

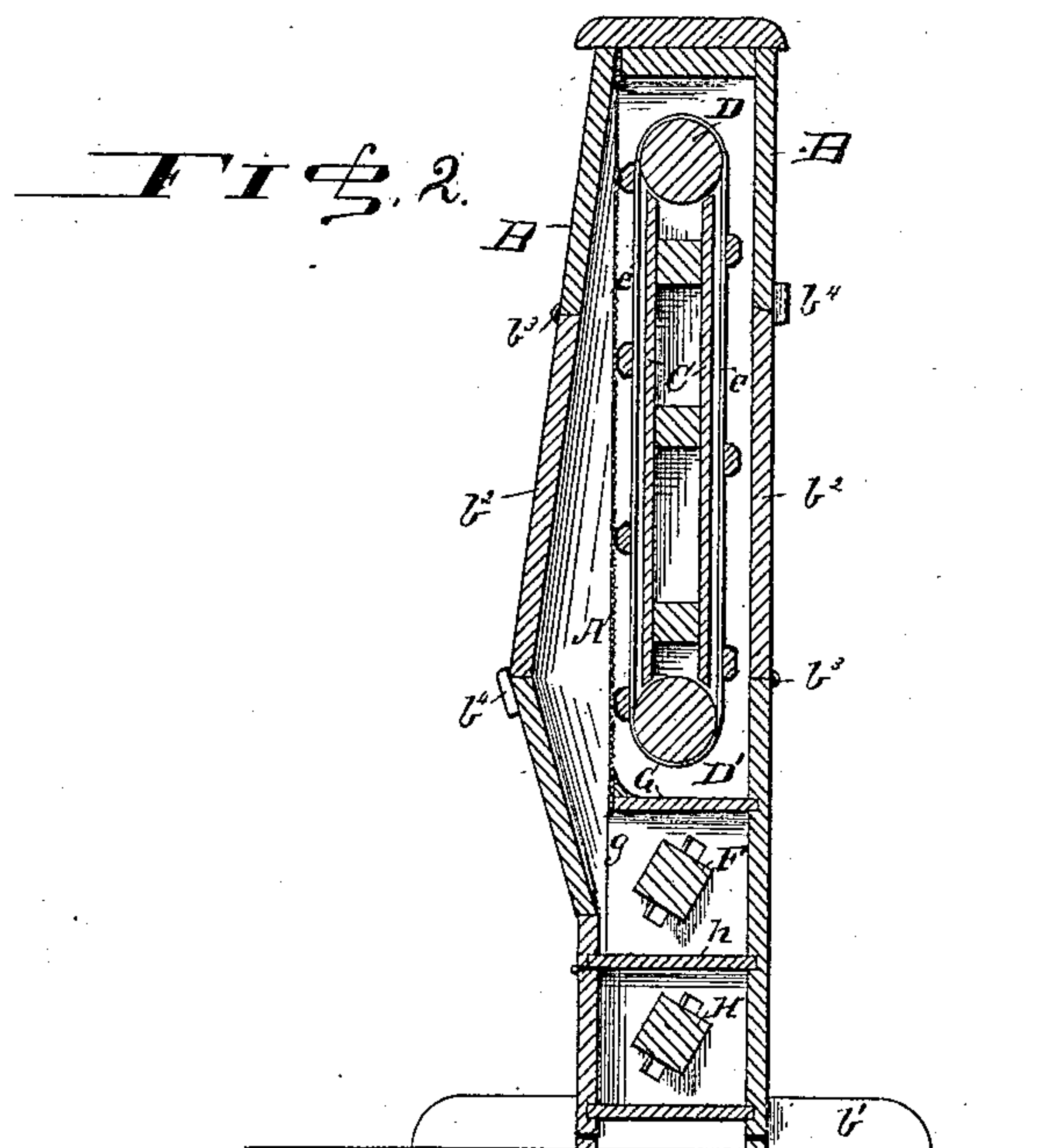
