

No. 791,453.

PATENTED JUNE 6, 1905.

R. S. CUDDIHY.
DRAIN PIPE.
APPLICATION FILED MAR. 2, 1905.

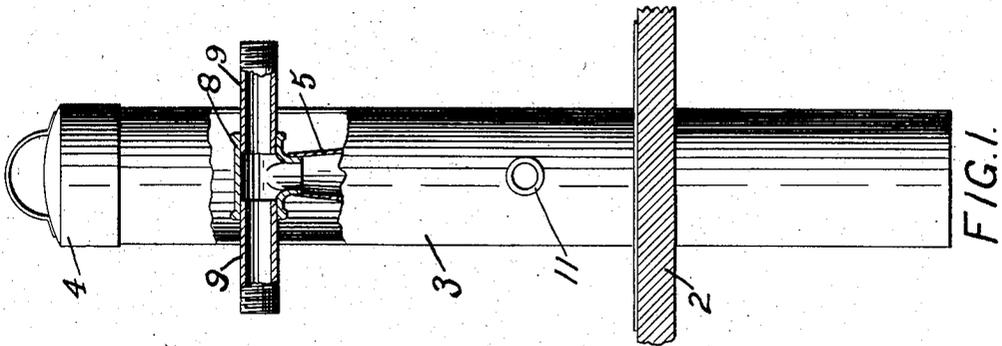


FIG. 1.

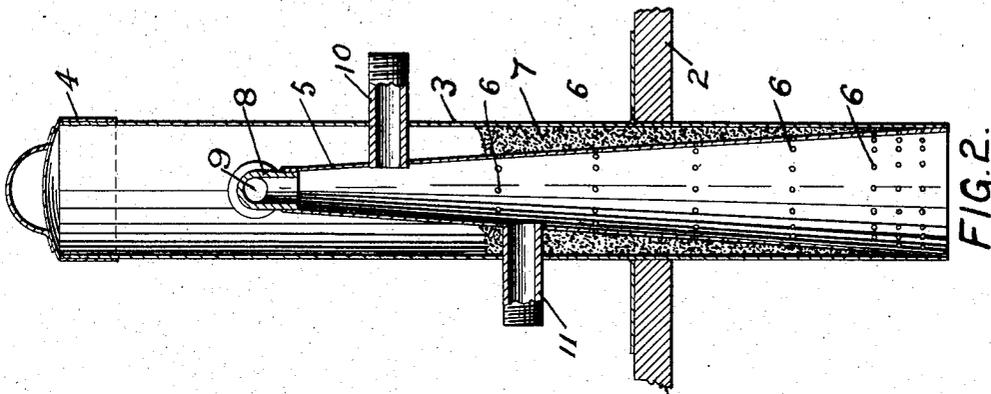


FIG. 2.

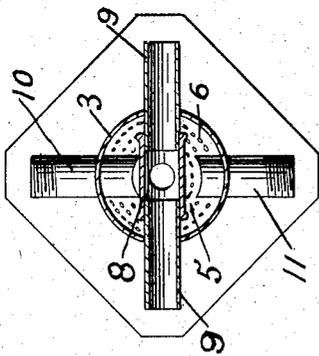


FIG. 3.

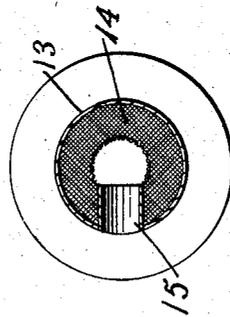


FIG. 5.

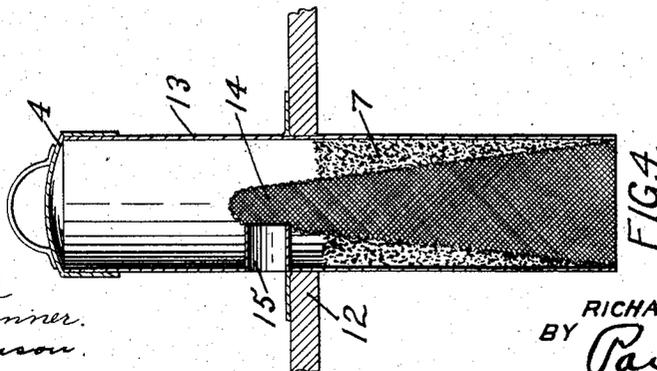


FIG. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

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

DRAIN-PIPE.

SPECIFICATION forming part of Letters Patent No. 791,453, dated June 6, 1905.

Application filed March 2, 1905. Serial No. 248,007.

To all whom it may concern:

Be it known that I, RICHARD S. CUDDIHY, of St. Paul, in the county of Ramsey, State of Minnesota, have invented certain new and useful Improvements in Drain-Pipes, of which the following is a specification.

My invention relates to drain-pipes for use in refrigerators and in connection with the washbowls of sleeping and parlor cars.

