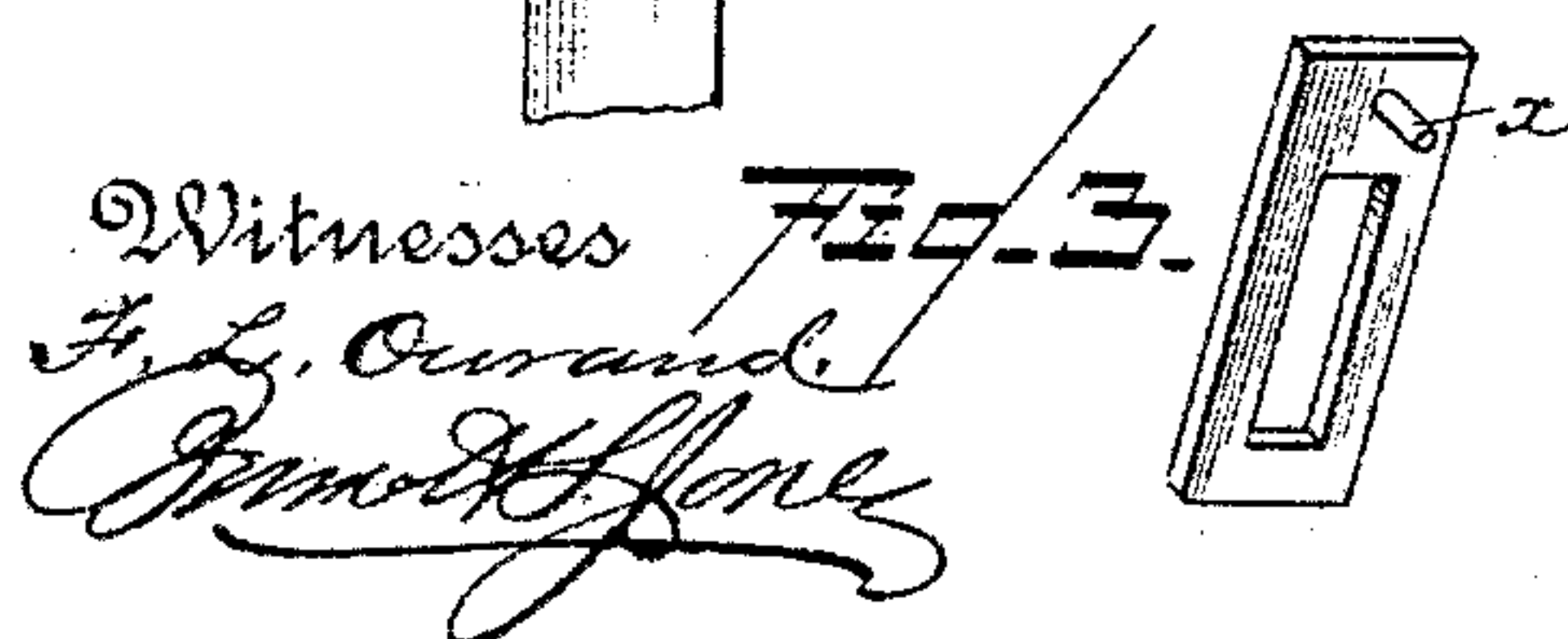
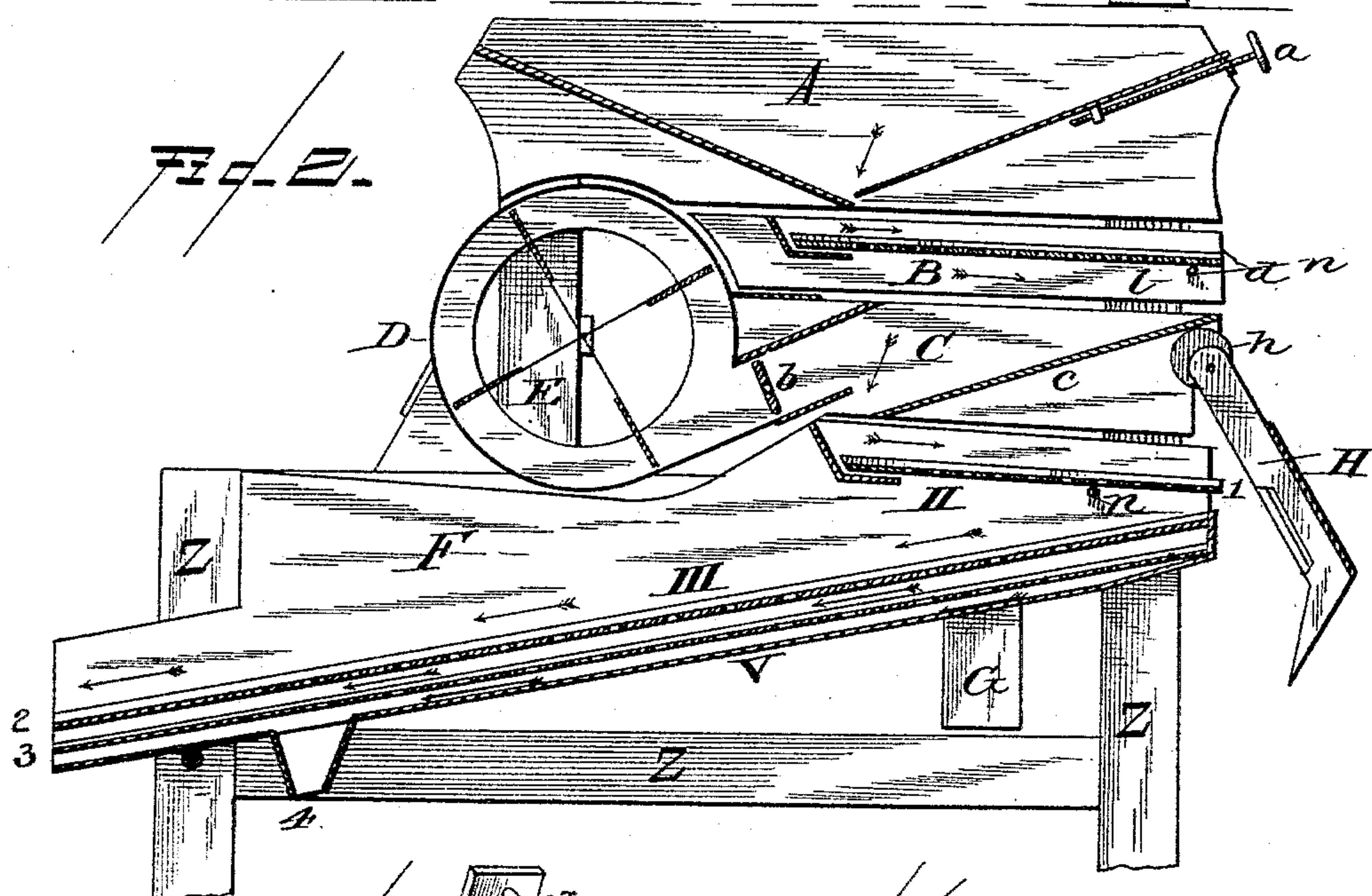
