June 25, 1929. T. H. ROBERTS 1,718,380

REGISTER CONSTRUCTION

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Fig. 2.

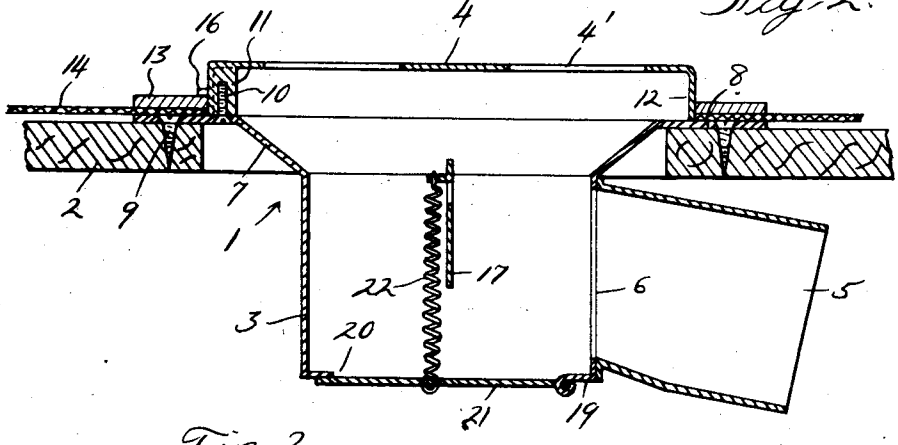


Fig. 2.

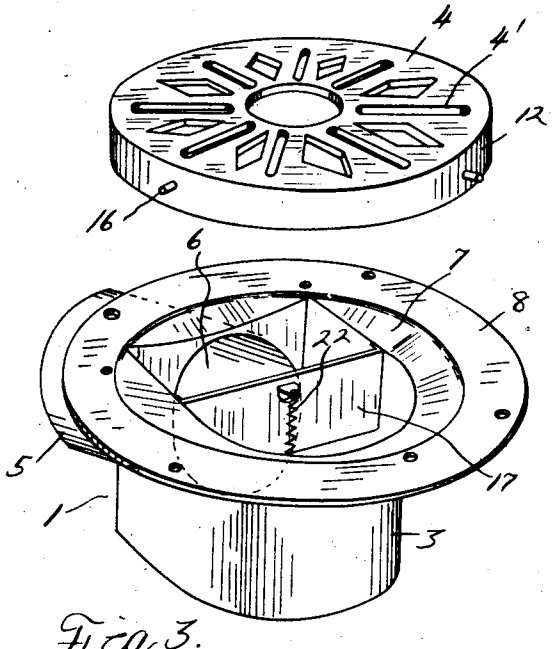


Fig. 3.

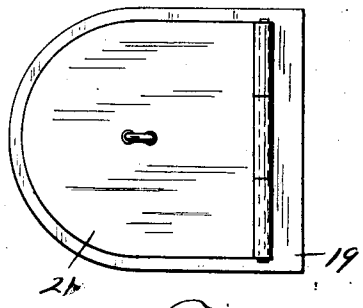


Fig. 4.

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Fig. 6.

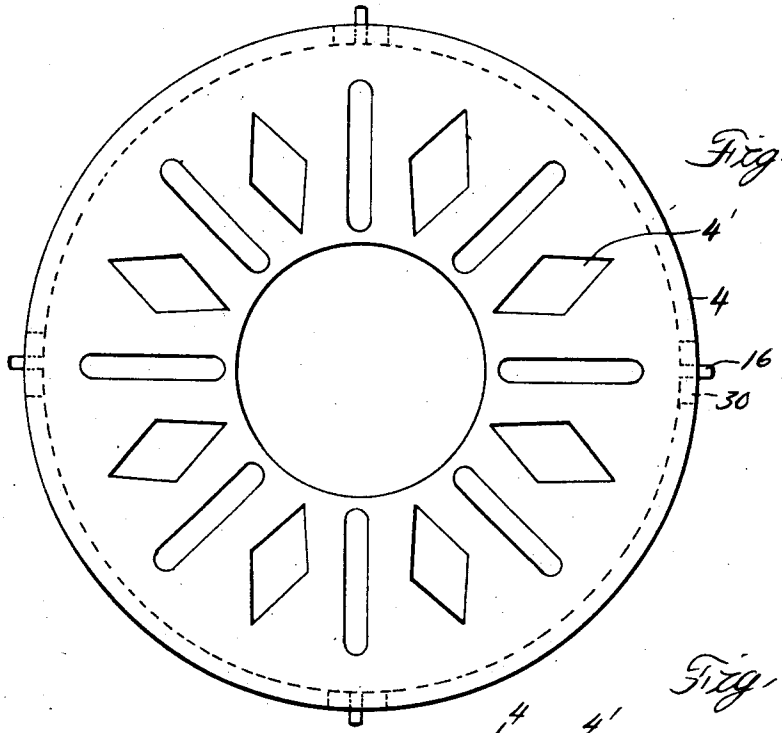
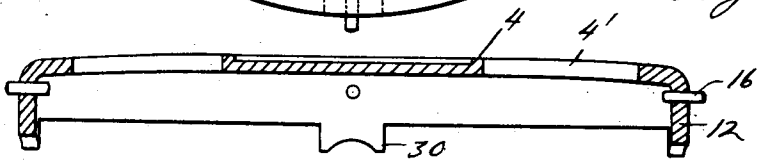


Fig. 7.



