W. W. FULTON.

ELECTRIC LIGHT SWITCH.

APPLICATION FILED SEPT. 23, 1907.

907,770.

Patented Dec. 29, 1908.

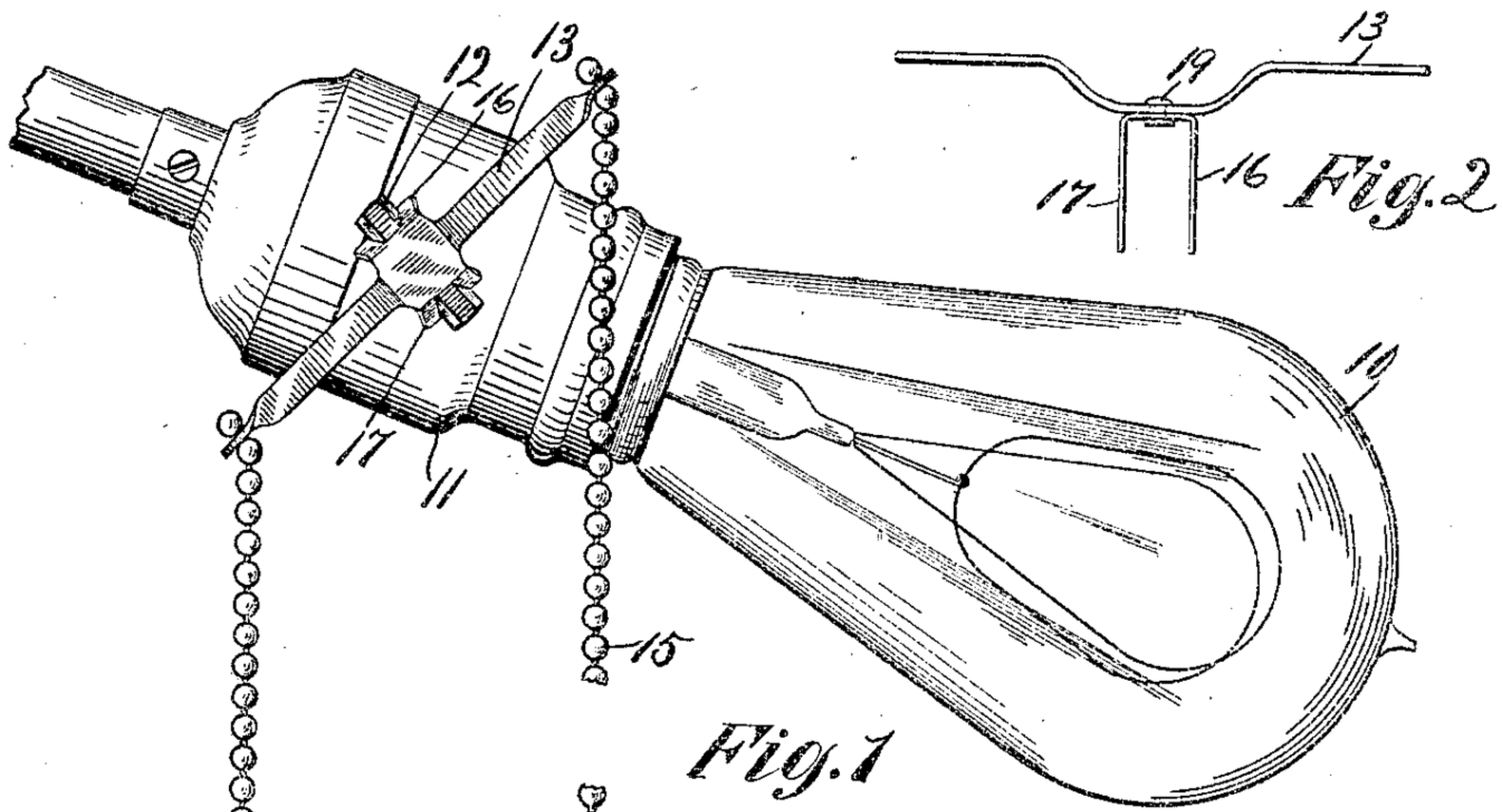

Fig. 1

Fig. 2

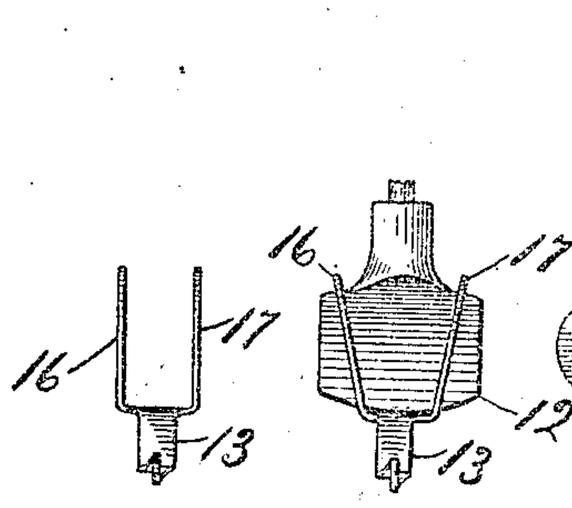

Fig. 3.

