

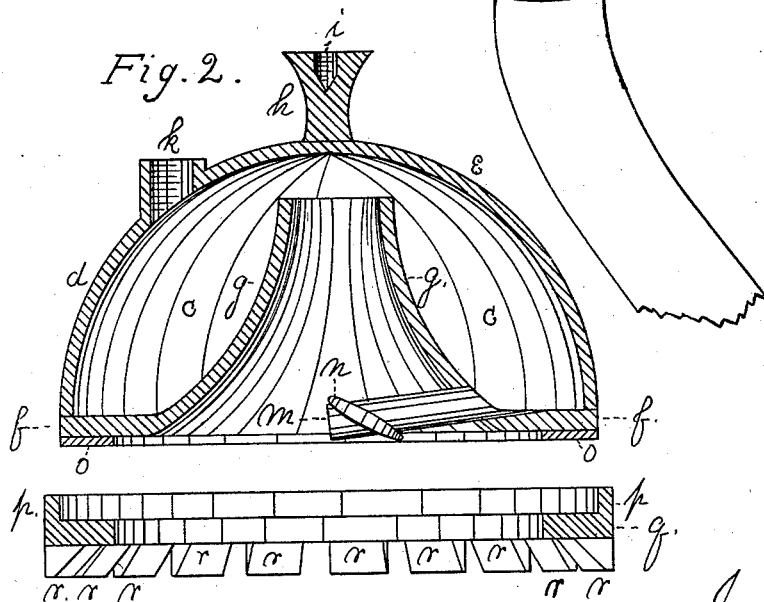
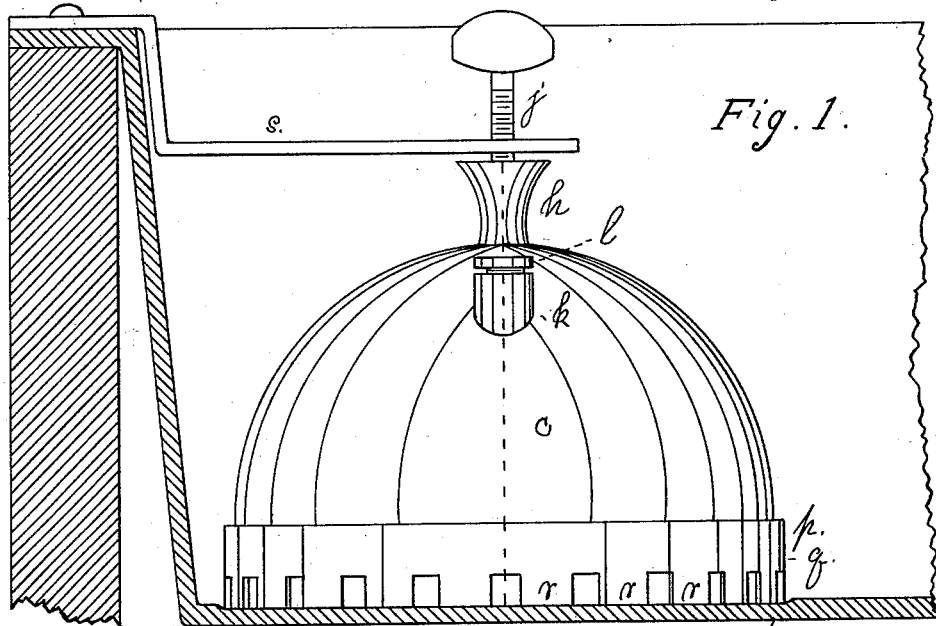
(No Model.)

C. J. LYONS.

SINK PIPE CAP.

No. 302,269.

a Patented July 22, 1884.



Witnesses:
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UNITED STATES PATENT OFFICE.

CORNELIUS J. LYONS, OF HARTFORD, CONNECTICUT.

SINK-PIPE CAP.

SPECIFICATION forming part of Letters Patent No. 302,269, dated July 22, 1884.

