

(No Model.)

S. H. GEHLMAN.

VENTILATOR AND DUST ARRESTER FOR RAILWAY CARS.

No. 567,972.

Patented Sept. 22, 1896.

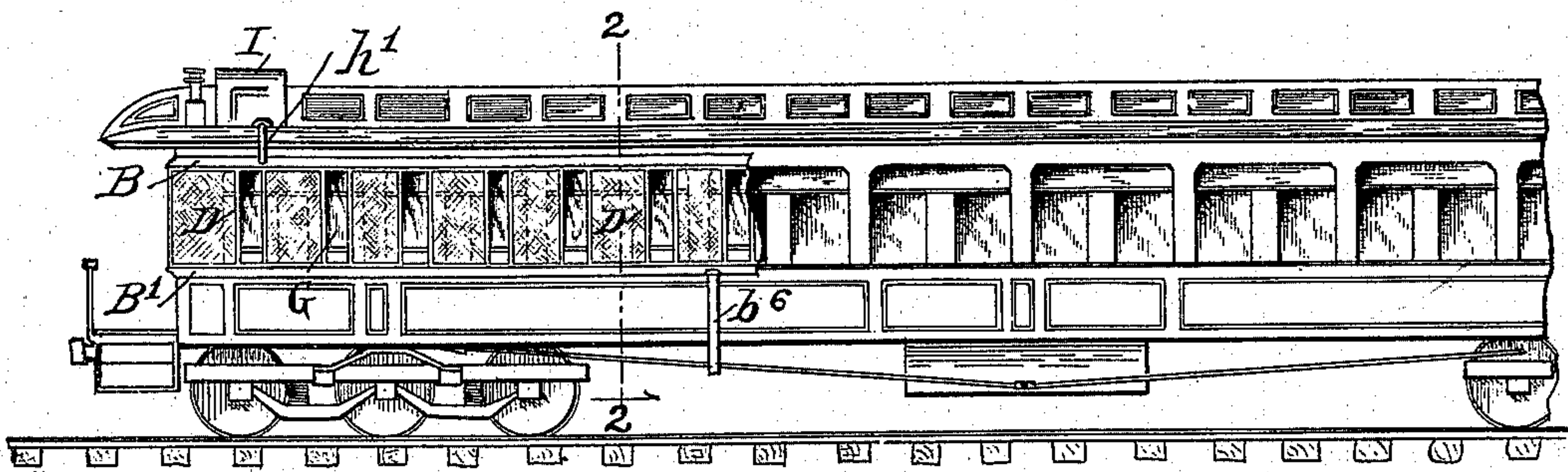


Fig. 1.

