

A. T. WALDO.

Smut Machine.

No. 27,489.

Patented March 13, 1860.

Fig. 1.

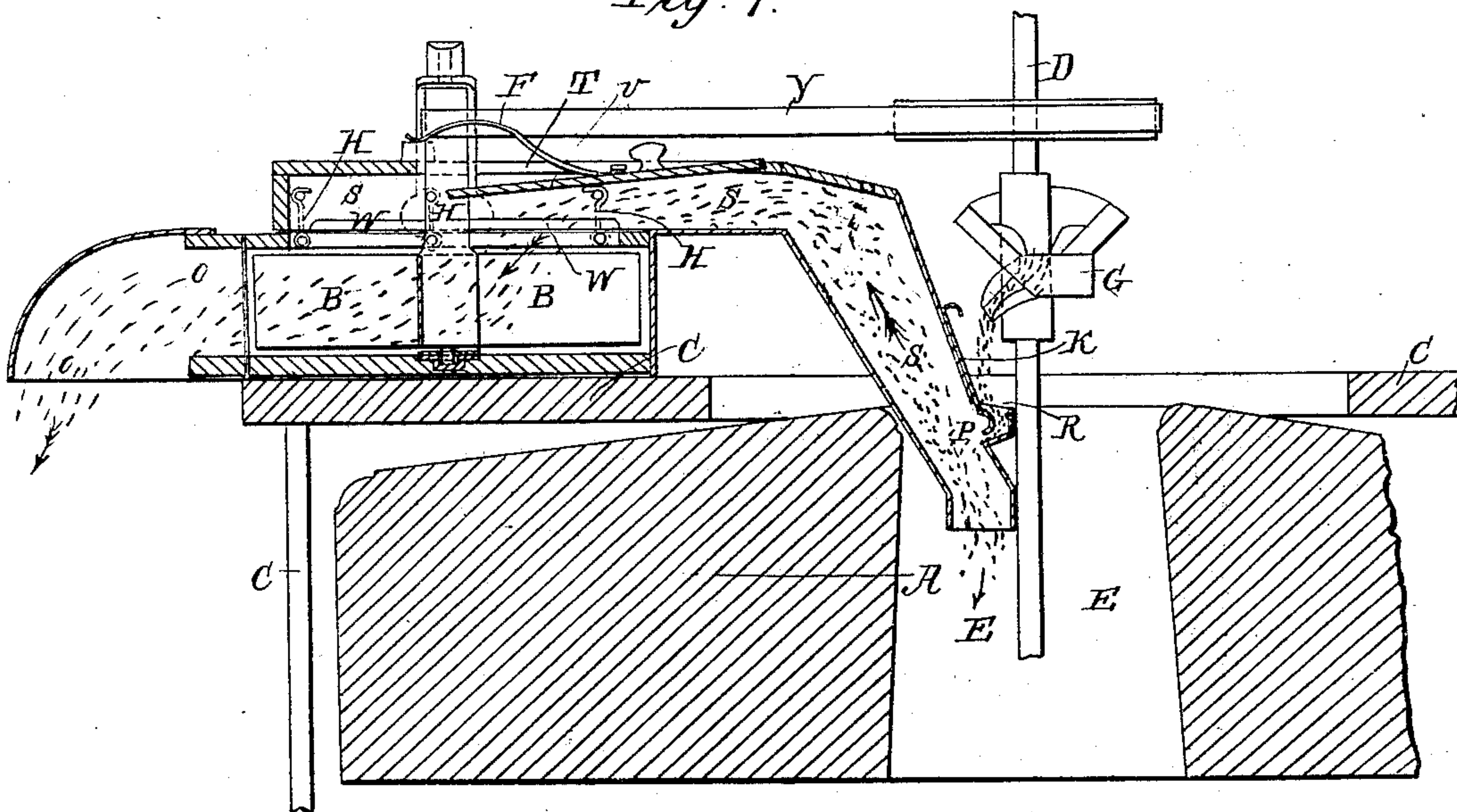
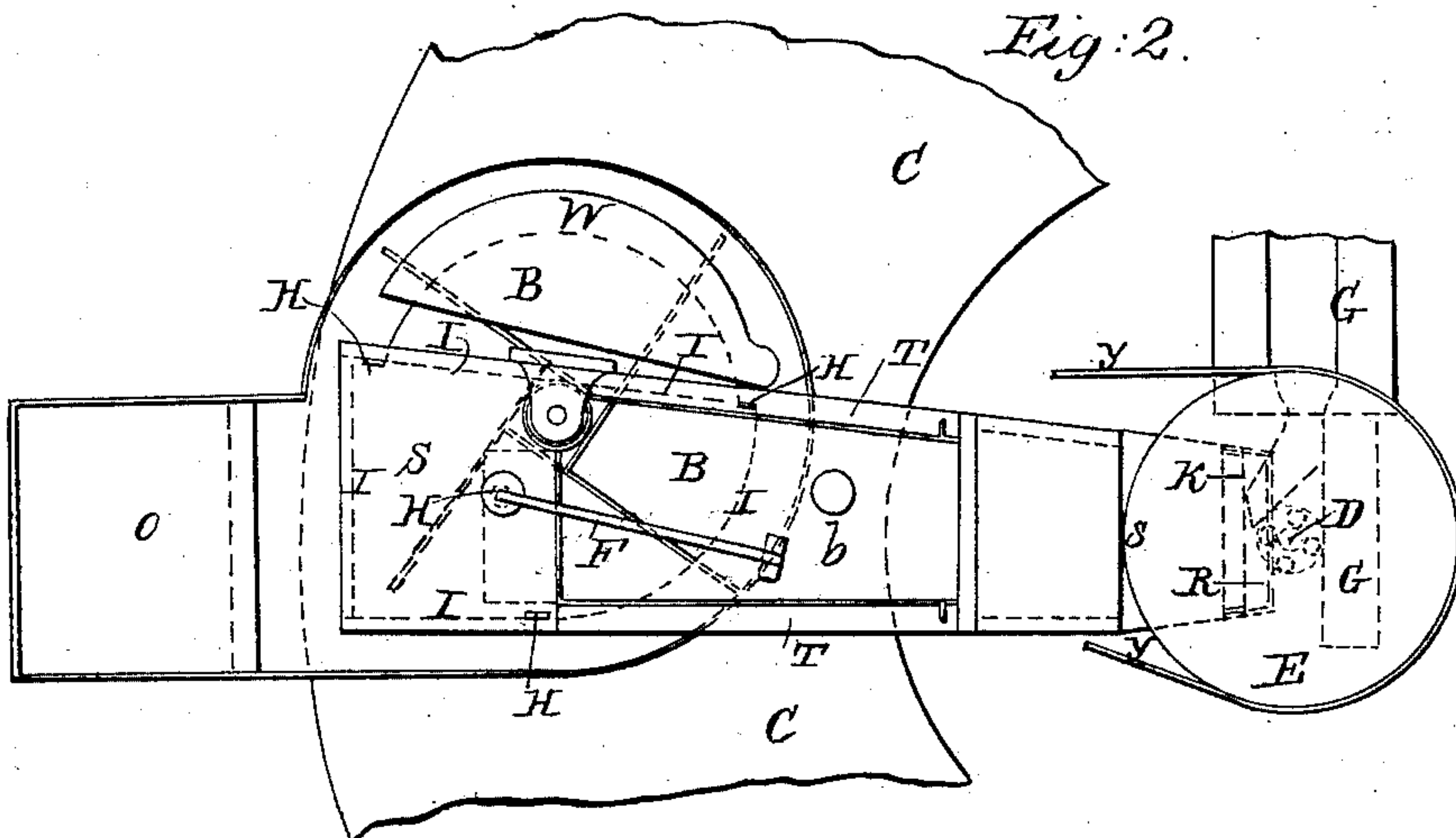


Fig. 2.





