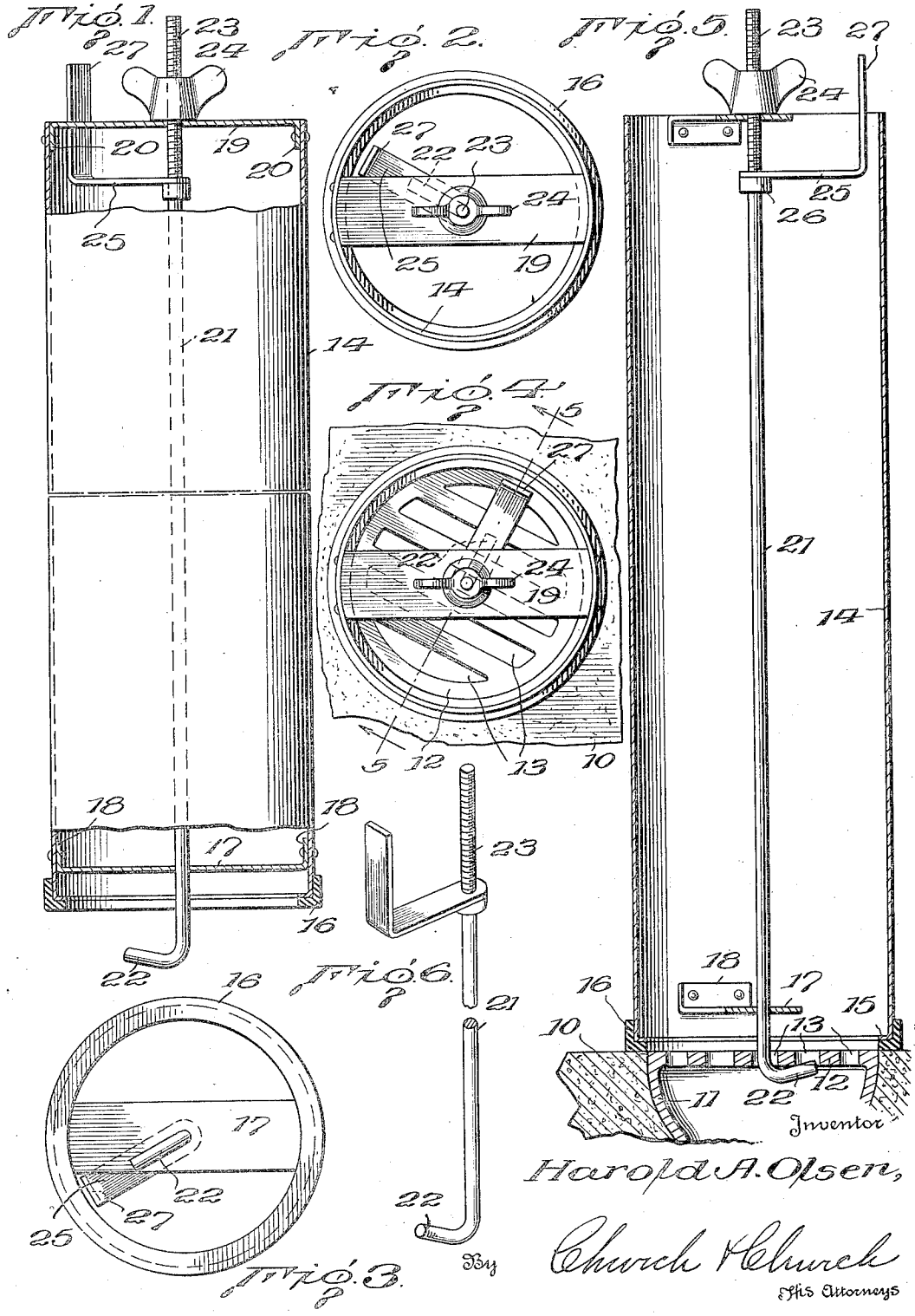
July 16, 1935. H. A. OLSEN 2,008,258

ATTACHMENT FOR SEWER DRAINS

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ATTACHMENT FOR SEWER DRAINS

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Fig. 7.

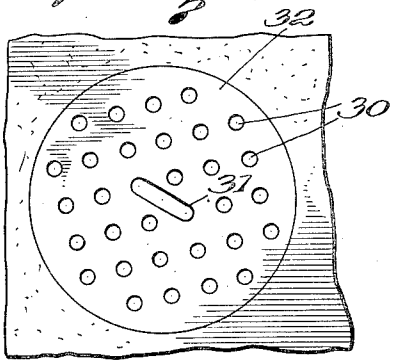
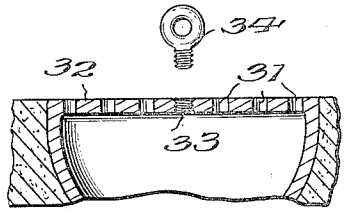


Fig. 10.



