Oct. 13, 1925. 1,557,252

J. D. IMSANDE

HEAT DEFLECTOR

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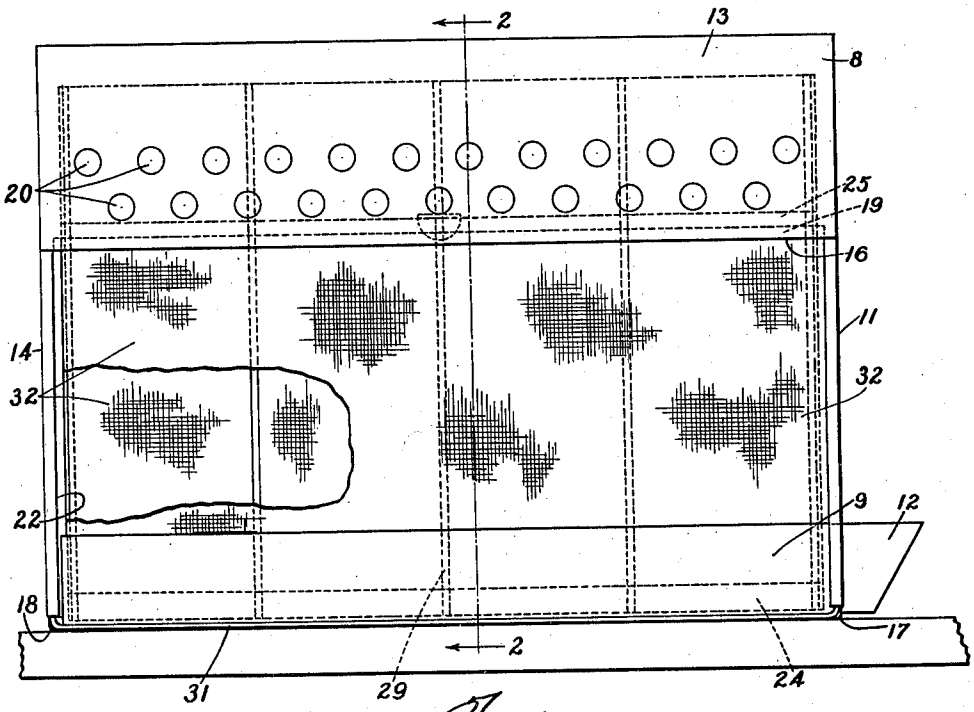


Fig. 1.

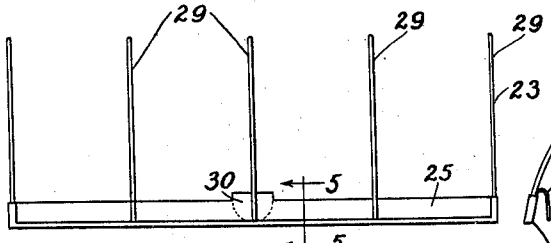


Fig. 3.

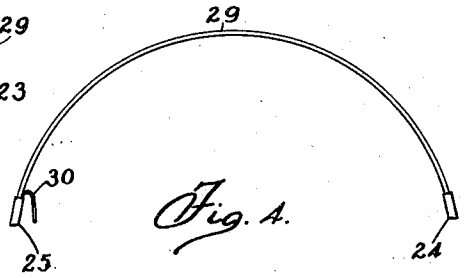


Fig. 4.

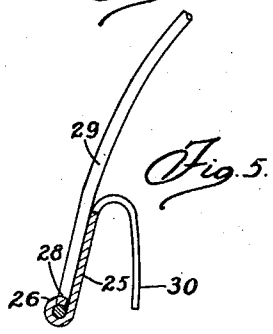


Fig. 5.

