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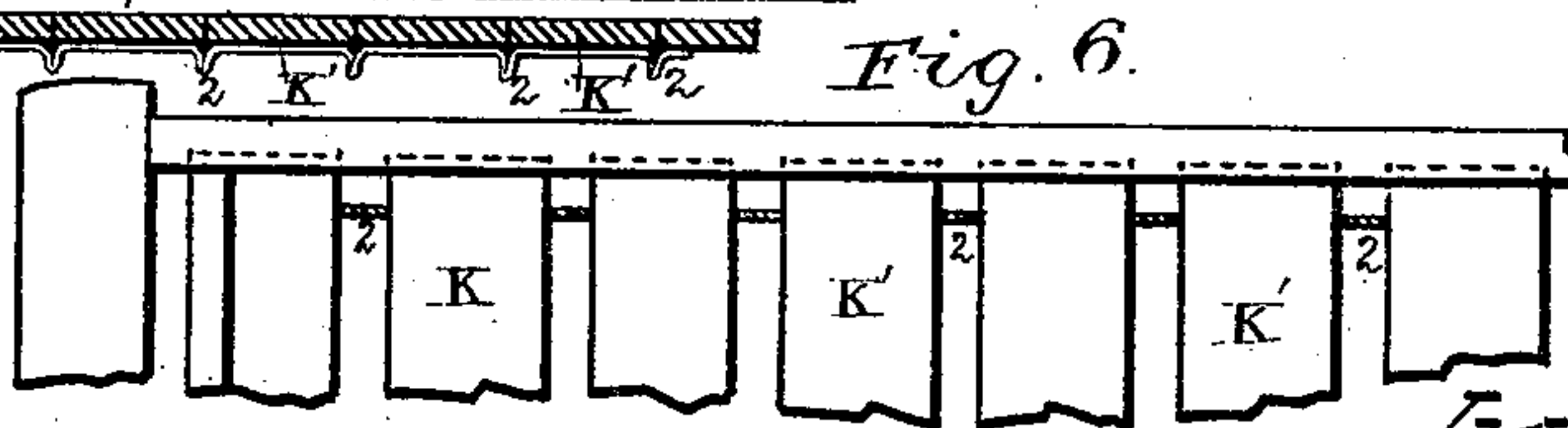
