

(No Model.)

H. LINDSEY.
CAR VENTILATOR.

No. 391,324.

Patented Oct. 16, 1888.

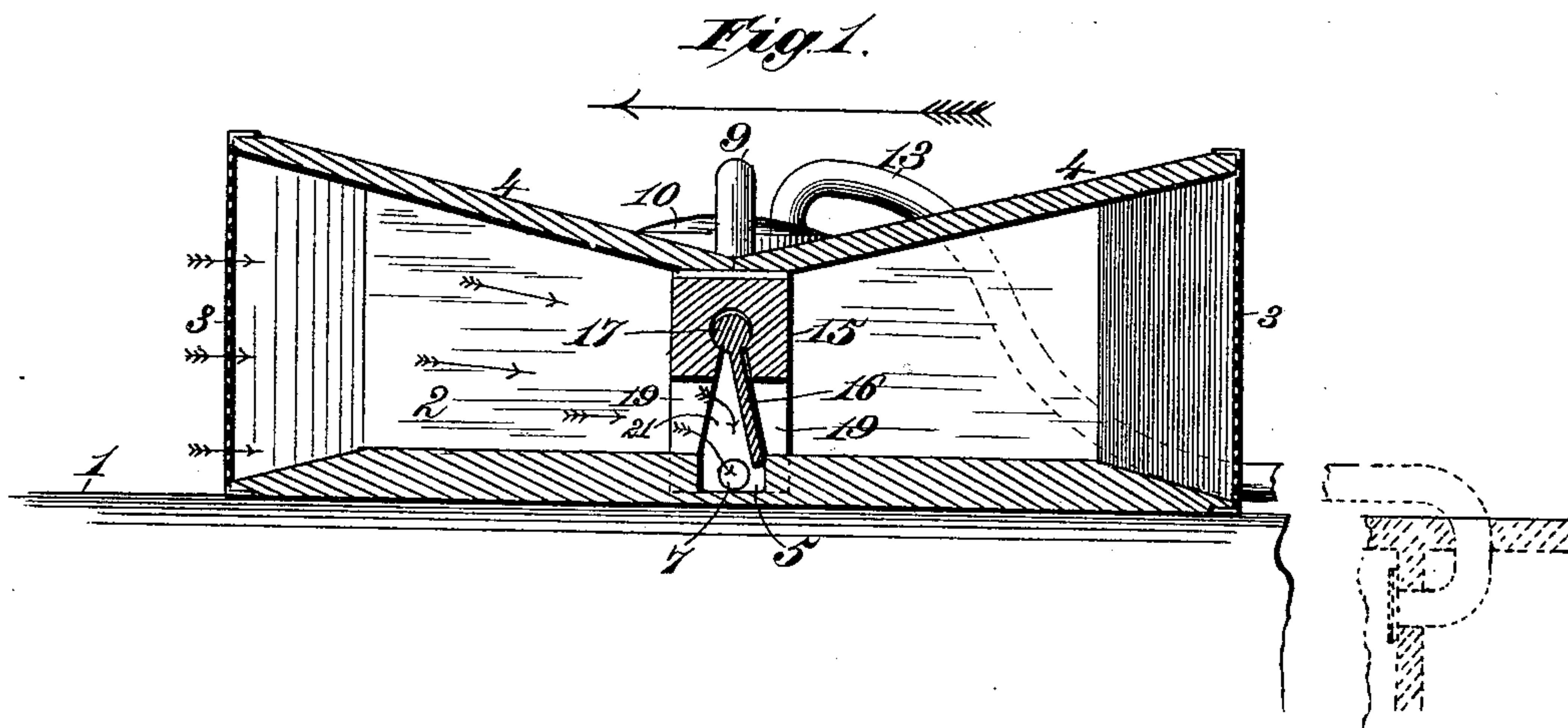


Fig. 2.