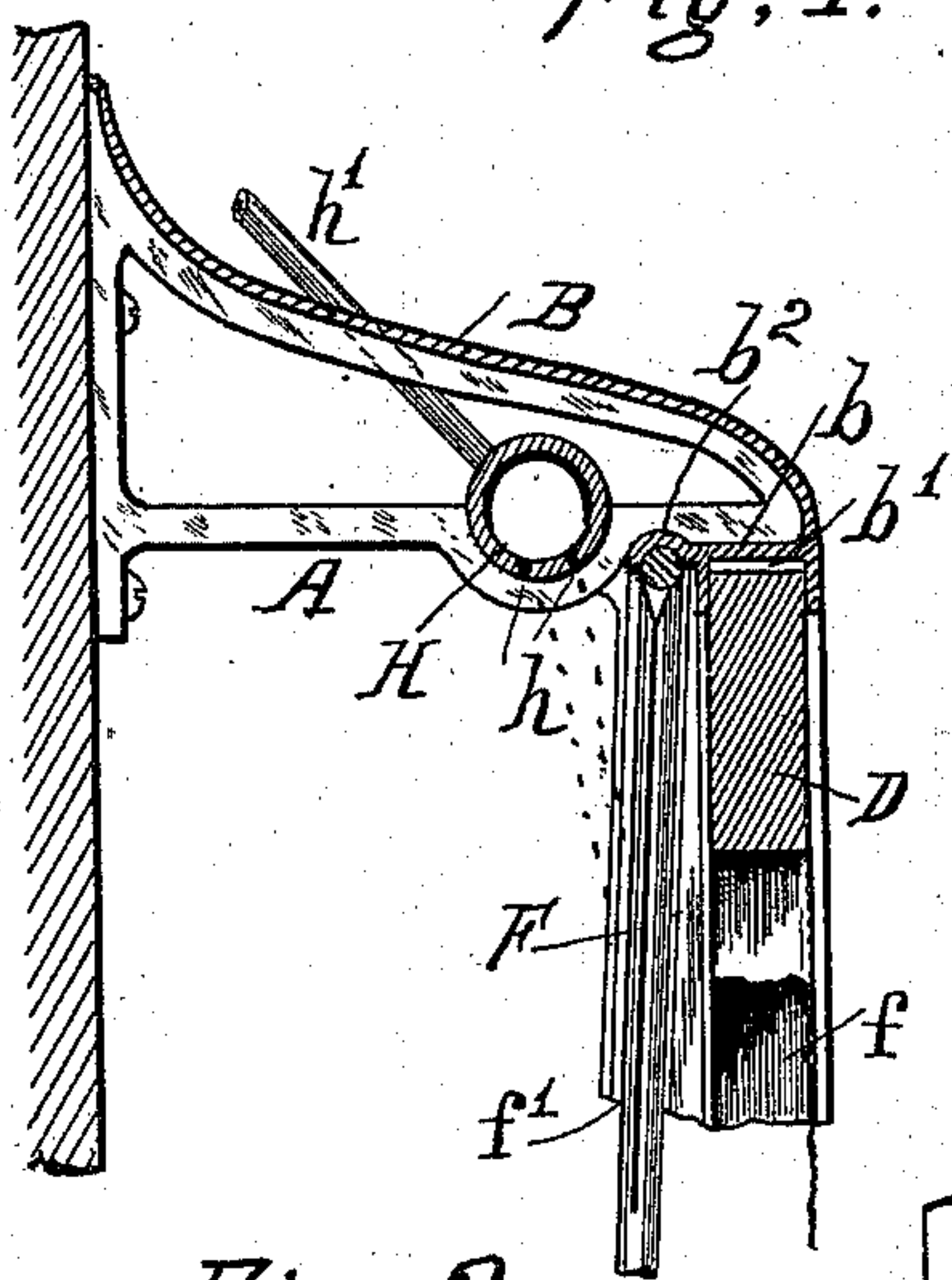


Fig. 2.