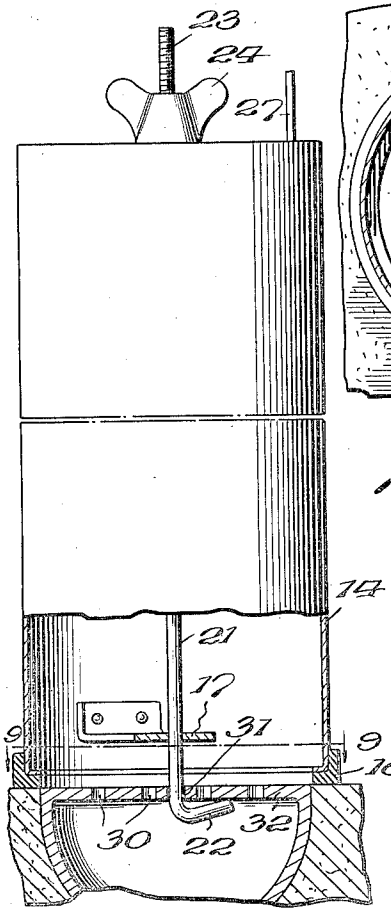


Fig. 8.

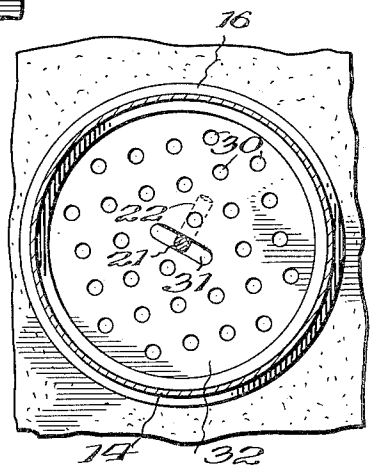


Fig. 9.

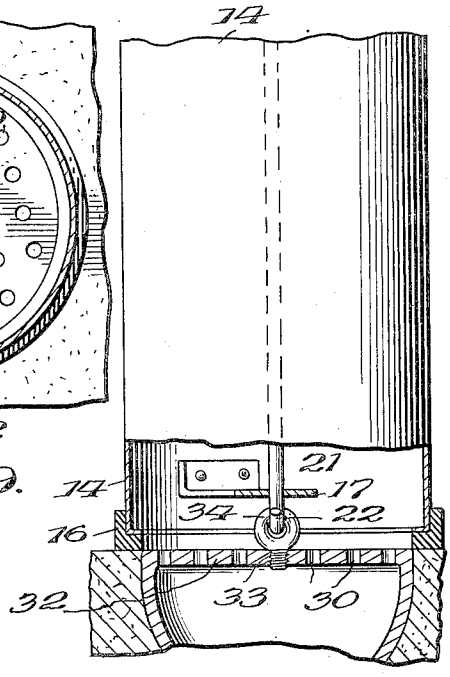


Fig. 11.

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2,008,258

UNITED STATES PATENT OFFICE

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ATTACHMENT FOR SEWER DRAINS

Harold A. Olsen, Chicago, Ill.

Application December 4, 1933, Serial No. 700,906

9 Claims. (Cl. 182—31)

My invention relates to improvements in attachments for sewer drains and has to do, more particularly, with devices which may be attached to sewer drains to prevent the overflow of backwater from the sewer into cellars or basements, or the like.

In most cellars or basements a drain is provided, which connects with the sewer system, and when the sewer overflows, as sometimes happens, the waste water therein flows into a catch basin and from there backs up into all sewer pipes leading to the basement and overflows through the sewer drain upon the basement floor. Of course, this is a highly objectionable and unsanitary condition. The principal object of my invention is to provide a device, which may be quickly and conveniently attached to sewer drains, and which serves to catch and retain temporarily any backwater so as to prevent its overflow upon the basement floor.

A further object of my invention is to provide an inexpensive device, of simple construction, which may be quickly attached to or detached from the usual sewer drain cap, making a watertight connection with the drain, and in which the backwater may rise instead of overflowing on the cellar floor.

