No. 843,180. PATENTED FEB. 5, 1907.

C. W. ROGERS.

AIR WASHER.

APPLICATION FILED OCT. 5, 1906.

Fig. 1.

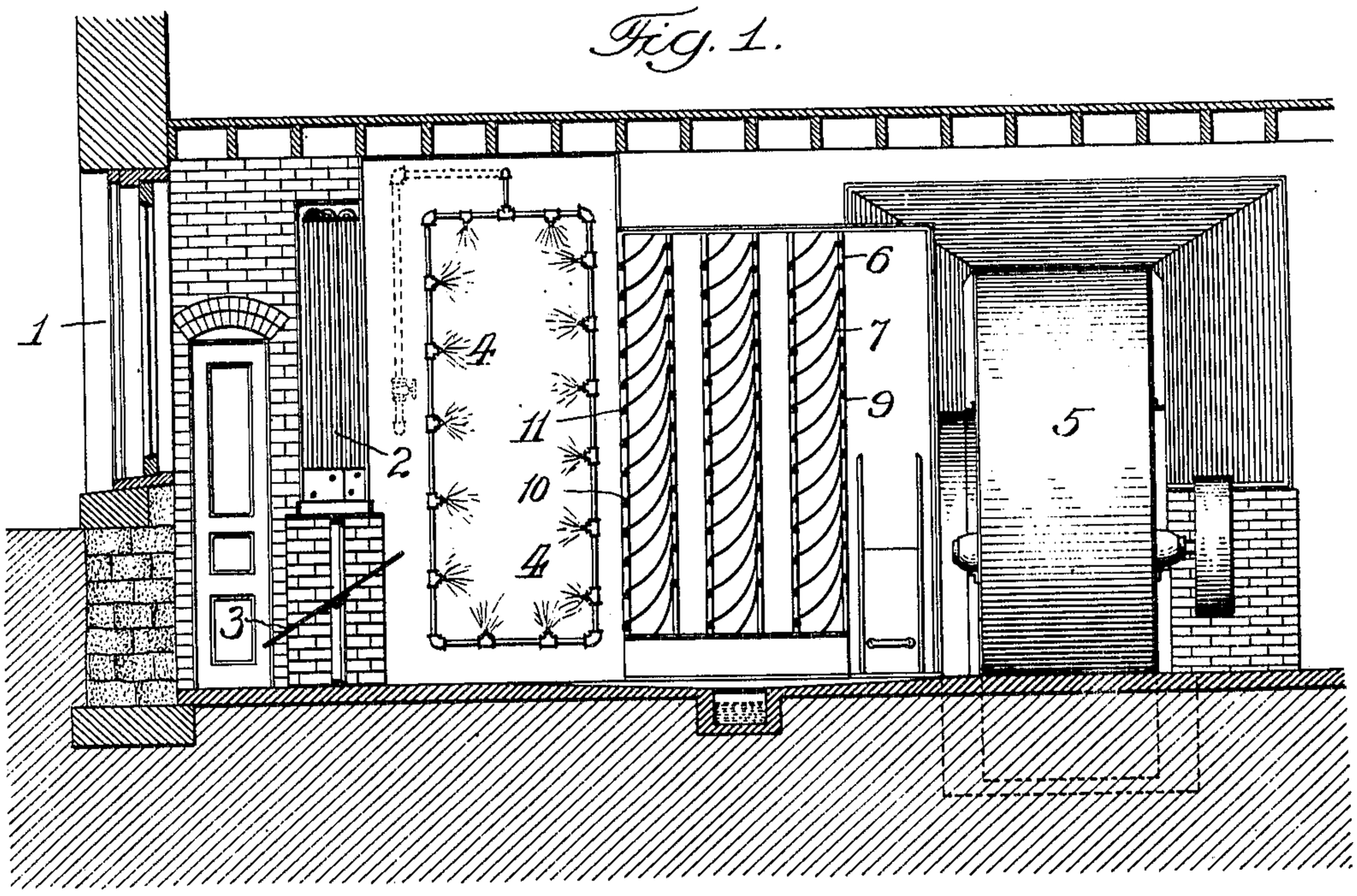


Fig. 2.

