



(No Model.)

2 Sheets—Sheet 2.

H. A. BARNARD.

FLOUR PACKER.

No. 274,878.

Patented Mar. 27, 1883.

Fig. 3.

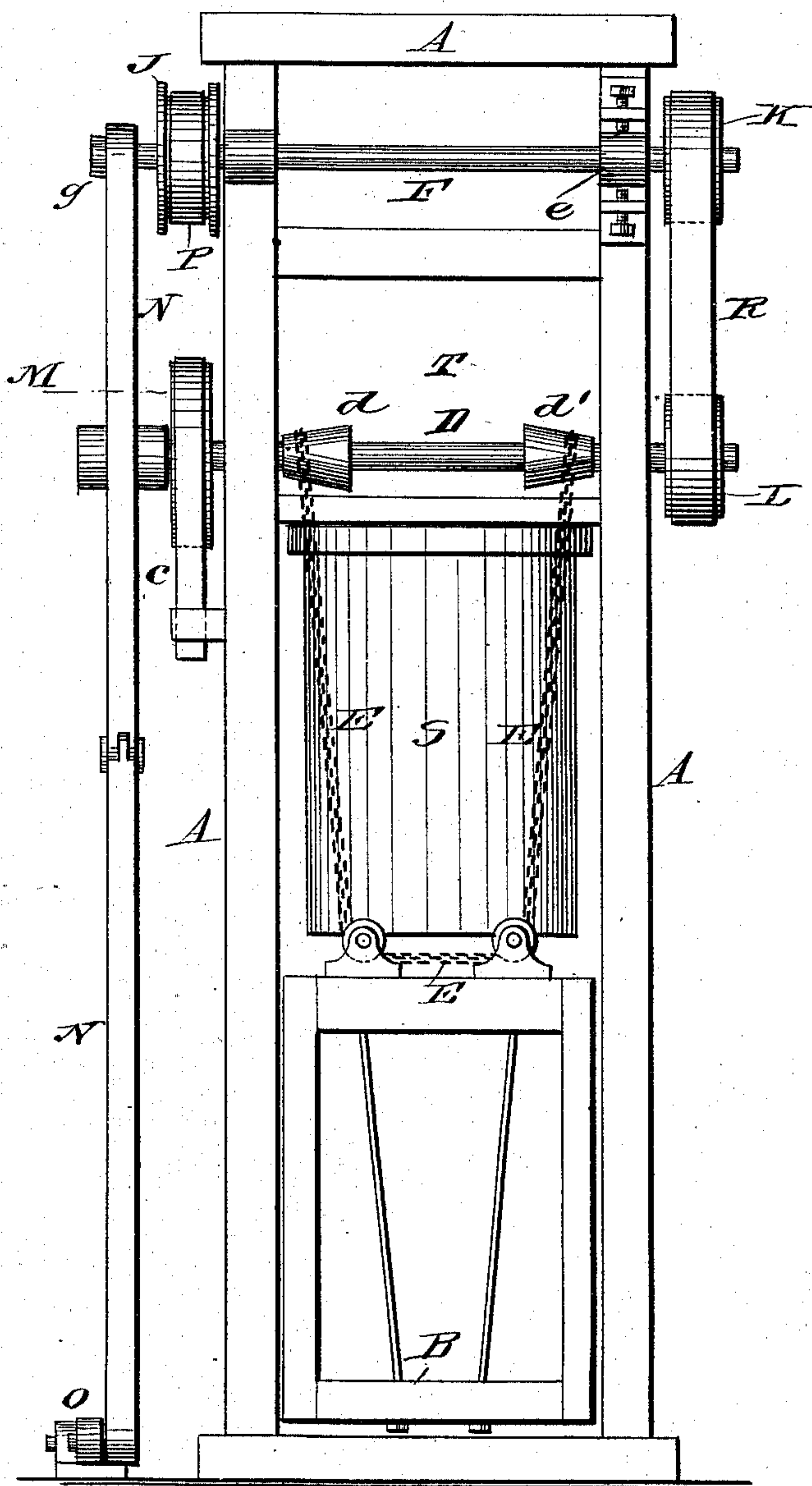
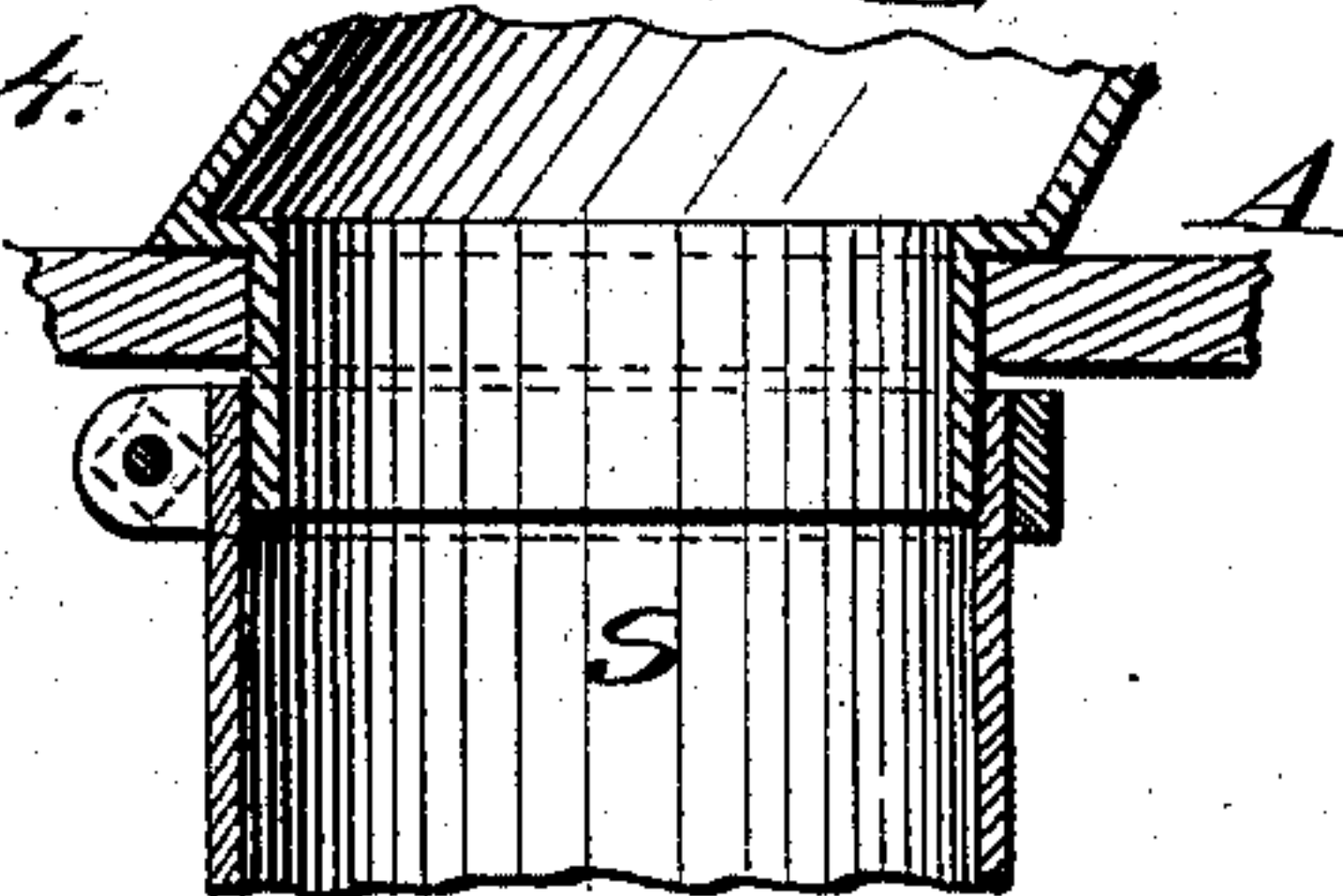


Fig. 4.