Further objects, and objects relating to economies of construction and details of operation, will definitely appear from the detailed description to follow. I accomplish, in one instance, the objects of my invention by the devices and means described in the following specification. My invention is clearly defined in the appended claims. A structure, constituting a preferred embodiment of my invention, is illustrated in the accompanying drawings, forming a part of this specification, in which:

Figure 1 is a view in side elevation, partly broken away, of a device embodying my invention;

Fig. 2 is a top plan view of the device;

Fig. 3 is a bottom plan view;

Fig. 4 is a top plan view of the device attached in position over a sewer drain;

Fig. 5 is a vertical, sectional view taken on the line 5—5 of Fig. 4;

Fig. 6 is a perspective view of the clamp rod, detached, showing the hook and operating lever thereon;

Fig. 7 is a top plan view of a sewer drain cap with round holes, slotted for the use of my attachment therewith;

Fig. 8 is a view in side elevation, partly in section, of my attachment in use with a sewer drain cap such as shown in Fig. 7;

Fig. 9 is a horizontal, sectional view, taken on the line 9—9 of Fig. 8;

Fig. 10 is a sectional view through a sewer drain cap with round holes, showing the central hole tapped and an eye-bolt to be screwed therein, and

Fig. 11 is a view of my attachment, partly in side elevation and partly in section, showing my attachment anchored by an eye-bolt screwed into the central hole of the drain cap of Fig. 10.

In the drawings, the same reference numerals indicate the same parts throughout the several views, and the sectional view is taken looking in the direction of the arrows at the ends of the section lines.

In general, my invention consists of a shell which carries means adapted to detachably clamp it to the usual sewer drain cap, so that the backwater may rise in the shell, which serves as a stand-pipe, instead of overflowing on the basement floor. In order to insure a water-tight connection between the lower end of the shell and the floor, or the margin of the cap, I propose to provide a gasket or packing ring on the lower edge of the shell, of soft rubber or equivalent material. I prefer to use, as the means for detachably connecting the shell, a clamp rod carried by the shell and adapted to hook under the grating of the usual sewer drain cap, said rod being adjustable longitudinally of the shell to clamp the latter in place. Preferably, the clamp rod is journaled centrally of the shell and has a hook on its lower end, which may be passed through one of the slots of the cap grating, the rod being rotated to cause the hook to engage under the grating. A thumb nut, screwed on the upper end of the rod and engaging a part fixed to the shell, furnishes a convenient means for drawing the rod longitudinally of the shell to clamp the latter in place. To facilitate rotation of the rod in the adjustment of the hook to engaging position, I may provide an operating lever, fixed to the rod and projecting from the open upper end of the shell.

Referring to the numbered parts of the drawings illustrating the preferred embodiment of my invention, I have shown, in Figs. 4 and 5, a portion of the basement floor 10, provided with the usual sewer drain 11, having a cap 12 provided with a plurality of parallel slots 13 forming a grating. My attachment for sewer drains comprises a cylindrical shell 14, which may be made of galvanized steel, for instance. Although I do not wish to be restricted to any specific dimensions, I have found a shell about five inches in diameter and thirty inches high to serve my purpose admirably. The lower edge of the shell is provided with an inturned flange 15, and a gasket or packing ring 16, of soft rubber or equivalent material is fitted on the lower end of the shell and carried thereby. This gasket insures a watertight contact with the basement floor, when the attachment is clamped in place.

Near the lower end of the shell 14, there is fixed

the cross-brace 17, the ends of which are flanged, at 18, and riveted to the wall of the shell. Similarly, near the upper end of the shell a cross-brace 19 is located, having the end flanges 20 riveted to the shell wall. A clamp rod 21 is journaled in said cross-braces, centrally of the shell, and is free to rotate and move longitudinally. Upon the lower end of rod 21 is formed a hook 22, which is adapted to pass through any of the slots 13 of the sewer drain cap, and to hook under the grating when the rod is rotated. The upper portion of rod 21 is screw-threaded, at 23, and a thumb nut 24 screwed thereon engages the cross-brace 19. By means of this thumb nut, the rod may be adjusted longitudinally of the shell.

After the hook 22 is passed through a slot 13, the rod is to be turned through about ninety degrees to place the hook crosswise of the slots so as to engage beneath the grating. To facilitate this turning of the rod, I provide an operating lever 25, having a boss 26 fixed to rod 21, and a handle portion 27 which may extend through the open upper end of the shell as shown.