Application filed December 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS J. LYONS, a citizen of the United States, residing in the city and county of Hartford, in the State of Connecticut, have invented certain new and useful Improvements in Sink-Pipe Caps, of which the following is a full, clear, and exact description, whereby a person skilled in the art to which it appertains can make and use the same, reference being had to the accompanying drawings.

My invention consists of a sink-pipe cap, which is also a vessel for the reception, retention, and discharge of liquid disinfectants.

To disinfect and exclude from apartments and buildings occupied by human beings the noxious atmosphere of sewer and waste pipes generally, with their contained impurities, is the object of my invention, whose principal features are a vessel of liquid disinfectant adapted to be placed directly over the mouth of the sink-pipe, and provided with a nozzle for the regular discharge of such disinfectant into the mouth of such pipe, a removable standard for the support of such vessel while the sink is in use, a clamp for holding said vessel in place, and a rubber ring upon which said vessel may rest.

In the accompanying drawings, in which like letters denote the same parts throughout the several views, Figure 1 is a side view of my invention and of a sink pipe and bowl, together with a portion of a sink and its support in longitudinal section, and Fig. 2 is a cross-sectional view of my invention on the line *a b* in Fig. 1, as hereinafter more particularly explained.

c is a dish, of brass or other metal not readily oxidable, is of general hemispherical form externally at the top and sides thereof, and is flat on the bottom, except at the middle part thereof, where the latter rises re-entrant, like an inverted funnel, to near the top of the dish internally. This dish may be formed of a single plate of metal, *d e f g*; or the funnel *g*, with its flaring edges *f*, may be formed separately from the hollow hemisphere *d e*, and the two parts *d e* and *f g* may be united by rolled joint, screw-joint, or in any other convenient manner to make a perfect joint. A spun joint is preferable. At the top and middle of the dish *c* the latter is provided externally with a fin-

ger-piece, *h*, and the latter contains a center hole or screw-center, *i*, to receive the set-screw *j*, hereinafter mentioned.

At any convenient place in the upper part of *d e* is an aperture of convenient size for the introduction of liquid disinfectants, as hereinafter explained, which is provided with the nozzle *k* and screw-stop *l*.

At any convenient place at the bottom of the dish *c* is a hole through the re-entrant plate *g*, of convenient size for the discharge of the contents of such dish, as hereinafter explained, which hole is provided with a discharging-pipe and nozzle, *m*. The latter has a stop-cock, *n*, with finger-piece for regulating the flow, and terminates at the middle and bottom of the dish *c* within the re-entrant funnel *g g*. A side view of *m* and *n* appears in Fig. 2. The plate *f f* is armed or covered on the outer part of its lower and flat side with a ring or flat strip of india-rubber, *o*, which is permanently affixed thereto. This annular strip of rubber is of proper size to fit exactly within the flange *p* of the standard *q*, hereinafter to be mentioned. The standard *q* consists of a flat ring of metal, which is flanged above and toothed below. The flange *p*, which rises above the flat body of the standard *q*, is adapted to embrace the outer edges of the plate *f* and of the rubber ring *o* whenever the dish *c* is placed in position upon *q*, whereby to form a close joint between *c* and *q*. The teeth *r* extend downward a short distance from the main body of *q*, are placed a short distance from each other in order that sink-water may pass freely between them when this instrument is in operation, and yet are placed so near to each other as to prevent large objects from passing between them. The removable standard *q* is shown in Fig. 2 separate from the dish *c* in the same figure. This standard should be of such size as to extend over the extreme outer edges of the mouth of the sink-pipe to which the same is to be applied. The set-screw *j* works in any proper support attached to the frame or wood-work of the sink, and is adapted to enter the center hole, *i*, in the finger-piece *h*.

