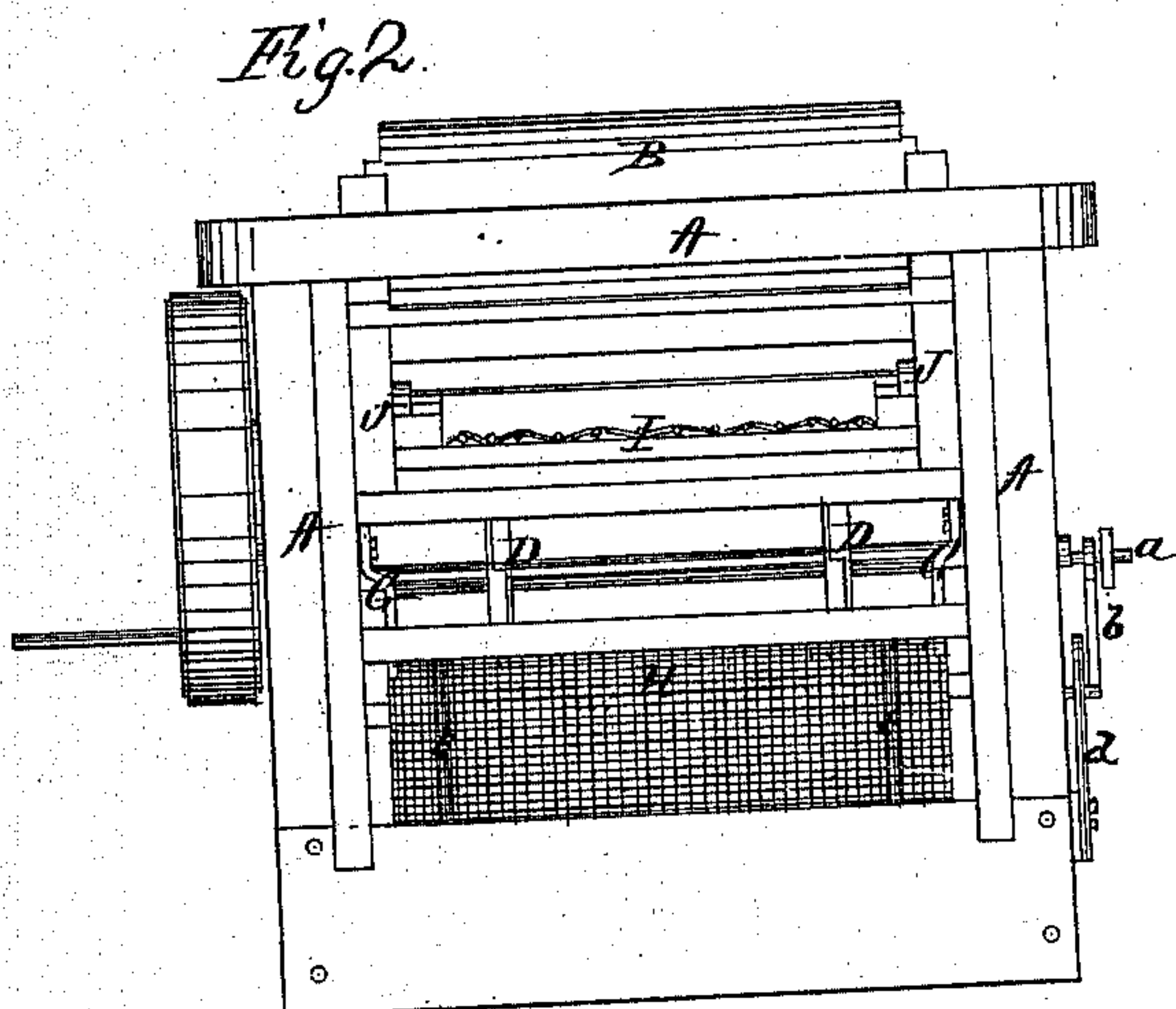
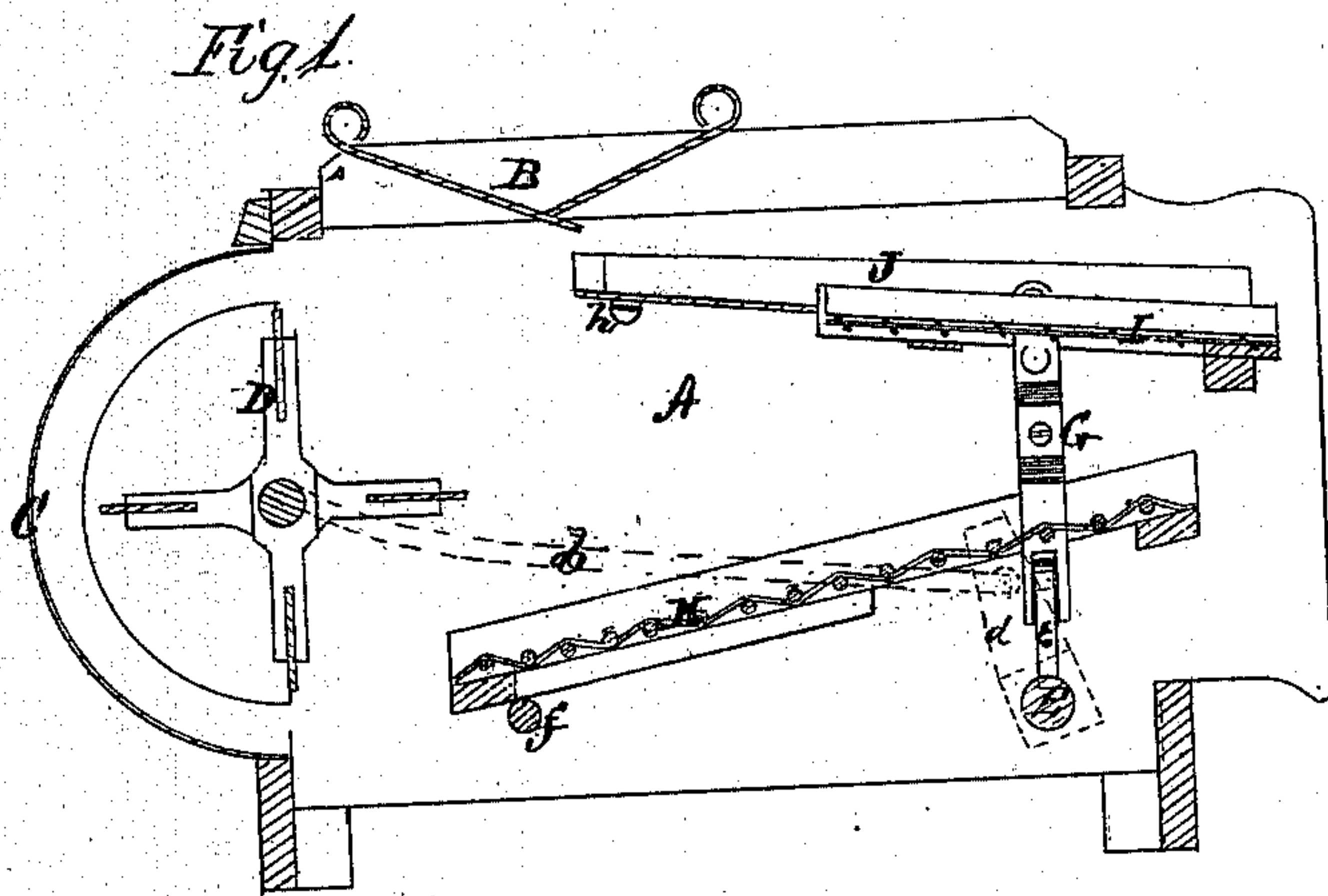