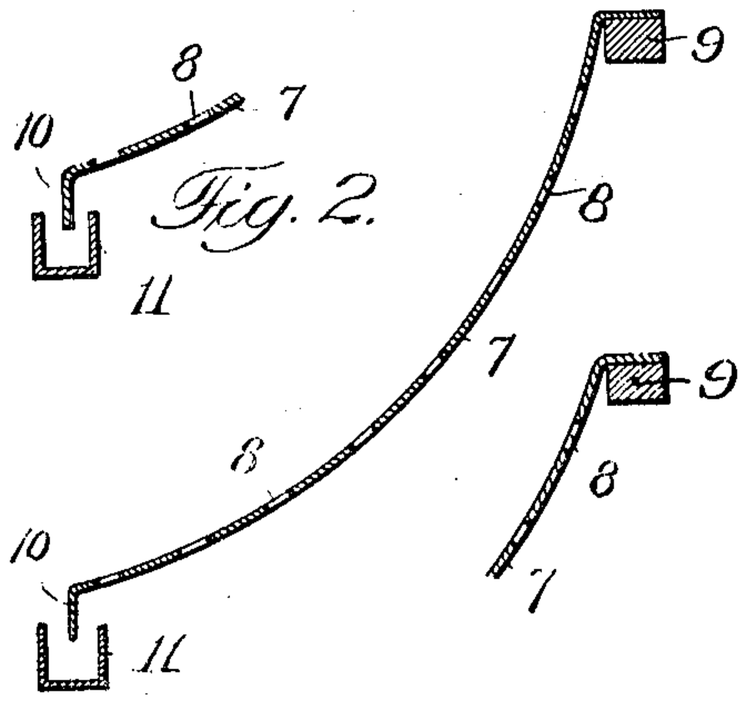
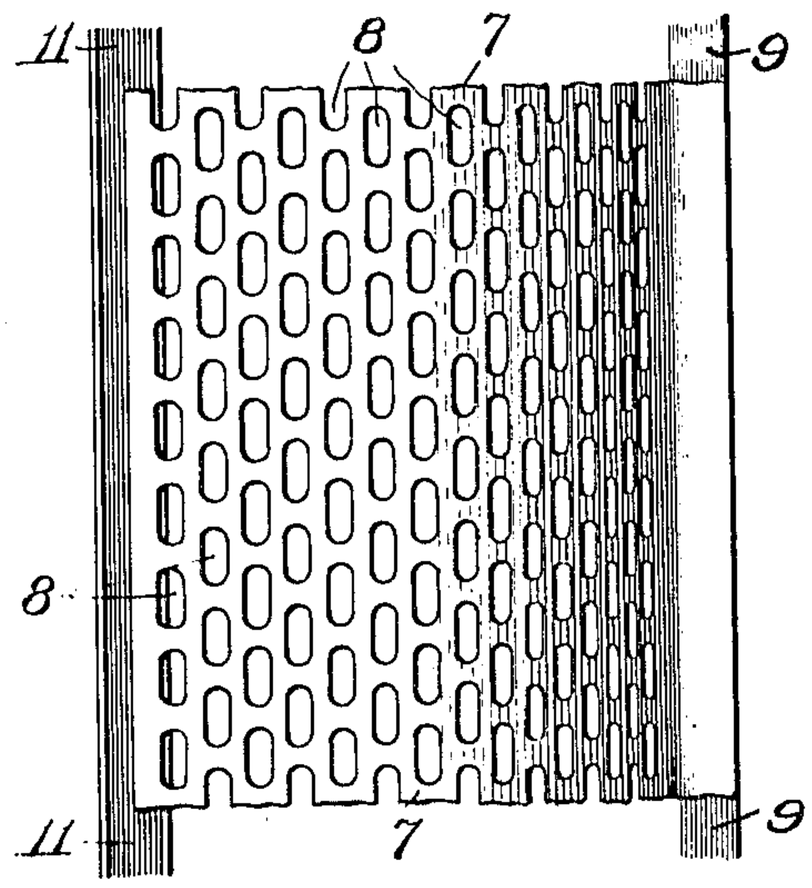


Fig. 3.



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UNITED STATES PATENT OFFICE.

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AIR-WASHER.

No. 843,180. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed October 5, 1906. Serial No. 337,525.

To all whom it may concern:

Be it known that I, CHARLES W. ROGERS, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Air-Washers, of which the following is a specification.

