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D. J. ROSENSTEEL

TUBE CLEANER

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Fig. 1.

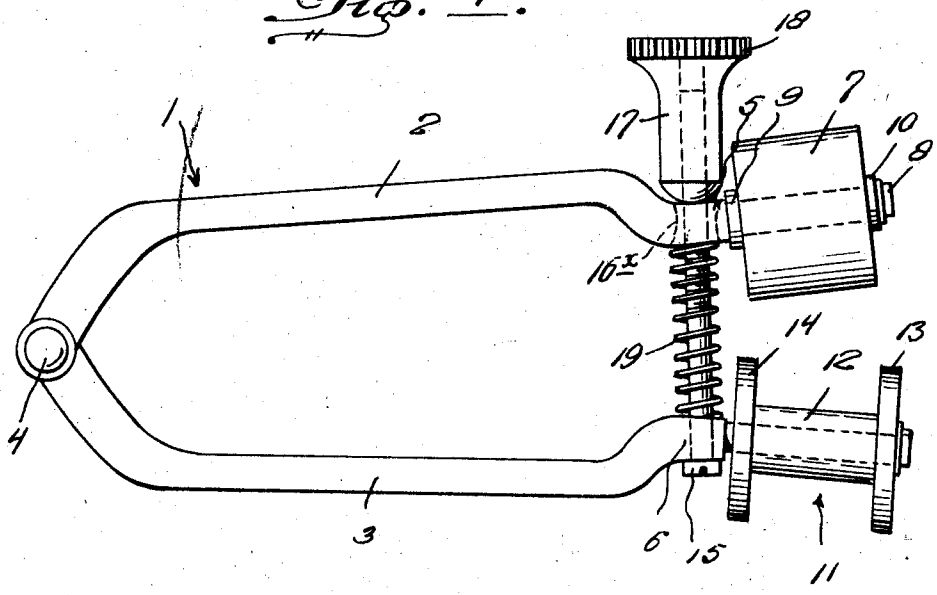
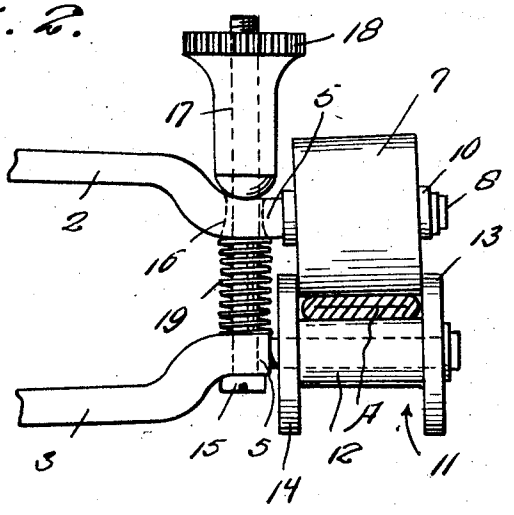


Fig. 2.



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TUBE CLEANER.

Application filed April 11, 1928. Serial No. 269,157.

The present invention relates to improvements in tube cleaners and has reference more particularly to a device for use by undertakers and surgeons for cleaning rubber tubing used for draining purposes.

One of the important objects of the present invention is to provide a tube cleaner of the above mentioned character, which will, at all times, be positive and efficient in its operation, the same being simple in construction, inexpensive, strong and durable and well adapted to the purpose for which it is designed.

Other objects of the invention will become apparent during the course of the following detailed description taken in connection with the accompanying drawing.

In the drawing, wherein for the purpose of illustration is shown the preferred embodiment of my invention,

Figure 1 is a side elevation of the tube cleaner embodying my invention, showing the same in an inoperative position, and

Figure 2 is a similar view showing the co-acting rollers in an operative position, the inner ends of the levers being broken away.

In the drawing, wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 1 designates generally my improved tube cleaner, the same comprising upper and lower co-acting levers or handles designated by the numerals 2 and 3 respectively. The inner ends of these levers are curved inwardly and are hingedly secured together as at 4, whereby said levers are capable of vertical swinging movement.

The outer ends of the levers are bent inwardly and thence laterally to form a pair of parallel spaced arms 5 and 6 respectively when the same are arranged in inoperative position.

