

2 Sheets—Sheet 1.

MIDLINGS PURIFIER.

Patented Dec. 13, 1881.



K Inventor,
John Zech
By his attys
Edson Bros

(No Model.)

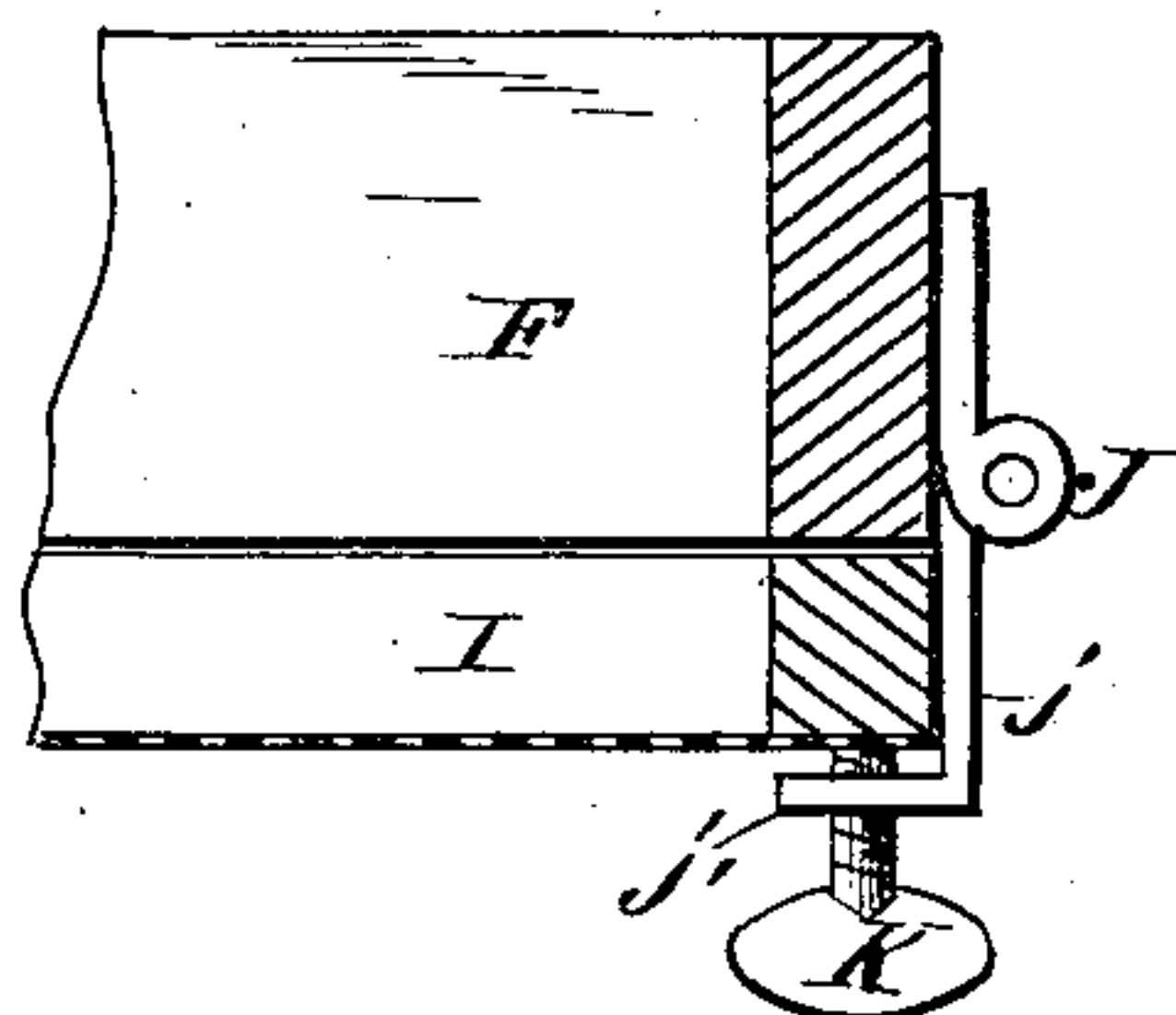
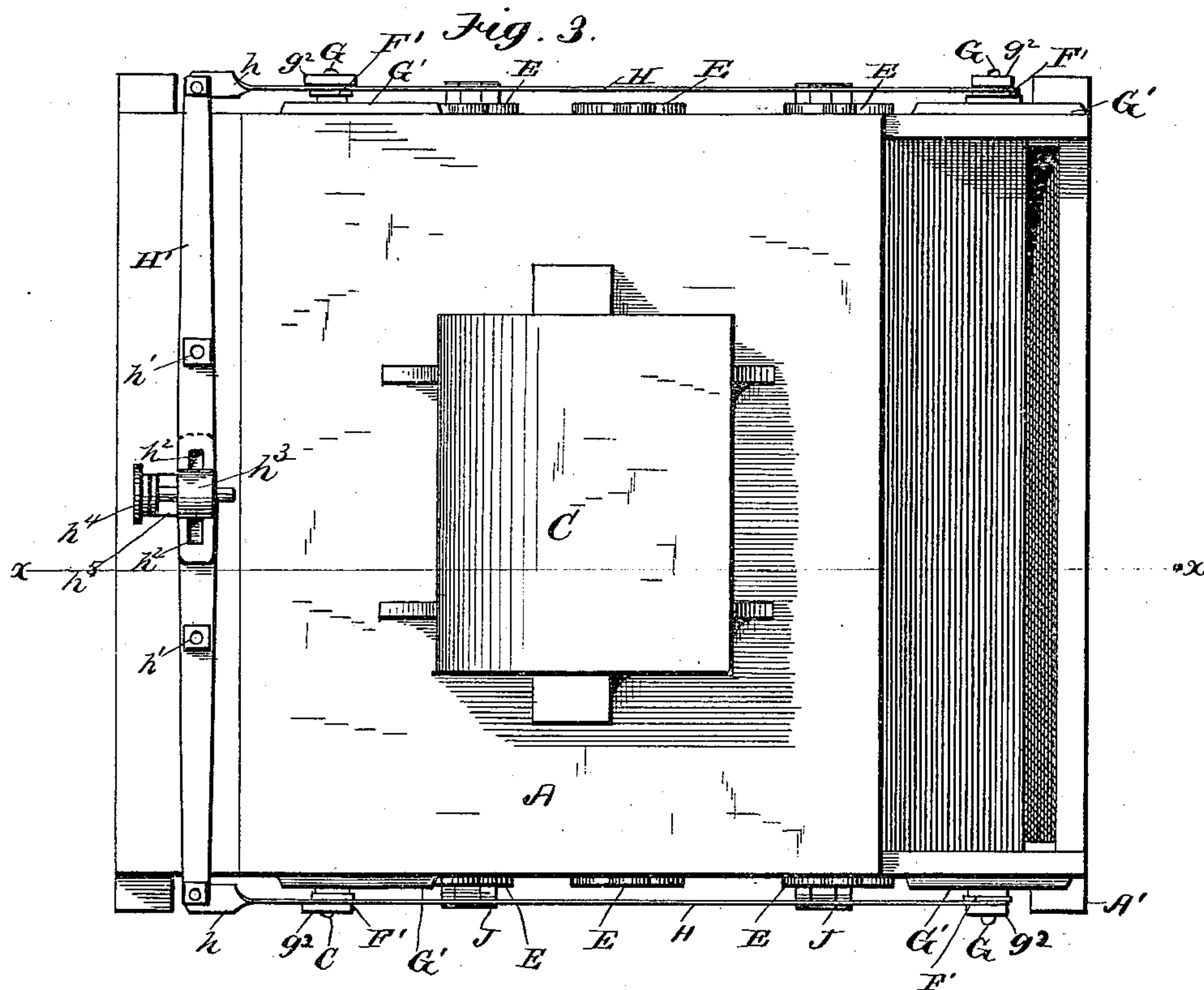
2 Sheets—Sheet 2.

