Nov. 16, 1926. 1,606,990

L. P. FUNK

FRESHET DRAIN

Filed March 7, 1925 3 Sheets-Sheet 1



Fig. 1

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FRESHET DRAIN

Filed March 7, 1925 3 Sheets-Sheet 2

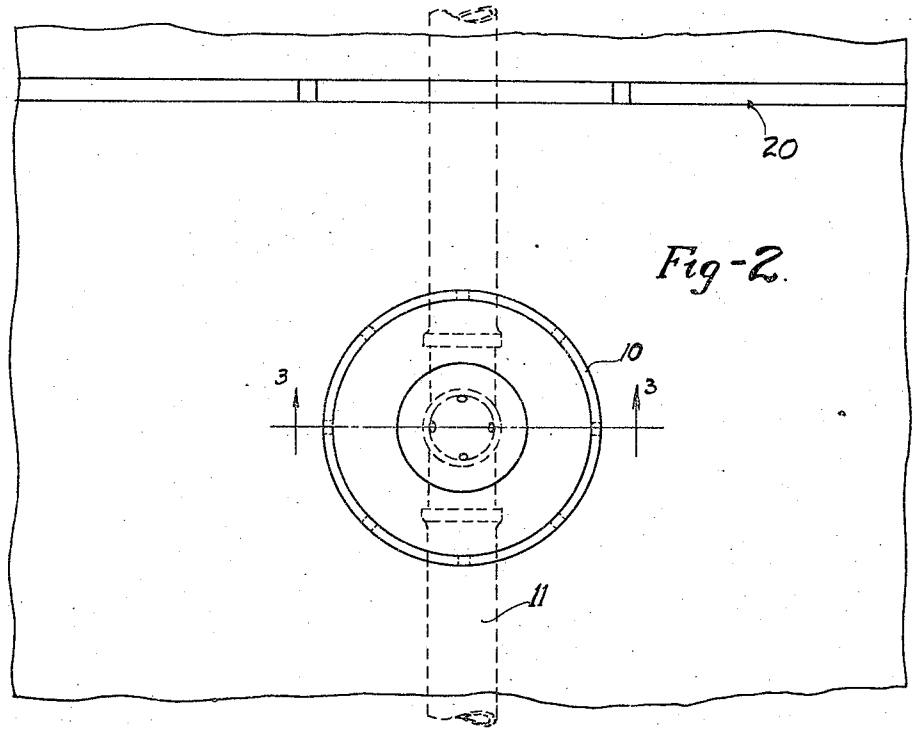
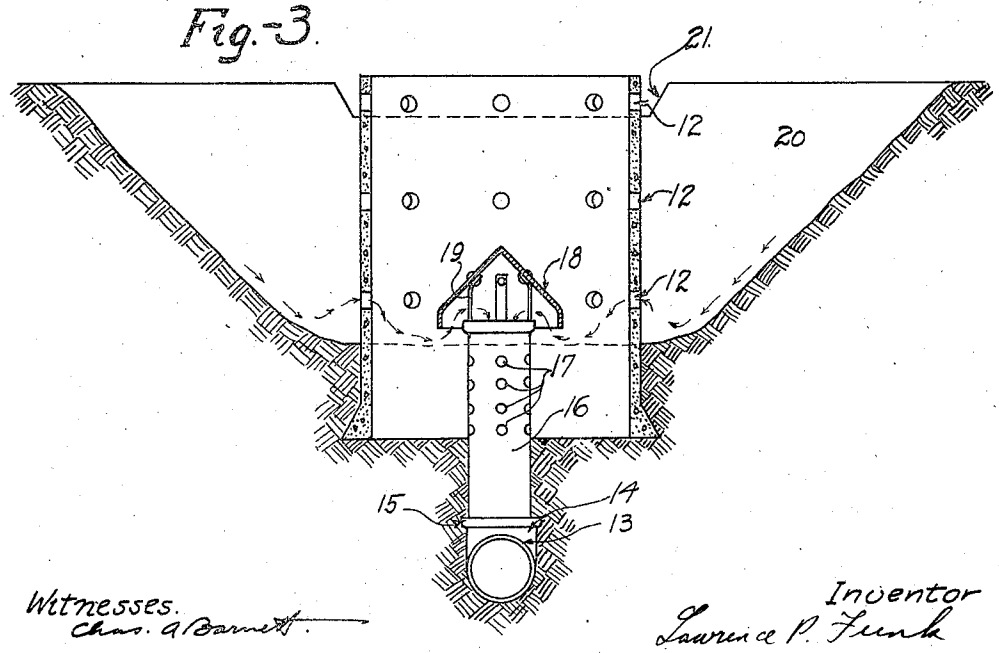


Fig-2.