Inventor

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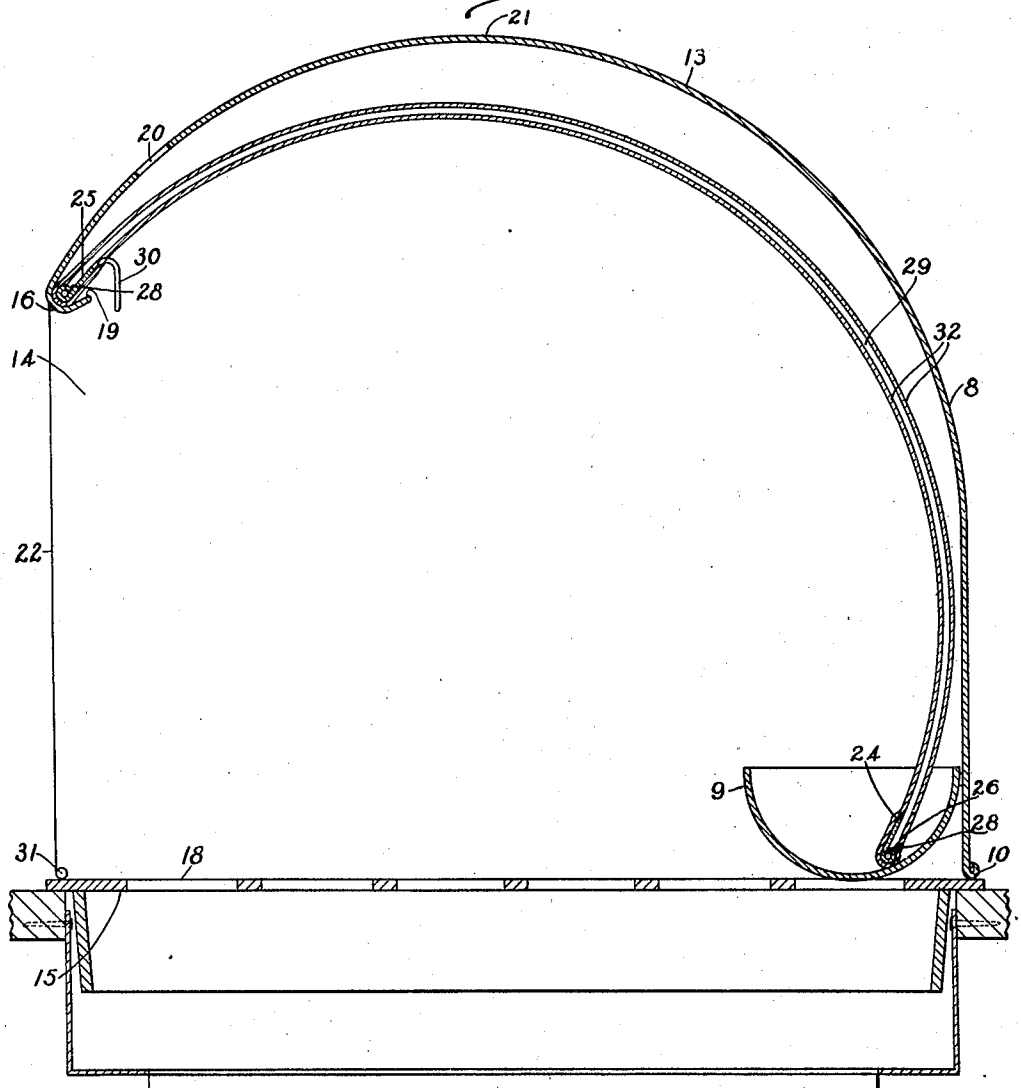
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Fig. 2.



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Patented Oct. 13, 1925. 1,557,252

UNITED STATES PATENT OFFICE.

JOHN D. IMSANDE, OF CINCINNATI, OHIO, ASSIGNOR OF ONE-HALF TO FRANCES C. ZIMMERMAN, OF CINCINNATI, OHIO.

HEAT DEFLECTOR.

Application filed April 14, 1925. Serial No. 23,082.

