

May 18, 1926.

1,584,986

W. S. FLEMING

FLOOR DRAIN

Filed Nov. 25, 1925

2 Sheets-Sheet 1

Fig 1

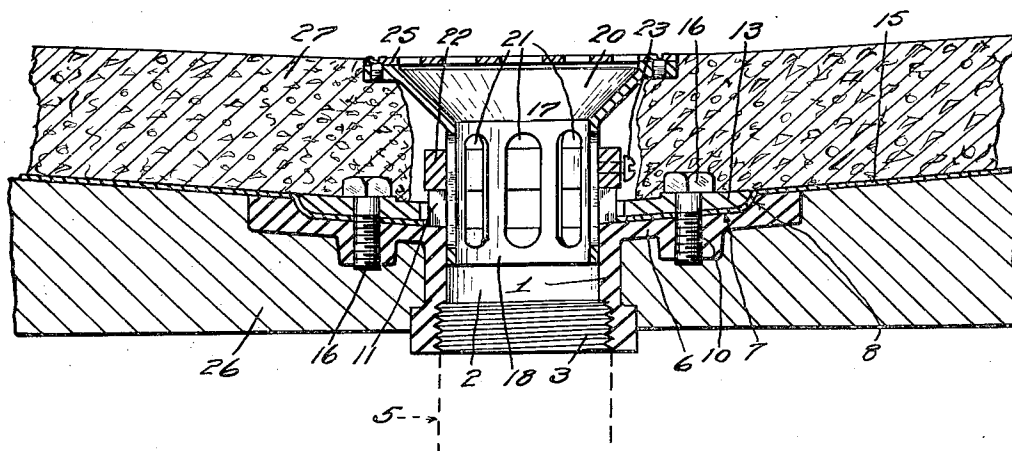
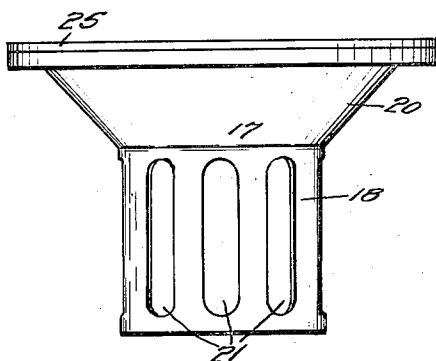


