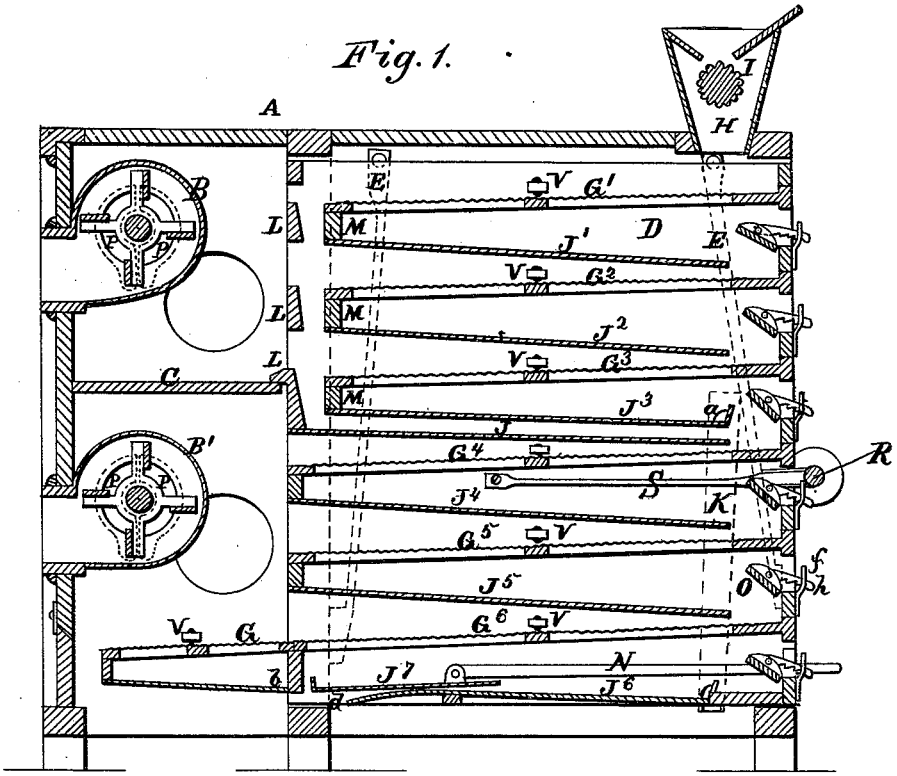
2 Sheets—Sheet 1.

W. H. GEOHEGAN.

MIDDLINGS SEPARATOR.

No. 183,660. Patented Oct. 24, 1876.

Fig. 1.



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2 Sheets—Sheet 2

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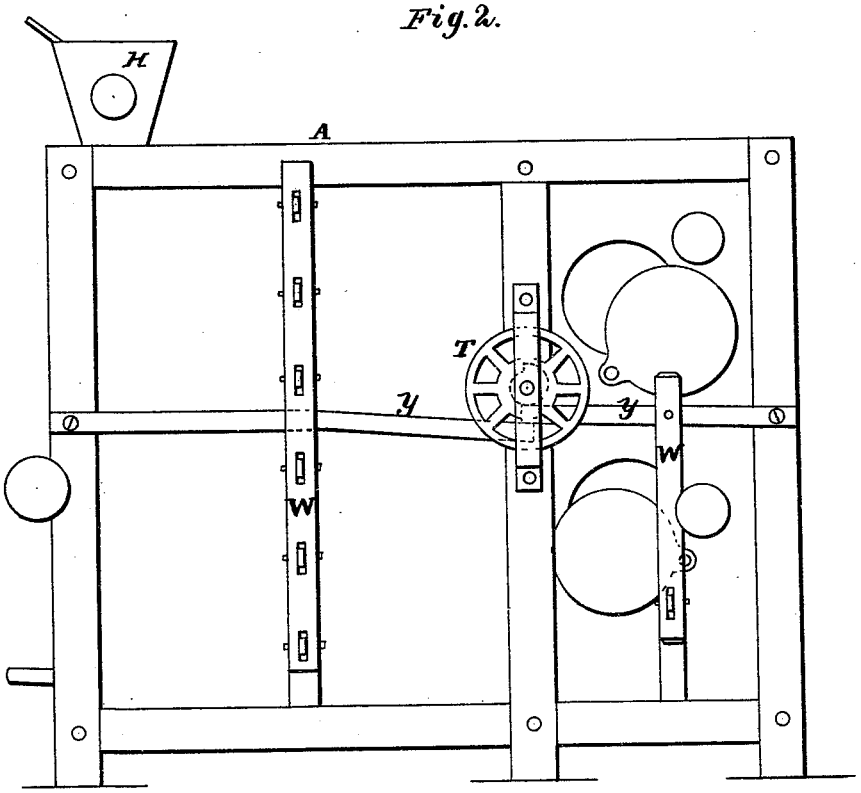
Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. GEOHEGAN, OF PARIS, ILLINOIS.