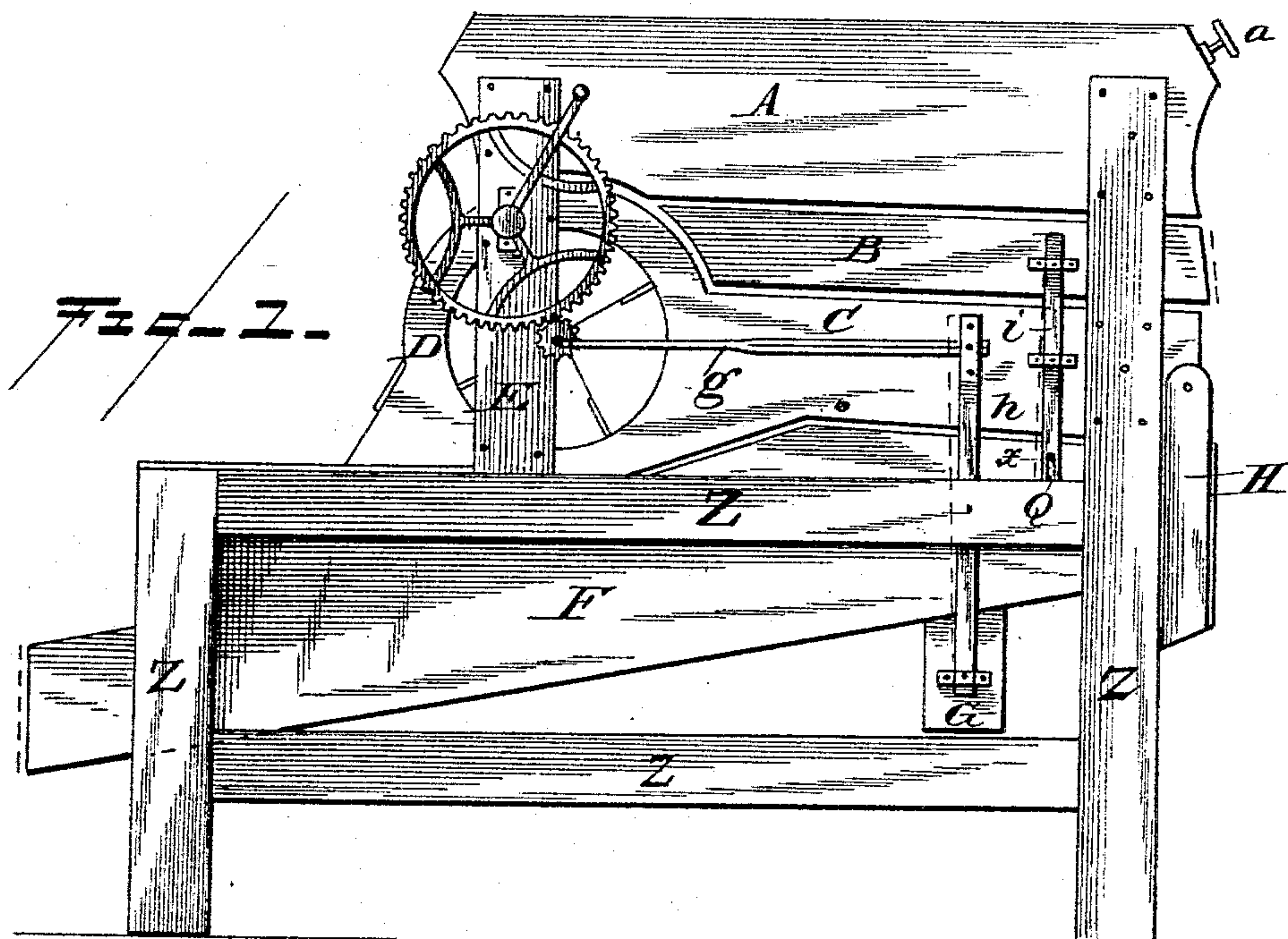


