

G. W. OSBORN.

Grain Cleaning and Separating Machine.

No. 27,467.

Patented March 13, 1860.

Fig. 3.

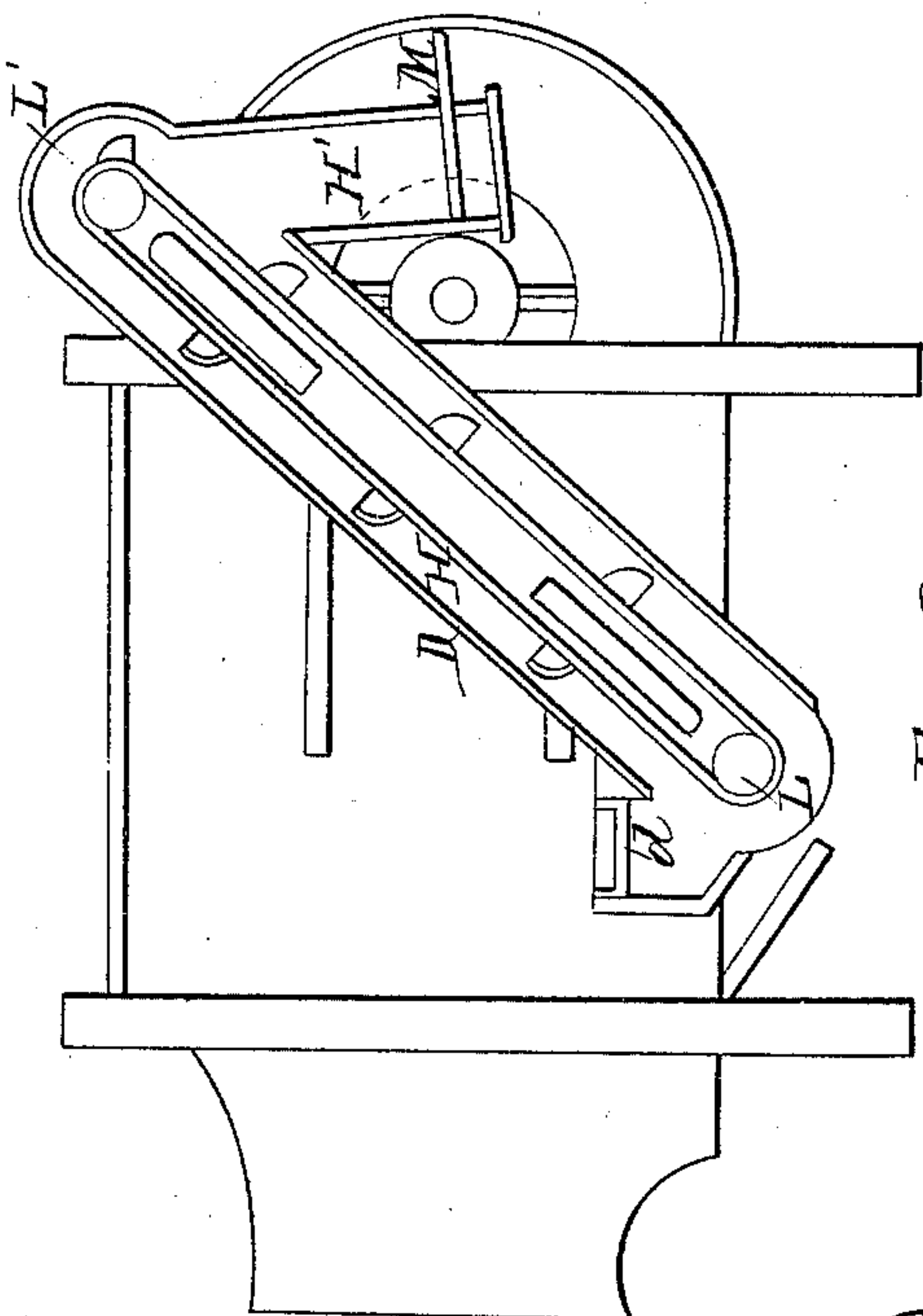


Fig. 2.

