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DEVICE FOR CLEANING WASTE AND DRAIN PIPES

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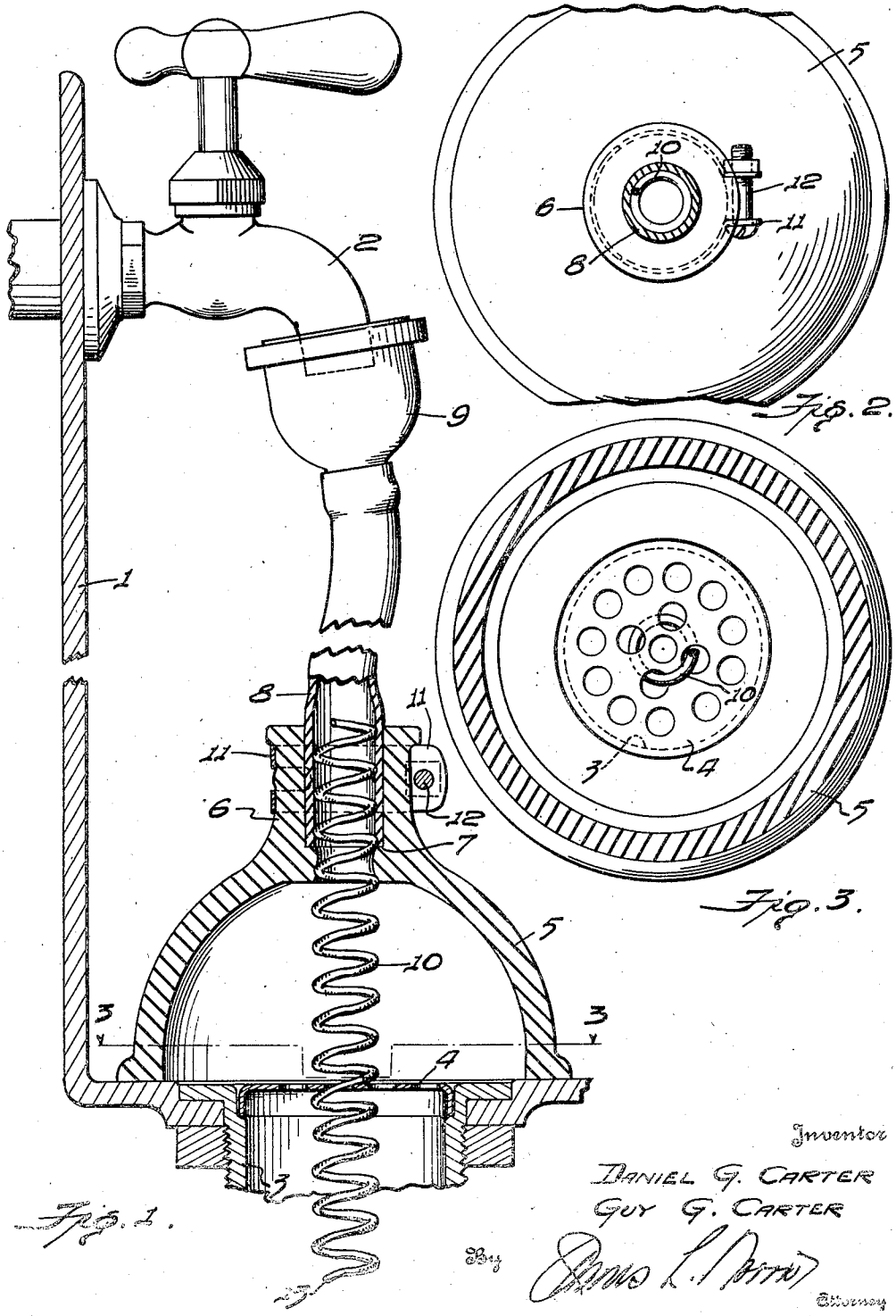


Fig. 1.

Fig. 2.

Fig. 3.

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DEVICE FOR CLEANING WASTE AND DRAIN PIPES

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This invention relates to a device for cleaning waste and drain pipes by flushing the same with a stream of water under pressure. More specifically the invention comprises a device for connecting a faucet of a sink, wash bowl or bathtub with the drain opening of the same so that the force of water may be utilized directly from the faucet to flush out or clean the drain line.