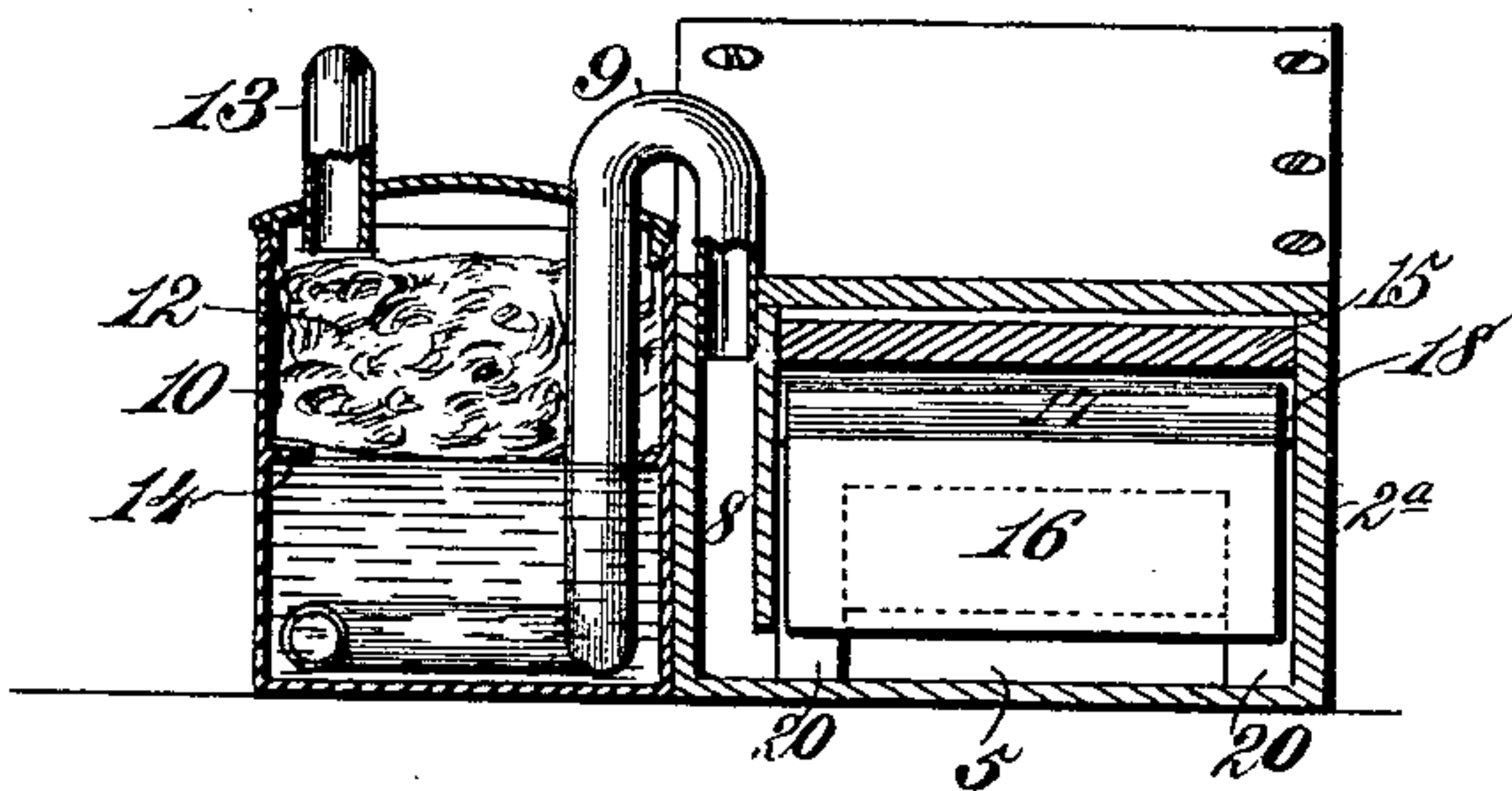


Fig. 3.

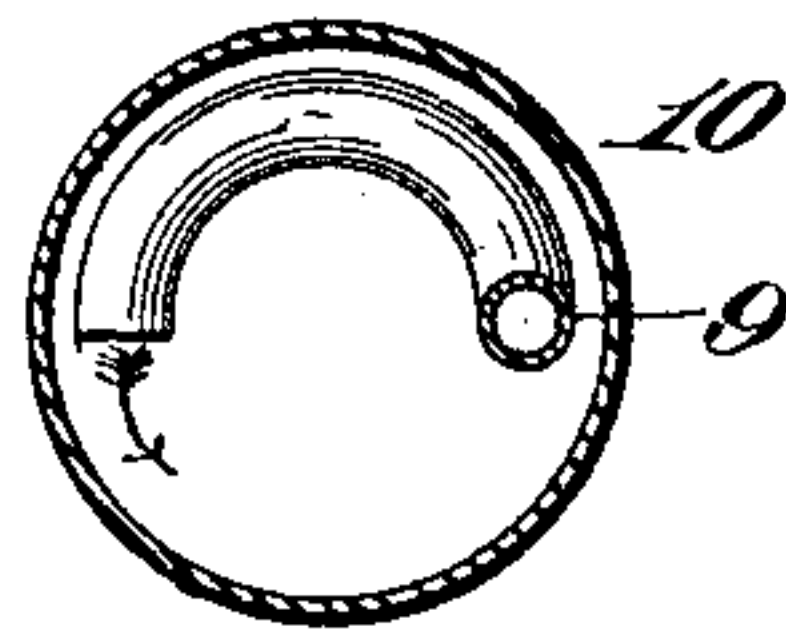


Fig. 4.

