Aug. 9, 1938. A. POULIOT 2,126,689

SUCTION PLUNGER

Filed Nov. 11, 1936

Fig. 1

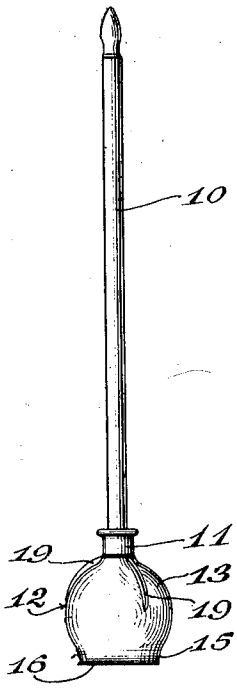


Fig. 2

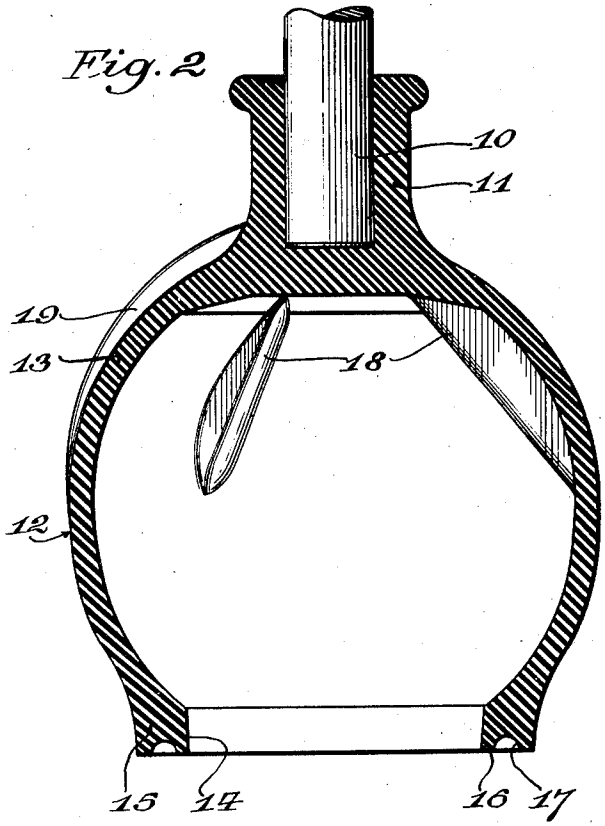
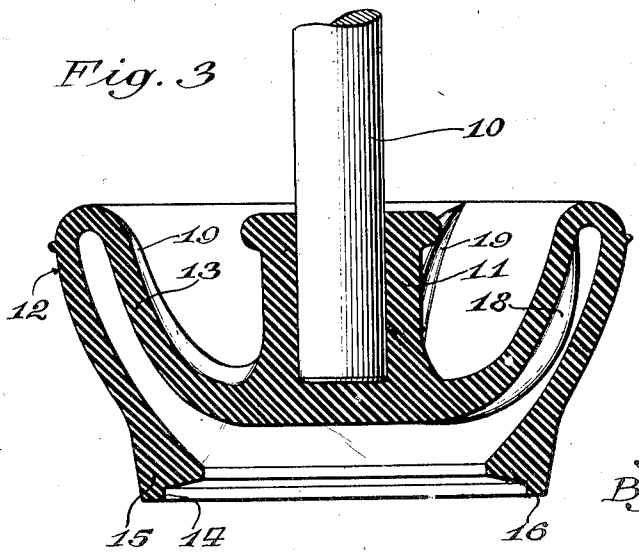


Fig. 3



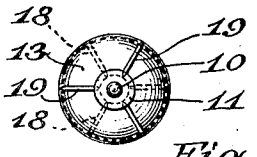


Fig. 4

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SUCTION PLUNGER

Alex Pouliot, Chicago, Ill.

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4 Claims. (Cl. 4—255)

This invention relates to a suction plunger of the type normally used for clearing drains and has for its principal object to provide a simple and effective plunger which can be easily and economically made.

A further object of the invention is to provide a plunger which will not turn inside out during normal use.

