April 17, 1928. 1,666,569

J. W. KELCH ET AL

REGISTER

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Fig. 1.

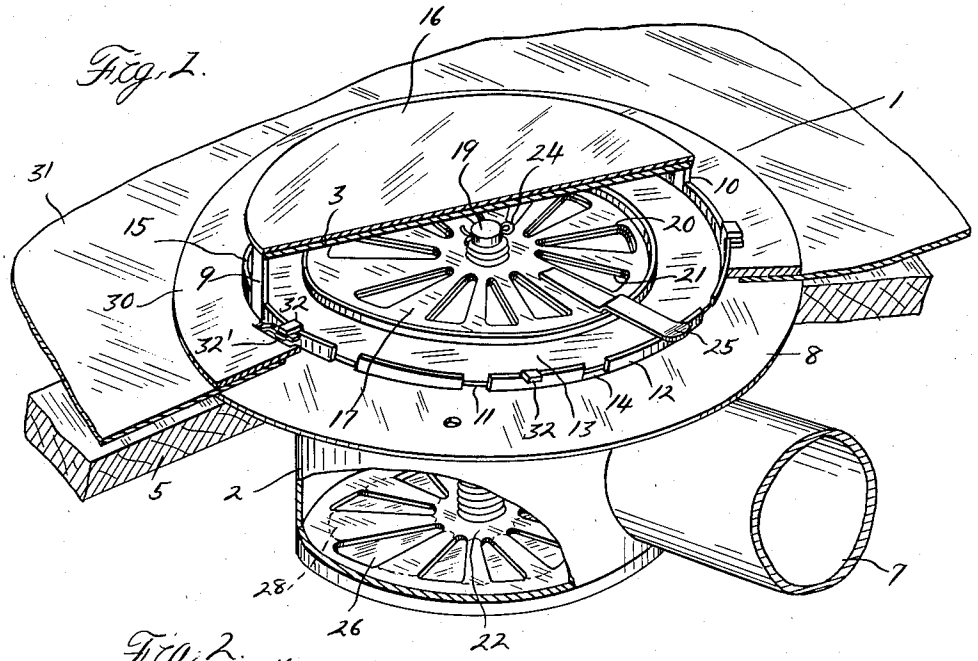
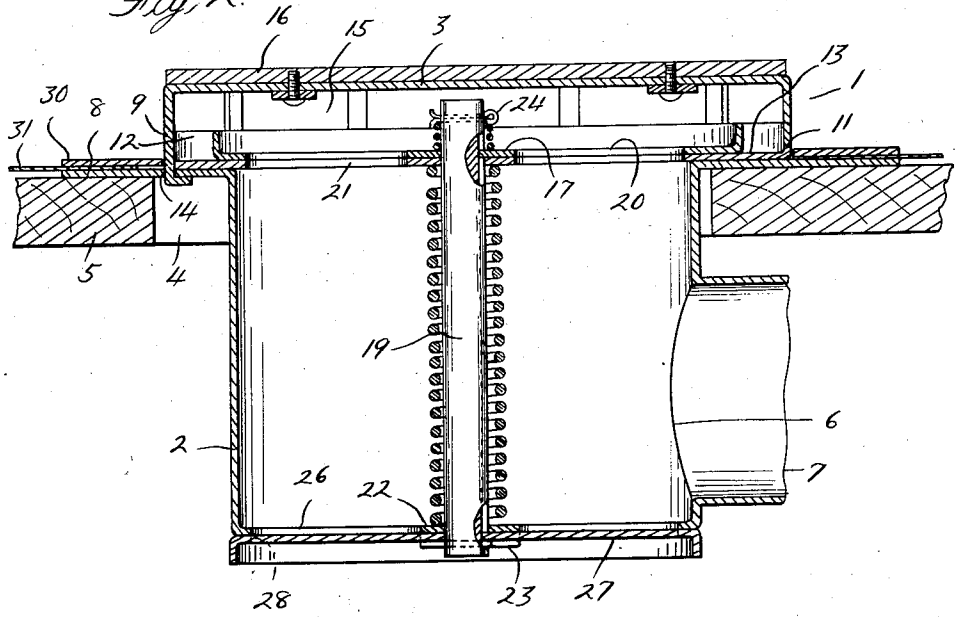


Fig. 2.



