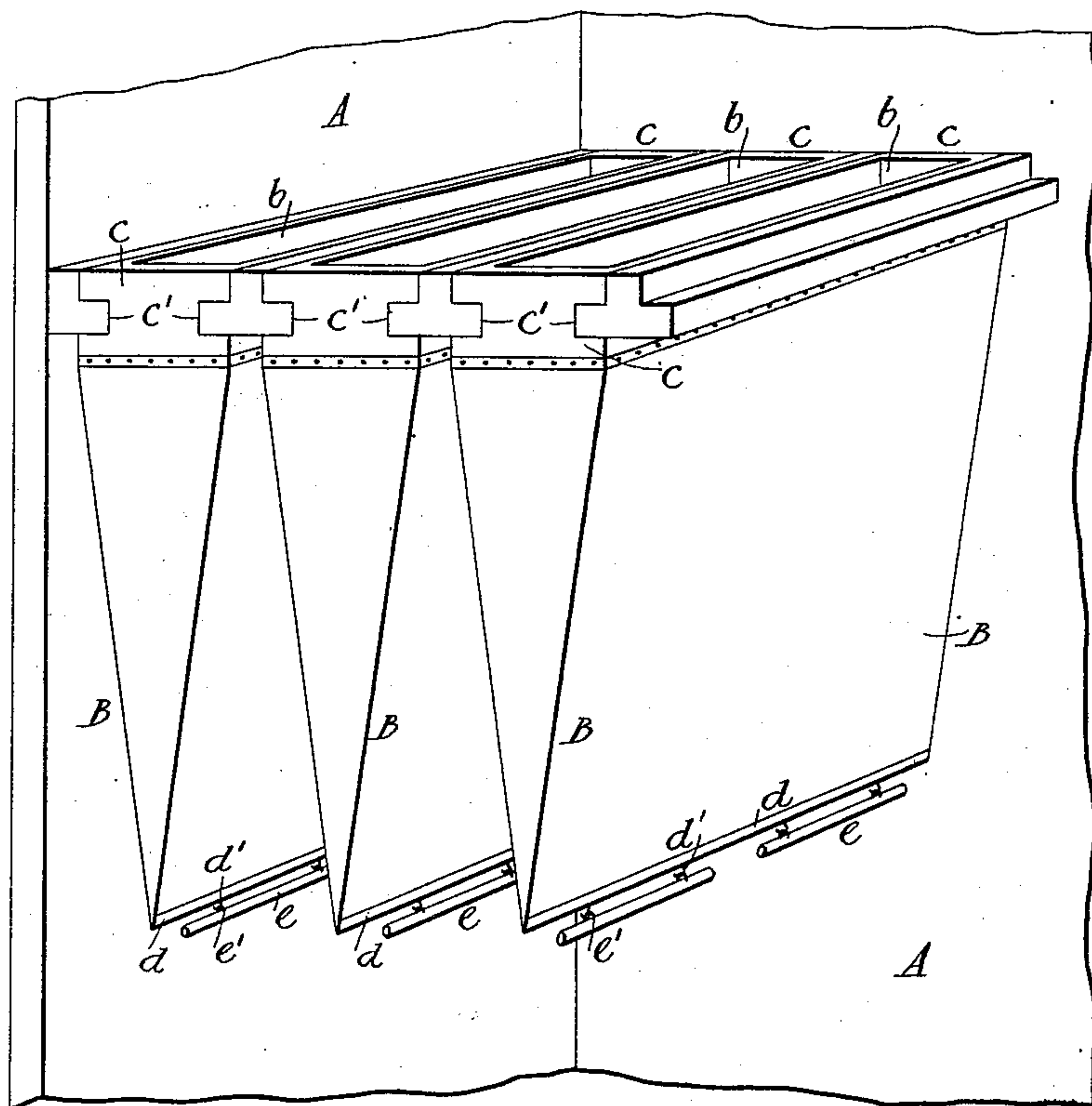


(No Model.)

J. S. DODGE.
AIR PURIFIER.

No. 540,856.

Patented June 11, 1895.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN S. DODGE, OF MINNEAPOLIS, MINNESOTA.

AIR-PURIFIER.

SPECIFICATION forming part of Letters Patent No. 540,856, dated June 11, 1895.

Application filed January 2, 1895. Serial No. 533,511. (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 drawing, and to the letters of reference marked thereon, which forms a part of this specification.

In my patent granted October 31, 1893, and numbered 507,675, I have shown, described and claimed an air purifier adapted for use in connection with the ventilating or heating of buildings, and consisting of a series of V-shaped cloth pockets arranged in the air duct or pipe, with the mouths presented to the inflowing air currents. In operation these pockets thoroughly filter the air, eliminating all dust and other floating particles, and the velocity of the air currents is regulated, by the expansion and contraction of the pockets and the consequent variation of the area of passage through the same. Weights are secured to the lower ends of the pockets to insure steadiness and to restore their normal position after inflation.

In the device just described the pockets are secured in the duct in such a manner as to preclude their ready withdrawal, and the weights moreover are permanently attached. Such an arrangement, while effective in operation and fully capable of performing all of the functions claimed therefor is not readily cleaned; and inasmuch as practice has demonstrated the necessity of frequently removing the accumulation of dust and other particles, I have devised improvements by which the pockets are rendered removable for cleansing purposes.

The nature of my invention will appear from a reading of the following description when taken in connection with the accompanying drawing, which forms a part of this specification and in which my improvement is shown in perspective view.

A denotes a portion of the rectangular air duct or pipe which receives the air from the outer atmosphere and carries it in the direc-

tion of the arrows through branch ducts or pipes 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 are the pockets formed of cloth and of V-shape, with the upper end or mouth *b* 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 mouth of each pocket is bound by a rectangular frame *c* of wood or other suitable material having grooves *c'* in each of its sides, which engage inverted T-shaped strips arranged at equidistant intervals across the duct. By this arrangement the pockets are individually removable inasmuch as they may be readily slid in or out of place, and to permit of their removal from the duct a portion of one of the walls is made detachable.

The pockets are weighted at their lower end as in my patent above referred to; but in order to permit of the pockets being turned inside out for cleaning purposes I make the weights detachable. The lower end of each pocket to this end, is provided with a wooden strip *d* extending the entire length and to which are secured hooks *d' d'*. The weights *e* are preferably two in number for each pocket and distribute the weight equally and each weight has two eyes *e' e'* which are readily connected to and disconnected from the hooks *d'*.

When the pockets are removed and turned the accumulation of dust and other particles may be removed by shaking, whipping, by air currents, or any other suitable means, and when thoroughly cleaned are restored and returned to place in the duct.

While I have shown and described but one arrangement illustrating my invention, I do not wish it understood that I confine myself thereto, as my invention is susceptible of being carried out in many ways.

I claim as my invention—

1. In combination with an air duct or pipe, a series of strips in said pipe, and a series of V-shaped pockets having grooved frames at their upper ends for slidable connection with said strips.

2. In combination with an air duct or pipe, a series of V-shaped pockets removably arranged therein, and weights removably attached to said pockets.

3. In combination with a vertical air duct
or pipe, a series of inverted T-shaped strips
horizontally arranged therein, a series of V-
shaped pockets having grooved frames at their
5 upper end for slidable connection with the
strips, and at their lower end detachable
weights, substantially as described.

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

JOHN S. DODGE.

Witnesses:

A. A. WHITCOMB,
E. A. CHARLES.