

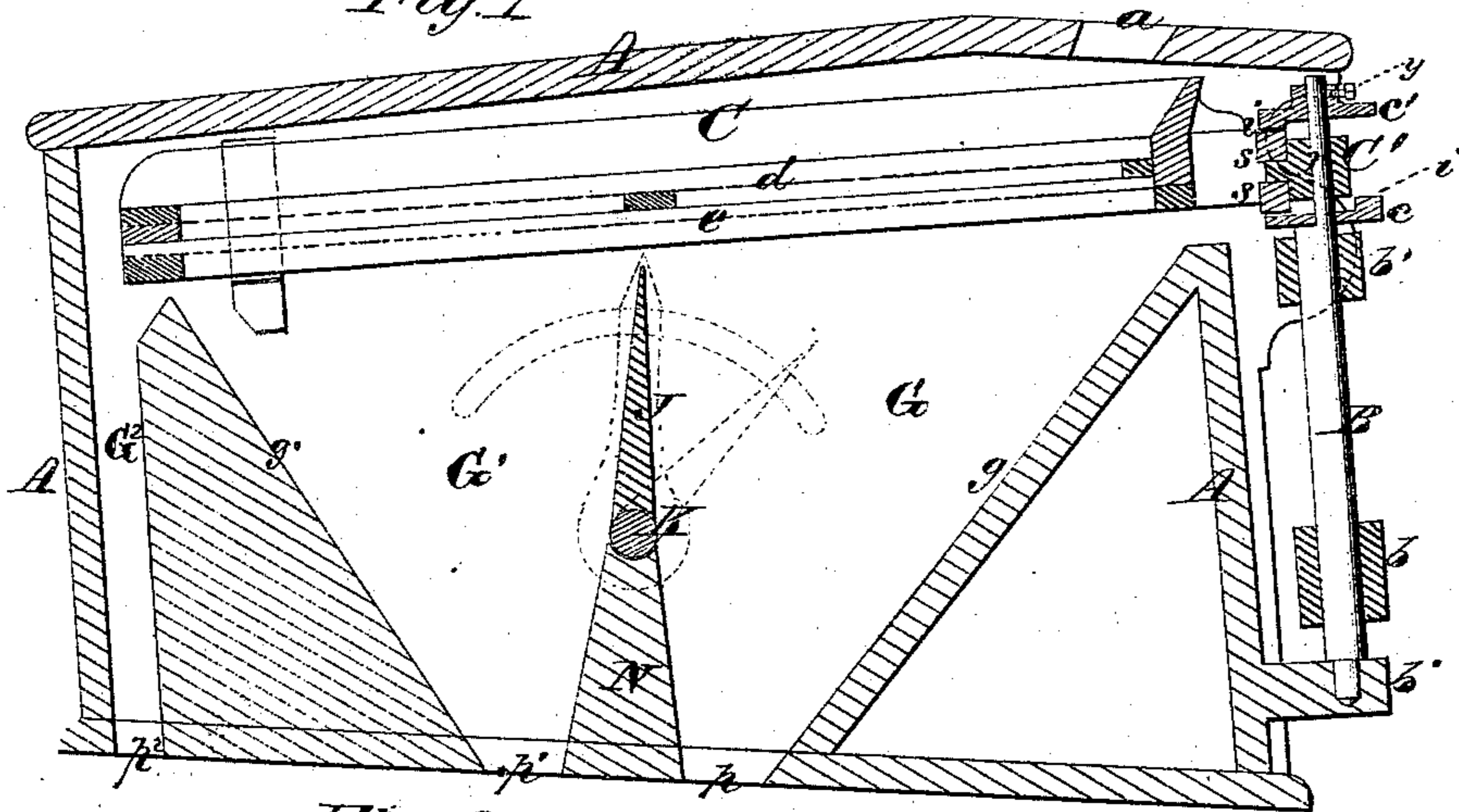
*J. H. Jones,*

*Flour Bolt.*

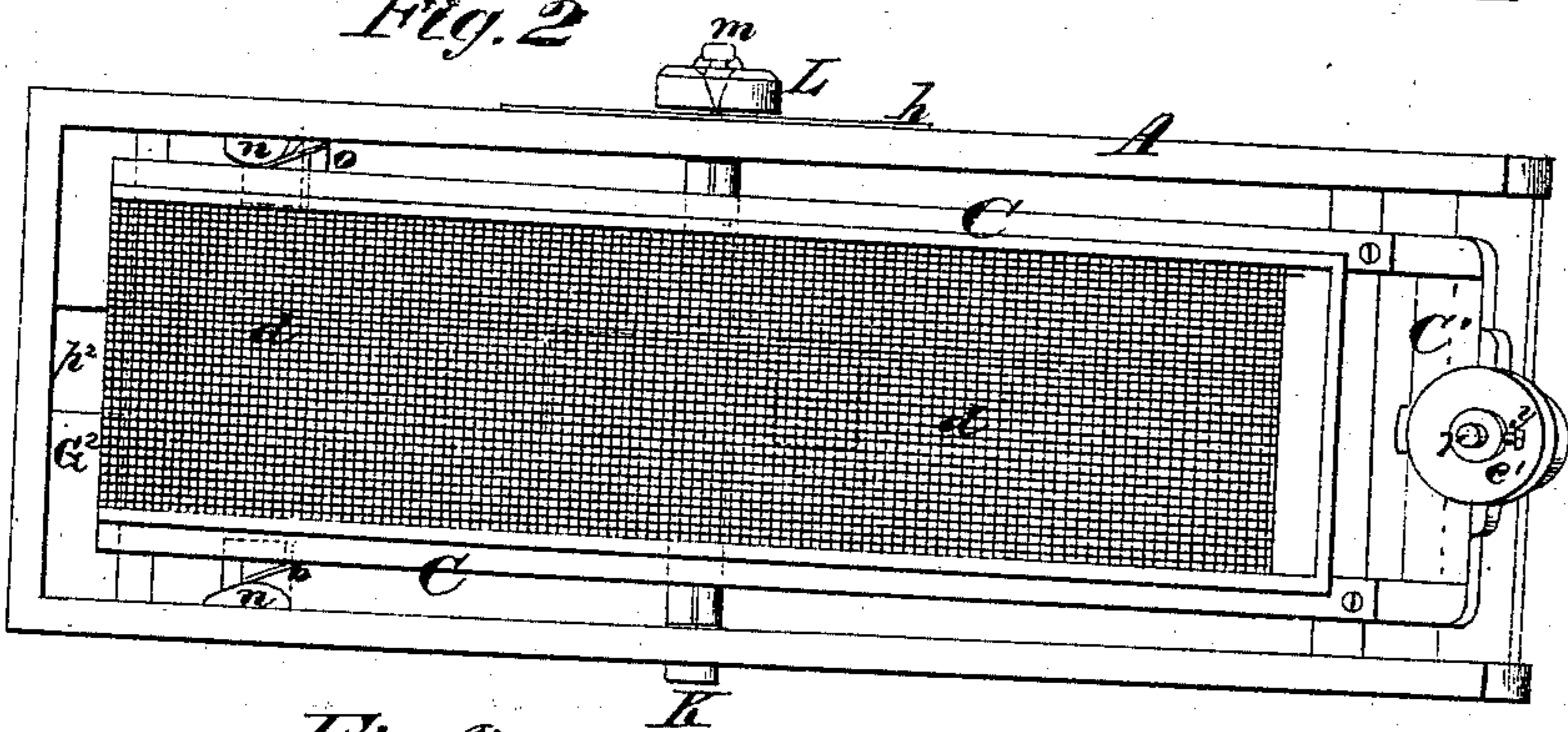
*No. 106,697.*

*Patented Aug 23. 1870.*

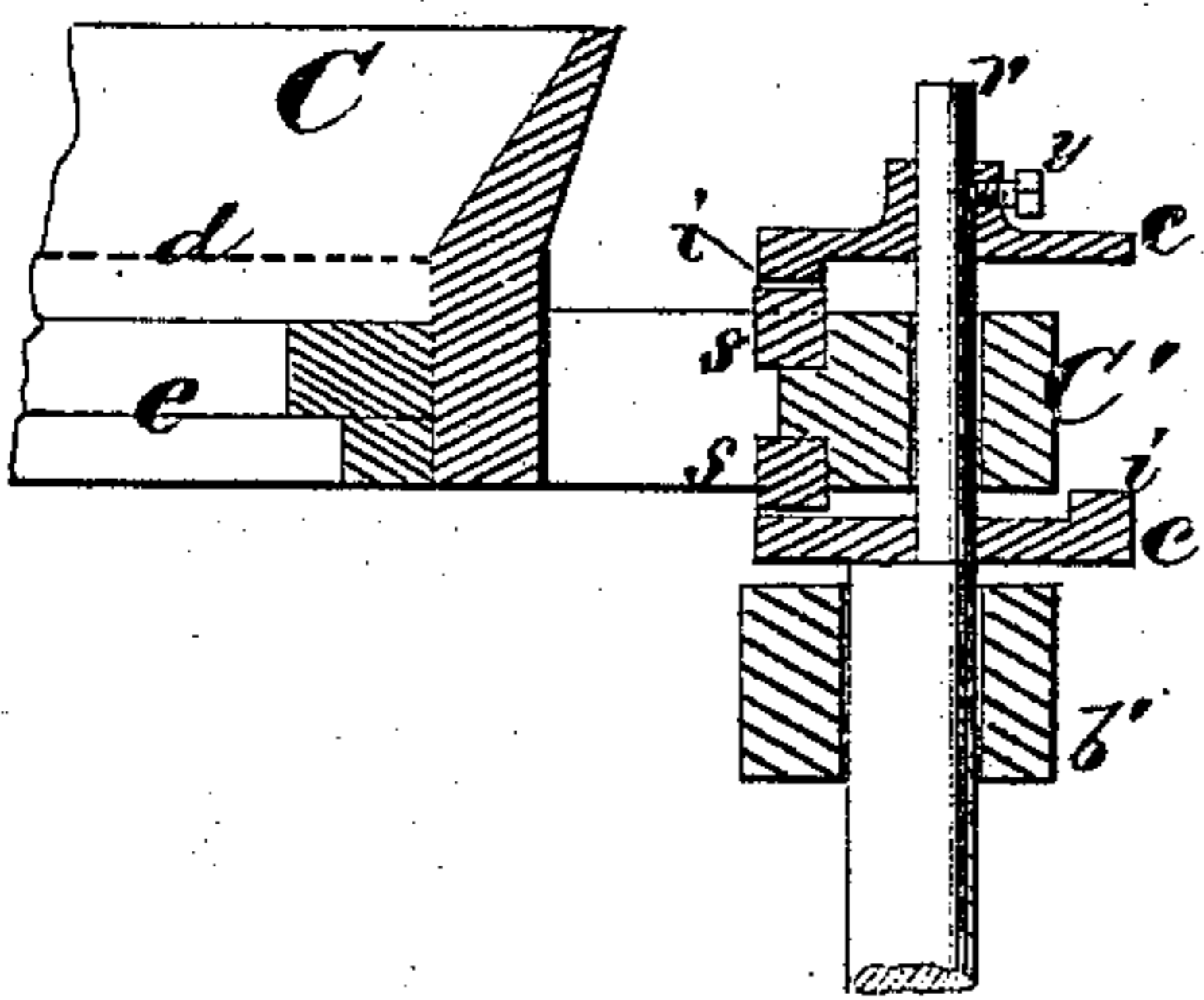
*Fig. 1*



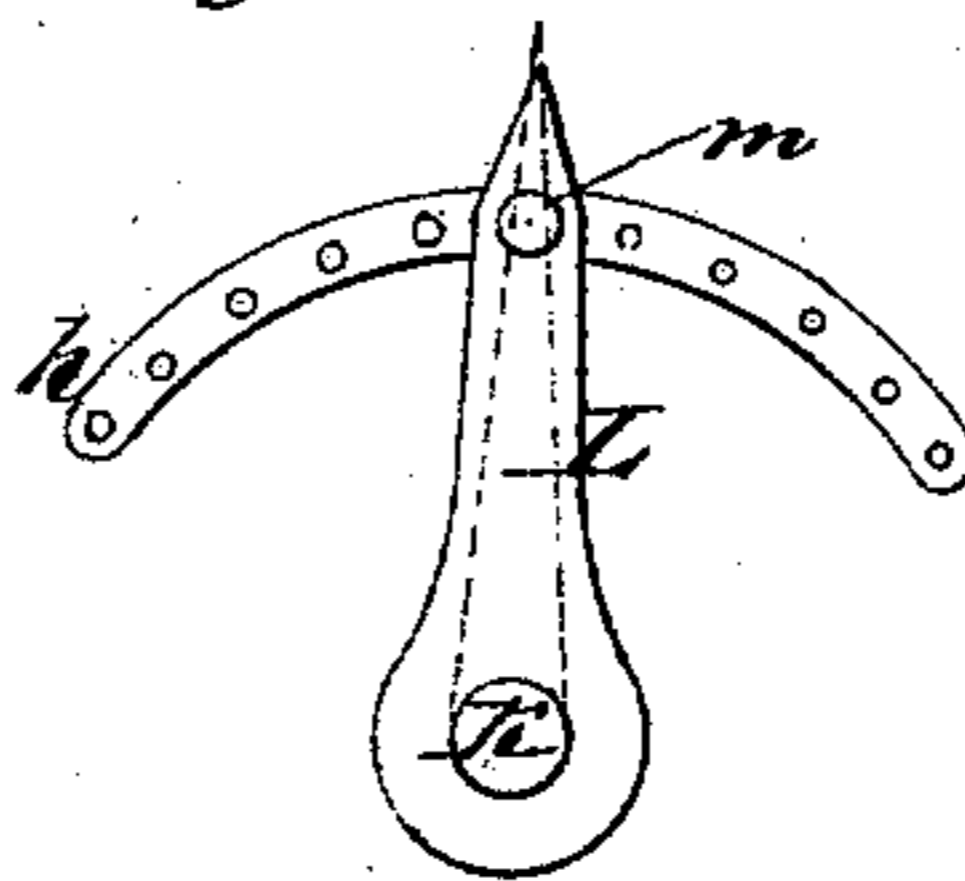
*Fig. 2*



*Fig. 3.*



*Fig. 4*



*Witnesses.*  
*W. Campbell*  
*J. M. Campbell.*

*Inventor*  
*J. H. Jones*  
*by*  
*Mason, Fenwick & Lawrence*

# UNITED STATES PATENT OFFICE.

JAMES H. JONES, OF YELLOW SPRINGS, OHIO.

## IMPROVEMENT IN FLOUR-BOLTS.

Specification forming part of Letters Patent No. **106,697**, dated August 23, 1870; antedated August 12, 1870.

