No. 639,610. Patented Dec. 19, 1899.

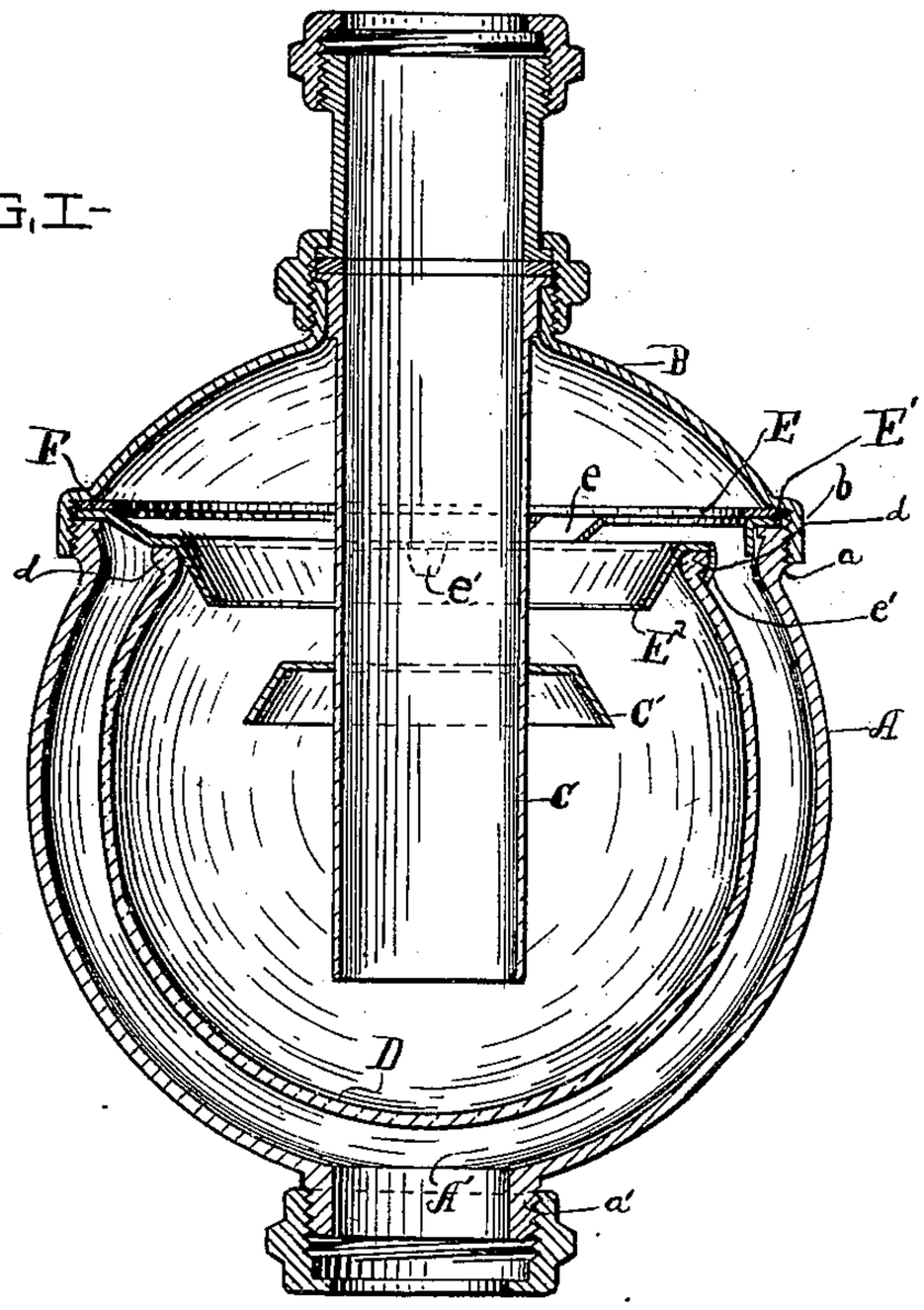
F. A. RADCLIFFE.

OVERFLOW TRAP.

