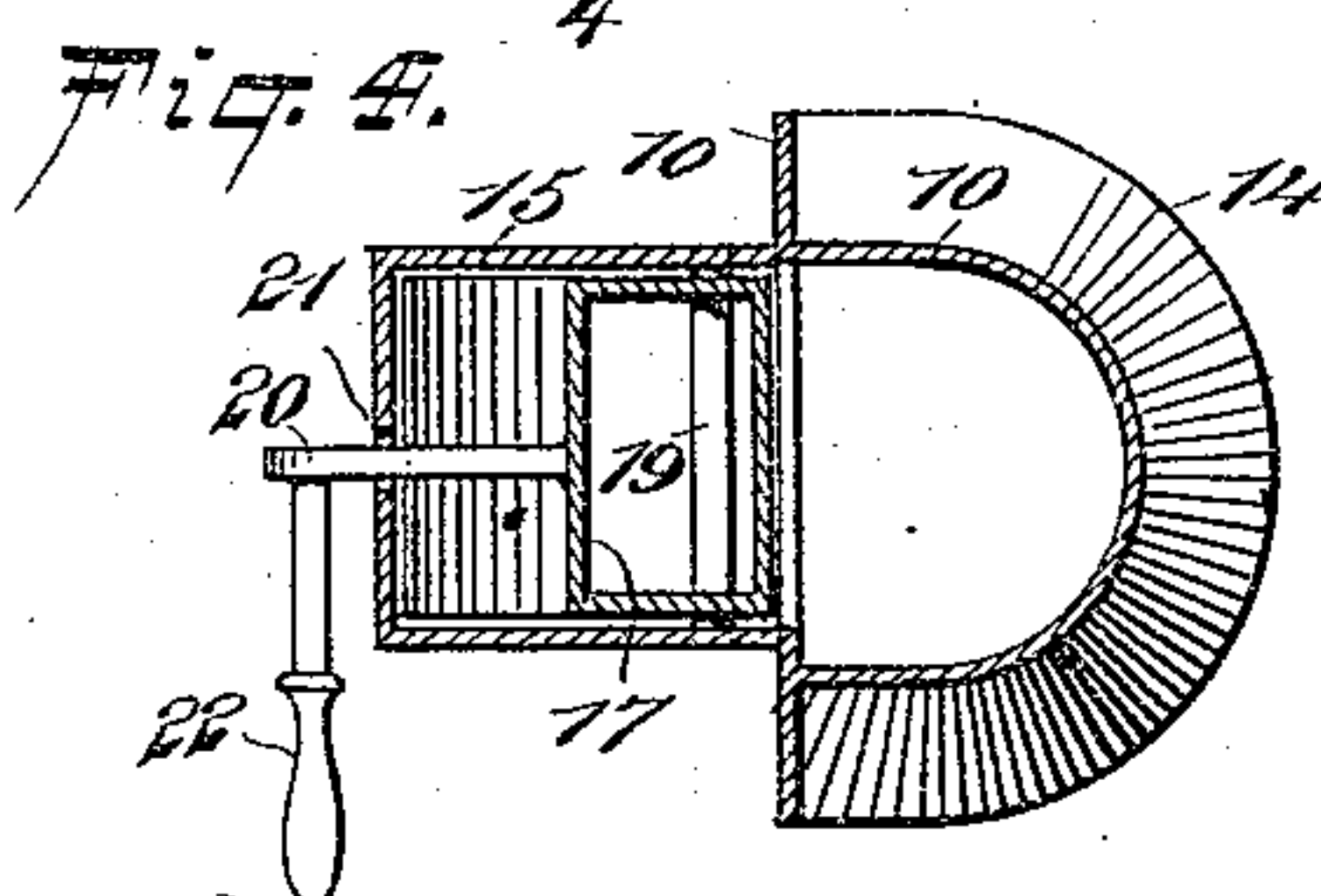
