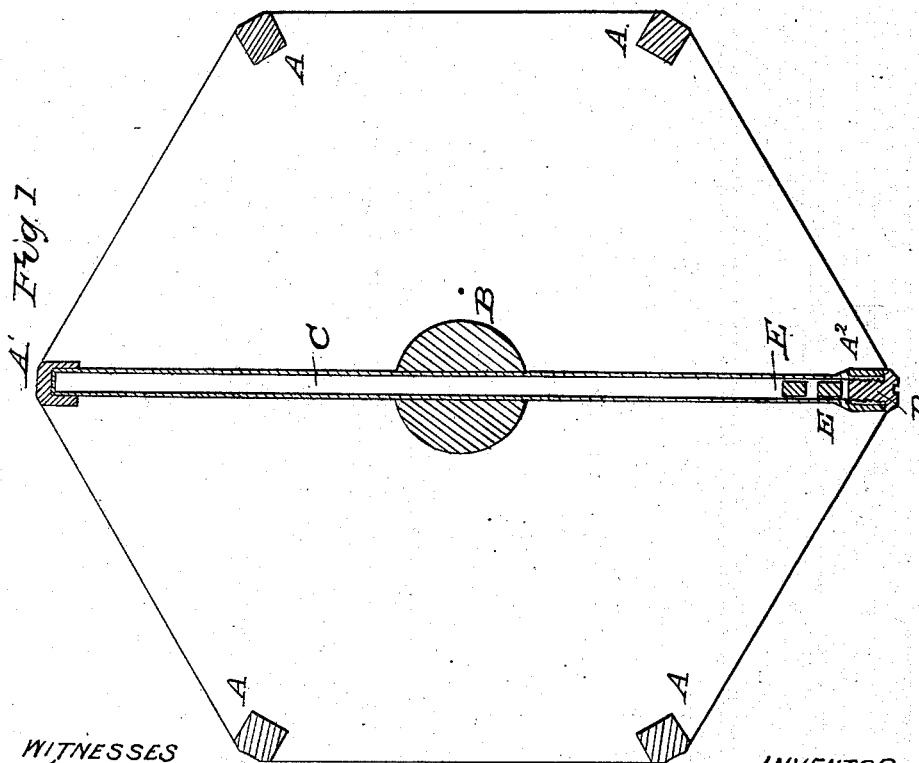
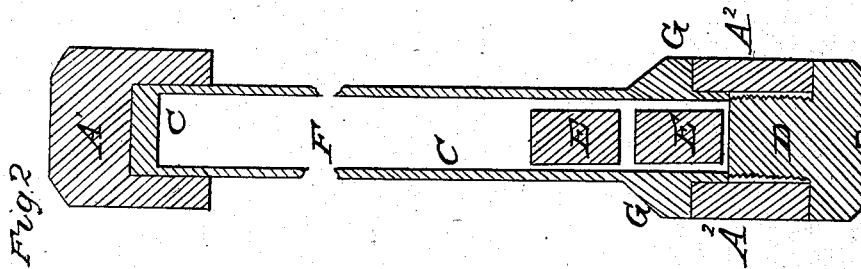


F. S. THAYER.

Flour Bolt.

No. 47,233.

Patented April 11, 1865.



WITNESSES

Wm. H. Knight
Robert Colwell

INVENTOR

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FRANCIS S. THAYER, OF TROY, NEW YORK.

IMPROVEMENT IN FLOUR-BOLTS.

Specification forming part of Letters Patent No. 47,233, dated April 11, 1865.

To all whom it may concern:

Be it known that I, FRANCIS S. THAYER, of the city of Troy, county of Rensselaer, and State of New York, have invented a new and useful Improvement in Machines for Bolting Flour; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

When the flour to be bolted has been rendered damp, either by the peculiar atmosphere or by being made of damp or new grain, in the ordinary method of bolting flour the bolting-cloth is liable to become choked or clogged, and thus the free bolting of the flour is rendered difficult and imperfect; but when the weather is dry and the flour to be bolted has been made of dry grain, the ordinary bolt will perform its work satisfactorily and efficiently.

