

(No Model.)

W. M. SHOOK.  
MIDDLINGS PURIFIER.

No. 346,326.

Patented July 27, 1886.

Fig. 2.

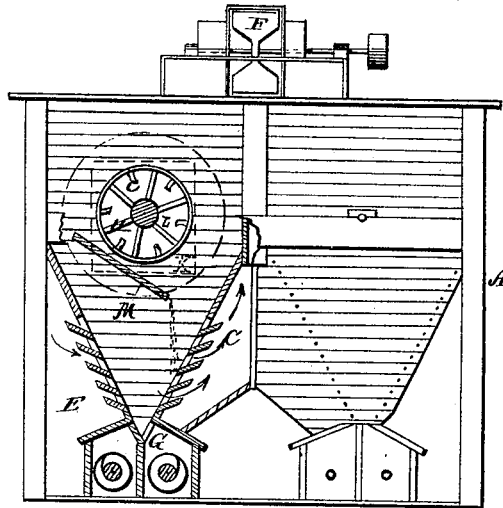


Fig. 1.

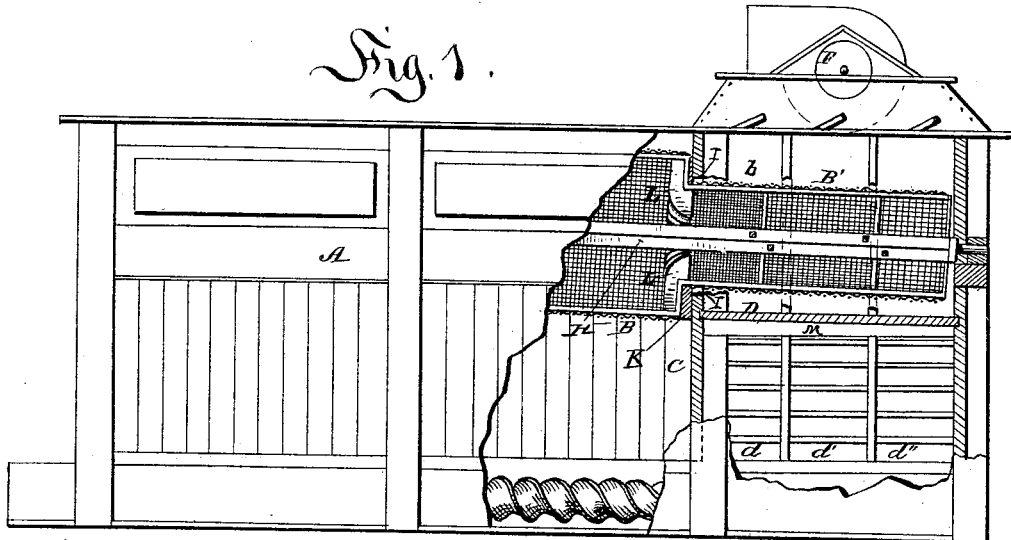


Fig. 4.

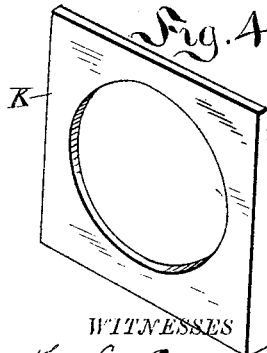


Fig. 3.



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# UNITED STATES PATENT OFFICE.

WILLIAM M. SHOOK, OF CANTON, OHIO.

## MIDDLINGS-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 346,326, dated July 27, 1886.

Application filed November 28, 1885. Serial No. 184,170. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. SHOOK, a citizen of the United States, and a resident of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Middlings-Purifiers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a side elevation, partly in section, of my improved middlings-purifier, with the exterior casing partly broken away to show the interior construction and arrangement. Fig. 2 is an end elevation of the same, partly in section. Fig. 3 is a cross-sectional view of the flour bolt or reel, and Fig. 4 is a perspective view of a block secured to the middle partition.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to middlings-purifiers; and it consists in the construction and combination of parts of a machine of that class, which will be hereinafter more fully described and claimed.

In the accompanying drawings, A denotes the chest or casing, inside of which the bolt B is placed, in the usual manner, in a slightly-inclined position. This chest is divided by a vertical partition, C, from a chamber or compartment, D, the lower part of which forms an aspirator, E, of any approved construction, which operates in conjunction with a suction-fan, F, arranged on top of the casing or compartment D. Below the aspirators (of which, of course, there is one for each bolt, two being shown in the accompanying illustration) are arranged the usual conveyers, G. The bolt B is reduced in diameter at one end, as shown at B', and this reduced end projects through a circular aperture, I, in the partition C. The central shaft of the bolt (shown at H) extends through the entire length of the bolt from one end to the other, and is journaled in suitable bearings at opposite ends of the machine, in the usual manner.

In order to prevent the suction from the

aspirators contained in the chamber D from affecting the contents of the flour-chest A, a wedge-shaped block, K, of wood or any other suitable material, is arranged around the circular aperture I in said partition, so as to fill the inclined space between the enlarged end of the bolt and the partition. In this manner the aperture I is made practically air-tight, and no flour can be drawn from the chest A into the compartment D, in which the middlings are separated and classified. This chamber D is divided by parallel vertical partitions into three or more sub-compartments, *d d'*, and the reduced end B' of the bolt, which traverses the said compartments *d d'*, is covered with bolting-cloth of different mesh or degrees of fineness, increasing in coarseness from the first section, *b*. The object of this is to separate the middlings according to their several grades, and after the middlings have been purified by being subjected to a current of air in the aspirator, they are conducted to the conveyers at the lower end of the same and disposed of, as usual.

Upon the inner end of the enlarged portion of the bolt B is a series of blades or arms, L, which extend from the bolting-cloth nearly to the center of the reel, and project slightly into the end of the smaller portion, B'. As the reel revolves, the outer ends of these blades lift the material which collects at the lower portion of the bolt, and gradually raise it until the outer end is higher than the inner end, when the material slides down the incline into the smaller portion of the bolt. An inclined board, M, is placed within the compartment D, beneath the bolt B', with its lower edge nearest to the aspirator through which the air is exhausted. This arrangement causes the material to pass down so near to that aspirator that the current of air can carry off particles so heavy that they would fall to the bottom if they had to pass any considerable distance before passing through the aspirator.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, in a middlings-purifier, of an inclosing-case, a partition therein, an inclined revolving bolt or sieve, in one compartment having a bolting-extension at

one end of a less diameter and projecting into the other compartment, a series of lifting-blades in the end of the enlarged portion of said bolt, an inclined board in said second  
5 compartment, aspirators below said board, the lower edge of said board being nearest to the aspirator through which the air is exhausted, and means, substantially as described, for producing an ascending air-current.  
10 2. The combination, in a middlings-purifier, of an inclosing-case, a partition therein, an inclined bolt or sieve, in one compartment having a bolting-extension at one end of a

smaller diameter, projecting into the other compartment, lifting-blades in the larger portion of said bolt, a wedge-shaped block between said partition and the end of said larger portion, and means, substantially as described, for producing an ascending air-current.

In testimony that I claim the foregoing as  
my own I have hereunto affixed my signature  
in presence of two witnesses.

WILLIAM M. SHOOK.

Witnesses:

LOUIS BAGGER,  
AUGUST PETERSON.