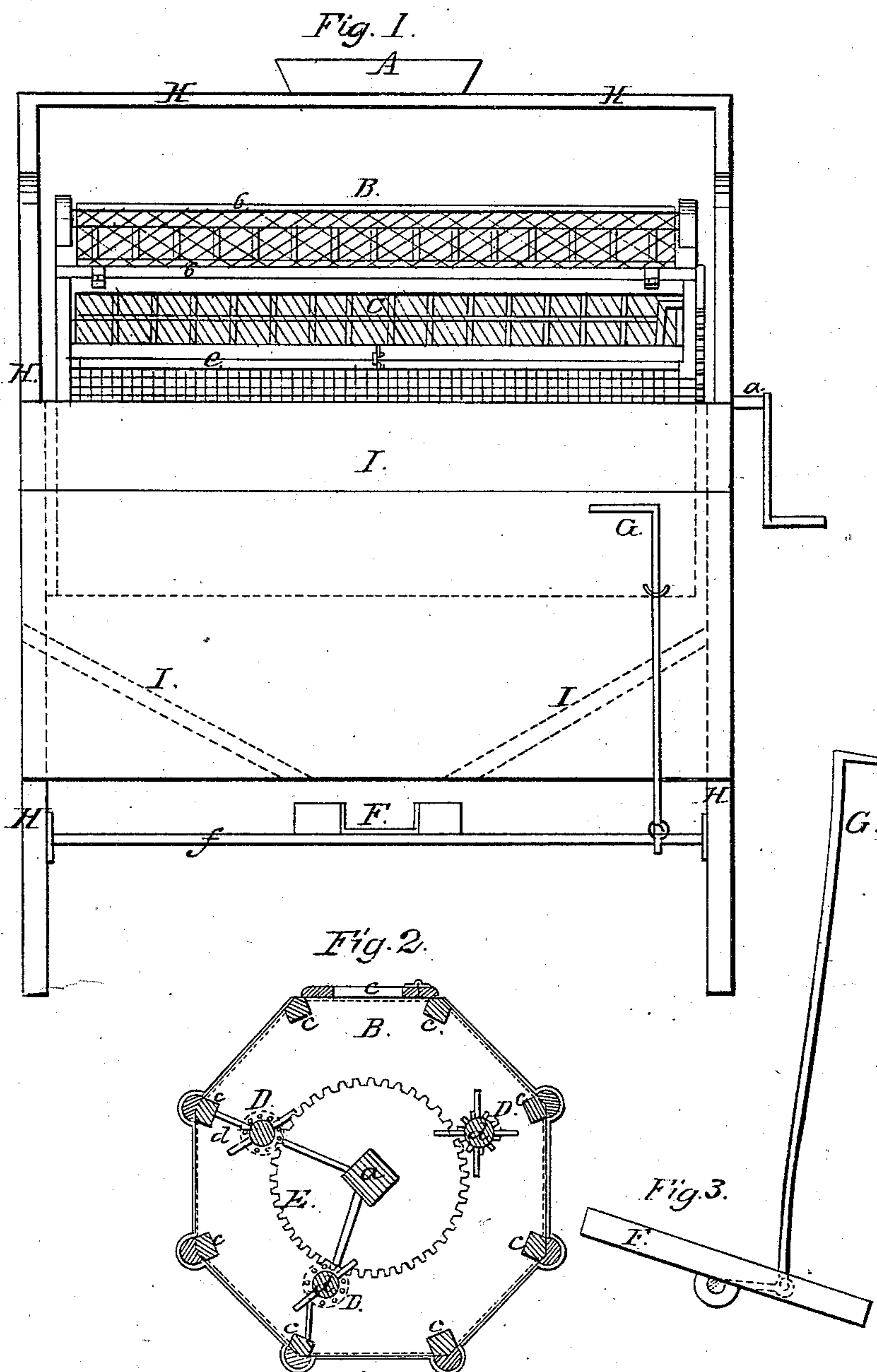


E. LUCAS.
Grain Separator.

No. 79,993.

Patented July 14, 1868.



Witnesses:
John M. Stoy
Leopold Greub

Inventor
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att'y.

United States Patent Office.

ELIJAH LUCAS, OF WINSLOW, INDIANA

Letters Patent No. 79,993, dated July 14, 1868.

IMPROVEMENT IN GRAIN-SEPARATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ELIJAH LUCAS, of Winslow, in the county of Pike, and in the State of Indiana, have invented certain new and useful Improvements in Grain-Separators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being made to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement of a polygonal wire sieve, which is provided with a fan, and one or more smut-cleaners revolving inside of the sieve with greater speed than the sieve itself, thereby separating the grain from all cheat, cockle, dust, &c., which are blown out through the sides of the sieve, the wires of the same being so arranged that they will easily pass out; also, in the arrangement of a reversible chute, so that the grain can be emptied on either side of the machine that may be desired.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation.

Figure 2 a cross-section of the drum or wire sieve, and

Figure 3 a side view of the reversible chute and lever.

H represents a frame of suitable dimensions provided with a box, I I, with inclined sides, as shown in fig. 1.

In the sides of the frame the shaft *a* has its bearings, and on this shaft a polygonal drum or wire sieve, B, is fastened. This wire sieve is constructed of wooden sides, with slats, C C, of wood running across at each corner or angle of the sides. On these slats the wire is arranged in such a manner that the cheat, cockle, dust, &c., can easily pass out; for instance, a portion of the meshes may run parallel, others perpendicular, and still others at different angles from these slats.

One of the wire sides of this drum thus formed is made as a door, C, hinged on one slat and secured to the other by any suitable device.

Over the drum or wire sieve, in the frame, is a stationary hopper, A, through which the grain is poured and passes into the drum B through the door C.

The drum is provided with several shafts, *d d*, which run horizontally through the same, and have their bearings in the wooden sides thereof, and which shafts are so arranged that the cogged wheels D D, on their end, which extend through one of the sides of the drum, work into cogs on the outside periphery of a stationary wheel, E, which is fastened to the frame H, so that when the drum is turned by the crank K, on the end of the shaft *a*, the wheels D D will move around the wheel E and turn the shafts *d d*, naturally imparting a swifter motion to these shafts than that with which the drum itself moves.

The number of shafts thus running through the drum depends on the number of smut-cleaners it is desired to use.

On one of these shafts, *d d*, are small arms fastened, which arms support metal strips, *e e*. These strips act as a fan, when the drum revolves, to blow all cockle, cheat, &c., out through the wire sides.

The other shafts, whatever their number, one or more, are provided with one or more rows of wires or strips of metal, *i i*, placed on the shafts at right angles thereof, and at suitable distance from each other, so as to pass through or between similar wires or strips of metal, *i i*, placed on the nearest of the slats C, and on the centre shaft *a*, by which arrangement all smut, &c., is separated from the grain.

Under the centre of the box I is a rod, *f*, which has its bearings in the sides of the frame, and on which the chute F is fastened. This chute can be turned to either side by means of the lever G, connected by an arm to the rod *f*.

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

1. The polygonal-shaped wire sieve B, provided with shafts *d d*, metal strips *e e*, and wires *i i*, constructed and operating substantially as and for the purposes herein set forth.

2. The reversible chute F, in combination with the rod *f* and the lever G, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing, I have hereunto set my hand, this 28th day of March, 1868.

ELIJAH LUCAS.

Witnesses:

C. J. AGEE,

PAYTON PANCAKE.