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Fig. 3.

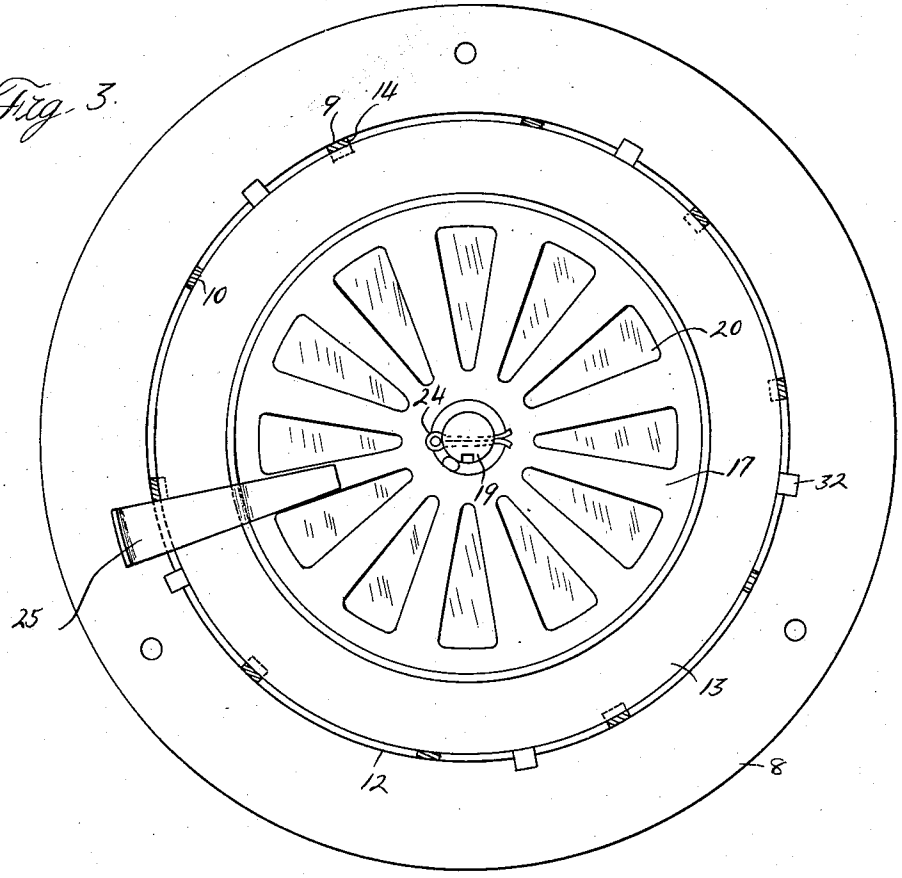


Fig. 4

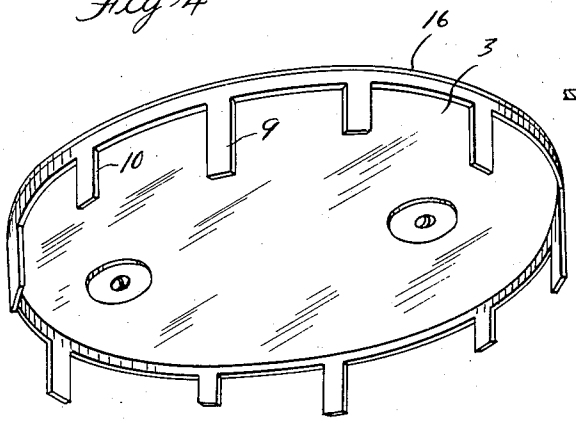
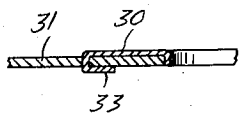


Fig. 5.