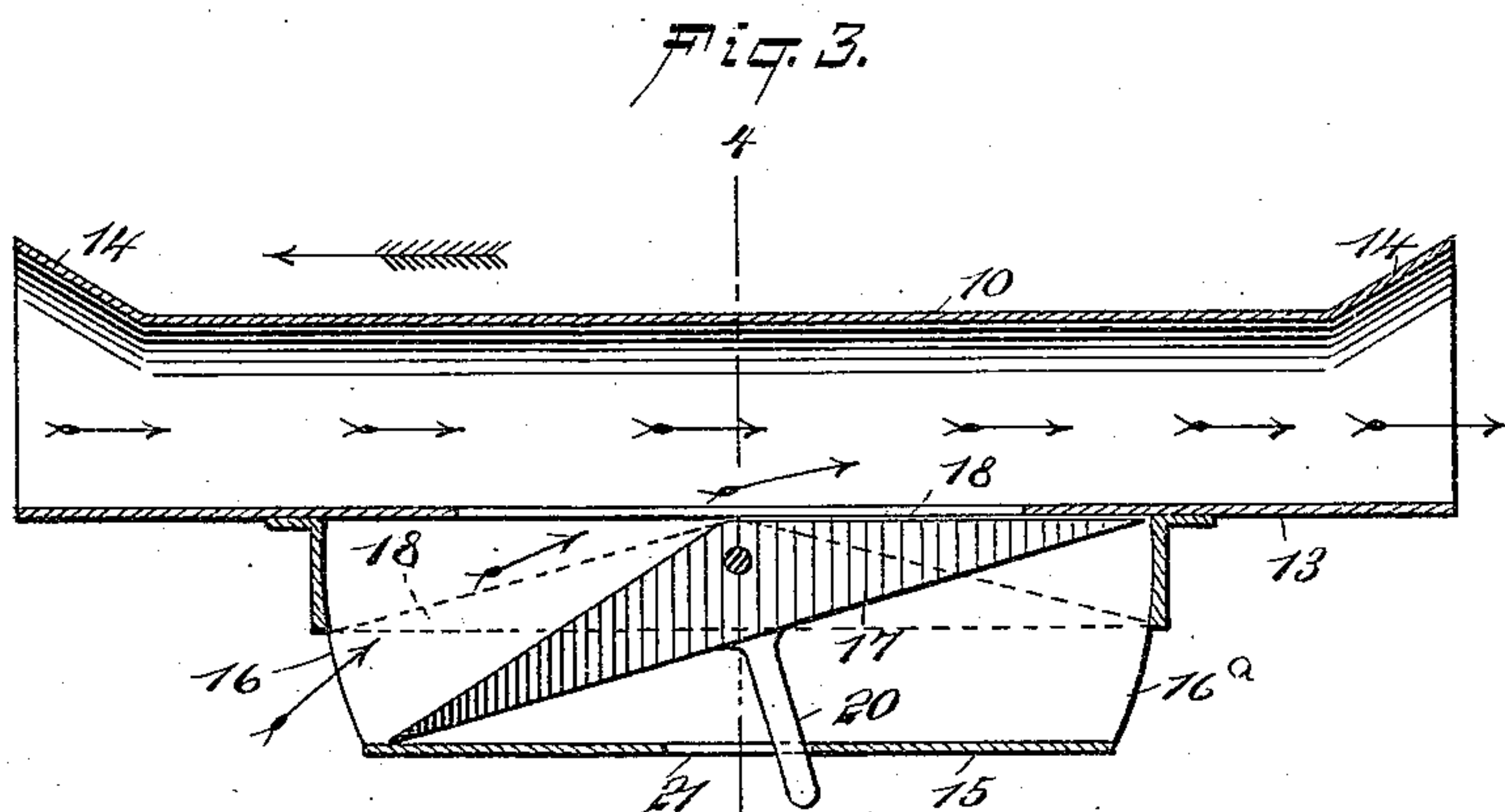