Fig-3.



Witnesses.
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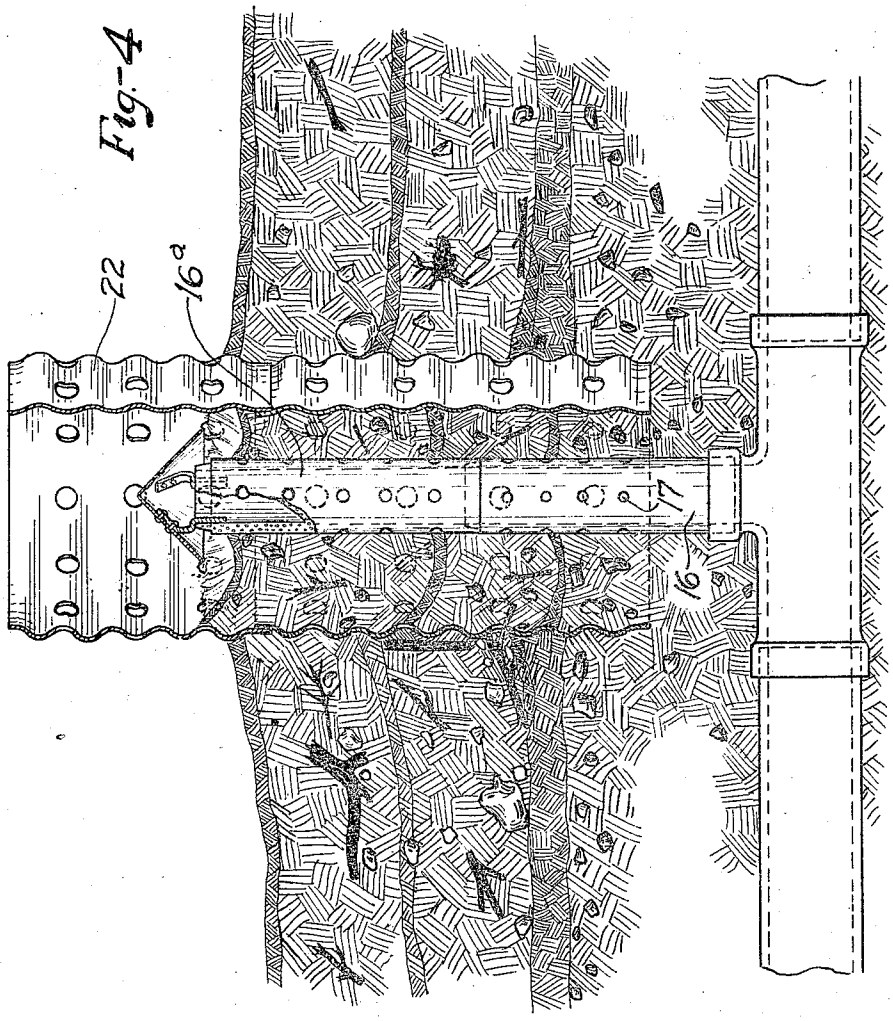
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FRESHET DRAIN

Filed March 7, 1925 3 Sheets-Sheet 3

Fig. 4



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Patented Nov. 16, 1926. 1,606,990

UNITED STATES PATENT OFFICE.

LAWRENCE P. FUNK, OF SHIRLEY, ILLINOIS.

FRESHET DRAIN.

Application filed March 7, 1925. Serial No. 13,782.

My invention relates to an overflow or freshet drain, or catch basin distinctly for farm use.

The invention is directed to a supplementary drain to that of the ordinary tile drain that is used on farms and functioning only under circumstances of such freshet conditions that renders tile drain incapable of carrying away the excess of water whereby pools and sheets of water collecting in swales and low places destroy planted or growing grain, and effect impervious surface conditions after drying, that prevent percolation therethrough to meet the emergency of subsequent overflow.

The invention also includes the functioning capability of preventing erosions of the ground surface above tile drain lines to deepen the normal surface drain course and to facilitate accretions instead of erosions to the end that such surface drain course will be gradually filled, thereby promoting conditions to the advantage of cultivation as well as extending the propagating area of the farm plot wherein such tile drain or drains and catch basins are located.

