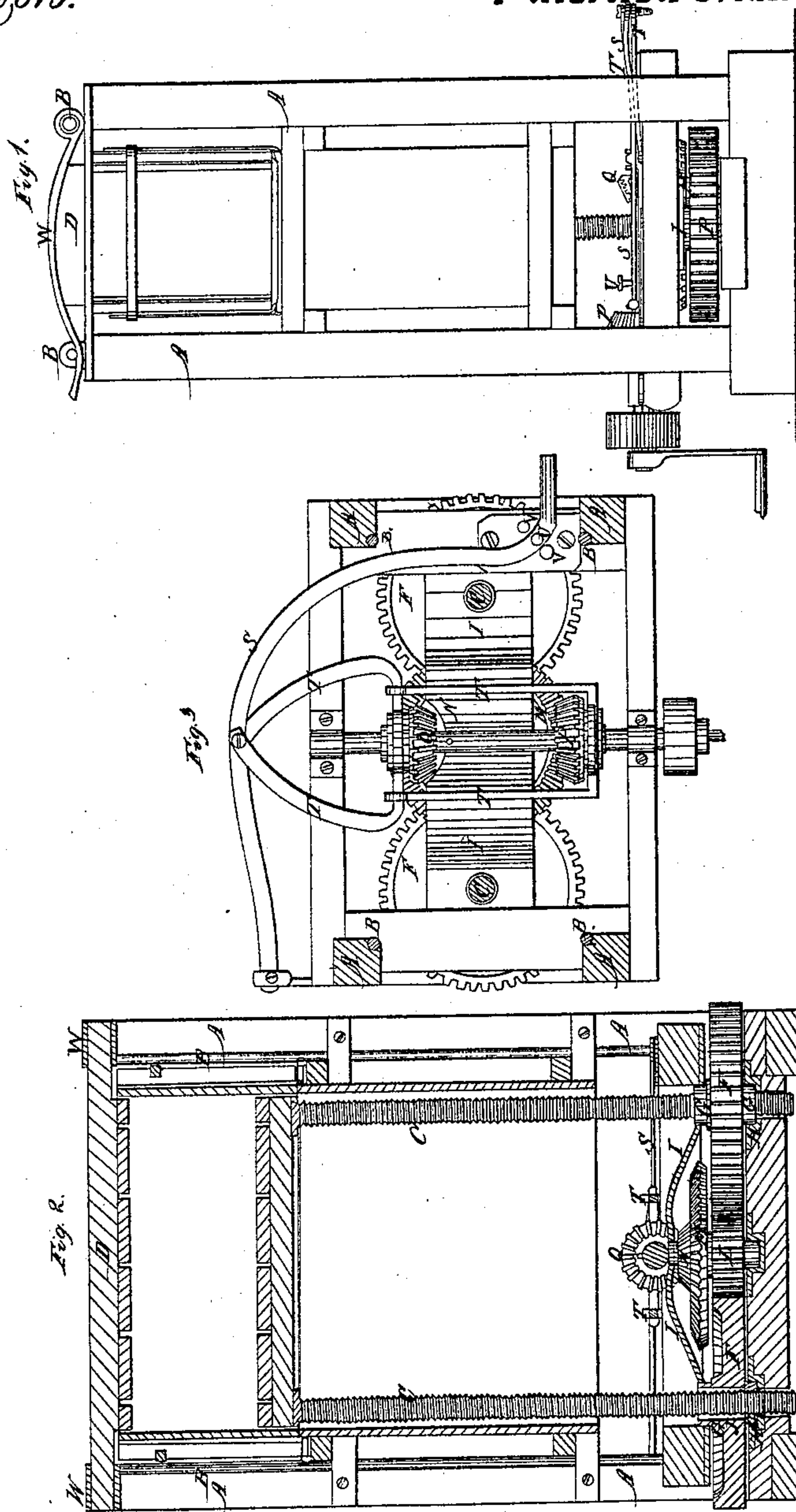


*M. D. Cheek,*

*Hay Press.*

*N<sup>o</sup> 62,815.*

*Patented Mar. 12, 1867.*



*W. A. Franklin  
Eng<sup>r</sup> & Jordan*

*Inventor  
Moses D. Cheek  
By his atty R. D. O. Smith*



# United States Patent Office.

MOSES D. CHEEK, OF CLARENDON, ARKANSAS.

*Letters Patent No. 62,815, dated March 12, 1867.*

## IMPROVEMENT IN BALING PRESSES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, MOSES D. CHEEK, of Clarendon, in the county of Monroe, and State of Arkansas, have invented a new and useful Improvement in Baling Presses; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is an end elevation of my press.

Figure 2 is a vertical longitudinal section of the lower part, showing the operative mechanism.

Figure 3 is a horizontal section on the line *x x*, showing in plan view the same parts as those represented in fig. 2.

