E. S. SNYDER.

Grain Cleaner.

No. 3,569. Patented April 30, 1844.

Fig. 1.

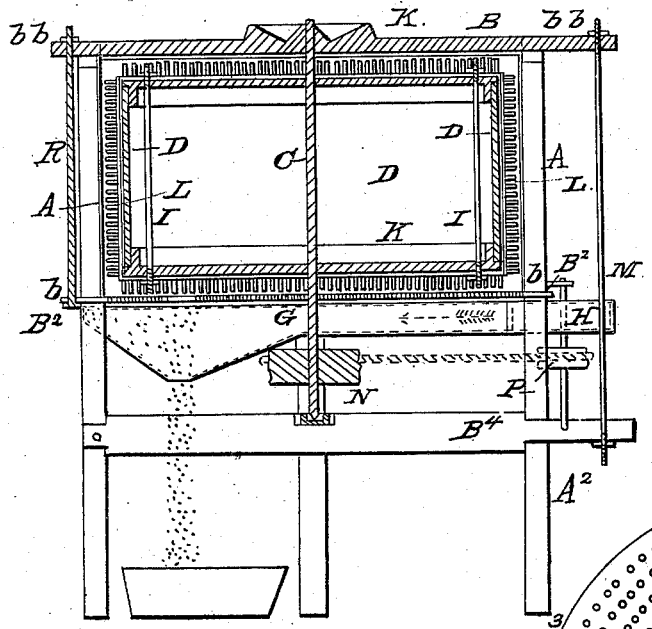


Fig. 2

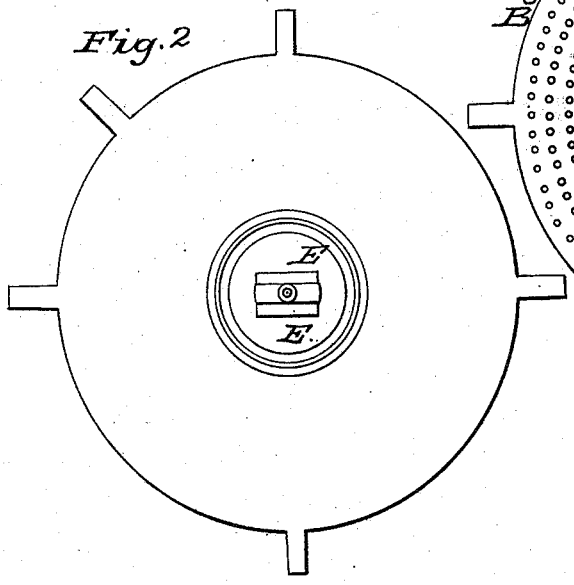
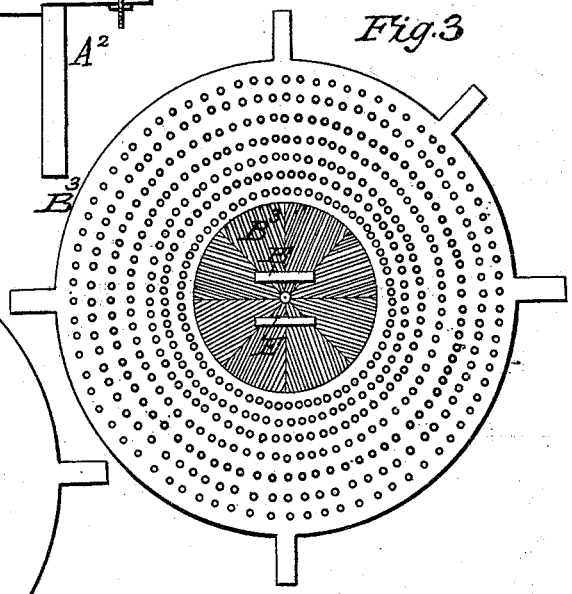


Fig. 3



UNITED STATES PATENT OFFICE.

E. S. SNYDER, OF FLOWING SPRING, NEAR CHARLESTOWN, VIRGINIA.

SMUT-MACHINE.

