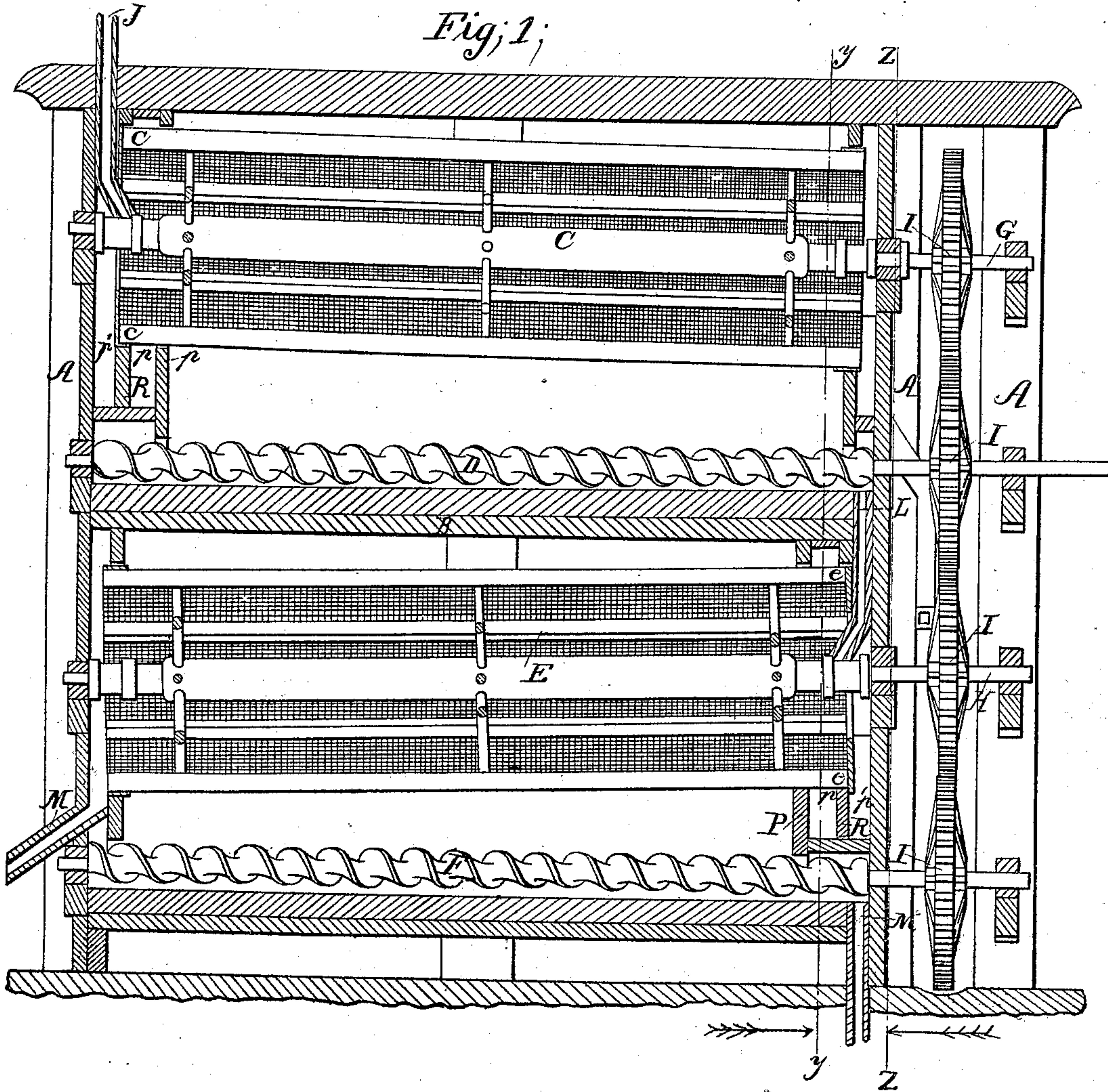


Blossom & Huston, Flour Bolt,

No 66,783,

Patented July 16, 1867.

Fig. 1;



Witnesses;

Geo. W. Kothwell.

James L. Ewin.