My invention relates to that class of standing presses operated by screw power, and adapted to the baling of cotton and like purposes; and it consists, first, in the construction of the nut-wheels, whereby greater steadiness and uniformity of action are attained than hitherto; second, in the method and arrangement of the mechanism for attaining greater speed when backing down than when running up the follower; third, in the general arrangement of the machinery, securing great compactness and simplicity; fourth, in the construction of the hinged cover of the baler.

That others may understand the construction and operation of my machine, I will describe it particularly.

A A are the timbers of the frame of my press. The said frame is tied together at the corners by the rods B B, which, by their tensile strength, resist the pressure of the screws C C while in the operation of compressing a bale of cotton or other material. The pressure-chamber is at the upper part of the frame, directly under the hinged cover D; the follower or platen E, resting upon and secured to the heads of the screws C C, and forced up by them as they rise. The screws C C are prevented from turning by their attachment to the follower E.

I will now particularly describe the operative machinery, and those parts of it embracing my invention. The nut-wheels F F rest upon the lower timbers of the frame. They are constructed with hubs, G G, which are turned upon their outer sides so as to form journals, upon which the nut-wheels are to turn. These hubs G G are sufficiently large to permit the screws C C to pass down through their centres. The lower end of the hub G projects into a corresponding depression in a plate, H, which is secured to the lower timber or head of the frame A. This depression in the plate H forms a bearing or box, by which the wheel F is retained in place laterally, and it also forms a step to receive the downward pressure incident to the action of the screw C when in operation. The upper end of the hub G has its bearing in the plate I, which passes from the framework on one side of the frame A to the framework on the other side of the same, so that the wheel F is supported in bearing on its upper and lower side, and is thereby securely retained in place. But in order to prevent the action and great pressure of the screw C from affecting these bearings by any tendency to wear more upon one side than another, and thus get out of line to the detriment of the operation of the apparatus, I construct the nuts of the wheels F as follows: I bore the hub G from its upper end larger than the greatest diameter of the screw C, and continue the bore of this size until nearly or quite in line with the under side of the wheel, as shown at J, fig. 2. From this point I continue the bore through to the lower end of G, of a size proper for a female thread, as at K, to correspond with the male thread of C. By these means, as will be evident, the pressure of the screw C upon the wheel F is brought close down to the step H, and the upper end of the hub G does not touch the screw, and the tendency to work out of line is reduced to the minimum. Between the wheels F F is the pinion L, which has its pivot stepped in the bed of the frame A, as shown in fig. 2. It gears with both wheels F and F, and therefore moves them simultaneously whether forward or backward. Upon the upper side of the pinion L are the two bevel-gears M and N, upon the same centre as L. The bevel-gear N is considerably smaller than M, and is used to drive the pinion and nut-wheels when the press is being backed down when greater speed is desirable; and the bevel M is used when running up to compress the bale. The shaft of L, M, and N has its upper bearings in the plate I. Transversely across the centre of the machine, and just above the plate I, is the driving-shaft O. Upon it are mounted the bevel-pinions P and Q, both of which have clutch-collars, and are loose upon said shaft, but are secured as desired by bringing into proper gear and up to the clutch-pin R. These movements of the driving-pinions P and Q are effected by the clutch-lever S and the stirrup T which connects them to the clutch-lever. By moving the clutch-lever the driving power may be thrown in connection



with the bevel-wheel M, which runs the screws up with a slow motion and great power; or it may be thrown in connection with the small gear N, which reverses the motion of the screws C, and runs them down rapidly; or, by leaving the lever at a point midway between these connections, the driving power is disconnected entirely, and the screws will remain at rest. A key, U, or an equivalent device, passing through the hole in the lever into one of the holes V, retains the lever in either position as desired. The cover D is attached to the lower side of the heavy straps W, which are jointed at one end to the upper ends of one pair of the tie-rods B, and are secured at their other ends to the upper ends of the other pair of tie-rods. They are thus secured by passing the upper ends of the tie-rods through perforations in the ends of the straps, and by then inserting keys through proper orifices in the upper ends of the rods above the straps. This construction is clearly shown in fig. 1. By it I secure equal strength in the cover and all other parts of the frame, for, during the operation of compressing a bale, the cover is supported and retained directly by the same tie-rods which support and retain the base of the frame and the operative machinery in proper place. The sides of the pressure-box are made removable, as is usual, so as to permit the bale to be tied.

The advantages of my machine are, first, simplicity and compactness of structure, with facility of operation, and the great power derived from the two screws; second, increased steadiness and uniformity of action, due to the construction of the nut-wheels, as described; and, third, the convenience and facility of filling through the open top without the undue increase of the weight of the same, which would be necessary were the tie-rods B not directly connected to the cover.

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

The nut-wheel F, constructed with the hub G and the bored recess J, substantially as and for the purpose set forth.

The nut-wheels F, pinion L, provided with the two bevel-gears M and N, and the driving-pinions P and Q, combined, arranged, and operated substantially as set forth.

The lever S and stirrup T in combination with the bevel-gears P and Q, substantially as set forth.

M. D. CHEEK.

Witnesses:

R. D. O. SMITH,

EDM. F. BROWN.