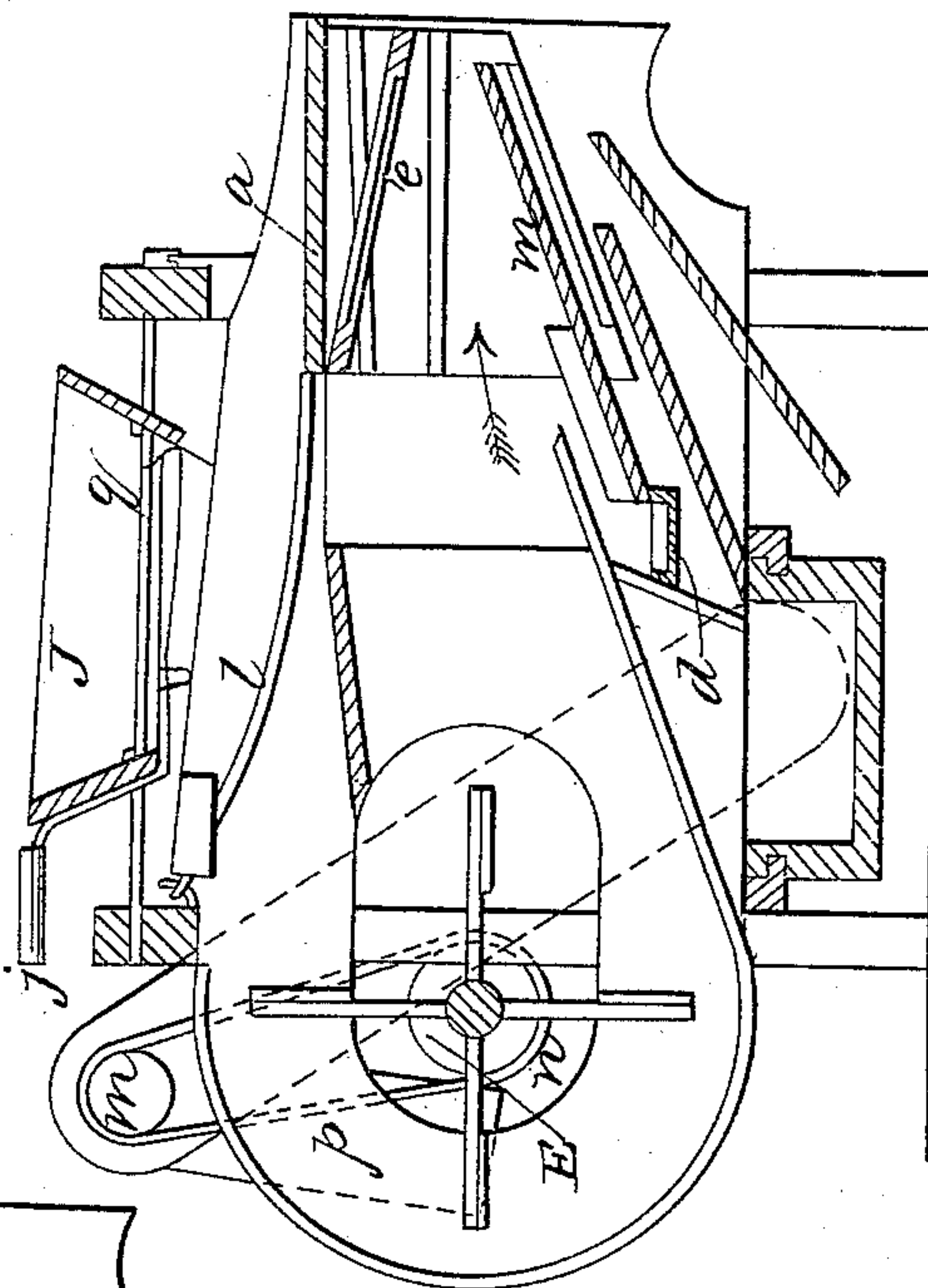