In the prior art, it has been proposed to attach various devices to drain openings and faucets for flushing purposes, but in all these prior proposals difficulties were encountered due either to faulty connecting means for engaging the drain opening with the dome cap or because they comprised a large number of parts in a complex structure, with the attendant improper functioning when one of the parts failed or got out of order.

By our invention the above disadvantages are avoided by providing a simple device with a small number of parts and having quick and positive connecting means for the dome cap and drain, all of which will be fully described hereinafter.

Figure 1 is a cross-sectional view of our device attached to the drain of a sink.

Figure 2 is a plan view of the dome shaped cap showing the clamp attached thereto.

Figure 3 is a section on line 3—3 of Figure 1.

Referring to the drawing, 1 designates a sink, 2 a faucet mounted on the back of the sink, and 3 the drain having a perforated strainer 4 therein. Our device for joining the faucet 2 and drain 3 comprises a dome-shaped cap 5 of rubber, leather or like material having an opening in the center of its top and a tubular portion 6 extending upwardly from said opening. The tubular portion 6 is preferably of larger internal diameter than said opening, thus forming a shoulder 7 above said opening. A hose 8, of substantially the same external diameter as the internal diameter of the tubular portion 6 and preferably of the same internal diameter as the diameter of the opening in the top of the dome-shaped cap, has one of its ends extending into said tubular portion with its extremity bearing against the shoulder 7. The other end of the hose 8 carries a member 9 for attachment to the outlet of a faucet 2. A helix 10, formed of any suitable material, such as spring wire, of which the external diameter is substantially the same as the diameter of the opening in the top of the dome-shaped cap 5 and the internal diameter of the hose 8, has its upper end extending through said opening into the lower end of the hose 8. Clamping means, such as a hose clamp 11 and bolt 12, surrounds the tubular portion 6 and compresses said tubular portion around the end of the hose 8 and the upper end of the helix 10 within the lower end of the hose. Thus not only is a water-tight joint formed between the hose 8 and the dome-shaped cap 5 but the upper end of the helix 10 is secured against rotation in said cap. The lower end 13 of the helix projects below the lower end of the dome-shaped cap 5.

The method of applying our device and its operation is as follows:

The end 13 of the helix member 10 is inserted in one of the perforations of drain screen 4 and the entire device is rotated with a downward screwing motion until the dome-shaped cap 5 is in firm engagement with the sink bottom due to the pull exerted by the helix upon the drain screen 4. The faucet connection 9 is now attached to the faucet 2 and the device is in operative position. The water is turned on and the full pressure thereof is communicated thru our device into the drain, thus resulting in a flushing and cleaning of the same.

An important feature of our invention resides in the clamping together of hose pipe 8, helix 10 and tubular extension 6. This permits the water stream to go directly downward into the drain and also is an effective arrangement for the firm engagement of hose, cap, and helix, as the clamping pressure is applied thru the hose onto the helix.

It will be understood that the drain opening may have within the same a strainer formed of cross-bars instead of the perforated member 4, and we intend the appended claims to be construed broadly to cover any straining means which may occur in the drain opening to which our device is attached.

What we claim is:

1. A drain pipe cleaner, comprising a dome-shaped member of flexible material having an opening in its top substantially concentric therewith, a hose having one of its ends connected to said opening, and a helix having its upper end secured against rotation in said opening and its lower end projecting beyond the lower end of said dome-shaped member for engagement with the drain screen of a sink, said helix being operative, when said dome-shaped cap is axially rotated to compress the open end of said dome-shaped member against the sink around the drain screen.

2. A drain pipe cleaner according to claim 1, wherein the opening in the top of the dome-shaped member is of substantially the same diameter as the external diameter of the helix and has an extension of larger internal diameter than said opening in which extension the end of the hose extends, and the upper end of the helix extends through said opening into the end of the hose, and wherein means encircles said extension and secures the end of the hose, the extension and the upper end of the helix together.

In testimony whereof we have hereunto set our hands.

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