

No. 34,478.

PATENTED FEB. 25, 1862.

C. G. CASE & J. M. BAKER.
AUTOMATIC MACHINE FOR WEIGHING GRAIN.

Fig. 1.

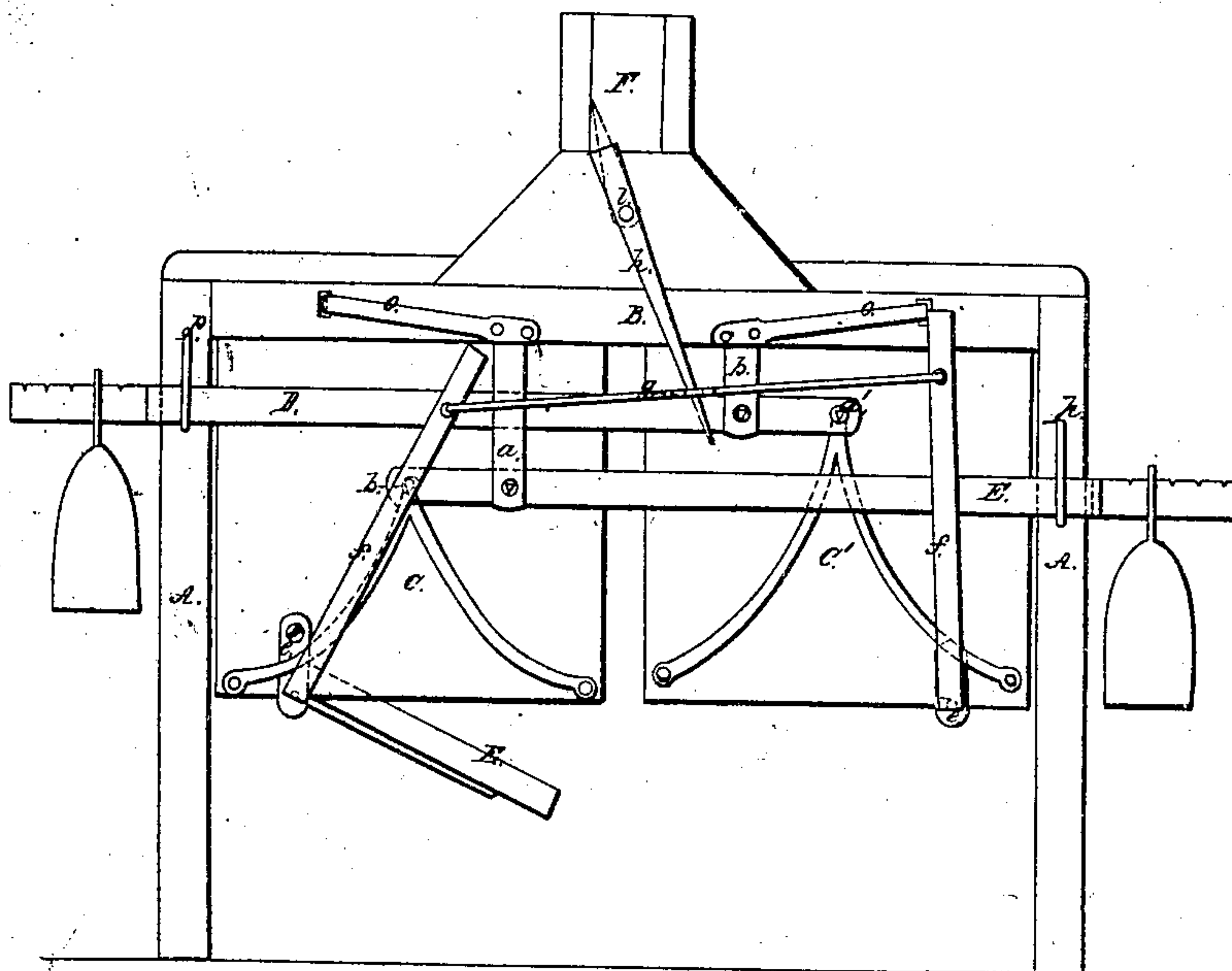


Fig. 3.

