March 25, 1924.

1,487,745

A. KRAFFT ET AL

CLEANING TOOL FOR ELECTRIC FIXTURES

Filed Dec. 1. 1921 2 Sheets-Sheet 1

Fig. 1.

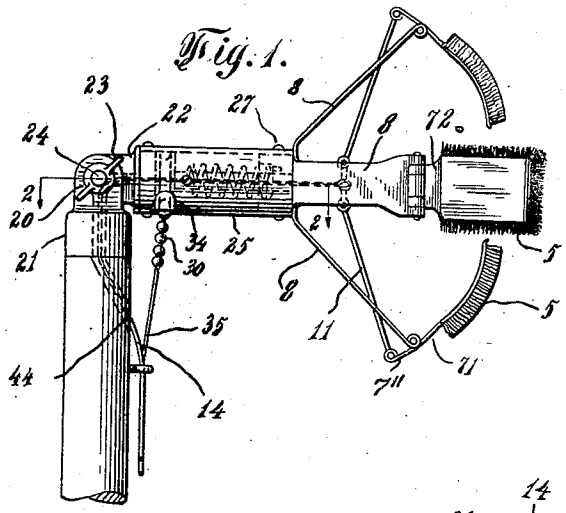
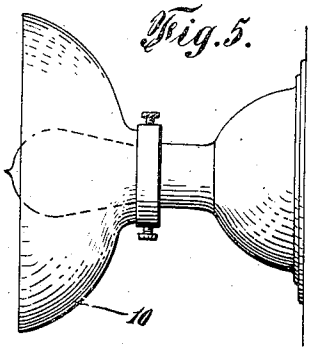


Fig. 5.



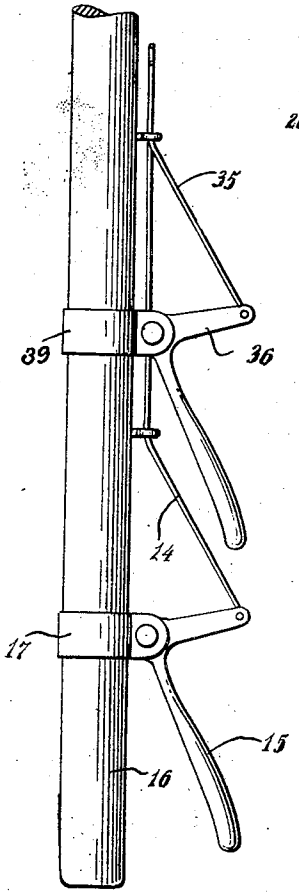


Fig. 2.

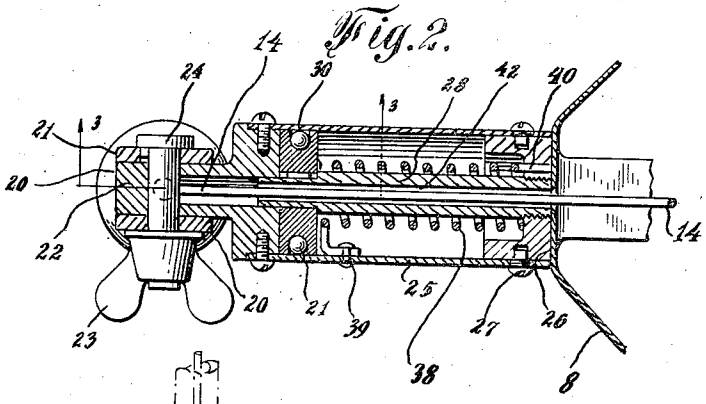


Fig. 3.

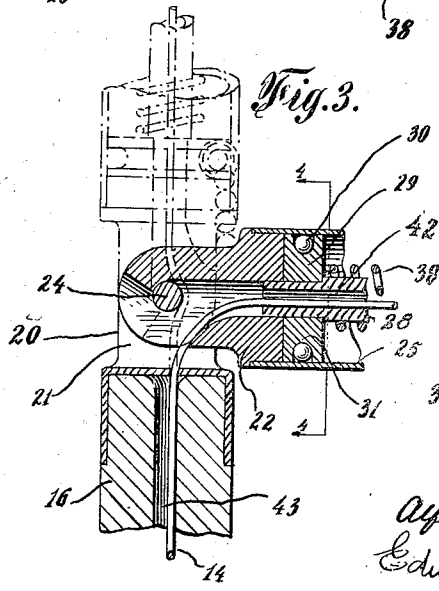
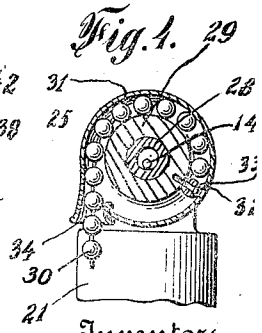


Fig. 4.



