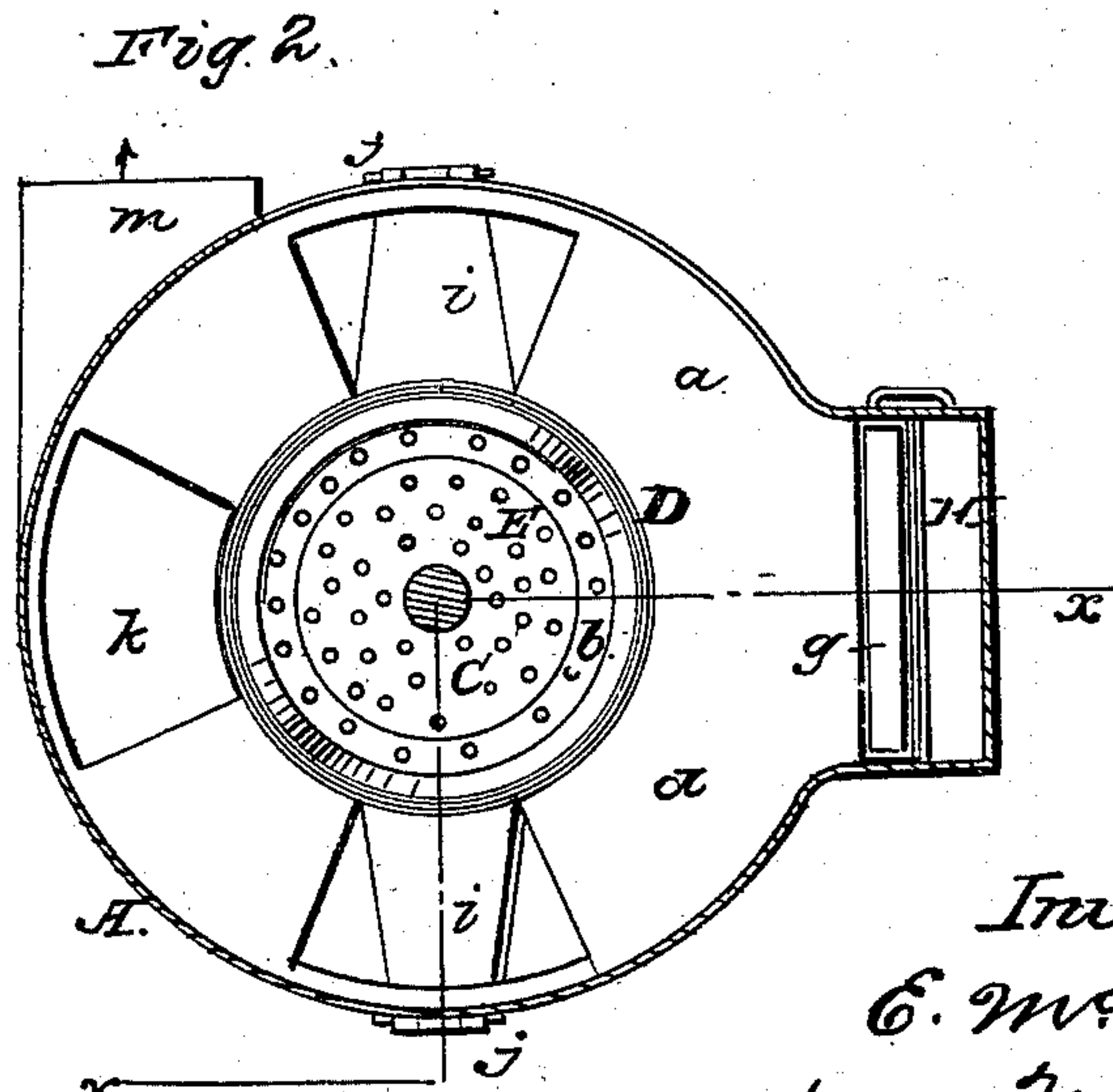
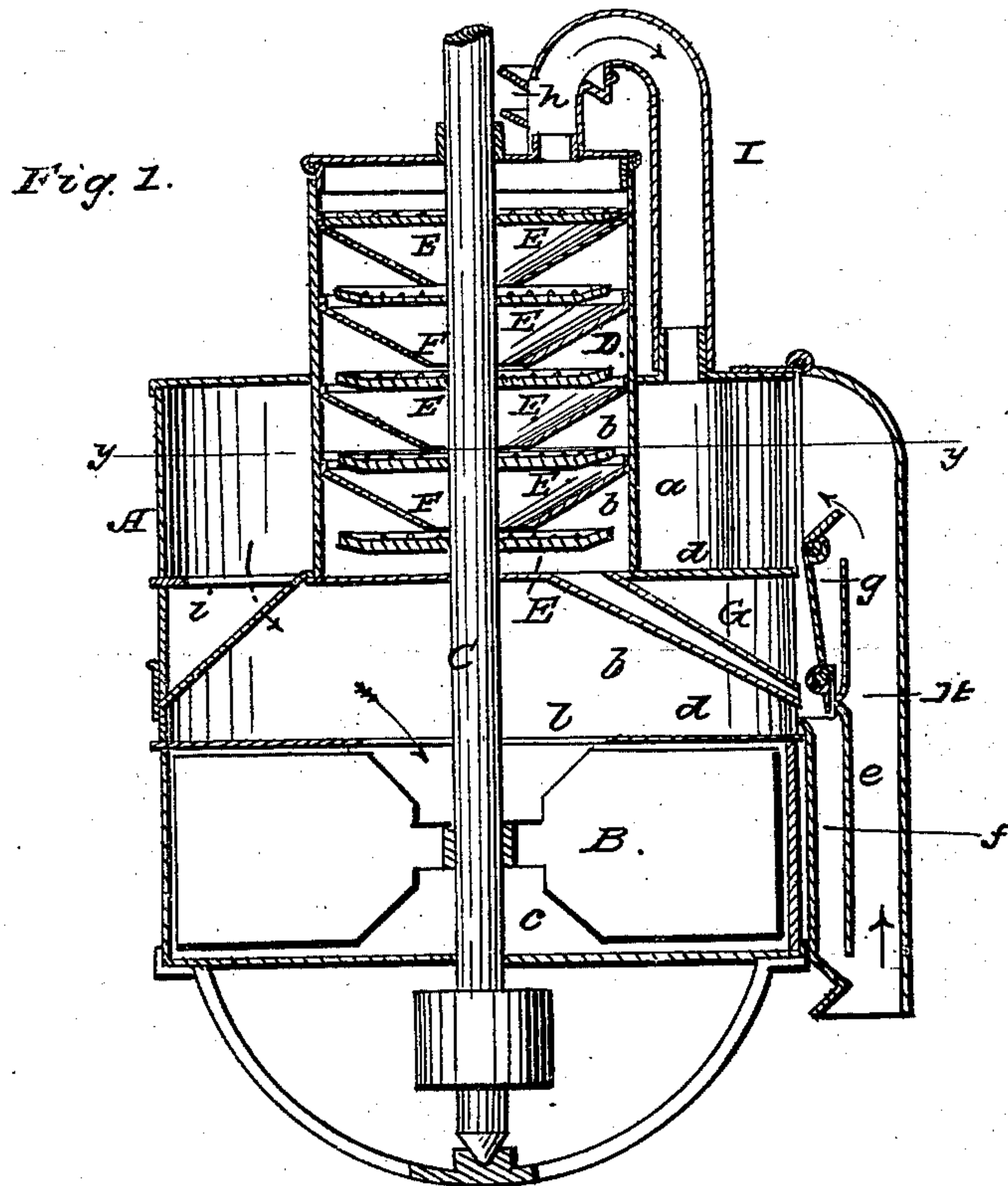