To all whom it may concern:

Be it known that I, JOHN D. IMSANDE, a citizen of the United States of America, and resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Heat Deflectors, of which the following is a specification.

An object of my invention is to provide a heat deflector for warm air furnace registers and the like.

Another object of my invention is to provide a device of this kind in which is embodied means for supplying moisture to heated air and for collecting dust and soot.

Another object is to provide a device of this kind which is simple and inexpensive of construction and which may be very readily cleaned.

These and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is a front elevation of the device of my invention.

Fig. 2 is a cross sectional elevation taken on line 2—2 of Fig. 1 showing the device in an operative position over a warm air register.

Fig. 3 is a front elevation of a frame structure forming a detail of my invention.

Fig. 4 is an end elevation of the device shown in Fig. 3.

Fig. 5 is a view taken on line 5—5 of Fig. 3.

The device comprises a hood indicated generally as 8 having a shallow semi circular trough 9 disposed interiorly of the hood and along the rear bottom edge 10 thereof and projecting through the end 11 of the hood 8 and terminating in a filling opening 12 disposed exteriorly of the hood. The hood 8 is preferably made of sheet metal having a continuous curved top and side wall member 13 and ends 11 and 14. The rear edge 10 of the curved top wall 13 is adapted to rest upon the floor or top portion of a hot air register 15 while the opposite edge 16 of the top 13 is spaced at a distance from the base provided by the edge 10 and the edges 17 and 18 of the end walls 11 and 14 respectively. The edge 16 of the curved top wall 13 is inwardly turned to provide a U-shaped or curved ledge 19. The top 13 is provided with a number of spaced perforations 20 adjacent the edge 16. The deflector of my invention differs somewhat from the commonly used heat deflectors in that the edge 16 of the top 13 is disposed considerably below the level of the uppermost point 21 of the hood 8, to the end that there is provided a sort of pocket in the upper interior portion of the hood. Heated air which rises within the hood, will pass upwardly into the packet and find its way out through the perforations 20 as well as through the open front 22 of the hood. The purpose of this will be explained later. If desired, a wire or rod 31 may be disposed between the front edges of the walls 11 and 14 in order to give additional strength to the structure.

A frame 23 comprises a pair of sheet metal binding strips 24 and 25 having a longitudinal curved edge such as 26 whereby a longitudinal groove is supplied to each of the members 24 and 25. The grooves in the members 24 and 25 are adapted to receive the ends 28 of rods or wires 29 which are curved to substantially a half circle. The edge 26 of the members 24 and 25 is adapted to be clamped tightly against the body of said strips in order to firmly retain the ends of the curved rods or wires 29 and to retain said rods in spaced parallelism as shown in Fig. 3. The mounting of the ends of the wires 29 upon the strips 24 and 25 may be expedited by turning the ends of the wires 29 at right angles so they will readily seat in the body and the edge 26 of the members 24 and 25. The member 25 is adapted to seat in the U-shaped groove 19 at the forward edge 16 of the top wall 13 and is provided with a suitable hook member 30 which may easily be grasped by the fingers to seat and unseat the member 25 in the U-shaped groove 19. The member 24 seats loosely in the trough 9, the resiliency of the wires 29 serving to exert sufficient spring action to firmly and yieldingly retain the frame in the position

shown in Fig. 21. As will be readily apparent, the frame 23 is readily removable from the interior of the hood. The frame 23 is adapted to receive a lightly woven cloth or fabric 32 and to retain it in a shape conforming substantially with the frame 23. The cloth 32 is simply and expeditiously mounted upon the frame 23 by shaping it into substantially a flat bag of a width sufficiently to receive the strips 24 and 25 and of a length equal to the developed length of the curved wires 29. The cloth 32 would then have one thickness disposed on each side of the wires 29 as shown in Figs. 1 and 2.