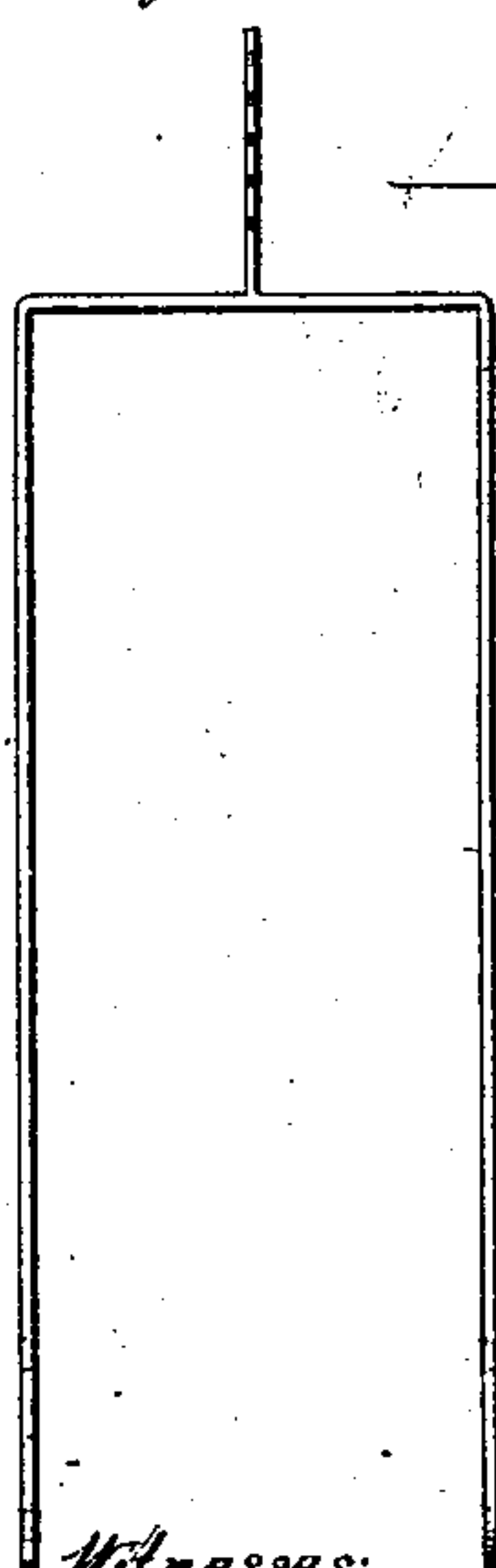
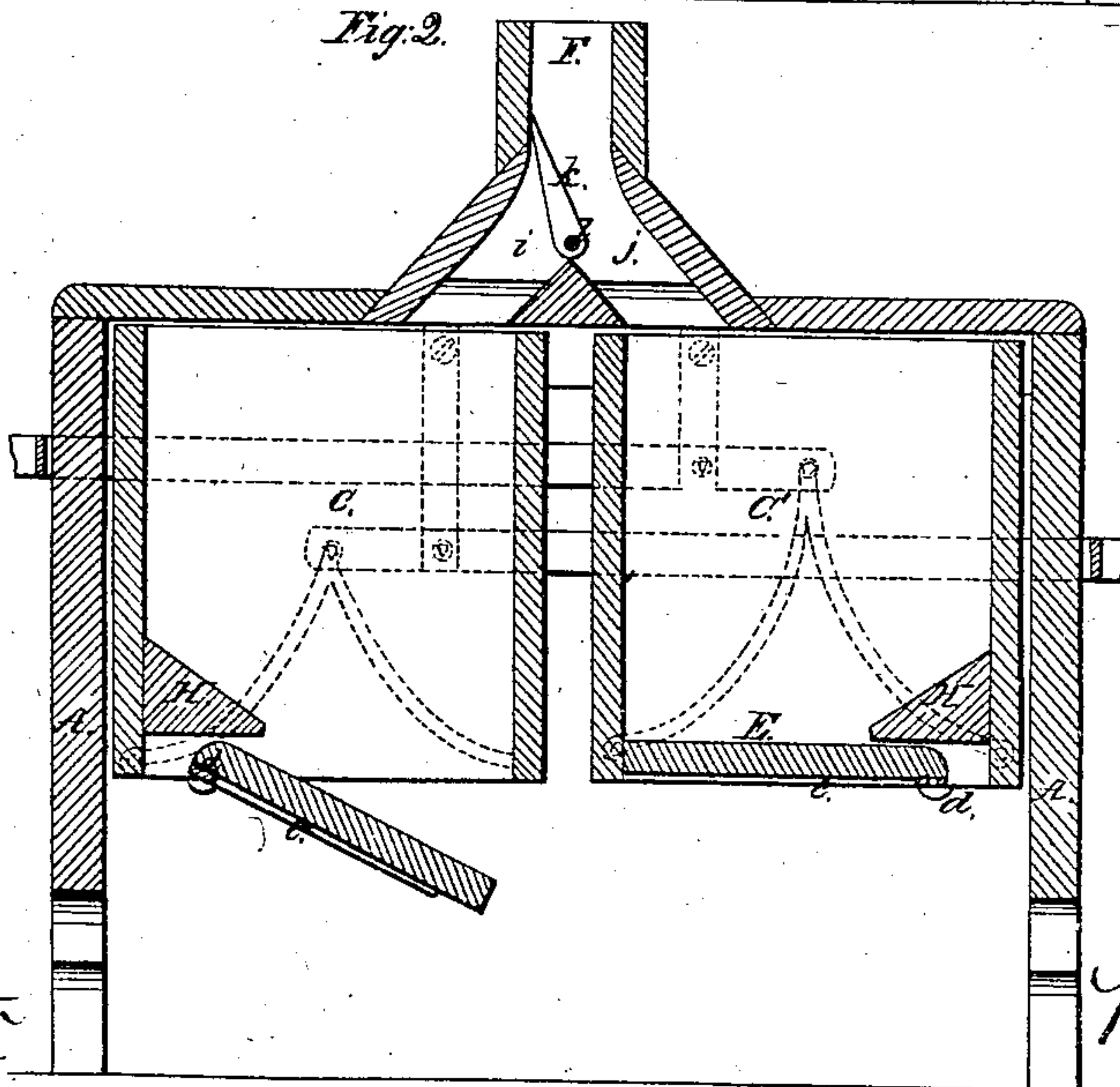


Fig. 2.