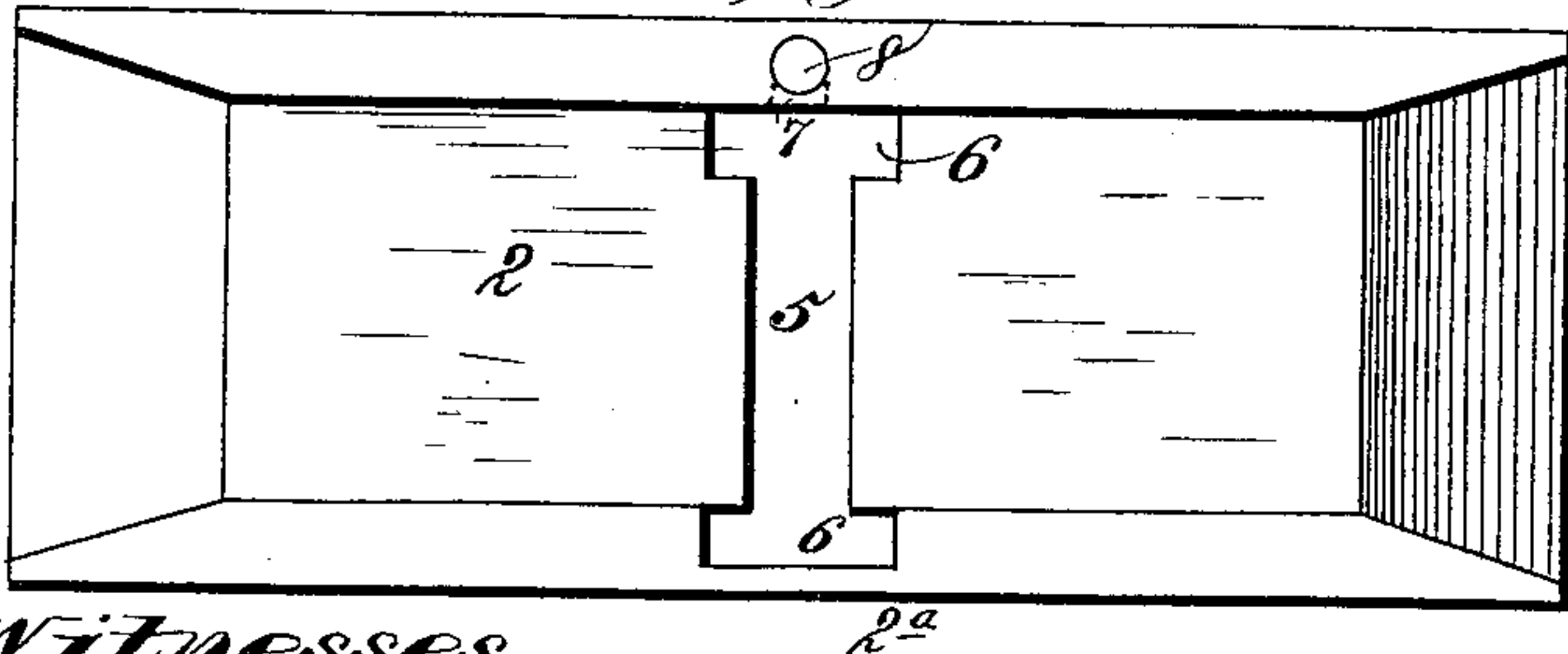
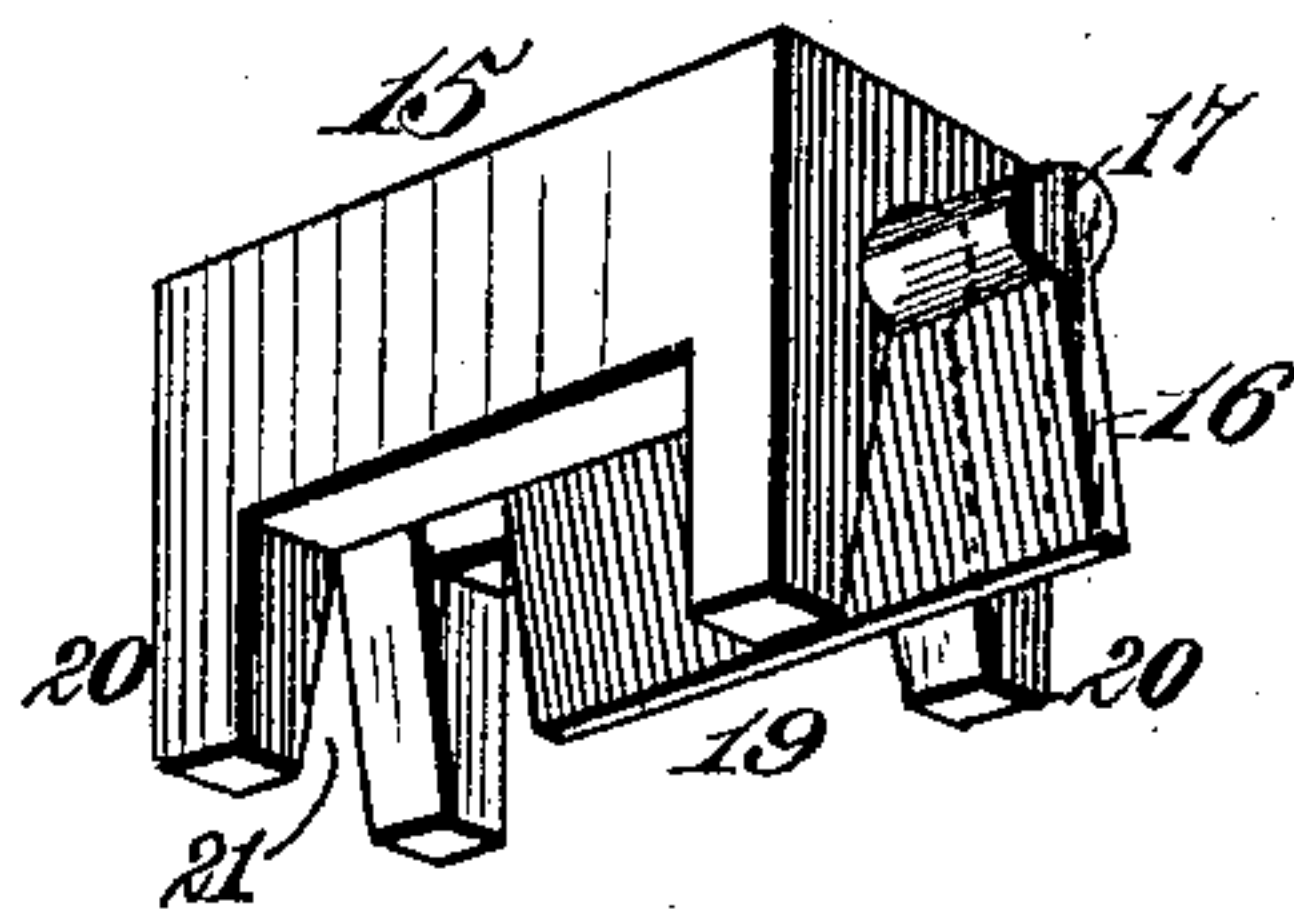