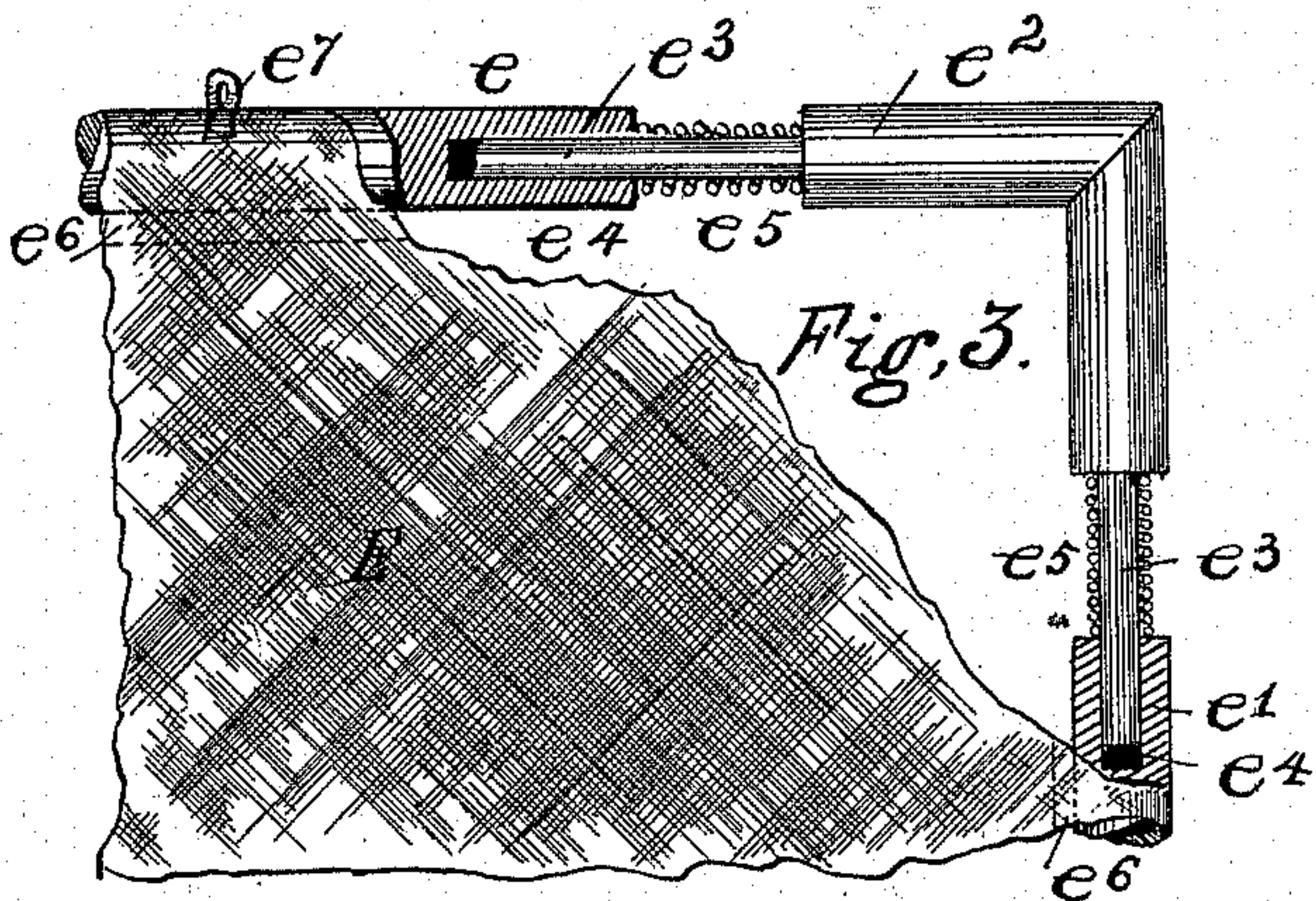
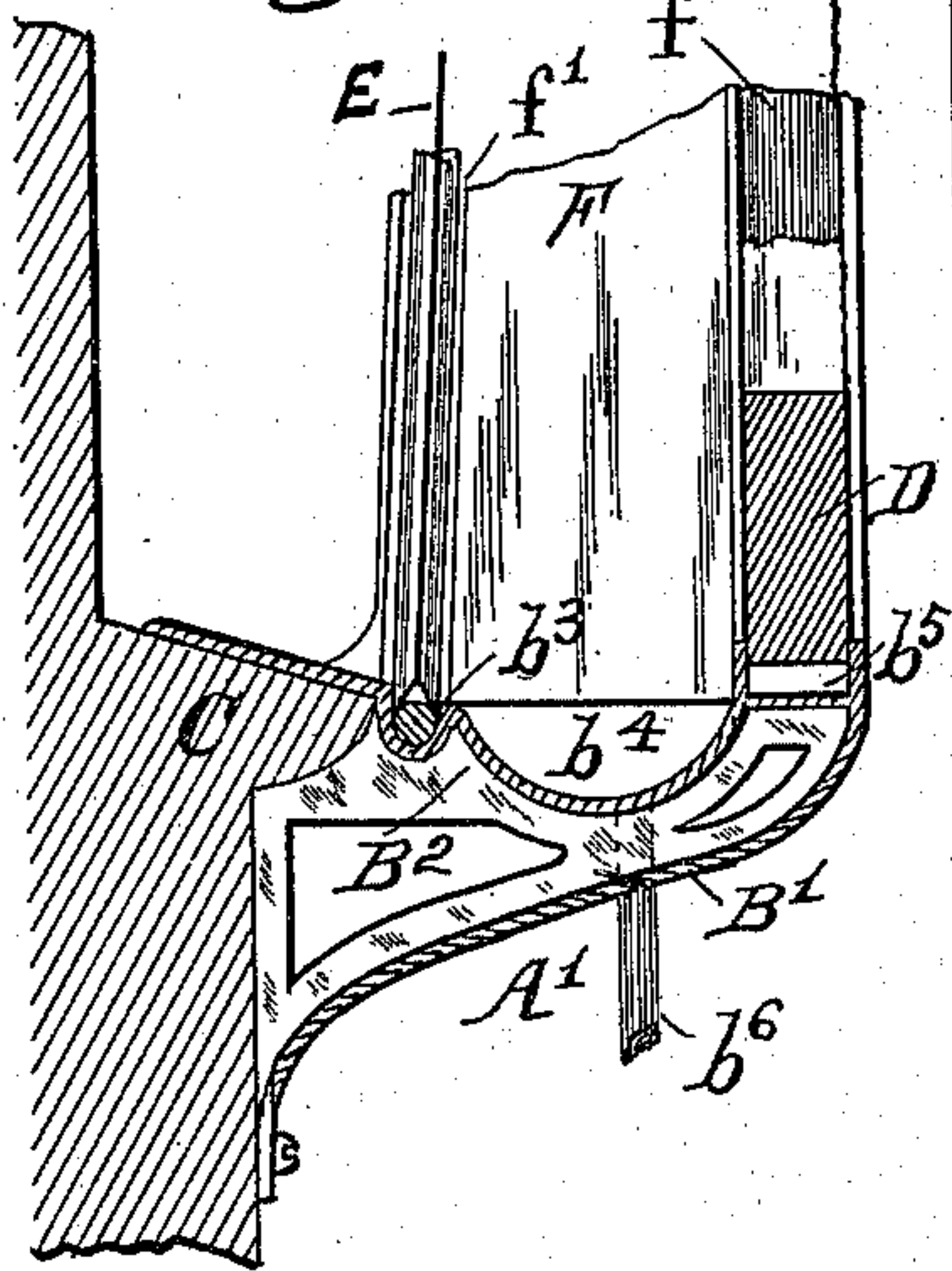