The object of the invention is to provide a non-freezing drain-pipe and one that will be very compact and simple in construction and easily accessible for the purpose of examination or repairs.

A further object is to provide a drain-pipe adapted particularly for passenger-coaches, which will serve as a drain for all the waste-pipes of the car.

The invention consists generally 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 side elevation of a drain-pipe embodying my invention, illustrated in position in the car-floor, the wall of the pipe being broken away, showing the nipple connections. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a horizontal section. Fig. 4 is a vertical sectional view illustrating the form of pipe designed particularly for use in refrigerators. Fig. 5 is a horizontal sectional view of Fig. 4.

In the drawings, 2 represents the floor of the car, and 3 the drain-pipe inserted therein and depending a suitable distance below the floor and having open ends, the upper one of which is normally closed by a removable cover 4. Within the pipe 3 is a second pipe 5, conical in form, having a base or lower end that fits snugly into the lower end of the pipe 3 and is secured thereto and tapers upwardly from said base to its apex near the upper end of said pipe 3. The conical shape of the pipe 5 causes the formation of a space between it and the walls of the pipe 3, that gradually contracts from the top toward the bottom until the walls of the pipes come together and are united at their extreme lower ends. The pipe 5 is provided at suitable intervals with a se-

ries of perforations 6 of suitable size, and in the space between the pipe 5 and the walls of the pipe 3 I place a quantity of salt 7, that is inserted through the upper end of said pipe 3 to any desired height, preferably to the top row of perforations. A T 8 is fitted in the apex of the pipe 5 and is provided with nipples 9, that project out through the pipe 3 and are connected to waste-pipes of the washbowls, one on each side. A nipple 10 is provided in the pipes below the apex of the conical pipe and connected with the waste-pipe of the water-cooler, and a similar nipple 11 is provided on the other side of the pipes and still nearer the floor and preferably connected with the hot and cold water pipes to allow them to be drained off in case of necessity. Other nipples may of course be provided in the drain-pipe leading into the cone-shaped pipe, if preferred. The water flowing in through these nipples will run down inside of the conical pipe and through the perforations therein into the salt and dissolving the same will flow on to the bottom of the drain-pipe and positively prevent the accumulation of ice therein, which heretofore has been a source of great annoyance to the operation of passenger-coaches in cold weather.

In Fig. 4 I have shown a slightly-modified construction particularly adapted for use in refrigerators or ice-boxes, 12 representing the floor of the refrigerator, 13 the drain-pipe proper, having a cover similar to the one heretofore described, and 14 a gauze cone secured in the lower end of the pipe in place of the perforated sheet-metal pipe 5 and connected near its apex, through a nipple 15, with the wall of the pipe 13 and the refrigerator to receive and allow the escape of the waste water therein. The space between the gauze cone and the pipe 13 is filled with salt, as in the case of the passenger-coach drain-pipe, and the manner of dissolving the salt and preventing the accumulation of ice in the pipe is precisely the same.

I claim as my invention—

1. The combination, with a floor, of a drain-pipe supported therein and depending below the same and provided with an open lower end and a removable cap or cover at its upper end,

a perforated cone arranged within said pipe the base of said cone fitting snugly within the open lower end of said pipe, the space between said cone and pipe being adapted to contain a supply of salt, a waste-pipe leading into said cone through the walls of said drain-pipe, substantially as described.

2. A drain-pipe having an open lower end in combination with a cone fitting therein and provided with a series of perforations, the space between said cone and said pipe being adapted to contain a supply of salt, a waste-pipe leading into said cone through said drain-pipe, substantially as described.

3. A drain-pipe comprising an outer member having an open lower end, an inner member also having an open lower end and fitting within said outer member and provided with a series of perforations, a space being formed between said members to receive a supply of salt, a waste-pipe extending into said inner member through said outer member.

4. The combination, with a floor, of a pipe supported therein and depending below the same and provided with a filling-opening at its upper end, of a second pipe fitting within said first-named pipe and having a series of perforations in its walls, and a space between said walls and said first-named pipe to receive

a supply of salt inserted through said filling-opening, and waste-water pipes extending through said first-named pipe and communicating with the interior of said second-named pipe, substantially as described.

5. The combination, with a floor, of a drain-pipe supported therein, a cone having a series of perforations arranged within said pipe, a space being formed between the walls of said cone and said pipe to receive a supply of salt, and waste-water pipes communicating with the interior of said cone, substantially as described.

6. The combination, with a floor, of a drain-pipe supported therein, a cone fitting into the open lower end of said drain-pipe and provided with a series of perforations in its walls, the lower end of said cone forming a close joint with the walls of said pipe and there being a space between the upper portion of said cone and said pipe to receive a supply of salt, a T provided in the apex of said cone, and waste-water pipes connected with said T.

In witness whereof I have hereunto set my hand this 25th day of February, 1905.

RICHARD S. CUDDIHY.

Witnesses:

RICHARD PAUL,
C. G. HANSON.