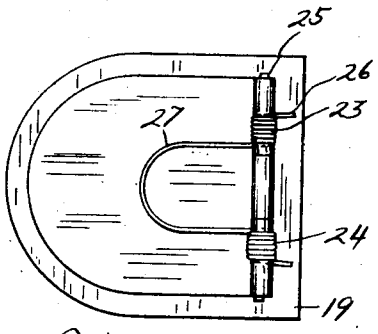


Fig. 5.

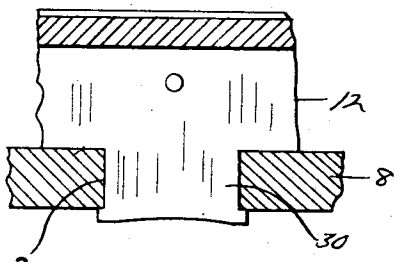


Fig 8.

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UNITED STATES PATENT OFFICE.

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REGISTER CONSTRUCTION.

Application filed September 13, 1926. Serial No. 135,219.

This invention relates generally to heating apparatus and refers more particularly to hot air registers.

One of the essential objects of the invention is to provide an efficient register of this type that is simple in construction, neat in appearance and that may be easily and quickly installed, for instance in the floor of a vehicle body.

Another object is to provide a register in which the hot air from the heater is deflected in such a way by a baffle in the register that a substantially uniform distribution of hot air will be obtained through the outlet openings at the top of the register.

A further object is to provide a register having means at the bottom thereof, preferably associated with the air deflecting means, for permitting dirt and other foreign matter collecting into the register to be discharged therefrom.

With these and other objects in view, the invention resides in certain novel features of construction, combinations and arrangements of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Figure 1 is a vertical sectional view through a register embodying my invention applied to a floor of a vehicle body.

Figure 2 is a perspective view of the top or cover of the register.

Figure 3 is a perspective view of the body of the register.

Figure 4 is a bottom plan view of the register.

Figure 5 is a view similar to Figure 4 but showing a slightly modified construction.

Figure 6 is a top plan view of a slightly modified form of cover.

Figure 7 is a transverse sectional view through the construction shown in Figure 6.

Figure 8 is a fragmentary sectional view of the cover shown in Figures 6 and 7 applied to the lateral flange of the register body.

Referring now to the drawings 1 is a register embodying my invention mounted in the floor 2 of a vehicle body. As shown, this register has a substantially cup-shaped body 3 and an apertured cover 4 and is adapted to be supplied with hot air by means of a conduit 5 that leads from a suitable heater (not shown). With this construction the control means such as a valve and the like for regulating the flow of air through the register is preferably located in the conduit 5 at a point remote from the register.

To provide an efficient construction, one side of the body is provided with an inlet opening 6 through which the hot air from the conduit 5 is adapted to flow into the register, while the open upper end of the body is preferably flared as shown at 7 and is provided with the laterally extending attaching flange 8. As shown in Figure 1, this flange is secured by suitable headed elements such as the screw 9 to the floor 2 of the vehicle body and serves as a bearing or seat for the cover 4. Any suitable means such as the screws 10 may be used for securing the cover 4 to the flange 8. Preferably these screws extend upwardly through the flange 8 and threadedly engage suitable enlargements 11 of the depending flange 12 of the cover. Thus these securing elements 10 are effectively concealed when the register is installed. If desired, a suitable annulus or ring 13 may be used to conceal the edges of the carpet 14 surrounding the register. In practice this ring 14 is provided with a neat finish and is preferably held in place by suitable pins or lugs 16 that project laterally from the depending flange 12 of the cover.

In order that the air will be properly distributed through the apertures 4′ in the cover 4, I have provided a baffle 17 which is secured in the body 3, preferably in rear of the inlet opening 6 and approximately midway between the front and rear walls of the body for deflecting longitudinally of the body the hot air admitted through the inlet opening 6. With this arrangement the hot air from the heater entering the register will be divided by the baffle 17 so that a portion of the air will flow upwardly in front of the baffle to the apertures in the cover, while the remainder of the air will flow beneath the baffle, thence upwardly in rear thereof to the apertures 4′ in the cover 4.