Fig. 4.

Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL H. GEHLMAN, OF SPRINGFIELD, ILLINOIS.

VENTILATOR AND DUST-ARRESTER FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 567,972, dated September 22, 1896.

Application filed July 21, 1896. Serial No. 600,046. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL H. GEHLMAN, a citizen of the United States, residing at Springfield, in the county of Sangamon and State of Illinois, have invented a certain new and useful Ventilator and Dust-Arrester for Railway-Cars, of which the following is such a full, clear, and exact description as will enable those skilled in the art to which it ap-
10 pertains to make and use my said invention.

The general purpose of my invention is to provide a ventilator and dust-arrester so constructed and arranged that it may be attached to the sides and ends of any railway
15 passenger-car as now commonly constructed in such manner as not to obstruct the view of the passengers in the car and so as to afford an abundant supply of air free from dust and cinders, said device being also so
20 constructed and arranged that it may be conveniently detached from the car and the several parts of said device may be conveniently removed for cleansing or repair.

More specifically stated, the purposes of
25 my invention are to provide suitably-supported glazed sashes contiguous and opposite to each window or door opening of the car, to provide suitably-supported screens of woven wire-cloth or other suitable fabric ex-
30 tending between said glazed sashes, to provide dust-arresters of novel and improved form supported behind said screens and between the screens and the sides or ends of the car, to provide means of novel and improved
35 form whereby said glazed sash, screens, and dust-arresters may be detachably supported on the sides and ends of the car, and to provide simple and effective means for supplying moisture to said dust-arresters in order that
40 they may more effectively prevent the passage of dust into the car.

With these ends in view my invention consists in certain novel features of construction and combinations of parts shown in the an-
45 nexed drawings, to which reference is hereby made, and hereinafter particularly described and specifically claimed.

Referring to the drawings, Figure 1 is a side elevation of a railway-car, showing my
50 improved ventilator and dust-arrester in position thereon. Fig. 2 is an enlarged vertical transverse section through the ventilator

and dust-arrester on the line 2 of Fig. 1. Fig. 3 is an enlarged detached combined elevation and sectional view of part of one of the
55 dust-arresters. Fig. 4 is an enlarged detached elevation of one of the screen-frames and part of one of the glazed sashes, part of the partition F being shown as broken away, so as to show one of the springs on the screen-
60 frame.

Similar letters of reference designate like parts in all of the views.

The roof-brackets A and the base-brackets A' are secured to the sides of the car at suitable intervals and in any suitable manner
65 and project laterally outward from the sides of the car. A roof-plate B, preferably of galvanized sheet-iron, is supported on the brackets A and extends longitudinally along the
70 sides and across the ends of the car. On the under sides of the brackets A is a continuous channel-plate b, which is secured to the brackets A and the roof-plate B and has a longitudinal channel b', in which the upper
75 ends of the frames of the glazed sashes and the upper ends of the screen-frames fit, also having a longitudinal groove b², in which the dust-arrester frames fit. The base-brackets
80 A' are inclosed by the base-plate B', which extends along the sides and across the ends of the car. Above and supported on the brackets A' are plates B², preferably of galvanized sheet-iron, which are secured to the plates
85 B' and which have their inner edges resting on and secured to the window-ledge C, extending along the sides and across the ends of the car. The plate B² is bent so as to form a longitudinal groove b³, a longitudinal trough
90 b⁴, and a longitudinal channel b⁵. The screen-frames D fit in the channels b' and b⁵. The upper and lower ends e of the dust-arresters fit in the grooves b² and b³, respectively.