Such being the construction of my improved sink-cap, the mode of its operation is as follows: Through the nozzle *k* the dish *c* is filled to the top of the funnel *g g* with sulphate of

iron, carbolic acid, or such other liquid disinfectant as may be desirable. The stop-screw *l* is turned into *k*, whereby the latter is closed. The stop-cock *n* is then opened
 5 enough to allow the liquid to run or drop from *m* with the desired rate or frequency of discharge. The dish *c* is then placed upon its standard *g*, with the rubber *o* and at least a part of the plate *f* within the flange *p*.
 10 The standard *g* is then put in position so that the teeth are upon the upper surface of the bottom of the sink around the mouth of the sink-pipe, and the nozzle *m*, finger-piece *i*, and set-screw *j* are directly over the middle of the
 15 mouth of such pipe. The set-screw *j* is then turned down until the whole instrument is firmly clamped together and held in position. The pressure so produced presses the plates *f* and *g* firmly upon the rubber *o*, whereby an
 20 impervious joint is produced between *f* and *g*. Such is the position and arrangement of the instrument while the sink is in use. While the cap is so adjusted, water which may be put into the sink will pass between the teeth *r* and
 25 find its way without additional obstruction to and through the strainer which ordinarily guards the mouth of the sink-pipe, in the usual manner. The teeth *r* operate as an additional
 30 strainer, and prevent large crumbs and other matter from passing under the cap and from too speedily clogging the mouth-strainer just mentioned. The disinfecting-solution from the dish *c* is constantly running or dropping
 35 at the predetermined rate from the lower end of the discharge-pipe and nozzle *m* directly over and into the mouth of the sink-pipe, whereby a continuous process of disinfection is established in and near the mouth of such
 40 pipe. Whenever the sink is to remain in disuse for a day, a night, or any other considerable period, the stand *g* should be removed from under the dish *c*, and the latter should be clamped down with its lower surface or
 45 cushion, *o*, immediately upon the bottom of the sink, so that an impervious joint may be made between the dish *c* and the upper surface of the bottom of the sink. The rubber ring or packing *o* is thus to extend over the extreme outer edge of the sink-mouth to which
 50 the same is thus applied. The removal of the stand *g* and the clamping down of the dish *c* in the manner last mentioned is easily effected by means of the set-screw *j*, and affords a convenient and sufficiently frequent opportunity

to remove from the strainer which guards the
 55 mouth of the pipe all accumulated small crumbs and other obstructions. The dish *c*, when so adjusted, operates as before, with the difference that the same now operates as a cap and shuts off all intercommunication between
 60 the inclosed atmosphere within the dish *c* and the sink-pipe mentioned and the uninclosed atmosphere of the apartment in which the sink is located. The continuous disinfection goes on as before. The above-described form of the
 65 dish *c* allows a constant exposure of the upper surface of the disinfectant-solution within the dish to the atmosphere occupying the otherwise vacant portion of such cap, and the open
 70 funnel *g g* allows all vapors and disinfecting-gases which may be given off within the dish *c* to pass freely into and about the mouth of the sink-pipe. In this instrument it is obvious that any sort of disinfectant may be used
 75 which can by solution be brought to a liquid form. The annular packing or washer *o* may be omitted from the construction of this cap, or its place may be supplied by any other device for creating an impervious joint between
 80 *f* and *g*, or between *f* and the sink-bottom, as the case may be, without departure from the spirit of my invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The dish *c*, provided with nozzles *k* and
 85 *m*, finger-piece *h*, stopper *l*, and stop-cock *n*, substantially as shown, and operating as set forth, for the purpose specified.

2. The dish *c*, provided with nozzles *k* and
 90 *m*, finger-piece *h*, stopper *l*, and stop-cock *n*, in combination with the set-screw *j* and arm *s*, substantially as shown, and operating as described, for the purpose specified.

3. The dish *c* and standard *g*, in combination with the set-screw *j* and arm *s*, substantially
 95 as shown, and operating as described, for the purpose specified.

4. The dish *c*, provided with the washer *o*, in combination with the standard *g*, set-screw
 100 *j*, and arm *s*, substantially as shown, and operating as described, for the purpose specified.

In witness whereof I have hereunto set my name in the presence of two subscribing witnesses.

CORNELIUS J. LYONS.

Witnesses:

JOHN F. WYNNE,
 HENRY E. PRATT.