

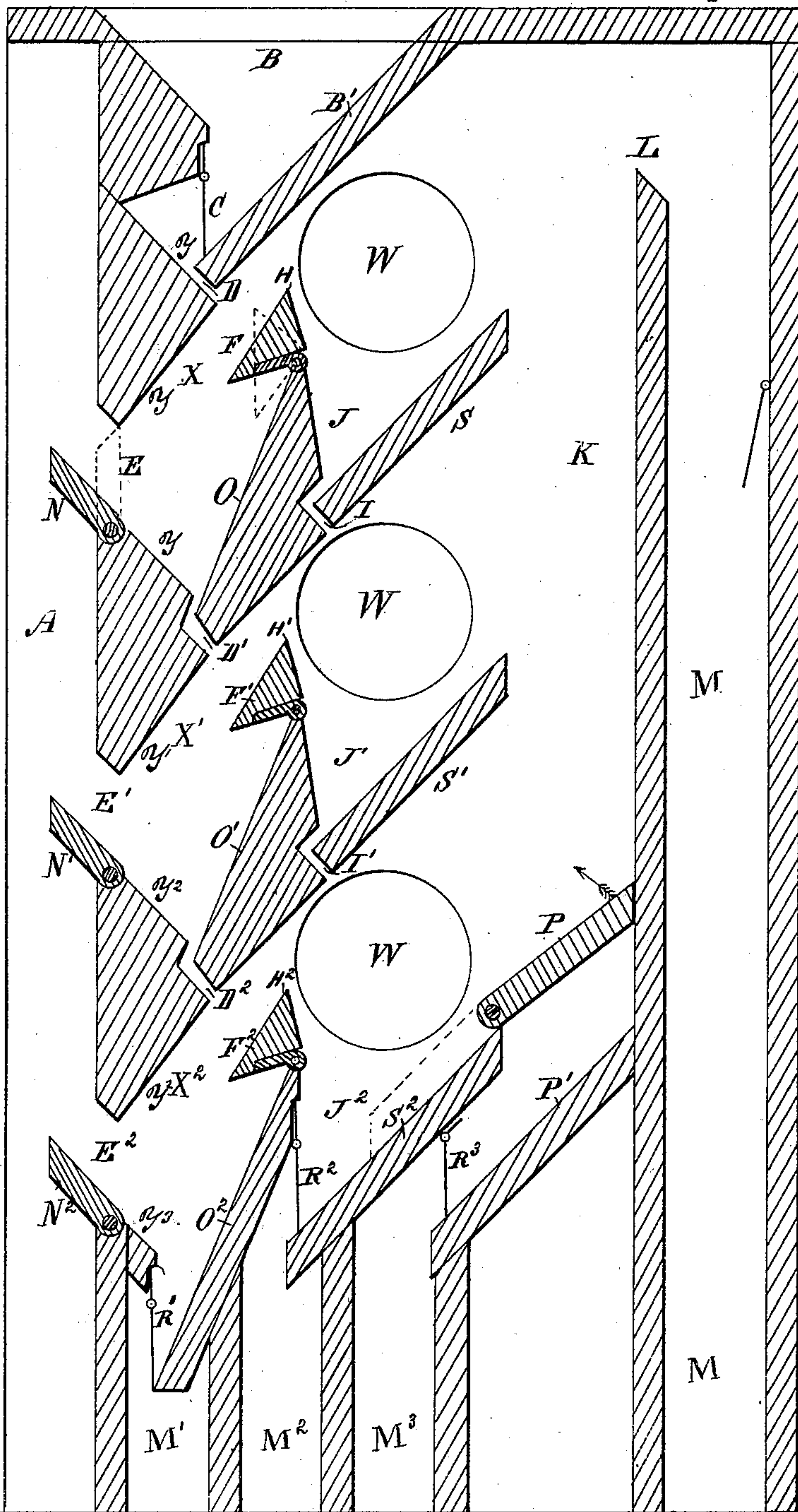
(No Model.)

A. BESSER.

APPARATUS FOR CLEANING GRITS.

No. 256,954.

Patented Apr. 25, 1882.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR CLEANING GRITS.

**SPECIFICATION** forming part of Letters Patent No. 256,954, dated April 25, 1882.

Application filed November 16, 1881. (No model.) Patented in Austria August 31, 1881, and in Hungary August 31, 1881.

*To all whom it may concern:*

Be it known that I, ANTON BESSER, of Vienna, Austria-Hungary, have invented a new and Improved Apparatus for Cleaning Grits, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved apparatus for cleaning grits, grains, seeds, and analogous substances thoroughly, continuously, and in an economical manner.

The invention consists in a novel construction and arrangement of the parts, as hereinafter described and claimed.

Reference is to be had to the accompanying drawing, forming part of this specification, in which a longitudinal sectional elevation of my improved apparatus for cleaning grits, &c., is shown.

