No. 669,042. Patented Feb. 26, 1901.

J. F. COTTER.

BACK WATER FLOOR AND STABLE DRAIN.

(No Model.) (Application filed Dec. 26, 1899.)

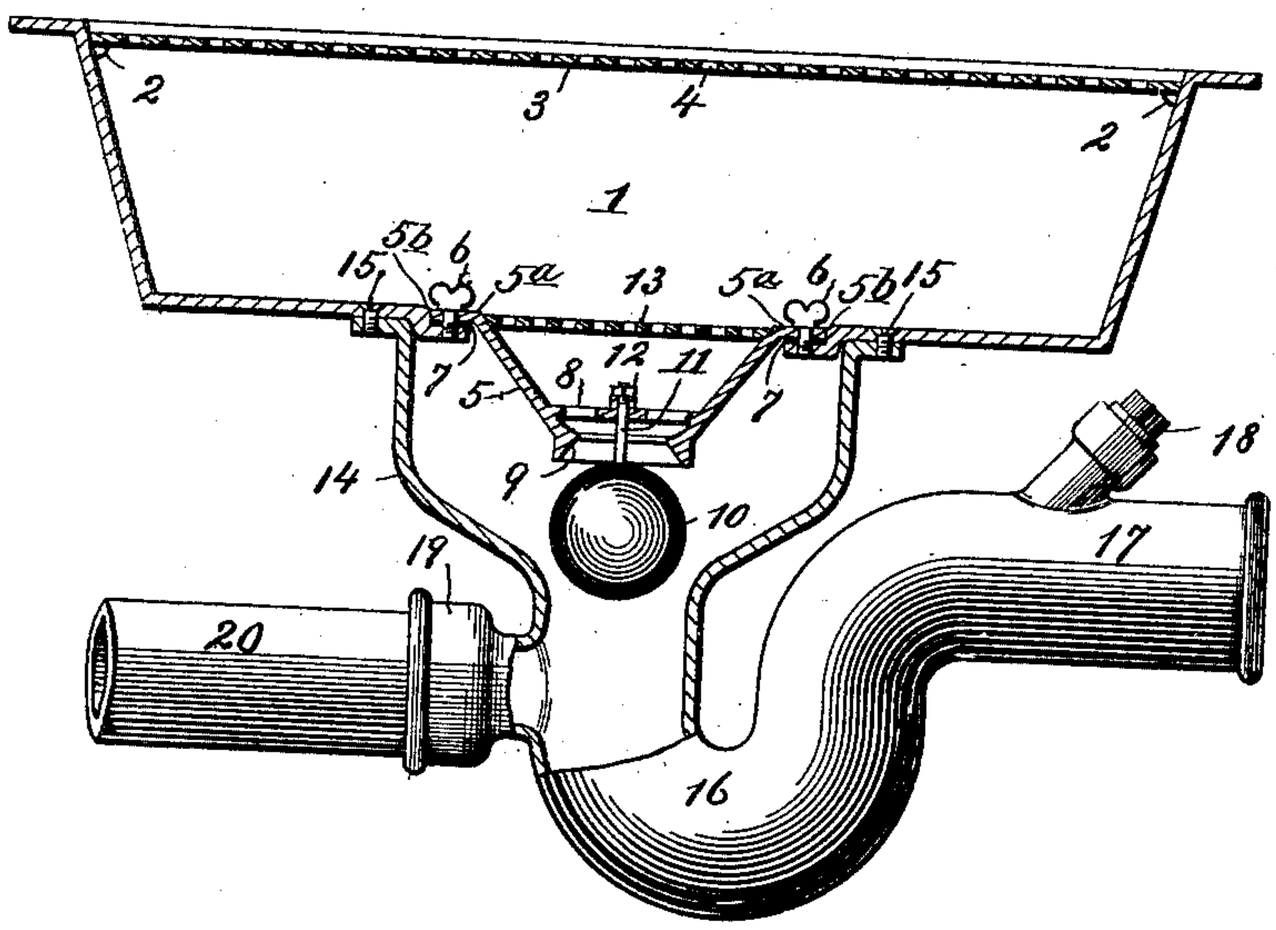


Fig. 1.

Fig. 2.

