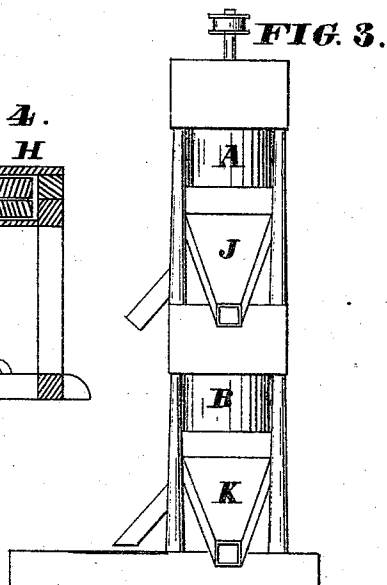
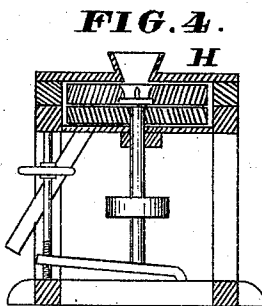
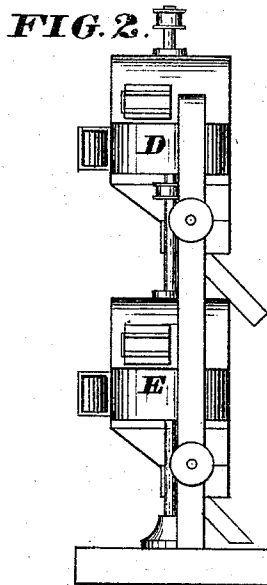
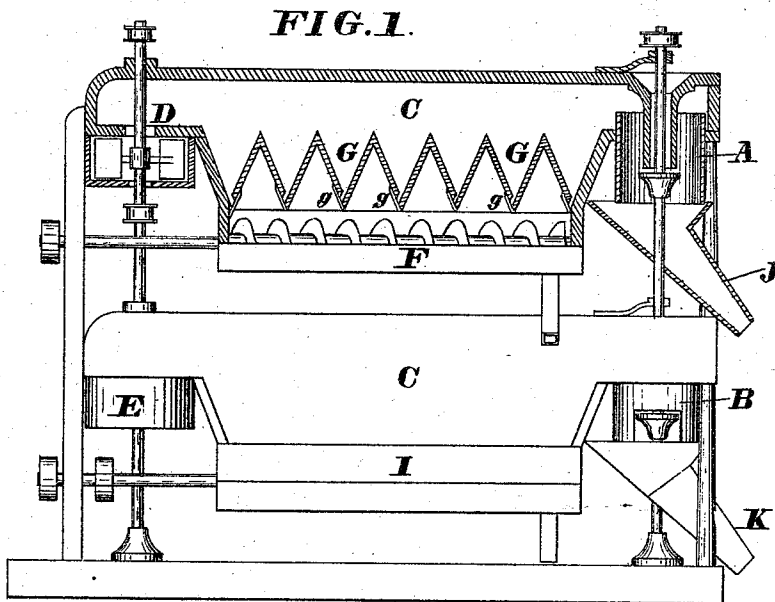


2 Sheets--Sheet 1.
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Middlings-Purifiers.

No. 154,222.

Patented Aug. 18, 1874.



Witnesses.
Geo. L. Ewin
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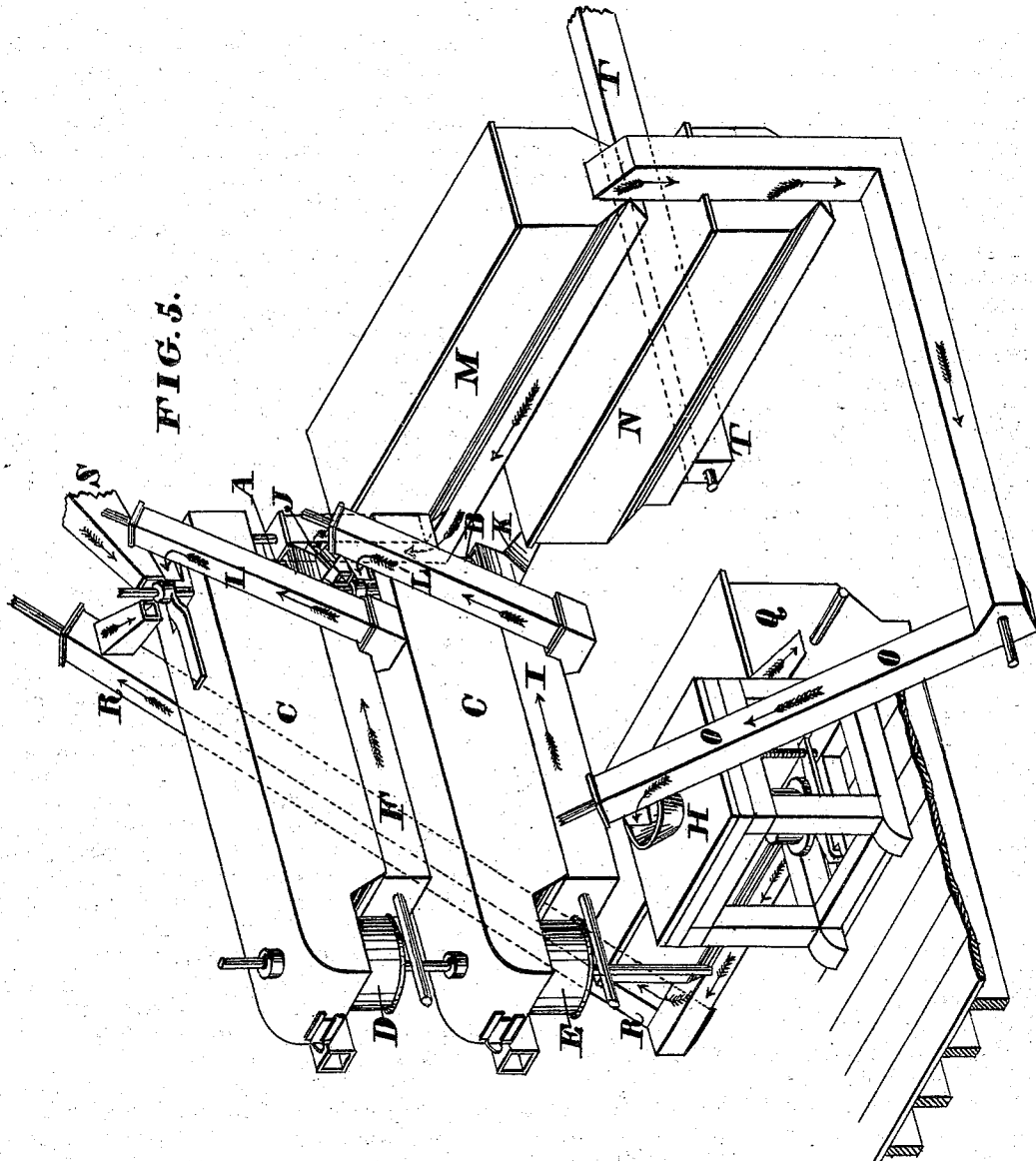
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2 Sheets--Sheet 2.
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UNITED STATES PATENT OFFICE.

