

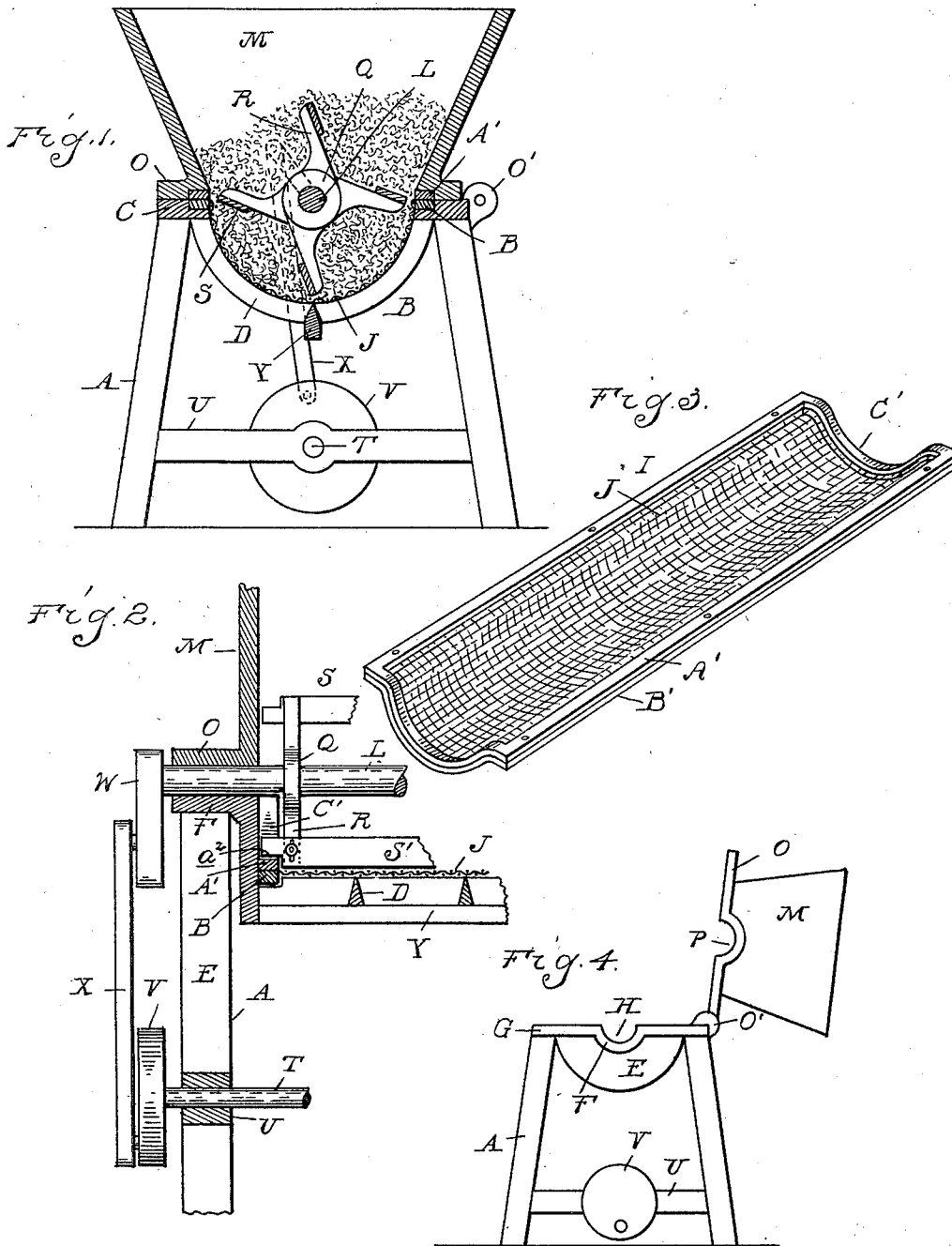
No. 699,762.

Patented May 13, 1902.

J. M. MACDONALD.
DISINTEGRATING MACHINE.

(Application filed May 13, 1901.)

(No Model.)



Witnesses
J. B. Smith.
M. B. DeGherly.

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By *[Signature]* Attys.

UNITED STATES PATENT OFFICE.

