

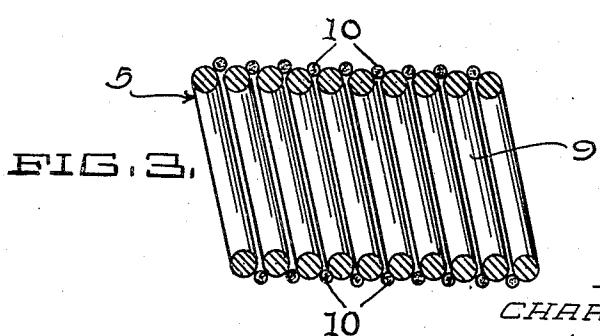
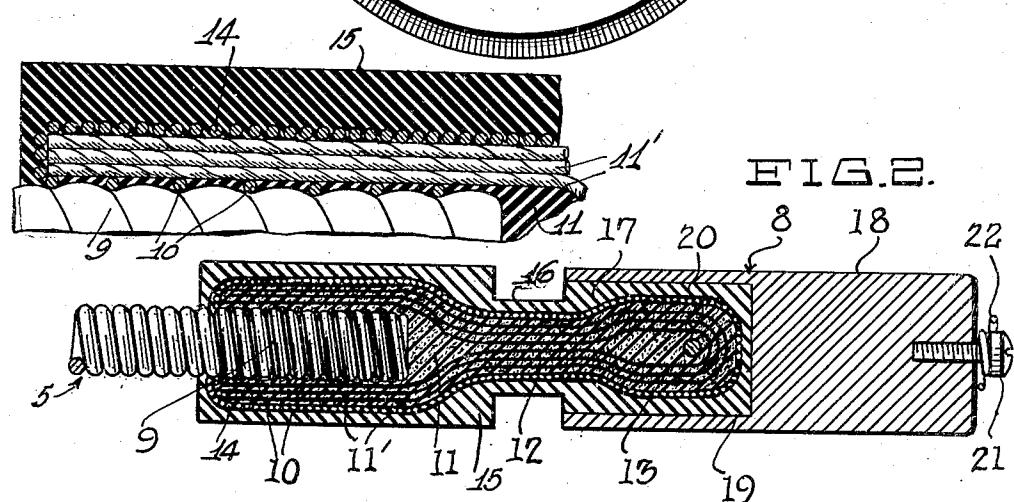
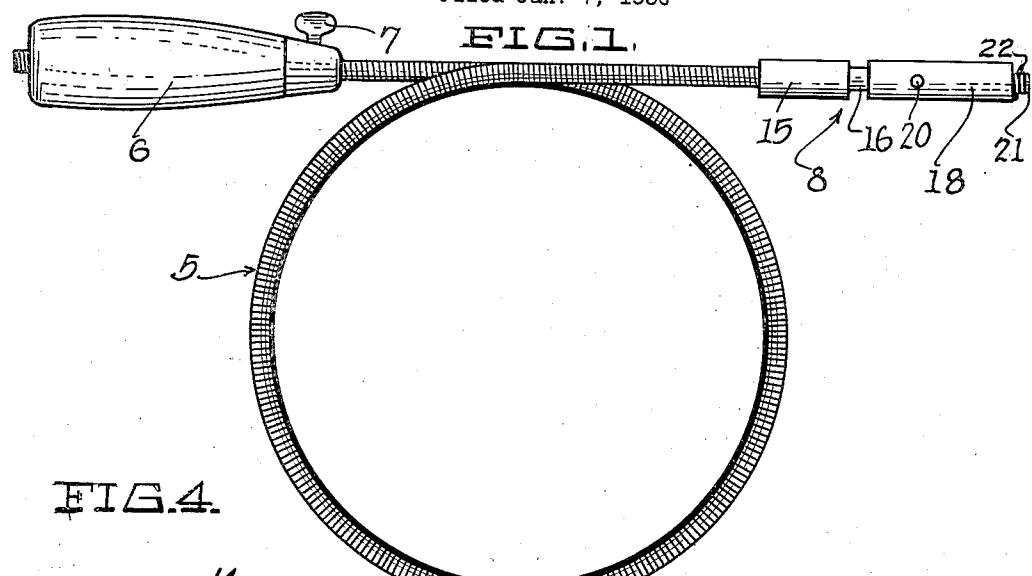
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2,139,702

## PLUMBER'S APPLIANCE

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## UNITED STATES PATENT OFFICE

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## PLUMBER'S APPLIANCE

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2 Claims. (Cl. 287—85)

The present invention relates to improvements in plumbers' appliances, and has particular reference to flexible pipe cleaning tools particularly adapted to the cleaning of clogged plumbing fixtures such as sink and toilet traps, waste pipes and the like.

