

June 19, 1934.

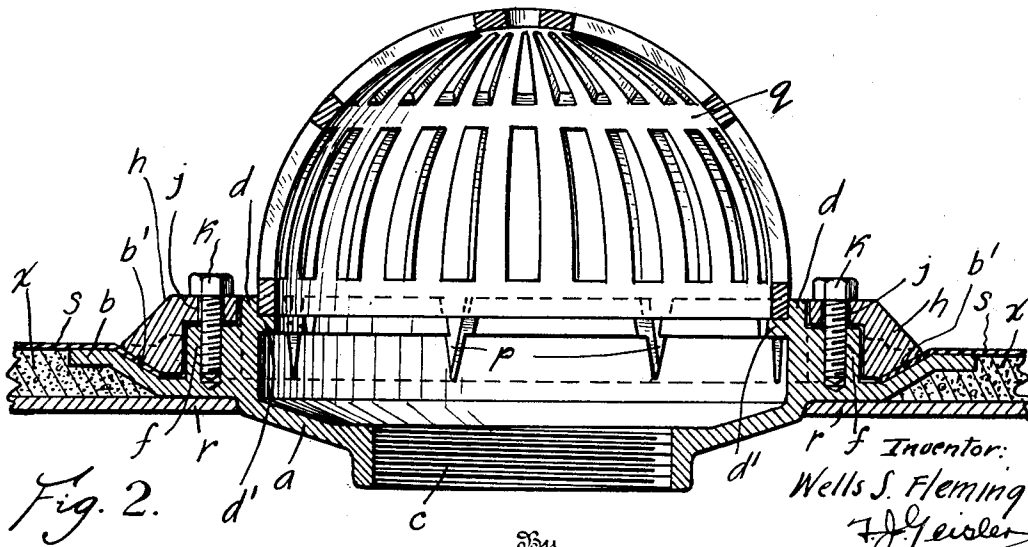
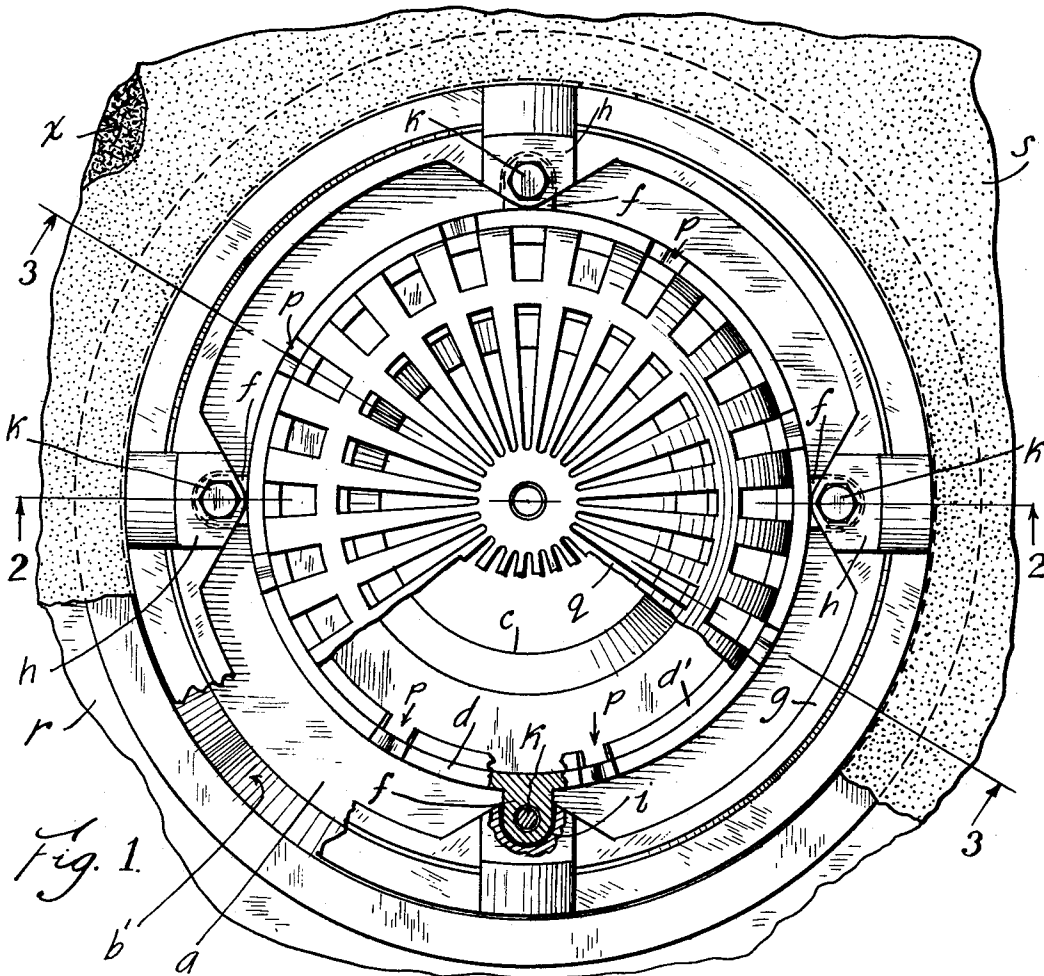
W. S. FLEMING