Fig. 5.



Witnesses,

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UNITED STATES PATENT OFFICE.

HOSEA LINDSEY, OF ASHEVILLE, NORTH CAROLINA.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 391,324, dated October 16, 1888.

Application filed December 22, 1887. Serial No. 258,732. (No model.)

To all whom it may concern:

Be it known that I, HOSEA LINDSEY, a citizen of the United States, residing at Asheville, in the county of Buncombe and State of North Carolina, have invented new and useful Improvements in Car-Ventilators, of which the following is a specification.

My invention relates to car ventilators; and the purpose thereof is to provide a simple, efficient, and comparatively inexpensive apparatus whereby the interior of the car may at all times, when in motion in either direction, be supplied with an abundant quantity of fresh pure air free from dust, cinders, or other foreign impurities. It is also my purpose to so organize the parts composing said apparatus that the smaller particles of dust which frequently pass the washing-tank without difficulty and enter the interior of the car shall be arrested and the air supplied from the ventilator rendered of more than ordinary purity.

To these ends the invention consists in the several novel features of construction and new combinations of parts, hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a longitudinal vertical section of an apparatus embodying my invention. Fig. 2 is a central transverse section. Fig. 3 is a horizontal section of the washing-tank, taken directly above the horizontally-curved part of the air-inlet pipe. Fig. 4 is a detail view of the ventilator-case, the valve and other parts being removed therefrom. Fig. 5 is a detail perspective of the valve and its casing, the valve being partly withdrawn.

