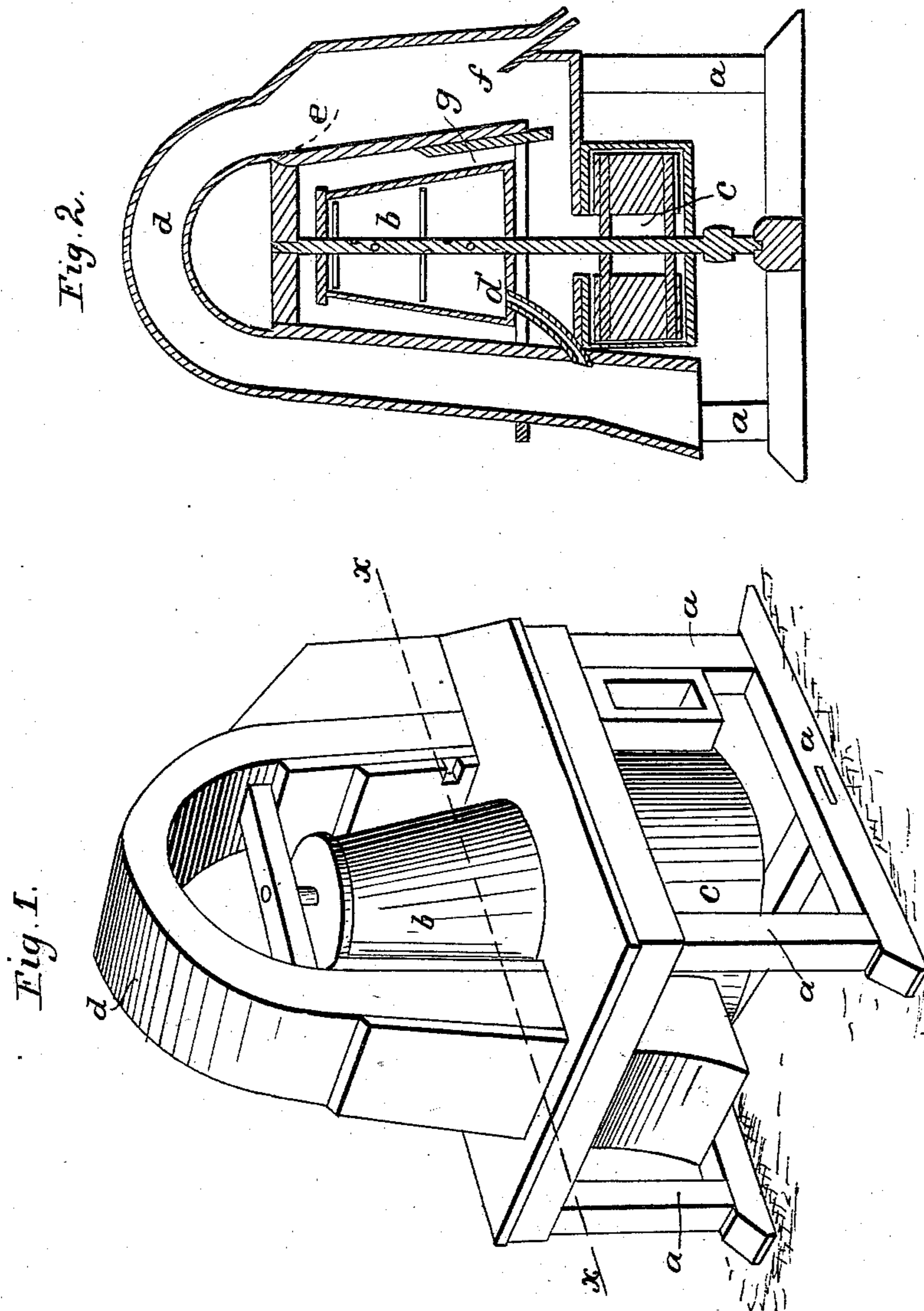


D. SHAW.
Smut Mill.

No. 8,861.

Patented April 6, 1852.



UNITED STATES PATENT OFFICE.