1,963,300

IMPROVED DRAINAGE FIXTURE

Filed Jan. 9, 1933

2 Sheets-Sheet 1



Inventor:
Wells S. Fleming
F. J. Geisler
Attorney

June 19, 1934.

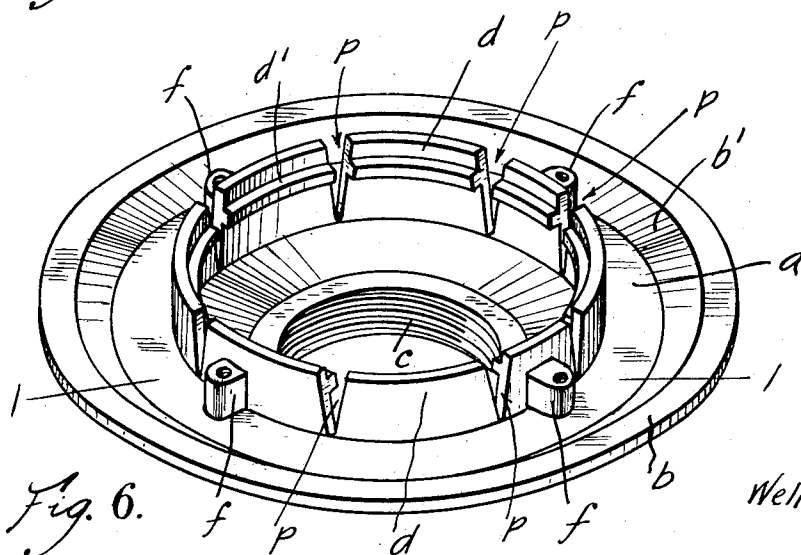
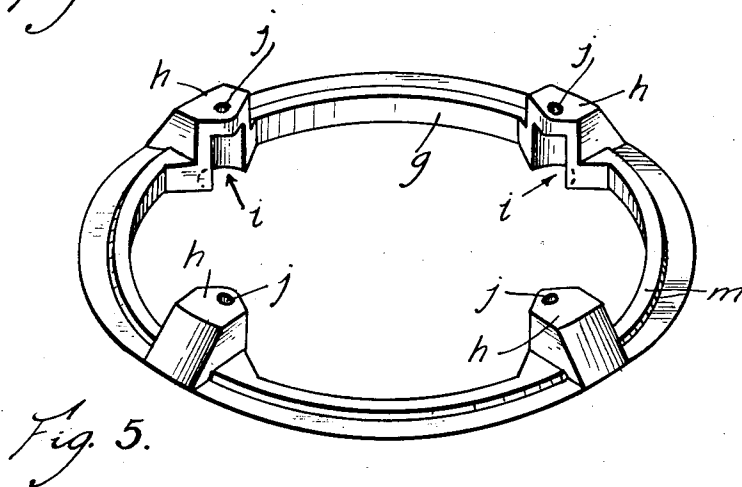
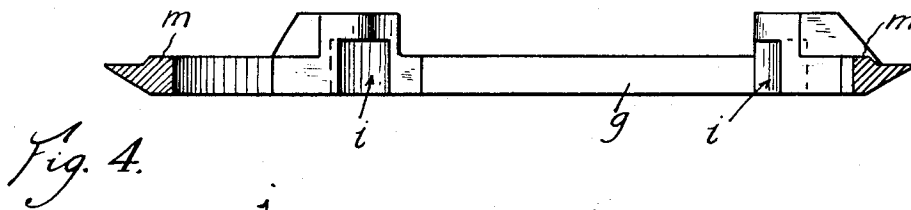
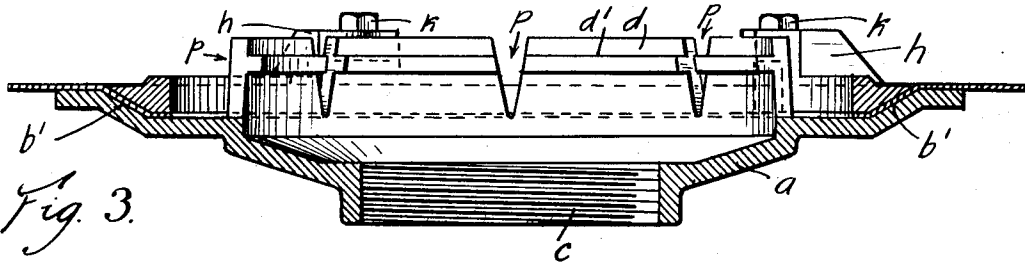
W. S. FLEMING

