

J. BURCH.
SMUT MACHINE.

No. 1,725.

Patented Aug. 17, 1840.

Fig. 3.

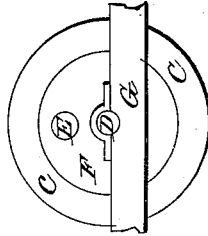


Fig. 2.

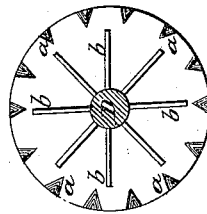
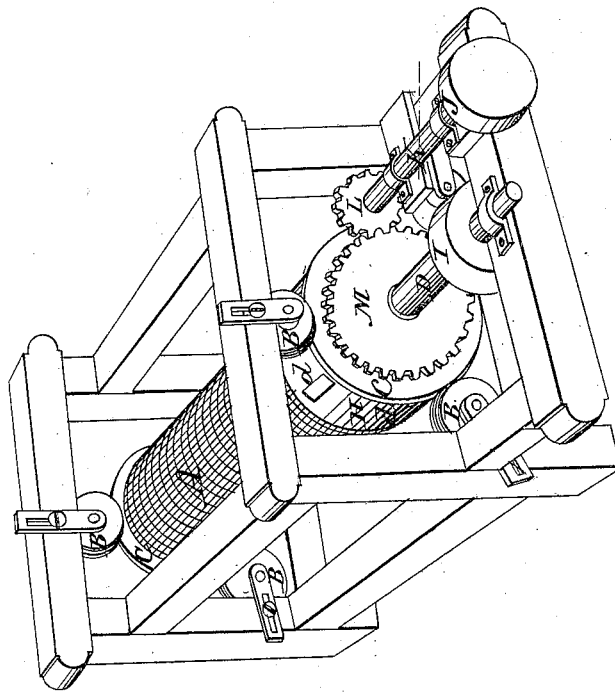


Fig. 1.



UNITED STATES PATENT OFFICE.

JOHN BURCH, OF MILLPORT, NEW YORK.

SMUT-MACHINE.

Specification of Letters Patent No. 1,725, dated August 22, 1840.

To all whom it may concern:

Be it known that I, JOHN BURCH, of Millport, in the county of Chemung and State of New York, have invented an Improvement in the Manner of Constructing Machines for Cleaning Wheat and other Small Grain from Smut and other Foreign Matter; and I do hereby declare that the following is a full and exact description thereof.

This machine bears some resemblance to that originally patented by Samuel Pease, in the year 1823, and which has been much used. In said machine, the grain to be cleaned was fed in at one end of a horizontal cylinder, and passed out at the other end, after being subjected to the action of wings, or beaters, surrounding a shaft, which was made to revolve with great velocity within the cylinder, which cylinder was stationary. In my machine, there is a horizontal, or nearly horizontal cylinder, with a shaft and beaters revolving within it, but the cylinder is also made to revolve, with a slow motion, while the shaft with wings, or beaters, revolves with great velocity. By the revolution of the cylinder the grain is carried up, so as to fall upon the beaters; the cylinder has its periphery formed either of woven wire, or perforated sheet-metal.

In the accompanying drawing, Figure 1, is a perspective view of the whole machine. Fig. 2, a cross section of the cylinder, and Fig. 3, the feed end of it.

A, A, is the surface of the cylinder, formed of woven wire or of perforated sheet metal; this cylinder for a machine of ordinary size may be 4 feet long, and 18, or 20, inches in diameter; its ends may be made of cast-iron, and these are furnished with grooves, or with projecting rims, adapted to friction rollers B, B, which support and guide it, as it is not sustained upon gudgeons. There should be three such rollers at each end, attached to the frame work of the machine. In the drawing, the ends, or heads, C, C, are shown as having rims passing into grooves on the rollers. Triangular ribs of wrought-iron extend along from end to end of the cylinder; they are shown at a, a, a, in the cross section; these serve to sustain the surface of the cylinder, but their most important office is to lift the grain, and to react against it as they are forcibly struck

by it in consequence of the rapid revolution of the beaters b, b, b, on the shaft D.

D, is the shaft upon which the wings, or beaters, b, b, b, are placed; these should be made of sheet-metal, and extend out, so that their edges shall nearly touch the ribs a, a; they may be set a little obliquely to the direction of the shaft, or the cylinder itself may be slightly inclined from the feed end to give a tendency to the grain to pass toward the delivery end.

E, Fig. 3, is a feed hole made through a disk of wood, or of metal, F, attached to the timber G, constituting a part of the frame work of the machine. The head, or end, C, C, which is annular, revolves around the piece F; and a feed tube from a hopper leads to the opening E, into which the grain is allowed to pass in regulated quantities. H, Fig. 1, is a metallic hoop making a part of the cylinder, and through this a number of openings d, d, are made for the escape of the grain, which, as it falls through, may be conducted to a fanning machine.

I, is a whirl on the shaft D, which is to be driven with great velocity, say four, five or six, hundred revolutions in a minute.

J is a whirl on a shaft K, which carries a pinion L, that meshes into a wheel M, affixed to the head of the cylinder A, A; this part is to be so geared as to turn the cylinder slowly, say at the rate of twelve, or sixteen, revolutions, more or less, in a minute. The manner of gearing may, of course, be changed according to circumstances.

Having thus fully described the manner in which I construct my machine for cleaning grain from smut and other impurities, what I claim therein as constituting my invention, is—

The combination of the revolving cylinder, with its perforated surface and triangular ribs, with the revolving beaters placed on a shaft in the axis of said cylinder, so as to constitute a grain cleaning, or smut machine, constructed and operating substantially in all respects in the manner herein set forth.

In testimony whereof, I hereunto set my hand this twenty fourth day of June, in the year 1840.

JOHN BURCH.

Witnesses:

THOS. P. JONES,
GEORGE WEST.