Witnesses:

Phil C. Dierich.  
W. R. Keyworth.

Inventor:

Heman A. Barnard

by  
W. R. Alexander  
Attorney.



# UNITED STATES PATENT OFFICE.

HEMAN A. BARNARD, OF MOLINE, ILLINOIS, ASSIGNOR TO THE BARNARD & LEAS MANUFACTURING COMPANY, OF SAME PLACE.

## FLOUR-PACKER.

SPECIFICATION forming part of Letters Patent No. 274,878, dated March 27, 1883.

Application filed January 31, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HEMAN A. BARNARD, of Moline, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Flour-Packers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side elevation of one side of my improved packer. Fig. 2 is a side elevation of the opposite side of the machine. Fig. 3 is an elevation of the rear of the machine. Fig. 4 is a detail sectional view.

My invention relates to improvements on machinery which is designed for packing flour, bran, cornmeal, dry paints, and other pulverulent substances, and it has especial relation to that class of packers having movable platforms, on which rests the package to be filled.

The nature of my invention consists, mainly, in providing means for raising the platform, with the package to be filled thereon, by the power used to operate the packer, thereby dispensing with weights and springs for this purpose, as heretofore used, and will be fully understood from the following description, when taken in connection with the annexed drawings.

In the process of packing flour and other material the motion of the augers on the auger-shaft forces the material through the packing-tube into the envelope or package, which rests on a platform, and forces them in together, the amount of power required being governed by the resistance of the platform in its descent, which is regulated by a brake-lever and a weight at pleasure to pack the desired amount in each package, no extra pressure being required to force down the platform and package, as they will descend by their own gravity if not prevented by the brake. When a weight or spring is used, as heretofore, to raise the platform and package, the power of the said weight and spring is constantly exerted to prevent their descent, and is often of itself more than sufficient to pack the material, especially when flour is being packed in paper or cotton sacks, and hence the material is packed so tight as to frequently burst the sacks.

By the invention which I am about to describe I entirely obviate this objection, as the platform descends by its own gravity, and no more pressure is applied through the friction-brake than is just sufficient to pack the desired amount of material into the sack.

Another advantage which I obtain by my improved machine is, that after the package is filled the platform will instantly drop by its own gravity as soon as the brake-pressure is removed, thereby affording freedom for the convenient removal of the packages.

A designates the main frame of the packer; B, the vertically-movable platform, which is allowed to rise and descend between the uprights of the main frame, and on which the sack to be filled is supported.

C is a horizontal shaft, to which rotary motion is applied by means of a belt or by gearing, which shaft transmits rotary motion to the packing-augers that forces the material into the sacks.

D is a brake-shaft, which extends horizontally across the frame A and protrudes from each side sufficiently to receive pulleys L M. This shaft D has cone-pulleys  $d d'$  keyed on it between the uprights of the frame A, and located in close relation to these uprights, to serve as abutments and prevent end-play of the shaft D.

To the cone-pulleys  $d d'$  is attached a chain, E, which connects this shaft D to the platform B and passes under pulleys applied thereto, as shown in Fig. 3. When shaft D is rotated in one direction, the cones  $d d'$  wind up the chain E and raise the platform, and when the motion of said shaft is reversed the platform will be lowered.

On one end of the shaft D, outside of one of the uprights of frame A, is keyed the pulley M, which is a brake-pulley, and to this pulley pressure is applied by means of a lever,  $a'$ , weight  $b$ , and a strap,  $c$ , by means of which the descent of the platform B can be controlled and the pressure used in packing the material is regulated. On the opposite end of the shaft D is keyed the pulley L.