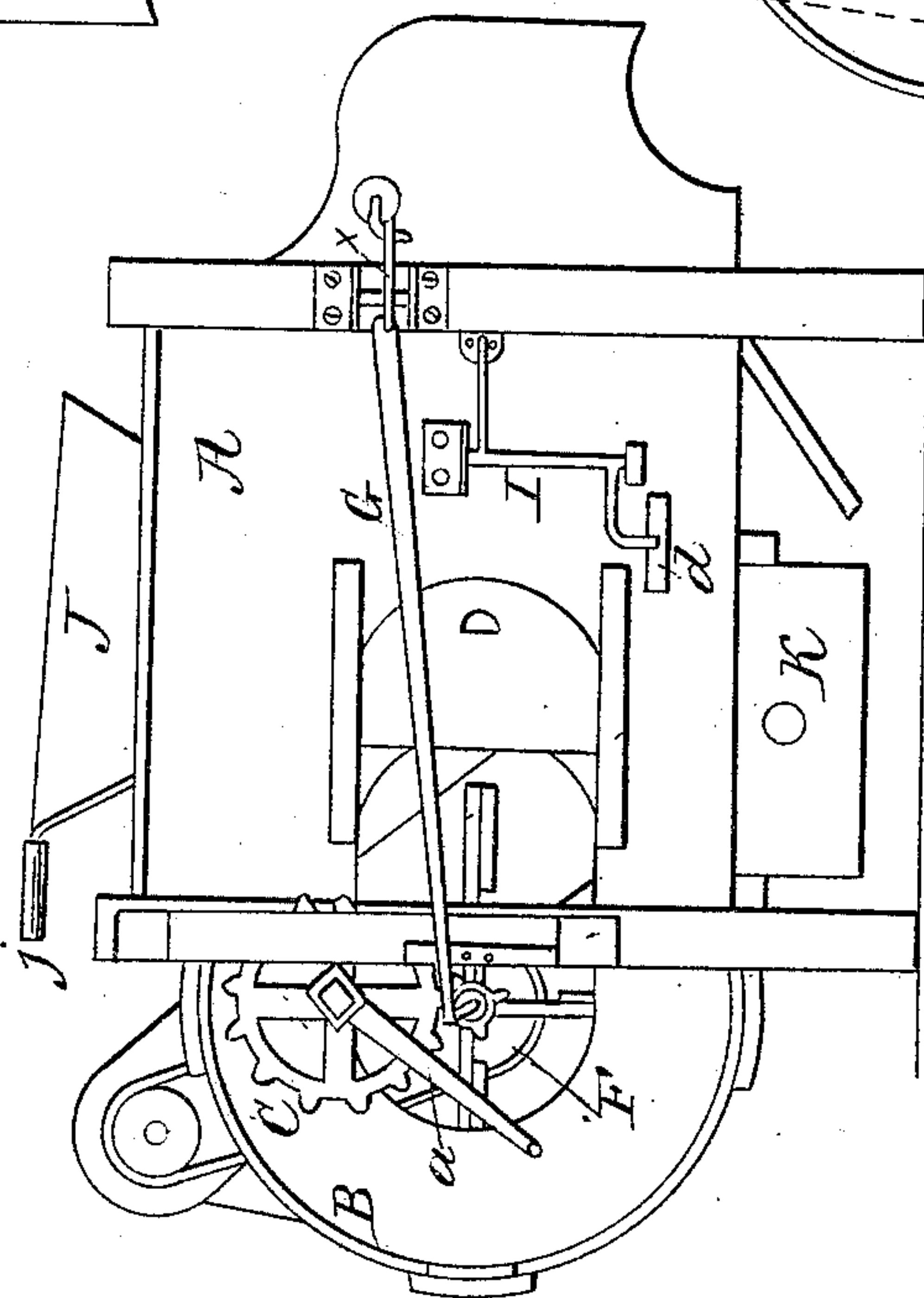