DANL. SHAW, OF CHESHIRE, OHIO.

SMUT-MACHINE.

Specification forming part of Letters Patent No. 8,861, dated April 6, 1852; Reissued November 3, 1863, No. 1,564.

To all whom it may concern:

Be it known that I, DANIEL SHAW, of Cheshire, in the county of Gallia and State of Ohio, have invented certain new and useful Improvements in the Construction of Combined Smut and Grain Separating Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, and letters marked thereon, forming a part of this specification.

The nature of my invention consists in an improvement by which the light grain and cheat is perfectly and effectually separated from the smut, dust, chaff and other impurities at one single operation.

My separator is combined with a smut cleaner in such a manner, to wit, the hollow trunk or passage for the grain rises up and arches over the smut cleaner descending on the opposite side and communicating with the fan case. The grain is admitted at one end of the separator from an inclined spout leading from the bottom of the smut cleaner which spout is turned up at its junction with the trunk for the purpose of flirting and scattering the grain in the trunk, that the draft produced by the fan may have a more effectual action is separating the impurities from it; most of the grain falls out at the mouth of the trunk after having been scoured by the smut cleaner and all impurities blown from it by the draft created by the fan, but a large portion of the lighter particles of grain will ascend the trunk with the cheat dust, &c., which when it passes over the arch of the trunk comes in contact with a wire gauze screen placed at an angle in an offset or increased space of the trunk where the dust, smut, &c., is separated from the cheat and light grain, the cheat passing over the screen descends through a spout placed at the bottom of the offset into a receptacle to receive it, while the dust and impurities pass through the interstices of the screen and are drawn into the fan case and the chaff which will not go through the interstices of the screen, but as it falls with the cheat, it being lighter than the cheat, is drawn into the fan case and from thence out into the open air with the other impurities.

In the accompanying drawing Figure 1 is an isometrical view; Fig. 2, a vertical section through the line x, x , in each of which

views where the same parts are shown they are designated by the same letters of reference.

a, a , the main frame and table which supports the whole machine; b the smut cleaner consisting of a conical case with beaters projecting from a vertical shaft which revolves rapidly; c , the fan-case placed immediately under the smut cleaner. The fan is attached to the same shaft as the heaters, but the fan case and smut cleaner are separated and have no communication with each other.

The trunk d , descends on one side as low as the bottom of the fan case and rises from thence and arches over the smut cleaner and at about the commencement of the arch, on the opposite side, I form an offset, so as to increase the capacity or space of the trunk to about double the size all the way down to where it communicates with the fan case; in this offset at about the angle and position represented at e , I place a wire gauze screen, leaving a space between the end of the screen and the trunk; and leading from the bottom of this offset is a spout f . The grain as it passes from the smut cleaner through the spout d' , those particles of which are too light to fall out at the mouth of the trunk ascend the trunk with the cheat, smut, &c., and as it comes in contact with the screen e , the smut dust, &c., is drawn through the interstices of the screen while the light grain chaff and cheat pass over and fall down through the spout f ; and in its descent from the screen to the spout the chaff being lighter is separated from the cheat and grain and drawn into the fan-case and from thence discharged out into the air with the dust, &c. Thus the light grain and cheat which is lost and blown away with the dust and other impurities in all other machines is with my machine saved.

The draft can be regulated by increasing or diminishing the size of the passage communicating with the fan case and trunk by means of the adjustable door or slide g .

Having thus fully described the construction and operation of my combined smut and grain separator what I claim therein as new and desire to secure by Letters Patent is—

The offset that is to say enlarging the space of the hollow trunk on the opposite side thereof from that at which the grain is admitted, in combination with the screen e ,

spout *f*, and the passage and valve *g*, for
taking the dust &c., into the fan case where-
by the cheat and light grain which will pass
up the spout with the impurities is effec-
5 tually separated and delivered through the
spout, *f*, substantially as herein fully set
forth.

In testimony whereof I have hereunto
signed my name before two subscribing wit-
nesses.

DANIEL SHAW.

Witnesses:

H. H. YOUNG,
P. B. BELL.

[FIRST PRINTED 1912.]