A male roller 7 is loosely mounted on the outer end of the arm 5, for rotation thereon, a cap screw 8 being associated with the outer end of the arm for securing the roller against displacement from the arm, and a flange or shoulder 9 is formed on the intermediate portion of the arm for engagement with the inner end of the roller. A washer 10 is interposed between the outer end of the roller and cap screw, as further shown in Figure 1.

Cooperating with the male roller 7 is the female roller designated generally by the numeral 11, the same including the drum 12 that is loosely mounted on the outer end portion of the arm 6 that is associated with the lever 3 and the cap screw and washer is associated with the outer end of the arm to retain the female roller thereon.

A pair of discs 13 and 14 are formed on the outer and inner ends of the drum 12 whereby a spool like structure is provided, and the male roller 7 is adapted for disposition between the discs for engagement with the drum.

A bolt 15 extends upwardly through an opening formed in the inner end portion of the arm 6 and the adjacent portion of the arm 5 is formed with a slot 16, through which the threaded upper end of the bolt 15 projects. A sleeve like adjusting nut 17 is threaded on the upper threaded end of the bolt for engagement with the upper face of the arm 5 and the lower end of this sleeve like adjusting nut is rounded, while the upper end is formed with a knurled finger engaging portion 18, to facilitate the actuation of the adjusting nut.

An expansible coil spring 19 encircles the bolt 15 as disposed between the arms 5 and 6 for normally urging said arms apart, and to separate the male roller with respect to the female roller.

When the parts are arranged as shown in Figure 2, a rubber tube A is engaged on the under side by the drum 12 of the female roller 11, while the male roller 7 engages the top portion of the rubber tube and when the levers moved inwardly toward each other, a pressure is exerted on the rubber tube and the male roller is held in an operative position with respect to the female roller, by means of the adjusting nut 17 cooperating with the threaded end of the bolt 15 against the tension of the expansible coil spring 19.

When the parts are arranged as shown in Figure 2, the implement can be moved along the rubber tubing for cleaning the same, and after the complementary rollers have served their purpose, the rubber tubing may be removed and the rollers moved to an inoperative position by loosening the sleeve on the threaded end of the bolt and the expansible coil spring 19 will automatically move the pivoted levers in an outward direction.

The simplicity of my improved tool enables the same to be readily and easily actuated and furthermore can be constructed at a very low cost.

While I have shown the preferred embodiment of my invention, it is to be understood that various changes in the size, shape, and arrangement of parts may be resorted to, without departing from the spirit of the invention and the scope of the appended claims.

What is claimed is:

1. In a tube cleaner of the class described, a pair of levers pivotally connected together at their inner ends, the outer end of each lever being bent to form an outwardly extending arm, a female roller loosely mounted on the outer end portion of one arm, a complementary male roller loosely mounted on the outer end of the other arm, means extending between the inner ends of said arms for securing the male and female rollers in an operative position with respect to a rubber tube, and additional means cooperating with the first mentioned means for normally urging the arms apart, to dispose the male and female rollers in an inoperative position.

2. In a tube cleaner of the class described, a pair of levers pivotally connected together at their inner ends, the outer end of each lever being bent to form an outwardly extending arm, a female roller loosely mounted on the outer end portion of one arm, a complementary male roller loosely mounted on the outer end of the other arm, means extending between the inner ends of said arms for securing the male and female rollers in an operative position with respect to a rubber tube, and additional means cooperating with the first mentioned means for normally urging the arms apart, to dispose the male and female rollers in an inoperative position, said means comprising a bolt extending through an opening formed in the inner end of one arm, the inner end portion of the other arm being formed with a slot through which the free end of the bolt extends, and a manually operable adjusting nut threaded on the outer free end of the bolt for engagement with the outer face of the slotted arm.

3. In a device of the class described, a pair of levers pivotally secured together at their inner ends for swinging movement, the outer end of each lever being formed with an outwardly extending arm, a male roller loosely mounted for rotation on the outer end of one arm, a complementary female roller loosely mounted for rotation on the outer end of the other arm, a bolt extending through the inner end of one arm, the head of the bolt engaging the outer face of said arm, the inner end of the other arm being formed with a slot through which the threaded end of the bolt projects, an adjusting nut threaded on the threaded end of the bolt for engagement with the outer face of the slotted arm to hold the rollers in an operative position with respect to each other, and an expansible coil spring encircling the bolt and disposed between said arms for normally urging the same outwardly in opposite directions to dispose the rollers in an inoperative position.

In testimony whereof I affix my signature.

DUKE J. ROSENSTEEL.