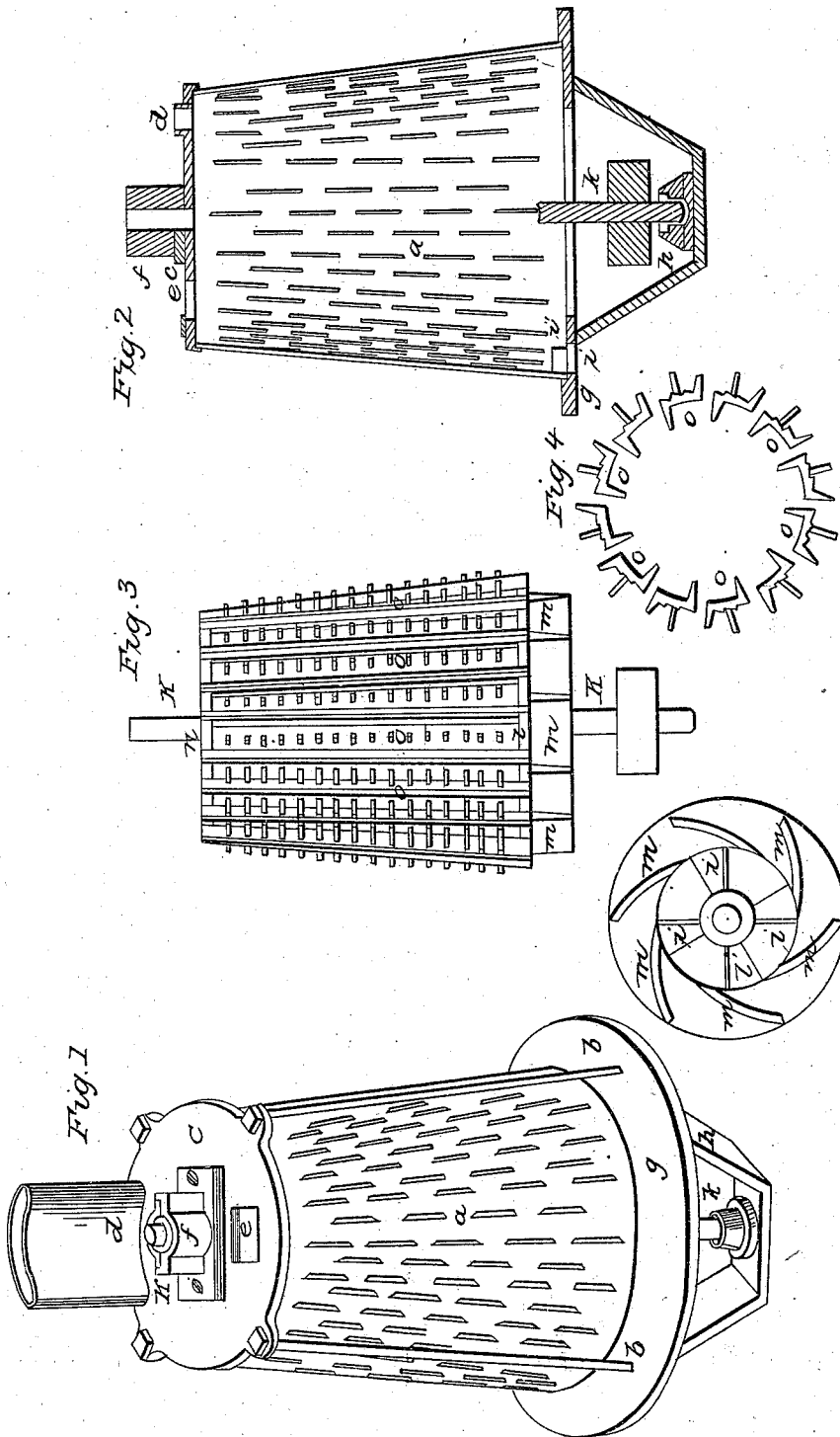


J. PAGIN.  
Smut Machine.

No. 3,705.

Patented Aug. 14, 1844.



# UNITED STATES PATENT OFFICE.

JOHN PAGIN, OF MICHIGAN CITY, INDIANA.

## IMPROVEMENT IN SMUT-MACHINES.

Specification forming part of Letters Patent No. 3,705, dated August 14, 1844.

*To all whom it may concern:*

Be it known that I, JOHN PAGIN, of Michigan City, in the county of La Porte and State of Indiana, have invented a new and useful improvement in machinery for cleaning grain from smut and other foreign matter, which I demominate a "ventilated upward and outward blowing smut-machine;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of the description, in which—

Figure 1 is a vertical elevation; Fig. 2, a vertical section; Fig. 3, the runner detached; Fig. 4, section horizontally through the runner.

The nature of my invention consists in combining and arranging the fans and beaters of a smut-machine the concave of which is pierced with holes, so that there shall be an equalized current of air upward between the concave and beaters and an outward current through the cylinder or runner and concave.

The machine is constructed in the following way: The case or concave *a* is a hollow cylinder or cone of iron perforated with oblong holes, as clearly represented in the drawings. This has a cast-iron head fitted to it at top and bottom, a groove being cut in said heads for receiving it. The two heads are drawn together by rods *b*, that pass through them both outside the case. On the top head, *c*, on one side, there is a tube, *d*, projecting up a sufficient distance, through which the light dirt is blown, as hereinafter described. There is also a hole, *e*, for the admission of grain into the machine, and a box, *f*, at the center, for the journal of the runner to turn in. The lower head, *g*, is made annular, having a large hole in the center, through which the air passes into the machine. To this head a bridge-tree, *h*, is attached, in which the step of the shaft is situated, and on one side of the head there is an aperture, *i*, near the periphery, through which the grain passes out, a stop, *i'*, being made to project up into the machine at one end of said aperture, to turn the grain out of the machine. The runner or cylinder (see Fig. 3) is composed of a shaft, *k*, having on it a wheel, *l*, toward its lower end. The arms or spokes *l'* of this wheel—four in number—

are flat, and set obliquely like the sails of a windmill. They serve to throw a current of air up the inside of the runner. On the lower face of the rim of the wheel are attached vanes or fans *m*, at right angles thereto, and standing in an oblique direction across the face of the rim, so as to throw a current of air outward, which current is distributed upward by the concave, between it and the runner. The top head of the runner is a solid flat disk, *n*, near the outer edge, *l* and *n*. Both have a groove cut in their face, into which the stave *o*, comprising the sides, are inserted and confined. Along one edge of each of these staves a flange projects out radially toward the concave, and on the other edge there is another flange that extends inward. The staves are set so as to have a small space between each, and along down the center there is a row of teeth on each stave, standing out radially. The ends of the outer flanges extend down over the heads above and below, as is shown in the drawings, Fig. 3. By the above construction it will be evident that there is two distinct currents of air, one passing up all around the inside of the concave between it and the cylinder, and the other outward through the cylinder and concave, thus causing an oblique upward and outward blast.

It will be perceived that the inner flanges on the staves act as fans and the outer ones as beaters.

Having thus fully described my machine and its operation, I wish it to be understood that I do not claim as my invention the taking air in at the center below and blowing it out through the cylinder and concave, as that has before been done; nor do I claim making an upward blast, for the same reason; but

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

The combination of fans, substantially as herein set forth, so as to cause an upward and an outward blast, in the manner herein described.

JOHN PAGIN.

Witnesses:

DAVID KAUFMAN,  
J. J. GREENOUGH.