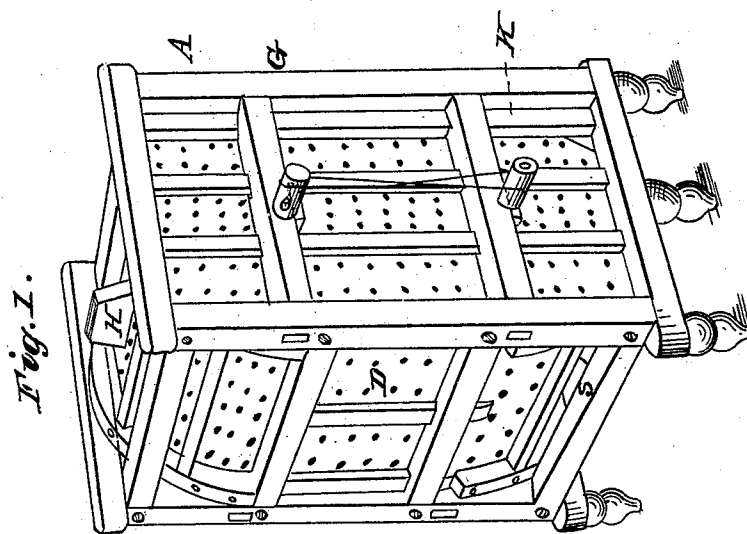
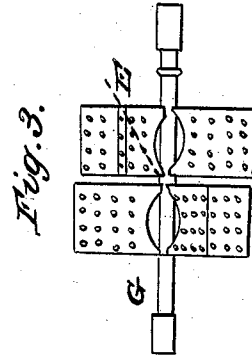
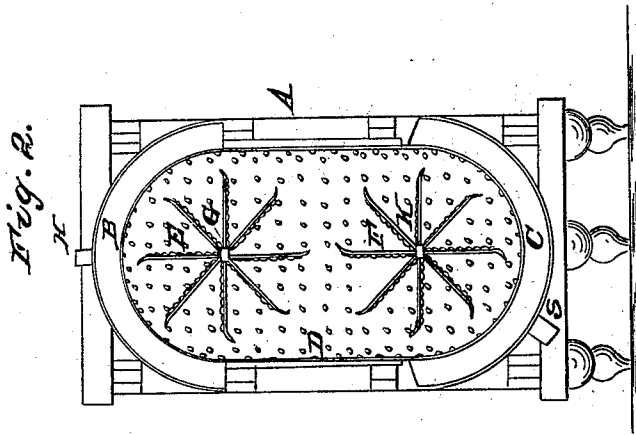


J. RUSSELL.  
Smut Mill.

No. 1,569.

Patented April 24, 1840.



# UNITED STATES PATENT OFFICE.

JACOB RUSSELL, OF JENNER TOWNSHIP, SOMERSET COUNTY, PENNSYLVANIA.

## SMUT-MACHINE.

Specification of Letters Patent No. 1,569, dated April 24, 1840.

*To all whom it may concern:*

Be it known that I, JACOB RUSSELL, of the township of Jenner, in the county of Somerset and State of Pennsylvania, have invented a new and useful Machine to Clean and Scour Grain from Smut, Dirt, and other Impurities; and I do hereby declare that the following is a full and exact description, reference being had to the annexed drawings of the same, making part of this specification.

The nature of my invention consists in its adaptation to the cleaning and scouring grain so as to clean it from smut, dirt, and other impurities by an arrangement of revolving fans or beaters in a perforated sheet iron case supported by a suitable frame which may be rectangular like that represented in the drawing with the parts mortised and tenoned together, said case being formed by punched sheet iron nailed on the inside of said frame so as to form a case with a concave top and bottom in which the beaters revolve the upper concave being over the upper beaters and the lower concave being below the lower beaters there being a feeding hopper H in the top and a discharging spout S in the bottom;—the two sets of revolving beaters being connected together by bands and pulleys.

To enable others skilled in the art to make and use my machine I will proceed to describe its construction and operation.

Figure 1 is a perspective view of the machine. Fig. 2 is a vertical section of ditto. Fig. 3 a set of the revolving beaters.

Similar letters refer to similar parts in the figures.

The frame A is made rectangular and consists of four posts with side and end girts mortised and tenoned into them. The case, D, is made of sheet iron to fit the inside of the frame and nearly as high. The top B and bottom C are made concave. It is perforated throughout by punching the sheet iron from the outside toward the inside producing roughened surfaces inside. Within this case are arranged two sets of revolving beaters E F one over the other—the upper set E revolves in the upper concave B and

the lower set F in the lower concave C, in contrary directions, by means of a crossed band passed around the pulleys on the ends of their axles outside the frame. The axles G K pass through the ends of the case and turn in boxes on the end girts.

The revolving beaters E are made in the following manner: From each axle—say the upper one—radiate eight narrow wings E curved near their outer extremities and punched in the manner of the case—four of which radiate from half the length of the axle inside and four from the other half one set being arranged opposite the spaces between the other set. The beaters of the lower axle are made and arranged in a similar manner. A feeding hopper H is arranged over an opening in the top of the case, and a discharging spout S is arranged under an opening in the bottom of the case.

The revolving beaters E being put in motion by any suitable power the grain to be cleaned is put into the hopper from whence it descends to the inside of the perforated case where it is struck by the revolving beaters turning in contrary directions, and thrown by violence against the projecting points of the inside of the case by which the smut and dirt is broken and separated from the grain and driven out through the apertures in the sides, ends, top, and bottom of the case—the beaters performing the double office of beaters and blowers. The cleaned grain descends to the bottom of the case into the lower concave and passes out through the spout at the bottom completely cleaned of its impurities.

I do not claim the mode of arranging the revolving beaters the one set over the other, as herein set forth, but

What I do claim is—

The arranging them in a case formed with a double concave so that each series of fans or beaters shall revolve in a separate concave as herein described.

JACOB RUSSELL.

Witnesses:

SMILEY FUAM,  
GEO. PILE,