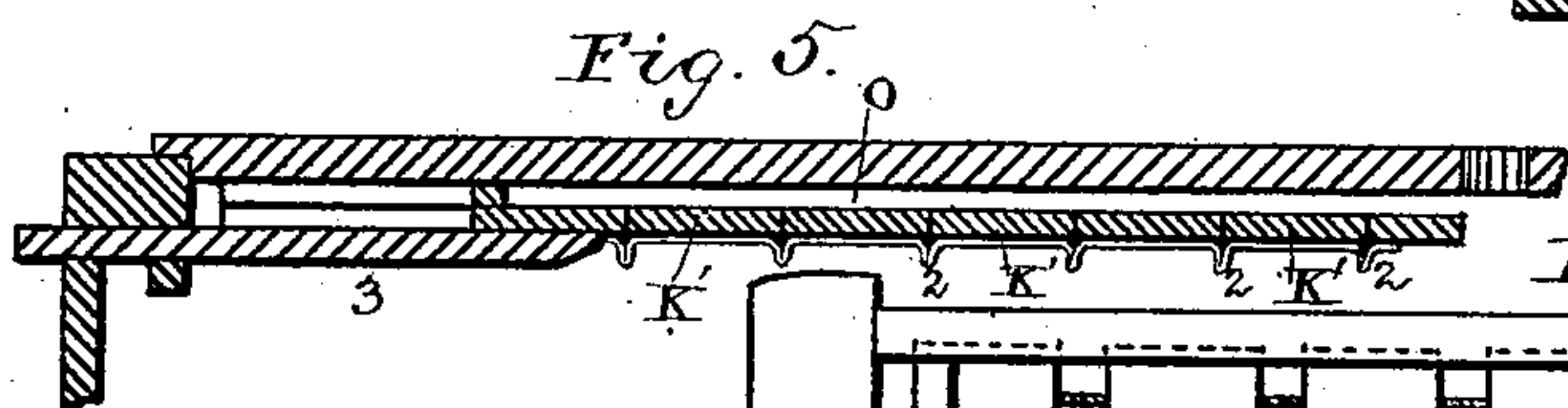
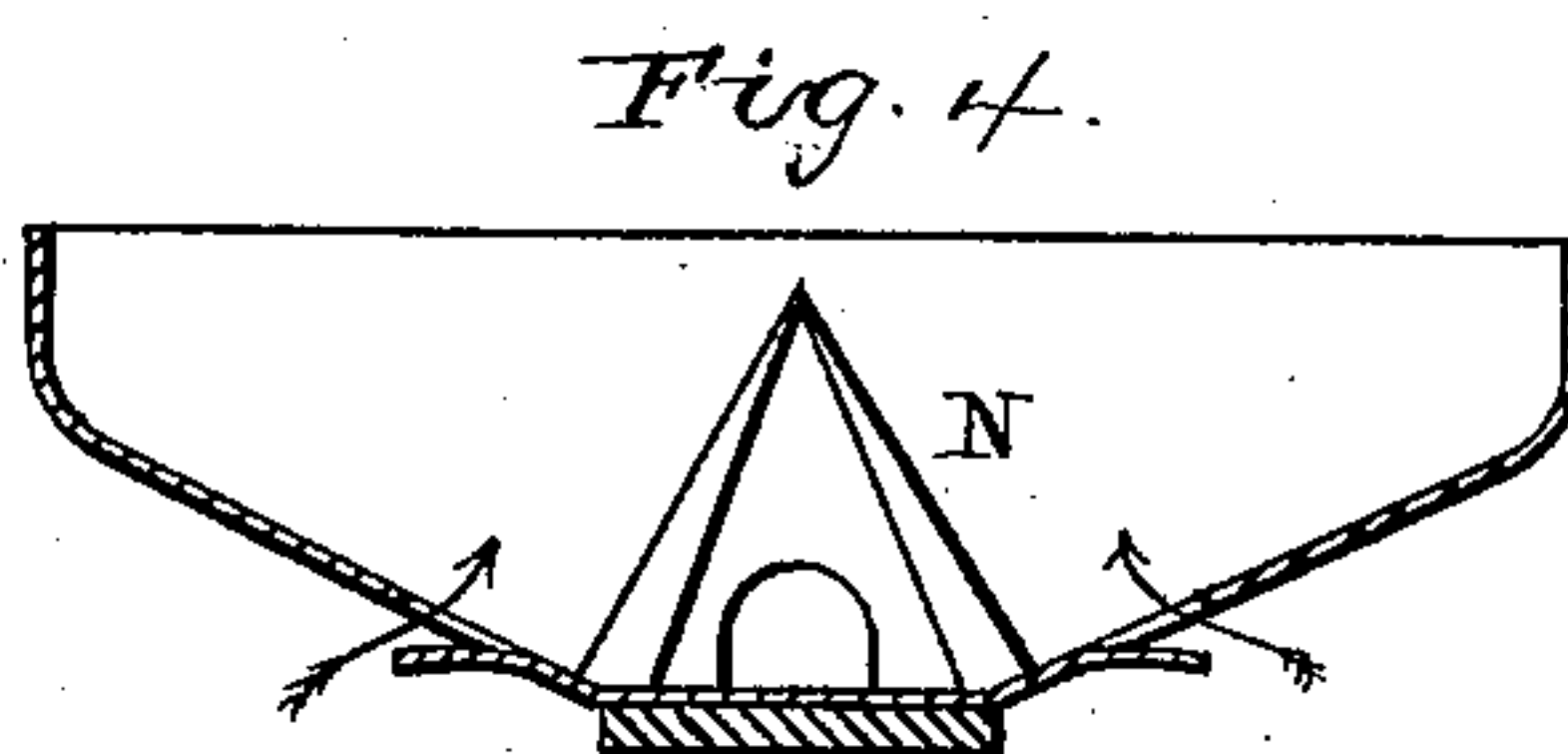
