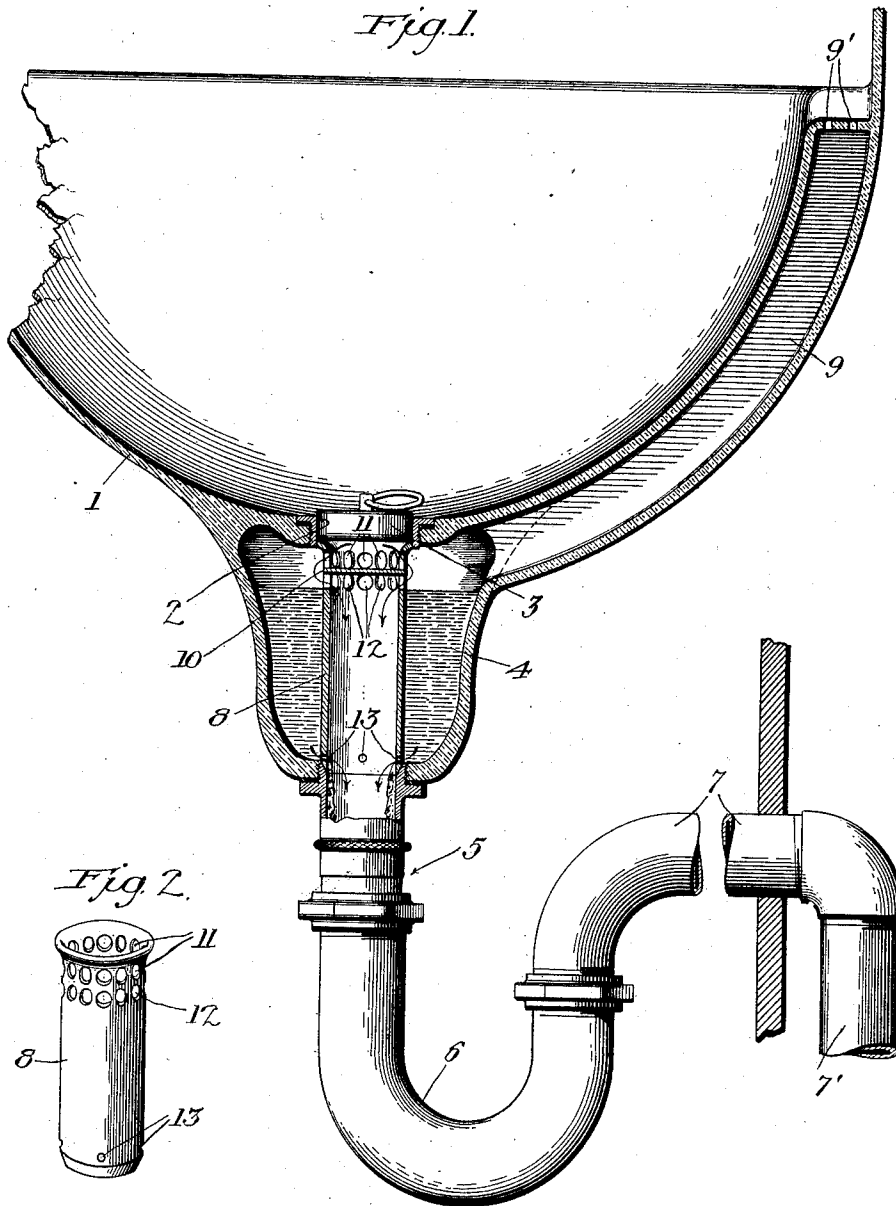


A. C. DALE.
 PRIMER FOR SEWER SEALS.
 APPLICATION FILED JAN. 31, 1911.

1,016,676.

Patented Feb. 6, 1912.

2 SHEETS—SHEET 1.



Witnesses:

Lute S. Allen

J. W. Thornburgh

Inventor:

Albert C. Dale

*By Townsend & F. Healey,
 His Attys*

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Fig. 3.

