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SEWER BACK-UP RELEASE PRESSURE PIPE SYSTEM

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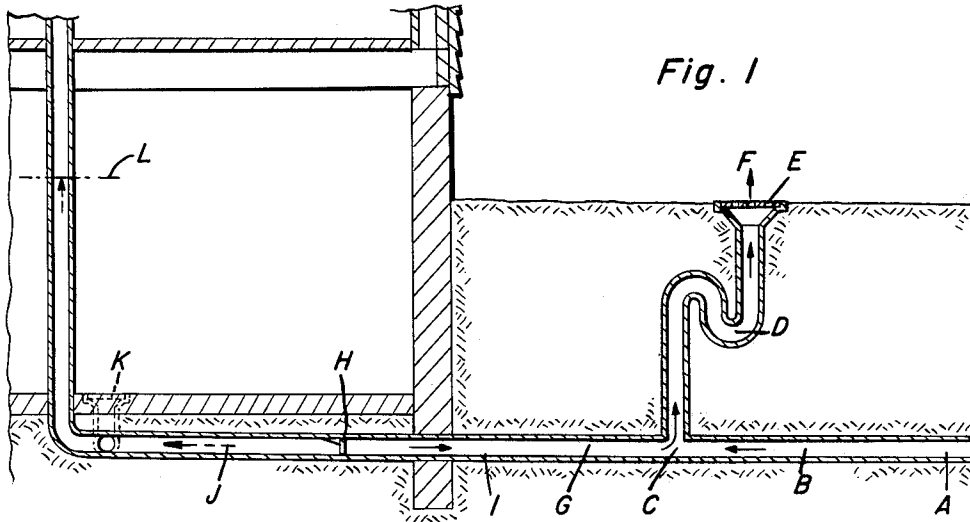


Fig. 2

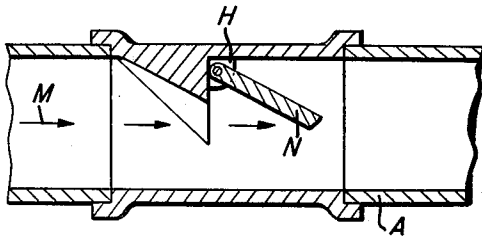
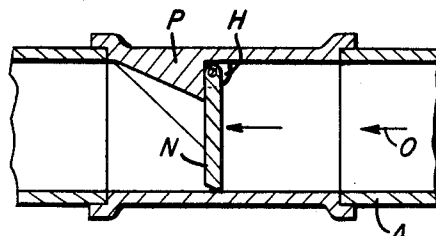
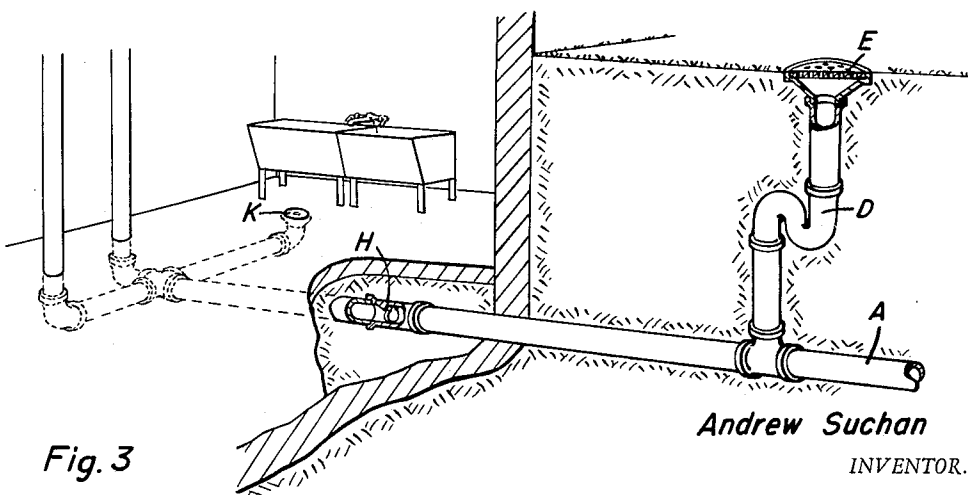


Fig. 2a



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SEWER BACK-UP RELEASE PRESSURE PIPE SYSTEM

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1 Claim. (Cl. 137—236)

This invention is a complete sewer back-up release pressure pipe system that will protect a basement from being flooded by the sewer back-wash that comes from overloaded main sewer.

It is the object of this invention, to stop the overflow by a shut-off valve and at the same time channel the overflow through my system on to the front lawn and then keep the interior of the home, i.e. basement completely dry at all times.

FIG. 1 is a side cutaway view of the system embodying my invention marked C, D, E, F.

FIG. 2 is an enlarged side, cutaway view of the shut-off valve in an open position.

FIG. 2a is an enlarged side cutaway view of the same shut-off valve as in FIG. 2, but in closed position and thus cooperating with my invention, the sewer back-up release pressure pipe system in keeping the basement constantly dry, free from damage and sewer filth.

FIG. 3 is a perspective $\frac{3}{4}$ cutaway view (not in proportion), with the sewer back-up release pressure pipe system in the front of the drawings and marked D and E.

Referring now to FIG. 1, I show the complete sewer system from the main (street) sewer, by showing the sewer pipe A going to the interior of the house and the complete system therein. Also, I show my invention, the sewer back-up release pressure pipe system in its proper working position and on the drawing marked C, D, E, F on FIG. 1.