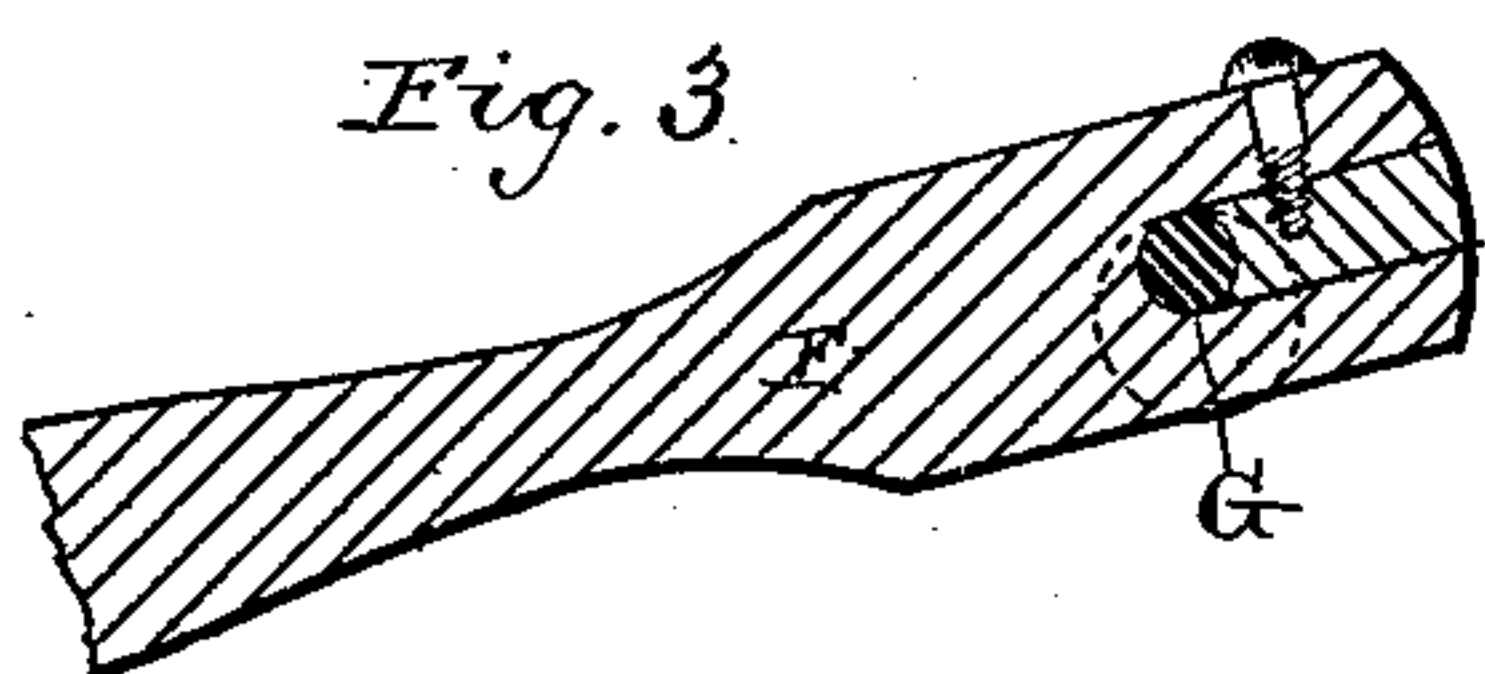
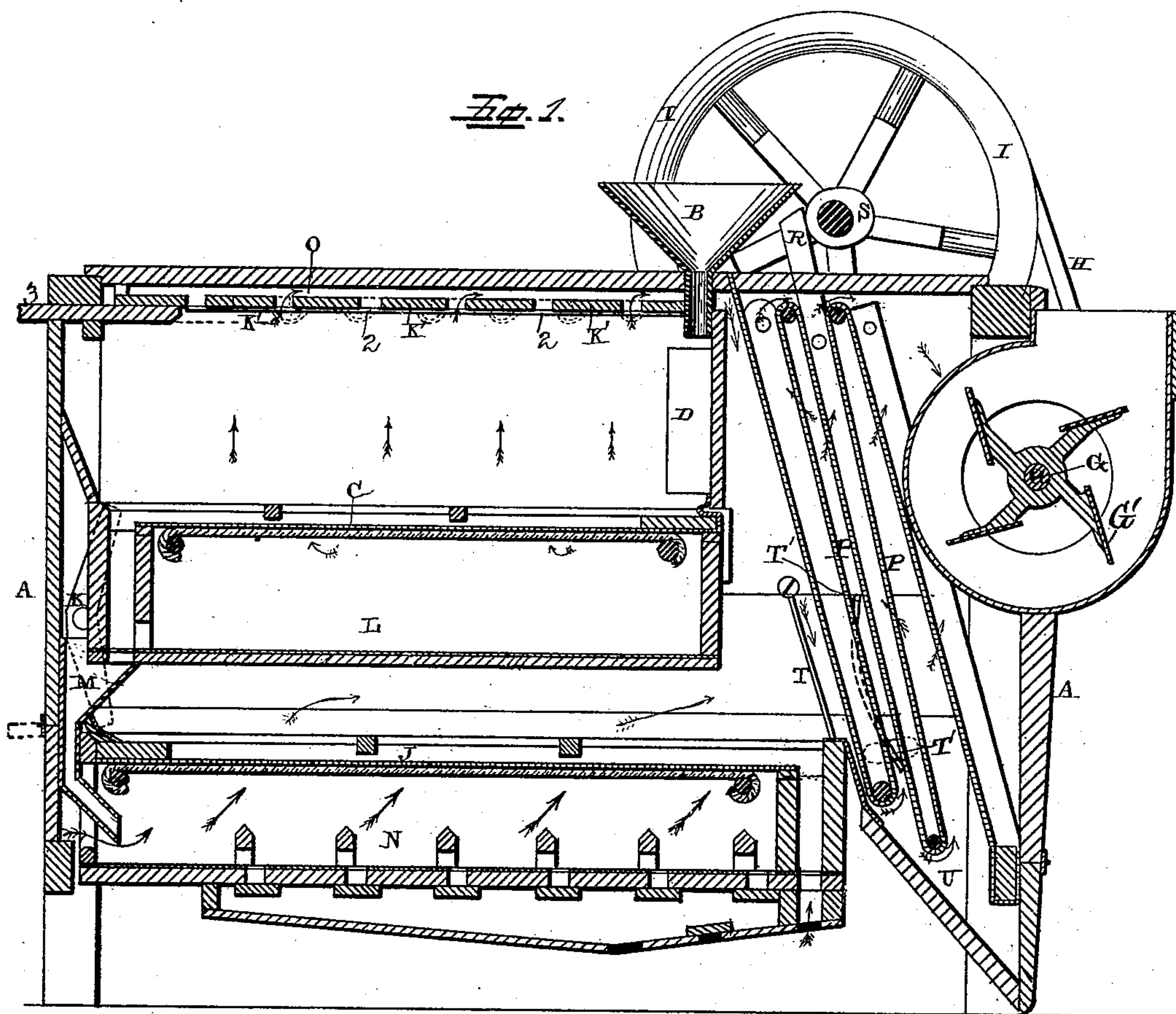
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A. N. WOLF.

