

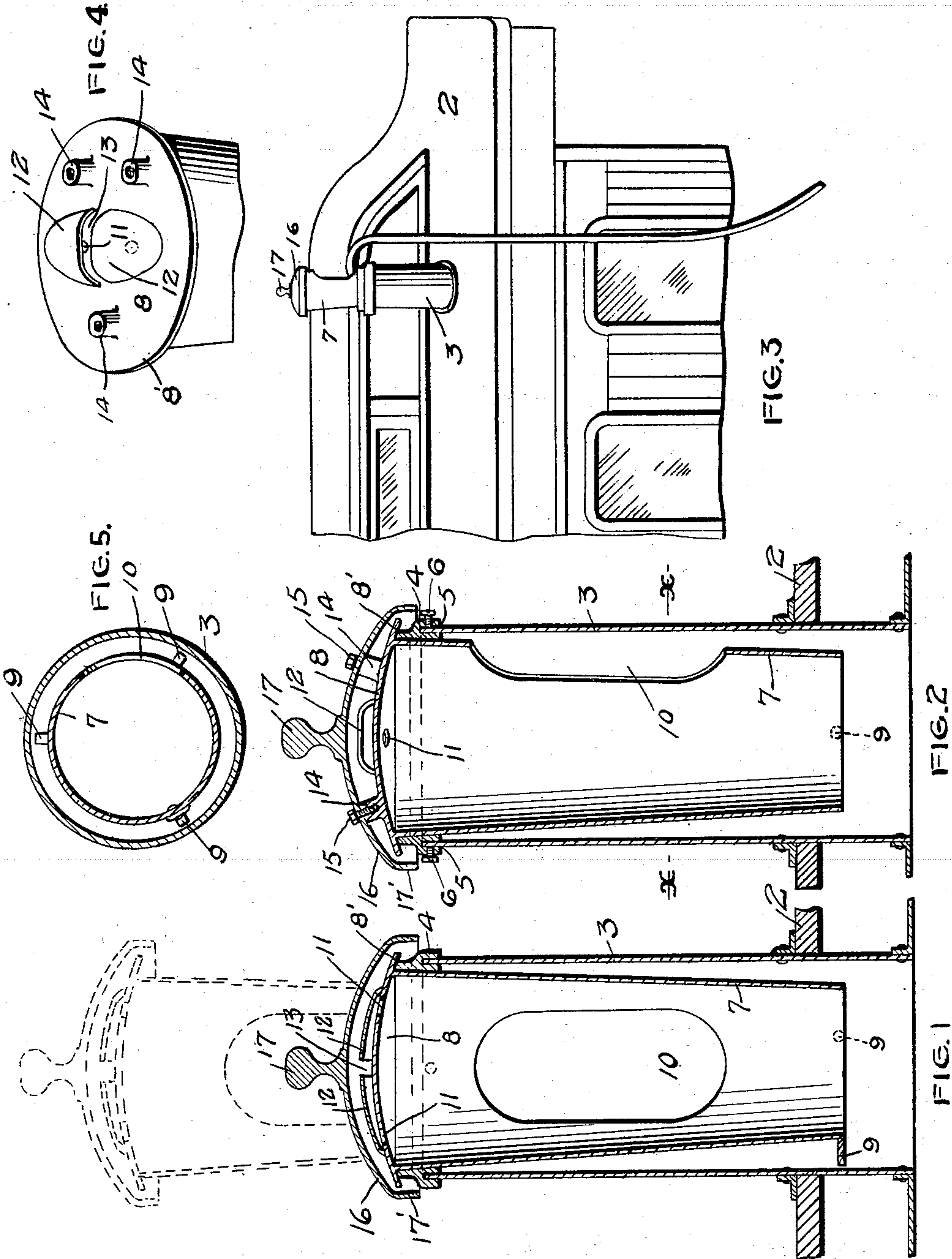
No. 654,953.

Patented July 31, 1900.

R. S. CUDDIHY.
CINDER PROOF CAP OR COVER.

(Application filed Dec. 23, 1899.)

(No Model.)



WITNESSES.
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RICHARD S. CUDDIHY, OF ST. PAUL, MINNESOTA.

CINDER-PROOF CAP OR COVER.

SPECIFICATION forming part of Letters Patent No. 654,953, dated July 31, 1900.

Application filed December 23, 1899. Serial No. 741,354. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. CUDDIHY, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Cinder-Proof Caps or Covers, of which the following is a specification.

My invention relates to deflectors or cinder-proof devices adapted for use in connection with water-tanks of railway-coaches, where, particularly in certain classes of sleeping or parlor cars, the water for flushing the closet and wash bowls is supplied from a tank located in the top of the car. This tank is provided, usually, with an air inlet and outlet opening to permit it to be filled or emptied at the bottom; but said opening also collects cinders, dirt, and dust, allowing them to enter the tank and work into and clog up the pipes and valves.