(No. Model)

T. J. HATFIELD.
SEED CLEANER AND PURIFIER.

No. 583,996

Patented June 8, 1897.



Inventor:
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UNITED STATES PATENT OFFICE.

THOMAS J. HATFIELD, OF DUBLIN, INDIANA, ASSIGNOR TO HENRY VALENTINE, OF ANDERSON, INDIANA.

SEED CLEANER AND PURIFIER.

SPECIFICATION forming part of Letters Patent No. 583,996, dated June 8, 1897.

Application filed December 26, 1895. Serial No. 573,402. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. HATFIELD, a citizen of the United States, and a resident of Dublin, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Seed Cleaners and Purifiers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters and numerals of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is an elevation showing a side view of the device complete externally. Fig. 2 is a vertical longitudinal sectional view showing the internal arrangements of the working parts. Fig. 3 is a closed-end slotted bar with a lug *x* upon its upper end. Fig. 4 is an open-end slotted hanging bar.

This invention has relation to certain new and useful improvements in grain and seed cleaners, and more particularly in that class of such machines as described and claimed in my pending application, Serial No. 524,612.

The object of the present invention is to provide a machine of this character which is simple in its construction and operation, which can be easily and rapidly operated, and which is strong and reliable in its parts.

With this and other objects in view the invention consists in the novel construction and combination of parts, all as hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings, the letters *Z* designate the main frame.

E is an upright post on either side of the mill, resting upon the cross-ties to which the ends of the fan-shaft are journaled, the drive-wheel being secured to the outer side of one of these upright posts, as shown in Fig. 1. The opposite ends of the fan-shaft are supplied with small cog-wheels with eccentric-pins for attaching the pitman. The fan and driving-wheel are made in the usual way.

