

J. HIRSHSTEIN.
DOUBLE DRAINAGE ROOF DRAIN AND SEDIMENT CUP.
APPLICATION FILED JAN. 27, 1916.

1,348,945.

Patented Aug. 10, 1920.

Fig. 1

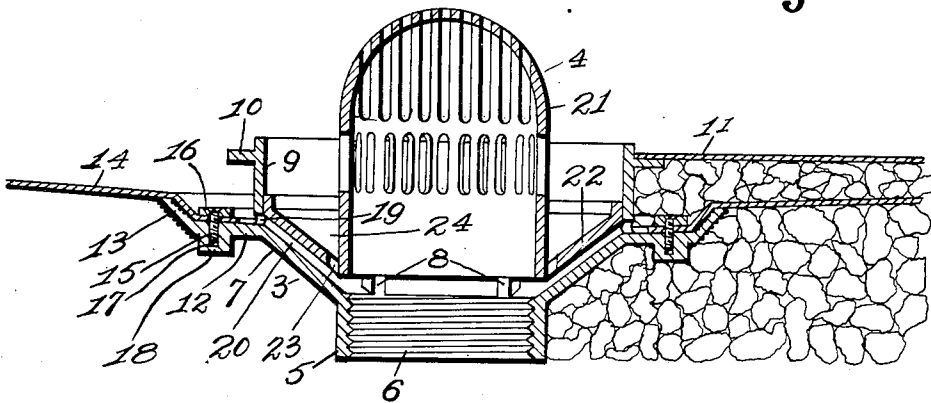
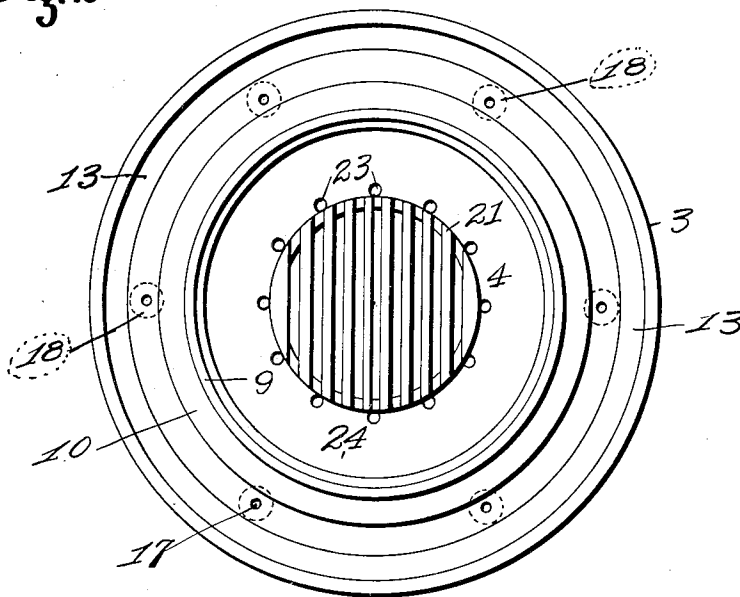


Fig. 2



Witnesses
W. C. Stein
B. M. Insler

Inventor
Joseph Hirshstein
by Alfred E. Cick's Att'y

UNITED STATES PATENT OFFICE.

JOSEPH HIRSHSTEIN, OF ST. LOUIS, MISSOURI.

DOUBLE-DRAINAGE ROOF-DRAIN AND SEDIMENT-CUP.

1,348,945.

Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed January 27, 1916. Serial No. 74,685.

To all whom it may concern:

Be it known that I, JOSEPH HIRSHSTEIN, a citizen of the United States, and resident of St. Louis, Missouri, have invented certain new and useful Improvements in Double-Drainage Roof-Drains and Sediment-Cups, of which the following is a specification.

My invention relates to an improvement in roof drains and more particularly to that form of roof drain which is provided with a sediment cup or catch-basin for retaining material which might otherwise enter and clog the drain pipe.

One object of my invention is to provide a roof drain of the class referred to, in which a removable perforate portion extends a substantial distance above the surface of the roof, while the sediment cup or catch-basin, which is preferably carried thereby, is arranged below the upper surface of the roof.

A still further object of my invention is to provide the device with a drainage flange adapted to discharge seepage water into the main outlet, and preferably to so discharge the seepage water between the body of the device and the removable member.