In the said drawings, the reference-numeral 1 denotes a portion of the roof of the car at or about the center thereof. Upon this part of the roof I mount the ventilator-casing, consisting of a box, 2, of any suitable size and form, having its ends flaring or of increasing dimensions from the central part toward each extremity. Upon each vertical end is placed a foraminous shield, 3, having air-openings of a size to exclude the cinders and coarser floating particles of dust, while at the same time a comparatively unobstructed passage of air is permitted to the interior of said casing. A close cover, 4, incloses the top and extends from each end to or nearly to the center, each cover being removable.

Within the central part of the casing 2 is formed a channel, 5, cut in the floor of the said casing and extending from side to side thereof. At each end of said channel is formed a short channel, 6, at right angles to the transverse channel 5, and upon one side of the casing the channel 6 is cut partly within the vertical side wall, 2^a, of the casing, while upon the opposite side it lies flush with the interior face of the parallel wall. Through the latter and in the central line of the transverse channel 5 is formed an air-opening, 7, entering the wall of the channel 6 and passing under the vertical wall of the casing, where it communicates with an opening, 8, passing vertically upward in said side wall and communicating with a pipe, 9, entering the edge of the wall.

The pipe 9 is preferably of about one inch in diameter, and is curved over and downward to enter a cylindrical washing-tank, 10, in which it is carried to the bottom and then curved horizontally thereon, whereby the air driven through said pipe will communicate a rotary motion to the water contained in said tank. In the upper part of said tank, which is partly filled with water, is placed sponge or a similar absorbent material, 12, and a delivery-tube, 13, leads from the air-space in the top of said tank to the interior of the car, entering the latter at any desired point. If desired, a suitable support, 14, may be provided to keep the sponge from sinking to the bottom when saturated.

A valve-casing, 15, located transversely in the box 2 over the channel 5, contains a swinging rectilinear valve, 16, having at its upper end a cylindrical valve stem or bearing, 17, adapted to turn in a corresponding seat in the valve-casing. The valve-stem can be slid lengthwise into place, and in Fig. 5 is shown partly inserted. The central part of said casing is cut away on each side the valve to form a passage, 19, for air, and at each end of said opening is a leg, 20, behind which the valve lies, and between which and a similar leg on the other side the valve swings, an inverted-V-shaped passage, 21, being formed between the legs at each end, within which the valve has movement, and through which air entering by the passages 19 may pass to the opening 8 in the side wall of the casing 2. The valve-casing is seated low enough in the cross-

channel 5 to permit the edge of the valve to seat upon the opposite edges of said channel, and while permitting free passage of air from either end to the passage 8 prevents it from escaping under the swinging valve.

The air enters the ventilator-casing by reason of the pressure created by the motion of the car, and passing into the washing-tank communicates a rotary movement to the water therein, whereby the heavier particles of foreign matter are carried to the center of the tank and prevented from obstructing the open end of the air-pipe 9. The finer particles of dust which are not arrested by the water are caught by the sponge, and are ultimately washed out of the latter by the rotary movement of the water in the tank, thereby rendering the air which reaches the delivery-pipe 13 pure and clean.

What I claim is—

1. The combination, in a car-ventilator, of a boxing, 2, open at each end to the atmosphere and provided at its bottom with a transverse channel, 5, and at one side with a lateral air-opening, 7, communicating with a vertical side passage, 8, a transverse valve-casing, 15, located in the boxing and having the side air-passage, 19, a suspended swinging valve, 16, journaled in the valve casing and seating against opposite sides of the transverse channel, a washing-tank, 10, having a delivery-tube, 13, and a pipe, 9, connecting the upper por-

tion of the vertical side passage of the boxing with the interior of the washing-tank, substantially as described.

2. The combination, with a ventilator-casing having a central transverse channel in its bottom and cross-channels at the ends of the said channel, one of which communicates with an air-passage in the side wall of the casing, of a valve-casing having an air-passage and a valve swinging in said casing and seating on opposite edges of the central transverse channel, substantially as described.

3. The combination, with the casing having foraminous shields at each end and provided with a central transverse channel and with an air-passage in one vertical wall which communicates with said channel, of a valve-casing having an air-passage, a valve seating on opposite edges of the transverse channel, a cylindrical washing-tank containing water and packed with an absorbent in the upper end, a pipe leading from the ventilator-casing to the bottom of the washing-tank and curved horizontally thereon, and a delivery-pipe leading from the top of the tank to the car interior, substantially as described.

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

HOSEA LINDSEY.

Witnesses:

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