Fig 4

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2 Sheets-Sheet 2

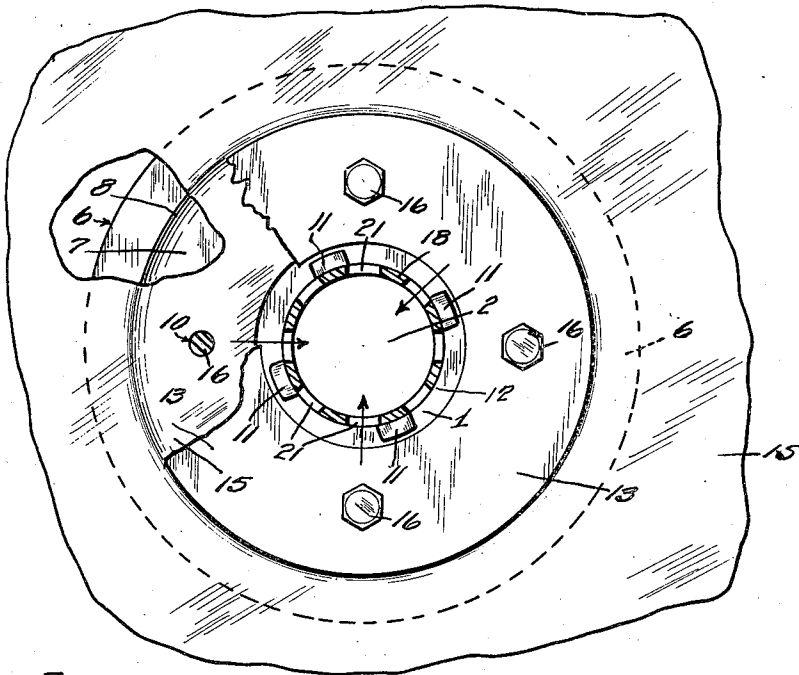


Fig. 2

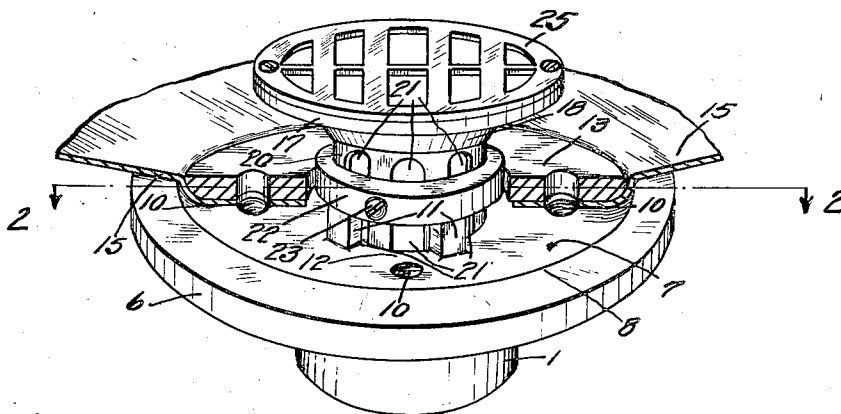


Fig. 3

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UNITED STATES PATENT OFFICE.

WELLS S. FLEMING, OF PORTLAND, OREGON.

FLOOR DRAIN.

Application filed November 25, 1925. Serial No. 71,331.

This invention relates to improvements in plumbing fixtures, and particularly to floor-drain fittings for shower-baths and the like.

The object of my invention is the provision of a floor drain of the above stated type of simple and practical construction which will effectively perform the primary functions of a drain-fitting in conveying away the waste water and which will ensure protection from damage to walls and ceilings in the building therebelow by affording a water-tight seal about the device against seepage through the floor-material of the bath and to safeguard the building against the flow-back of water in the pipes should the latter be clogged.

A further object of the invention is the provision of novel devices and means to adjust the effective length of the drain and to set the same to adapt it to different locations and varying thicknesses of floor-material and wherein the advantages of the above described lateral drainage facilities are retained in any of its set positions.

Other objects and advantages, and objects relating to details of construction and arrangement of parts will be readily apparent in the course of the detailed description to follow.

The accompanying drawings illustrate by way of example one form of my invention, in which:

Figure 1 is a view in vertical cross section of a floor drain of my invention set in operative position.

Fig. 2 is a view in horizontal section on line 2—2 of Fig. 3.

Fig. 3 is a perspective view of my invention, before setting.

Fig. 4 is a detached view in side elevation of an element of the invention.

Referring to said views, the reference numeral 1 indicates the cylindrical body of my improved floor drain having a bore 2 therethrough and provided with internal screw-threads 3 at its lower end into which an end of a waste-pipe 5 or trap may be threaded. At its upper end said body extends in a circular flange 6 in substantially horizontal directions with a relatively slight upward angle to afford drainage toward the bore 2. The upper face of said flange is recessed, as at 7, leaving a wall 8 at its marginal edge. Threaded bolt-holes

10 are formed in said flange at spaced intervals medially about said recess.

Integral studs 11 extend upwardly from said body in evenly spaced order about the central bore 2 affording spaces 12 therebetween for drainage from said recess into the bore. 13 indicates an annular plate of configuration conforming to the recess 7 and about the studs 11 whereby a metal or other suitable waterproof sheet 15 may be clamped by bolts 16 extending through holes in said plate and screwed into the bolt-holes 10.

Telescoping into said bore is a drain-section 17 comprised of a lower tubular sleeve 18 and an integral upper flared or funnel portion 20. Said sleeve is formed with a plurality of vertically directed elongated apertures 21 about its perimeter. A collar 22 is provided about said sleeve portion of the drain-section having a set-screw 23 extending therethrough adapted to engage the sleeve and to secure the collar in desired set position along the length of the sleeve and to support the same upon the studs 11 to secure the drain-section in its desired elevation. A grille-plate 25 is secured to the upper edge of the funnel 20.

