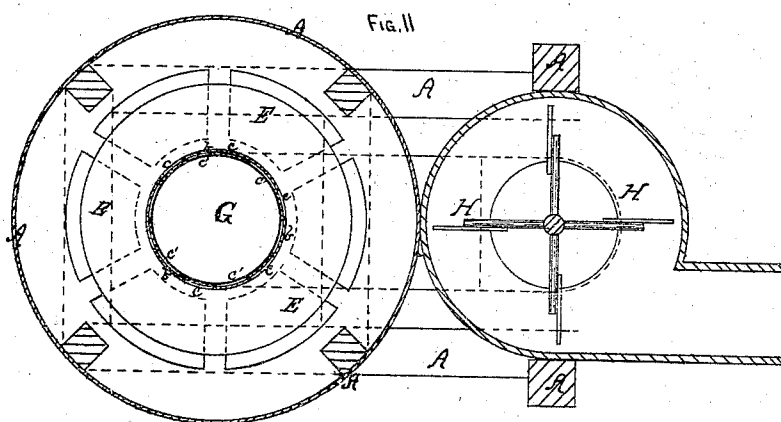
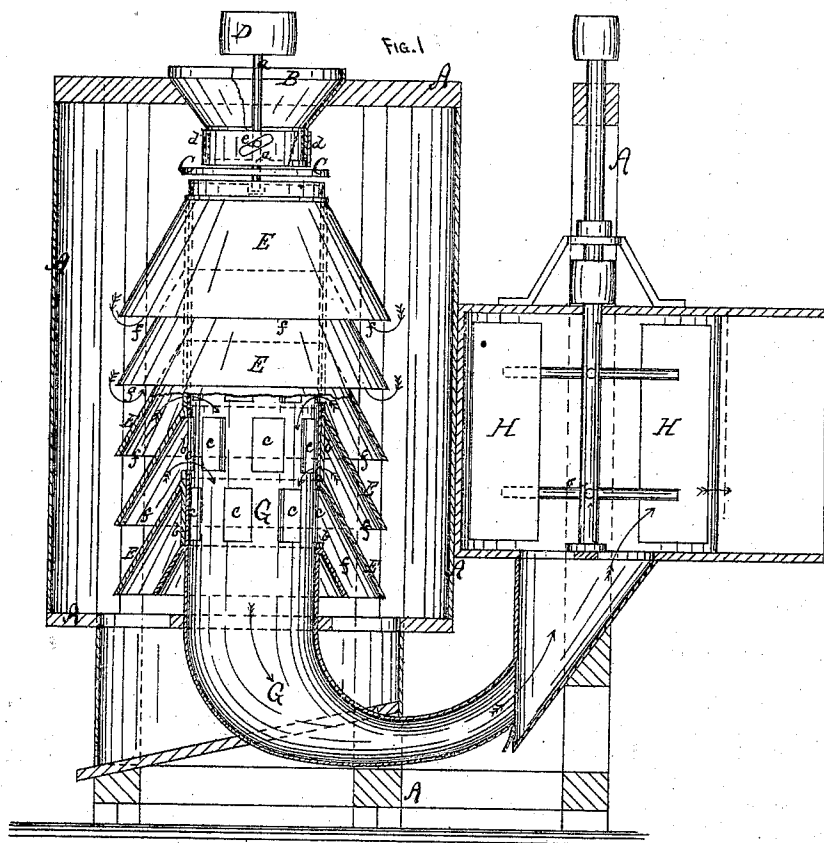


D. S. MACKEY.
Middlings-Purifiers.

No. 147,565.

Patented Feb. 17, 1874.



WITNESSES.
S. H. Parsons
C. H. Woodward

David S. Mackey.
 INVENTOR, BY
Durke Fraser & Co.
 Attys.

UNITED STATES PATENT OFFICE.

DAVID S. MACKEY, OF BATAVIA, NEW YORK.

IMPROVEMENT IN MIDLINGS-PURIFIERS .

Specification forming part of Letters Patent No. 147,565, dated February 17, 1874; application filed January 7, 1874.

To all whom it may concern:

Be it known that I, DAVID S. MACKEY, of Batavia, in the county of Genesee and State of New York, have invented certain Improvements in Middlings-Purifiers, of which the following is a specification:

The object of this invention is to scatter or spread the middlings over a large space, but in a small compass; and the invention consists in the arrangement, around a central vertical exhaust air passage or chamber, of a series of independent slanting or cone-shaped shelves, each with an attached register having air-openings and similar openings in the air-chamber, whereby the force of the draft is regulated, as hereinafter explained.

In the drawings, Figure 1 is a vertical cross-section; Fig. 2, a plan.

A A represent the frame-work; B, the hopper; C, a revolving distributing-plate; D, a pulley on vertical shaft *a*, which revolves the plate C. E E are a series of independent cone-shaped shelves, arranged loose around a central cylindrical exhaust air-chamber, G, the air being exhausted by the fan H. Attached to each cone on the inside is a vertical annular ring, *b*, encircling the exhaust-chamber G, and having openings *c c* in each, with corresponding openings *c' c'* in the exhaust-chamber G, by which means each ring forms a register, opening, or gradually closing, the air-passages *c c'* in the exhaust-chamber G, as, by turning the cones around, either to the right or left hand, the force of the draft is regulated by these air-passages.

Each cone and register is separated from the other, and can be moved independently by rods, levers, or handles, as may be found convenient.

d is an annular ring around the lower end of the hopper B, that is made to rise and fall by turning it, as it works up or down, on an inclined plane, *e*, to diffuse the middlings on the distributing-plate C in a thin or thick sheet, as may be desired.

The working of my middlings-purifier is as follows: The middlings are introduced into the hopper B, dropping onto the revolving plate,

coming through under the ring *d*, which spreads them evenly all around, falling first on the upper cone E, over which it falls when it comes to the first opening *f* between the first and second cones. Here it is caught by the suction from the central air-chamber G, and the lighter impurities are drawn up the inclined plane or opening *f*, through the register-openings *c c'*, which are left wide open or narrower, as may be required, and as before explained. As the air is drawn up through the inclines *f f* between each cone E E, it necessarily becomes stronger in proportion to the decrease in the circumference toward the central chamber G, and all specks, dust, and other foreign substance, once started by the suction-blast, cannot fall back, as the blast increases in strength, as above stated, and they will, therefore, be drawn into the cylinder G, and from thence into the fan, and discharged therefrom. This is an important feature of my invention.

By having a series of cones, E E, the middlings are operated upon between every two; and as many cones may be used or applied to the central chamber as found desirable.

When feeding light, some of the registers may be closed.

I claim—

1. In a middlings-purifier, the series of independent cone-shaped shelves E E, arranged around the central cylindrical exhaust air-chamber G, by which means the air from the periphery of each cone is drawn into the center, substantially in the manner and for the purpose specified.

2. The separate movable cones or shelves E E, each constructed with the annular ring *b*, having openings *c*, which cover or open corresponding openings *c'* in the central exhaust-chamber G, as hereinbefore specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

DAVID S. MACKEY.

Witnesses:

J. R. DRAKE,
T. H. PARSONS.