Inventors

Alfred Krafft

Edward Peotter

March 25, 1924. 1,487,745

A. KRAFFT ET AL

CLEANING TOOL FOR ELECTRIC FIXTURES

Filed Dec. 1, 1921 2 Sheets-Sheet 2

Fig. 6.

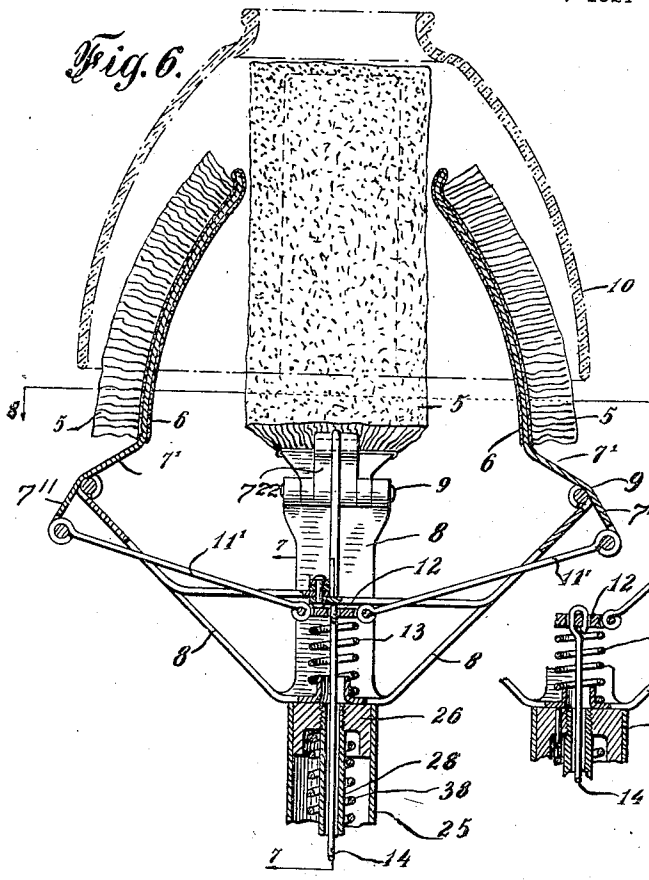


Fig. 7.

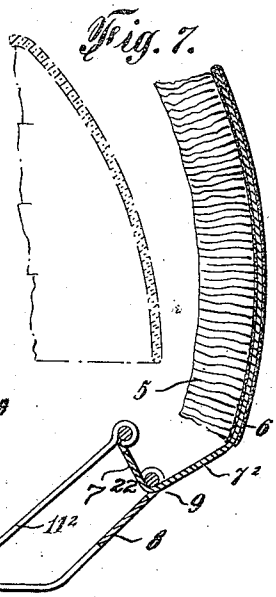


Fig. 9.