The object, therefore, of my invention is to provide means for thoroughly excluding cinders and dirt from the water-tank without closing the vent or air inlet and outlet leading thereto, and also providing means for conveniently filling the tank from above.

The invention consists, generally, in providing a railway-coach water-tank with a suitable filling-pipe and a combined cinder and dirt proof cap and vent having a suitable filling-opening.

Further, the invention consists in providing a screenless cinder-proof cap and vent having tortuous air-passages and a suitable filling-opening.

Further, the invention consists in providing the tank-pipe with a cinder-proof cap or deflector having a telescoping section which while normally stationary in the pipe has a limited vertical movement with respect thereto for convenience in filling the tank.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a vertical sectional view of the tank-pipe with my invention attached thereto, its elevated position being indicated by dotted lines. Fig. 2 is a similar section taken on a line substantially at right angles to the section-line of Fig. 1. Fig. 3 is a perspective of a portion

of a car-roof, showing the position of the deflector when the tank is being filled. Fig. 4 is a perspective of the top of the telescoping portion or section of the device. Fig. 5 is a sectional view on the line *xx* of Fig. 2.

In the drawings, 2 represents the roof of the car, through which projects the pipe 3, usually of sheet metal and of suitable size for filling the tank conveniently. This pipe is secured to the roof of the car and also at its lower end to the tank within an opening provided in its walls, as indicated in Figs. 1 and 2. At the top of the pipe is a ring 4, having an annular groove 5 to receive the upper end of the pipe secured therein by screws 6 or in any other suitable way. The inner surface of this ring is flared or inclined from the bottom toward the top, and forms a close joint with the surface of a preferably-tapered pipe-section 7, telescoping within the pipe 3 and having an open lower end and a preferably convex head or cap 8 at its upper end, preferably integral therewith, said head having an overhanging edge or flange 8' resting upon the upper edge of the ring 4 and effectually closing the joint between the ring and tapered pipe against the passage of any dirt or cinders.

At the lower end of the pipe-section at intervals on its circumference I provide three lugs or studs 9, two of which may be formed integrally with the pipe, while the third is riveted or otherwise secured in position after the pipe 7 has been inserted within the ring before it is secured on the pipe. The pipe 7, fitting within the ring 4 and tapering from top to bottom, will be spaced from the walls of the pipe 3, and the lugs 9, extending into this space, will permit the tapered pipe to be raised until said lugs engage the ring 4.

To permit the end of a hose to be inserted into the pipe 3 when it is desired to fill the tank, I provide a longitudinal slot 10 in the walls of the tapered pipe-section 7, said slot being of sufficient length to permit the ready insertion of the hose when the pipe or telescoping section is raised and the slot exposed.

In order that the air may pass freely through the pipe 3 into or from the tank and permit the water to be drawn therefrom or the tank to be filled from the bottom, I provide holes 11, preferably two in number, in the head 8,

and over said holes I arrange curved shields 12, preferably of sheet metal, and between them provide a narrow space or slot 13, through which the air passes under the shields, and thence through the holes 11 into the tank.

I provide a series of studs 14 on the cap 8, preferably integral therewith, having threaded holes to receive screws 15 on a cover or hood 16, and by means of which the cover is secured to the top of the tapered pipe-section. This cover, also preferably conical in form, has a knob 17 and a depending flange 17' projecting down over and around the flange 8', a space being provided between them, forming with the shields 12 and the holes 11 a winding tortuous passage into the tank, which while permitting air to enter or escape therefrom will effectually exclude cinders and dirt. When the train is in motion, the cinders and dirt that come in contact with the pipe 3 and are sucked up under the cover 16 will be deflected by the curved surface of the head 8 and the shields 12 across the narrow space or opening between the shields and will pass down and out under the rear edge of the cover; but while the cinders and dirt will not follow the winding tortuous passage into the tank the air will freely circulate therein, permitting the tank to be filled from the bottom or emptied by gravity.

The cover 16, the tapered telescoping section and its head or end cap, and the ring 4 are preferably made of malleable castings and require but little finishing to adapt them for attachment to each other and to the top of the tank-pipe.

The device being entirely screenless there are no parts to wear out or need renewal. The cover 16 besides cooperating with the curved surfaces beneath to deflect cinders and dirt will also shed sleet and snow, preventing the air-passage and tank-pipe from filling up with ice in cold weather.

To fill the tank, the telescoping section is raised until the opening therein is exposed to receive the end of the hose. When the hose is pulled out, said section will fall back into and tightly close the top of the tank-pipe.