Vertical partitions F are placed between the screen-frames D and the glazed sashes G
95 and have their upper ends secured to the plate b and their lower ends secured to the plate B². In the plates F are longitudinal channels f and f', which respectively register with the channels b' and b⁵ and with the
100 grooves b² and b³. The sides of the glazed sashes G and the screen-frames D fit in the channels f, and the sides of the dust-arrester frames fit in the channels f'. A pipe H, hav-

ing perforations h , is supported on the brackets A and extends along the sides and across the ends of the car. Water-tanks I are supported on top of the car and are connected with the pipe H by inlet-pipes h' .

The dust-arresters consist of finely-meshed fabric E , such as bolting-cloth, stretched on frames which fit in the grooves b^2 b^3 and the channels f' . In their preferable form the dust-arrester frames consist of end pieces e , side pieces e' , and corner-pieces e^2 . The corner-pieces e^2 are provided with projecting stems e^3 , which work in longitudinal bores e^4 in the end pieces e and the side pieces e' and act against springs e^5 , which surround the stems e^3 . The side pieces e' and the end pieces e fit in marginal hems e^6 in the meshed fabric of the dust-arrester, as clearly shown in Fig. 3. Leather ears e^7 are suitably secured to the meshed fabric at the center of the upper end and at the center of one side of the dust-arrester and afford means whereby one side of the frame may be moved toward the other, so as to contract the frame transversely sufficiently to permit the sides of the frame to be removed from the channel f' , and whereby one end may be moved toward the other, so as to longitudinally contract the frame sufficiently to permit the ends of the frame to be withdrawn from the grooves b^2 and b^3 .

It will be observed that, owing to the peculiar construction of the dust-arrester frames which I have just described, the springs in the side pieces and the end pieces serve to keep the fabric stretched and the dust-arrester frames in proper position in the channels and grooves in which they are supported. It will also be seen that the side pieces and end pieces of the dust-arrester frames may be readily removed when it is desired to cleanse or replace the meshed fabric.

By reference to the drawings it will be seen that the glazed sashes are directly in front of the car-windows, but are narrower than the windows. It will be seen also that the screens extend between the glazed sashes and that the dust-arresters are directly behind the screens. The glazed sashes G are secured in any suitable manner in the channels b' and b^5 . The screen-frames D are of the usual construction and are covered with wire-cloth d . On the sides and ends of the screen-frames are springs d' , which serve to retain the screen-frames in position in the channels, and which may be compressed sufficiently to permit the withdrawal of the screen-frames. In order to moisten the fabric of the dust-arrester, water is supplied to the pipe H from the tanks I and drips through the perfora-

tions in the pipe down onto the fabric, thus keeping the fabric uniformly moistened sufficiently to prevent the passage of dust through it. Any surplus water which may be applied to the fabric runs down into the trough b^4 , by which it is conveyed to the downfall-pipe b^6 , whence it is discharged upon the ground.

I am aware that meshed fabric has heretofore been used on dust-arresters. I am also aware that means for applying moisture to meshed fabric in dust-arresters have heretofore been used. I therefore do not claim those features broadly.

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

1. A ventilator and dust-arrester for railway-cars consisting essentially of suitably-supported channel-plates and trough-plates, glazed sashes and screens supported on said plates, a dust-arrester of meshed fabric detachably connected with said plates and means adapted to apply moisture to the fabric of said dust-arrester, substantially as set forth.

2. A ventilator and dust-arrester for railway-cars consisting of roof-brackets and base-brackets attachable to a car, a roof-plate supported on said roof-brackets, a perforated water-pipe supported on said roof-brackets, a channel-plate secured to said brackets and roof-plate, and having a channel b' and a groove b^2 , a base-plate inclosing said base-brackets, a trough-plate on said brackets attachable to the car and having a groove b^3 , a trough b^4 and a channel b^5 , glazed sashes secured in said channels b' and b^5 , screens in said channels, vertical partitions between said glazed sashes and screens and secured to said channel-plate and trough-plate and a dust-arrester fitting in the grooves in said channel-plate and trough-plate, as set forth.

3. A dust-arrester consisting of side pieces e , e' , corner-pieces e^2 having stems e^3 fitting in bores e^4 in the end pieces and side pieces e , e' and acting against springs surrounding said stems and meshed fabric E having marginal hems e^6 in which said end pieces and side pieces fit, in combination with plates attachable to a car and having grooves in which the frame of said dust-arrester fits, as set forth.

In witness whereof I have hereunto subscribed my name at Springfield, Illinois, this 16th day of July, 1896.

SAMUEL H. GEHLMAN.

Witnesses:

WM. W. DEUTSCH,
A. DAWES DU BOIS.