

ALLEN & STODDARD.

Flour Bolt.

No. 89,907.

Patented May 11, 1869.

Fig. 2

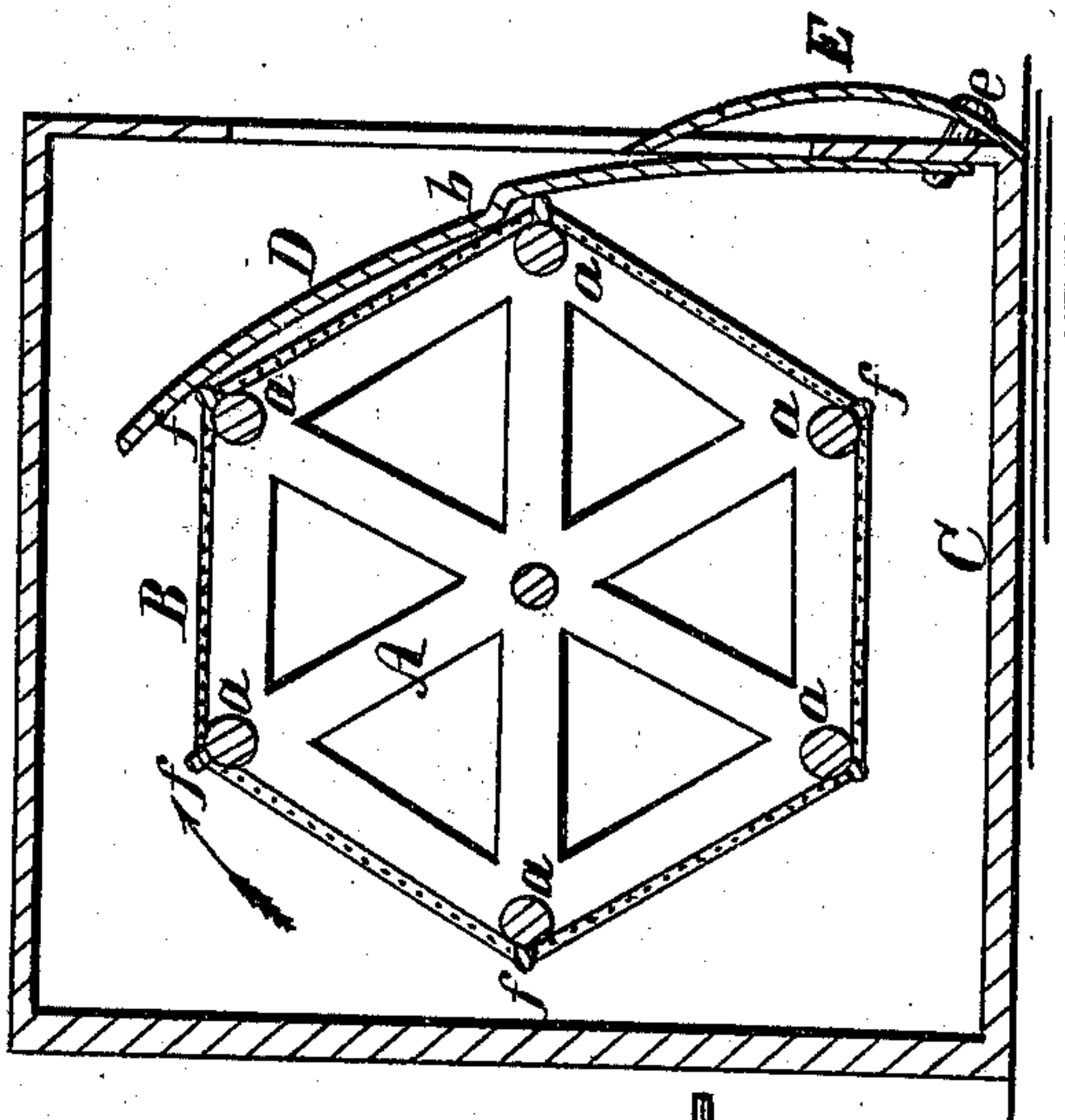
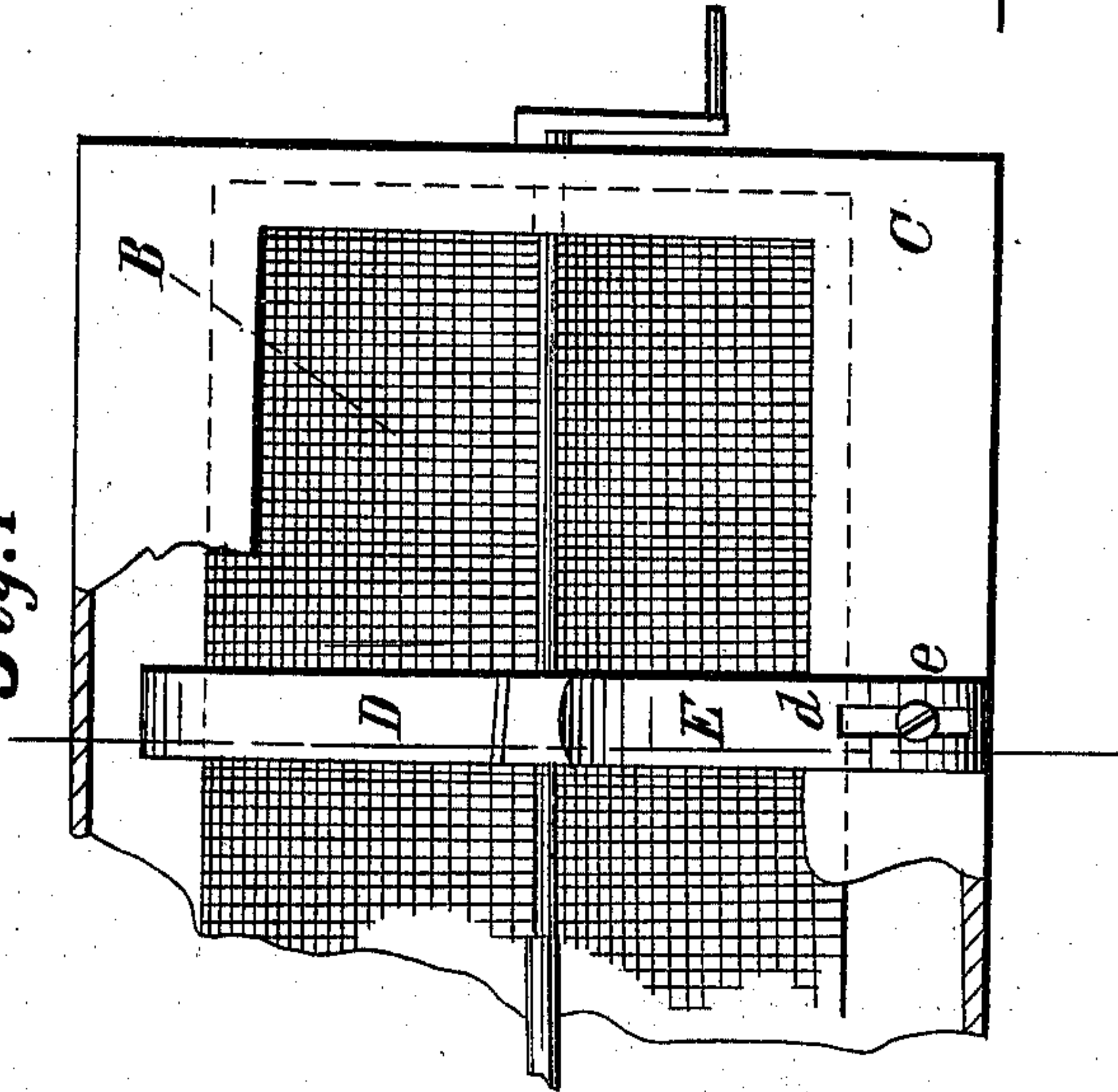


