A. SANTILLI.
TOOL FOR HANDLING ELECTRIC GLOBE LAMPS.
APPLICATION FILED JAN. 5, 1912.

1,024,286. Patented Apr. 23, 1912.

WITNESSES

INVENTOR
Angelo Santilli
BY Munro Co.
ATTORNEYS
TOOL FOR HANDLING ELECTRIC GLOBE-LAMPS.

1,024,286.


Patented Apr. 23, 1912.

Application filed January 5, 1912. Serial No. 668,701.

To all whom it may concern:

Be it known that I, ANGELO SANTILLI, a subject of the King of Italy, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Tool for Handling Electric Globe-Lamps, of which the following is a full, clear, and exact description.

10 Among the principal objects for which the present invention is designed are: to provide a simple, convenient, and easily operated means for gripping and holding the globe of an electric lamp at the end of a rod, whereby globes may be inserted in, or removed from elevated sockets; and to provide gripping means for the globe, certain in action and delicate in its operation.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in both views, and in which—

Figure 1 is a longitudinal section of a tool constructed and arranged in accordance with the present invention; and Fig. 2 is a side view of the tool, showing a modified form thereof.

As seen in the accompanying drawings, the stem of the tool is constructed from hollow tubing, of continuous and suitable length, the ends whereof are annularly grooved to form gripping surfaces for the internally grooved necks 8 and 9 of the cup 10 and bulb 11, respectively. The tube for the stem 7 may be constructed of any suitable material. As stated, the length of the tube varies to suit the particular use for which it is employed. These tools are generally used for removing the globe A from sockets located in the ceiling of rooms or in the cornices adjacent thereto. As the ceiling is high or low, the length of the stem 7 is accordingly varied.

The cup 10, as seen in the drawings, is provided with a soft and pliable lip 12. The lip 12 is sufficiently frail to readily spread when the cup is lifted and pushed against the bulging or outer end of the globe A. To give sufficient rigidity to the cup 10, it is provided with a 'reinforcing ridge 13, and below the said ridge 13, the wall of the cup is thickened, so that the cup has the twofold quality of sufficient rigidity in the body portion thereof to maintain its shape, while the lip 12 is sufficiently flexible to yield to the outward pressure of the globe when being inserted therein, and to be supersensitive to the operation of the partial vacuum formed within the cup 10.

The rarefaction of the atmosphere in the cup 10 is produced by means of the bulb 11. The walls of the bulb 11 are continuous. Through the stem 7, the interiors of the cup 10 and of the bulb 11 are in open communication. When, in the manipulation of the tool, the cup 10 has been placed in position upon the globe A, the operator compresses the bulb 11, to eject the air therefrom. The air, in passing from the bulb 11, is expelled through the tube 7 and the cup 10, and between the lip 12 thereof and the side of the globe A. When, in turn, the bulb 11 is released, and the walls thereof are permitted to assume the round shape, the displacement of air draws upon the air in the stem 7 and cup 10, and rarefies to that extent the air in the said stem and cup.

The resultant effect is to produce a rarefaction within the body of the cup, against which the pressure of the exterior atmosphere operates, to force the lip 12 firmly against the side of the globe A, to grip the same gently but firmly. The adhesive quality of the rubber of which the lip 12 is composed permits the same to so grip the globe that when the stem 7 and cup 10 connected therewith are properly rotated, the globe, thus gripped, is screwed into, or un- 95 screwed from the socket in which it is installed. If the operation be to remove the globe from the socket, when this is accomplished and the globe has been lowered to the floor, table, or the hand of the operator, by pressing the bulb, the rarefied air contained in the said bulb is displaced therefrom into the tube 7 and cup 10, to restore the normal density of the air in the said stem and cup. The pressure of the air at both the inner and the outside of the lip 12 then operates to release the grip of the said lip on the globe A. If the operation is to place a lamp in position, the lamp is inserted by hand in the cup 10; the air is ejected from the bulb 11, stem 7 and cup 10 by pressing the said bulb, when the grip of the lip 12 on the globe A will be exerted as above described. After the globe has been raised to, and screwed into the socket pro-
vided therefor, the lip 12 is caused to release its grip by compressing the bulb 11 to restore the equilibrium of the air within and without the cup 10.

The modified form of the invention disclosed in Fig. 2 consists in providing, at the lower end of the stem 7, a cylinder 14. Within the cylinder 14 is mounted a suitable piston 15, having a plunger rod 16 rigidly connected thereto. The rod 16 is extended beyond the end of the cylinder 14, and is provided with a grip 17. The operation of the pump thus constructed is to extract the air from the stem and cup when the piston 15 is drawn outwardly. For this purpose, the piston 15 is furnished with a soft leather or rubber pad 18, the edges whereof wipe the sides of the cylinder 14, and when the piston is drawn outwardly, the edges of the said pad form sliding air-tight joints with the inner surface of the cylinder 14. The piston 15 has sufficient clearance from the inner surface of the wall of the cylinder 14 to permit the passage of air therebetween. The forward movement of the piston and the pad 18 does not, therefore, compress the air within the stem 7 or cup 10. When, however, the piston 15 is drawn toward the outer end of the cylinder 14, the edge of the pad 18 is seated against the side of the cylinder 14, to close the passage between the piston and the said cylinder, to prevent the air passing inward into the stem 7 and cup 10. This subtraction of the air from the tool results in a compression of the lip 12 upon the globe A inserted within the cup 10, as above described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A tool such as described, comprising an elongated tubular stem; a flexible cup mounted at the end thereof, said cup shaped to partly surround an electric globe, and said cup having a thin resilient edge to expand when manually pressed upon said globe; and means for rarefying the air in said cup.

2. A tool such as described, comprising a suction cup shaped to receive an electric light globe, said cup provided with an expandible edge, the normal diameter of which is less than the greatest diameter of said globe, to extend over and rest upon said globe above the greatest diameter thereof; and means for rarefying the air in said cup.

3. A tool such as described, having a suction cup shaped to receive the enlarged end of an electric light globe, and to extend thereover above the line of greatest dimension of said globe; means formed on said cup to close the passage between said globe and said cup above said line of greatest dimension; and means for rarefying the air in said cup.

4. A tool such as described, having a suction cup shaped to receive the enlarged end of an electric light globe, and to extend thereover above the line of greatest dimension of said globe; means formed on said cup to close the passage between said globe and said cup above said line of greatest dimension; and means for rarefying the air in said cup, said means embodying an air displacing member and a rigid tubular stem in open communication with the interior of said cup.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ANGELO SANTILLI.

Witnesses:

ERNEST BREGANNOLI,
ARIOOLE CHIERO.