Figure 1, is a central vertical sectional view of a roof drain made in accordance with my invention showing it in its relative position with the roof, floor or the like.

Fig. 2 is a top plan view of a roof drain made in accordance with my invention.

In carrying out my invention I provide a combined double drainage roof drain and sediment trap consisting of two members 3 and 4, the member 3 being arranged preferably in the form of a casting having its bottom end in the shape of a collar or cylindrical projection 5, the inner surface of which being provided with stationary pipe threads 6, to which may be attached the usual drain pipe leading to the proper source of distribution.

Radiating from the upper portion of the collar 5 is a hopper shaped body 7, the inner surface of which is provided with a plurality of lugs 8 which are located in alignment with the inner surface of the collar 5 and which are for the purpose to properly space the two members in order to allow free passage between them for the flow of the water passing both from the top of the roof as well as such seepage which might pass between the roof construction

and the outer surface of the stationary member.

At the upper edge of the inclined surface of the hopper 7 is formed an integral vertical wall 9 provided with a horizontal projecting flange 10 which acts as a support for the upper layer 11 of the material forming the roof. There is also radiating from the inclined portion of the hopper a horizontal flange 12, its edge terminating into an inclined flange 13, the inner and outer surface of which is corrugated or in other words roughened so as to act as a suitable binder for the material forming the roof as well as a pliable sheet of material 14, which in practice is usually sheet lead. This sheet may be extended to any desirable radius all around the outside edge of the stationary member, this sheet acting as an additional guide for such seepage which might pass through leaks formed in the roof construction.

This sheet of pliable material 14 is held in position against the horizontal flange 12 by means of screws 15 passing through a ring 16 brought in close contact with the upper edge of the pliable material and screws 15 are inserted in screw threaded apertures 17 formed in the horizontal flange, and to provide for such apertures I place at intervals, integral bosses or enlargements 18 so as to provide sufficient material for a perfect binding property.

Through the vertical wall 9 and on a line with the upper surface of the horizontal flange I provide at intervals apertures 19 which act as outlets for such seepage which may be caught by the flange and pass downwardly through the passage 20 formed between the two members.

The upper or removable member 4 is constructed in the form of a casting having a dome 21 which is either slit, perforated or otherwise grated which is for the purpose to allow a free flow of the water from the roof to drain into the drain pipe and radiating from the bottom of the dome is an upwardly inclined flange 22 shaped in conformity with the inner surface of the inclined wall of the hopper 7, and this member is supported on the lugs 8 and thereby spaced from the member 3 to provide passage for the seepage.

In the inclined wall and immediately against the surface of the dome I provide a

plurality of apertures 23, which permit such water to drain which might be intermingled with sediment which in time might lodge in the space 24 formed by the sediment cup.

5 The lower surface of the openings or perforations formed in the dome are arranged approximately on a line with the upper portion of the cup thus in the event such sediment as tar, gravel or other foreign objects
10 washed from the roof into the cup will lodge in the cup and the water pass freely over the same and flow into drain pipe.

Whenever it becomes necessary to clear the cup the removable member 4 is easily lifted
15 out of its position and the contents in the cup dumped and the member then placed back in its position as shown in Fig. 1.

It will be evident that by having the perforate dome shaped portion 21 of my device
20 extend a substantial distance above the surface of the roof means will be provided for the free passage of the water, even in case the catch-basin and also the space within the flange 9 should become completely filled
25 with rubbish. The normal means for the passage of the water, however, will be through the lower part of the dome 21. It will be evident that by removing the dome 21, together with the flange 22 forming the
30 catch-basin, any material caught in the basin can readily be removed and emptied. At the same time the construction is such as to effectively provide a drain for any seepage water passing between the flange 9 and the
35 material of the roof.

Having fully described my invention what I claim is:

1. In a drain, the combination with means forming a drainage outlet communicating
40 with the surface to be drained, of a removable perforate member in said outlet and extending a substantial distance above the surface to be drained, said member being positioned and dimensioned to provide a sediment receiving opening between it and said
45 surface, and means forming a sediment basin adapted to receive and collect sediment carried to the sediment receiving opening, said sediment basin being removable with the perforate member.
50

2. In a drain, the combination with means forming a drainage outlet communicating with the surface to be drained, of a removable cover for said outlet comprising a central perforate portion extending a substantial
55 distance above the surface to be drained and a sediment catch-basin positioned around the central portion and below the said surface, said catch-basin being removable with the perforate portion.
60

3. The combination with a surface to be drained, of draining means communicating therewith, and an upwardly removable perforate cover for the drain outlet, said cover
65 extending above the surface to be drained

and provided with means forming a catch-basin positioned below said surface and open at the top to receive and collect sediment carried to the drain.

