W. J. KOHLER.

DRAIN CONNECTION.

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1,092,579. Patented Apr. 7, 1914.

FIG. 1.

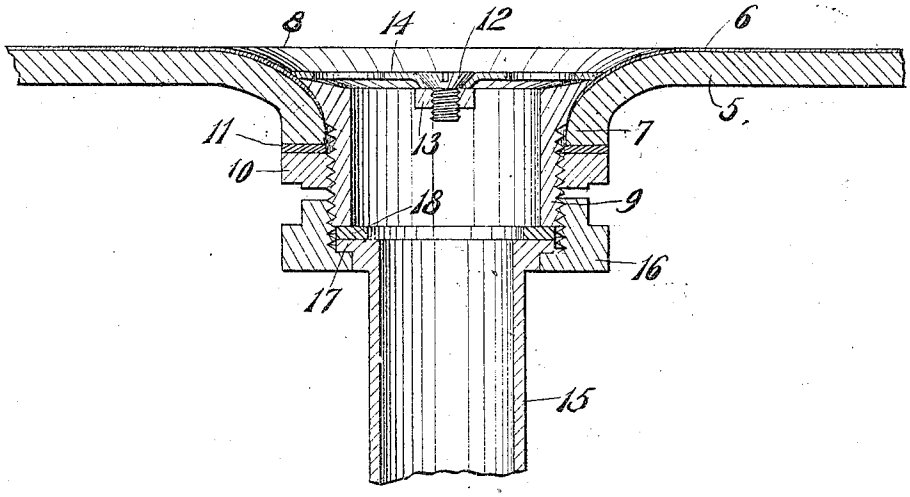
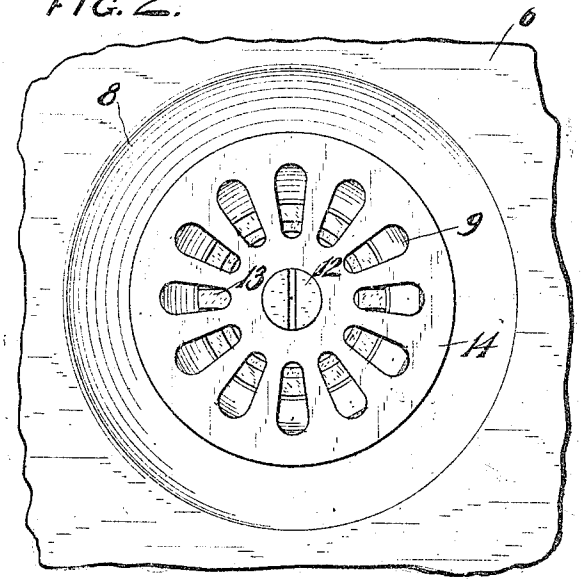


FIG. 2.



WITNESSES.

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DRAIN CONNECTION.

1,092,579. Specification of Letters Patent. Patented Apr. 7, 1914.

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To all whom it may concern:

Be it known that I, WALTER J. KOHLER, residing in Sheboygan, in the county of Sheboygan and State of Wisconsin, have invented new and useful Improvements in Drain Connections, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

This invention has for its object to provide a drain connection for enameled metal sinks, tubs, basins and the like which will avoid the formation of sharp angles in the enameled surface that would be liable to cause the enamel to crack or craze from uneven expansion and contraction of the metal, and still avoid the formation of a projection within the sink or the like of the parts forming the connection, and without in any manner obstructing the free flow of the contents from the sink.

Another object of the invention is to provide such drain connection that may be firmly clamped to the bottom of the sink or the like without bringing parts into direct pressure against the enameled surface, but giving such parts as engage the enameled surface a clamping pressure in a direction that will cause them to tend to follow the enameled surface and hug closely thereto, there being a strainer plate with a thin yielding contact edge which will effect a close fit with the enameled surface without an undue pressure thereon that would be liable to crush the enamel.

With the above and other objects in view the invention consists in the drain connection hereinafter particularly described and pointed out in the claims, and all equivalents thereof.

In the accompanying drawing I show an exemplifying structure embodying the invention, but it is to be understood that the invention is capable of embodiment in different forms.

Referring to the drawings, Figure 1 is a sectional elevation of a drain connection embodying the present invention; and, Fig. 2 is a plan view thereof.

