April 2, 1940. A. A. SCHUBRING 2,195,830

DRAIN CLEANER

Filed Jan. 23, 1939

Fig. 1.

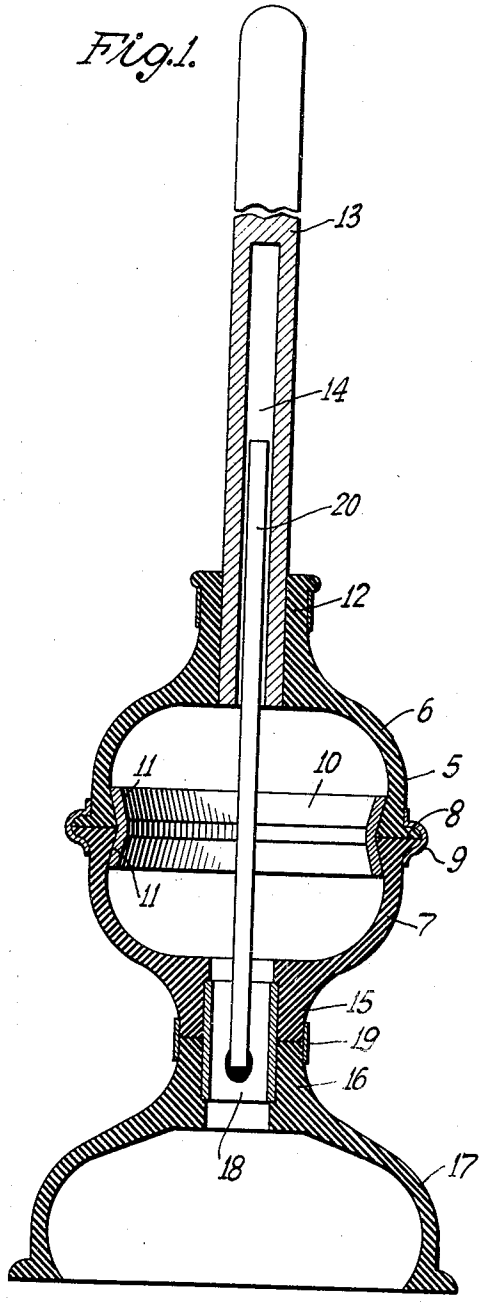
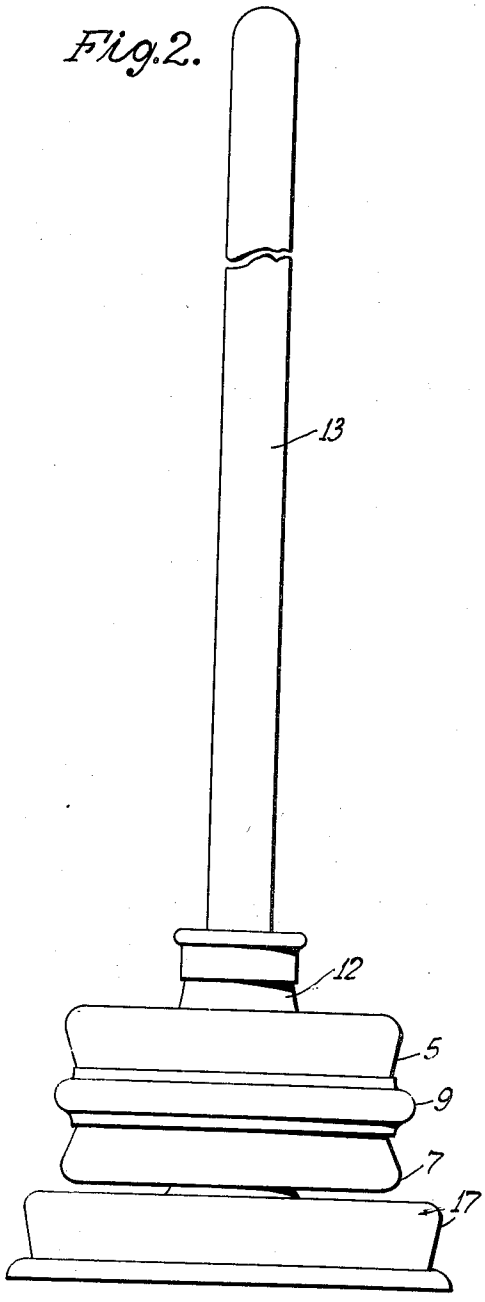


Fig. 2.



