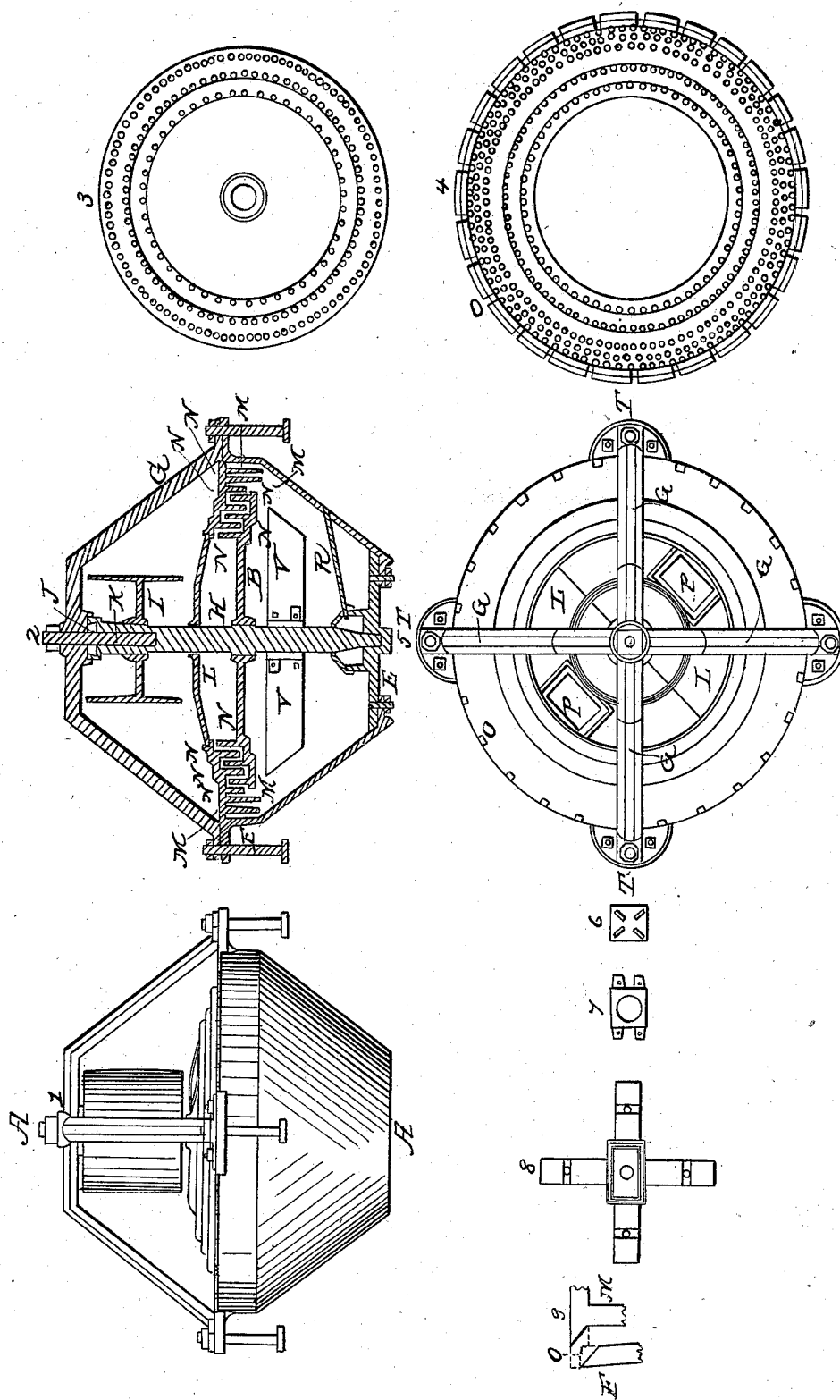


M. MALLORY.

Smut Machine.

No. 3,407.

Patented Jan. 20, 1844.



UNITED STATES PATENT OFFICE.

MEREDITH MALLORY, OF MOUNT MORRIS, NEW YORK.

SMUT-MACHINE.

Specification of Letters Patent No. 3,407, dated January 20, 1844.