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UNITED STATES PATENT OFFICE.

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REGISTER.

Application filed March 15, 1926. Serial No. 94,974.

This invention relates generally to air registers designed for use in vehicle bodies and the like and consists of 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 drawings:

Figure 1 is a fragmentary perspective view of the flooring of a vehicle body with a register embodying our invention applied thereto.

Figure 2 is a vertical sectional view through the construction shown in Figure 1.

Figure 3 is a top plan view of the register with the cover plate removed.

Figure 4 is a perspective view of the top plate of the register.

Figure 5 is a fragmentary sectional view of a slightly modified construction.

Referring now to the drawings, the numeral 1 designates an air register embodying our invention having a cup-shaped body 2 and a cover 3. As shown, this body is preferably mounted in a suitable opening 4 in the floor 5 of the vehicle body and is provided at one side below said floor with an inlet opening 6 for air, while the cover 3 is preferably imperforate and is supported above the floor 5 in spaced relation to the body 2. Any suitable means such as the conduit 7 may be employed for conveying air (either hot or cold) from a suitable source to the inlet opening 6.

To provide an efficient construction, the body 2 is provided at its upper end with a lateral attaching flange 8 that rests upon and is secured to the floor 5, while the cover 3 is preferably parallel to this flange and is provided at its outer edges with the spaced depending lugs 9 and 10 respectively. As shown, the lugs 10 constitute spacers for the cover and rest in suitable recesses 11 in the upturned marginal flange 12 of a suitable bearing plate 13 secured to the lateral flange 8, while the lugs 9 are preferably longer than the lugs 10 and are secured to the flange 8. Preferably these lugs 9 extend through openings 14 in the flange and are bent upwardly against the latter. Thus, a series of lateral openings 15 for air are provided between the flange 8 and cover 3.

If desired, a suitable name plate 16 may be bolted or otherwise removably secured to the upper face of the cover 3 to provide a neat appearance.

For controlling the supply of air to the interior of the vehicle body we have provided a disk valve 17 that is preferably rotatably mounted on the bearing plate 13. As shown, this valve 17 is keyed upon a suitable pivot pin 19 and has a series of radially extending slots or openings 20 that are adapted to register with radially extending openings 21 in the bearing plate 13. The pin 19 is preferably journaled in aligned bearings in the bearing plate 13 and bottom 22 of the body and is held by cotter pins 23 and 24 respectively against accidental displacement. Any suitable means such as the handle 25 may be employed for actuating the valve 17 to cover and uncover the openings 21 in the bearing plate. As shown, this handle comprises a short bar that is rigidly secured at its inner end to the valve 17 and extends outwardly through one of the lateral openings 15.

In order that air from the conduit 7 may escape from the cup-shaped body 2 when the valve 17 is closed the bottom 22 of the body is provided with a series of radially extending outlet openings 26. Preferably this escape of air is controlled by a disk valve 27 that is keyed upon the pivot pin 19, below the body bottom 22. As shown, this valve 27 is provided with a series of radially extending openings 28 that are adapted to register with the openings 26 in the body bottom 22.

In use, air from the conduit 7 will pass upwardly and laterally through the openings 21, 20 and 15 when the valve 17 is opened and will pass downwardly through the openings 26 and 28 when the valve 17 is closed. Inasmuch as both valves 27 and 17 are keyed upon the pivot pin 19 it is apparent that said valves will be moved simultaneously by the handle 25. It will also be noted that the outer edges of the valve 17 are turned up, hence air will be deflected upwardly toward the openings 15. Moreover with this construction the air from the tube 7 will be used to clean foreign matter, sediment, etc., from the cup-shaped body 2 when the upper

valve 17 is closed. Anything dropped into the body 2 will be instantly and automatically swept through the openings 26 and 28 when the valve 27 is opened. Hence, this register is self cleaning.

