No. 741,815. PATENTED OCT. 20, 1903.

C. E. MORRISON.

SINK TRAP.

APPLICATION FILED NOV. 1, 1902.

NO MODEL.

Fig. 1.

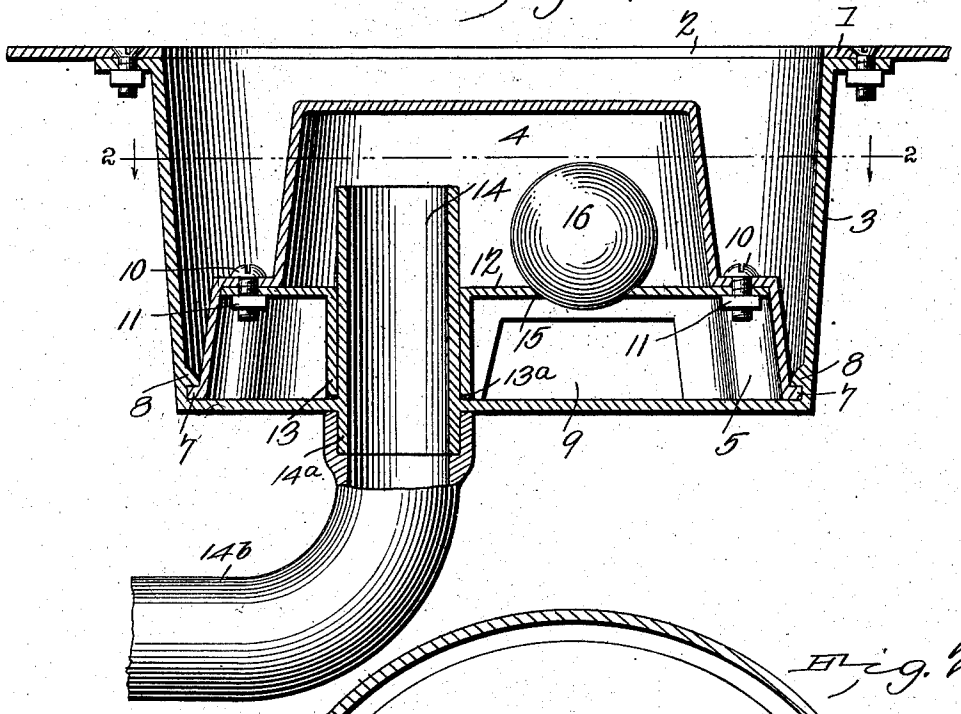
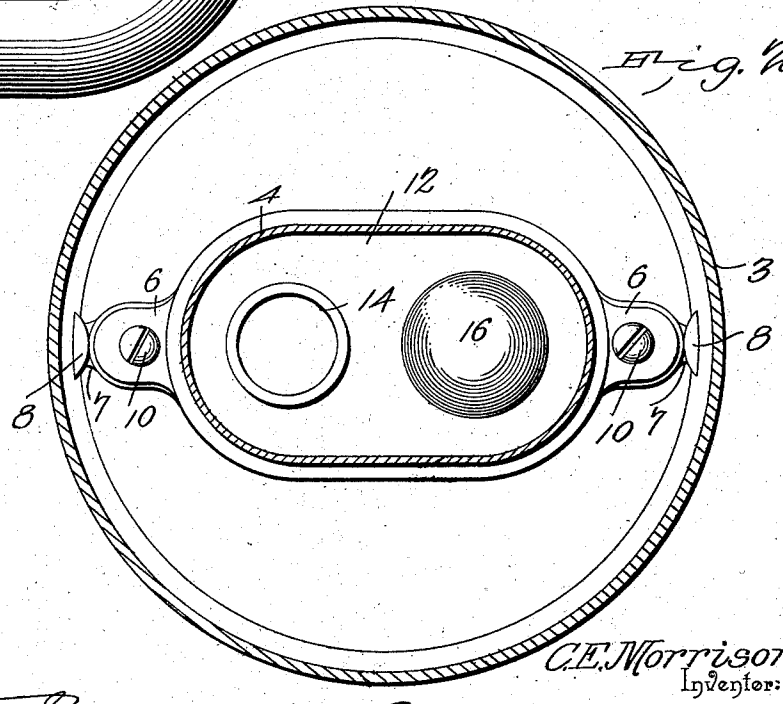


Fig. 2.



Witnesses:
E. F. Lloyd
R. M. Elliott.

C. E. Morrison
Inventor:
by C. A. Snow & Co.
Attorneys.

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

No. 741,815. Patented October 20, 1903.

UNITED STATES PATENT OFFICE.

CLARENCE E. MORRISON, OF ALBANY, NEW YORK.

SINK-TRAP.

SPECIFICATION forming part of Letters Patent No. 741,815, dated October 20, 1903.

Application filed November 1, 1902. Serial No. 129,727. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE E. MORRISON, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented a new and useful Sink-Trap, of which the following is a specification.

This invention relates to sink-traps.

The object of the invention is to provide a trap adapted for use in connection with ordinary forms of sinks which shall be thoroughly effective in preventing escape of sewer-gas and which even though the water of the seal of the waste-pipe evaporates will still be effective for the purpose designed; furthermore, to provide a trap which may readily be disconnected from the sink for purposes of cleansing and the like.