Inventor;

Munn & Co

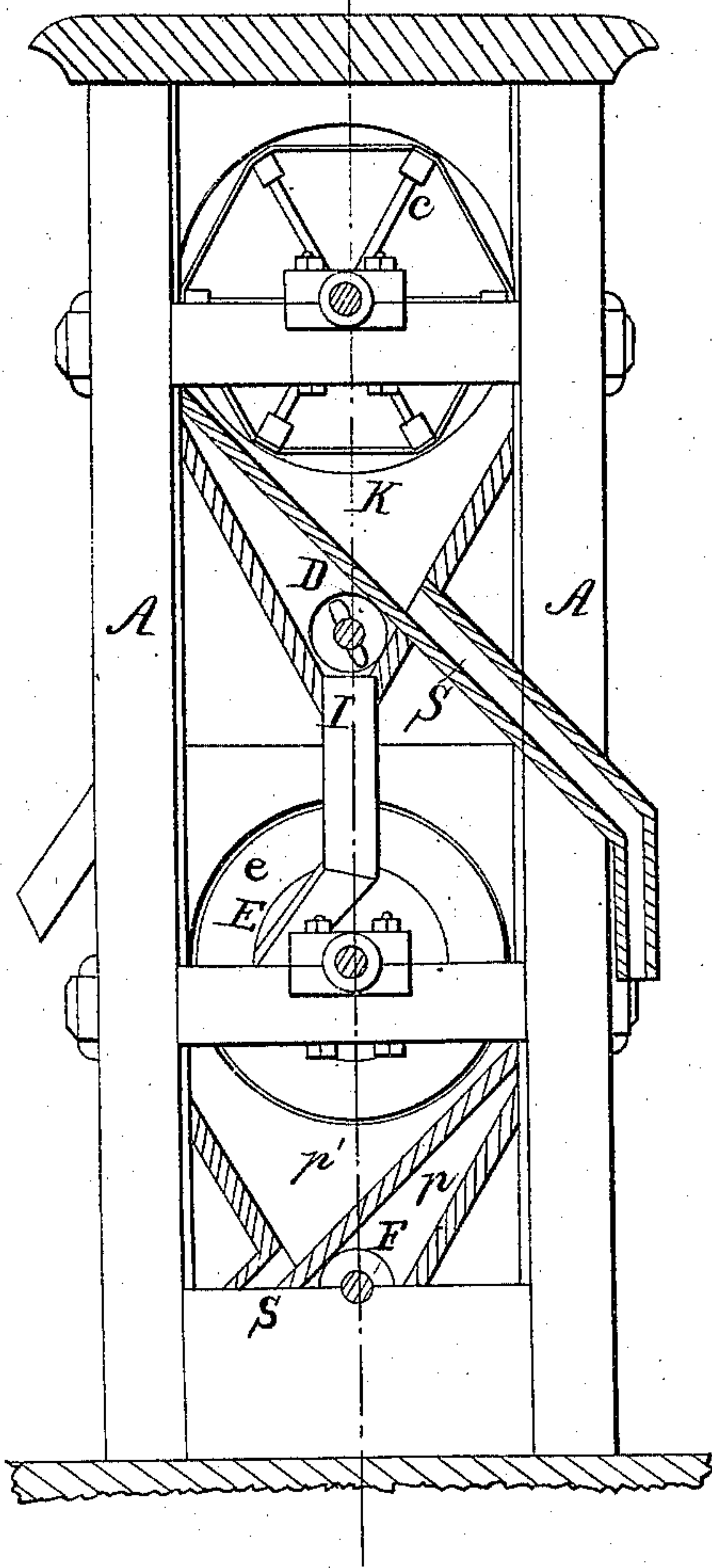
Attorneys for
S. H. Blossom & J. C. Huston
By O. Knight
Sup