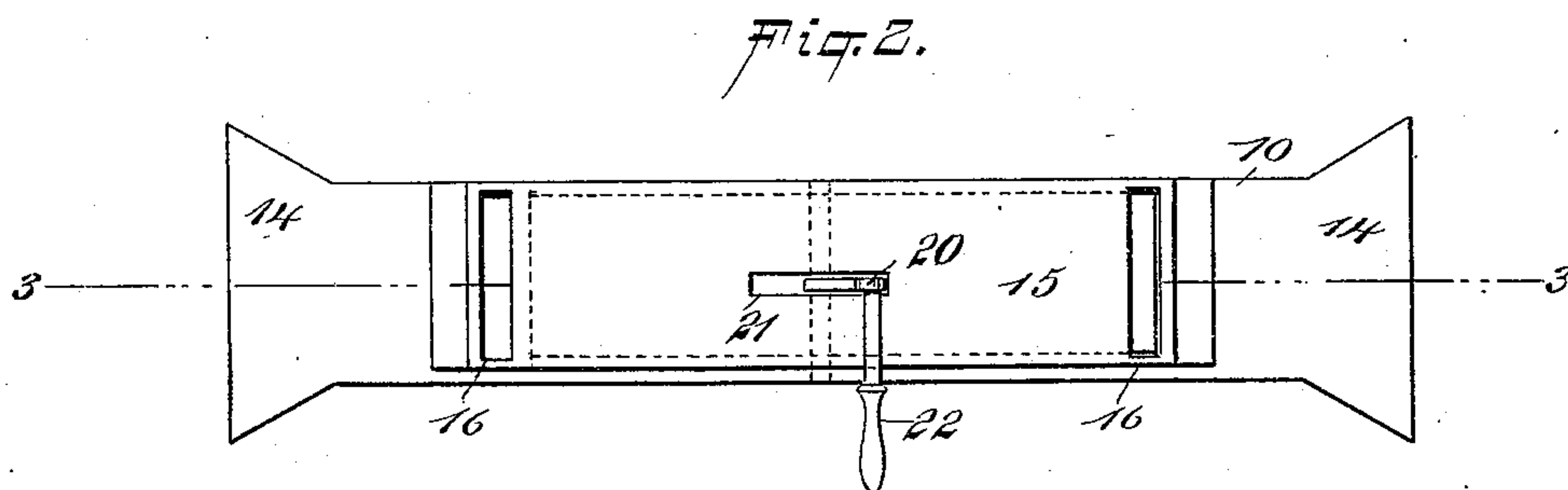