JAMES M. MACDONALD, OF DETROIT, MICHIGAN, ASSIGNOR TO PARKE, DAVIS & COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

DISINTEGRATING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 699,762, dated May 13, 1902.

Application filed May 13, 1901. Serial No. 60,088. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MACDONALD, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Disintegrating-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention has reference to a machine particularly adapted for disintegrating plastic and friable compounds; and it consists in the peculiar construction of the machine whereby the parts thereof may be readily removed for the purpose of repairing or cleaning.

The invention further consists in the peculiar arrangement and combination of the various parts of the machine, as will be more fully hereinafter set forth, and shown in the drawings.

Figure 1 is a cross-section through the machine embodying my invention. Fig. 2 is a longitudinal section therethrough. Fig. 3 is a detached perspective view of the sieve, and Fig. 4 is an end elevation.

In the drawings thus briefly described the reference-letter A designates a support of any preferable construction, in this particular case a framework, and mounted upon the top of this support is a curved grating B. As shown, the grating is semicircular in configuration and is provided with lateral flanges C, extending from its opposite sides and resting upon the support. The curved bars D are triangular in cross-section and arranged with their apices extending inwardly, forming the inner cylindrical surface of the grating. As thus constructed, the bars afford a minimum obstruction to the passage through the grating of the compound. The ends of the curved grating are closed, as shown, by plates E, and are also provided each with a half-bearing F, as indicated in Fig. 2.

The flanges C, before referred to, and the end flanges G, which together form a continuous rim at the top of the grating, are recessed, as at H, the recess being of sufficient depth to receive a frame I. The latter is composed of two like sections A' and B', having

curved ends C', and forms a support for the semicylindrical sieve J. As shown, the edges of the sieve are clamped between the frame members, any suitable clamping means being employed, and the frame is seated in the manner indicated within the recess.

M designates a hopper located above the grating and having a continuous rim O, which is adapted to rest upon and is hinged to the grating-rim, the hinges O' being located at the rear of the machine, as indicated in Fig. 1. The hopper described is provided at its ends with half-bearings P, which, in connection with the half-bearings before referred to, form the journals for the shaft L. The shaft, as indicated, extends axially of the grating and carries thereon a plurality of heads Q, each of which is provided with arms R, preferably four in number, as shown.

S designates flexible scraper-blades adjustably connected to the arms. In this particular case the blades are turned at an angle to the radial line extending therethrough to the center of the shaft and are arranged on the two pairs of arms to face each other. Thus upon the movement of the shaft in one direction the material to be disintegrated is wedged by one blade between the latter and the sieve, while upon the movement of the shaft in the opposite direction the sieve is scraped. The same operation is performed by the blade S', with the exception that the scraping is performed first. Thus the material is more effectively forced through the screen, and as the rocking movement turns the shaft merely through a third of an entire revolution the upper blades act as stirrers or breakers for the material, causing the latter to be thrown between the lower blades and the screen. Each blade is also notched, as at a², at its ends to allow the blade to sweep over the curved ends of the frame I.

The mechanism for rocking the shaft may be of any approved type—such, for instance, as that indicated, wherein a driving-shaft T is journaled in the cross-pieces U of the support. This shaft carries at its end a crank V, which is connected to a similar crank W upon one end of the crank-shaft by a link X.

From the description of my invention it

will be readily seen that when it is desired to clean the machine by raising the hopper the rock-shaft may be removed, and subsequently the sieve, as it is attached to the frame which merely rests in the seat formed for the same in the grating. Furthermore, by constructing the grating in the manner set forth there is no chance for the material forced through the screen to accumulate thereon, and the grating also may be easily cleaned or repaired when necessary.

While not absolutely necessary to the construction of the grating, I preferably connect the extreme lower portions of the curved bars by a cross or brace bar Y. This also is triangular in cross-section, and the apex extends upwardly, for the reasons before set forth.

What I claim as my invention is—

In a disintegrating-machine, the combination with a framework, of a semicylindrical grating therein provided with a continuous lateral flange or rim at its upper edge, said rim being rabbeted or recessed as described, a rectangular frame detachably arranged within said recessed rim, a semicylindrical sieve detachably secured to the frame and resting upon the bars of the grating, a rock-shaft within the grating, and scraper-blades carried by said rock-shaft, extending in proximity to the sieve.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. MACDONALD.

Witnesses:

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