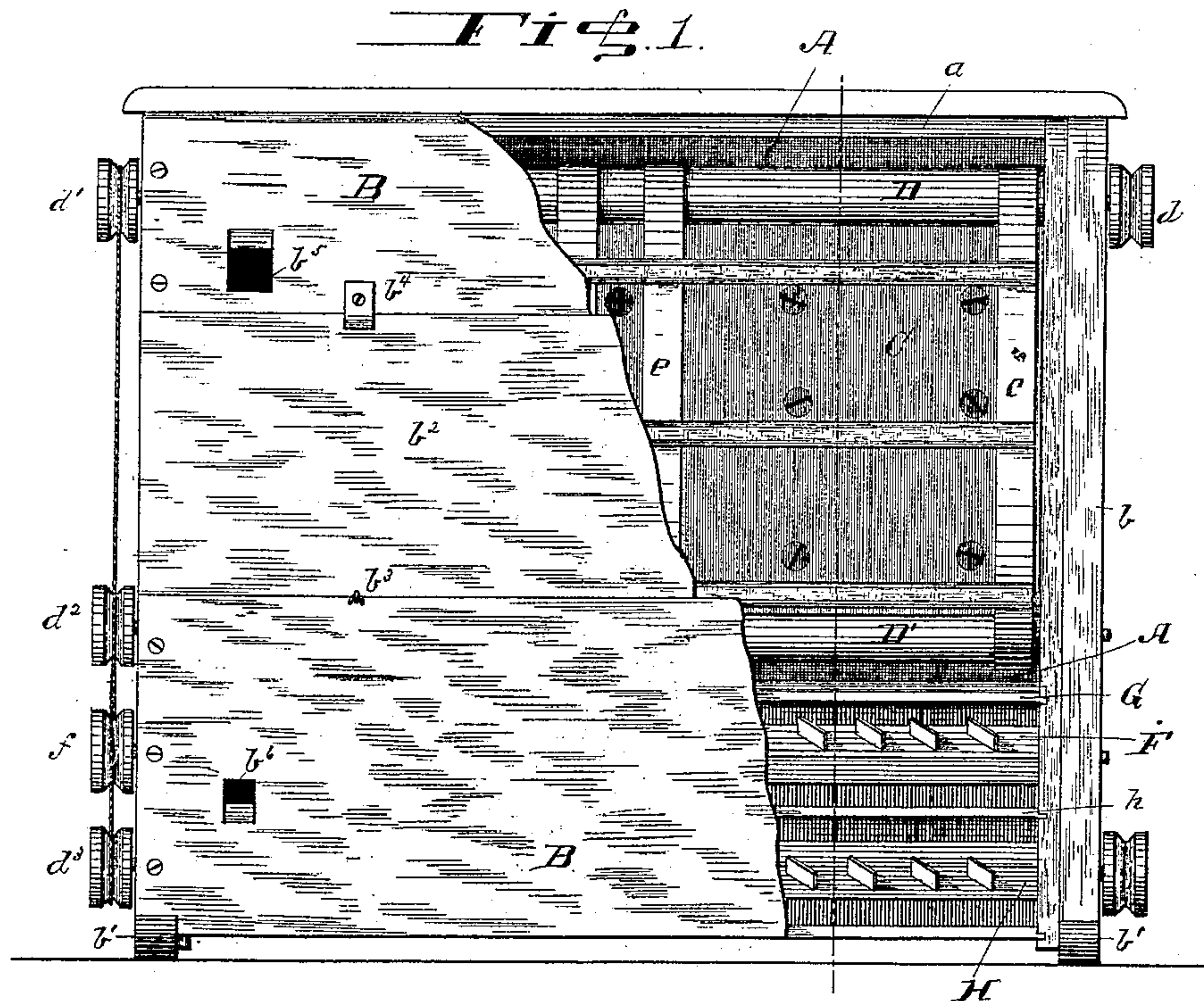
(No Model.)