This invention relates to air-washing apparatus used in connection with the ventilating and heating systems of buildings, and has for its object to provide a simple and effective structural formation and combination of parts whereby the excess of water is eliminated from the passing air before reaching the fan or air-mover by which the washed air is forced into the ventilating-conduits of the building, all as will hereinafter more fully appear.

In the accompanying drawings, Figure is a longitudinal vertical section of an air-washing apparatus to which the present invention is applied. Fig. 2 is an enlarged detail vertical section of the eliminating plates or slats of the present invention. Fig. 3 is a detail plan of the same.

Similar numerals of reference indicate like parts in the different views.

Referring to the drawings, 1 represents the inlet-opening in the wall of the building and which opening communicates with the room or compartment containing the air-washing and air-moving parts of the system.

2 is a heating-coil arranged in the upper portion of said room in adjacent relation to the inlet-opening 1 aforesaid.

3 is a damper controlling a passage beneath the heating-coil 2 and adapted to control the amount of cold air admitted independently of said heating-coil to the air-washing and air-moving parts of the system.

4 are a series of jet-heads, through which water in the form of a fine spray is discharged into the room aforesaid in a plane immediately back of the heating-coil 2 and adapted to have a washing action upon the passing body of air.

5 is the fan or air-mover, arranged at the other end of the room aforesaid and adapted to draw the air through the above-described parts and force the air so drawn into the ventilating-conduits of the building.

The parts and their arrangement as above described is common to different forms of air-washers now in general use, and the present improvement involves the provision of a water-eliminator for removing the excess of water from the air before the same reaches the fan or air-mover 5 aforesaid and comprises a structural formation and arrangement of parts as follows: 6 are one or more vertical frames arranged transversely in the room aforesaid between the series of jet-heads 4 and fan 5 and having a size corresponding with the transverse width and height of said room. 7 are a series of transversely-arranged eliminator slats or plates supported at their respective ends in the frames 6 aforesaid. Such slats have an inclined position in relation to a vertical longitudinal plane of the apparatus and are preferably of the curved form shown, as affording a minimum resistance to the passing body of air and a maximum degree of water elimination. The preferred arrangement of the slats 7 is with the top margin of one slat in a higher horizontal plane than the bottom margin of the next adjacent slat above, and as illustrated in Figs. 1 and 2. 8 are a series of holes or apertures in the slats 7, preferably having a staggered arrangement and an elongated form transversely of the apparatus, as shown in Fig. 3. 9 are transverse rails for supporting the upper margins of the slats 7 when said slats are formed of a light material. 10 are downturned lips at the lower margins of the slats 7, adapted to impart stiffness to said slats and at the same time form a watershed for directing the separated water into the series of receiving-troughs now to be described. 11 are a series of transversely-extending open-top troughs arranged beneath the downturned lips 10 of the slats, with the said lips extending partly into the troughs, as shown, to insure a more perfect drip of the water from off said slats into the troughs.

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

1. In an air-washing system, an eliminator comprising a series of curved slats having an inclined arrangement in the path of the moving body of air.

2. In an air-washing system, an eliminator comprising a series of slats formed with aper-

tures and arranged in an inclined direction in the paths of the moving body of air.

3. In an air-washing system, an eliminator comprising a series of slats formed with apertures in staggered relation, said slats being arranged in an inclined direction in the path of the moving body of air.

4. In an air-washing system, an eliminator comprising a series of slats formed with oblong apertures and arranged in an inclined direction in the path of the moving body of air.

5. In an air-washing system, an eliminator comprising a series of curved slats formed with oblong apertures in staggered relation, said slats being arranged in an inclined direction in the path of the moving body of air.

6. In an air-washing system, an eliminator comprising a series of curved slats having an inclined arrangement in the path of the moving body of air, and a series of receiving-troughs arranged at the lower margins of the slats.

7. In an air-washing system, an eliminator comprising a series of slats formed with apertures and arranged in an inclined direction in the path of the moving body of air, and a series of receiving-troughs arranged at the lower margins of the slats.

8. In an air-washing system, an eliminator comprising a series of slats having an inclined arrangement in the path of the moving body of air and provided with downturned lips on their lower margins, and a series of receiving-troughs arranged beneath said lips.

Signed at Chicago, Illinois, this 1st day of October, 1906.

CHARLES W. ROGERS.

Witnesses:
ROBERT BURNS,
HENRY MOE.