JIRAH D. COLE, JR., AND CHRISTIAN S. MARPLE, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN MIDLINGS-PURIFIERS.

Specification forming part of Letters Patent No. 154,222, dated August 18, 1874; application filed October 9, 1873.

To all whom it may concern:

Be it known that we, JIRAH D. COLE, JR., and CHRISTIAN S. MARPLE, both of Chicago, in the county of Cook and State of Illinois, have invented a new Apparatus for Purifying Middlings, of which the following is a specification:

The apparatus to which our invention relates consists essentially of two horizontal pocketed wind-trunks supplied through centrifugal feeders, suction-fans causing a current of air through said wind-trunks, and a reel taking the heavy matter from each feeder, the fine matter from the first of said reels being introduced to the second feeder, that from the last reel to the flouring-stone, and the tailings from both reels being introduced into rubbing-stones, or their equivalent.

In the accompanying drawing, Figure 1 is a side elevation of the apparatus, with the upper part in section. Fig. 2 is a front-end view thereof. Fig. 3 is a rear-end view of the same. Fig. 4 is a vertical section of the rubbing-stones. Fig. 5 is a diagram illustrating the connections of the apparatus.

A and B represent what are known as "Vandegrift Centrifugal Feeders," their effect being to scatter and loosen material passed through them, so that all parts thereof may be subjected to the action of a current of air. C C are horizontal wind-trunks. D E are fans, by which suction is produced through the feeders A and B, and their respective trunks C. G are pockets, guarded at bottom by valves *g*. F and I are conveyers, into which the matter is deposited from the pockets G. L L' are elevators, for returning it to the respective feeders A B. J K are spouts, discharging the heavier matter which passes through the feeders into separating-reels M N. H is a mill, consisting of a pair of rubbing-stones with their casing, driving apparatus, and other accessories. Conductors O, of any proper form, carry the tailings from the reels M N to the rubbing-stones H. Q is a reel, through which the matter is passed from the stones H, the finer parts, which pass through, being carried by the elevator R to the feeder A, and the tailings discharged as

offal with the light bran which passes through the fans D and E. S may represent a spout, by which the middlings are first introduced into the feeder A from an ordinary dusting-reel. T is a conveyer, to carry to the flouring-bolt the matter passing through the reel N.

While describing the fans D E as operating by suction, we wish it distinctly understood that our invention may be carried out with the use of blast-fans, if preferred.

The middlings, passing over the tail of dusting-reels in the ordinary process of bolting, are introduced into the Vandegrift centrifugal feeder A, and subjected to suction created by the fan D, the lighter portion raised by the suction being exhausted through the fan, while the heavier portion falls into the pockets G, which have valves *g* opening into conveyer F, by which it is returned to feeder A. The middlings passing out of the spout J are introduced into a reel, M, and the portion passing through that reel is returned to feeder B, where it undergoes the same process as at first. What passes out of spout K goes into another reel, N, and what passes through that reel is ready to be floured. The material passing over the tails of the reels M N, which follow J and K, consists of the coarser particles of middlings adhering to brown-stuff or bran, and is taken to the rubbing-stones H, where it is subjected to a gentle process of rubbing, then passed to a separating-reel, Q, the portion passing through that reel being returned to feeder A, while the portion passing over the tail goes into the feed.

The following is claimed as new:

1. The combination of the centrifugal feeders A B, horizontal pocketed trunks C, suction-fans D E, and reels M N, substantially as set forth.

2. The combination of the centrifugal feeders, suction-fans, horizontal pocketed wind-trunks, reels, sieves, and conductors, arranged to operate substantially as explained.

J. D. COLE, JR.
C. S. MARPLE.

Witnesses:

OZIAS RAYBOURN,
C. D. MEYER.