F is a short shaft extending across and having its bearings in the rear side of the frame A. On the projecting ends of this shaft F are keyed pulleys J K. One end of this



shaft has a bearing in an adjustable box, *e*, which is applied to one of the uprights of frame A, and the other end of this shaft has a bearing in a journal-box, *g*, secured to the upper end of a compound lever, N.

O is a foot-treadle, which is fulcrumed to the floor on which the frame is supported. This treadle is pivoted to the lower end of the compound lever N, the upper section of which is fulcrumed on the brake-shaft D, at which fulcrum the said section is held in place by collars shown in Fig. 3.

A flanged pulley, H, is applied on the shaft C, and connected by a belt, P, to the flanged pulley J on the shaft F, near the end that has its bearing attached to the compound lever N. A belt, R, connects the pulley K to the other end of the shaft F with the pulley L on the brake-shaft D.

The operation is as follows: When it is desired to raise the platform B, the attendant raises the brake-lever *a* by one hand, and with his foot applies pressure to the foot-lever O, which, by means of the compound lever N, forces the end of the shaft F, to which it is attached, away from the shaft C, and thus tightens the belt P, which communicates motion to this shaft F from the shaft C, which latter is always in motion when the packer is being operated. The shaft F communicates motion to the shaft D by means of the belt R and the pulleys K and L, and as the shaft D revolves it winds the chain E on cone-pulleys *d d'* and raises the platform B. The moment platform B is raised to position the pressure on the foot-lever O is removed and the motion is stopped by the slacking of the belt P. The attendant then removes his hand from the loaded brake-lever *a*, which will then hold the platform B from descending by reason of the weight *b* being brought into play. The belt P is sufficiently slackened to slip on the pulley H and not impart any motion to the shaft F unless said belt is tightened by pressure from the foot-lever O. The shaft D is arranged to move in one direction only to wind up the chain and raise the platform B, and it moves in the opposite direction to lower this platform. Should the motion of shaft C not be in the right direction to turn the shaft D, required to wind up the platform with an open belt, then the belt R can be crossed, as indicated in dotted lines, Fig. 2, which will give the direction of motion desired. The packing-cylinder S is removably secured to the hopper T.

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

1. The combination, in a machine for packing flour and other materials, of a vertically-movable platform arranged to be raised by the power which drives the machine, all constructed and adapted to operate substantially in the manner and for the purposes described.

2. The combination, in a machine for packing flour and other materials, of a stationary packing-cylinder and a movable platform adapted to be raised by the power employed to drive the packer, all constructed and adapted to operate substantially in the manner and for the purposes described.

3. The combination, in a machine for packing flour and other material, of a vertically-movable platform and devices connected therewith which will allow the movements of this platform to be controlled at the will of the attendant by the same power which operates the packer, all constructed and adapted to operate substantially as described.

4. The combination, in a flour-packer, of the vertically-movable platform B, filling and packing device, the braking device, the toggle or compound lever N, pulley J, and its belt and pulley connections with the shaft D, bearing cones *d d'*, all constructed and adapted to operate substantially in the manner and for the purposes described.

5. The combination of the vertically-movable platform B, the suspension-chain E, cone-pulleys on shaft D, pulleys L M, the brake-strap and loaded lever applied to pulley M, the compound lever bearing one end of the shaft D, and the treadle O, all constructed and adapted to allow the platform B to descend from the packing devices by its own gravity after a sack is filled, substantially as described.

6. In a machine for packing flour and other substances, the combination, with the main frame, of a vertically-movable platform, B, the suspension elevating-chain E, cone-pulleys on shaft D for this chain, pulleys L M, the compound lever and its treadle, the shaft F, bearing pulleys K J, the bearings *eg* for this shaft, and pulley H on shaft C, all constructed and adapted to operate substantially in the manner and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HEMAN A. BARNARD.

Witnesses:

FRANK H. HEAD,  
W. E. TOLLES.