(No Model.)

2 Sheets—Sheet 1.

J. R. MAGEE.

SEWER TRAP.

No. 458,589. Patented Sept. 1, 1891.

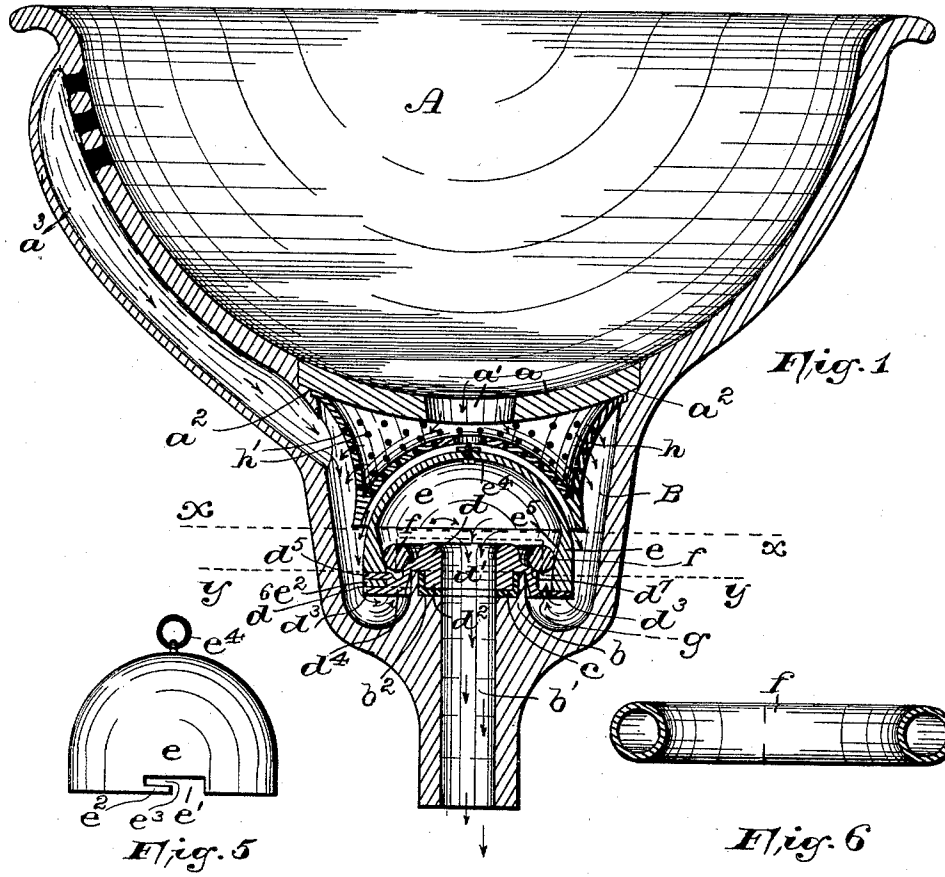


Fig. 1

Fig. 5

Fig. 6

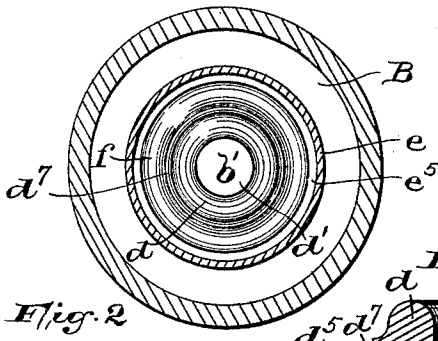


Fig. 2

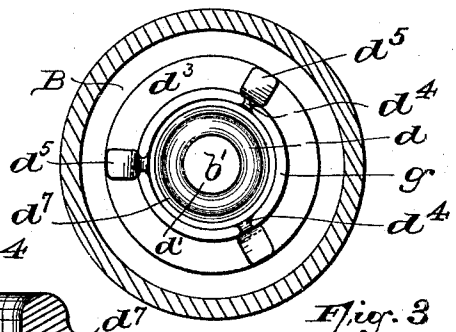


Fig. 3

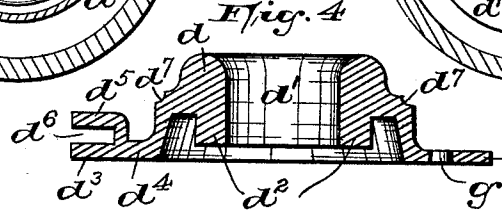


Fig. 4

WITNESSES:

Geo. B. Adams

Wm. H. Canfield, Jr.

