

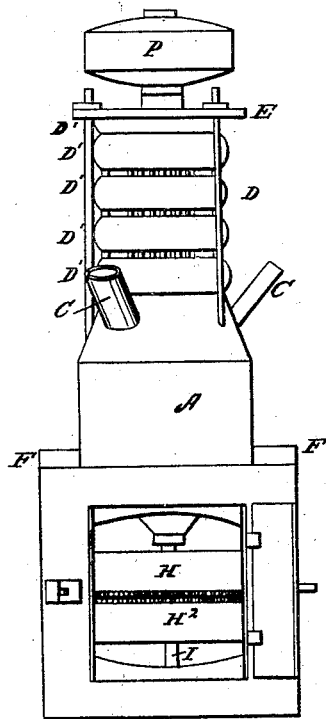
C. D. CHILDS.

Smut Machine.

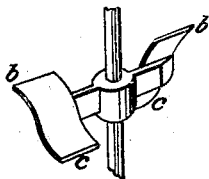
No. 2,159.

Patented July 8, 1841.

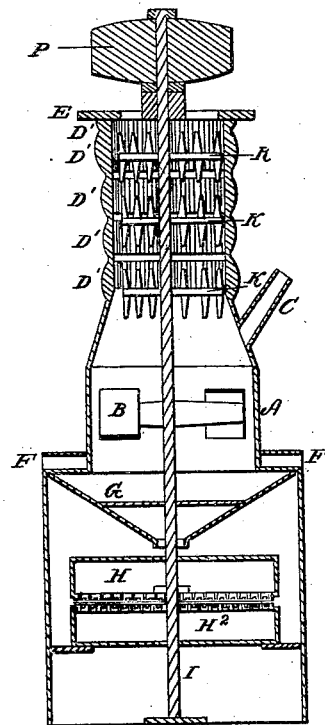
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



# UNITED STATES PATENT OFFICE.

CHARLES D. CHILDS, OF YORK, NEW YORK.

## CONSTRUCTION OF SMUT-MILLS.

Specification of Letters Patent No. 2,159, dated July 8, 1841.

*To all whom it may concern:*

Be it known that I, CHARLES D. CHILDS, of York, in the county of Livingston and State of New York, have invented a new and Improved Smut-Mill; and I do hereby declare that the following is a full and exact description thereof, reference being had to the annexed drawings of the same.

Figure 1, side elevation; Fig. 2, section; Fig. 3 a perspective view of the fan.

The nature of my invention consists in cleaning damp, smutty wheat by throwing a heavy blast of air with the inclined curved fan through a column of wheat passing through revolving spikes of cast iron that all dust and smut may escape through a case or cylinder of cast iron rings having annular openings.

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

I construct the outer part or case of the scourer of wood, my case or cylinder of the smut mill. I make a curb A of cast iron, twenty-four inches in diameter, fourteen inches high for the revolving inclined curved fan B. On the top of this curb A I lessen the diameter of the opening to twelve inches, same diameter as the hereafter mentioned ring D, leaving three openings on the side or top of the curb A for spouts C, that chaff and dust may escape. I then make a cast iron ring D twelve inches in diameter, one inch and a half wide, circular surface the outside; with a flat fluted surface the inner side; having three feet or projections at equal distances. I then make a combination of rings D, D, D D as many as I shall wish, in the same manner as the one described above setting one above the other on said feet or projections, leaving annular openings for air, dust, and smut to escape, but so near that wheat cannot escape out. I then make a cast iron head E fifteen inches in diameter, one-fourth of an inch thick; on the under side of said head E I attach a cast iron ring twelve inches in diameter, or same diameter as ring D leaving the top open for wheat to enter into the machine. I then set this head E on the top or feet of said combination of rings D, D, D, D, this case or cylinder consisting of head and rings I set on the top of the curb A, fastening them all together by three screw bolts equal distance running through the curb A near the feet and outer side of said rings through

the projecting part of said head E of the case or cylinder. With heads on the one end of said bolts and screw nuts on the other fastening the whole combination of rings D, D, D, D, head E and curb A together in a firm substantial workmanlike manner. On the bottom of said curb A I have two apertures F F letting air on to the wings of the fan B, the air enters horizontally into the apertures, then passes perpendicularly into the extreme upper end of the hopper G a little below the wings of the fan B under those apertures F F. I have a hopper G made of sheet iron to conduct the wheat to undergo the operation of scouring and rubbing my scourer H H. It is constructed in the form of a corn mill, the bottom stationary, twenty-four inches or less diameter, made of sheet iron punched, or cast iron fluted, or Bunstone fluted, the application of either as I may think proper; the runner of revolving part of said scourer H has a cast iron hub which is fastened to the shaft I, otherwise is made in the same manner as the one stationary and of the same diameter running so near the one stationary and with such velocity, as to scour damp smutty wheat in the best possible manner, but not so near as to break the wheat.

The following is the manner in which I make the core or the revolving part of said mill. I make a shaft I of cast iron having a steel point at the bottom to run in a steel step, the top running ten inches above the head E for the purpose of attaching a pulley P.

The following is the manner I make my smut breakers K. I make a cast iron hub having five or six flat arms, eleven inches and a half long on the top, and underside of said arms I fill with cast iron spikes, half an inch to an inch long something in the form of a ratchet. I make six or more in the same manner and fastening them all at an equal distance on said shaft I, occupying the space of the rings D, D, D, D in the case or cylinder. Below those smut breakers K on said shaft I fasten my oblique curved fan B, made by having a cast iron hub having two to four arms (as I may choose). I make the wings of said fan B of sheet or cast iron, as large as will revolve in the curb A, the top *b*, Fig. 3, of the wings curved or inclined over or down the bottom (*c*) inclined arms of said hub in an oblique manner, so as to throw a heavy blast of air up

through the mill and spouts C, said fan B occupying the space in the curb A; below said fan B I fasten my scourer H, or revolving part of the rubber on shaft I, all  
5 keyed in a strong substantial manner.

The wheat enters the machine at the top of the open head E and escapes all around the stationary scourer H<sup>2</sup>.

I make said smut mills of different sizes.  
10 I do not claim the combination of a revolving fan and beaters with a perforated case or cylinder, as set forth, the fan being arranged below the beaters, nor do I claim  
15 the combination of a hopper with a revolving and stationary runner, inclosed in a case as set forth, the hopper being arranged above the revolving runner.

What I claim is—

Combining those two arrangements, in the manner set forth, the perforated case con- 20  
taining the beaters and fan being placed above that containing the hopper and runners arranged in the manner described; the revolving runners being placed on the same shaft with the fan and beaters, and the bot- 25  
tom of the case containing the latter provided with spouts for carrying off the dust, and apertures to admit air to the fan all as set forth.

CHARLES D. CHILDS.

Witnesses:

CATHERINE A. CHILDS,  
HARRIET L. CHILDS.