D is the fan-drum, with extended arms, which are secured to the inner sides of the main frame as a casing. The hopper *A* is se-

cured to the frame in the same manner, one end resting upon the drum.

B is the chaffing-shoe, which is provided with a chaff-screen *I*, the inner end resting upon a shelf, the outer upon a rod. The chaff-outlet is shown at the letter *d*.

In Fig. 2, *c* in *C* is an adjustable bottom forming a grain-chute and air-chamber, the lower end held with screws in the sides of the casing. The upper end, being loose, rests upon buttons *p*, by manipulating which the outer end of the bottom is raised or lowered to any desired degree. *b* is an air-board for regulating and controlling the air-blast from the fan.

F is the lower shoe, which is provided with a short purifying-screen *II*, removable, the inner end resting upon a bench or shelf, the outer or tail upon a rod extending from one side of the mill to the other side, one end of said rod being provided with a nut, the other with a thumb-screw. This rod is also intended to hold the upper part of the mill more securely together. This rod also holds the purifying-screen securely in place.

The numerals *III* and *IV* in the shoe *F* designate removable screens extending from one end of the shoe to the other. This shoe is provided with a solid bottom, as shown at *V*. The forward end of the shoe *F* is held in place between the frame by means of two hangers *h*, one on either side, which are bolted to the sides of the frame-tie *Z* and secured by clips onto the wooden hanger-piece *G*, which is attached to the sides of the shoe. The lower or discharge end of the shoe moves upon two small wheels, secured to the inner sides of the short legs *Z*. The pitman is connected at its outer end with the upper end of the hanging bar *h*. The hanging bar *j* is secured at the top end to the sides of the upper chaffing-shoe by means of clips and bolts, and near its center it is similarly secured to the stationary extended arms of the drum. Its lower end is slotted, as in Fig. 4. This slot fits over the lug *x*, (shown in Fig. 3,) which is a slotted piece of iron secured to the sides of the lower shoe *F* by means of headed bolts, secured with nuts on the inner side, which, when loosened, permits the slotted piece to be raised or lowered, so that the lug operat-

ing in the slotted hanger gives a longer or shorter stroke to the movement of the upper and lower shoes, which are controlled by the hanging bar.

5 H is a grain-hanger secured to the sides of the casing by means of the same thumb-screw bolts which hold the buttons *p*. The object of this hanger is to receive and discharge at its lower end the larger grain, which is not intended to pass beyond the short purifying-
10 screen II, but to empty over the tail of this screen into the mouth of the hanger and out into measures underneath the mill.

The grain is fed into the mill in the usual
15 way through the hopper, which is provided with a slide operated by means of the handle *a*. From the hopper it falls onto the inner end of the chaffing-screen, which is supplied with a strong air-blast from underneath which
20 carries the chaff, &c., over the tail of the screen, discharging it at *d*. The grain falls through this screen into the mouth of the chute C (shown in Fig. 2) onto the bottom of the grain-board *c* and is carried downward to
25 the lower end, where it passes onto the inner end of the short purifying-screen II. Here the smaller grains pass through this screen, falling upon the lower or long dividing-screens, while the larger grain discharges over
30 the tail of this purifying-screen into the mouth of the grain-hanger H, whence it is discharged into measures. The larger grain which has fallen onto the dividing-screen III passes

down and is discharged at the tail 2, as shown in Fig. 2. The smaller grain passes through
35 this screen onto number IV, the larger grains being discharged over the tail at 3. The last and smallest grain passes through this screen, falling onto the solid bottom of the shoe *F*, and is discharged at 4, as shown, thus sepa-
40 rating, purifying, and dividing the grain into four separate and independent receptacles as it passes through the hopper, following the darts in Fig. 2 until it is finally discharged,
45 as shown.

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

In a grain-separator, the combination with the upper and lower screen shoes connected
50 by an oscillating rod pivoted to the fan-drum, its upper end being secured to the upper shoe by a clip and the lower end slotted to engage a pin projecting from a plate which is secured to the lower shoe; the said plate being pro-
55 vided with a slot, whereby the same may be adjusted vertically, of a vertical rod pivoted to the main frame of the separator, and having its lower end connected to the lower-screen shoe and its upper end connected to a pitman,
60 and means for operating the same, substantially as described.

THOMAS J. HATFIELD.

Attest:

F. N. CHAMPS,

E. S. MORGAN.