With these and other objects in view, as will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a sink-trap, as will be hereinafter fully described and claimed.

In the accompanying drawings, forming a part of the specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a view in vertical section through a sink, showing the same equipped with the trap of the present invention. Fig. 2 is a view in horizontal plan, taken on the line 2 2 of Fig. 1 and looking in the direction of the arrow thereon.

Referring to the drawings, 1 designates the bottom of a sink having the usual orifice 2 for receiving the strainer. Beneath this orifice is disposed a cup 3, which may be either cast integral with the sink or, as shown, be bolted thereto. Arranged in the cup is the trap comprising an inverted cup-shaped water-chamber 4, having, as shown in Fig. 2, straight sides and curved ends and provided with a hollow base 5, the terminals of which are constricted at 6 and terminate in teats 7, adapted to interlock with lugs 8 on the end walls of the lower portion of the cup, thus to hold the water-chamber in proper position therein. By thus securing the water-chamber within the cup its removal may readily be accomplished by turning it to the right or to the left to free the teats from the lugs. The lower edge of the base rests upon the bottom of the cup and is provided on its opposite sides with water-inlets 9, which may be approximately rectangular, as shown, or otherwise contoured. Disposed within the hollow base and secured by bolts 10 and nuts 11 to the under side of the constricted portions 6 of the water-chamber is a diaphragm 12, near one end of which is formed a downward-extending tubular sleeve 13, bearing at its lower end on the bottom of the cup, at which point there is a seal 13^a provided, thereby positively to preclude any escape of gas. The bottom of the cup is provided with an upward-projecting tubular extension 14, integral therewith and disposed within the sleeve 13, the upper end of the extension being disposed some distance above the upper surface of the diaphragm 12, and arranged on the under side of the cup and in alinement with the extension 14 is a short sleeve 14^a, to which the waste-pipe 14^b is secured in any preferred manner. By making the extension 14 and sleeve 14^a integral with the bottom of the cup danger of leakage is reduced to a minimum and, moreover, an efficient and rigid means is provided for the attachment to the waste-pipe and also for presenting a perfect seal between the sleeve 13 and the said extension. Formed in the diaphragm at a point over the inlet-openings 9 is a valve-seat 15, in which rests a ball-valve 16, preferably of rubber, which operates to present a perfect seal between the cup and the hollow base.

By making the tubular extension 14 integral with the bottom of the cup there is no possibility for a leak ever to occur, and as no water can escape to the waste-pipe until it reaches the level of the upper end of the extension there is always a water seal that will effectively prevent any escape of gas.

In the operation of the trap the water from the sink passes through the inlet-openings 9, raises the ball-valve, and escapes through the extension 14 to the waste-pipe and thence to the sewer. Under ordinary circumstances

there will always be a body of water within the water-chamber flush with the upper end of the extension 14, thus forming a positive seal to prevent escape of gas into the room where the sink is located. If from long non-use the water in the chamber evaporates, the ball will still present an effective seal to check any escape of gas.

The trap of this invention is exceedingly simple in construction and will be found of the highest efficiency and durability in use and in case of repair may be readily and cheaply accomplished without requiring the services of a skilled plumber.

Having thus described the invention, what I claim is—

1. A sink-trap, comprising a cup having upwardly and downwardly projecting tubular extensions, a water-chamber disposed within the cup and provided with water-inlets, a diaphragm removably secured within the water-chamber and provided with means for connection with the said extension, and a ball-valve supported by the diaphragm.

2. A sink-trap, comprising a cup having an upwardly-projecting extension, a water-chamber disposed within the cup and having a hollow base provided with a water-inlet, a diaphragm secured within the chamber and provided near one end with a valve-seat and near its other end with a depending sleeve to engage the extension, and a ball-valve engaging the seat.

3. A sink-trap, comprising a cup having an upwardly-projecting tubular extension, and terminal lugs, a water-chamber having a hollow base provided with water-inlets and teats to engage the lugs, a diaphragm detachably secured within the chamber and provided near one end with a valve-seat and near its other end with a downwardly-projecting sleeve to engage the extension, and a ball-valve engaging the seat.

4. A sink-trap, comprising a cup having its bottom provided with a tubular extension extending above and below the bottom, a water-chamber disposed within the cup and provided with water-inlets, a diaphragm secured within the water-chamber and provided with a downwardly-projecting sleeve to engage the said extension, and a ball-valve supported by the diaphragm, the portion of the extension projecting below the bottom constituting means for connection with a waste-pipe.

5. A sink-trap, comprising a cup having its bottom provided with an integral tubular extension extending above and below the bottom, a water-chamber disposed within the cup and provided with water-inlets, a diaphragm secured within the water-chamber and provided with a downwardly-projecting sleeve to engage the said extension, and a ball-valve supported by the diaphragm, the portion of the extension projecting below the bottom constituting means for connection with a waste-pipe.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLARENCE E. MORRISON.

Witnesses:
FRANK I. KENNEDY,
HOWARD OBEY.