A box, A, made of wood, metal, or other suitable material, is provided on top with a hopper or funnel, B, into which the material to be cleaned—such as grits, grain, &c.—is poured. At the outlet of the funnel or hopper I have provided an inwardly-swinging automatically-closing gate, C, which can be opened by the descending grits, but prevents air from passing into the box A. This gate C may be replaced by rollers or other equivalent devices serving the same purpose. From the lower end of the inclined partition B', forming the hopper B, the grits slide through the slot D and drop through the space X upon the inclined partition O. A current of air enters through an opening, E, closed more or less by a hinged or pivoted gate, N, and this current of air blows the lighter particles over the upper edge, H, of the triangular prism F, pivoted or hinged on the upper edge of the inclined partition O. The heavier particles carried over the edge H drop through the space J upon the inclined partition S, and the lighter particles drop through the space K upon an inclined hinged or pivoted partition, P or P', at the bottom of the box A, and the very lightest particles are carried over the partition L and drop into the chute or channel M, which is connected with a suction apparatus. The heavy particles which have not been carried over the edge H of the triangular prism F slide down the inclined partition O and through the

slot D' at the bottom of this partition and drop through the space X' upon the partition O'. A current of air passing through the opening E' carries the lighter particles over the upper edge, H', of the prism F', pivoted to the upper edge of the inclined partition O'. This current of air also acts upon the particles dropping from the slot I at the lower end of the inclined partition S upon the inclined partition S'. From the inclined partition O' the particles drop through the slot D<sup>2</sup> and space X<sup>2</sup> upon the inclined partition O<sup>2</sup> and slide down this partition into the chute M'. The particles on the inclined partition S' drop through the slot I' upon the partition S<sup>2</sup> and slide down the same into the chute M<sup>2</sup>. The particles that have dropped through the space K will be conducted into the chute M<sup>2</sup> if the hinged gate or partition P is in the position shown in full lines; but if it is swung into the position shown in dotted lines the particles will drop upon the inclined partition P' and slide down the same into the chute M<sup>3</sup>.

The hinged or pivoted gates R' R<sup>2</sup> R<sup>3</sup> serve to prevent air from entering into the box A from below.

The cleaned grit is divided into four different grades, according to weight, each kind passing down a separate and distinct chute.

The particles of grits, grains, &c., are subjected to the action of the several currents of air entering through the openings E E' E<sup>2</sup> several times—that is, the operation is continuous, the air that passes over the lower partitions of the front vertical row of partitions again acting upon those particles that drop from above in the second vertical row of partitions and have been acted upon by the current of air entering through the upper openings. The inclined partitions are so arranged that their lower faces will be substantially on the same inclined planes and the angular slots I I' will be left between them, the upper parts of said slots being parallel with and the lower parts perpendicular to the lower faces of the said partitions. The front wall of the box through which the air-openings are made is composed of prismatic pieces beveled or inclined inward in two directions from the said openings to form the inclined planes Y Y' Y<sup>2</sup> Y<sup>3</sup>, the lower faces of which are in the same



inclined plane with the lower faces of the partitions, and between them and the bottom of the hopper and the inclined partitions  $O O'$  are formed, in the same manner as shown and described, angular slots  $D D' D^2$ .

The number of partitions  $O$  and  $P$  arranged above each other and the corresponding number of air-current openings can be varied as the circumstances may require.

10 The prisms  $F F'$ , &c., may be made solid or hollow and of any suitable material, such as wood, china, glass, metal, &c. As these prisms are pivoted or hinged on the upper ends of the inclined partitions  $O O'$ , &c., they can be adjusted to have a greater or less inclination, as shown in dotted lines—that is, the upper edges,  $H H'$ , &c., of these prisms  $F F'$ , &c., can be moved a greater or less distance from the slots  $D D'$ , &c., according to the nature of the material to be cleaned, for accordingly as the upper edges,  $H H'$ , &c., of these prisms  $F F'$  are a greater or less distance from the slots  $D D'$ , &c., a greater or less quantity of the material will be blown over the edges  $H H'$ . The inclination of the partitions  $O$  or  $P$  and the depth of the chest, like all other parts of the apparatus, may be varied as circumstances may require.

25 The number of compartments may be varied, and eventually a single compartment may suffice for the purpose. This apparatus, in combination with an exhauster, forms a complete machine; but a number of chests  $A$  may be combined in one machine.

35 We are openings, closed by glass panes, for observing the operation of the machine.

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

40 1. In an apparatus for cleaning grits, the combination, with the box or chest  $A$ , provided

with the air-openings  $E E' E^2$  and the adjustable hinged gates  $N N' N^2$ , of the inclined partitions  $O O' S S'$  and the pieces having their lower faces,  $Y Y' Y^2$ , arranged on the same inclined planes and arranged to leave between them the angular slots  $D' D^2 I' I^2$ , the upper parts of said slots being parallel with and the lower parts perpendicular to the lower faces of the said partitions and inclined planes, substantially as and for the purpose set forth.

2. In an apparatus for cleaning grits, the combination of the box or chest  $A$ , the pieces presenting the inclined planes  $Y Y' Y^2$ , the inclined partitions  $O O' O^2$ , having their lower faces arranged on the same inclined planes as those of said pieces, and arranged to leave angular slots at their points of nearest approach thereto, and the adjustable triangular prisms  $F F' F^2$ , hinged to the upper edge of the inclined partitions  $O O' O^2$ , directly facing the said slots, substantially as and for the purpose set forth.

3. In an apparatus for cleaning grits, the combination, with the box or chest  $A$ , provided with a series of air-openings and adjustable gates therefor, the hopper  $B$ , formed with slot  $D$ , and the inclined partitions  $O O' O^2 S S' S^2$ , and the pieces presenting on their lower faces the inclined planes  $Y Y' Y^2$ , arranged substantially in the same inclined planes as those of partitions  $O O' S S'$ , of the adjustable triangular prisms  $F F' F^2$ , hinged to the upper edge of one series of inclined partitions, the vertical partition  $L$ , and the chutes  $M M' M^2 M^3$ , substantially as and for the purpose set forth.

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Witnesses:

Dr. ED. SCHMIDT,  
HANS KOTTAS.