In order that dirt and other foreign matter collecting in the body of the register, may be discharged therefrom, the bottom 19 of the body is preferably provided with an outlet opening 20. Normally this opening 20 is closed by a spring actuated door 21 that is hingedly connected to the bottom 19. As shown, the means for actuating the door is a coil spring 22 that is terminally secured to the door 21 and baffle 17. If desired the ac-

tuating means may be a coil spring having certain of the convolutions 23 and 24 respectively thereof sleeved upon the hinge pintle 25 and having laterally extending arm portions 26 and 27 respectively bearing against the bottom 19 and door 21. (See Fig. 5.) Thus the door 21 may be pressed downwardly against the tension of the spring means to discharge dirt by merely inserting a suitable implement or tool through one of the apertures in the cover 4 and then pressing the said implement downwardly against the door 21 to uncover the outlet opening 20. Inasmuch as the baffle 17 directs the hot air longitudinally of the body, it will be apparent that a portion of such air will remove the dirt, etc. from the body through the opening 20.

In Figures 6 to 8 inclusive I have shown a slight modification in which the depending flange 12 of the cover is provided at spaced points with depending lugs 30 which extend through suitable openings 31 in the flange 8 and are riveted thereto. With such constructions, the screws 10 and enlargements 11 are dispensed with entirely. Thus, a permanent and very rigid joint is provided.

While it is believed that from the foregoing description, the nature and advantage of my invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described and that such changes may be resorted to when desired as fall within the scope of what is claimed.

What I claim as my invention is:

1. An air register of the class described comprising a body having an inlet opening for air and having substantially aligned outlet openings for air, a baffle constructed and arranged in such a way in the body that a portion of the air admitted to the body through the inlet opening will be deflected towards said outlet openings, and a door normally closing one of said outlet openings so that a portion of the air deflected by said baffle towards said opening will flow around said baffle toward the other of said outlet openings.

2. An air register of the class described comprising a substantially cup-shaped body having a lateral inlet opening for air and having an outlet for dirt and air at the bottom thereof below said opening, a spring actuated door normally closing said outlet opening, and a baffle in said body for deflecting towards said dirt outlet opening a portion of the air admitted to the body through said inlet opening.

3. The combination with the flooring of a vehicle body having an opening therein, of an air register comprising a substantially cup-shaped body in said opening and having a lateral inlet opening for air below the flooring and having an outlet for dirt and air in the bottom thereof below said inlet opening, a door normally closing said outlet opening, and a baffle extending longitudinally of the body in rear of the inlet opening for deflecting towards said dirt outlet a portion of the air admitted to said body through the inlet opening.

4. A register of the class described comprising a hollow open top body having a lateral inlet opening for air and having an outlet for dirt and air in the bottom thereof below said inlet opening, a door for closing said outlet opening, a spring normally maintaining said door in closed position, and a baffle in the body serving as a deflector for air admitted to the body through said inlet opening and also serving as a supporting member for said yieldable element.

5. A register of the class described having a substantially cup-shaped body and an apertured cover having a depending flange provided with an enlargement, the body having a lateral flange serving as a bearing for the depending flange of the cover, and a concealed connection between said cover and body including an element extending through the flange and engaging said enlargement.

6. An air register comprising a body having inlet and outlet ports for air respectively in a side and top wall thereof, and means within the register for deflecting a portion of the air from the inlet port to the outlet port in substantially parallel relation to the wall aforesaid having the inlet port therein in such a way that said portion of the air will be directed at substantially right angles to the direction of flow of the air through said inlet port, said means comprising a single element disposed directly in rear of the inlet port, said element being arranged substantially parallel to the said side wall and at substantially right angles to the top wall of said body.

7. A register of the class described comprising a body having an inlet opening for air in a side wall thereof and having an opening in the bottom wall thereof constituting an outlet for dirt, a baffle located in the body so as to deflect air entering the body through said inlet opening, a door for the dirt opening aforesaid carried by the bottom wall of said body, and yieldable means carried by said baffle for normally holding said door in closed position.

8. An air register for a vehicle body comprising a hollow body having substantially upright side walls and provided at the upper ends of said walls with an upwardly opening enlargement, one of said side walls having an air inlet port therein, a cover for said upwardly opening enlargement disposed at substantially right angles to the upright walls of said body and having a plurality of outlet ports therein with certain of said ports disposed adjacent to and substantially directly above said upright side walls of said

body, and an upright deflector in said body opposite to said inlet port and substantially parallel to the upright walls of said body, whereby a portion of the air from said inlet port will be directed upwardly upon the forward side of said deflector toward the outlet ports in the cover that are nearest to the upright wall having the inlet port therein, and the remainder of the air will flow beneath and upwardly upon the rear side of said deflector to other outlet ports in said cover.

9. An air register for a vehicle body comprising a hollow body having substantially upright side walls, one of said side walls having an air inlet port therein, a cover for said body disposed at substantially right angles to said upright wall and having a plurality of outlet ports therein, and an upright deflector in said body opposite said inlet port and substantially parallel to the upright walls of said body whereby a portion of the air from said inlet port will be directed upwardly upon the forward side of said deflector toward the outlet ports in the cover that are nearest to the upright wall having the inlet port therein, and the remainder of the air will flow beneath and upwardly upon the rear side of said deflector to other outlet ports in said cover.

In testimony whereof I affix my signature.

THOMAS H. ROBERTS.