W. HALDERMAN.

Bolting Device.

No. 29,483. Patented Aug. 7, 1860.

Fig. 1.

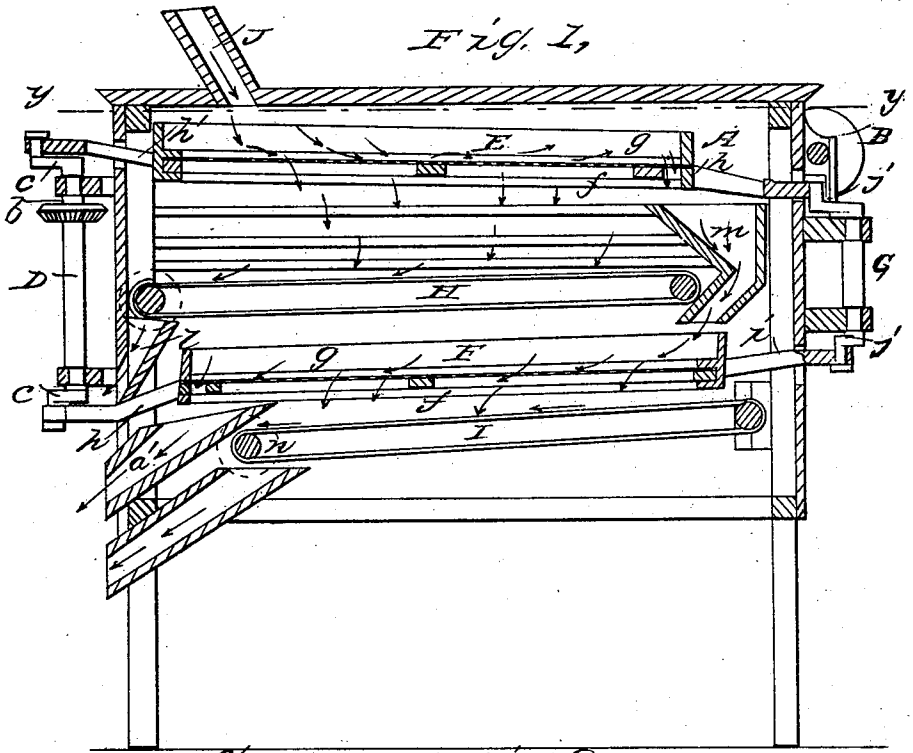
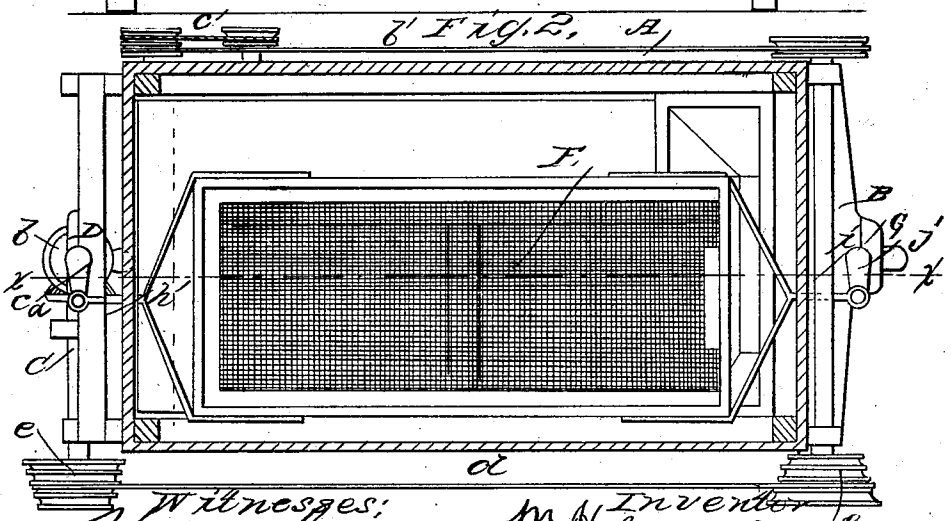



Fig. 2.




