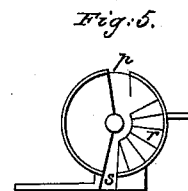
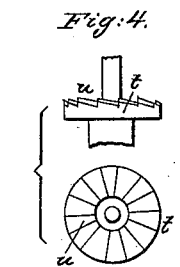
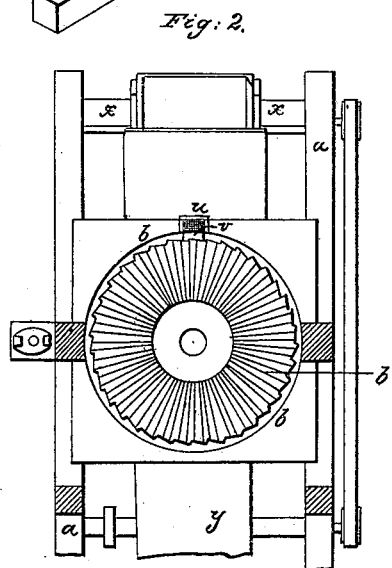
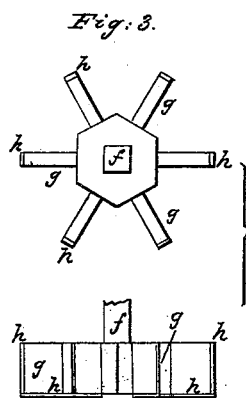
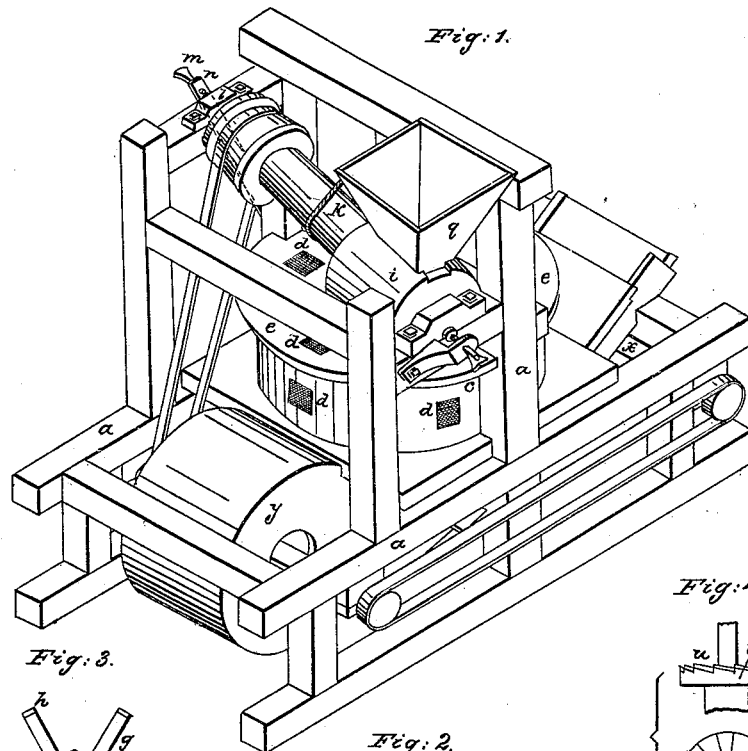


J. HEYGEL.

Smut Machine.

No. 6,505.

Patented June 5, 1849.



# UNITED STATES PATENT OFFICE.

JOSEPH HEYGEL, OF CUMBERLAND, MARYLAND.

## SMUT-MACHINE.

Specification of Letters Patent No. 6,505, dated June 5, 1849.

*To all whom it may concern:*

Be it known that I, JOSEPH HEYGEL, of Cumberland, in the county of Allegany and State of Maryland, have invented certain new and useful Improvements in Cleaning Garlic and Smut from Wheat, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, which form a part thereof, in which—

Figure 1 is an isometrical view; Fig. 2 is a plan of the lower portion of the machine; Fig. 3 shows the horizontal runner detached; Fig. 4, is the inclined runner detached; Fig. 5, the inclined bed.

The nature of my improvement consists in the combination of two rubbing surfaces of India rubber, and a rubbing surface of India rubber with cast iron, to clean the wheat from smut and garlic. The whole machine being so constructed and arranged as to bring it within a suitable compass to introduce into common mills.

The construction is as follows:—a suitable frame (*a, a,*) is formed sufficient to support the different parts of the machine; and to this frame there is attached a bed-plate (*b,*) of cast iron, formed somewhat similar to the lower or stationary stone of a flour mill: (a plan of this plate is shown at Fig. 2,) and it is surrounded by a hoop or concave of cast iron, (*c,*) made of staves and properly secured; openings (*d,*) are formed in this concave for ventilation, which are covered on the outside with wire gauze; above there is a plain cap (*e,*) over the concave, and forming a head to the case; within this case there is a runner separately delineated at Fig. 3; it consists of an upright shaft (*f,*) supported at its lower end on a step in a common bridge tree, such as is generally used in mills, and as is well known to millwrights; to the shaft (*f,*) are affixed radial wings (*g,*) of metal or other suitable material, having a band of India rubber (*h,*) attached to their outer and lower edges, as clearly shown in the drawing; which elastic medium is made to act against the iron concave and bed, for the purpose of com-

pleting the breaking, and separating the garlic and smut from the wheat, without injuring the wheat as in many other machines intended for the same purpose; above that part of the machine just described, I place an inclined runner, the case of which is represented at (*i,*) Fig. 1, a little to one side of the center of the horizontal case above spoken of, it sets in an inclined position, and the shaft (*k,*) of the runner connected therewith, extends up nearly to the top of the frame, where it has a bearing (*l,*) in a cross piece.

There is a set screw (*m,*) which works through the end of a stout spring (*n,*) against the end of the shaft (*k,*) which keeps the runner borne up against the stationary bed with sufficient force regulated by another set screw (*o,*) that bears against the opposite end of the shaft; the stationary bed in the case (*i,*) is shown separately in Fig. 5, (*p,*) shows the point at which the grain is received from the hopper (*q,*) and (*r,*) is a roughened surface covered with radial sections of India rubber; this extends around about one third of the circumference of the bed where it terminates at a recess (*s,*) through which the grain makes its escape into the lower horizontal case first described, and with which it is connected. The runner (*t,*) is represented at Fig. 4, in plan and elevation, and consists of a flat circular plate, on the face of which there are triangular radial grooves, in which are attached plain radial sections of India rubber (*u,*) which act against the rubber on the bed to first break the garlic and smut as it passes between them, after which it goes forward to the second concave, where a more perfect separation takes place; after which it is conveyed through a spout (*v,*) see Fig. 2, into a screen (*w,*) below; this screen may be moved by a crank on shaft (*x,*) with which it is connected by a pitman not shown in the drawing, as it is a common and well known mode of moving the fan; or any other method instead thereof may be adopted. On this screen the grain, smut, &c., meets a blast of wind from a fan-blower, of any ordinary construction and application shown at (*y,*).

Having thus fully described my improved

machine for cleaning the garlic and smut from grain, what I claim therein as new and for which I desire to secure Letters Patent, is—

- 5 The combination with each other of the inclined and horizontal runners *t*, and *f*, and constructed substantially as above set forth,

for the purpose of more perfectly separating smut and garlic from wheat.

JOSEPH HEYGEL.

Witnesses:

WM. GREENOUGHE,

J. J. GREENOUGH.