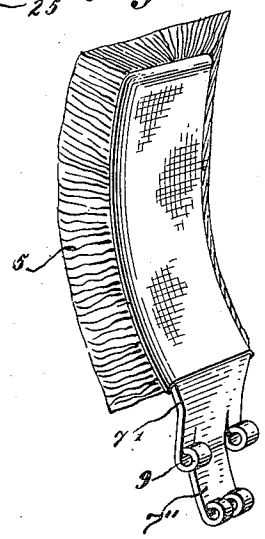
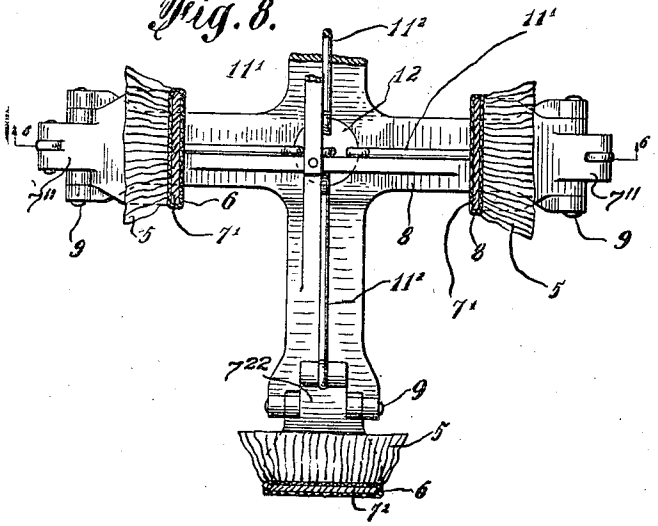


Fig. 8.



Inventors
Alfred Krafft,
Edward Scott

Patented Mar. 25, 1924. 1,487,745

UNITED STATES PATENT OFFICE.

ALFRED KRAFFT AND EDWARD SCOTT, OF BROOKLYN, NEW YORK.

CLEANING TOOL FOR ELECTRIC FIXTURES.

Application filed December 1, 1921. Serial No. 519,168.

To all whom it may concern:

Be it known that we, ALFRED KRAFFT and EDWARD SCOTT, citizens of Germany and the United States, respectively, residing at Brooklyn, in the county of Kings, State of New York, have invented a new and useful Improvement in Cleaning Tools for Electric Fixtures, of which the following is a full, clear, concise, and exact specification.

This invention relates to a cleaning tool for electric fixtures, more particularly to a tool for cleaning electric shades.

One of its objects is to so design a cleaning tool of this nature that shades may be conveniently reached and cleaned, no matter in what position they are attached to the fixtures or how inaccessible they may be. That is, in such places that are not readily reached without the use of a step ladder, as for example the fixtures in churches or hotels or railroad stations etc.

Figure 1 shows the side view of the invention. Figure 2 shows a cross section through the cleaning mechanism. Figure 3 shows details of this mechanism as shown in Figure 2, taken from an angle of 45 degrees of that view. Figure 4 is a cross section taken on line 4—4 of Figure 3. Figure 5 shows the lamp and shade. Figure 6 shows a cross section taken longitudinally through the cleaning portion of the mechanism and the Figures 7 to 9 show details of the mechanism shown in Figure 6.

Referring now to Figures 1 to 9, the cleaning mechanism consists of the brushes 5 of lambs' wool or bristles on a leather or canvas stocking 6, mounted on springs or holders $7'$ and 7^2 mounted on the bracket 8 at point 9. The holders $7'$ are for the purpose of cleaning the shade 10 on the inside and the holders 7^2 are for the purpose of cleaning the shade 10 on the outside. These holders $7'$ and 7^2 are movable respectively outwardly and inwardly on their pivots at 9 by means of links $11'$ and 11^2. Holders $7'$ are provided with extensions 7^{11} below the pivotal points 9 located in a substantially straight line with the holders. To the outer ends of these are attached the links $11'$, so that the extensions form levers by means of which the holders may be moved outwardly when the links are moved inwardly and downwardly. The holders 7^2 are similarly provided with extensions 7^{22} below the pivotal points 9 located at right angles to the holders. To the outer ends of these extensions are attached the links 11^2, so that when the links are moved in the same manner as links $11'$, the extensions 7^{22} and the holders 7^2 may move inwardly. These links $11'$ and 11^2 are joined to a ring or plate 12, which in turn is movable downwardly against the spring 13 by means of a string or cord 14. The cord 14 is adapted to be moved in this direction by lever 15 fastened to the pole 16 by means of bracket 17.

The means for turning the cleaning tool at a right angle to the pole 16 or in a straight line therewith are shown in Figures 2 to 4 inclusive. It consists of the hinge 20 which comprises parts 21 and 22 and the wing-nut and screw 23 and 24.