The operation of the device is as follows: The cloth member 32 is mounted upon the frame 23 in the manner just described and the frame thus covered is mounted interiorly of the hood by seating the member 24 in the trough 9 and passing the member 25 into the U-shaped groove 19 on the edge 16. The device is then seated over a warm air register such as 15 and water is poured into the trough 9 most conveniently by means of the filling opening 12 disposed exteriorly of the hood. The capillary action of the cloth which may be cheese-cloth or any other suitable material, causes the entire cloth to become moistened and the heat rising from the register 15 will strike the moistened cloth 32 which will arrest dust and soot which might be driven out of the register by the action of the heat, and at the same time will give off some of its moisture which will be useful in humidifying the warm air which rises from the hood. By providing pockets beneath the uppermost point 21 of the hood and by providing the perforations 20 as above described, the heat will be very readily directed against, and some of it will pass through the cloth 32, so as to insure the cleansing of the heated air rising from the register.

The cloth bag 32 may be readily removed from the frame at intervals and a clean cloth substituted for it while the original cloth is being washed.

What I claim is:

1. In a device of the class described the combination with a curved hood having an open bottom and front, of a trough disposed interiorly of the hood and positioned opposite the open front, a curved frame interiorly of the hood and having its one edge disposed within the trough and its opposite edge removably retained adjacent the front edge of the hood, and a porous member carried by the frame.

2. In a device of the class described the combination with a curved hood member having a front opening and perforations disposed adjacent the edge of said opening, of a porous member secured along said edge of the front opening and extending in spaced relation with the curved hood portion, and means for supplying moisture to the porous member.

3. In a device of the class described the combination with a warm air register, of a deflecting hood having a bottom opening disposed over the register and a front opening disposed at one side of the register, of a trough mounted interiorly of the hood and disposed adjacent one side of the bottom opening, a curved wire frame having spaced parallel edges, one of which edges is adapted to be disposed within the trough, the other edge being retained adjacent the front opening of the hood and a cloth bag adapted to enclose the frame and to assume the shape of said frame, the trough being adapted to be filled with water for moistening the cloth on the frame whereby heated air rising from the register will strike the moistened porous cloth and arrest matter in suspension in the air upon said porous cloth.

4. In a device of the class described the combination with a hood having an open bottom adapted to seat over a warm air register and having a heat discharge opening at one side and perforations in said hood adjacent the heat discharge opening the uppermost portion of said hood forming an inverted pocket structure toward which heated air is directed from the warm air register, of a porous screen mounted in spaced relation to the interior of the hood and terminating adjacent the top of the heat discharge opening, and means for supplying moisture by capillary action to the screen, the perforations in the hood being adapted to discharge the air which has passed through the screen into the pocket portion of the hood.

5. In a device of the class described the combination with a warm air register, of a deflecting hood having an open bottom and an open side, the open bottom registering with the opening of the warm air register, a trough interiorly of the hood and disposed adjacent one side of the bottom opening of the hood, a frame comprising spaced parallel edges, one edge of the frame disposed at the trough and the other edge of the frame disposed at the top of the side opening of the hood, and a porous cloth covering for the frame and extending into the trough, the trough being adapted to be filled with water for moistening the cloth on the frame whereby heated air rising from the register will strike the moistened porous cloth and arrest matter in suspension in the air upon said porous cloth.

6. In a device of the class described the combination with a warm air register, of a deflecting hood having an open bottom and an open side and having perforations in its top, the open bottom registering with the opening of the warm air register, a trough

mounted interiorly of the hood and disposed adjacent one side of the bottom opening of the hood, a frame having spaced parallel edges, one edge of the frame disposed at the trough and the other edge of the frame disposed intermediate the upper edge of the side opening and the perforations in the top of the hood, and a porous cloth covering for the frame and extending into the trough, the trough being adapted to be filled with water for moistening the cloth on the frame whereby heated air rising from the register will strike the moistened porous cloth and arrest matter in suspension in the air upon said porous cloth.

In testimony whereof, I have hereunto subscribed my name this 11th day of April, 1925.

JOHN D. IMSANDE.