The drain-body 1 may be set in or upon the sub-floor portion 26 in the particular manner desired or suitable and may be connected up to the plumbing system of the building through the pipe 5. The waterproofing sheet 15 may then be positioned about the body and over the flange 6 by piercing a hole therein to register with the exterior circular line of the studs 11 allowing said studs to protrude through the hole. The plate 13 may then be fitted into place over the sheet and clamped down by the bolts 10 into the recess 7 binding the edges of the sheet about said hole tightly to the flange and affording a water-tight joint thereat.

The drain-section 17 may then be positioned with its sleeve 20 within the bore 2 and adjusted to bring the grille-plate 25 at the proposed level of the floor and is secured in such position by seating the collar 22 along the sleeve and fixing it by means of the set-screw 23 so that it will be supported evenly upon the studs 11.

The composition of materials forming the upper floor-portion 27 may then be applied about the drain-fitting and upon the waterproof sheet 15 and finished off to the level of

the grille-plate 25 affording drainage thereinto.

It will be seen that a simple and practical drain is provided to carry off all water from the floor-surface through the grille-plate 25 and the bore 2 and that all water seeping through the upper floor-portion 27 or through cracks therein will be caught by the sheet 15 and drained through the spaces 12 and apertures 21 into the drain-bore. And similarly, any water that may be backed up in the pipe 5 through a stoppage somewhere therein or in the plumbing system or through the application of a pump to dislodge an obstruction cannot pass the clamped edges of the sheet 15 to leak through the sub-floor and through the ceiling and walls of the rooms below.

The installation of the floor-drain is very simple and it is adapted for a wide variety of uses, as it may be set in a vertical wall, such as for an overflow drain for swimming-tanks and the like.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and operation of my floor-drain will be readily apparent, but, while I have described the principle of operation of the invention, together with the device which I now consider to be the best embodiment thereof, it will be understood that the structure shown is merely illustrative and that such changes may be made as are within the scope of the following claims.

Having described my invention, what I claim, is:—

1. In a floor-drain, a tubular body having a laterally directed flange having an annular recess on its upper face, a sheet of waterproof material overlying said flange, an annular clamping-plate adapted to seat in said flange-recess and to be clamped to the flange upon said waterproof material to present an unobstructed surface with the waterproof material overlying the outer

edge of the flange having drainage into the tubular body, and a sleeve arranged to be adjustably set within said tubular body.

2. In a floor-drain, a body having a tubular bore, a plurality of studs extending upwardly from said body with spaces therebetween, a lateral flange integral with the body having drainage into said bore through said spaces, a sleeve telescopically disposed within said body provided with vertically elongated apertures in its side wall, and a collar adjustably secured to said sleeve and arranged to seat upon said studs to position said sleeve at a desired elevation.

3. In a floor-drain, a body having a tubular bore, a laterally directed flange integral with the the body having drainage into said bore, means to secure a sheet of waterproofing material to said flange in water-tight condition, a sleeve telescopically disposed within said body provided with vertically elongated apertures in its side wall, a collar adjustably secured to said sleeve, and means engageable by said collar to support said sleeve at a desired elevation.

4. In a floor-drain, a body having a tubular bore having a plurality of studs extending upwardly about said bore with spaces therebetween, a laterally directed flange integral with said body having drainage into said bore through said spaces, a sleeve having a tubular lower end telescopically disposed within said bore and a funnel-shaped upper end closed by a perforated plate, said tubular lower end of the sleeve being formed with a plurality of vertically elongated apertures in its side wall, a sheet of water-proofing material extending integrally about said bore and over said flange, an annular plate adapted to be clamped to said flange to secure the said sheet therebetween, and a collar secured adjustably along the length of said sleeve and adapted to support said sleeve at a desired elevation upon said studs.

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