The system works in this manner: As the sewer pipe A is overloaded (from or by) the main sewer, the backwash travels in the direction of arrow B and, under normal conditions would continue on to arrow J, then depending on the force of the backwash would pour out of the basement stationary tub outlet K and flood the basement, and if force was great enough, travel on through the vertical pipes, and through their openings, flood other parts of the home. With my invention, the sewer back-up release pressure pipe system, this is not possible.

The shut-off valve system, H in FIGS. 1, 2, 2a and 3, and which is available now, does not, on its own do the proper job, for, under great backwash pressure, a damage might be done to the sewer system with costly repairs to follow.

My sewer back-up release pressure pipe system does the complete job with, or without, the available valve H. My system, as shown on FIG. 1 and marked C, D, E, F, is made (constructed) out of (available) sewer pipes of the same diameter as the sewer pipe connected to the building interior system and marked A. A T-pipe is placed on sewer A, locating it about $\frac{3}{4}$ way on the front lawn section of the house from the sidewalk, with a straight sewer section connected to an elbow D, up to the surface opening larger than the pipes A, and D, and closed down with cover E. The cover E, a cast iron disc perforated all over with holes about $\frac{1}{4}$ inch in diameter, is placed in position at the outlet, at the lawn level, but is not locked in position to hold it fast.

Since sewer matter, as water, operates on the gravity principle, the water, as it backs up into the pipe system A, would flow at first past point C, and if there is no valve H, rush on through J and into the pipes and outlets at K and L. If no shut-off valve H is installed, for

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the release system to operate properly and as designed, a plug would be placed (secured) in the basement over the outlet for the stationary tub marked K, and this would stop, with the cooperation of my system, the onrushing backwash to spill over the basement.

With the sewer back-up release pressure pipe system (C, D, E, F,) in place, the backwash would start filling the pipes K and L, but at the same instant, my system would go to work, and the waste would overflow into my back-up release system (C, D, E, F.). This backwash depending on the pressure behind H, would either stop before reaching the level at L and E, but no flooding of the basement happened, because of the plug K in place and all the pressure diverted into my system (C, D, E, F.). If on the other hand, the backwash maintains its pressure, as the backwash reaches level L inside the building (home), because of natural gravity action, the overflow will then spill out through the opening E as shown by arrow F in FIG. 1, and thus my invention, the sewer back-up release pressure pipe system would accomplish its intended purpose of releasing the pressure exerted by the main sewer back-up, releasing the waste harmlessly in the lawn and thus keeping the basement and the rest of the house free from the damaging sewer back-up, for under no circumstances will the backwash overflow higher than level E and L (with plug K in position as required for the complete system to operate properly, or the shut-off valve H in place and operating).

If a valve shut-off system, H in FIG. 1 and FIG. 3, as shown a closeup and cutaway sideviews in FIG. 2 and FIG. 2a, is built in the place shown, then, as the backwash rushes in through pipe A, past point C and on to valve H, the valve, by the pressure on it, O, is pushed by the greater force down into closing position and held in locked position by a valvelock P. The "knee-action" of the valve H always allows normal disposal of waste as shown in FIG. 2, with waste M pushing valve N into open position. Backwash O, on the other hand with its greater force will close the valve N, pushing it down, pressing against the valve lock P. As the pressure of the backwash now builds up and mounts in volume, the backwash, stopped by valve H, protects the interior of the basement and the building from flooding, but in itself does not protect the sewer system from extensive damage by the great pressure and force exerted by the backwash, and this, exactly is what my invention does. Instead of damaging the valve and flooding the basement and/or damaging the sewer system, the backwash turned back at valve H returns in the direction of arrow I and reaching point C and the oncoming backwash B, is forced to enter G, into the opening and into my sewer back-up release pressure pipe system, C, D, E, F, and depending on the pressure and the amount of the backwash, it passes elbow D, enters outlet E and spills over the lawn, harmlessly and efficiently.

From the aforesaid disclosure it is apparent that my invention will under all conditions protect the basement and the rest of the home (building) from damaging flooding.

It is further well understood that the sewer back-up release pressure pipe system according to the invention may be readily incorporated into existing sewer systems or those planned to be built in the future, with the valve H, will work properly and efficiently.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced in the present claim.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

In a sewer system for houses and the like having base-

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ment drains and other drains above the basement and comprising an underground service sewer pipe interconnecting the basement drains and other household drains with a trunk sewer pipe remote from the basement, said service sewer pipe having a predetermined slope for gravity flow from the drains to the trunk sewer pipe, a pressure relief pipe connected into said service sewer pipe at a point spaced outwardly from the basement, the upper end of said relief pipe communicating with the ground surface outwardly of the house for relieving back-up pressure when such pressure builds up in the service sewer pipe for enabling discharge of material onto the ground surface instead of in the basement, said relief pipe including a reverse bend trap for forming a seal in the relief pipe, said relief pipe having a cross-sectional area at least equal to the cross-sectional area of the service sewer pipe to enable discharge of all material capable of backing up the service sewer pipe from the trunk sewer pipe, said service sewer pipe being provided

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with a check valve for closing the service sewer pipe in the event of back-up pressure existing in the service sewer pipe, said check valve being located between the drains and the relief pipe thereby assuring that all back-up pressure will be discharged from the relief pipe.

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