The invention also includes special utilities in connection with dams across abnormally deep drain courses wherein a substantially large volume of water is held in conjunction with said dam, wherein my catch basin may be utilized as a means to protect the dam against an excessive flow of water in such drain course, resulting from quick or excessive water flow.

Also the invention contemplates a utility in connection with extended swales that under circumstances of normal water fall, would not be productive of current conditions that would effect surface erosion, but would be effected by an excessive waterfall wherein, by providing a rather widely spaced distribution of small catch basins of the type herein shown, such drain condition will be provided supplementing the usual drain capability of a tile line that erosion of the soil under all conditions is prevented, and that will be productive of conditions that accretion and gradual raising of the surface of the swale course will be effected, thereby improving cultivation and grain propagating conditions.

Also my invention may be utilized to protect roadways and road embankments wherein, under conditions of deep water course way or widely extended swale condition leading to and through such roadway or embankment, my catch basin may be utilized as an auxiliary to the ordinary drainways and drain courses to such ways and through such embankments or roadways, to protect the same against conditions of extraordinary or unusual rainfall.

In the drawings, herewith presented, I have shown upon one sheet, a series of views showing in diagrammatic manner, different examples of ground surface conditions and the application of my surface drain or catch basin applied or installed in various ways for service to effect the purposes herein above indicated. However, in the description no detailed reference will be made to this figure as it is intended only to illustrate the functioning capability of my invention.

Referring especially to the drawings, Fig. 1, indicates special applications of my device, such as indicated in the preceding paragraph.

Fig. 2, shows in a diagrammatic manner, the application of my device to a drain tile course and the association of my device in conjunction with a wall across the swale or water course.

Fig. 3, is a vertical section on the line 2—2 of Fig. 2, looking in the direction of the arrows, and

Fig. 4, is a vertical sectional view showing the association of my device with a drain course, the section being taken on the line of the course of the tile drain and the water course, wherein conditions are shown illustrating the capability of addition and extension to the initial installation to meet conditions of accretions or filling up of the surface drain course wherein extension, both of the catch basin housing and the outlet for the catch basin, are provided to effect a continuation of the functioning capabilities of the device.

In Fig. 2, 10, refers to a housing member, which may be fashioned from any sort of material or any shape desired. For instance, it may be built of cement in round or rectangular form. An ordinary vitrified tile may be employed or a section of corrugated drain pipe may be used. However, this is a matter of election or selection by the manufacturer or user. Housing member 10, as shown in the figures is designed to be seated or placed in an opening formed at substantially the low point in the surface drain course and immediately above the tile drain course, here

indicated as 11. The housing member 10, is provided with openings through its wall, said openings as instanced by the disclosure in Fig. 3, comprising three rows of concentrically arranged openings 12, spaced apart at substantially equal distances the length of the housing. However, they may be disposed in staggered relation or in fact, in any manner that may be desired.

Referring to Fig. 3, 13, is a drain member, the same comprising a part of my distinctive drain unit, which I supply to the user, the same preferably being a vitrified tile member of such fashioning and proportioning that it may be substituted for one of the ordinary drain tile sections. This substituted drain member may be fashioned with a centrally disposed T 14, provided with a flanged seat 15, to facilitate the entry of a lead tile member as 16, thereto, said lead tile extending upwardly within housing 10, to a point somewhat below the lower seat of inlet openings 12, in order to avoid unnecessary high level accumulation of water within the housing. Drain member 16, may be provided with a series of perforations 17, to provide for draining the portion of the interior of the housing that lies below its upper edge or overflow outlet, thereby preventing water from standing in the lower part of such container after freshet conditions have terminated.

At the upper portion of drain member 16, I have provided a cap member with depending attachment members 19, which will serve for seating in connection with the upper portion of drain member 16, which seating may be effected by a mere engagement with an offset or flanged portion of the drain or by means of relatively interengaging lug members as may be desired. However, as the particular manner of locating this cap member in conjunction with the drain member is of no material importance, no special details are shown and no extended description is herein entered. Generally, it may be said that cap member 18, is designed to overlie the top of the drain member and is so related thereto that a floating débris upon the surface of water within the container will be prevented from entering the drain way, thereby clogging of such drain way is eventually prevented.