Specification of Letters Patent No. 3,569, dated April 30, 1844.

To all whom it may concern:

Be it known that I, ELISHA S. SNYDER, of Flowing Spring, near Charlestown, Jefferson county, State of Virginia, have invented a new and useful Improvement in Machines for Separating Garlic and other Impurities from Wheat, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, of which—

Figure 1 is a vertical section of the machine. Fig. 2 top of the stationary cylinder. Fig. 3 under side of the same.

This machine consists of a cast iron stationary cylinder A ribbed on the inside having its ends closed by heads B B^2 or a top B and bottom B^2, the bottom being made of sheet iron punched inward so as to render the internal surface rough. The top being ribbed and made of cast iron. A plain head, however, is sometimes used having its internal surface covered with leather filled with wire teeth. The top B and bottom B^2 are provided with ears *b b* and *b* which enter corresponding grooves in the ends of the cylinder through which ears pass vertical parallel screw rods R for bringing the top and bottom nearer to or farther from each other in order to increase or diminish the space between the ends of the revolving cylinder or rubber (hereafter described), and the top and bottom, the aforesaid grooves in the circumference of the cylinder being made sufficiently deep for that purpose. The top may also be made with about one third of its interior surface fluted or ribbed as seen at B^3 in Fig. 3 and the rest covered with leather and wire teeth as seen in Fig. 3. The top and bottom are perforated in the center with round apertures for the shaft *c* of the revolving cylinder D to pass through. The top is made basoning at the center forming a hopper in which are made two or more oblong apertures E E through which the machine is fed. There is also an aperture F in the bottom for the discharge of the grain and chaff which are conducted to a trunk G leading from a fan case H placed below the cylinder. The bottom may also be made of reticulated wire or wire gauze through the meshes of which the dirt is discharged or suffered to escape. When the punched bottom is used it is designed to let the dirt pass through the perforations therein.

The revolving cylinder or rubber D is made of cast iron with movable heads with collars which enter the cylinder being made of a corresponding diameter. Said heads projecting over or beyond the circumference of the cylinder and secured by screw rods I that pass through from one head to the other. The exterior surfaces of the heads are covered with circular pieces of leather K the diameter of the cylinder filled with wire teeth. The outer circumference of the cylinder is likewise covered with leather L filled with wire teeth in the form of a flat flexible band carried around the outside of the cylinder and secured by screws in such a manner that said band may be increased in diameter in order to compensate for the wear of the teeth by inserting packing between the leather band L and the cylinder D. The shaft C is made of wrought iron which passes through the center of said cylinder and is stepped on an adjustable bridge-tree B^4 which is raised or lowered by a screw rod M, the upper end of the shaft turning in the aperture in the center of the top B of the stationary cylinder, having a grooved pulley N for a band leading to the driving power and for a band extending to the pulley P on the fan shaft.

The fan and fan case and trunk are made in the usual manner except where the grain is discharged at which place it is made with two inclined planes to prevent the grain from being driven out at the discharging end of the trunk and for conducting the cleaned grain to a receiver below through an aperture at the lower ends of said inclined planes.

The center of the internal surface of the head B^3, about one third its diameter, is ribbed in the following manner. The whole surface is divided into segments by ribs radiating from the center to the circumference. The spaces between said radiating ribs are then ribbed in parallel lines gradually diminishing in length. One of the legs A^2 of the stationary cylinder A which are cast with it is made with a dovetailed joint so as to be drawn out in order to insert or withdraw the bridge tree B^4 which passes through an oblong mortise in said movable leg A^2.

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

1. The manner of constructing the rubber as set forth that is to say with a flexible armed band attached by screws to the cyl-

inder having packing inserted between the band and cylinder for increasing the diameter of the band in order to compensate for the wear of the teeth as above described.

2. I likewise claim constructing the stationary cylinder with grooves and the top and bottom with ears to rise and fall in said grooves in the manner and for the purpose set forth.

ELISHA S. SNYDER.

Witnesses:
WM. P. ELLIOT,
ALBERT E. JOHNSON.