J. S. THURMAN.

DUST RECEPTACLE.

APPLICATION FILED MAR. 3, 1909.

956,450. **Patented Apr. 26, 1910.**

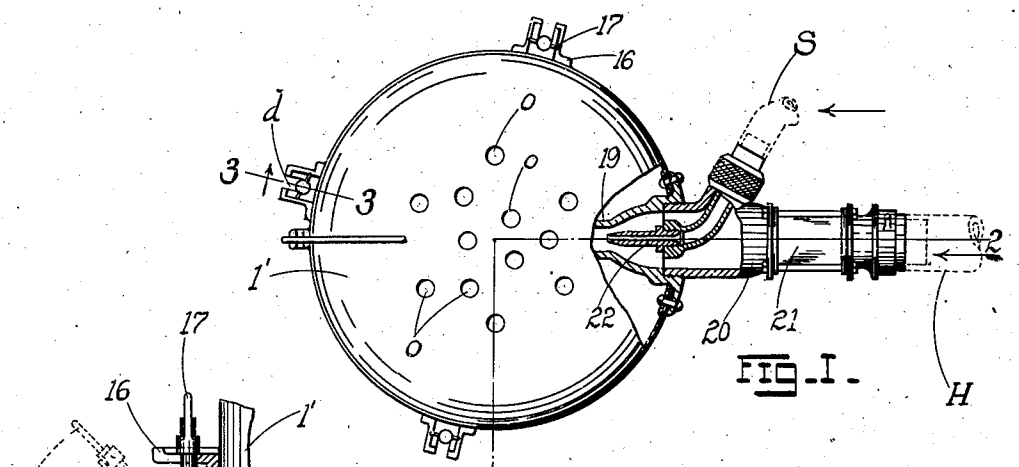

FIG. 1.

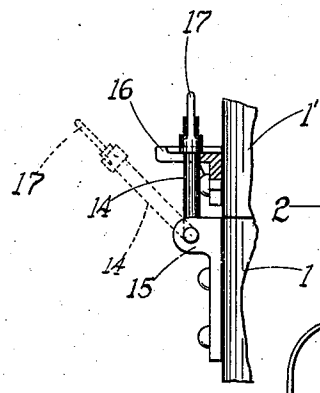

FIG. 3.

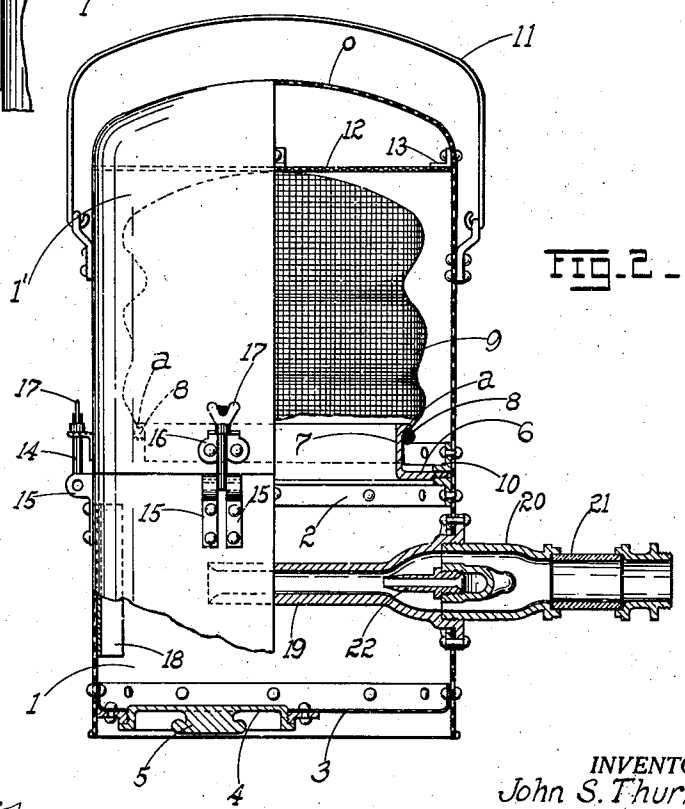

FIG. 2.

WITNESSES:

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DUST-RECEPTACLE.

956,450. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed March 3, 1909. Serial No. 481,023.

To all whom it may concern:

Be it known that I, JOHN S. THURMAN, citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Dust-Receptacles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in dust receptacles or separator tanks to be used in connection with vacuum cleaning systems; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1 is a top plan of the receptacle, parts being broken away; Fig. 2 is a combined elevation and section on the broken line 2—2 of Fig. 1, parts being broken away; and Fig. 3 is an enlarged sectional detail on the line 3—3 of Fig. 1.

The present receptacle, though serviceable in conjunction with vacuum cleaning systems generally, is eminently adapted for use on railway cars, making a highly useful adjunct to a car equipment.

The object is to provide a receptacle which is portable, the same having provision for connecting it to a compressed-air hose deriving its supply from the tank on the car from which the air-brakes are operated.

Entering as a construction feature of the receptacle is the exhauster, the jet nozzle of which is connected to the compressed-air hose above referred to, the discharge nozzle of the exhauster being secured directly to the receptacle wall, and projecting a suitable distance into the receptacle, and to a point under the open end of the filter bag confined therein.

A further object is to provide a receptacle which will effectively filter the dust-laden air projected into the same so no dust shall escape into the car or compartment where the cleaning is taking place.

