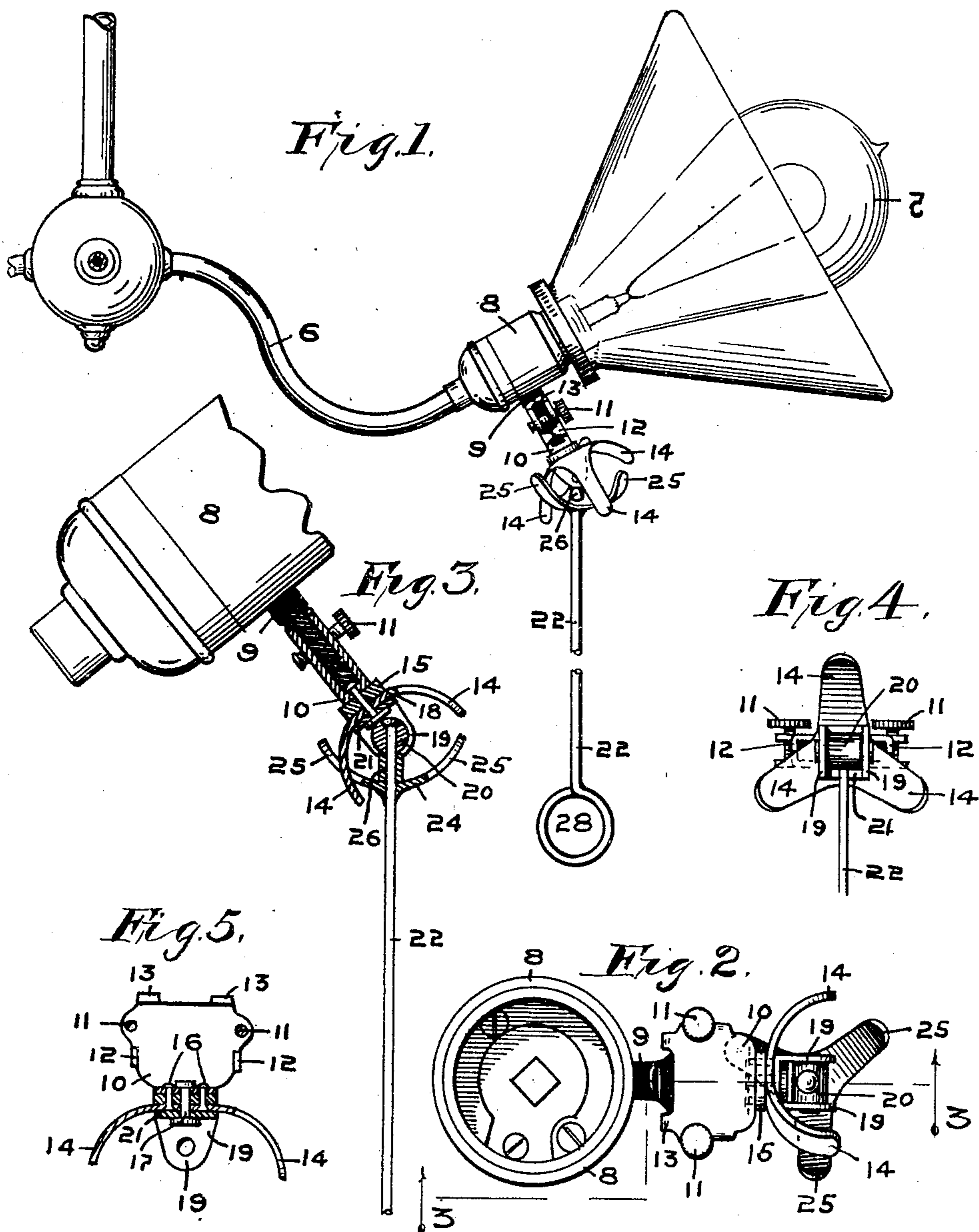


V. B. FULLER.  
 SOCKET KEY EXTENSION.  
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# UNITED STATES PATENT OFFICE.

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## SOCKET-KEY EXTENSION.

No. 803,281.

Specification of Letters Patent.

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*To all whom it may concern:*

Be it known that I, VIVIAN B. FULLER, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Socket-Key Extensions, of which the following is a specification.

This invention relates to improvements in means for extending the socket-keys used on incandescent electric lights. These lights are frequently placed on fixtures that are out of reach of short people and are therefore inconvenient in turning the electric current on and off in lighting and extinguishing the light. Switches are sometimes placed so as to be more accessible; but the expense of these makes them practically prohibitive for general purposes.

The object of this invention is to provide an inexpensive and durable key extension which will hang pendent from the key and terminate within reach of persons of short stature and which will embody a universal joint that will permit of an adjustment or movement of the extension out of the way of a person passing under it, so as to prevent injury to the person and to said extension.

The object also is to provide a device that is readily applicable to all makes of socket-keys and which can be applied without difficulty by an inexperienced person, thereby enabling the device to be carried in stock at stores and sold to customers who will be able to make their own attachments to such fixtures as may need them.