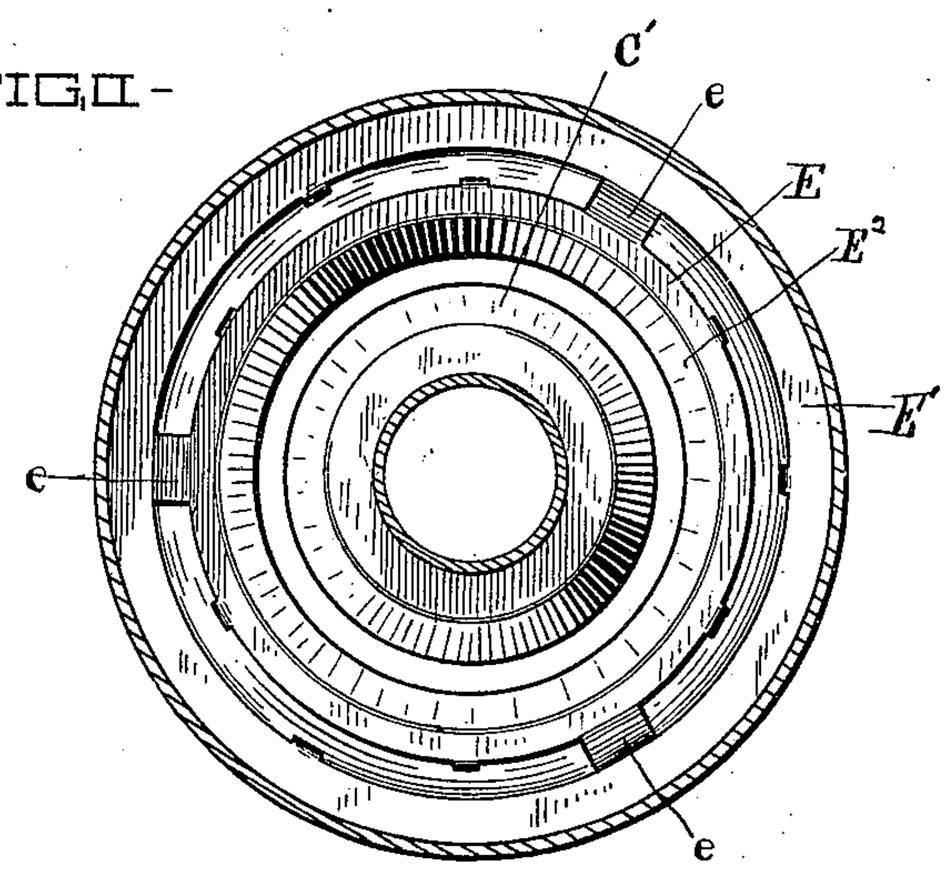
Application filed Oct. 18, 1898.)

(No Model.)

—FIG. I—



—FIG. II—



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UNITED STATES PATENT OFFICE.

FRANK A. RADCLIFFE, OF CLEVELAND, OHIO.

OVERFLOW-TRAP.

SPECIFICATION forming part of Letters Patent No. 639,610, dated December 19, 1899.

Application filed October 18, 1898. Serial No. 693,911. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. RADCLIFFE, residing at Cleveland, county of Cuyahoga, and State of Ohio, have invented certain new and useful Improvements in Overflow-Traps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in overflow-traps, and especially to that type of overflow-traps wherein a glass receptacle for containing a liquid for forming a seal is suspended within an outer casing.

With this object in view my invention consists in forming a combined device comprising a gasket for the outer casing and means for suspending the glass receptacle within the outer casing and preventing the siphoning of the liquid contained in the glass receptacle.

My invention also consists in certain features of constructions and combinations of parts, which will be hereinafter described, and especially pointed out in the claims.

In the drawings, Figure I is a view in central vertical section of an overflow-trap embodying my invention. Fig. II is a horizontal sectional view taken through the trap above the flange E′.

My improved trap, as illustrated in the drawings and to be hereinafter fully set forth, is an improvement upon a patent, No. 565,565, granted to me August 11, 1896.

In the drawings, A represents an outer globular or spherical shell composed, preferably, of two sections, the lower section provided with an externally-screw-threaded flange *a* and the upper section B forming the cap or cover of the trap and having an annular flange *b* internally screw-threaded for engaging the external screw-thread *a*. At the upper end of the cover B the inlet-pipe C is secured in any suitable manner, so as to form a tight joint with the aforesaid cover and extend downwardly to a point at or near the lower part of said casing. The inlet-pipe C is provided at a point about centrally of the casing with an outwardly and downwardly inclined deflector C′ for the purpose of checking the current of the fluid during its passage through the trap.

A discharge-pipe may be secured in any approved manner to the flange *a′* of the discharge-opening A′.

In the respects and features above set forth the construction of my trap is very similar to that set forth in my previous patent hereinabove referred to with the exception that the lower portion of the spherical shell A is in the present case preferably formed of one piece.

My present improvement upon my previous patent may be described as follows:

D represents the inner shell, which is formed of vitreous material, preferably of glass, and the inlet-pipe C, which is supported in the cover B, extends downwardly centrally through the inner shell D to an opening in said shell, so as to discharge, preferably, in close proximity to the bottom of said shell.