*To all whom it may concern:*

Be it known that I, JAMES H. JONES, of Yellow Springs, in the county of Greene and State of Ohio, have invented a new and Improved Flour-Bolt; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making part of this specification, in which—

Figure 1 is a longitudinal section taken vertically through the center of the improved bolt. Fig. 2 is a top view of the apparatus with the cover removed. Fig. 3 is a section in detail of the devices for shaking the sieves. Fig. 4 shows the pointer, its graduated arc, and latch-knob.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on flour-bolts which are designed for separating the different grades of flour during the operation of bolting.

The nature of my invention consists in arranging within a chest of suitable capacity an inclined screen-shoe, and in the employment of certain devices hereinafter described, which will give said shoe lateral, vertical, and longitudinal motions, said screen-shoe being arranged over upwardly-flaring hoppers, two of which are divided by an adjustable regulator, provided with an indicator on the outside of the chest, whereby the capacity of the first hopper can be increased or diminished, according to the fineness required for the first grade of flour received by said first hopper, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawing, A represents a rectangular oblong chest, covered, and having an opening, *a*, through its cover, through which the material to be bolted is supplied to the screens at one end thereof.

B represents a shaft, which is supported at one end of the chest A by means of the bearings *b' b'*, and driven by means of a belt passed around the pulley *b*.