Witnesses:

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# UNITED STATES PATENT OFFICE

WM. HALDERMAN, OF FREEPORT, ILLINOIS.

## DEVICE FOR BOLTING FLOUR.

Specification of Letters Patent No. 29,483, dated August 7, 1860.

*To all whom it may concern:*

Be it known that I, W. HALDERMAN, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and Improved Bolting Device for Bolting Flour and Meal; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention taken in the line *x*, *x*, Fig. 2; Fig. 2, a horizontal section of the same taken in the line *y*, *y*, Fig. 1.

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

This invention consists in the employment or use of screens having a vibrating motion and used in connection with endless conveying aprons, the screens and aprons being placed within a suitable case or box and arranged in such relation with each other and with proper spouts, as hereinafter fully shown and described, that a very compact and efficient bolting device is obtained and one that may be very readily adapted for bolting different kinds of flour and meal, or, in other words varied in its operation as the nature of the work may require.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, is a rectangular case or box supported at a suitable height by any framing, and B, is a power shaft secured to the upper part of the case or box at one end. At the opposite end of said case or box there is placed a shaft C, the inner end of which has a bevel wheel *a*, on it said wheel gearing into a corresponding wheel *b*, on a vertical shaft D, the bearings of which are attached to the case or box. The ends of the shaft D, are provided with cranks *c*, *c*, which are placed at right angles with each other. The shaft C, is driven from the shaft B, by a belt *d*, which passes around cone pulleys *e*, *e*, on said shafts.

Within the case or box A, there are placed two rectangular frames E, F. These screens are constructed by stretching suitable bolting cloth over frames *f*, and inserting the latter in shallow boxes *g*, *g*, having each a discharge aperture *h*.

The screens E, F, are slightly inclined in reverse positions as shown in Fig. 1, and they are connected at one end to the cranks *c*, *c*, by yokes *h'*, and are connected at the opposite end by yokes *i*, to cranks *j*, on a shaft G. The screens E, F, are placed one directly over the other and between the two there is placed an endless apron H, one roller *k*, of which is directly over a discharge spout *l*. The lower or depressed end of the screen E, is directly over a spout *m*, which extends down over the elevated end of the lower screen F, as shown clearly in Fig. 2, and the lower end of screen F, is directly over a spout *a'*. Below the screen F, there is placed an endless apron I, one roller *n*, of which is over the top of a discharge spout *o*.

The operation is as follows: The flour or meal passes through a spout J, and is discharged on the elevated end of the upper screen E, which as well as the lower screen F, has a curvilinear vibratory movement, the cranks *c*, *j*, giving them said movement. The superfine flour passes through the upper screen E, and falls on the endless apron H, which conducts it to the spout *l*, through which it is discharged. The coarse portions that will not pass through the screen E, is discharged through the spout *m*, and falls on the elevated end of the screen F, and in passing along said screen the finer portions pass through and drop on the endless apron I, which conveys it to the spout *o*, through which it may be discharged into elevators for the purpose of being again conveyed to and thrown on the screen E, and rebolted. The bran or offal is discharged from the end of screen F, through the spout *a'*. The endless aprons H, I, are operated from the shaft B, by belts *b'*, *c'*, see Fig. 2.

The screens E, F, operate much more efficiently than the ordinary rotating reel bolts as the whole surface of the former is employed at once, whereas only a fraction of the area of the latter is employed at the same time. Hence the process of bolting is greatly expedited, and in consequence of having the bolting cloth stretched on or attached to frames *f*, different numbered cloth, or that varying in fineness may be employed in the screens as the nature of the work may require. The speed also of the screens may be varied as required by adjusting the belt *d*, on the cone pulleys *e*.

I do not claim broadly and separately the employment or use of vibrating screens

for they have been used for analogous or similar purposes, but

I do claim as new and desire to secure by Letters Patent—

The employment or use of the vibrating screens E, F, in connection with the endless aprons H, I, and suitable spouts J, *l*, *m*, *o*, *a'*, arranged relatively with each other and within a case or box A, as and for the purpose herein set forth.

WILLIAM HALDERMAN.

Witnesses:

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