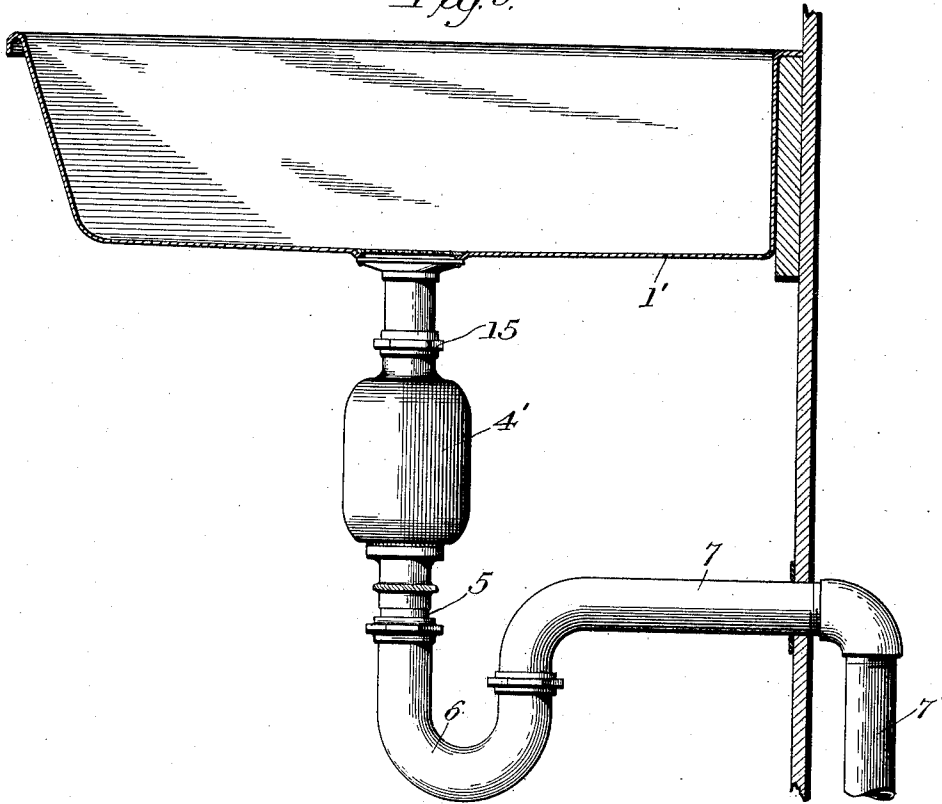
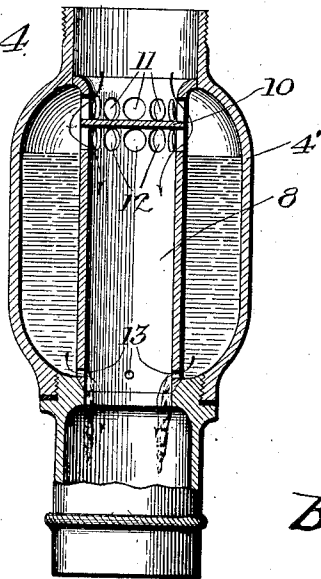


Fig. 4.



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UNITED STATES PATENT OFFICE.

ALBERT C. DALE, OF LONGBEACH, CALIFORNIA, ASSIGNOR OF ONE-HALF TO E. H. BARMORE, OF LOS ANGELES, CALIFORNIA.

PRIMER FOR SEWER-SEALS.

1,016,676.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed January 31, 1911. Serial No. 605,777.

To all whom it may concern:

Be it known that I, ALBERT C. DALE, a citizen of the United States, residing at Longbeach, in the county of Los Angeles and State of California, have invented a new and useful Primer for Sewer-Seals, of which the following is a specification.

This invention relates to means for priming seals or traps in the communication between bowls or other plumbing fixtures and the sewer. In such devices as generally constructed provision is made for a rapid outflow or flushing of the fixture in the discharge or emptying into the sewer and this outflow is often so rapid that it carries the water out of the seal or trap to such an extent as to destroy the efficacy of the seal.

The main object of the present invention is to provide for replenishment or priming of the seal under such conditions.

Another object of the invention is to enable the usual vent pipes for plumbing fixtures to be dispensed with. Such vent pipes are necessitated largely by reason of the breaking of the seal under the circumstances above stated and by providing means for priming or replenishing the seal under such conditions, I am enabled to dispense with the vent pipe.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention, and referring thereto: Figure 1 is a vertical section of a bowl, showing the outlet connections to a sewer in elevation. Fig. 2 is a perspective of a perforated pipe section controlling the outflow from the bowl. Fig. 3 is a side elevation of a modified form of the invention attached to a sink, the latter being shown in section. Fig. 4 is a vertical section of the priming chamber shown in Fig. 3.

