

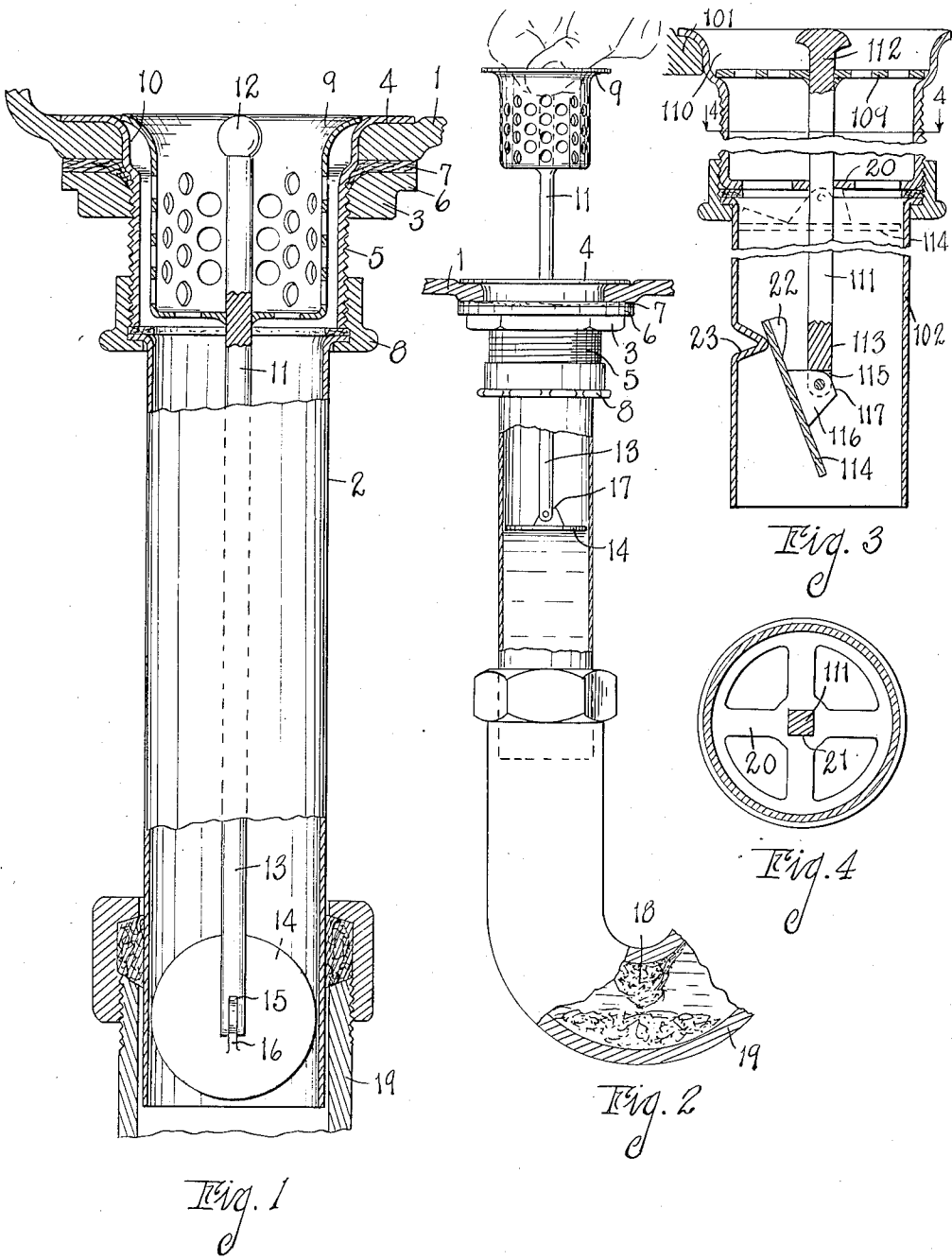
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APPARATUS FOR CLEANING DRAIN PIPES

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APPARATUS FOR CLEANING DRAIN PIPES

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3 Claims. (Cl. 4—286)

The objects of the invention are:

First, to provide a new and improved apparatus for cleaning drain pipes or traps on sinks or lavatories.

5 Second, to provide such a device in which a strainer and a new and improved type of plunger are combined to form a unitary device for straining the matter passing through the drain pipe and for agitating and removing any material that may
10 tend to clog the drain pipe or trap.

Third, to provide such a device in which my new and improved type of plunger is always at hand and available for use in cleaning a plugged or clogged trap or drain in a sink or lavatory.

15 Fourth, to provide a new and improved method of cleaning or removing clogging matter from drain pipes or traps.

Further objects and advantages pertaining to details and economies of construction and operation will appear from the description to follow. Preferred forms of my invention are illustrated in the accompanying drawing, in which:

Fig. 1 is a sectional view through my device in position for use of the drain.

25 Fig. 2 is a sectional view through the device showing the plunger in operation for cleaning away clogging material in the trap or drain pipe.

Fig. 3 is a sectional view of a modified form of my device.