P. GRISWOLD.
Grain Winnower.

No. 112,447.

Patented Mar. 7, 1871.



Witnesses,
Jas. O. Hutchinson
C. L. Everett.

Inventor.
Philander Griswold
per
Alexander Mason
Atty.

United States Patent Office.

PHILANDER GRISWOLD, OF HUDSON, MICHIGAN.

Letters Patent No. 112,447, dated March 7, 1871.

IMPROVEMENT IN GRAIN-SEPARATORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, PHILANDER GRISWOLD, of Hudson, in the county of Leuawee and in the State of Michigan, have invented certain new and useful Improvements in Grain-Separators; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing 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 grain-separator, 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 drawing, in which—

Figure 1 is a longitudinal vertical section, and

Figure 2 is a front elevation of my machine.

A represents the frame of my separator, provided with hopper B, fan-case C, and fan D.

Upon one end of the fan-shaft is formed a crank, *a*, connected by a rod, *b*, with a crank, *d*, upon the end of a rock-shaft, E, placed and having its bearings in the lower front end of the frame A.

On the rock-shaft E, within the frame A, are two arms, *e e*, the upper ends of which are bent outward and inserted in the lower forked ends of two levers, G G, said levers being pivoted, one on each side, on the inside of the frame A.

The outward-bent ends of the arms *e e* also catch in the frame of the lower screen H, so that, when the shaft E rocks back and forth by the motion of the revolving-fan, the screen H will receive its required re-

ciprocating motion. This screen is inclined downward and toward the rear, as shown in fig. 1, its rear end resting upon a rod or roller, *f*.

To the upper ends of the levers G G is pivoted the shoe J, in which any desired number of screens I is placed, the rear end of said shoe resting upon rollers *h*, pivoted on the sides of the frame. This shoe inclines from the front backward and upward, making the arrangement of the same and of the lower screen H such that there is no obstruction to the blast from the fan; on the contrary, this has full sweep between them.

It will be noticed that, by means of the pivoted levers G G, the lower screen H and the shoe J always move in opposite directions, and the extent of the movement of the shoe may be regulated at will by changing the point at which the levers are pivoted to the same; in other words, by raising or lowering the front end of the shoe.

Having thus fully described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The arrangement of the rock-shaft E, bent arms *e e*, and pivoted levers G G, substantially as shown and described, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 28th day of November, 1870.

PHILANDER GRISWOLD.

Witnesses:

W. H. MONTGOMERY,
O. O. PEACE.