

(No Model.)

G. HALLIDAY.
FLOUR BOLT.

No. 325,833.

Patented Sept. 8, 1885.

Fig. 1.

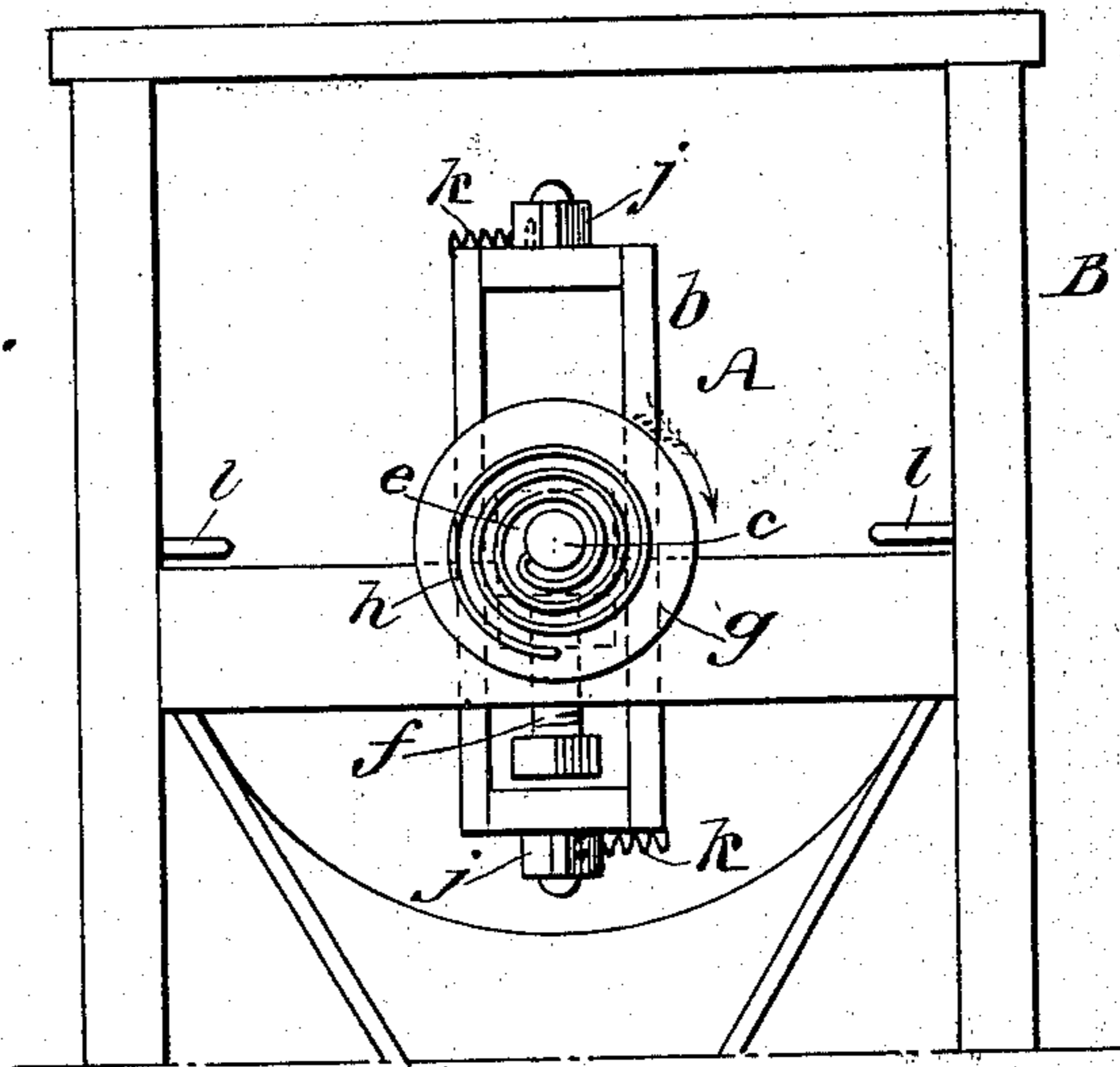
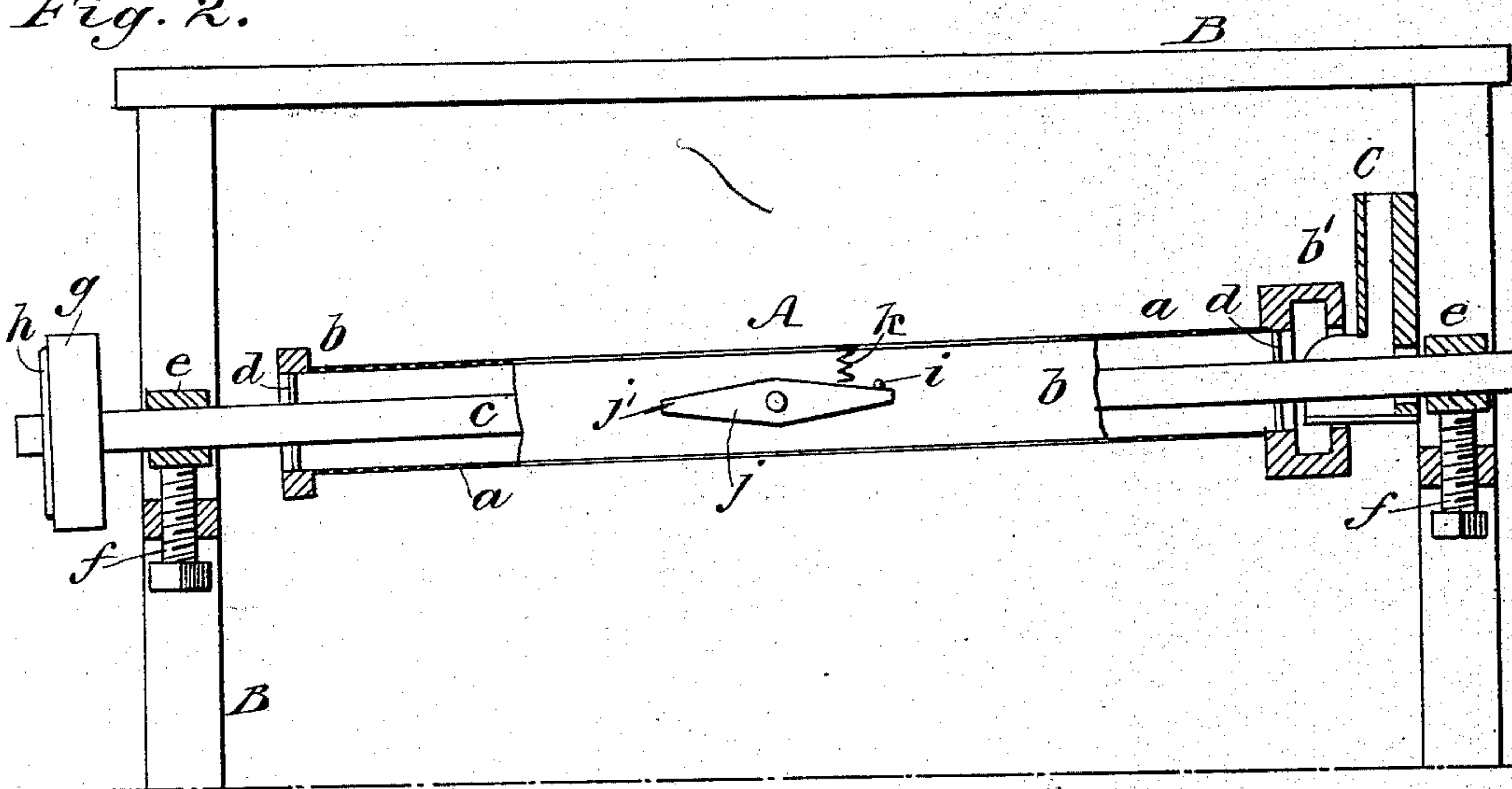