IMPROVEMENT IN MIDDLINGS-SEPARATORS.

Specification forming part of Letters Patent No. **183,660**, dated October 24, 1876; application filed July 27, 1876.

To all whom it may concern:

Be it known that I, WILLIAM HENRY GEOHEGAN, of the city of Paris, in the county of Edgar, and in the State of Illinois, have invented certain new and useful Improvements in Purifying Middlings; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a middlings-purifier, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a longitudinal vertical section of my middlings-purifier. Fig. 2 is a side elevation of the same.

A represents the main frame or outer case of my middlings-purifier, having at one end two suction-fans, B B′, separated by means of a horizontal board, C. Within the main frame A is a shaking-frame, D, containing the sieves, which interior frame is supported or suspended by means of spring-arms E E, as shown. H is the hopper, through which the middlings are fed into the machine by means of a longitudinally-corrugated roller or cylinder, I. The middlings fall on the upper sieve G^1, where they are subjected to the suction of the fan B, which removes the fine fuzzy offal. The middlings, with the coarse offal, fall on the carrier-board J^1 underneath, and are carried to the head of the sieve G^2, where they are treated in the same manner, passing over said second sieve, and falling on the second carrier-board J^2, by which they are carried to the head of the third sieve G^3. In passing over this third sieve G^3 the fine middlings go through the sieve and fall on the carrier-board J^3, and are discharged at *a* into a spout, K, at the side of the machine. The second and third sieves G^2 G^3, being relieved from the burden of the coarse middlings and coarse offal, purify the fine middlings thoroughly. The coarse middlings and coarse offal pass over the ends of the three upper sieves G^1 G^2 G^3, falling between the backboards L and the boards M, that connect the sieves with their respective carrier-boards, and fall on the carrier-board J, from whence they are carried to the head of the fourth sieve, G^4. In passing over this sieve the middlings go through the sieve, while the offal is discharged over the end of the sieve, and falls on the tail-sieve G. The middlings are carried to the fifth and sixth sieves, G^5 and G^6, and are treated in the same manner, where any remaining offal is taken out over the ends of the sieves, and the clean middlings are discharged at *a*. The sieves G^4 G^5 G^6 are provided with the carrier-boards J^4 J^5 J^6, as shown. The tail-sieve G is designed to take out any middlings that may be carried over the other sieves with the offal. The middlings taken out by the tail-sieve are discharged at *b*, the coarse offal being discharged over the end of said sieve. The lower carrier-board J^6 is made in two sections; or, more properly speaking, it has an auxiliary carrier-board, J^7, which is movable, being attached to handles N extending to the front and fastened by keys, by which means said movable carrier-board may be drawn forward, and the middlings that come through the rear part of the lower sieve fall on the rear part of the carrier-board J^6 and be discharged at *d*. This carrier-board has a convex upper surface, which, when the slide J^7 is withdrawn, suffers the material falling through the rear portion of the screen G^6 to descend through the opening *d*, while the material falling through the forward part of the screen G^6 will travel to the opposite end of the carrier-board. In the front end of the main frame A are six valves, O, one for each of the six screens, to regulate the current of air going to the sieves, said valves to be closed or opened as the machine needs less or more air. These valves are hinged at their lower edges, opening inward, and each valve is provided with a hinged rack-bar, *h′*, taking into a slotted plate, *f*, for holding the valve at any angle desired. On the fan-cases are also valves P P, to aid in controlling the amount of air. The motion is given to the interior frame D by a shaft, R, running horizontally across the front end of the machine, the boxes or bearings being attached to the main frame. On

this shaft are eccentrics, connected, by bars S, with the frame D, and on one end of the shaft is a driving-pulley, and on the other end another pulley for driving one of the fans, the other fan being driven from the first one. V V are knockers, arranged in an upright bar, W, on the outside of the machine, and extending over the sieves. These knockers are operated by means of an eccentric, *i*, on the hub of a wheel, T, actuating a spring-bar, Y, which moves the bar W, the object of the knockers being to keep the meshes of the sieves open.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the knockers V, bars W, springs Y, and wheel T, with eccentric *i*, substantially as and for the purposes herein set forth.

2. In combination with the series of sieves and carrier-boards, the tail-board G, and movable auxiliary carrier-board J^7, having convex upper surface, attached to handles N, extending to the front of the machine, as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of June, 1876.

WILLIAM HENRY GEOHEGAN.

Witnesses:
C. L. EVERT,
C. V. JAQUITH.