The construction of the device may be modified in various ways by any one skilled in the art, and I therefore do not wish to be confined to the details herein set forth.

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

1. A railway-car provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover for said pipe, said cap having a tank-filling hole in its side and a tapered surface to engage a corresponding surface of the pipe, whereby a wedging is formed therewith, and said cap being adapted to be lifted to expose said filling-hole, substantially as described.

2. A railway-coach provided with a water-tank having a filling or vent pipe leading

through the roof of the car, in combination, with a perforated head fitting over said pipe and normally forming a close joint therewith but having a vertical movement with respect thereto, a cover or hood provided on said head and tortuous air-passages provided between said hood and said head and leading through the perforations in said head to said pipe and tank, substantially as described.

3. A railway-car provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover for said pipe, said cap being hollow and having a tank-filling hole in its side and adapted to be lifted to permit access to said filling-hole, substantially as described.

4. In a railway passenger-coach, having a water-tank provided with a pipe leading outside the car through which the tank may be filled, a cinder-proof deflector or cap provided on said pipe and having a section telescoping with said pipe, for the purpose specified.

5. In a railway passenger-coach, having a water-tank provided with a pipe extending outside the car, a screenless cinder deflector or cap provided on said pipe and a section telescoping with said pipe, substantially as described.

6. In a railway passenger-coach, having a water-tank, a pipe connected with said tank and extending outside the car, a cinder deflector or cap on said pipe and having a section telescoping therewith and provided with a tortuous air-passage leading to said section and pipe, for the purpose specified.

7. In a railway passenger-coach, having a water-tank provided with a pipe extending therefrom through the roof of the car, a screenless cinder-proof cap or deflector on said pipe and provided with a section telescoping therewith, and said deflector or section having a limited vertical movement with respect to said pipe, for the purpose specified.

8. In a railway passenger-coach, having a gravity water-tank provided with a pipe extending outside the car, a cinder-proof deflector having a slotted section telescoping said pipe, said deflector and section being vertically movable with respect to said pipe, and means for limiting their vertical movement, substantially as described.

9. In a railway passenger-coach, having a gravity water-tank provided with a pipe extending outside the car, a ring on said pipe, a cinder-proof deflector having a slotted pipe-section telescoping said pipe and ring and vertically movable with respect thereto, and a lug provided on said section and engaging said ring when said section is raised, for the purpose specified.

10. A screenless cinder-deflector, comprising a slotted pipe-section having a tapered surface, a ring having a flared oppositely-inclined surface to engage said tapered surface, a flanged head for said pipe resting upon said ring and having perforations, shields for

said perforations, a cover or hood for said head forming therewith and said shields a tortuous air-passage leading to said perforations, for the purpose specified.

5 11. A railway-car provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover for said pipe, said cap having a tank-filling
10 hole and being adapted to be lifted to permit convenient access to said hole, substantially as described.

12. In a railway-car, the combination, with a water-tank having a filling and vent pipe
15 extending through the roof of the car, of a screenless cap or cover for said pipe comprising a head having the perforations 11, the shields 12 provided over said perforations, a space being provided between said shields to
20 permit the circulation of air beneath the same and through the said perforations, and a hood or cover provided over said head and having its edges overhanging the edges of said head and spaced from the same, substantially as
25 described.

13. A railway-car provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination with a self-closing gravity-held cap or cover
30 for said pipe, said cap having a tank-filling hole in its side exposed by the lifting of said cap, a ring provided on said pipe and whereon said cap normally rests, and a lug provided on said cap and adapted to engage said ring
35 and limit the vertical movement of said cap, substantially as described.

14. A railway-car provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover
40 for said pipe, said cap having a tortuous air passage or vent and a tank-filling opening and being adapted to be lifted to permit access to said opening, substantially as described.

15. A railway-car, provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover
45 telescoping with said pipe and provided in its top with tortuous air-passages, said cap being adapted to be lifted to permit filling of said tank and means for limiting the vertical movement of said cap, substantially as described.
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16. A railway-car, provided with a water-tank having a filling and vent pipe leading through the roof of the car, in combination, with a self-closing gravity-held cap or cover
55 adapted to drop into said pipe, said cap having a tortuous air vent opening or passage and a tapered side surface to engage a corresponding surface of the pipe whereby a wedging
60 water and dust tight joint is formed and said cap being adapted to be lifted to permit the filling of said tank, and means for limiting the vertical movement of said cap, substantially as described.
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In witness whereof I have hereunto set my hand this 18th day of December, 1899.

RICHARD S. CUDDIHY.

In presence of—

C. G. HAWLEY,
RICHARD PAUL.