With constructions of this kind it is desirable to have a finish plate that will conceal the edges of the carpet around the register. Heretofore binding has been provided but aside from the time and labor required to complete a given job it does not present a neat appearance. With the present invention, a ring 30 is held upon the adjacent edges of the carpet 31 by means of lugs 32 extending laterally from the flange 12 of the bearing plate 13. As shown, this ring has the upwardly projecting tongues 32' which are adapted to engage the lugs 32 for yieldably holding the carpet in position. If desired, this ring 30 may be provided with the radially extending projections 33 (see Fig. 5) which may be pressed through the carpet and bent upwardly against the lower face thereof. In this instance the lugs 32 would be dispensed with entirely.

Thus, from the foregoing description, it will be apparent that the supply of air to the interior of the vehicle may be easily and quickly controlled. Moreover this is accomplished with a very neat and compact construction. In fact its compactness permits of almost universal use. It clears the usual rods, braces, etc., under the floor boards and may be easily and quickly installed. Inasmuch as it is cylindrical in form the inlet 6 may be turned to any position without changing the appearance of the register in the car. This adjustment saves tubing and enables the clearance referred to to be made quickly. All movable parts are enclosed free from road dust, grease, etc. Furthermore it is apparent that the carpet retaining ring eliminates the necessity of binding rugs, which in turn saves time and considerable expense when installation is made. Moreover the ring enhances the beauty of the register and prevents the feet of the occupants of the vehicle from catching on edges of the carpet. Thus this ring protects the edges of the carpet and prevents the same from ripping or tearing. A bound rug never fits tight, hence such rugs are never in place. Heretofore the entire register had to be removed when it was desired to remove the carpet for cleaning or other purposes. It has also been a practice when installing registers to remove the rug from the car and send it to some other department for the cutting and binding operations. That usually consumed one hour or more with the resultant expense. Many times and places this procedure was not convenient. However with the carpet retaining ring disclosed herein the same man can complete the whole installation. Moreover it is not necessary to have the hole in the rug absolutely true for the ring 30 covers the jagged edges and securely holds the carpet in place. Hence, a considerable saving of time and labor is effected in addition to eliminating the objectionable features of the loose bound rug referred to. It will also be apparent that the carpet serves as a cushion for the ring 30 and thereby prevents the same from rattling.

While it is believed that from the foregoing description, the nature and advantage of our invention will be readily apparent, we desire to have it understood that we do not limit ourselves 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 we claim as our invention is:

1. An air register having a hollow body provided with a lateral flange at the open end thereof, a bearing plate secured to said flange, and a cover for said body having depending spacer lugs resting on said plate and having other lugs secured to said flange.

2. An air register having a tubular body provided at its upper end with a lateral flange, a cover secured to said flange in spaced relation to said body and having lateral outlet openings, a bearing plate for the cover having perforations for air, a pin journaled in the bearing plate, a disk valve keyed on the pin having apertures for registering with the perforations in said plate, and an operating member secured to said valve projecting laterally through one of the openings aforesaid.

3. An air register having a body provided with outlet openings for air at the opposite ends thereof, and an inlet opening for air intermediate said ends, a pivot pin extending longitudinally of said body, valves keyed to said pin at the opposite ends of said body for controlling the flow of air through said outlet openings, and actuating means for said valves including a member secured to one of said valves.

4. An air register having a tubular body provided at its upper end with a lateral flange, a bearing plate secured to said flange having perforations for air, a cover for the body having depending spacer lugs resting on said plate and having other lugs extending through openings in said flange, said last mentioned lugs adapted to be bent upwardly against the flange for securing the cover to said body, and a disk valve for controlling the passage of air through said perforations.