# UNITED STATES PATENT OFFICE.

A. T. WALDO, OF DRYDEN, NEW YORK.

## GRAIN-CLEANER.

Specification of Letters Patent No. 27,489, dated March 13, 1860.

*To all whom it may concern:*

Be it known that I, ARTHUR T. WALDO, of the town of Dryden, in the county of Tompkins and State of New York, have invented  
5 an Eye of a Millstone Grain-Cleaner, or a Machine for Cleaning Grain in the Eye of a Millstone; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accom-  
10 panying drawings, making a part of this specification, and to the letters of reference marked thereon, on which—

Figure 1 is a vertical section of the machine and of the millstone and its append-  
15 ages, and Fig. 2 is a transverse sectional view, representing also a portion of the adjoining parts.

In Fig. 1 A, A is the millstone, exhibiting its eye E E. B B is the fan in its case,  
20 and resting on the millstone curb C, C. D is the damsel passing by and shaking the shoe G, G. A pulley on the said damsel is connected to the fan shaft by the belt Y. S, S, S, is the spout, the horizontal part of which  
25 rests on the fan case, while the other end in which the cleaning is effected descends into the eye E, E, of the stone A, A. The said spout is fastened to the fan case by the hooks H H H, thus enabling the spout to be taken  
30 from the eye of the stone when the stone is required to be taken up. V is a valve to regulate the force of the blast through spout S, automatically; and thus render uniform  
35 the effect of the blast on the grain notwithstanding the varying motion of the stone or driving power. One end of the valve which is over the trunk of the spout S is hinged while the other end, which is over the fan B,  
40 is supported by the spring F,—the degree to which the valve is opened being controlled by the motion of the fan. When the spring F, is properly adjusted, the valve V secures a perfectly uniform blast through the spout S, partly by its depression on acceleration of  
45 the motion contracting the opening from the spout into the fan and partly by admitting air directly to the fan. K is a slide to regulate the depth of the opening, where the grain enters the spout, and is bent at the  
50 bottom to form the projection P, the object of which is to spread the grain laterally on

the bottom of the cup R. The cleaning of the grain is effected entirely below the point P and in the following manner: The grain  
leaves the shoe G, G, of the hopper and falls 55 into the cup R, on the projection P. It is thus spread laterally and passing along the bottom of the cup R it is spread still more, laterally and enters the spout S, when by the action of the blast and its gravity, it is  
60 carried across the spout and strikes the opposite side as represented; when being reflected it falls into the middle of the spout, and thence through the perpendicular por-  
65 tion of the spout into the grinding portion of the stone. The dust, chaff, and other impurities pass up through S, down into the fan B and are discharged at O. The action of the blast on the grain, the separation of  
70 impurities from it, and the course of the grain, and of the impurities separated, are fully shown by the dotted lines and arrows in Fig. 1.

In Fig. 2 B, B, is the fan, C, C, the curb of the stone, D the damsel, E, the eye of 75 the stone, G, G, the hopper shoe, K, the slide, and V, the valve with its spring F, the relative size, shape, and position of the valve being more clearly shown than in Fig. 1. The dotted line, I, I, I, I, I, shows the  
80 opening from the spout S into the fan B, and is much larger than usual, as is also the discharge O, O. The size of the openings in connection with their position, relative to the spout S, which is such that the air in  
85 passing from the spout S to the discharge O, passes in nearly a direct line through the fan—renders the machine much more efficient than those of the same size usually are.

What I claim as my invention and desire 90 to secure by Letters Patent is—

The combination of the fan B, spouts O, and S, valve V, and spring F, the cup R, slide K, and projection P, when constructed and arranged as specified, for the purpose of 95 cleaning grain, as the same is fed into the eye of the millstone.

A. T. WALDO.

Witnesses:

A. M. LUCAS,  
ZIBA WILLIAMS.