On the upper end of the shaft B a wrist-pin, *r*, is eccentrically applied, which passes cen-

trally through a cross-bar, *C'*, of the screen-shoe C.

The wrist-pin passes loosely through the said bar *C'*, which latter rests upon a disk, *c*, having upon its upper side a tooth or cam, *i*, that strikes the lower tooth *s* on bar *C'* and lifts the corresponding end of the shoe C once in every revolution.

The disk *c'*, which is fastened to pin *r* by a set-screw, *y*, above bar *C'*, operates, by its tooth or cam *i*, upon a tooth, *s*, upon this bar *C'*, and depresses the screen-shoe C. The eccentric pin *r* gives a longitudinal motion to the screen-shoe.

The lower end of the screen-shoe C is supported upon ledges *n n* by means of lips or ledges *o o*, the external edges of which are oblique, and, by acting against corresponding surfaces on the said ledges, give a lateral shaking motion to the screen-shoe at the same time that this shoe is moved longitudinally.

The screen-shoe is provided with a sieve or screen, *d*, arranged over a bolting-cloth or finer screen, *e*. This shoe extends from a point beneath the feed-opening *a* to a receptacle, *G*<sup>2</sup>, into which the coarsest material empties, and from which this material is removed through the bottom opening *p*<sup>2</sup>.

Beneath the screen-shoe C two large hoppers, *G G*<sup>1</sup>, are formed by means of the inclined walls *g g'* and a double-inclined division, *N*. At the bottoms of the two hoppers *G G*<sup>1</sup> discharge-openings *p p*<sup>1</sup> are made for drawing off the bolted material.

An upwardly-tapering valve or regulator, *J*, is applied fast to a rock-shaft, *K*, which is seated into a groove made in the upper edge of the division *N*. This shaft extends transversely across the chest A, and on one end, which extends through one side of this chest, a pointer, *L*, is fastened, which pointer is in the same plane as the valve *J*. Through the pointer a spring-pin, *m*, passes, which is received into one or the other of a number of depressions made into an arc, *h*. This arrangement on the outside of the case will serve for adjusting the valve *J*, and also for indicating the position or inclination thereof.

It will be seen from the above description that, by taking hold of the pointer *L* and mov-

ing it to the right or left of a vertical position, the regulating-valve J will receive a corresponding movement in the same direction, so that, by observing the inclination of the pointer, the inclination of the regulator-valve will be ascertained.

By moving the free end of valve J toward the inclined wall *g* of hopper G, the capacity of this hopper will be diminished and the capacity of the hopper G<sup>1</sup> proportionately increased.

When rotary motion is given to the shaft B the screen-shoe will receive a longitudinal motion from the eccentric-pin *r*, and a rapid vertical motion at its highest end from the cams *i i* on the disks *c c'*, and a lateral shaking motion at its lower end from the oblique portions *o o* and rests *n n*. These motions will cause the finest particles of flour to escape through the screens at and near the highest end of the shoe, the coarser particles escaping through the screen as the material gradually descends and reaches the lowest end of the screen-shoe. The coarsest particles then fall into the hopper or receptacle G<sup>2</sup>.

Now, it will be seen that, by means of the adjustable valve J, the bolted material can be

separated into different grades, as may be required.

The disk *c'* is secured to the wrist-pin *r* by means of a set-screw, *y*, by loosening which the disk *c'* and screen-shoe can be removed for repairing or cleaning the latter.

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

1. The shoe C, provided with screens *d* and *e*, of different degrees of fineness, in combination with an adjustable regulator-valve, substantially as described.

2. The combination of the screening-shoe C, regulator-valve J, and hoppers G G<sup>1</sup>, substantially as described.

3. The screen-shoe C, applied by means of its cross-bar C' to the wrist-pin *r* of driving-shaft B, in combination with the cam-plates *c c'*, substantially as described.

4. The oblique portions *o o*, applied to the screen-shoe C and to the beveled rests in a machine constructed substantially as described.

JAMES H. JONES.

Witnesses:

W. SROWFE,  
JAMES M. STEWART.