1,963,300

IMPROVED DRAINAGE FIXTURE

Filed Jan. 9, 1933

2 Sheets-Sheet 2



Inventor

Wells S. Fleming

J. J. Feister

By

Attorney

UNITED STATES PATENT OFFICE

1,963,300

IMPROVED DRAINAGE FIXTURE

Wells S. Fleming, Portland, Oreg., assignor to
Leo J. Corboy, Chicago, Ill.

Application January 9, 1933, Serial No. 650,823

2 Claims. (Cl. 285—37)

My invention relates to roof and floor drains.

The object of my invention is to provide a shallow drainage fixture provided with a plane under surface adapted to be mounted in steel floors or roofs in which the thickness of the floor or roof is considerably less than in concrete construction and in which therefore the drain body itself must be adapted to be seated closely on the margin of drainage holes previously cut in the plates of the floor or roof.

The drainage fixtures heretofore provided have been adapted for concrete floors and roofs of substantial thickness, which are also provided with a plastic floor covering of equal thickness and therefore the drain bodies are of such depth as to render their use on the said relatively narrow steel flooring and roofing impractical.

A further object of my invention is to provide a drainage fixture provided with means for clamping the sheet of water-proof covering commonly laid over the steel floor or roof in water-proof contact with the drainage fixture, to prevent leakage of the water between the drainage fixture and the surface on which it is mounted, and at the same time to so construct such clamping means that the said waterproof covering need not be punctured by the bolts provided for holding such clamping means in place.

Heretofore, it has been the practice to carry the water-proof covering up to the margin of the drainage opening and then puncture and insert the clamping bolts thru such water-proof covering. This permitted a seepage of the water thru the punctured water-proof covering which is especially to be avoided in the case of a drainage fixture mounted upon a steel roof or floor for the reason, as mentioned, that a drainage fixture of this type is not embedded in several inches of concrete and plastic floor covering which prevents such seepage or at least renders it negligible.

Further, such construction expedites the installation of my drainage fixture, in case the hole, which is cut in the water-proof covering in advance, has been inaccurately placed, because such hole being over size provides sufficient clearance to accommodate such inaccuracy and no time is lost by the workman in trimming the hole to the proper size and a possible defective installation is prevented.

I attain my objects in a drainage fixture, a shallow tubular drain body provided with an inwardly sloping circumferential flange, the interior marginal portion of said flange provided with integral, spaced bolt receiving lugs, a

clamping ring adapted to be seated on said flange with a sheet of water-proof material therebetween, said clamping ring being of greater interior diameter than the interior diameter of the drain body, means for clamping said ring on said flange interiorly of said ring.

These and other incidental features of my invention, the details of construction and mode of assembly and installation are hereinafter fully described with reference to the accompanying drawings.