Fig. 1



Witnesses;  
John Becker  
Wm. A. Morgan

Inventors:

Wm. H. Allen.

Wm. Stoddard.

per Munn & Co.  
Attorneys



# United States Patent Office.

WILLIAM H. ALLEN AND WILLIAM STODDARD, OF WINONA, MINNESOTA.

Letters Patent No. 89,907, dated May 11, 1869.

## IMPROVEMENT IN FLOUR-BOLTS.

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

To all whom it may concern:

Be it known that we, WILLIAM H. ALLEN and WILLIAM STODDARD, of Winona, in the county of Winona, and State of Minnesota, have invented a new and useful Improvement in Flour-Bolts; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side view of a flour-bolt provided with our invention.

Figure 2 is an end view of the bolt, showing a side view of our invention.

Similar letters of reference indicate corresponding parts.

This invention relates to the rappers, so called, of the flour-bolts of grist-mills, and consists in the construction and arrangement of the same, as is herein-after more fully set forth.

In the drawings, the end frames A of the reel are connected by ribs, *a*, in the usual way.

B is the bolting-cloth covering the reel.

C is the box having a lateral opening, I.

The box, in practice, has also a trough or chamber for receiving the flour, which is not shown in the drawing, and which has no particular relation to the present invention.

The rapper D is arranged to operate upon the exterior of the bolt, one end of it being hinged or otherwise suitably attached to the box C, and in such relation to the bolt that the rapper will rest across and bear upon each one of the said ribs successively, as it passes under it, when the bolt is in motion.

The rapper is actuated to bear upon the ribs by means of a curved spring, E, one end of which is held by a screw or bolt, *e*, passing through a slot, *d*, in the spring and entering or passing through the side of the box at that point.

The free end of the spring bears upon the rapper, as shown.

The object of the slot is to enable the spring to be shortened or lengthened, and thereby increase or diminish its pressure upon the rapper.

The rapper is formed with a jog or shoulder, *b*, which may result from bending a metal bar to form the said shoulder, or by cutting away the material of the rapper, when the latter is of wood or metal.

The ribs *a* are provided with external cleats or projections, *f*, which are affixed to them in the line of their passage under the rapper, and are for the purpose of lifting the rapper to procure the requisite blow or concussion, as the said cleats leave the shoulder *b*,

for as the bolt revolves toward the rapper, the cleats successively encounter the under side of the rapper, near its front end, and raise it a certain distance during the passage of the cleat to the shoulder *b*, and as the cleats leave the said shoulder, the rapper is left free to spring back upon the next cleat immediately following, thus giving a blow or jar to the bolt, which shakes out the bran and coarse particles of flour, which were stuck in or adhered to the bolting-cloth.

The length of the rapper, from its shoulder to its free end, is somewhat greater than the distance between the ribs, so that as one cleat has passed the shoulder, the next is brought under the free end of the rapper to receive its blow, and then passes forward to raise it for the next blow.

We will note that the spring may be of any suitable form, arrangement, or construction, and need not necessarily be adjustable, as before described, although that feature of our invention is desirable, as it enables the blow of the rapper to be regulated to the different conditions of the flour, as damp flour will require a more forcible blow than dry flour.

The arrangement of the rapper on the side of the bolt, which is passing downward, is another improved feature in bolt-rappers, for by such arrangement that portion of the bolt will be free from the main body or bulk of the flour, and the bran and coarser particles adherent to or enmeshed in the bolting-cloth will be shaken back into the bolt, instead of being driven through to mingle with and deteriorate the quality of the bolted flour, as is the case with rappers heretofore employed.

The rapper D may consist simply of a strip or bar of spring-metal, having its lower end affixed to the box, so as to act as a spring itself, and dispense with the accessory spring E, and an adjustable projection may be provided to bear against the upper side of such rapper with different degrees of impact, or at different distances from the fixed end of the rapper, and thus adjust the blow of the latter for the purpose aforesaid.

The rappers may be multiplied, if desired.

We claim as new, and desire to secure by Letters Patent—

The external rapper, (one or more,) having a shoulder, *b*, and the spring E, in combination with cleats *f*, on the ribs *a* of a flour-bolt, substantially as described.

WILLIAM H. ALLEN.  
WILLIAM STODDARD.

Witnesses:

JACOB STORY,  
D. MORRILL.