Dec. 6, 1927. 1,651,473

F. SCHNEIDER

SAFETY SEWER OUTLET

Filed March 15, 1927

Fig. 1.

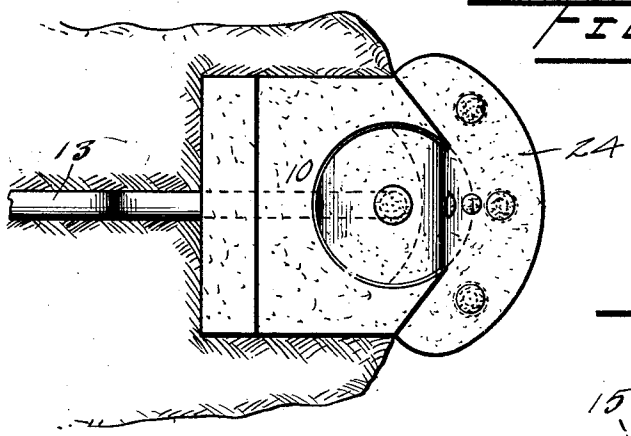


Fig. 4.

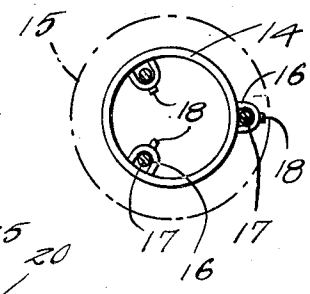
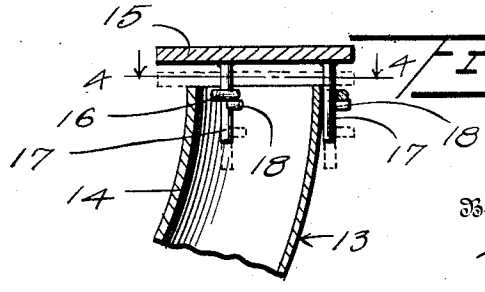


Fig. 2.

Fig. 3.



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SAFETY SEWER OUTLET.

Application filed March 15, 1927. Serial No. 175,554.

This invention relates to safety sewer outlets.

An important object of the invention is to provide a sewer outlet permitting underwater discharge of sewage and insuring against the return flow of sewage and the water into which it discharges through the sewer.

A further object of the invention is the provision of means for preventing current or wave pressures from preventing operation of a valve employed to insure against return flow.

A further object of the invention is to produce a device of this character which may be readily and cheaply installed, which will be durable and efficient in service and a general improvement in the art.

These and other objects I attain by the construction shown in the accompanying drawings, wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein:—

Figure 1 is a plan view showing a safety sewer outlet constructed in accordance with my invention;

Figure 2 is an enlarged sectional view therethrough;

Figure 3 is an enlarged sectional view through the outlet end of the sewer pipe;

Figure 4 is a section on the line 4—4 of Figure 3.

Referring now more particularly to the drawings, the numeral 10 indicates a concrete or masonry abutment, which is preferably disposed at the shore line of a body of water. This concrete abutment at its outer face has a downwardly and outwardly inclining shoulder 11, the outer edge of which preferably terminates in a similarly inclined arcuately curved lip 12. A sewage disposal pipe 13 has its outer end trapped, as at 14, and a terminal portion of the trap extended through the shoulder 11 and upwardly therefrom. This terminal portion has mounted thereon a suitably guided check valve 15, which opens outwardly to permit discharge of the contents of the conduit. Since the trap portions of such conduits are usually curved, the guides 16 are preferably three in number and two of these guides are disposed interiorly of the conduit and the third guide exteriorly thereof, as illustrated more particularly in Figure 4. Rods 17 secured to the valve 15 extend through these guides and have lugs 18 engaging the guides to limit opening movement thereof. The valve 15 associated with a six inch sewer pipe preferably has about three-quarters of an inch lift.