5. An air regulator having a body provided with outlet openings for air at the opposite ends thereof, and an inlet opening intermediate the ends, a pivot pin extending longitudinally of said body, valves rotatably mounted on said pin at the opposite

ends of said body for controlling the flow of air through said outlet openings, and a common actuating means for said valves including a member secured to one of said valves.

6. An air register having a tubular body provided at its upper end with a lateral flange, a bearing plate secured to said flange having perforations for air, a cover spaced substantially above the body having a portion mounted on the plate and a portion extending through and secured to said flange, and means on the bearing for controlling the passage of air through said perforations.

7. In combination, an air register having a body provided with a lateral flange for attachment to a floor beneath a rug, a bearing plate secured to said flange having a laterally extending lug, a finish plate concealing portions of the rug having a struck-out tongue engageable with said lug for holding the plate in position.

8. An air register having a cup-shaped body provided with a lateral flange at the open end thereof, a bearing plate secured to said flange having perforations for air, a cover secured to said flange in spaced relation to said body and having lateral outlet openings therein, and means on the bearing plate for controlling the passage of air through said perforations and lateral openings.

9. An air register having a cup-shaped body provided with a lateral flange at the open end thereof, a bearing plate secured to said flange having a marginal flange provided with a series of spaced recesses, and a cover for said body having depending spacer lugs secured to the lateral flange aforesaid and having other lugs engaging the recesses provided in said marginal flange.

10. In combination with a floor having an opening therein, of an air register having a body in said opening, a flange projecting laterally from said body resting on said floor, a cover spaced above said floor and body secured to said flange, a rug on the floor having an opening receiving a portion of said register, a ring sleeved upon said cover concealing portions of said rug on said flange, and means for holding said ring in position on said rug.

11. An air register having a hollow body provided at its upper end with a lateral flange, a cover for the upper end of the body spaced above the lateral flange and secured thereto, a bearing plate upon the lateral flange having perforations for air, a pin journalled in the bearing plate, a disk valve keyed on the pin and having apertures for registering with the perforations in said plate, and an operating member secured to said valve and projecting laterally from between said cover and bearing plate.

12. An air register having an open ended body provided at its upper open end with a lateral attaching flange, a plate on the flange having apertures constituting outlets for air, a cover for the open upper end of the body mounted upon said lateral flange and having outlets for air at the sides thereof, a valve on said plate for controlling the passage of air through the apertures, and actuating means for the valve including a member secured thereto and projecting laterally through one of the outlets aforesaid.

13. The combination with a floor having an opening therein, of an air register having a body portion in said opening, a cover portion above the floor, and a flange projecting laterally from one of said portions and resting on said floor, a rug on the floor having an opening receiving the cover portion of said register, a ring sleeved upon the cover portion of said register and overlapping and concealing the edges of the opening aforesaid in said rug, and means for holding said ring in position on said rug including lugs projecting laterally from a portion of said register and overlapping said ring.

14. The combination with a floor having an opening therein, of an air register having a body portion in said opening, an apertured cover portion above the floor, and a flange projecting laterally from one of said portions and resting on said floor, a rug on the floor having an opening receiving the cover portion of said register, a relatively thin substantially flat ring sleeved upon said cover portion of said register and projecting laterally therefrom over said rug and concealing the edges of the opening aforesaid therein, and means associated with one of the portions aforesaid of said register for holding said ring in position on said rug.

15. The combination with a floor having an opening therein, of an air register having a body portion in said opening, a flange projecting laterally from said body portion and resting on said floor, and a laterally apertured cover portion above said floor and overlapping said lateral flange, a rug on the floor having an opening receiving said cover portion, a relatively thin flat ring sleeved upon said apertured cover portion and projecting laterally therefrom over said rug and concealing the edges of the opening aforesaid therein, and means associated with one of the portions aforesaid of said register for holding said ring in position on said rug.

In testimony whereof we affix our signatures.

JAMES W. KELCH.
JAMES J. SUNDAY.