The shell 25 encloses the mechanism for rotating the brushes 5 and their holders $7'$ and 7^2. It consists of the bracket 8, and the lug 26 fastened thereto and rotatable in the shell 25, but prevented from movement in a longitudinal direction (see Figure 2), by means of screws 27 fastened to shell 25 and operating in slots in lug 26. To lug 26 is fastened a pin 28, the opposite end of which is fastened to the lug or wheel 29. These parts are rotatable by means of a chain 30, running in a slot 31 in lug 29. The chain is fastened to the lug 29 at a point 32 by means of screw 33 and extends through a hole 34 in shell 25 and is connected to a cord 35 which in turn is connected to lever 36 fastened by means of bracket 37 to pole 16. The operation of the lever 36 rotates the brushes 5, bracket 8, lug 26, pin 28, and lug 29 against the tension of a spring 38, one end of which is fastened to shell 25 at 39 and the opposite end to lug 26 at 40. No matter whether the brushes and associated parts are in line with pole 16 or at right angles thereto, the cord 35 will, when lever 36 is operated, rotate in the same manner, due to the fact that the chain 30 may be pulled parallel to the groove 31, even if the cord 35 is pulled in the same direction or as is shown in Figure 1, at right angles thereto, as it would be if the part 22 and its associated parts are in straight line with the pole 16. Also the closing of the brushes 5 over the shade 10 may take place, no matter what position they hold in relation to the pole 16. This is due to the cord 14 passing through a hole 42 in the center of the pin 28 and the hole 43 in the center of the pole 16. The

hole 43 opens on the side of the pole 16 at 44 to permit the cord 14 to be manipulated from the outside by lever 15.

The operation of this mechanism is as follows:

When the shade 10 is located on the side of a wall as shown in Figure 5, the brushes are located as shown in Figure 1 and by pulling down the cord 14 by means of lever 15 the brushes are brought in close contact with the shade 10 and by closing and opening the lever 36 the brushes are rotated forth and back over an angle of approximately 180°; first by the lever 36 and then brought back in the original position by the spring 38. This action for cleaning the shade is the same when it is fastened in the ceiling or in an electric fixture with the shade and lamp in a downward position and with the brushes and associated parts in line with the pole 16 as shown in dotted lines in Figure 3.

What we claim is:

1. In a cleaning tool for shades a combination of a plurality of brushes adapted to clean the outside of the shade and a plurality of brushes adapted to clean the inside of the shade, with means for operating said brushes in unison to close in on the shade and means for rotating the brushes around the shade.

2. In a cleaning tool for shades a plurality of brushes adapted to clean the shade on the inside and the outside simultaneously, means by which the pressure of said brushes against said shade during the cleaning operation may be regulated and means for rotating said brushes in unison around the shade.

3. In a cleaning tool for shades a plurality of brushes adapted to clean the shade on the inside and the outside simultaneously and means for rotating said brushes in unison around the shade, comprising a shaft attached to the brushes, a stationary support for said shaft, a spring surrounding said shaft, having one end fastened to the shaft and the opposite end to the support, a chain partly wrapped around said shaft for the rotation thereof against the tension of the spring.

4. In a cleaning tool for shades a plurality of hinged brushes adapted to clean the shade on the inside, a plurality of hinged brushes adapted to clean the shade on the outside, means for moving the outside brushes inwardly and the inside brushes outwardly to close in on the shade comprising links fastened to the brushes at one end and with the opposite ends brought together at a common point, a holding ring for said links at the common point and a cord for operating said links, attached to said holding ring, to cause the brushes to move in unison to close in on the shade and means for rotating the brushes around the shade.

5. In a cleaning tool for shades a plurality of brushes adapted to clean the shade on the inside and the outside simultaneously, means for rotating said brushes around the shade in unison and means for supporting said brushes in any position necessary for the convenient operation thereof, comprising a pole and a hinged portion on said pole.

6. In a cleaning tool for shades a plurality of hinged brushes adapted to clean the shade in the inside and the outside simultaneously, means by which the pressure of said brushes against such shade during the cleaning operation may be regulated, means for rotating said brushes around the shade and means for supporting said brushes in any position for the convenient operation thereof comprising a pole and a hinged portion on said pole to which the brushes are attached.

Brooklyn, county of Kings, State of New York, this 26th day of November, 1921.

ALFRED KRAFFT.
EDWARD SCOTT.