COMBINED MIDDLEINGS PURIFIER AND DUST COLLECTOR.

No. 251,331.

Patented Dec. 20, 1881.



Witnesses:

*W. W. Mortimer*

*A. G. Kiskadden*

Inventor:

*A. N. Wolf*

per

*F. A. Lehmann*

*att'y*

(No Model.)

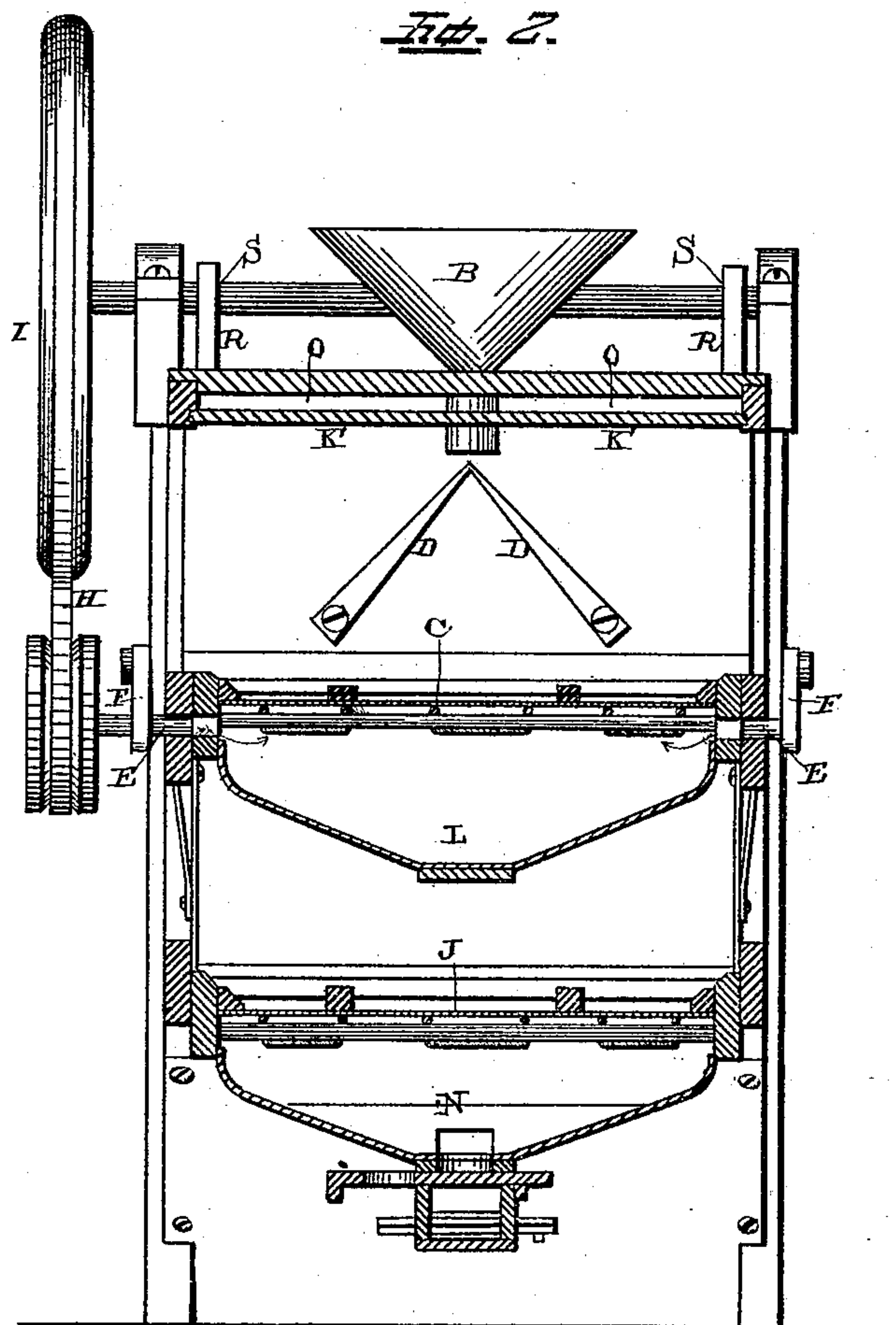
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Witnesses.

*Wm. W. Kortmeier*

*A. C. Kuskadden*

Inventor

*A. N. Wolf*

per

*F. A. Lehmann, atty.*

(No Model.)