Secured to the wall of the concrete abutment at the upper end of the shoulder 11 is a baffle 19 preferably constructed of terra cotta. This abutment has an upwardly arched center 20 combining with the shoulder 11 to produce a compartment 21 for the reception of the outer end of the sewer pipe and its valve. The free edge 22 of the baffle is arcuately curved similar to the lip 12 and arranged in confronting relation thereto, in such manner that the opening provided between the lip and baffle has about the same area as the area of the outlet provided when the valve 15 is in its fully open position. Supported from the abutment 10 at its sides and upper end and at its outer edge by reinforced concrete piers 23 is a second baffle 24, which is likewise of terra cotta and which has its outer edge extended beyond the outer edge of the baffle 20. The baffles 20 and 24 are secured to one another by terra cotta covered securing elements 25.

It will be obvious that the edges of the baffles 24 and 20 will serve to break up any current pressures, such as those caused by wind and tide and will insure against the formation of pressures within the chamber 21, which will prevent the valve 15 from opening. Solid substances passing from the outlet end of the conduit 13 and falling upon the shoulder 11 will pass down its inclined face and through the space between the lip 12 and the adjacent face of the terminal portion 22 of the baffle 20. In event there is any tendency to back flow, the valve 15 will close and insure thereagainst.

Since the construction hereinbefore set forth is capable of a certain range of change and modification without materially departing from the spirit of the invention, I do not limit myself to such specific structure except as hereinafter claimed.

I claim:—

1. In a safety sewer outlet for discharging sewage into a body of water below the normal level thereof, a concrete abutment having a downwardly and outwardly inclined shoulder, a baffle secured to the abutment at the upper end of the shoulder and having its terminal portion in spaced relation to the lower edge of the shoulder to provide an outlet opening, the baffle inter-

mediate its ends being arched whereby it combines with the shoulder to produce a chamber, a sewer outlet pipe extending upwardly through the shoulder into the compartment and an outwardly opening check valve associated with said sewer outlet pipe.

2. In a safety sewer outlet for discharging sewage into a body of water below the normal level thereof, a concrete abutment having a downwardly and outwardly inclined shoulder, a baffle secured to the abutment at the upper end of the shoulder and having its terminal portion in spaced relation to the lower edge of the shoulder to provide an outlet opening, the baffle intermediate its ends being arched whereby it combines with the shoulder to produce a chamber, a sewer outlet pipe extending upwardly through the shoulder into the compartment, an outwardly opening check valve associated with said sewer outlet pipe and a second baffle secured to the abutment above the first named baffle and extending downwardly and outwardly thereover, the outer edge of the last named baffle being extended beyond the outer end of the first named baffle.

3. In a safety sewer outlet for discharging sewage into a body of water below the normal level thereof, a concrete abutment having a downwardly and outwardly inclined shoulder, a baffle secured to the abutment at the upper end of the shoulder and having its terminal portion in spaced relation to the lower edge of the shoulder to provide an outlet opening, the baffle intermediate its ends being arched whereby it combines with the shoulder to produce a chamber, a sewer outlet pipe extending upwardly through the shoulder into the compartment, an outwardly opening check valve associated with said sewer outlet pipe and a second baffle secured to the abutment above the first named baffle and extending downwardly and outwardly thereover, the outer edge of the last named baffle being extended beyond the outer end of the first named baffle, supports extending upwardly from the foot of the abutment and engaging the last named baffle.

4. In a safety sewer outlet for discharging sewage into a body of water below the normal level thereof, a concrete abutment having a downwardly and outwardly inclined shoulder, a baffle secured to the abutment at the upper end of the shoulder and having its terminal portion in spaced relation to the lower edge of the shoulder to provide an outlet opening, the baffle intermediate its ends being arched whereby it combines with the shoulder to produce a chamber, a sewer outlet pipe extending upwardly through the shoulder into the compartment, an outwardly opening check valve associated with said sewer outlet pipe, a second baffle secured to the abutment above the first named baffle and extending downwardly and outwardly thereover, the outer edge of the last named baffle being extended beyond the outer end of the first named baffle, supports extending upwardly from the foot of the abutment and engaging the last named baffle, and supporting connections between the first and last named baffles.

In testimony whereof I hereunto affix my signature.

FERDINAND SCHNEIDER.