INVENTOR:

John R. Magee,

BY Fred'k C. Fraentzel ATT'Y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. R. MAGEE.

SEWER TRAP.

No. 458,589. Patented Sept. 1, 1891.

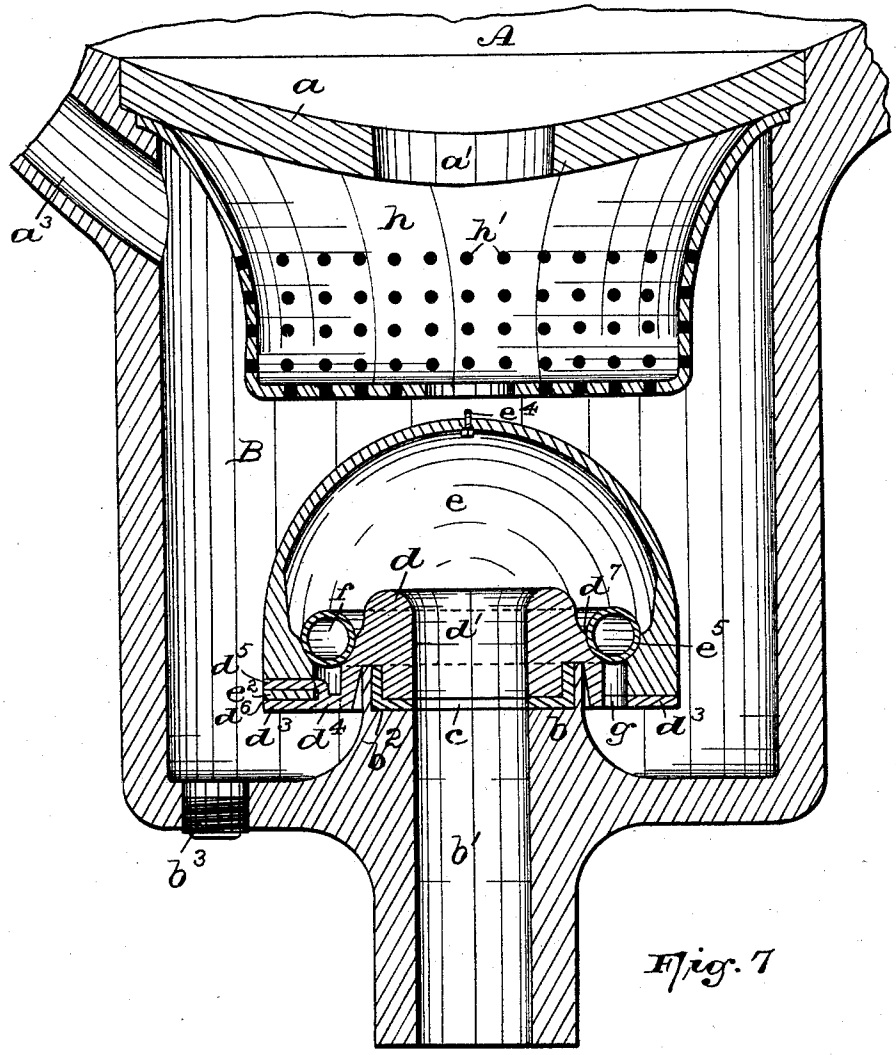


Fig. 7

WITNESSES:

Geo. B. Adams

Wm. H. Canfield, Jr.

INVENTOR:

John R. Magee,

BY Fred C. Graenzel, ATT'Y.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN R. MAGEE, OF EAST ORANGE, NEW JERSEY.

SEWER-TRAP.

SPECIFICATION forming part of Letters Patent No. 458,589, dated September 1, 1891.

Application filed December 22, 1890. Serial No. 375,403. (No model.)

To all whom it may concern:

Be it known that I, JOHN R. MAGEE, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Sewer-Traps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a cheap and serviceable sewer-trap having combined therein with a bell-trap a valve which will float to allow the waste water to flow into the sewer-pipe, but which will exclude water from running back into the basin, and will also successfully avoid the escape of foul gases into the waste-pipe and into the basin, from which the gases could readily pass into the building.