The operation of this device should be apparent from the above description, but will be explained briefly, as follows. When one has reason to expect a possible sewer overflow, the shell is placed over the sewer drain cap, as shown in Fig. 5. The rod is turned to aline hook 22 with one of the slots 13, so that it can pass therethrough, the thumb nut 24 being backed up, if necessary, to permit this. The rod 21 is then turned by the operating lever 25 to place the hook 22 crosswise of and below the bars forming the grating of the sewer drain cap. The user then screws up the thumb nut 24, drawing the rod 21 longitudinally of shell 14. As the rod is anchored by the engagement of hook 22 beneath the grating, this draws the shell downwardly so that the packing ring is firmly clamped against the floor 10, or the marginal portions of the sewer drain cap. When the backwater issues from the sewer drain it rises in the shell 14 as a stand-pipe, instead of flowing over the basement floor. When the waste water recedes in the sewer, that standing in the shell 14 passes off through the sewer drain and, when the danger of overflow has passed, the device may be disconnected from the sewer drain and stored for use in subsequent emergencies.

In Figs. 4 and 5, I have illustrated my invention as applied to a sewer drain cap having a plurality of parallel slots forming a grating. It is equally useful, however, with other forms of drain caps. For instance, if the cap 32 has a plurality of round holes 30 a slot 31 may be filed, or otherwise cut, between two of the central holes, as shown in Fig. 7. This slot 31 receives the hook 22 on the clamp rod 21 and, after the hook has been passed through the slot, rod 21 is rotated, for instance, by the handle 27 to set the hook cross-wise of slot 31, as shown in Fig. 9. Then, the thumb nut 24 is turned to draw up the rod 21 and clamp gasket 16 in water-tight engagement with the margin of the cap or the floor around it.

Another convenient means for preparing drain caps with round holes for the reception of my attachment, is to tap the central hole, as at 33 (Fig. 10), and then to screw an eye-bolt 34 into the tapped hole. The lower cross-brace 17 is at such a location in shell 14 that there is room for the eye-bolt 34 beneath it. The thumb nut 24 is backed up until the hook 22 extends from the lower end of the shell and, then, the hook is passed through the eye of bolt 34. This centers the shell over the drain cap and the thumb nut 24 is now turned to draw up clamp rod 21 until the gasket 16 is clamped firmly against the margin of the drain cap or the floor surrounding it.

I am aware that my invention is susceptible of modification, without departing from the spirit thereof, and, therefore, I claim my invention broadly as indicated by the appended claims.

What I claim is:

1. An attachment for sewer drains comprising the combination of a shell and means carried by said shell and adapted to detachably clamp it to the usual sewer drain cap.

2. An attachment for sewer drains comprising the combination of a shell and means carried by said shell and adapted to engage the usual grating forming the sewer drain cap to clamp the shell in water-tight relation thereto.

3. An attachment for sewer drains comprising the combination of a shell, a clamp rod carried thereby, means on said rod adapted to hook under the grating of a sewer drain cap, and means for adjusting said rod longitudinally of the shell to clamp the latter in water-tight relation about said cap.

4. An attachment for sewer drains comprising the combination of a shell, a clamp rod carried thereby and having a hook on its lower end adapted to pass through the grating of a sewer drain cap and to be engaged thereunder on rotation of the rod, and means for adjusting the rod longitudinally of the shell to clamp the latter about said cap.

5. An attachment for sewer drains comprising the combination of a shell, a clamp rod rotatably supported by said shell and having a hook formed on its lower end, an operating arm fixed to said rod whereby it may be rotated in the shell, and means for adjusting said rod longitudinally of the shell.

6. An attachment for sewer drains comprising the combination of a shell, a pair of cross bars connected thereto, a clamp rod journaled in said cross bars centrally of the shell, a hook formed on the lower end of said rod, an operating lever secured to said rod, and a nut screwed on said rod and engaging one of said cross bars.

7. The combination with a sewer drain cap having a plurality of round holes, certain of which are connected by a slot, of a shell and means carried by said shell and extending through said slot for drawing the shell into water-tight relation to the drain cap.

8. The combination with a fixed sewer drain cap having a plurality of round holes, one of which is tapped, of an eye-bolt screwed into said tapped hole, a shell and means carried by said shell and engaging said eye-bolt for drawing the shell into water-tight relation to the drain cap.

9. The combination with a sewer drain cap having a plurality of round holes, one of which is tapped, of an eye-bolt screwed into the tapped hole, a shell, a clamp rod centrally supported by said shell and having a hook formed on its lower end and hooked into said eye-bolt, and means for adjusting the rod longitudinally of the shell.

HAROLD A. OLSEN.