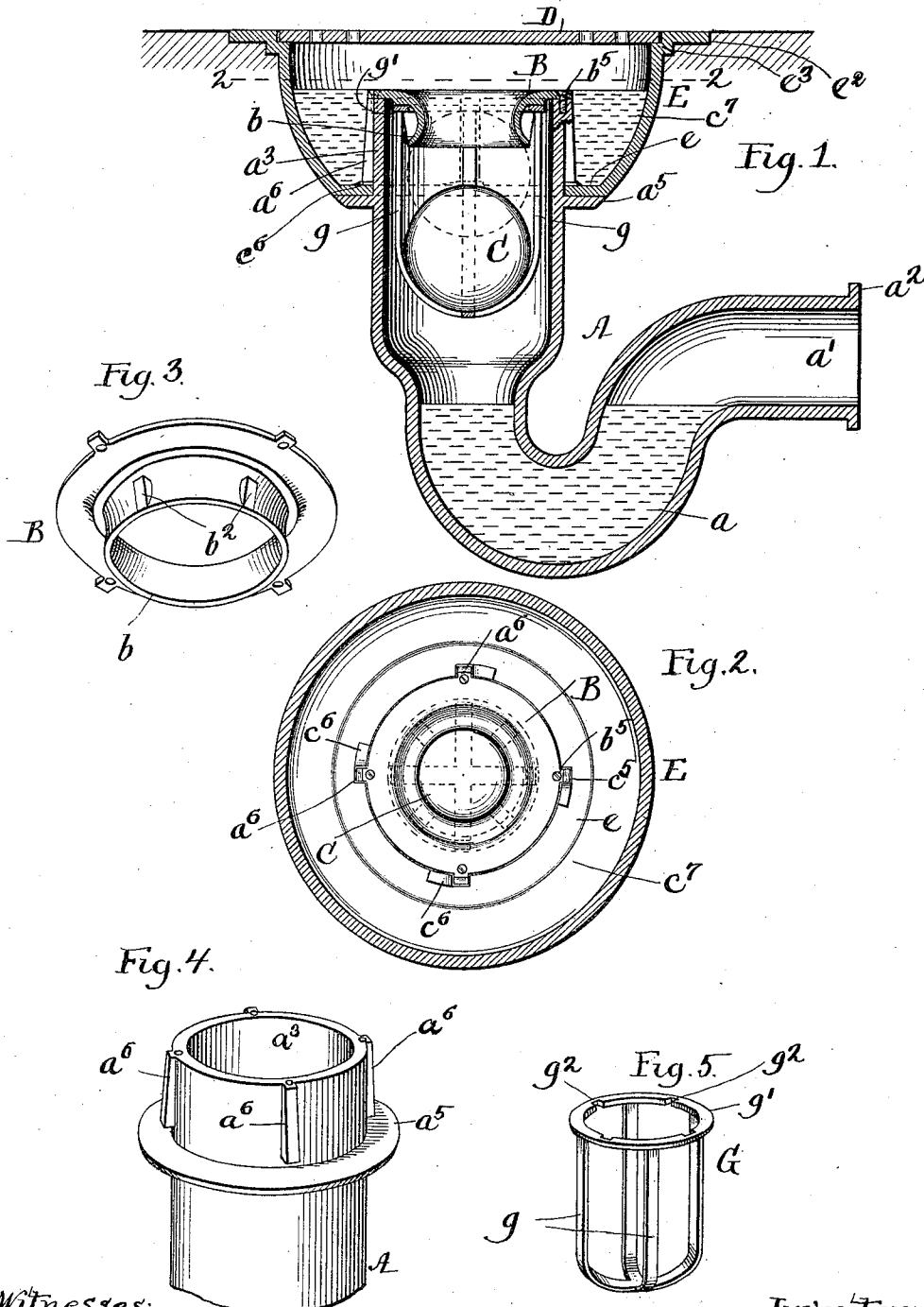


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DRAIN TRAP.

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1,046,741.

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UNITED STATES PATENT OFFICE.

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DRAIN-TRAP.

1,046,741.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE J. DEHN, a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Drain-Traps, of which the following is a full, clear, and exact description.

The invention relates to trap-pipes or drains which are usually arranged in or beneath the floor of a building for the drainage of water from the floor.

The invention designs to provide an improved trap-drain which may be readily installed or set into desired position and which embodies improved means for preventing back-flow of the water through the drain or trap.

The invention further designs to provide an improved combined trap and drain which is simple in construction.

The invention consists in the several novel features hereinafter set forth and more particularly defined by claim at the conclusion hereof.

In the drawings: Figure 1 is a vertical section of a trap and drain-pipe embodying the invention. Fig. 2 is a horizontal section on line 2—2 of Fig. 1, the receiving-basin being shown in position assumed before it has been given a slight turn to lock it to the trap-pipe. Fig. 3 is a perspective of the seat for the back-water valve. Fig. 4 is a perspective of the upper end of the trap-pipe; and Fig. 5 is a perspective of the valve-cage or guide.