In the drawings:

Fig. 1 shows a plan view of my drainage fixture adapted for a roof and provided with a dome strainer and with parts broken away to illustrate the construction of the clamping ring and securing means therefor;

Fig. 2 shows a section taken on the line 2—2 of Fig. 1 and further illustrates means for securing the clamping ring to the drain body;

Fig. 3 shows a section taken on the line 3—3 of Fig. 1 with the dome strainer removed and illustrates how the puncturing of the water-proof covering by the clamping bolts is avoided;

Fig. 4 shows a detached sectional view of the clamping ring as shown in Fig. 3;

Fig. 5 shows a detached perspective view of such clamping ring illustrated in Fig. 4; and

Fig. 6 shows a perspective view of the drain body with the clamping ring and dome strainer removed, and illustrates the drainage openings provided in the inner wall of the drain body.

Referring to the figures: My drainage fixture comprises a shallow drain body *a* provided with a lateral flange *b* provided with an inwardly beveled marginal portion *b'*, a tubular depending portion *c* adapted to have a drain pipe, not shown, connected thereto and a narrow upwardly projecting inner wall *d*.

Bolt receiving lugs *f* are provided on the flange *b* integral with the inner wall *d* and a clamping ring *g* of a greater inner diameter than the said wall *c* is provided having inwardly projecting bosses *h*, formed with recesses *i* adapted to seat over said bolt receiving lugs *f* and bored as at *j* to receive clamping bolts *k* adapted to be threaded into said lugs.

The drain body *a* being seated in a drainage hole previously provided in the steel decking *r*; see Fig. 2 and an insulating covering *s* being laid over the floor, the water-proof covering *x* is then laid with the necessary hole cut out beforehand, of greater diameter than the inner wall *d* and thus only comes to the inner margin of the clamping ring and the bolts *k* being inserted thru the

bores *j* of the bosses *h* secure the clamping ring *g* tightly to the flange *b* and on the water-proof covering without requiring that the covering *x* be punctured to receive said bolts.

- 5 A further advantage of such construction is that if the hole in the water-proof covering has been inaccurately cut, there is a sufficient clear-
10 ance for the drainage fixture to be placed without the workman being required to trim the hole to the proper size. Also no time is lost in puncturing the waterproof material to receive the clamping bolts *k*, as well as the mentioned danger of leakage thru such punctured hole.

- 15 A reinforcing bead *m* is provided on the upper surface of the ring *g* to strengthen the latter because of the material cut away to provide the inwardly projecting bosses *h*.

- The inner wall *d* is provided with V-shaped slots *p* adapted to permit drainage from the
20 flange *b* into the tubular portion *c*, which act as a gravel or refuse guard at the same time.

- A dome shaped guard *q* is provided adapted to rest on a shoulder *d'* provided on said inner wall *d*, as illustrated in Figs. 1 and 2 when my drain-
25 age fixture is to be installed on a steel roof. Of course, if my drainage fixture is to be installed on a floor, the dome strainer guard will be substituted by a suitable flat grille plate, not shown.

- It is to be noted also that by terminating the
30 water-proof covering *x* at the inner margin of the clamping ring, an annular space is provided

about the inner wall *d* adapted to serve as a catch basin for gravel or refuse.

I claim:

1. In a drainage fixture, a tubular drain body provided with an inwardly sloping circumferential flange, the interior marginal portion of said flange provided with integral, spaced bolt receiving lugs, a clamping ring adapted to be seated on said flange with a sheet of water-proof material therebetween, said clamping ring being of greater interior diameter than the interior diameter of the drain body, inwardly projecting spaced recessed bosses provided on said ring adapted to seat over said lugs and to have clamping bolts inserted therethru and threaded
80 85 90 in said bolt receiving lugs.

2. In a drainage fixture, a tubular drain body provided with an inwardly sloping circumferential flange, an interior upstanding wall extending above said flange, integral spaced bolt receiving
95 lugs provided on said flange at its juncture with said wall, a clamping ring adapted to be seated on said flange with a sheet of water-proof material therebetween, said clamping ring being of greater interior diameter than the diameter of
100 said wall, spaced bosses provided on said ring adapted to seat over said lugs and to have clamping bolts inserted therethru and threaded in said bolt receiving lugs.

WELLS S. FLEMING. 105

35 110

40 115

45 120

50 125

55 130

60 135

65 140

70 145

75 150