The invention possesses further and other advantages better apparent from a detailed description thereof which is as follows:

Referring to the drawings, 1 represents the lower section of the receptacle, the same being made of sheet iron, and provided with an upper inner stiffening ring of angle iron 2, the bottom 3 being raised slightly above the lower edge of said section 1 so as to conveniently accommodate the screw disk or door 4, the latter being in the form of an inverted cup provided with a central knob 5 by which it may be conveniently manipulated. Resting on the angle-iron ring 2 is a ring 6 shouldered against the inner edges of the horizontal member thereof to prevent displacement and making an air-tight joint therewith, said ring being provided with an upwardly extending annular collar or flange 7 having a terminal bead *a* below which is passed around the flange the elastic or rubber band 8 at the edge of the dust sack 9, the band serving to hold the sack in place on the flange 7. This sack is composed of any suitable fine-mesh material such as duck, canvas, burlap or equivalent material as well understood in the art, and has a capacity when fully extended to more than fill the lower compartment of the upper section 1′ of the receptacle. The section 1′ is provided at the bottom with an inner stiffening angle-bar ring 10 resting on the ring 6 and making an air-tight joint therewith, and is provided with a handle or bail 11 by which it can be raised for purposes of access to the sack. The top of the section 1′ is dome-shaped and perforated to allow for the escape of the filtered air, and precaution is taken against the closing up of the perforations by the sack 9 when distended under the action of the air-currents entering the receptacle, by placing an intercepting wire screen 12 at the base of the dome or roof of the receptacle, said screen being preferably secured in place by angle-brackets 13. When the two sections 1, 1′ and the dust-sack supporting ring 6 are properly assembled, the sections are clamped together by means of the locking links or tees 14 swung between brackets 15, 15 riveted to the lower section 1, the free ends of the links having screw-threaded stems which pass into recesses *d* formed on the horizontal arm of an angle-bracket 16 riveted to the upper section, a terminal clamping screw 17 being quickly driven home along the screw-threaded stem of the link against the bracket arm, when the parts are firmly drawn together. They may as quickly be taken apart.

Located along the inner wall of the bottom section 1 is a reinforcing plate 18 opposite which is riveted to the receptacle the flanged base of a discharge nozzle 19 through which the dust-laden air is projected into the receptacle against the plate

18. Into the outer screw-threaded end of the nozzle 19 is secured a Y-connection 20, one leg of which carries the glass-sight-tube 21 beyond which connection is made with a hose or air line H leading to any suitable suction head or renovating tool (not shown) by which the cleaning is effected, as well understood in the art. The other leg of the Y is coupled to a compressed air supply hose S leading to any source of compressed air supply (such as the compressed air tank on the car used for air-brake service), the said second leg being provided with a jet nozzle 22 disposed along the axis of the nozzle 19, a suitable constriction being formed around the nozzle 22 so as to draft the air from the air line or hose H at an increased velocity at the point of such constriction, the dust-laden air current thus induced, and the compressed air-jet from the nozzle 22 conjointly flowing through the nozzle 19 into the receptacle where the air is filtered, the dust drawn through the cleaning tool and projected into the sack 9 being removed from time to time as occasion demands. The distension of the sack under the force of the current within the receptacle finally brings the sack into contact with the diaphragm or screen 12 by which it is prevented from bearing against the dome of the receptacle and closing the perforations *o* thereof, which should at all times be free to the passage of the filtered air. By unscrewing the cap or disk 4, the dust precipitated by contact with the sack and walls of the receptacle may be easily dumped out.

The formation of the receptacle in separable sections as shown, and the detachable character of the dust-sack make the device eminently adapted for railway service, since the porter may readily disassemble the parts, and clean them separately either from the car-platform or in the closet adjoining the wash-room. The exhauster (comprising the nozzles 19, 22, and connection 20) being coupled directly to the receptacle dispenses with the necessity of attaching this fitting to the hose.

Having described my invention what I claim is:

1. A dust-receptacle comprising a lower section and an upper section forming an extension thereof and provided with means for the escape of air, a removable imperforate member interposed between the sections and provided with a flange removed a suitable distance from the walls of the receptacle and projecting into the upper section of the receptacle, a sack confined in the upper section and having its open end secured to the flange of the member confined between the sections, and an exhauster secured to the lower section and discharging thereinto and into the sack.

2. A dust-receptacle comprising a lower section, and an upper section having a perforated top, angle-iron rings at the adjacent ends of the sections, a ring interposed between the sections and shouldered against and resting on the horizontal arm of the angle-iron ring of the lower section, a flange on the shouldered ring, a bead on the end of the flange, a dust-sack having its open end passed about the flange, and projecting into the upper section of the receptacle, and an exhauster discharging dust-laden air into the lower section and into the sack.

3. A dust-receptacle comprising a lower section and an upper section forming an extension thereof and having top perforations, a removable member interposed between the sections and provided with a flange removed a suitable distance from the walls of the receptacle and projecting into the upper section of the receptacle, a sack confined in the upper section and having its open end secured to the flange of the member confined between the sections, and an exhauster secured to the lower section and discharging thereinto and into the sack.

4. A dust-receptacle comprising a lower section and an upper section forming an extension thereof and having top perforations, a removable ring interposed between the sections and provided with a flange removed a suitable distance from the walls of the receptacle and projecting into the upper section of the receptacle, a sack confined in the upper section and having its open end secured to the flange of the ring, a perforated diaphragm interposed between the sack and perforated top of the upper section, and an exhauster secured to the lower section and discharging thereinto and into the sack.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN S. THURMAN.

Witnesses:
EMIL STAREK,
M. L. BURNS.