A further object of the invention is to provide a plunger which has a suction edge adapted to cause the plunger to adhere to a flat surface, such as the portion of a sink surrounding the drain opening, during normal use.

A further object of the invention is to provide a plunger cup reinforced to increase its suction effect.

The invention will readily be understood from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawing, in which:

Figure 1 is an elevation of a plunger embodying my invention;

Fig. 2 is a longitudinal sectional view, on a larger scale, through the plunger cup;

Fig. 3 is a longitudinal sectional view, showing another embodiment of my invention with the cup in distorted condition, and

Fig. 4 is a plan view of the plunger.

Referring to Figs. 1 and 2 of the drawing, the reference numeral 10 designates a handle which is inserted into the upper socket portion 11 of the plunger cup 12. The plunger cup is suitably formed of rubber and it comprises a substantially globular body portion 13 which is integral with the socket portion 11. The globular body 13 is provided at its lower end with an opening 14 which is defined by a stout annular rib 15. The anular rib has a substantially flat lower face 16 which is provided with an annular groove 17.

The upper half of the globular body is reinforced by ribs 18 and 19 which are integral with the body 13. As best seen in Fig. 2, these ribs terminate approximately at the equator of the globular body 13. The inner ribs 18 extend in chord-like fashion within the globular body from approximately the equator to a position near the socket portion 11. As best seen in Fig. 4, the inner ribs 18 and the outer ribs 19 are located alternately and symmetrically around the body so that the reinforcing effect is distributed around the whole upper surface of the globular body 13.

The suction plunger is used in the ordinary way. It may, for example, be inserted into the outlet of a toilet bowl so that the annular rim 15 on the adjacent portion of the globular body makes a sealing relation with the outlet. The handle 10 is then reciprocated rapidly in the longitudinal direction to apply suction and pulsations to the conduit connected to the outlet. When the plunger is used to clean a sink it is applied to the flat portion of the sink around the drain outlet and the handle 10 is reciprocated rapidly in the usual manner. Owing to the stout rib 15, the cup cannot turn inside out. As will be best seen in Fig. 3, the upper part of the globular body is forced into the lower part of the body, during normal use. On the return stroke the ribs 18 and 19 aid materially in causing the rapid return of the globular body to its initial globular condition, thus accentuating the degree of suction created by the cup.

The groove 17 is particularly advantageous when using the plunger to clean the drain of a sink. When it is applied to a plain surface, the downward pressure applied to the handle 10 tends to flatten the rib 15, with the result that the groove 17 acquires a vacuum cup effect holding the edge 15 anchored to some extent to the flat surface of the sink. The groove 17 may be omitted if desired, as shown in Fig. 3.

Although the invention has been disclosed in connection with the specific details of a preferred embodiment thereof, it must be understood that such details are not intended to be limitative of the invention except in so far as set forth in the accompanying claims.

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

1. A suction plunger comprising a globular body of flexible material having a handle receiving socket at one end and an opening at the other end, and a stout lip of smaller diameter than the globular body surrounding the opening having a flat outwardly directed surface provided with an annular groove.

2. A suction plunger comprising a globular body portion of flexible material having a handle receiving socket at one end and an opening at the other end, and exterior reinforcing ribs integral with the body portion extending from the socket portion substantially to the equator of the globular body.

3. A suction plunger comprising a globular body of flexible material provided at one end with a handle receiving socket and at the other end with an opening, a sealing lip around said opening having a flat surface provided with an annular groove, and reinforcing ribs on the exterior of the upper part of the body and on the in-

terior of the upper part of the body, said ribs extending from the socket portion substantially to the equator of the globular body.

4. A suction plunger comprising a globular body of flexible material provided at one end with a handle receiving socket and at the other end with an opening, a stout sealing lip around said opening having a flat surface provided with an annular groove, and reinforcing ribs on the exterior of the upper part of the body and on the interior of the upper part of the body, said ribs extending from the socket portion substantially to the equator of the globular body, being located alternately inside and outside the body, and being distributed symmetrically around the body.

ALEX POULIOT.