Inasmuch as it is essential that the inner shell be supported approximately centrally within the outer shell and be suspended above the bottom of the same, I have provided a metallic holding or clamping device E, which consists of an annular flange E′, which is supported upon the upper portion of the flange *a* and forms a metallic gasket. This flange E′ is provided with arms *e e e*, which are preferably formed integral therewith. The function of the arms *e e e* is to connect the flange E′ with the downwardly and inwardly inclined deflector E^2, which acts in conjunction with the downwardly and outwardly inclined deflector C′ for the purpose of deflecting the liquid rushing up through the inner shell during the passage of the liquid through the trap and compel said liquid to overflow in a slow and gentle manner and not rush out, which might result in siphoning the trap. It will be noticed in this connection that the inwardly and downwardly projecting deflector E^2 is formed separate and distinct from the inner shell D and is preferably formed integral with the flange E′ and arms *e e e*. The inner shell D is secured in position by means of clips *e′ e′ e′*, (three or more,) which engage an annular beading or flange *d*, formed on the upper end or edge of the shell D. Other suitable means may be employed for securing the inner shell to the downwardly and inwardly projecting flange E^2—such, for instance, as screws or the like engaging the clips *e′* by means of a screw-

thread in said clip and securing the inner shell D by engaging the same underneath the bead or flange *d*.

F represents a gasket, of rubber, leather, or composition, which forms a seal above flange E′ and between it and the cover B.

As hereinbefore stated by me, any number of arms *e e e* and clips *e′ e′ e′* may be employed without departing from my invention, and while I have set forth in this specification and illustrated in the drawings certain constructions and arrangements of parts it is obvious that modifications may be made for obtaining the same results without departing from the scope of my invention.

The object of providing the vitreous inner shell is as follows: I have found in certain localities and under certain conditions that the water or liquid which passes through the trap and which forms the seal in the inner shell D is of such a nature as to attack and deteriorate the casing when the same is constructed of metal, thus rendering the trap useless. This is the result of forming the water seal within said inner shell, whereby the water or fluid is always in contact with said inner shell. The other portions of the trap may be formed of metal without being affected.

The operation of my trap is as follows: The fluid passes through inlet-pipe C to the bottom of the inner shell D and from thence passes upwardly and is checked by deflectors C′ and E′ and then passes through the annular space between the aforesaid deflectors, over the top of the inner shell D, and into the space between the inner shell and outer shell, and thence out through the orifice in the bottom of the outer shell.

What I claim is—

1. In an overflow-trap of the type set forth, the combination with a metallic casing and a glass receptacle adapted to be suspended in said casing, said casing comprising a body portion and a cover therefor and having an opening in its top and bottom; of a combined gasket and device for suspending said glass receptacle in said casing so as to leave space for the passage of water from said receptacle through said casing, and checking the flow of water from said receptacle, said gasket and device being formed from a single piece of metal and comprising a flat annular portion adapted to fit between the body portion of the casing and its cover, a perforated portion for spanning the space between the inner wall of the casing and the receptacle, a hollow conical-shaped portion adapted to fit tightly within the top of the receptacle, forming a deflector therefor; and ear portions for engaging with the receptacle, substantially as described and for the purpose set forth.

2. In an overflow-trap of the type set forth, the combination with a casing and a receptacle adapted to be suspended therein, said outer casing having an opening in its top and bottom and comprising a body portion and a cover therefor; of a device for suspending said receptacle in said casing, and checking the flow of water from said receptacle, said device comprising a broad metallic band adapted to fit within the top of the receptacle, earpieces projecting downwardly from the upper edge of said band and adapted to engage with the rim of the receptacle and arms or supports projecting outwardly from the upper edge of the said band and adapted to rest upon the edge of the body portion of the casing, substantially as described and for the purpose set forth.

3. In an overflow-trap of the type set forth, the combination of a metallic casing, comprising a body portion and a cover therefor; of a glass receptacle adapted to be suspended in said casing so as to leave a space between said receptacle and the inner wall of said casing, said receptacle having a beading around its upper edge; of a gasket adapted to fit between the body portion of the said casing and its cover, said gasket being provided with arms for spanning the space between the said receptacle and the inner wall of the said casing; and of a deflector adapted to fit within the top of the said receptacle and check the flow of water from said receptacle, said deflector being connected to the aforementioned arms, and having earpieces for engaging with the beading around the upper edge of the glass receptacle, substantially as described and for the purpose set forth.

Signed by me at Cleveland, Ohio, this 30th day of September, 1898.

FRANK A. RADCLIFFE.

Witnesses:
W. E. DONNELLY,
A. H. PARRATT.