A drain-pipe A is formed with the usual trap-bend a disposed below the lowest portion of the outlet portion a' of said pipe, to form a water-seal for preventing objectionable gases from the sewer or discharge to which the pipe is connected, from escaping through the inlet-terminal of the trap-pipe. The outlet-terminal a' of the trap-pipe is provided with a flange a^2 whereby it may be secured to a section of pipe leading to the sewer or discharge. The inlet-terminal a^3 of the trap-pipe extends vertically and has removably secured to its upper end by screws b^5 , a ring B usually made of brass, the lower flange b of which is flared to form a valve-seat for a back-water valve C. Said valve is guided to and from its seat by bars g of a cage G and the inlet-pipe-terminal a^3 is enlarged to receive the valve-cage. Said valve is usually a hollow ball formed of

suitable material to render it buoyant so it will float and rise in the cage G, when there is back-pressure in the trap-pipe from the sewer, the water in the trap causing the float-valve C to rise in the inlet-terminal a^3 of the trap-pipe and engage valve-seat b and thus prevent back-flow of water from the discharge or through the trap-pipe. Thus, it will be seen, that the invention provides a simple and efficient trap-pipe having therein a back-water valve which prevents back-flow of water.

The cage G comprises a ring g' at its upper end which is adapted to interlock with lugs b^2 on the valve-ring B. Said ring g' is provided with notches g^2 which permit it to be slipped over lugs b^2 into position adjacent the top of the valve-ring and then turned to cause the ring g' and the cage to be interlocked with the valve-ring. This connection provides a simple one between the valve-cage and valve-seat. The lower portion of the bars g of the cage serve as stops for limiting the downward movement of the valve so that it will not be displaced by the water rushing downwardly through the inlet-terminal of the trap-pipe.

A flange a^5 is integrally formed on the outer side of inlet-terminal a^3 of the trap-pipe to form a seat for the base e of a drain-receiver E. This receiver extends outwardly and upwardly from its base to form a receiving-basin and is provided with a rim e^2 having an annular recess or shoulder e^3 for a perforated cover D. This cover is removable to provide access to the trap and basin.

A quickly attachable connection between the trap-pipe and the receiver, whereby the basin will be properly secured so that a water-tight joint between the base of the basin and the pipe-flange a^5 will be formed, is provided. This connection comprises a series of vertical ribs or lugs a^5 integrally formed on the outer side of the trap-pipe and a corresponding series of notches c^5 in the base-flange of the receiver. The lower ends of said lugs are disposed so the inner edge of said base will pass between said lugs and the pipe-flange a^5 and adjacent each of the notches c^5 is formed a wedge-surface c^6 adapted to be driven between the lower ends of said lugs, to jam the base-flange of the receiver against the pipe-flange a^5 and form a water-tight connection between said parts. Furthermore, the receiver-basin, will, by

means of this connection, be held so it will be tightly held in connected relation to the trap-pipe. Usually a coating of suitable material, such as white lead, is placed on the top of the flange or bottom of the receiver to make the connection water-tight. To attach the receiver to the drain-pipe, it is only necessary to slip the receiver over the upper end of the trap-pipe with the ribs a^6 in notches c^5 of the receiver. When the basin rests on the pipe-flange a slight turn of the basin will cause the wedge-surfaces c^6 to pass beneath said ribs and lock the trap-pipe and the receiver together.

15 The inlet-terminal a^8 of the trap-pipe extends above the base of the receiver and resultantly an annular chamber or trap c^7 is formed to collect dirt and such other solid matter as may pass through the strainer and prevent the dirt from passing into the trap-pipe. The perforations in the strainer-top are disposed above the chamber c^7 to direct the solid matter into said chamber. The body of water remaining in chamber c^7 tends to lower the temperature in the receiver and prevents undue evaporation of the water in the trap-pipe.

20 The invention provides an improved trap-pipe having therein a back-water valve. Furthermore, the invention provides an improved construction of trap-pipe and re-

ceiver therefor which can be made at a low cost and quickly and conveniently installed.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. The combination of a drain-pipe having an upwardly extending inlet-terminal, a back-water valve in said pipe, a ring removably secured to said pipe and provided with a seat for the valve, a cage for guiding the valve to and from the seat, a ring secured to and forming the upper end of the cage and removable therewith, and means for detachably securing said rings together to permit the cage ring to be disconnected from the seat-ring.

2. The combination of a drain-pipe having an upwardly extending inlet-terminal, a back-water valve in said pipe, a ring removably secured to said pipe and provided with a seat for the valve, a cage for guiding the valve to and from the seat, a ring secured to and forming the upper end of the cage and removable therewith, and interlocking lugs on said rings for detachably securing them together to permit the cage ring to be disconnected from the seat-ring.

GEORGE J. DEHN.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."