Fig. 2.



WITNESSES:

John B. Deemer
C. Sedgwick

INVENTOR:

G. Halliday
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE HALLIDAY, OF WINNEBAGO CITY, MINNESOTA.

FLOUR-BOLT.

SPECIFICATION forming part of Letters Patent No. 325,833, dated September 8, 1885.

Application filed May 19, 1885. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HALLIDAY, of Winnebago City, in the county of Faribault and State of Minnesota, have invented a new and Improved Flour-Bolt, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is an end elevation of an ordinary bolting-chest having my new flour-bolt placed therein, showing the bolt in vertical position, and Fig. 2 is a broken longitudinal elevation of the same.

The invention will first be described in connection with the drawings and then pointed out in the claims.

The bolt A is composed of two parallel bolt-cloths, *a a*, held about two inches apart in a light rectangular frame, *b*, secured to the shaft *c* by pins or bolts *d d*. The shaft *c* is journaled in blocks *e*, fitted in the bolt chest or housing B, and the blocks *e* are placed upon screws *f*, by which they may be moved vertically for adjusting the pitch of the bolt. The meal to be bolted is fed into the bolt A through the spout C, the lower end of which enters the receiving-chamber *b'*, formed at the head end of the frame of the bolt. The bolt A and shaft *c* are revolved by a belt passing over the pulley *g* on shaft *c*. The pulley *g* is placed loosely on shaft *c*, so that it may turn thereon, but is connected with the shaft by the coiled spring *h*, the inner end of which is made fast to the shaft, while its outer end is made fast to the pulley *g*, near its periphery, as shown clearly in Fig. 2.

To each edge of the bolt-frame *b* is pivoted a knocker, *j*. These are normally held against pins *i* by spiral springs *k*, and in the sides of the bolt chest or housing B are placed the pins or projections *l*, against which the ends *j'* of the knockers strike as the bolt revolves, so that the opposite ends of the knockers will be swung away from the pins *i*, against the tension of springs *k*, which springs, after the knockers pass the pins or projections *l*, will react and suddenly bring the knockers against the pins *i*, and thus jar the bolt-cloths and clear or clean the meshes thereof. The knockers and pins *l* are arranged to strike pins *i*

while the bolt-cloths *a* are in horizontal position, which jars the specks and impurities from the upper cloth into the interior of the bolt, and does not affect the lower cloth, since the whole body of meal in the bolt is resting thereon at the time the strokes are delivered. In this manner the specks and small impurities are kept from passing through the bolt-cloths, and the cleaning is perfect.

The pulley *g* being loose on shaft *c* and connected therewith by spring *h*, when the bolt A stands in vertical position the weight of meal within will be below shaft *c*, so that as the pulley revolves it will turn upon shaft *c* and will wind up the spring *h*. This will continue until the tension on the spring *h* is sufficient to turn the unevenly-loaded bolt A and shaft *c*. As the bolt A passes a horizontal position in turning, and the meal within begins to shift to the other side of the bolt the strain on the spring will be lessened, and it will react on the shaft and bolt and give them a sudden overthrow or motion forward, which will throw the meal against the opposite bolt-cloth, thence it will slide down to the bottom of the bolt, when, as the spring is again wound, it will repeat this action, so that the meal is thrown from one side of the bolt to the other twice for every revolution of the bolt.

This bolt may be run at a speed of about twenty revolutions per minute, which is one of its chief advantages, as with this slow motion small sticks, nails, and dough-balls, liable to get in with the meal, will not puncture or break the cloths *a*, as they are liable to do with rapid-motion bolts, and owing to the accelerated motion given the bolt by spring *h* the bolting is quite as rapid as with rapid-motion bolts.

There is no breaking down or getting out of order of machinery as with other bolts, less power is required to operate it, and there is much less wear on the bolt-cloths than in common bolts.

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

1. The bolt A and shaft *c*, in combination with pulley *g*, placed loosely on the shaft, and the connecting-spring *h*, whereby periodically-accelerated motion is given to the bolt, substantially as and for the purposes set forth.

2. The combination of the bolting-chest, the

bolt-frame A, provided with bolting-cloth knockers *j* at its side edges, and the pins or projections *l*, placed at the sides of the bolt-box *l* to cause the knockers to strike while the
5 bolting-cloth is in horizontal position, substantially as described.

3. The bolt A, comprising a frame, two parallel bolt-cloths, *a*, and a shaft, *c*, in combina-

tion with the pulley *g* and spring *h*, connecting the pulley *g* to the shaft *c*, substantially as *ic* and for the purposes described.

GEORGE HALLIDAY.

Witnesses:

F. W. WINSHIP,
C. A. WEAVER.