*Blossom & Huston,
Flour Bolt,*

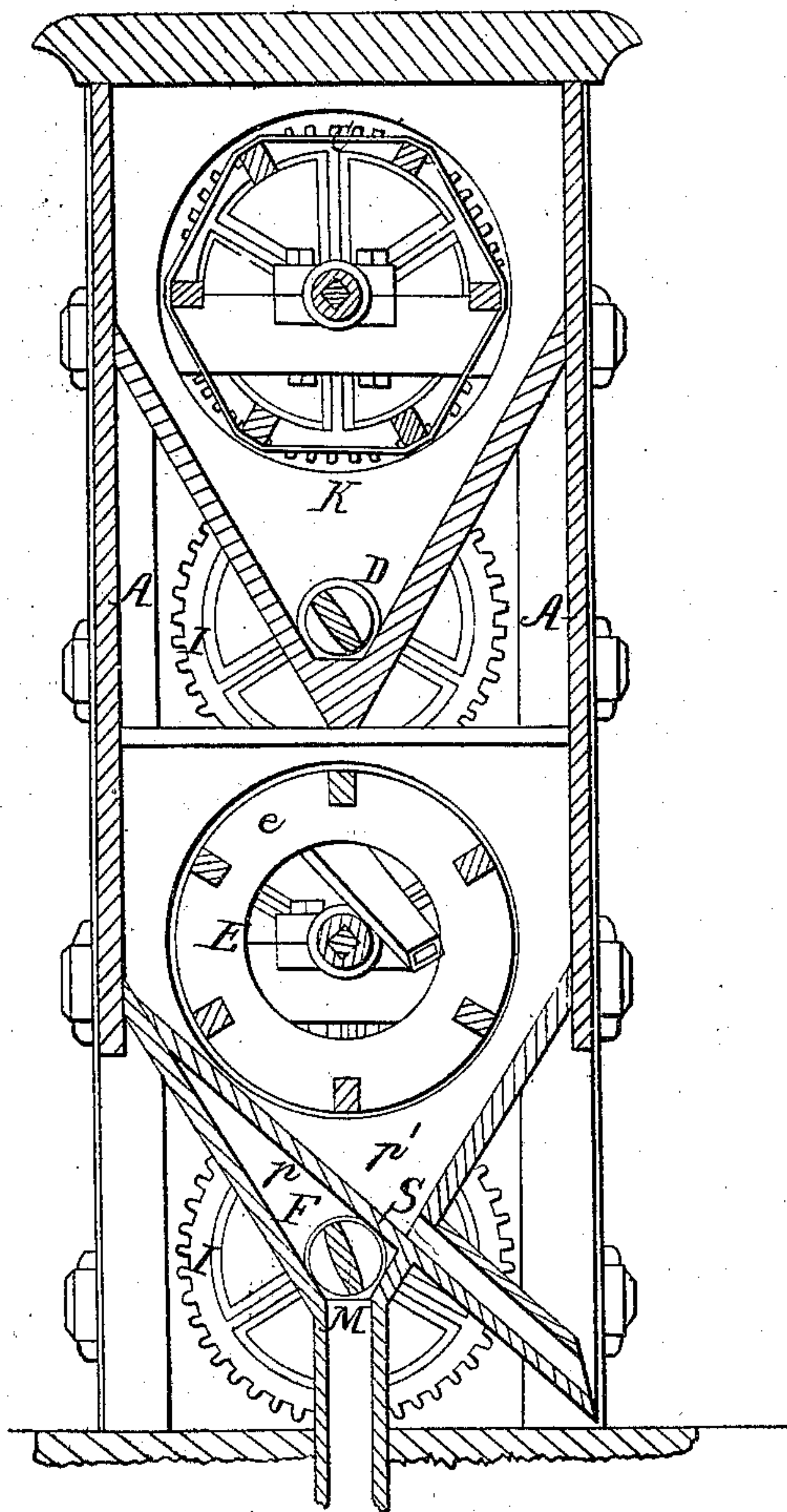
N^o 66,783,

Patented July 16, 1867.

Fig; 2;



Fig; 3;



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United States Patent Office.

SAMUEL H. BLOSSOM, OF BUFFALO, NEW YORK, AND JAMES E. HUSTON,
OF HILLSDALE, MICHIGAN.

Letters Patent No. 66,783, dated July 16, 1867.

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, SAMUEL H. BLOSSOM, of Buffalo, in the county of Erie, and State of New York, and JAMES E. HUSTON, of the city and county of Hillsdale, and State of Michigan, have invented a new and improved Bolt for the Separation of Middlings; and we do hereby declare the following to be a full, clear, and exact description of the same, sufficient to enable one skilled in the art to which the invention appertains to make use of it, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a longitudinal vertical section on the line $x x$, fig. 2.