In carrying out the purposes of my invention, there exists certain water course conditions that in the emergency of freshets and the like, when large volumes of water pass through the water course, that erosion results that some time effect a washing out of parts of the drain tile course, or generally, at least, effect erosions that are undesirable and we meet this emergency by interposing wall 20, which may be merely a dirt wall or it may be a cross concrete wall, or may be formed in any suitable manner. This dam or wall, is disposed at the lower side of the catch basin, viz, on the side in the direction of the water course and serves to stand the rush of water and to effect accumulation about the drain housing that may, in practice, raise it to a level as high as the upper of the inlet series, and thereby presenting very extensive drain inlet conditions leading to the interior of the drain housing, thereby taking care of the very large flow of water. The wall or dam is preferably provided with a depressed portion, here indicated as 21, which, in practice, will serve to deflect the flow over the dam (if the water should rise that high) to a central point in the wall, whereby such overflow will be directed to the center of the continuing surface drain course.

I have in contemplation that my unit drain device may be fashioned of corrugated metal and that it shall be so fashioned with respect to terminals that one section may be sleeved upon another to meet the emergency of filling up of the drain course. In the event of such accretions as the soil reaches the level of the different openings through the drain housing, closure is made of such openings by interposing a metal strip or the like so that the lower inlet course will be closed and the next succeeding course and those above it will only be effective as an inlet way to the housing, and finally when the accretions approximate the lower edge of the top row of openings or even before that time, the supplemental section here indicated as 22, may be applied and similarly a drain section 16^a may be added to drain member 16 by sleeving or otherwise uniting the same and the cap member may then be removed from the lower section and disposed upon the supplemental section, thereby continuing and extending the utility of the device, to meet the emergency of all degrees of soil accretion.

I have not referred particularly in detail to the structural disclosure of Fig. 4, as the structure is substantially the same as that shown in Figs. 2 and 3, and described in detail, the only difference being the matter of form or fashioning of the housing, and the matter of sectional extension, herein shown.

In connection with the use of the device to drain a shallow pond, it will be noted as shown in the general figures that a general tile drain terminates at one side of the pond and from that point passes beneath the pond and continues to a drain outlet. My freshet drain is located at some substantially central point with respect to the pond and is so arranged as to receive the entire flow therefrom.

When the device is used as an auxiliary drain in advance of a dam that normally holds a body of water within a drain way,

my device is disposed substantially at the cross center of the drain way and a short distance in front of the dam, and in action, an excessive flow of water either overflows the drain housing with proper screening provision across its top or is extended above the normal water level and is provided with inlet holes and in such construction it is preferable that a cap be provided substantially like the cap that is provided in connection with the outlet drain, thereby preventing débris from entering the housing.

I have shown and described, herein, various forms and manner of use of my device. However, the device may be used in many connections not herein specifically pointed out and therefore, I do not desire to limit myself to the forms herein shown, but claim all forms of embodiment and use that fall legitimately within the functional utilities of the device.

What I claim is:

1. In a farm drain, in combination with an underground tile drain, a pipe projecting upwardly from and communicating with said drain, said pipe being open at its upper end and provided with peripheral openings or water inlets in the upper portion thereof, a catch basin surrounding and spaced from said pipe, the upper end of the catch basin extending above the upper extremity of the pipe and the lower end of the basin terminating substantially at the level of the lowest water inlet in the pipe, said casing being provided with inlet openings at a plurality of points along the length thereof.

2. In a farm drain, in combination with an underground tile drain, a pipe projecting upwardly from and communicating with said drain, said pipe being open at its upper end and provided with peripheral openings or water inlets along a portion of its length, a cover for the open end of said pipe, said cover being spaced from the end thereof to permit the entrance of water between the cover and the end of the pipe, and a casing surrounding and spaced from the upper portion of the pipe, said casing being provided with inlet openings at a plurality of points along the length thereof.

3. In a farm drain, the combination with an underground tile drain, of a pipe projecting upwardly from and communicating with said drain, the said pipe being provided with peripheral openings or water inlets along a portion of its length, said pipe being formed in telescopic sections to permit adjustment in the length thereof, and a casing surrounding and spaced from the upper portion of said pipe, said casing being provided with inlet openings at a plurality of points along the length thereof.

4. In a farm drain, the combination with an underground tile drain of a pipe projecting upwardly from and communicating with said drain, said pipe being open at its upper end and provided with peripheral openings or water inlets along a portion of its length, a cover for the open end of said pipe, said cover being spaced from the end thereof to permit entrance of water between the cover and the end of the pipe, and a casing surrounding and spaced from the upper portion of the pipe, said casing being provided with inlet openings at a plurality of points along the periphery thereof, said pipe and said casing being formed in relatively movable telescopic sections to permit adjustments in the length thereof.

In testimony whereof I affix my signature.

LAWRENCE P. FUNK.