I accomplish the objects of the invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 represents an incandescent electric-lamp fixture, having a socket and key with my invention applied to said key. Fig. 2 is an end view of the socket with the lamp-bulb removed and showing the flat side of the key and my fixture applied thereto. Fig. 3 is a sectional view on the line 3 3 of Fig. 2 looking in the direction of the arrows. Fig. 4 is an end view of the key with my improvement applied thereto, the interlocking fingers on the pendent stem being omitted in this figure; and Fig. 5 is a section of the portion which is attached to the key, the section being on a plane midway between the two plates that embrace the key and parallel with said plates.

Like characters of reference indicate like

parts throughout the several views of the drawings.

Referring to the drawings, 6 represents the fixture to support the lamp, 7 the bulb, 8 the socket, and 9 the socket-key, all of usual and well-known constructions. My invention is applied to the key 9 by means of a clamp 10, formed of sheet metal bent in U shape, so as to receive the expanded outer end of the key between the two members of the clamp. These members have ears projecting beyond the transverse dimensions of the key, through which set-screws 11 are passed. One of the ears will be screw-threaded, so that by turning the screw in proper directions the two members of the clamp will be drawn toward each other against the key. The material from which the clamp is made will be sufficiently elastic to open the clamp normally, and the length of the screw will be such as to permit of a sufficient opening of the clamp for easy insertion of the latter upon the key without the complete removal of the screw. The edges of the clamp will be provided with ears 12 and 13 for the purpose of additionally holding the clamp in position firmly on the key.

Riveted to the outer end of the clamp is a plate having outwardly-curved radiating fingers 14, here shown as three in number. A washer 15 will preferably be placed between this plate and the end of the clamp, and the plate, washer, and clamp will be fastened together by means of the rivet 16. The plate and washer have a central opening, which is also extended through the end of the clamp, and in this opening a pin 17 is placed. This pin is for the purpose of swivelly attaching a plate 18 to said plate having the fingers 14. The plate 18 has a pair of parallel ears 19, which are perforated to form the bearings for the reduced ends of a block 20. The block 20 is preferably of metal and has a diametrically-formed hole to receive the upper end of a pendent stem 22. The hole in block 20 is countersunk to receive a head which is formed on the end of the stem to prevent the withdrawal of the latter. Secured to stem 22 at a suitable distance below its upper end is the plate 24, having radial fingers 25, similar to the fingers 14 of the plate above described, which is fastened to the clamp. This plate 24 will be secured to the stem by means of solder, properly applied thereto or by any other suitable means, and interposed between the block 20 and plate 24 is the bushing 26 to preserve



the distance between said block and the plate 24. The fingers 25 of plate 24 will be curved upwardly, so as to interlock with the fingers 14 of the other plate.

5 The stem 24 will extend down for any suitable distance determined by the requirements of the fixture to which it is to be applied and will terminate at its lower end with a loop 28 or other enlargement for ready grasping by  
10 the fingers of the person desiring to operate the device. The swivelly-connected plate 18 and the block 20, hinged in perforations of the ears 19 of said plate 18, together provide a universal joint, connecting stem 22 with key  
15 9 of the socket, so as to allow the stem 22 to hang pendent in a vertical position for all angles of the socket and positions of the key, and the interlocking fingers 14 and 25 furnish a sufficient leverage to enable the key 9 to be  
20 turned readily by turning the stem 22. In free action of the above universal joint I secure a device that will give way in any direction when contact is made with it, as by a person running against it, thereby preventing in-  
25 jury to the person and to the device, and when released the stem will swing back into its normal vertical position.

Having thus fully described my invention, what I claim as new, and wish to secure by  
30 Letters Patent of the United States, is—

1. An extension for socket-keys comprising a clamp to engage the key, set-screws for fastening the clamp to the key, a stem and a universal joint between the stem and clamp.
- 35 2. An extension for socket-keys comprising a stem, a U-shaped clamping-plate to engage the key, screws to draw the keys together, said

stem being secured by universal joint to the fastening means, and means for turning the key by a rocking movement of the stem. 40

3. A socket-key, a stem, means for removably securing the stem to the key, said means comprising a U-shaped plate and screws to draw the plates together against the key, said fastening means and stem being united by a  
45 universal joint, and means for transmitting a rocking movement from the stem to the key.

4. A socket-key, a clamp to engage said key, a plate having radial curved fingers attached to the clamp, a stem connected by means of a  
50 universal joint with said clamp, and a plate fastened to the stem and having radial curved fingers which interlock with those of the first-named plate.

5. A socket-key, a clamp formed from a  
55 plate bent U shape, to receive the key between the members formed by said bend, screws for drawing the members of the clamp into contact with the key, a plate fastened to the end of the clamp, said plate having outwardly-  
60 curved fingers, a stem connected by means of the universal joint with said clamp, a second plate fastened to said stem, said second plate having curved fingers which interlock with the fingers of the plate which is fastened to the  
65 clamp.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 14th day of March, A. D. 1905.

VIVIAN B. FULLER. [L. S.]

Witnesses:

E. D. EDDLEMAN,  
J. A. MINTURN.