4. A drain comprising a body adapted to be connected to the surface to be drained, said body having a recessed portion provided with an outlet for the water, and an upwardly removable closure for said recessed portion, said closure having a flange forming
75 a sediment catch basin and a central perforate portion discharging into said outlet, said perforate portion extending above the surface to be drained.

5. In a drain, the combination with means
80 forming a drainage outlet communicating with the surface to be drained, of a removable perforate member in said outlet and extending a substantial distance above the surface to be drained, said member being positioned and dimensioned to provide a sediment receiving opening between it and said surface, and means forming a sediment basin adapted to receive and collect sediment carried to the sediment receiving opening, said
90 sediment basin being provided with drain openings in the lower portion thereof and being removable with the perforate member.

6. The combination with a surface to be drained of a drainage outlet member communicating with an opening in said surface, a closure for said member adapted to be inserted therein from above and through the surface to be drained, said closure being provided with a sediment receiving portion positioned below the surface to be drained and with a central perforate portion extending above said surface and of substantially smaller cross-sectional area than the outlet member and the opening in the surface to be
105 drained, whereby an unobstructed annular sediment receiving opening is formed between the inner walls of the outlet member and the central portion of the closure and whereby collected sediment will be withdrawn from the outlet with the closure.
110

7. The combination with a surface to be drained of a drainage outlet member communicating with said surface, a removable closure for said outlet smaller than the opening in said surface and comprising a central perforate strainer portion extending above the surface to be drained and an annular sediment cup surrounding the central portion and positioned in the outlet member
120 below the level of said surface whereby an annular opening is formed between said perforate portion and said surface and extending from the periphery of the central portion to the periphery of the upper edge of the outlet to receive sediment carried to the drain and permit same to drop below the surface to be drained and into the sediment cup.
125

8. A drain comprising a body adapted to 130

be embedded in the surface to be drained and having an outlet for the water, an upwardly extending flange for forming a joint with the upper face of the roof, a drainage flange carried by said body below the said first named flange and projecting laterally beyond the same, said drainage flange being in communication with said outlet, a removable cover for the outlet, said cover being provided with a central dome shaped perforated portion extending above the surface to be drained, and a sediment catch-basin below the surface to be drained and surrounding said central portion and removable there-with, and means providing space between the catch basin and the interior of the drain body for passage of water from the drainage flange to the outlet.

9. A device of the class described comprising a double drainage roof drain and sediment cup consisting of a stationary member composed of an internally screw-threaded collar, a hopper shaped body radiating therefrom, a horizontal flange and an inclined flange, of a vertical wall formed integral with the hopper shaped body, the base of said vertical wall provided with a plurality of apertures located on a line with the upper surface of the horizontal flange, of a removable member composed of a dome, an inclined body forming a cup radiating from the bottom of the dome, the base provided with a plurality of apertures and spaced at intervals apart, a pliable sheet supported by the horizontal and inclined flanges of the stationary

member and a ring located on the top of the pliable sheet and located upon the horizontal flange of the stationary member and firmly clamped therein, substantially as specified.

10. A device of the class described comprising a stationary member having a screw threaded depending collar and a removable member, the stationary member being hopper shaped and provided with horizontal and upwardly inclined flanges, a plurality of lugs formed at the base of the hopper shape portion of the stationary member, the removable member consisting of a slitted dome and inclined flange formed integral therewith and radiating from its base, said removable member resting upon the lugs formed in the stationary member properly spacing the same from the stationary member, and a plurality of apertures formed in the stationary member and in the removable member through which water or moisture may pass into the outlet of the stationary member, a pliable sheet secured to the stationary member, and bosses formed on the stationary member for securing the pliable sheet substantially as specified.

In testimony whereof I have signed my name to this specification, in presence of two subscribing witnesses.

JOSEPH HIRSHSTEIN.

Witnesses:

J. H. GUEST,
WALTER C. STEIN.