The invention, furthermore, has for its object to provide a wash-basin with a removable bottom, which may or may not be provided with a basket to catch sediments and other foreign substances, the bottom being removable, so that the bell-trap can be removed and cleaned and again restored in position on a seat over the sewer-pipe.

The invention further consists in certain combinations and arrangements of parts, as will be hereinafter fully described, and finally embodied in the clauses of the claim.

In the two sheets of drawings herewith accompanying, Figure 1 is a vertical section of my improved sewer-trap arranged in position above the sewer-pipe connected with a wash-basin. Fig. 2 is a horizontal section taken on line x in Fig. 1, representing the valve in plan. Fig. 3 is a section taken on line y in said Fig. 1, with the chambered trap-dome and valve-ring removed to show more clearly the arrangement of the valve-seat and also the dome-seat. Fig. 4 is a vertical section of the seat. Fig. 5 is a side view of the dome provided with means for securing the same to its seat and provided in the top thereof with an eye or ring for removing the dome when necessary. Fig. 6 is a sectional view of a hollow ring which serves as a valve in the present construction.

On Sheet 2, Fig. 7 is a view similar to that shown in Fig. 1 of a modified form of construction.

Similar letters of reference are employed to indicate corresponding parts in each of the above-described views.

In said views, A represents the basin, which may be provided with a removable plate a, having a centrally-arranged hole a' to receive an ordinary stopper or plug. Said plate a is placed in an annular recess a^2 in the bottom of the basin, as will be noticed from Figs. 1 and 7.

Directly beneath the lower portion of the basin I have provided the same with a bell-shaped seal chamber or casing B, formed on its inner side with an upwardly-projecting hub b, provided with a tubular projection b', to which is cemented or secured in any other well-known manner the sewer-pipe. This hub b is provided in its upper surface with a recess b^2, into which may be fitted a metal seat c, upon which rests the combined valve and dome seat d. The seat c, however, is not essential and can be dispensed with, in which case the seat d rests directly in the recess b^2. The combined valve and dome seat d, as will be seen more especially from Figs. 3 and 4, has a central perforation or hole d' and a downwardly-projecting ledge d^2, which is made to fit either upon the seat c or snugly within the recess b^2 in the hub b, being preferably cemented therein. As will be seen, said seat d is surrounded by a ring d^3, connected by means of arms d^4 with the main portion of said combined valve and dome seat. This ring serves to carry the dome, as will be seen later on, being provided with locking or holding arms d^5 on said seat, thereby firmly securing the dome upon its ring d^3. The dome e is preferably cup-shaped, and is provided with undercut portions e', the number of which corresponds to the number of arms d^5 on the ring d^3. A finger e^2 forms a slot e^3 to one side of each of said undercut portions. In order to secure the dome e upon the ring d^3, said cut-away portions e' are placed over the upwardly and forwardly projecting arms d^5 on the ring, and a slight turn

of the dome to one side will bring said arms d^5 within the slots e^3 directly above the fingers e^2, so that the latter will rest in the undercut portions d^6 in the ring d^3, between the upper surface of said ring and its upwardly-projecting arms d^5. Thus it will be seen that the dome is securely held in this position on its ring and cannot be displaced by a sudden jar or by the sudden backing up of water in the waste-pipe. The dome e can be provided with a ring or eye e^4, by means of which it can be removed from the chamber B for cleaning, when necessary. As will be seen from Figs. 1 and 7, when the dome is in its place on the ring d^3 the main portion d of the combined dome and valve seat projects into the chambered part of the dome.

The dome is provided with a ledge e^5, surrounding the inner lower surface of the same, and the portion d of the seat is also provided with a circumferential groove d^7, which, with the ledge e^5, forms a seat for a light ring f, constituting a valve, which in its normal and unoperated position rests directly above the annular opening g between the ring d^3 and the body portion d of the combined dome and valve seat. This ring is of the proper size and weight, so that a certain quantity of water will at all times remain in the bottom of the seal-chamber B; but when this quantity is increased from the basin A it has sufficient head to float the ring, and the water will pass out in the direction of the arrows (shown in Fig. 1) through the tube d' into the sewer connection, as will be evident, a sufficient volume of water remaining in the bottom of the seal-chamber B on a level with the horizontal plane of the ring, which will prevent any gases accidentally escaping into the room should the valve-ring have become defective. On the other hand, however, should any water be forced back into the chambered dome, the pressure from the same will successfully force the ring down upon its seats, and thereby close the aperture g. Any gas from the sewer-pipe would act in the same manner, and a sanitary trap is the result, which is operative and answers all conditions.