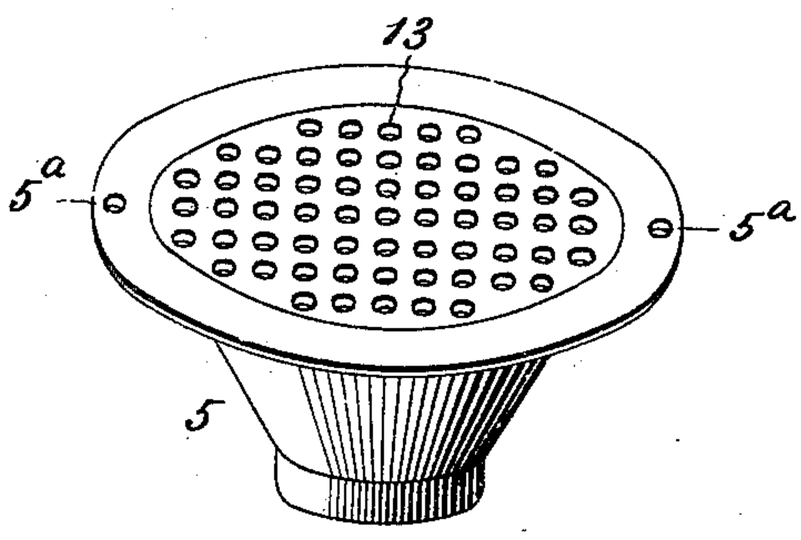
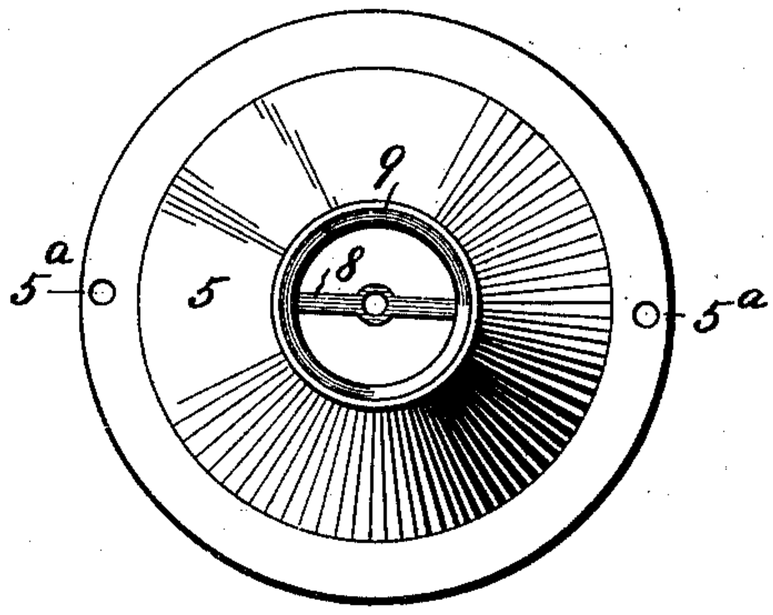


Fig. 3.



Witnesses:

H. C. Rodgers.

R. S. Riley

Inventor

John F. Cotter.

By Fischer & Thorpe

Attys

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

UNITED STATES PATENT OFFICE.

JOHN F. COTTER, OF KANSAS CITY, MISSOURI, ASSIGNOR TO L. E. WYNE, OF SAME PLACE.

BACKWATER FLOOR AND STABLE DRAIN.

SPECIFICATION forming part of Letters Patent No. 669,042, dated February 26, 1901.

Application filed December 26, 1899. Serial No. 741,660. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. COTTER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a new and useful Combination Backwater Floor and Stable Drain, of which the following is a specification.

My invention relates to combination backwater floor and stable drains, and has for its object the production of a device of this character which can be easily and quickly cleaned and which prevents gas from the sewer or backwater from the drain-pipe passing up through the drain.

To these purposes the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed, and in order that it may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a vertical longitudinal section of an apparatus embodying my invention. Fig. 2 is a detached perspective view, enlarged, of the removable drain-spout. Fig. 3 is an inverted plan view of the same.

Referring to the drawings in detail, 1 designates a sink of the usual or any preferred configuration, and 2 flanges projecting inwardly therefrom for the support of the removable plate 3, provided with drain holes or perforations 4.