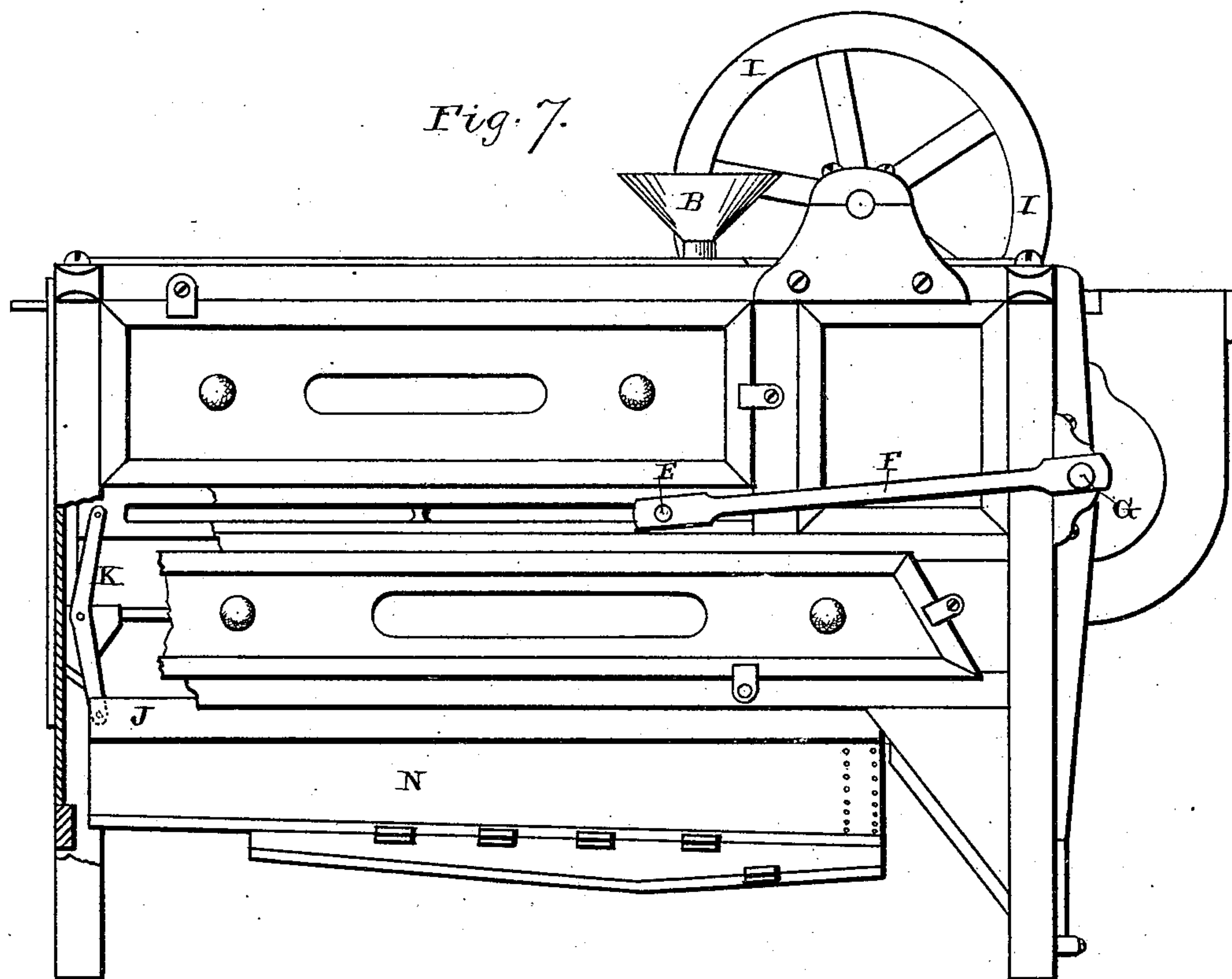
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No. 251,331

Patented Dec. 20, 1881.



*Witnesses.*

*M. W. Mortimer.*  
*W. H. Kern.*

*Inventor.*

*A. N. Wolf*  
*per*  
*F. A. Lehmann*  
*att'y.*



# UNITED STATES PATENT OFFICE.

ABRAHAM N. WOLF, OF ALLENTOWN, PENNSYLVANIA.

## COMBINED MIDDLEINGS-PURIFIER AND DUST-COLLECTOR.

SPECIFICATION forming part of Letters Patent No. 251,331, dated December 20, 1881.

Application filed May 16, 1881. (No model.)

*To all whom it may concern:*

Be it known that I, ABRAHAM N. WOLF, of Allentown, in the county of Lehigh and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Middlings-Purifier and Dust-Collector; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in a combined middlings-purifier and dust-collector; and it consists, first, in a series of adjustable slats, which are placed in the top of the frame, and which can be moved together so as to cause the blast of air to move a greater distance over the top of the upper screen, or pulled apart so that the air can pass freely between them; second, in the combination of the screens, a series of slats fastened together and arranged in relation to the air-passage, the dust-collector, and the suction-fan, all of which will be more fully described hereinafter.

