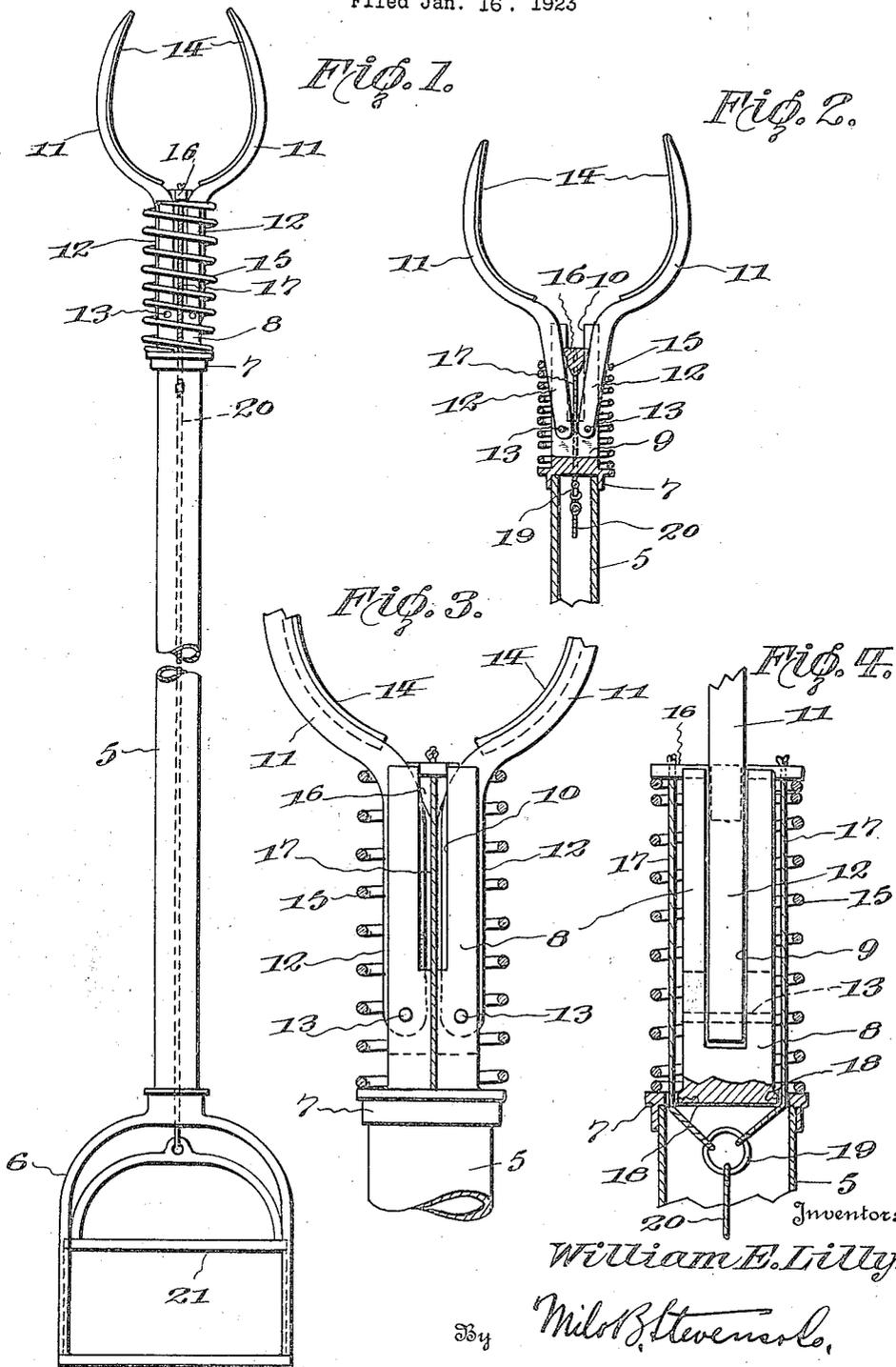


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W. E. LILLY
GRIPPING DEVICE

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UNITED STATES PATENT OFFICE.

WILLIAM E. LILLY, OF LILLYBROOK, WEST VIRGINIA.

GRIPPING DEVICE.

Application filed January 16, 1923. Serial No. 612,990.

To all whom it may concern:

Be it known that I, WILLIAM E. LILLY, a citizen of the United States, residing at Lillybrook, in the county of Raleigh and State of West Virginia, have invented new and useful Improvements in Gripping Devices, of which the following is a specification.

This invention relates to devices for handling or manipulating articles, and more particularly to devices of this kind consisting of a pole having its outer end provided with jaws for grasping the article or object. The device has been designed especially for placing or removing electric-light bulbs, but it is not limited to such use, but may, with equal facility, be employed for handling or manipulating various other articles or objects.