5 designates a conical spout depending vertically through an opening in the bottom of the sink and provided at its upper margin with the outwardly-projecting annular flange 5^a, seated snugly in the annular recess 5^b, formed in the bottom of the sink and secured tightly in such position by means of a plurality of screw-bolts 6, extending down through the flange and into the depressed portion of the bottom of the sink, the connection being made water-tight by interposing a rubber gasket 7 between said depressed portion of the bottom and said flange, as shown clearly in Fig. 1. A centrally-perforated cross-bar 8 is provided near the lower end of said conical spout, and at the extreme lower end of the latter an outwardly-flaring valve-seat 9 is formed, against which the spherical float-valve 10 is adapted to seat under a sufficiently strong backflow of water from the drain-pipe or in case the drain-pipe is choked from the water passing through the sewer-pipe, as hereinafter referred to. The float-valve 10 is provided with a vertical stem 11, projecting upward through the perforation of bar 8 and is engaged at its upper end by the retaining-nut 12, the latter serving to retain the float-valve at the proper distance from the valve-seat 9 in order that it may be seated before any backwater could pass up through the conical spout. This spout, which acts as a removable discharge-spout for the drain, is provided with a strainer 13, supplemental to the strainer 3, in order that substances foreign to water and poured with the latter into the sink when strainer 3 is not in place may not pass down into said spout and interfere with the proper working of the valve or passing said valve possibly choke the drain-pipe.

The drain-pipe 14 is diametrically enlarged at its upper end, so as to envelop the depressed portion of the bottom of the sink as well as said conical spout and valve, and is formed with an outwardly-projecting flange at its upper end secured to the bottom of the sink by screw-bolts 15 or their equivalents. Its mouth is contracted adjacent to the float-valve, the arrangement being such, however, that there is always plenty of room around the float-valve for the passage of water up or down. The drain-pipe is formed just below its upper end with a U-shaped or goose-neck bend, forming the water-trap 16, terminating in the horizontal portion 17, forming a part of the main sewer-pipe, and projecting from said horizontal portion at the proper angle is a branch pipe closed by a plug 18, this branch pipe being provided in order to give access to the trap in case it becomes choked.

At the opposite side of the trap from pipe 17 and in a plane just below the latter the drain-pipe is provided with a short branch pipe 19, with which connects pipe 20 to conduct the sewage from the house or other point to the drain-pipe.

In operation it will be understood that the

water poured into the sink passes down through the supplemental strainer 13 and conical spout 5 into the drain-pipe, and thence through the trap to the main sewer-pipe. At the same time any sewage escaping through pipe 20 passes from the drain-pipe to the main sewer-pipe, and in case the discharge from pipe 20 is such that the capacity of the trap will not admit it to pass off rapidly and it accumulates in the drain-pipe it is obvious that the rise of the water will raise the float and cut off connection between the drain-pipe and the sink, thereby insuring that all of the water passes to the main sewer and none of it backs up into the sink. The trap of course provides a permanent water seal for the discharge end of pipe 20 and against the escape of gases up through the trap and into the apartment where the sink is located, if the latter of course happens to be located within an inclosed space.

The float of course will rise and fall accurately by reason of the vertical stem extending through the cross-rod 8 depending on gravity to unseat it and a rise of water to reseat it.

In case it becomes necessary at any time to clean the apparatus, access to the trap may be had by removing the plug 18 and by removing strainer 3 and the conical valve-carrying spout 5.

From the above description it will be apparent that I have produced an apparatus of the character described which is positive and reliable in operation and of simple, durable, and compact construction.

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

In an apparatus of the character described, the combination of a sink having an opening in the bottom and a communicating recess surrounding said opening, a spout 5 of inverted conical form depending through said opening, and provided with an outwardly-projecting flange 5^a occupying the said recess, a packing-ring interposed between the said flange and the bottom of the recess, screw-bolts clamping said ring tightly between said flange and the bottom of the recess, a cross-bar bridging the passage of the spout, a vertical rod extending slidingly therethrough and provided with a tap at its upper end and a float-ball at its lower end, a trapped pipe below the sink having an enlarged upper end inclosing the spout and float-ball and secured to the bottom of the sink around said depressed portion, and a sewage-pipe 20 connected to the trapped pipe just below its enlarged upper end, all arranged substantially as and for the purpose set forth.

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

JOHN F. COTTER.

Witnesses:

G. Y. THORPE,

H. C. RODGERS.