Figure 1 is a vertical longitudinal section of my invention. Fig. 2 is a vertical cross-section of the same. Fig. 3 is a detail view of the pitman. Fig. 4 is a vertical cross-section of the lower portion of the lower screen. Figs. 5 and 6 are detail views of the series of slats; and Fig. 7 is a side elevation of my invention complete.

A represents a frame, of any desired length and shape, upon the top of which is placed a hopper, B, into which the ground grain is poured, and which is distributed evenly over the upper end of the upper screen, C, by means of the two inclines D, which can be so adjusted that a portion or all of the grain will drop through between their upper ends, or which can be closed together at their upper ends, so that the whole of the ground grain can be made to fall only at the sides of the screen and none at the center, as may be desired. This screen C has suitable projections, E, extending downward from its inner end, and to these projections are fastened connecting-rods F, which have their outer ends fastened to the cranks formed on the outer ends of the fan-shaft G. This fan-shaft is driven by a belt, H, from the

driving-wheel I, which is journaled upon the top of the frame. As the driving-wheel is revolved the fan is also revolved, and as the fan revolves the two screens C J, which are united together by the rocking levers K, are made to vibrate, so as to thoroughly sift the ground grain upon their tops. The levers K move the screens in one direction, and they are then returned to position again by means of the springs T, which have their upper ends fastened to the inside of the frame and their lower ends to the top of the frame of the lower screen, J, as shown in Fig. 1. Under the upper screen is placed a suitable trough or receptacle, into which the middlings drop, and from the end of this trough they pass into a receptacle, M, prepared for them at the opposite end of the frame from the fan. All of the coarser middlings pass from the lower end of the upper screen down upon the lower screen, J, and all that pass through the lower screen are collected in a second trough or receptacle, N, formed to receive them. Through the bottom of this receptacle are formed a number of openings, which are closed by means of suitable slats, and through which the contents of the trough can be drawn at any time. The air is drawn in by the suction of the fan through the end or sides of the frame, as shown in Figs. 1 and 2, just under the screens, and which air passes up through the screens, carrying the dust either up toward the slats or the dust-collector. There being a much greater quantity of dust arising from the upper screen, and it being desired to control the direction of these currents toward the air-passage O, suitable means are provided for that purpose. The dust from the lower screens is drawn directly toward the dust-collector P.

In the top of the frame are placed a number of movable slats, K', by the adjustment of which the air can be taken directly from over the top of the outer end of the screen, or the air can be made to pass down toward the inner end of the screen before it is admitted to the air-passage, as may be found necessary. When the slats K' are pressed closely together by the rod 3, which is secured rigidly to the outer one, the air can pass between them, and so must pass down toward the end of the frame, at which the rocking levers K are placed, before it can enter the air-passage O. As these



slats are loosely connected together by the cord or cords 2, they can be drawn apart, as shown by solid lines in Fig. 1, so that the air can pass freely into the air-passage O at all parts, and hence does not have to move so far, if at all, over the top surface of the screen C. In order to separate the slats the rod or lever 3 is pulled outward, and the cords 2 connecting the slats together, and the rod being fastened to the outer slat, the slides are pulled apart, as shown in Figs. 1 and 6. When it is desired to close the slats together, as shown in Fig. 5, the rod 3 is forced inward and the outer slat moved along until its inner edge strikes the slat next to it, and which, in turn, is pushed along until it strikes the slat next to it, and so on until it strikes the inner one.

Having thus described my invention, I claim—

20 1. In a middlings-purifier, the combination

of a series of slats, K', which are united together by means of the cords 2, and adapted to be drawn apart, so as to let the air pass directly into the passage O, or closed together, so as to make the air enter the passage from one end, substantially as shown. 25

2. In a middlings-purifier, the combination of the screens C J, the slats K', fastened together and arranged in the relation and for the purpose described to the air-passage O, the dust-collector P, arranged in the form of a zigzag, and the suction-fan G, the screens and the dust-collector being made to vibrate, substantially as described. 30

In testimony whereof I affix my signature in presence of two witnesses. 35

ABRAHAM N. WOLF.

Witnesses:

J. FRED. WEINSHEIMER,  
GEO. S. RUHE.