E. McLANE.
Smut Machine.

No. 80,361.

Patented July 28, 1868.



Witnesses
W. C. Ashkettle
J. M. Morgan

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United States Patent Office.

E. McLANE, OF YOUNG AMERICA, ILLINOIS.

Letters Patent No. 80,361, dated July 28, 1868.

IMPROVED SMUT-MACHINE.

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, E. McLANE, of Young America, in the county of Warren, and State of Illinois, have invented a new and useful Improvement in Smut-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical section of my invention, taken in the line *x x*, fig. 2.

Figure 2, a horizontal section of the same, taken in the line *y y*, fig. 1.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for depriving grain of smut and other impurities.

It consists in a scouring-device of peculiar construction, and a novel arrangement of a suction-blast, whereby a very powerful and efficient blast is obtained without wasting or blowing away the grain, and the grain scoured in the most thorough manner by a very compact device.

In the accompanying sheet of drawings, A is a cylindrical case, divided into three compartments, *a b c*, by the horizontal partition-plates *d d*. The lower compartment, *c*, contains a rotary fan, B, which is keyed on a vertical shaft, C, the latter passing through the case A and through a cylinder, D, the lower part of which extends down to the bottom of the upper compartment, *a*, of case A, as shown in fig. 1, the cylinder D being concentric with the case A.

The cylinder D contains the scouring-device, which is composed of a series of plates, E, of circular form, and toothed at their upper surfaces. The outer parts or edges of these plates are turned upward, as shown at *b*, fig. 1. These plates E are slightly less in diameter than the interior of the cylinder D, and underneath each plate E there is an inverted conical spout or conductor, F, and these spouts or conductors are attached to the cylinder D, and the plates E are secured to the shaft C.

From the lower end of the cylinder D a spout, G, extends into a vertical suction-blast spout, H, which is at the side of the case A, (see fig. 1.) The upper end of the spout H communicates with the upper compartment *a* of case A, the lower end being open. Within the spout H there is a vertical partition, *e*, which forms a passage, *f*, a valve, *g*, being in its upper part.

I represents a curved spout, the lower end of which communicates with the compartment *a*, and the opposite end with the top of cylinder D, said tube, just above the cylinder D, being provided with a small hopper, *h*. The compartment *a* has spouts *i* extending down from it, with a flap, *j*, at their lower ends, to admit of the discharge of substances at the exterior of the case. The compartments *a b* communicate with each other by means of an opening, *k*, (see fig. 2,) and the compartments *b c* communicate with each other by means of a central opening, *l*.

The grain to be cleansed passes into the hopper *h*, and thence down through the cylinder D, and is scoured by the plates E, the grain, as it passes off from the edge of one plate, E, being conducted by a spout or conductor, F, down to the centre of the plate E, immediately below it.

The rotation of the fan B produces a suction in the spouts I and H, in the direction indicated by the arrows, said suction drawing the smut and all light impurities from cylinder D into the compartment *a*.

The cleansed grain falls through the spout G into the passage *f* of H, where it is subjected to a second blast, and any remaining smut, chaff, or light imperfect grain, carried up into compartment *a*, is discharged through the spouts *i*, while the smut or light impurities are drawn into and discharged from the fan-case through a spout, *m*, communicating therewith.

By regulating the valve *g*, the amount of light grain to be drawn into compartment *a* may be regulated as desired, and the whole of the light or inferior grain separated from the scoured grain, or the best quality of the former allowed to remain with the latter.

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

The passage *f* in the blast-spout H, provided with the valve *g*, when arranged in relation with the spout G and fan B, to operate substantially as and for the purpose set forth.

E. McLANE.

Witnesses:

JAMES S. TRAVIS,

JOHN A. HOGE.