The principal object of the invention is to provide a flexible cleaning tool that embodies a coiled spring cable having a weighted cleaning element secured to one end thereof in such a manner that said element may easily negotiate turns and bends in pipe fixtures and that will effectively dislodge foreign or waste matter therefrom.

Another object of the invention is to provide a cleaning tool of this class that embodies a weighted end section of steel or like metal having means for flexibly securing the end of the cable thereto in such a manner that the joint between the cable end and weight allows the weight to readily turn or twist at any angle relative to the cable during the cleaning operation.

A further object of the invention is to provide a tool of the class set forth that embodies a weighted flexibly attached end section which will positively grip the cable end through the medium of a vulcanized cable gripping member capable of flexing at any angle relative thereto.

A still further object of the invention is to provide a plumbers' pipe cleaning tool that is simple in construction, is positive in action and that will last indefinitely due to the resilient character of its makeup.

Other objects and advantages will be apparent during the course of the following description. In the accompanying drawing, forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Fig. 1 is a side view of an ordinary plumbers' pipe cleaning cable showing the improved weighted cleaning attachment mounted on one end thereof;

Fig. 2 is a greatly enlarged longitudinal section of the weighted end section of the device showing the method of attaching the same to the cable end; and

Fig. 3 is a sectional detail of one end of the cable and illustrating the method of winding cord about the convolutions of the cable in attaching the weighted end section thereto.

Figure 4 is an enlarged sectional detail further illustrating the various layers of cord, fabric, gum rubber and hard rubber surrounding the end of the cable.

I am aware of the fact that flexible cleaning

cables for plumbers' use are readily obtainable on the market and that various appliances have been attached to these cables for pipe cleaning purposes but to my knowledge no flexible weighted member has been applied to these cables in the form of a vulcanized rubber connection as accomplished in the manner hereinafter set forth.

The invention contemplates the use of a coiled spring cable 5 of the usual character having an operating handle 6 adjustably secured on one end thereof by means of a set screw 7.

My improved cleaning member 8 is shown mounted on the free end of the cable 5 and is assembled as follows.

The convolutions of the cable end 9 are first pulled slightly apart and then wound with cord 10. A layer of gum rubber 11 is then applied about the wound cord and the cable end 9. Cords 11' as used in cord tires are then applied lengthwise over the end of the cable 9, cord 10 and gum rubber, past the end of the cable up to and around the pin 20, then back to and over the end of the cable 9, thus forming a neck section 12 and a head section 13. When this cord has been built up to the desired size the whole end is wrapped transversely with a single strand of cord 14 running in the opposite direction or in the same direction as the convolutions of the cable. The whole is then covered with a thin layer of gum rubber as hereinafter set forth.

This core consisting of gum rubber and cords is then enveloped in rubber of a harder texture such as tread rubber and embodies the core enveloping sections 15, 16, and 17, the core 11 and the enveloping sections being then placed in a mold and the whole vulcanized together as a unit.

A weighted member 18 having a bore 19 is fitted over the end 17 of the flexible connection and a pin 20 is driven through the member 18, section 17 and core head 13, which pin securely holds this weighted member in place on said flexible connection.

A headed screw 21 may be tapped into the end of member 18 to hold a spring element 22 in place, said element tending to grasp hair, lint and like particles as the tool is agitated or rotated in the pipes.

It is obvious that a tool of this character will be highly efficient in cleaning drains, sewer pipes and the like in that the weight 18 will tend to draw the cable through the pipe and that the section 16 thereof will readily flex to allow the weighted end to assume any angle relative to

the cable end as in passing into T's, L's, and like angular pipe fittings.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes relative to the material, size, shape and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

10 Having thus described my invention, I claim:—

1. A plumber's appliance including a flexible cable and a weighted head, a flexible connection between the head and cable embodying a cord

wound reinforced core of gum rubber and an enveloping section of rubber of a harder texture.

2. A plumber's tool of the class described including a flexible steel cable and a weighted head, a flexible connection between the head and cable and comprising, a cord winding arranged about the cable end, a cord reinforced and vulcanized rubber core enveloping the wound cable end, a cord winding arranged about said core, and an outer section of vulcanized rubber of a harder 10 texture enveloping said bore and said core winding and projecting into said weighted head.

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