Fig. 1.



Witnesses.

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GEORGE W. OSBORN, OF CENTERVILLE, MICHIGAN.

## GRAIN-CLEANER.

Specification of Letters Patent No. 27,467, dated March 13, 1860.

*To all whom it may concern:*

Be it known that I, GEORGE W. OSBORN, of Centerville, St. Joseph county, and State of Michigan, have invented certain new and useful Improvements in Grain Cleaning and Separating Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in constructing and arranging the several parts of this machine substantially in the manner hereinafter described.

In the drawings Figure 1 represents a side elevation. Fig. 2, is a longitudinal vertical section. Fig. 3, is a side elevation and section of the elevator.

In the figures A, represents the frame of an ordinary fanning mill, which is provided with a fan case B, in which is secured a fan E.

C, represents a gear wheel which gears into a wheel F, which is secured to the fan shaft. To a crank on the same shaft a connecting rod G, is attached, one end of this rod G, is attached to an elbow lever, *x*. A rod connects with one end of this elbow lever; and with the shoe in which the screens are secured. When motion is communicated to the fan, it is by means of these rods, communicated to the shoe, which is made to vibrate laterally. A rod from the shoe connects with one end of an elbow lever I, the other end of the lever I connects with a trough *d* which lies across the frame of the machine, and which has a vibrating movement communicated to it by means of the lever I.

On one side of the frame A, an elevator case D, is secured,—within which case an ordinary elevating band provided with suitable cups is placed: and made to revolve around two pulleys, L, L',—the one near the bottom and the other near the top of the elevator case. Connecting with the elevator case is a box H', into which the grain is emptied after being raised by, the elevating band H. A slide M, is secured in the bottom of this box H', which prevents the grain from falling out until it is desired by the operator.

*p*, represents a band which passes around

a pulley *n*, on one end of the fan shaft, and around a pulley *m*, on the shaft of the pulley L', by which means motion is communicated to the elevating band H.

J, represents the grain hopper, which is placed on top of the frame A. In the bottom of this hopper is an opening *g*, which is opened or closed by means of a slide, which is provided with a handle marked *j*.

*l*, is an inclined curved board secured in the shoe on which the grain falls from the hopper. From this board it passes onto the slide *a*, thence falls upon the screen *e*. When the grain is upon screen *e*, the draft of air blown from the fan passes under it, and serves to separate a portion of the chaff from the grain. After passing through the screen *e*, the grain falls upon screen *m*, and the draft from the fan, not only passes through it as it falls, but passes over it as it rolls down the said screen toward the vibrating trough *d*. The grain after having passed through the draft, and over the screen *m*, falls into the vibrating trough *d*, and is urged by the motion of this trough toward the side of the frame, where it falls into the elevator case, and is carried up by the elevating band H, and emptied into the box H'. The grain is received from the box H', into bags, which are hung to it, when necessary.

The chaff which is separated from the grain is blown out to the rear of the machine while the screenings pass down and are received into a box or drawer K, which is secured under the frame A.

By my arrangement I am enabled to fan the grain and bag it at one operation, the grain being effectually cleaned and carried regularly and easily through the machine and up the elevator to be duly deposited in bags.

It will be seen that by passing the draft from the fan under the spread grain, through the grain, and over the grain, it is almost impossible that any chaff or dirt should be left remaining in it. It will also be seen that the trough *d*, into which the grain is received, being made to vibrate laterally with a quick motion it will be impossible for the grain to stop, or clog, in the machine but must be carried regularly through it to its proper destination.

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

5 The arrangement of the trough *d*, the elevators D, the fan E, and the shoe as constructed the trough being placed at the bottom of the shoe with one end passing into

the elevator case, and having an independent longitudinal vibration, substantially as and for the purpose herein set forth.

GEORGE W. OSBORN.

Witnesses:

S. CHIPMAN,  
WM. FITZ SIMMONS.