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UNITED STATES PATENT OFFICE.

C. G. CASE AND J. MASON BAKER, OF BATTLE CREEK, MICHIGAN.

IMPROVEMENT IN AUTOMATIC MACHINES FOR WEIGHING GRAIN.

Specification forming part of Letters Patent No. 34,478, dated February 25, 1862.

To all whom it may concern:

Be it known that we, C. G. CASE and J. MASON BAKER, of Battle Creek, in the county of Calhoun and State of Michigan, have invented new and useful Improvements in Automatic Scales; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification; in which—

Figure 1 represents our improved weighing-machine by a side elevation. Fig. 2 represents the same by a longitudinal section. Fig. 3 shows a plan of one of the scale-beams on a small scale.

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

This invention relates to that class of grain-weighing machines in which the weight of the grain is made to automatically open and close valves for regulating the supply and discharge of the same; and it consists in the arrangement for simultaneously closing the discharge-opening of one box and opening the discharge of another when the required quantity of grain shall have been received into the box of the latter to counterpoise the weighted scale-beam, the supply of the grain to the weigh-boxes and the discharge of the same being regulated automatically and wholly by the weight of the grain.

To enable others skilled in the art to fully understand and construct our invention, we will proceed to describe it.

The frame, which supports the working parts of the machine, is of rectangular form, and consists of end pieces A and side rails B, fitted together with mortise-and-tenon joints. C C' are weigh-boxes suspended on knife-edge pivots *a' b'* from the short end of the independent scale-beams D E, which are forked, so as to pass on opposite sides of the frame, where they are fulcrumed, respectively, in stirrups *aa* and *bb*, (only one of each of which is shown in the drawings,) depending from the side rails of the framing.

The weigh-boxes C and C' are constructed alike, and are each provided on the inside and near the bottom with an inclined plane H, and below this with a valve E, which closes the discharge-opening of the box. This valve E is attached on the upper side of arms *c*, which project from an axle *d*, journaled at

each end in boxes *e*, attached on the outside of the box, so as to bring the axle of the valve of each box immediately under the incline plane of the same and have the valves open from each other and toward the ends of the frame. On one end of each of the axles *d* an arm *f* projects upward, and at right angles to the surface of the valve, and is connected near its upper end to the arm of the other box by a rod *g*, which rod has an oblong opening made through it about midway of its length to receive the end of an arm *h*, which operates a valve in the spout to regulate the current and supply of grain to the boxes. A spout F, attached on top and in the center of the frame, branches out at its lower end, forming two passages *ij*, through which the grain passes alternately into the weigh-boxes to be weighed. At the junction of the passages *ij* a valve *k* is fitted and secured on shaft *l*, which valve is made to close the supply-passage of each box simultaneously with the opening of the discharge. The shaft of the valve *k* is journaled at its ends in the sides of the spout, and has an arm *h* on its outer end, which is connected with and operated by the rod *g*.

oo are metallic spring-latches, which are attached at one end to the sides of the framing and bent outward to form inclined planes. The loose ends of these latches have a lip formed on their inner side, (which is not shown in the drawings,) with a projection over which the upper ends of the arms *f* catch to secure the discharge-valves of the boxes in a closed condition.

The scale-beams are guided in their up-and-down movement by the loops *p*, which inclose them. The graduated portions of the scale-beams project beyond the ends of the frame and have each a poise-weight suspended from them.

The operation of our machine is as follows: The poise-weights being properly adjusted on the scale-beam to weigh a given quantity of grain at once, and the discharge-opening of one of the boxes closed by its valve and secured in position by drawing the valve-arm *f* over the spring-latch, the grain is allowed to run into the spout and through one of the passages therein into the closed box until its weight is sufficient to counterpoise and raise the beam and poise-weight, when it descends

until low enough to allow the arm to escape from the spring-latch, when the forward movement of the same, caused by weight of the grain on the valve, opens the valve and discharges the contents of the box, and at the same time, by means of its connection with the arm of the other box, closes the discharge-opening of that box and also changes the direction of the grain into the closed box, thus filling one box while the other is discharging.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

The combination of the boxes *C C'*, discharge-valves *E E*, arms *f f*, connecting rod *g*, with the valve *k*, passages *i j*, and spring-latches *o*, when arranged and operating in the manner and for the purpose set forth.

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Witnesses:

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