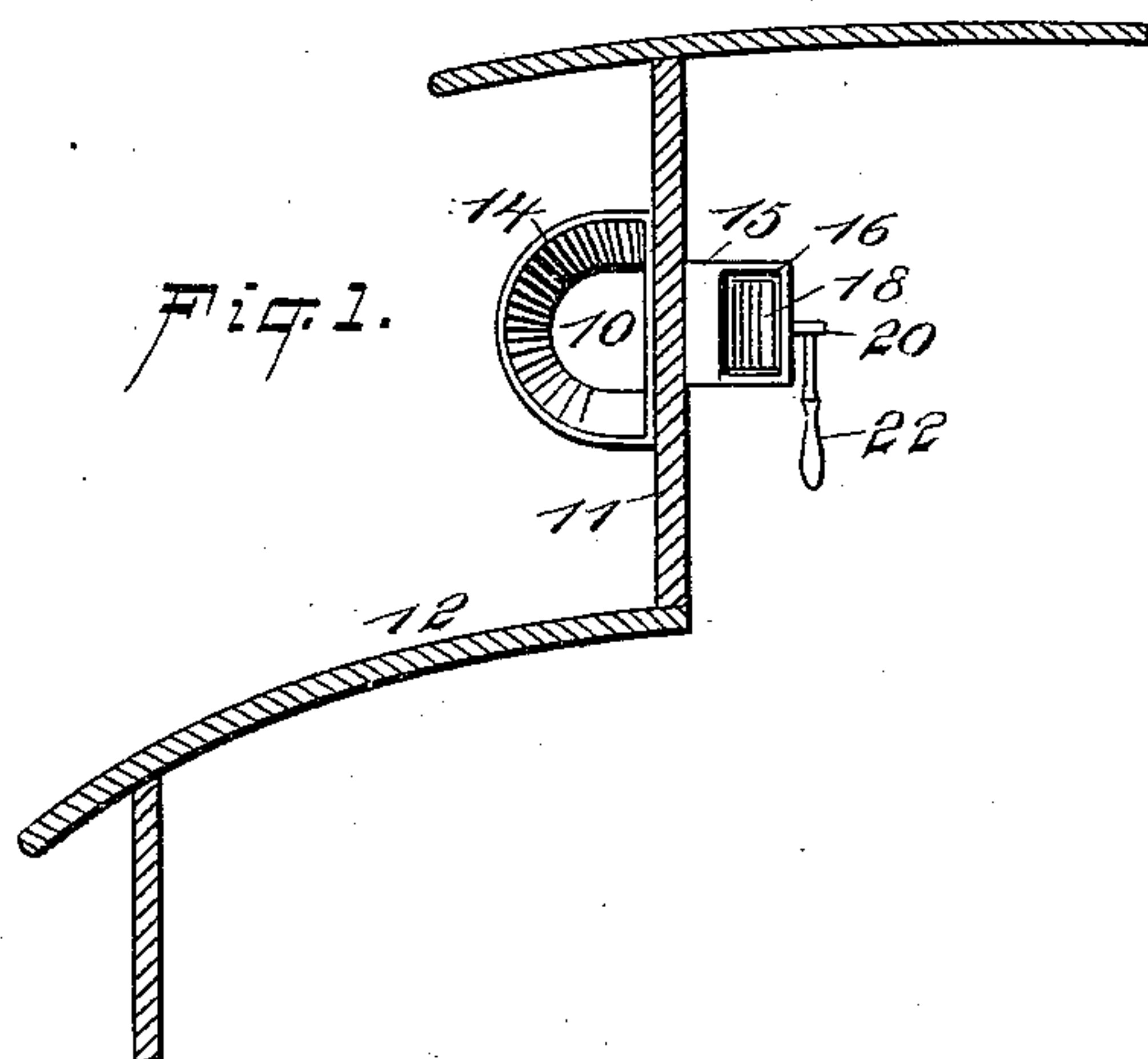