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DRAIN CLEANER

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Application January 23, 1939, Serial No. 252,308

4 Claims. (Cl. 4—255)

This invention relates to apparatus for relieving stoppage in drain pipes or the like.

One of the main objects of the invention is to provide a simple, hand-operated device which is capable of relieving virtually any degree of stoppage commonly met with in drain pipes.

Another object is to provide a drain cleaner which may be constructed of readily available materials.

Further objects will in part appear or will in part be pointed out in the course of the following description of one embodiment of the invention, which is given as a non-limiting example in connection with the accompanying drawing, in which:

Figure 1 is a vertical section of a device constructed in accordance with the invention, showing the same in normal position; and

Figure 2 is a side elevation showing the same device in collapsed position.

The main part of the apparatus of the invention comprises substantially spherical body 5 of resilient material, which may conveniently be composed of a pair of rubber force cups 6 and 7, which are cemented or otherwise securely joined together at their rims 8. This joint is strengthened on the outside by a suitable binding 9, which may preferably be of spun metal. The whole construction is reinforced on the inside by a light metal member such as V-pulley 10 of aluminum or similar material, to which force cups 6 and 7 are cemented at 11.

Hub 12 of force cup 6 is provided with a handle member 13, which is preferably made of wood and is secured in the force cup by cement or any other suitable connection. Handle 13 is provided with an axial bore 14 whose purpose will be described hereinafter.

To hub 15 of force cup 7 is secured hub 16 of a third force cup 17. This connection may conveniently be made by cementing hubs 15 and 16 to a short metal fitting 18 which also serves to put the inside of force cup 17 into communication with the interior of body 5. This joint is preferably strengthened by a suitable metal collar 19.

The operation of the device will be obvious from the above description. Force cup 17 is placed over the drain to be cleaned, and the device is collapsed by downward pressure on handle 13, as shown in Fig. 2. Handle 13 is then pulled in the opposite direction, and the resulting suction created by the expansion of the device to normal shape tends to dislodge whatever material is clogging the drain. In order to maintain the alignment of the device and prevent sidewise displacement thereof, a metal rod 20 is secured by one end in fitting 18. Its other end fits loosely in bore 14 of handle 13 and telescopes therewith when the device is collapsed.

The described device has many advantages over anything heretofore available. It is in some respects similar to that shown in my co-pending application, Serial No. 211,331, filed June 2, 1938, which device, however, is designed to be used for heavy duty in conjunction with the aid of running water. The present invention is intended more for lighter use as in the home. Since it is made of relatively light materials, it requires little force to operate it yet is capable of creating extremely powerful suction.

It is, of course, within the scope of the invention to make body 5 of a single piece, but the molding of such a single piece would be difficult if not impossible. For that reason, the illustrated construction is preferable in that it provides means for accomplishing the desired purposes with simple and readily obtainable material.

Since certain changes in carrying out the above process, and certain modifications in the article which embody the invention may be made without departing from its scope, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

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

1. A drain cleaner, comprising in combination, a hollow body of resilient material, a collapsible force cup secured to said body, the inside of said force cup and inside of said body being in communication, closed handle means for said cleaner, and reinforcing means within said body for preventing sidewise displacement thereof.

2. A drain cleaner, comprising in combination, a hollow body of resilient material, closed handle means secured to said body and provided with an axial bore extending through part of its length, a collapsible force cup secured to said body at a point opposite said handle means and communicating with the interior of said body, and a rigid member mounted within said body and adapted to telescope into the bore in said handle

means, thus preventing sidewise displacement of said body.

3. A drain cleaner, comprising in combination, a pair of rubber force cups secured together at their rims to form a hollow body, closed handle means secured to the hub of one of said force cups, and a third force cup secured at its hub to the hub of the other of said pair, said third force cup being in communication with the interior of said hollow body, and reinforcing means within said body for preventing sidewise displacement thereof.

4. A drain cleaner, comprising in combination, a pair of rubber force cups secured together at their rims to form a hollow body, closed handle means secured to the hub of one of said force cups, and provided with an axial bore extending through part of its length, and a third force cup secured at its hub to the hub of the other of said pair, said third force cup being in communication with the interior of said hollow body, and a rigid member mounted within said body and adapted to telescope into the bore in said handle means, thus preventing sidewise displacement of said body.

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