Figure 2 is a transverse vertical section on the line $y y$, fig. 1, looking in the direction of the arrow y' .

Figure 3 is a transverse vertical section on the line $z z$, fig. 1, looking in the direction of the arrow z' , the division-wall T being removed.

This machine consists of two consecutive bolts, of which the first receives the meal from the stones and removes from it the coarse offal, which is called feed, and the second separates the middlings and unground particles from the flour. The cloth of the first bolt has meshes which retain only the "finished" feed, and the meshes of the second bolt only permit the fine flour to pass. At the head of each bolt is a double diaphragm to prevent the eddying specks in the chamber at the head of the bolt from being drawn in among the material which passes through the bolting-cloth.

In the drawings, A is the frame, which is divided by the horizontal partition B into two chambers, the upper occupied by the bolt C and the conveyer D, and the lower chamber occupied by the second bolt E and the conveyer F. The bolts are attached to shafts G H respectively, which are driven by the train of gearing I outside the chambers, but supported in the frame. The conveyers D F are also driven by the same train of wheels. The upper bolt is covered with cloth of such comparative coarseness that it only retains the grade of offal known as feed. It receives the meal from the stones at the hopper-spout J, which delivers it inside the bolt by the bent end which reaches within the rim e . The meal thus discharged into the interior of the bolt gradually finds its way to the foot of the bolt, as the axis is somewhat inclined, the whole of it passing through the coarse meshes except the feed, which is eventually passed out at the foot of the bolt and discharged at the spout K, figs. 1 and 2. The material which has passed through the cloth of the first bolt is conveyed by the screw D to the spout L, which carries it to the head of bolt E and discharges it within the rim e . The bolt E has fine bolting-cloth stretched upon its ribs, and only permits the passage of the fine flour, while the middlings and unground particles of grain are retained within the bolt until they are discharged at the foot at the spout M to be carried again to the stones. The flour which has passed through the meshes of the second bolt is conveyed by the screw F to the discharge-spout N. It is common to fit the head of the bolt in a diaphragm or partition, R, which is pierced with a hole corresponding to the size of the bolt, the periphery of which fits in the opening through the said partition R, the object of which is to keep back specks which may be circulating in the chamber p' at the head of the bolt. Many attempts have been made to fit the bolt at this point so as not to permit the passage of anything from the chamber p' to mix with the matter which has passed through the bolting-cloth, but without perfectly attaining the end desired. We have introduced a second diaphragm, P, which is placed parallel to the other at a short distance from it, and forms a secondary chamber, p , which catches any specks that may pass through the crack around the perimeter of the bolt and the edge of the diaphragm R. The matter collected in chambers $p p'$ is collected and discharged by a spout separately from the other results of the operation. A similar arrangement at the head of the lower bolt is provided with a like purpose and result, and the matter discharged at the spout S separately from other matter to be returned to first bolt C.

We are aware that two consecutive bolts have been used through which the meal is passed. In some cases the bolts are both covered with fine cloth, so as, by the successive action, to obtain the superfine flour. In other cases the first bolt separates the fine flour, and a second, coarser bolt, sorts the offal, but by neither of these arrangements can the object be attained which we desire to secure. Our object is to separate from the meal that portion which will give a profitable result by re-grinding; and after many experiments we have succeeded

in accomplishing it by the means we have described: passing the meal through a first coarse bolt, which allows everything to pass except coarsest offal, called "feed," and a second bolt covered with fine cloth, which only allows the fine flour to pass, and delivers the middlings, with the imperfectly ground particles, at another spout, from whence it passes to the stones to be re-ground.

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

1. The bolts C and E, constructed, arranged, and operating as described, to separate the feed from the meal and the flour from the middlings consecutively.

2. The secondary chamber *p* employed in combination with the chamber *p'*, as and for the purposes set forth.

To the above specification of our improved bolt for the separation of middlings we have signed our hands this 20th day of February, 1867.

S. H. BLOSSOM,
J. E. HUSTON.

Witnesses:

SOLON C. KEMON,
CHAS. A. PETTIT.