To all whom it may concern:

Be it known that I, MEREDITH MALLORY, of Mount Morris, in the county of Livingston and State of New York, have invented a new and useful Machine for Cleaning Grain, styled "M. Mallory's Centrifugal Smut-Machine"; and I do hereby declare that the following is a clear and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an elevation; Fig. 2 a vertical section at A A; Fig. 3 a top view of the lower disk B, (Fig. 2); Fig. 4 a view of the under side of the upper disk C, (Fig. 2); Fig. 5 a top view of the machine; Figs. 6 and 7 are views of the core D, showing the ears to which the fans are attached; Fig. 8 a top view of the step E (Fig. 2) with an oil-pot attached; Fig. 9 a section through aperture O, (Figs. 4 and 5.)

The machine is constructed of iron; portions of it may be constructed of wood.

F (Fig. 2) is a curb 17 inches in depth and 30 inches in diameter for 6 inches in height at top, then diminishing to 12 inches in diameter at bottom, which is open for the discharge of grain and reception of air; this curb has four projections or ears T, T, T, T, (Fig. 5) by which to attach it to a framework when put in operation.

G, G, G, G, (Fig. 5) are standards which are secured to the ears of the curb F, by iron bolts and support the upper end of the shaft H, (Fig. 2.)

K, (Fig. 2) is a pin on which the shaft H, revolves, J, the oil pot, I the drum to which the power is attached.

C is the upper disk 30 inches in diameter, the under side of which is shown in Fig. 4. This disk rests on the curb F. Near the outer edge are two rows of teeth M, M, 3 inches long and $\frac{3}{4}$ of an inch in diameter placed from $\frac{3}{8}$ of an inch to 3 inches apart. On the outside row is secured a strip of sheet iron 6 inches wide punched full of holes to permit the discharge of smut and dust through the apertures O (Fig. 5).

Within the rows of teeth M, M, are three rows N, N, N, 2 inches long in the clear and $\frac{3}{8}$ of an inch in diameter, placed $\frac{3}{8}$ to 1 inch apart, and the spaces between the

rows are $1\frac{1}{8}$ inches. There may be an additional number of rows of teeth.

L, L, (Figs. 2 and 5) is a lid or cover in two parts, with two apertures P, P, through which grain and air is received into the machine.

B, is the lower disk the upper side of which is shown in Fig. 3. This disk is attached to the shaft H, is 24 inches in diameter, contains three rows of teeth N, N, N, spaced the same and of the same dimensions of those described in the upper disk C, placed so that the two outside rows will run equidistant between the rows N, N, N, in the upper disk C, and the inner one within the inner row in the upper disk C, as shown in the vertical section (Fig. 2.) There may also be an additional number of rows of teeth in this disk.

V, V (Fig. 2) shows the location of the fans which are attached to the shaft under the lower disk B, and placed on an angle so as to give the air an upward direction for the purpose of driving the smut and dust out through the apertures O, (Fig. 5). The rake of these fans may be changed so the machine will revolve either way. They may also be attached to the lower side of the disk B.

E (Fig. 2) is the step and oil pot a plan of which is shown in Fig. 8.

R is a tube to convey oil from the outside of the curb to the oil pot at the foot of the shaft H.

The grain is conducted by a spout into the machine through one of the apertures P. It falls upon the lower disk B, (Fig. 2) more clearly shown in Fig. 3, which revolves about 500 times per minute and is thrown by centrifugal force against and between the teeth N, and M, which scours and rubs off the smut and dust, then passing down the sides of the curb F, is discharged at the bottom, and the smut and dust is carried out through the apertures O. By closing the apertures O, the dust may be carried out through the apertures P, P.

The machine may be of larger or smaller dimensions and its capacity increased or diminished.

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

1. The mode of scouring or cleaning grain

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by causing it to pass from the center of the revolving disk to its circumference by centrifugal force said disk being armed with teeth arranged as described, and combined
5 with an upper stationary disk, furnished with teeth as set forth in the specification.

2. I claim the arrangement and combina-

tion of these disks, and also in combination therewith the fans and curb or casing as described.

MEREDITH MALLORY.

Witnesses:

RICHARD VERNAM,
JOHN S. HOLLAND.