1 designates a bowl of a plumbing fixture, for example, a wash bowl, 2 the outlet opening thereof, and 3 the removable plug for closing said outlet. Below said outlet, the bowl is provided with a chamber 4 and the pipe connection 5 to the trap 6 is connected to the lower end of this chamber 4. From the trap or seal 6, the pipe 7 leads to the sewer, said pipe 7 terminating in a down-take 7' in the usual manner, except that the vent pipe usually connected at the outlet of this pipe 7 is, or may be, omitted. The bowl is provided with a passage 9 establishing

communication from the upper part of the chamber 4 to vents 9' at the upper part of the bowl, whereby air may pass out of or into the chamber 4 as water enters or leaves the same, so that the flow of the water is not interfered with by suction or compression of air. This passage 9 also serves as the usual overflow or wasteway for the bowl. The tube 8 fits at its upper end within the outlet 2 of the bowl and at its lower end within the lower pipe connection 5. For this purpose, the lower end of the tube 8 is beveled or tapered to fit within a corresponding flared opening within the pipe connection 5 and the upper end of the tube 8 is expanded to fit within the outlet 2. Said tube 8 is provided near its upper end with a transverse diaphragm or partition 10 and with openings 11 in its side wall above said partition and openings 12 in the side wall below said partition, said partition operating as obstructing means whereby all the water passing through the outlet of the bowl is caused to pass through the openings 11 into the chamber 4 and from said chamber 4 through the openings 12 into the tube 8. At its lower portion, said tube is provided with outlet openings 13, the aggregate size and capacity of these outlet openings being small compared with the size and capacity of the openings 11 and 12, so that the water may pass into the chamber 4 through the openings 11 faster than it drains out through the openings 13.

The operation is as follows: Assuming the bowl 1 to have been filled and the plug 3 to have been removed, opening the outlet 2, the water rushes out through the outlet 2 and openings 11 into the chamber 4 and accumulates in said chamber until it reaches the level of the openings 12 and the rest of the water will then mainly run through the openings 12 into the tube 8. The partition 10 breaks the force of the outflow to some extent, but the force of the outflow through the openings 11 and 12, tube 8 and trap 6 will be sufficient to flush the trap or seal 6 and to entirely replace the body of water therein. It will be understood that during this operation, water will be running through the lower outlets 13 in the tube 8 and while this outflow is negligible in volume compared with the sudden discharge through the openings 12, it continues after said discharge is completed, the body of

water contained in chamber 4 gradually draining or running into the seal through said openings 13. Thus in case the outflow through the openings 12 and the seal is so violent as to empty the seal into the sewer or to lower the level of the water in the seal below a safe level, sufficient water will be furnished from the chamber 4 through the openings 13 to prime or replenish the seal and restore the water level therein to a safe height.

As shown in Figs. 3 and 4, the priming chamber, indicated at 4', may be formed as a separate fixture, attached to the bottom of a plumbing fixture, such as a sink 1', by a union 15 and connected to the trap or seal 6 by a pipe 5. The tube 8 is mounted in this chamber and is provided with an obstructing partition 10 and with flushing openings 11 and 12 and drainage openings 13, as above described. The operation of this form of the invention is the same as above explained.

What I claim is:

1. The combination of a plumbing fixture provided with an outlet, a sewer connection including a seal, a chamber below the said outlet and above the said seal, means for conducting into said chamber all of the outflow through said outlet, said chamber having restricted communication at its lower portion, with said seal, so that the chamber will be charged with water from the outlet of said fixture and said water will gradually drain into the seal to prime the same.

2. The combination of a plumbing fixture having an outlet, a sewer connection including a seal, a tube connecting said sewer connection with the outlet of the fixture, said tube having a transverse partition, and a chamber communicating with said tube above and below said partition to receive a supply of water from the said outlet and to allow water to run off from said chamber through said tube into the seal.

3. In combination with a plumbing fixture having an outlet, a chamber below said outlet, a sewer connection including a seal, a tube extending within said chamber and communicating at its lower end with the sewer connection above said seal, said tube having a transverse partition and being provided with openings above said partition and below said partition, said openings being of sufficient capacity to allow a rapid outflow from said outlet into said chamber and from said chamber into said tube, and said tube having openings establishing restricted communication from the lower part of said chamber to said seal, whereby the said chamber is charged with water from the outlet of the fitting and said water is allowed to gradually drain into the seal after the rapid outflow through the upper openings ceases.

4. The combination of a plumbing fixture provided with an outlet, a sewer connection including a seal, a chamber below said outlet and above said seal, a tubular member connecting at its lower end with the sewer connection and extending upwardly within said chamber, the upper end of said tubular member being obstructed to prevent direct downflow of fluid thereinto from said outlet, and said chamber connecting with the outlet to receive all the water therefrom and connecting with the upper portion of said tubular member to discharge water thereinto, and having restricted communication from its lower portion into said tubular member to allow water to drain from the chamber into said tubular member.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 10th day of January, 1911.

ALBERT C. DALE.

In presence of —

ARTHUR P. KNIGHT,
FRANK L. A. GRAHAM.