In these drawings 5 indicates a fragment of the bottom of a sink, tub, basin or the like having a vitreous enamel lining 6 and forming a drain opening 7 surrounded by a gradual slope or rounding decline 8 producing a funnel like formation from the approximately flat main portion of the sink bottom to the drain opening, without a shoulder or other abrupt interruption to the smooth enameled surface. A nipple 9 passes through the drain opening and has a flaring upper edge forming a shoulder with a curved or inclined under surface approximately conforming to the enameled surface of the funnel like portion of the sink bottom surrounding the drain opening, to have an extensive bearing thereon so as to constitute in effect a tapering plug fitting in a flaring opening. A nut 10 threads on the lower portion of the nipple to act against the lower edge of the drain opening with a washer 11 therebetween so as to firmly clamp the shoulder of the nipple against the inner enameled surface of the funnel like portion of the sink bottom.

A screw 12 is threaded in the cross bar 13 which extends across the upper end of the nipple and serves to clamp in place upon the upper end of the nipple and against the inclined enameled surface of the funnel shaped portion of the sink bottom a strainer 14, preferably a disk of sheet metal having ornamental drain perforations and provided with a beveled edge so that it contacts with the enameled surface of the funnel like portion of the sink bottom at every point to form a tight joint therewith. By reducing the edge of the sheet metal strainer disk 14 to a knife edge, by beveling the same as shown, it becomes more flexible and yielding to respond to the clamping action of screw 12 and follow the surface of the enamel to tightly fit thereagainst at all points.

A drain pipe 15 may be connected to the nipple in any approved manner, as here shown the flanged nut 16 engaging the flange 17 at the upper end of the drain pipe and threading on the lower end of the nipple to clamp the drain pipe to the nipple with a washer 18 therebetween.

By means of the drain connection of this invention there is no necessity for providing the drain opening of the sink bottom with a surrounding recess, as usual, for countersinking the strainer and thereby producing sharp angular shoulders in the enameled surface which frequently produce cracking and crazing of the enamel. Instead, the in-

clined walls of the funnel like portion between the drain opening and the comparatively flat bottom of the sink, with its surface gradually merging with the surface of the main portion of the sink bottom, affords a sufficient bearing for the nipple to enable it to be firmly clamped in place and still not extend within the sink proper or have a direct bearing against the enamel so that the clamping action thereon would tend to crush it. The extensive bearing along the sloping surface of the funnel like portion of the sink bottom is at an angle to the direction of the clamping action so that the pressure of the nipple on the enamel is rather with the enamel than against it and consequently it is not liable to crush the same.

The tight fit of the strainer disk against the sloping walls of the funnel portion of the sink bottom assures a complete drainage of the sink and avoids the formation of the gap between the edge of the strainer and the wall of the sink in which cloths or other articles might become engaged.

The expression "enameled sink or the like" employed in the claims is intended to include bath tubs, lavatories, sinks, urinals, and other appliances with which the invention may be employed.

What I claim as new and desire to secure by Letters Patent is:

1. In an enameled metal sink or the like having a comparatively flat bottom, a drain connection devoid of angular shoulders in the enameled surface of the sink bottom, comprising a drain pipe, a connector therefor having a flexible engaging flange at its upper end, there being a drain opening in the sink bottom with a flaring funnel-shape inner surface merging with the comparatively flat surface of the sink bottom and having the enameled surface of the sink bottom continued thereon, said connector having its upper end below the plane of the sink bottom and, having its flexible flange in engagement with the inclined walls of the funnel-like portion of the drain opening, and means on the connector for engaging the bottom of the sink to hold the connector in close contact with the enameled surface of the drain opening.

2. In an enameled metal sink or the like having a comparatively flat bottom, a drain connection therefor devoid of angular shoulders in the enameled surface of the sink bottom, comprising a drain pipe, a connector therefor having its upper end surrounded by a flaring bearing surface, there being a depression in the bottom of the sink of a funnel-like shape leading to a drain opening, said depression being rounded and merging the inner walls of the drain opening with the comparatively flat surface of the sink bottom and having the enameled surface of the sink bottom continued thereon, said flaring bearing surface of the connector being correspondingly rounded to fit upon the rounded funnel-like inner surface of the depression, the upper end of the connector being below the plane of the main portion of the sink bottom, a strainer plate secured to the upper end of the connector and extending beyond the bearing surface thereof to form a flexible engaging flange for contacting with the enameled surface of the funnel-like depression, and means on the connector for engaging the sink bottom and clamping the bearing surface of the connector and the edge of the strainer plate against the enameled surface of the funnel-like depression.

3. The combination of an enameled metal receptacle having an outlet extension formed integral therewith and projecting below the bottom and having an outer comparatively ranged horizontally below the plane of the botto mand having an outer comparatively thin edge resting on the inner surface of the extension, said extension having a substantially uniform shallow convex curved surface merging into the surface of the bottom of the receptacle and extending to a point at some distance below the strainer.

In testimony whereof, I affix my signature, in presence of two witnesses.

WALTER J. KOHLER.

Witnesses:

ROY J. MILLER

O. A. KROOS.