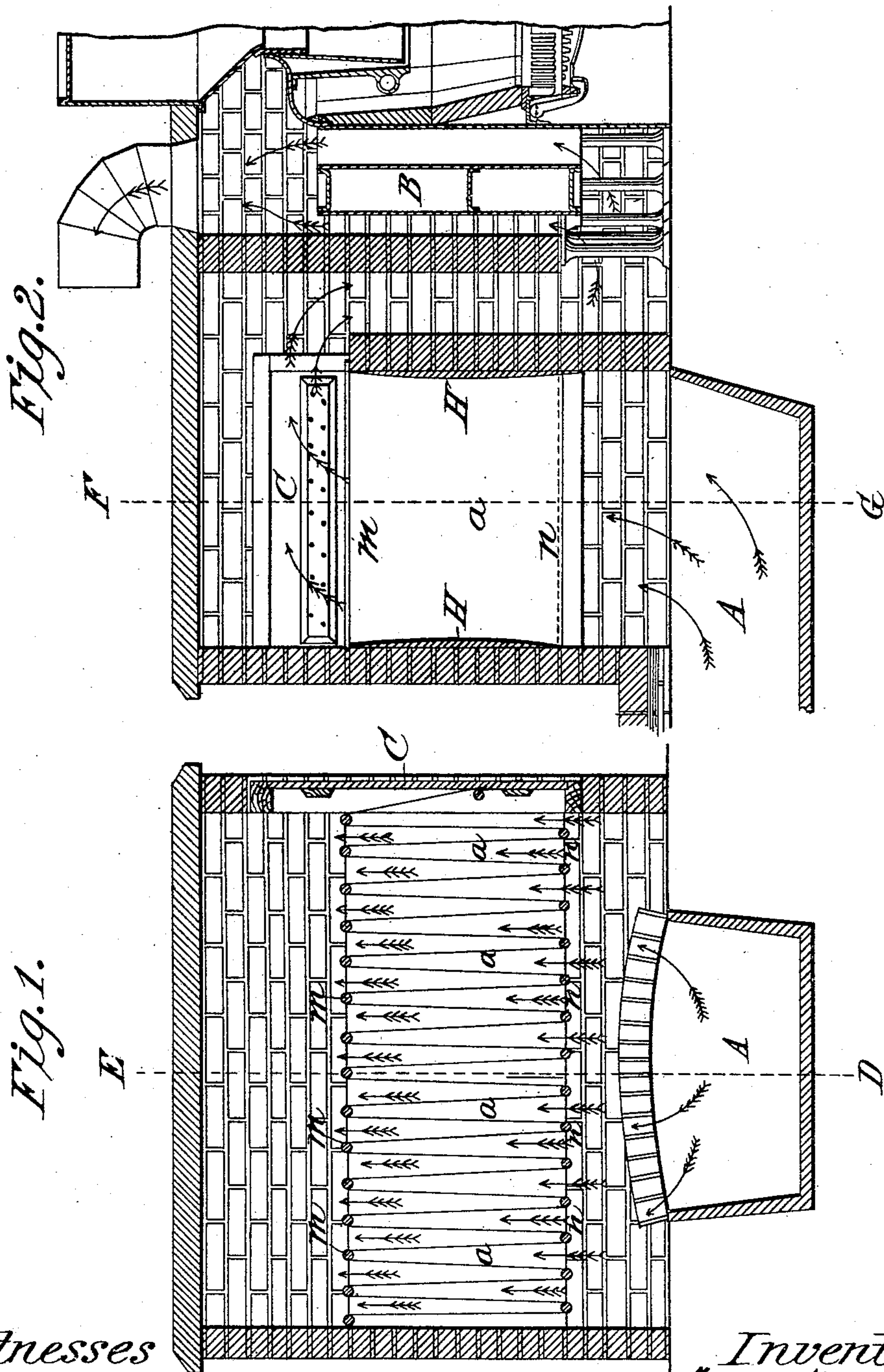


(No Model.)

M. J., F. & H. B. FARQUHAR.
DUST SCREEN.

No. 453,885.

Patented June 9, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

MILTON J. FARQUHAR, FRANCIS FARQUHAR, AND HENRY B. FARQUHAR,
OF WILMINGTON, OHIO.

DUST-SCREEN.

SPECIFICATION forming part of Letters Patent No. 453,885, dated June 9, 1891.

Application filed August 6, 1890. Serial No. 361,229. (No model.)

To all whom it may concern:

Be it known that we, MILTON J. FARQUHAR, FRANCIS FARQUHAR, and HENRY B. FARQUHAR, citizens of the United States, residing at Wilmington, in the county of Clinton and State of Ohio, have invented an Improvement in Air-Filters, of which the following is a specification.

Our invention relates to filters or screens for separating dust from the air which is admitted into houses for ventilation and for conveying heat, and which is caused to pass through the meshes of a woven fabric; and the object of our invention is to provide a large surface of the fabric within a small space, so arranged that the air cannot pass around the edges of the fabric. We attain this object in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section through the filter-chamber on line F G; and Fig. 2 is a transverse section through same on line E D, showing a part of a hot-air furnace.

Similar letters refer to similar parts.

The air enters the filter-chamber at the inlet A, and rises through the meshes of the fabric *a a*, &c., which is hung in folds upon the transverse bars *m* and is held taut by the bars *n*, into the upper part of the filter-chamber, whence it is conducted to the rooms either by direct conduits or by way of an air-warmer B, as desired.

C is a door by which access to the filter-chamber is provided.

H H are curved surfaces on the walls of the filter-chamber. The fabric, being stretched longitudinally over the bars *m* and under the bars *n*, has a tendency to shrink away from plane surfaces between the bars *m* and *n*; but the surfaces H H, being convex toward the fabric, bear against the edges of the fabric, permitting no air to pass through the filter-

chamber without passing through the meshes of the fabric.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. The combination, in an air-filter, of a fabric *a a a*, hung in folds over bars *m* and under bars *n*, and convex walls H H, pressing against the edges of the fabric, substantially as described.

2. The combination, in an air-filter, of two opposite walls convex toward each other, a fabric stretched between the two curved walls, with its free edges bearing against them, substantially as described.

3. In an air-filter, a fabric stretched from one bar to another and having its free edges bearing against walls which have surfaces curved so as to bear against the fabric between the bars, substantially as and for the purpose described.

4. In an air-filter, a fabric stretched in zig-zag form over and under bars placed in parallel rows, two parallel walls having surfaces curved toward the edges of the fabric between the two rows of bars, substantially as described.

5. In an air-filter, an air-inlet, an air-outlet, a fabric stretched upon bars, with two opposite edges bearing against curved surfaces, as and for the purposes described.

MILTON J. FARQUHAR.
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Witnesses to signature of Milton J. Farquhar:

NATHAN M. LINTON,
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M. ADA FARQUHAR,
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