It is the purpose of the invention to provide a device of the character stated embodying certain novel and improved features of construction to be described in detail hereinafter, and in order that the same may be better understood, reference is had to the accompanying drawing, wherein—

Figure 1 is an elevation of the device; Fig. 2 is a sectional detail of the jaw-end of the device, with the jaws shown open; Fig. 3 is an elevation of the jaw-end of the device, with the jaws shown closed and partly broken away, and Fig. 4 is an elevation, partly in section, showing an edge view of one of the jaws.

Referring specifically to the drawing, 5 denotes a pole of suitable length which is tubular, and has its inner end fitted with a hand grip 6. To the outer end of the pole 5 is secured a cap 7 from which extends forwardly a short stem 8 having two slots 9 and 10, respectively, which intersect each other at right angles. The stem 8 pivotally supports the jaws 11 of the device, the same having their inner ends 12 seating loosely in the slots 9 and pivoted by means of cross pins 13 or the like. Two jaws are provided and their outer portions are curved to properly fit over the electric-light bulb to be manipulated. The jaws also have a facing 14 of rubber or other soft material to prevent injury to the bulb and also to obtain a better grip thereon.

The stem 8 is surrounded by a helical spring 15 seating at its inner end against

the cap 7. This spring also surrounds the pivoted or inner ends 12 of the jaws 11, and tends to normally hold said jaws in closed position as shown in Fig. 1, and before the jaws can open it will be necessary to compress the spring as shown in Fig. 2.

In order to compress the spring 15 to permit opening of the jaws 11, there is slidably mounted in the slot 10, a cross bar 16 which is enlarged and wedge-shaped intermediate its ends, this portion of the cross bar being positioned to come between the jaw ends 12 to spread the same as shown in Fig. 2, when the cross bar is drawn inwardly or rearwardly.

The end portions of the cross bar 16 seat slidably in the slot 10, and to said end portions are connected cords or other flexible pulling elements 17 which pass rearwardly through the coil 15 and into the pole 5 by the way of apertures 18 in the cap 7. Inside the pole 5, the elements 17 are connected to a ring 19, and to the latter is connected a pull line 20 extending through the interior of the pole to the handle 6, where it is connected to a handle 21 which is slidably supported by the hand grip 6.

The outer or gripping portions 11 of the jaws are curved outwardly from the inner portions 12, which latter are straight, and when the jaws are closed, said inner portions are parallel and seat in the slots 9. The spring 15 surrounding the jaw ends 12 prevents the same from spreading, and hence, the jaws are held normally closed. To open the jaws, it is necessary only to grasp the handle 21 and exert a pull on the line 20, whereupon, through the connections 19 and 17, the cross bar 16 enters between the jaw ends 12 and by its pressure against the outer end of the spring 15, the same is compressed to permit said jaw ends to swing laterally out of the slots 9 and thus spread the jaw ends 11 sufficiently to enable them to be placed over the bulb or other article to be grasped. Upon releasing the handle 21, the spring 15 expands and pushes against the outer edge of the jaw ends 12, thereby moving the same in a direction to again close up and thus causing the jaw ends 11 to firmly grip the bulb or other article. The device is therefore easy to operate, and it effectually serves the purpose for which it has been designed. The cross bar 16 in

addition to the function previously recited, also limits movement of the jaws toward each other.

I claim:

5 1. A gripping device comprising a pole, pivoted jaws at the outer end of the pole, a helical spring surrounding the jaws at their inner ends for holding the same closed, a cross bar positioned to enter between the
10 inner ends of the jaws and to engage the spring for compressing the same to permit opening of the jaws, and means for operating said cross bar.

15 2. A gripping device comprising a pole, pivoted jaws at the outer end of the pole, a helical spring surrounding the jaws at their inner ends for holding the same closed, means engageable with the spring for compressing the same to permit opening of the
20 jaws, an actuator for said means terminating at the inner end of the pole, said pole being hollow and the actuator passing there-through.

25 3. A gripping device comprising a pole, a cap mounted on the outer end of the pole and provided with a stem having intersecting slots, jaws having their inner ends extending into one of the slots and pivotally

supported, a cross bar slidably supported in the other slot to enter between the inner
30 ends of the jaws, a helical spring surrounding the stem and the inner ends of the jaws, the outer end of said spring being engageable by the cross-bar, and means for sliding the cross bar in a direction to compress the
35 spring.

4. A gripping device comprising a pole, a cap mounted on the outer end of the pole and provided with a stem having intersecting slots, jaws having their inner ends
40 extending into one of the slots and pivotally supported, a cross bar slidably supported in the other slot to enter between the inner ends of the jaws, a helical spring surrounding the stem and the inner ends of the jaws,
45 the outer end of said spring being engageable by the cross-bar, a pulling means connected to the cross bar for sliding the same in a direction to compress the spring, said pulling means having a portion which passes
50 through the pole, said pole being hollow, and means at the rear end of the pole for actuating said pulling means.

In testimony whereof I affix my signature.

WILLIAM E. LILLY.