J. ZECH.

MIDLINGS PURIFIER.

No. 250,772.

Patented Dec. 13, 1881.



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UNITED STATES PATENT OFFICE.

JOHN ZECH, OF CHILTON, WISCONSIN.

MIDDLINGS-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 250,772, dated December 13, 1881.

Application filed September 3, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN ZECH, a citizen of the United States, residing at Chilton, in the county of Calumet and State of Wisconsin, have invented certain new and useful Improvements in Middlings-Purifiers; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters or figures of reference marked thereon, which form a part of this specification.

In the drawings, Figure 1 is a side elevation of my improved middlings-purifier. Fig. 2 is a vertical longitudinal section, taken on the line $x x$ of Fig. 3. Fig. 3 represents a top-plan view. Figs. 4 and 5 are views of the slotted plate which limits or controls the movement of the hangers for the shaker-frame; and Fig. 6 represents the means whereby the sieves are attached to the shaker-frame.

Similar letters of reference in the several drawings denote similar parts.

This invention relates to middlings-purifiers; and it consists of the construction and combination of parts, as hereinafter described, and pointed out in the claims.

Referring to the drawings, A represents the body or main portion of the machine, mounted upon suitable legs, A'. In practice the legs A' may be omitted, a suitable frame supporting the body A. The body A is closed at the sides, end, and top, as shown, the inclosed space thus formed being divided into chambers by the partitions $a a'$, said division being made for the purpose of regulating the draft of air through the sieves, as will be readily understood. For the purpose of description I will designate the triangular chambers thus formed by the letters B' B². The upper chamber or wind-spout, B, communicates with the chambers B' through openings b , and with a suction or exhaust fan, C, through the opening b' , as shown. The fan C may be placed at the head of the machine, or at any other point communicating with the chamber or wind-spout B. The chambers B' communicate with the chambers B² through openings b^2 in the partitions a' , said openings

b^2 being kept partially closed by swinging flaps, b^3 . The flaps b^3 are hinged to the partition a and to the end of the machine, and one end of each of said flaps is provided with a screw-threaded bolt that passes out through slots a^3 in the sides of the body, being held in any position up or down by nuts b^4 .

D D' represent openings through the sides of the body A, said openings communicating with the chambers B' B². The openings D are made for the purpose of withdrawing the accumulated deposits of fine bran or dust from chamber B', and the openings D' are made for the purpose of watching the action of the middlings upon the sieves. The openings D and D' are normally kept closed by swinging flaps or wickets E, as shown.

F represents the shaker-frame, attached to or suspended from the body A by hangers F'. The hangers F' are made as thin steel plates, the upper end of each of which is provided with an eye that fits upon a bolt, G, and against the face of a slotted plate, G'. The plate G' is rigidly attached to the sides of the body A, the bolt G passing through the slot in said plate. Recesses g in the sides of the body A allow room for the head g' of the bolt to move back and forth, as desired.

Extending from one to the other of the hangers F' are connecting-bars H, one end, h , of which extends past the hangers nearest the rear of the machine, and are attached to the outer ends of the levers H'. The levers H' are fulcrumed at h' to the machine, and are provided at their inner ends with slots h^2 , through which passes a screw-threaded bolt, the upper end of which carries a block, h^3 , provided with a female screw that receives a corresponding male-screw, h^4 , mounted in a bracket, h^5 , as shown. When it is desired to regulate the movement of the shaker-frame the screw h^4 is turned. This, through h^3 , will move the inner ends of the levers H' back and forth. The outer ends of said levers being connected to the bars H, and said bars to the hangers F', it will be seen that the hangers will be moved back and forth by such movement of the levers H'. A nut, g^2 , on the bolt G, outside of the connecting-bars H, serves to keep the bars and hangers in place on said bolt.

The sieves I are held or secured to the shaker-frame F by hinged brackets J, the lower movable parts, *j*, of which are provided with offsets, *j'*, through which pass screws K, that bear
5 against the bottoms of the sieve-frames, as shown in Fig. 6.

The drawings show the machine as provided with two sieves; but in actual practice the machine is provided with seven sieves, and from
10 the construction described it will be readily seen that each or all of said sieves may be removed at will and without interfering with each other.

In Fig. 2 the arrows show the course of the
15 air through the sieves, chambers, and flaps, and out at the exhaust-fan.

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

20 1. In a middlings-purifier, an inclosing-case, A, having wind-spout B, chambers B', triangular in cross-section, and provided at each end with openings D, chambers B², triangular in cross-section, and provided at each end with
25 openings D', and at the upper part or apex of said angular chamber with openings *b*², closed by hinged flaps *b*³, said flaps held and adjusted nearer to or farther from said openings by means of bolts extending outward from said
30 flaps through slots *a*³ in the sides of the case, and having clamping-nuts *b*⁴, that bear against the sides of the case, substantially as described.

2. In a middlings-purifier, the combination

of the connecting-bars H, bolts G, plates G', hangers F', and shaker-frame F, substantially
35 as described.

3. In a middlings-purifier, the combination of the shaker F, hangers F', plates G', and bolts G, with the connecting-bars H, and means
40 for adjusting said bars in longitudinal direction, substantially as described.

4. In a middlings-purifier, the combination of the slotted adjusting-levers H', screw-block *h*³, screw *h*⁴, bracket *h*⁵, connecting-bars H, and means for connecting said bars to the hangers
45 of the shaker-frame, substantially as described.

5. In a middlings-purifier, the combination of the levers H', having slot *h*², screw-block *h*³, and screw *h*⁴, with the connecting-bars H, hangers F', and shaker-frame F, substantially
50 as described.

6. In a middlings-purifier, the combination, with the shaker-frame and the frame of a sieve, of the hinged brackets J, the upper parts of which are attached to the shaker-frame F, 55 while the lower movable parts, *j*, are provided with offsets *j'*, through which pass screws K, that bear against the bottom edges of the sieve-frame, substantially as described.

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

JOHN ZECH.

Witnesses:

THEO. KERSTEN,
HENRY KERSTEN.