The nature and object of my invention is to add to the ordinary flour-bolt a simple contrivance which can be easily applied so as to suit it to all the conditions of the weather and the work to be done.

To enable others to make and use my invention, I will proceed to describe the same with reference to the drawings.

Figure 1 is a cross-section of the bolt between the arms which support the longitudinal pieces to which the bolting-cloth is attached. Fig. 2 is a cross-section of the tube and longitudinal pieces and weights (shown full size) broken off at F.

The bolt is constructed in the ordinary way, with a shaft or axis, B, passing through its center longitudinally, upon which the bolt turns, having bearings at each end. The longitudinal pieces A are supported by radial arms extending from the axis B, and the bolting-cloth H is fastened upon these longitudinal pieces in the usual manner. Between the sets of radial arms I insert a hollow shaft or tube, C, passing transversely through the bolt from one longitudinal piece to the other, passing directly through the shaft B. One end of this tube C is closed and inserted in one of the longitudinal pieces fitting snugly into a hole made for its reception, as shown at A', passing partly through the longitudinal piece, the bottom of the tube resting against

the wood. The other end of the tube C passes entirely through the opposite longitudinal piece, as shown at A². This end of the tube C is left open, and is furnished with an internal screw, into which the screw or plug D fits. A collar, G, is fastened on the tube C, with a shoulder, which fits up against the inner side of the longitudinal piece A².

E is a weight placed within this tube C, when this weight E is inserted and the screw D is secured to its place. The revolution of the bolt will carry the tube C around in a plane perpendicular to the axis of the bolt, and the weight will be carried with it to the upper part of the periphery of the bolt. When the tube has reached a position nearly vertical, the weight E will, by its own gravity, drop through the tube C to the opposite or lower side of the bolt, and will thereby impart a sudden jar or blow to the bolting-cloth, and thus deliver it of the flour which would otherwise adhere to it and clog up the apertures of the bolting-cloth. Thus, in a dry atmosphere and with flour ground from dry grain, the use of the weight can be dispensed with by simply removing the screw D and allowing the weight to drop out; or, if the circumstances of the case require it, more than one weight can be used. Should it be found desirable to give the bolting-cloth a less jar than even one of these weights would give it, a smaller weight can be used; or a piece of india-rubber or other elastic material can be placed in the tube C above and below the weight, and thus somewhat break the force of the blow caused by the falling of the weight.

I am aware that weights have been used for this purpose arranged to slide upon the radial arms of the bolt; but the objection to this system is twofold: First, they cannot be graduated to strike a hard or light blow to suit the various circumstances of the case; and, secondly, they cause a direct, constant hammering upon the axis or shaft of the bolt. By reference to the drawings it will be seen that in my system there is no direct hammering upon the axis or shaft of the bolt, as the weight falls directly from one end of the diameter to the other independent of the shaft or axis of the bolt. I have deemed it unnecessary in the drawings to show more than one tube and its connections. In an ordinary bolt eighteen feet in length I deem it best to use two tubes

for each pair of longitudinal opposite pieces, making six tubes for one bolt. These tubes should be so arranged as to pass through the shaft or axis of the bolt at places so far apart as not to weaken the shaft. These tubes may be made of gas-pipe, and should have an internal diameter of about three-fourths of an inch, and the weights should be of a corresponding size so as to slide freely within the tubes.

Having thus fully described the purpose

and object of my invention, what I claim, and desire to secure by Letters Patent, is—

The use of one or more falling weights in combination with an inclosed tube, when the said tube passes entirely through the shaft, thus allowing the weights to fall from side to side of the bolt, the whole operating substantially as and for the purpose set forth.

Witnesses: FRANCIS S. THAYER.

FITZ HENRY KNIGHT,

ROBERT COLWELL.