In Fig. 7 I have illustrated a slightly-modified form of valve-seat which answers the same purpose as that described in connection with Fig. 1, and hence needs no further explanation. Instead of forming the bottom B of the basin bell-shaped, as in Fig. 1, the sides of the said chamber B can be made straight, as in Fig. 7, and provided with plugs b^3, which can be unscrewed and the chamber thus readily cleansed of all sediments in the bottom thereof. If desirable, a basket h can be suspended from the recess a^2 in the bottom of the basin A. Said basket is provided with any desirable number of holes or perforations h', which permit the water flowing through the same, while any large foreign substance which might accidentally have passed through the hole h' is retained in said basket, and thereby prevented from interfering with the valve. The basket may be made integral with the plate a, or it can be made separate therefrom, as will be evident. The overflow a^3 may be of the ordinary construction, or can be formed integral with the back of the basin, terminating in the chamber B, as shown in Fig. 1. The valve-ring f may be solid, as shown in Fig. 1, or it can be made hollow, as in Fig. 6.

Having thus described my invention, what I claim is—

1. In a trap for a sewer or wash-basin, the combination, with a seal-chamber, of a valve-seat secured therein, a removable dome on said seat adapted to slide thereon and engage with means consisting, essentially, of arms on said seat adapted to be forced into holding engagement with said dome to lock the same in position, and a valve-ring in said dome acting as a valve, as and for the purposes set forth.

2. In a trap for a sewer or wash-basin, the combination, with a seal-chamber, of a centrally-perforated valve-seat arranged on a tubular hub in said chamber, a removable dome on said seat adapted to slide thereon and engage with means consisting, essentially, of arms on said seat adapted to be forced into holding engagement with said dome to lock the same in position, and a valve-ring in said dome acting as a valve, as and for the purposes set forth.

3. In a trap for a sewer or wash-basin, the combination, with a seal-chamber, of a centrally-perforated valve-seat arranged on a tubular hub in said chamber, said valve-seat being provided with outwardly-projecting arms and a ring connected with said arms, a removable dome on said ring adapted to slide thereon and engage with means on said ring for holding the dome in position, and a valve-ring in said dome acting as a valve, as and for the purposes set forth.

4. In a trap for a sewer or wash-basin, the combination, with a seal-chamber, of a centrally-perforated valve-seat d, arranged on a tubular hub in a recess therein, said valve-seat being provided with outwardly-projecting arms and a ring connected with said arms having upwardly and forwardly projecting arms thereon, as set forth, a removable dome provided with cut-away portions for placing said dome over the arms on the ring, slots in said dome with which said arms can be made to engage and hold the dome in position on said ring, and a flexible valve-ring in said dome acting as a valve, as and for the purposes set forth.

5. In a trap for a sewer or wash-basin, the combination, with the basin A, having a removable bottom, and the seal-chamber in direct communication therewith, of a removable dome sliding on a seat and provided with means adapted to engage with arms on said seat for locking the dome in position thereon, and a ring in said dome acting as a valve, as and for the purposes set forth.

6. In combination with the valve in a trap for a sewer or wash-basin, the herein-described combined dome and valve-seat d, provided with a ring d^3, provided with upwardly and outwardly extending arms d^5, and a dome on said ring provided with slots adapted to engage with said arms, as and for the purposes set forth.

7. In a trap for a sewer or wash-basin, the combination, with the seal-basin, perforated basket h, and the dome e, of a valve-seat d, provided with outwardly-extending arms d^4, connected with a ring d^3, said ring having upwardly and forwardly projecting arms d^5, slots in said dome e, adapted to engage with said arm on the valve-ring, and a ring arranged in a groove d^7 and on a ledge e^5 in the dome, as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 17th day of December, 1890.

JOHN R. MAGEE.

Witnesses:
FREDK. C. FRAENTZEL,
WM. H. CAMFIELD, Jr.