J. THOMAS.

FLOUR BOLT.

No. 397,761.

Patented Feb. 12, 1889.



Witnesses,

C. J. Bell,  
H. W. Jenner.

Inventor,

Jabez Thomas.  
By Raine & Lord,  
Attys.



# UNITED STATES PATENT OFFICE.

JABEZ THOMAS, OF DARLINGTON, ASSIGNOR OF ONE-HALF TO WILLIAM E. CARTER, OF PLATTEVILLE, WISCONSIN.

## FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 397,761, dated February 12, 1889.

Application filed January 20, 1886. Renewed December 24, 1886. Serial No. 222,527. (No model.)

*To all whom it may concern:*

Be it known that I, JABEZ THOMAS, a citizen of the United States, residing at Darlington, in the county of Lafayette and State of Wisconsin, have invented certain new and useful Improvements in Flour-Bolts; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to flour-bolts; and it consists of an improved arrangement and construction of parts which by means of a gentle pressure forces the fine flour through the bolting-cloth and leaves behind the coarser particles and impurities, thereby producing a pure and high-grade class of flour.

In many instances prior to my invention flour has been bolted by passing it through a bolting-cloth; but considerable violence has generally been used to throw the unbolted flour against the cloth, and many of the impurities have in consequence been forced through the cloth with the flour. Brushes have frequently been used in connection with sieves to sweep the unbolted material across the screen and force it through the meshes; but whenever brushes have been thus used it has always been in connection with screens that are horizontal, or substantially so, and many impurities pass through the screen along with the fine flour. To avoid these defects and secure the desired result of a pure fine flour product, I use a screen in a substantially vertical position or with quite a steep inclination, and I cause the unbolted flour to be carried from the bottom upward against the surface of the screen and pressed against it with a gentle steady pressure.

In the accompanying drawings, Figure 1 is a rear view of the machine with portions of the outer casing removed. Fig. 2 is a vertical cross-section of the machine.

A is the bolting-cloth, secured to any suitable frame, *a*, and placed in a substantially-vertical position within the machine. In the

present case the screen is stationary and its frame is firmly attached to the machine.

B is the outer casing of the machine, provided with an upright, *b*, at each end, and with the feet *b'*, so that it may stand securely.

*b*<sup>2</sup> are doors formed in the casing and provided with hinges *b*<sup>3</sup> and latches *b*<sup>4</sup>, so that ready access may be had to the interior. An opening, *b*<sup>5</sup>, is provided in the upper part of the casing B, through which the middlings or other material to be purified is introduced into the machine. *b*<sup>6</sup> is an opening in the lower part of the said casing for removing the fine flour after it has passed through the bolting-cloth.

C are partitions firmly secured at each end to the uprights *b* parallel to the bolting-cloth, so as to leave a narrow passage between the said partitions and the bolting-cloth.

D is a roller journaled in the uprights *b* at the top of the machine above the partitions C, and D' is a similar roller, also journaled in the uprights *b* below the said partition. The roller D is provided with the driving-pulleys *d* and *d'*, and the roller D' is provided with a driving-pulley, *d*<sup>2</sup>.

E is an elevator composed of a series of beveled slats secured upon belts *e*, which pass over the rollers D and D'. These slats may be arranged horizontally, or they may have a slight inclination in either direction, as required.

F is a conveyer journaled in the uprights *b* and provided with a driving-pulley, *f*.

G is a floor which separates the conveyer F from the elevator E. *g* is a passage which connects the said conveyer with the opposite side of the bolting-cloth away from the elevator. A second conveyer, H, may be formed in the lower part of the casing and separated from the first conveyer by a partition, *h*. I is a driving cord or belt which connects the pulleys *d'*, *d*<sup>2</sup>, and *d*<sup>3</sup>.

The action of the flour-bolt is as follows: The unbolted flour, middlings, or other material to be purified is introduced into the upper part of the casing of the machine through the opening *b*<sup>5</sup>. It immediately falls down upon the floor G and is taken by the slats of the elevator and carried upward and pressed gently and steadily against the bolting-cloth. The finer particles of flour pass through the



said bolting-cloth and fall through the passage *g* onto the conveyer F, which carries them along and discharges them through the openings *b*<sup>6</sup> in the outer casing. The mid-  
5 dlings which do not pass through the bolting-cloth are carried over the top of the elevator, and, falling back onto the floor G, are again carried upward by the elevator and pressed against the bolting-cloth.

10 The lower conveyer, H, is used for collecting the material usually called "cut-offs," which consists of flour containing too many coarse particles to be sold as fine flour, and which, therefore, is carried to one end of the machine  
15 by the said conveyer and there elevated by mechanism (not shown in the drawings) for the purpose of being again passed through the bolting-cloth.

The coarse matter may be discharged from  
20 the machine at any suitable point through any suitable opening. (Not shown.)

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

1. In a flour-bolt, the combination of a vertical bolting-cloth and an endless-belt elevator for raising the unbolted material in contact with the said bolting-cloth and pressing the said material gently thereupon, substantially as and for the purpose set forth.  
30

2. In a flour-bolt, the combination of an enclosing-case, a bolting-cloth arranged within the said case, and an elevator having a series of slats so related that the unbolted material is raised upward and pressed gently upon the  
35 surface of the bolting-cloth, substantially as and for the purpose set forth.

3. In a flour-bolt, the combination of an enclosing-case, a bolting-cloth, an elevator comprising a series of slats and endless bands, the partition C, and the elevator-rollers jour-  
40 naled in the casing above and below the said partition, substantially as and for the purpose set forth.

4. In a flour-bolt, the combination of the  
45 outer casing having openings *b*<sup>5</sup> and *b*<sup>6</sup> therein, the bolting-cloth, the elevator E, the partition C, the floor G, and the conveyer F, communicating with the opposite side of the bolting-cloth away from the elevator by the pas-  
50 sage *g*, substantially as and for the purpose set forth.

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

JABEZ THOMAS.

Witnesses:

T. C. L. MACKAY,  
GEO. S. ANTHONY.