

(No Model.)

J. S. DODGE.
AIR PURIFIER.

No. 507,675.

Patented Oct. 31, 1893.

Fig. 1.

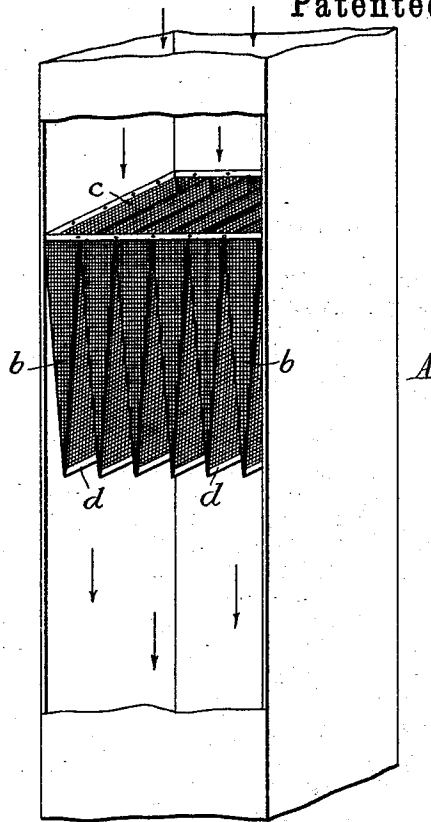


Fig. 2.

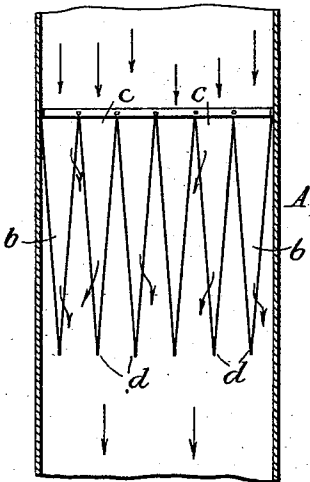
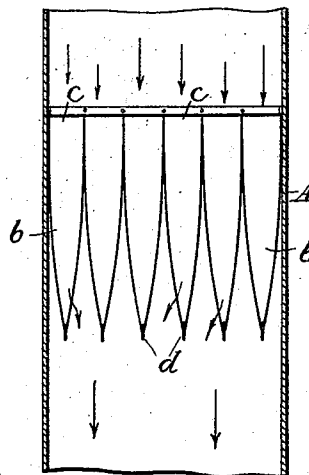


Fig. 3.



Witnesses

Wm. E. Norton
Geo. H. Brown

Inventor

John S. Dodge

By

William Gray
his Attorneys

UNITED STATES PATENT OFFICE.

JOHN S. DODGE, OF MINNEAPOLIS, MINNESOTA.

AIR-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 507,675, dated October 31, 1893.

Application filed January 17, 1893. Serial No. 458,691. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. DODGE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Air-Purifiers; and I do 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 of reference marked thereon, which form a part of this specification.

My invention has reference to improvements in devices for purifying air to be utilized in the ventilation or heating of buildings, and has for its objects to arrest the dust and other floating particles from the air, and to provide means for automatically regulating the strength of the air currents.

To these ends my invention consists in combining with the air duct or pipe through which the air is conducted from the outer atmosphere to the interior of the building, a series of V-shaped cloth pockets the mouths of which are presented to the inflowing currents of air, and are arranged to conform to the size of the said pipe to completely fill it and necessitate the passage of the air through the meshes of the cloth composing said pockets; and the small ends of which pockets are weighted for a purpose hereinafter described.

The construction, relative arrangement and operation of the several parts constituting my invention will now be fully and clearly ascertained and described, and reference is to be had in connection with such description, to the accompanying drawings which form a part of this specification, and in which—

Figure 1 represents in perspective view an air duct or pipe with one side removed showing the arrangement of pockets; Fig. 2 a vertical central section of the same, and Fig. 3 a similar view showing the pockets distended for regulating the blast of air.

The reference letter A denotes the air duct which is shown rectangular in cross section and which receives the air from the outer atmosphere and carries it in the direction of the arrows to the several rooms of the building for ventilation, or through a suitable furnace or other heater to the rooms for heating purposes.

b, b, denote the pockets which are formed of cloth and are V-shaped, with the upper

end or mouth c of sufficient length to extend entirely across one width of the duct, and arranged side by side, in order to conform to the other width of the duct. The lower ends of the pockets are provided with weights d which extend entirely across such ends, and operate to steady the pockets when under the influence of the air, and for another purpose to be presently explained. The inflowing air passes through the meshes of the cloth composing the pockets and is thoroughly filtered and freed from any dust and other floating particles, and furnished to the building in a purified state. In the event that the current of entering air is too strong the action of the same will cause an inflation of the pockets as in Fig. 3, and consequently a contraction of the same longitudinally. The sides of the pockets are thus expanded and contact with the sides of the adjacent pocket and the sides of the duct, thus shutting off an area of ventilation equivalent to the excess of air pressure. When the said excess of pressure is reduced the pockets return to their normal shape which is shown in Fig. 2. By reason of this construction and operation a steady flow of purified air is maintained under the desired pressure, regardless of the condition of the entering air.

I claim—

1. In an apparatus for purifying air the combination with an air supply duct or pipe, of a series of V-shaped pockets formed of cloth or other porous fabric arranged therein and in line with said pipe, and suspended by their upper open ends which face the incoming air current and having their lower ends free, substantially as and for the purpose specified.

2. In an apparatus for purifying air the combination with an air supply duct or pipe, of a series of V-shaped pockets arranged within and in line with said pipe and formed of cloth or other porous fabric and having their fixed open upper ends facing the incoming air current and provided with weights at their free lower ends substantially as and for the purpose specified.

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

JOHN S. DODGE.

Witnesses:

CHAS. J. MARTIN,

FRED G. ATKINSON.