30 Fig. 4 is a sectional view taken on line 4—4 of Fig. 3.

In the drawing, 1 represents the bottom of a sink or lavatory having a drain pipe 2 fastened thereto with the usual devices 3 comprising an upper flanged member 4 screw threaded at 5 to receive a clamp nut 6 having a washer 7 for sealing the drain to the bottom of the sink. The pipe 2 is fastened by means of a flanged nut 8 to the bottom of the threaded member 5. Within the
40 drain pipe opening I provide a concave or basket-like strainer 9 which is removably set or fitted in the drain opening 10. Extending through the strainer is a rod 11 having its upper end 12 extending into the concavity of the strainer to form
45 a handle for grasping as is shown in Fig. 2. The lower end of the rod extends into the drain pipe 2 and has at its lower end 13 a disk or plunger 14 which is pivotally fastened, the lower end 13 of the rod being split as at 15 to receive a member
50 16 projecting from the disk. The member 16 is formed with a stop 17 engaging the forked end 15 of the rod to hold the disk in a position transverse to the pipe as is shown in Fig. 2.

When the drain 14 is in use, the disk 14 is frictionally held in the position indicated in Fig. 1

so that it presents an edge to the flow of material through the drain to eliminate the possibility of clogging or the like. The disk is of such size that it will slidably fit in the drain pipe 2 but is provided with a clearance such that when water flows through the drain during the use of the disk as a plunger, the water will form a seal between the edges of the disk 14 and the walls of the pipe 2 to make the device an effective plunger.

When the drain is in use as is shown in Fig. 1, the disk is turned to a position with its edge presented to the flow through the drain pipe 2. When the device is used as a plunger, the disk is turned transverse of the drain pipe 2 as shown in Fig. 2 and the end 12 of the rod 11 is grasped in the hand as shown in Fig. 2 and the rod and the transversely arranged disk are reciprocated in the pipe 2 while water is run through the drain pipe 2. Sufficient water must be run through the pipe to form a seal between the edges of the disk and the pipe 2 and the reciprocation of the plunger disk agitates the clogged material which is here indicated at 18 to loosen the same and the water passing through the drain pipe 2 and the forcing action of the downward stroke of the plunger tends to force the clogging material through the trap 19 or the drain pipe 2 where it is carried away by the water.

In the form of the invention shown in Figs. 1 and 2, the disk is held in the position of either Fig. 1 or 2 by friction except that the stop 17 assists in holding the disk 14 transversely of the pipe as shown in Fig. 2 and explained above. In order to operate the device which in ordinary use of the sink is in the position shown in Fig. 1, the device must be removed from the drain and the disk 14 set by hand as shown in Fig. 2. It is then inserted in the pipe and water is allowed to run in the pipe as set forth herein and the device is worked up and down as explained. When the obstruction is removed, the device is removed from the drain and set by hand to the position shown in Fig. 1 and reinserted in the drain.

The modification of the invention shown in Figs. 3 and 4 is substantially similar. The drain pipe 102 is joined to the sink 101 in the conventional manner. A foraminous strainer 109 is removably fitted in the opening 110 and has a rod 111 passing therethrough. The rod in this particular modification of the invention is a squared rod which passes through a spider 20 having therein a square hole 21 to fit the rod and hold it in desired position to prevent turning of the rod. The upper end 112 of the rod serves as a handle and the lower end 113 has a disk 114

therein which is slotted at 115 to receive the member 116 having the stop 117 thereon which stops the disk when it is transverse to the drain pipe 102.

5 A weight 22 is provided on the edge of the disk 114 opposite from the stop 117 which weight tends to sink the disk 114 to the position shown in dotted lines in Fig. 3 when the rod 111 is raised to the position indicated by the dotted lines for loosening clogging material in the pipe 102 or in
10 the drain therebelow.

In order to present the edge of the disk 114 to material passing through the pipe 102, I provide a stop 23 which is merely formed by indenting the pipe as illustrated. This stop extends
15 into pipe 102 and engages the weighted side of the disk 114 to raise the disk to the position shown in the full lines in Fig. 3.

It will be appreciated that considerable modification of either of the devices shown can be made without departing from the spirit of my invention. I wish to claim the invention broadly as well as specifically as pointed out in the appended claims.

25 Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In combination, a sink drain having a drain pipe, a removable concave strainer fitted in said
30 drain with the concavity thereof extending downwardly into the drain pipe, a rod extending through the bottom of the strainer and having its upper end extending into the concavity and its

lower end extending below the strainer into the drain pipe, a disk mounted on the lower end of said rod and arranged to be adjusted to either present an edge to matter passing through the drain pipe or to lie transversely of said drain
5 pipe, said disk being of a diameter to slidably fit in said pipe with a clearance such that water flowing in the drain pipe will form a seal between the edges of the disk and the walls of the pipe.

2. In combination, a sink drain having a drain pipe, a removable strainer fitted in said drain, a rod extending therefrom with its lower end extending below the strainer into the drain pipe, a disk mounted on the lower end of said rod
10 and arranged to be adjusted to either present an edge to matter passing through the drain pipe or to lie transversely of said drain pipe, said disk being of a diameter to slidably fit in said pipe with a clearance such that water flowing in the drain pipe will form a seal between the edges
15 of the disk and the walls of the pipe.

3. In combination, a sink drain having a drain pipe, a removable strainer fitted in said drain, a rod extending below the strainer into the drain pipe, a disk mounted on the lower end of said rod
25 and arranged to be adjusted to either present an edge to matter passing through the drain pipe or to lie transversely of said drain pipe, said disk being of a diameter to slidably fit in said pipe with a clearance such that water flowing in the
30 drain pipe will form a seal between the edges of the disk and the walls of the pipe.

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