(No Model.)

B. F. HUGHSON.
CAR VENTILATOR.

No. 547,920.

Patented Oct. 15, 1895.



WITNESSES:
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UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN HUGHSON, OF COLD SPRING, NEW YORK.

CAR-VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 547,920, dated October 15, 1895.

Application filed December 20, 1894. Serial No. 532,437. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN HUGHSON, of Cold Spring, in the county of Putnam and State of New York, have invented
5 a new and Improved Car-Ventilator, of which the following is a full, clear, and exact description.

My invention relates to improvements in car-ventilators; and the object of my invention is to produce a very simple car-ventilator which may be easily and economically applied to any ordinary car, which when applied to the car causes the foul air to be entirely withdrawn from the car, this movement being facilitated by the momentum of the car, which has a central easily-controlled valve for regulating the air-current, and which has this valve so arranged that it may be easily adjusted from within the car to entirely close the ventilator, if desired.

To these ends my invention consists of a car-ventilator the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a cross-section of a portion of a car, showing in end elevation my improved ventilator applied to one side of the car-roof. Fig. 2 is an inside elevation of the improved ventilator. Fig. 3 is a longitudinal section on the line 3 3 of Fig. 2, and Fig. 4 is a cross-section on the line 4 4 of Fig. 3.

35 The ventilator has an elongated flue or hood 10, which is open at each end and is straight on its inner side, as shown at 13, throughout its entire length, so that it may lie flat against the side 11 of the car-roof 12. The flue has flaring ends 14, which prevent water from running into it, and these flaring ends also serve to compress the air to a certain extent, so that when the car is in motion the air flows rapidly through the flue. Projecting
40 from the straight inner side 13 of the flue 10 is a box or extension 15, which opens into the flue, and this extension has end openings 16 and 16^a, through which air passes from the car to the flue. In the box and extending its
50 full length is a tilting valve 17, the inner side of which is straight, while the outer side of

the valve has opposite inclines 18, adapted to alternately lie flat against the inner wall of the flue 10 and partially close the same, and when the valve is tilted, as shown in Fig. 3, so that
55 one of the inclines lies flat against the flue, the opposite end of the valve will be against the inner side of the box 15, thus opening the passage 16 or 16^a, as the case may be, so that the air may flow through from the car to the
60 flue. The valve is pivoted near the meeting points of the inclines 18, as shown in Fig. 3, and in order that the valve may be easily worked from within the car it is provided with an arm 20, which projects outward
65 through a slot 21 in the side of the box 15. It is not essential that the arm 20 be provided with a handle, as it may be struck by a stick or other article, so as to tilt the valve in the desired direction; but as a matter of convenience it is well to have an independent handle
70 22 on the arm, as shown in the drawings, so that by grasping the handle the arm and valve may be easily regulated. Supposing the car to be traveling in the direction of the
75 main arrow in Fig. 3, the air will therefore pass straight through the flue 10, as shown by the arrows in the same figure, and if the car is to be ventilated the valve 17 is tilted, as shown in Fig. 3, so as to close the outlet of
80 the box by way of the passage 16^a, and hence the foul air in the car will pass out through the passage 16 and the flue 10, this movement being facilitated by the current of air through the flue, which creates a suction tending to
85 draw the foul air from the car. If the car is traveling in the opposite direction, the valve 17 is tilted so that the air passes out through the passage 16^a. If it is desired to close the ventilator and retain the heat in the car, the
90 valve is tilted to the position shown by dotted lines in Fig. 3, thus bringing the straight side of the valve parallel with the flue 10 and extending from the outer side of the passage 16 to the outer side of the passage 16^a and
95 closing the outlet of the box 15.

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

1. A car ventilator, comprising a hood, a
100 casing opening laterally into the hood and provided with openings at its end portions, and a

valve arranged in the casing opposite the opening leading into the hood and adapted to alternately close the openings at the casing ends or close the opening into the hood, substantially as described.

2. The combination, with the hood and the casing opening laterally into it and provided with end openings, of the angular valve arranged in the casing opposite the opening leading from the box into the hood, the inclined sides of the valve being placed next the hood, substantially as described.

3. The combination, with the open-ended hood and the casing opening laterally into the hood and provided with end openings, of the angular valve in the casing and the projecting arm secured to the valve, substantially as described.

4. A car ventilator, comprising an elongated hood having flaring ends, a casing opening laterally into the hood and provided with end openings, a triangular valve pivoted in the casing with its inclined sides next the hood, the valve extending the full length of the casing, and means, as the arm and handle,

for actuating the valve, substantially as described.

5. In a car ventilator, or the like, the combination of a casing having openings at its end and side portions, and an angular valve adapted when operated to close the passage between one of the end openings and the side opening and open the passage between the other end opening and the side opening, substantially as set forth.

6. In a car ventilator or the like, the combination of a casing having openings at its end and side portions, and an angular valve adapted when moved to an extreme position to place one of the end openings in communication with the side opening and close communication between the other end opening and the side opening, and when moved to an intermediate position to close communication between both end openings and the side opening, substantially as set forth.

BENJAMIN FRANKLIN HUGHSON.

Witnesses:

J. G. SOUTHARD,

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