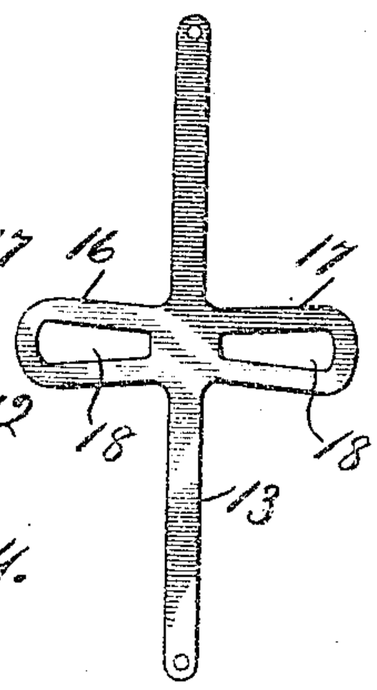

Fig. 4.

Fig. 5

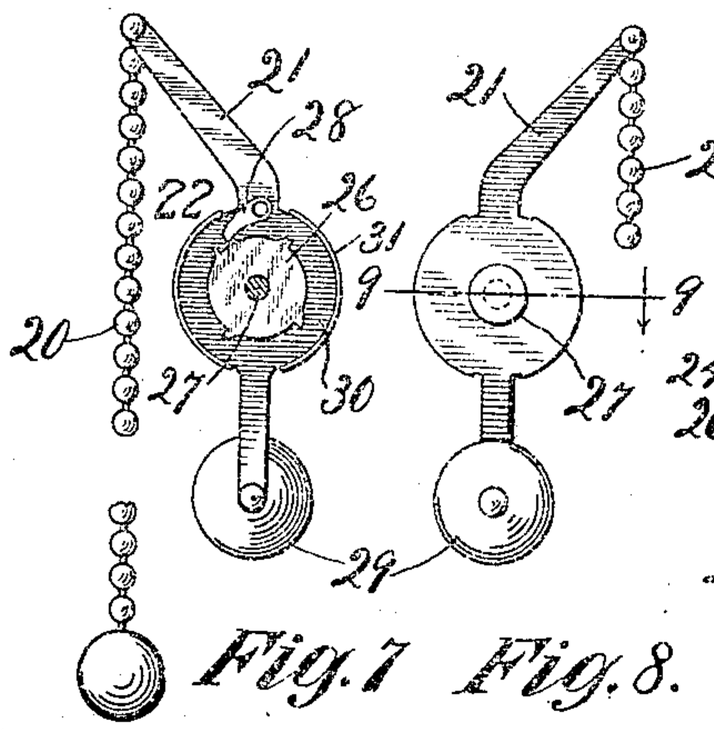

Fig. 7 Fig. 8.

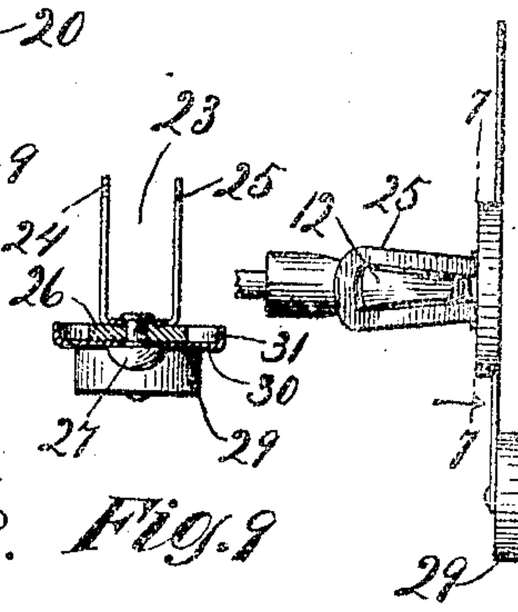

Fig. 9

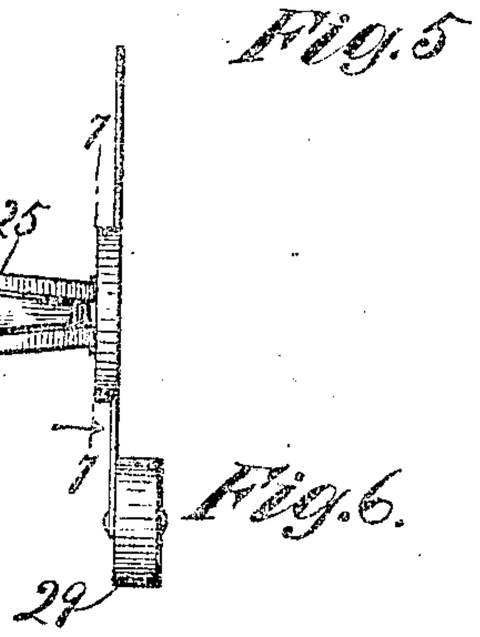

Fig. 6.

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UNITED STATES PATENT OFFICE

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ELECTRIC-LIGHT SWITCH.

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To all whom it may concern:

Be it known that I, WALTER W. FULTON, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Electric-Light Switches, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to switches for controlling the current supply of electric lamps, or other appliances supplied with electric current in a similar manner.

More specifically, the invention relates to such electrical switches as are operated by a pull upon a pendent cord or chain.

The invention contemplates means for adapting electrical switches provided with a rotatable operating member, such, for example, as the switches of the incandescent electric lamp sockets now in common use, wherein the operating member of the switch comprises a turn button which projects laterally from the casing of the socket and is of flattened form designed to be grasped for rotation between the thumb and index finger of the hand, for actuation by a cord or chain designed to be pulled downwardly.

The object of the invention is to provide apparatus by means of which the actuation of electrical switches may be conveniently effected.

In the accompanying drawings—Figure 1 shows in side elevation an incandescent electric lamp and switch socket therefor, together with apparatus provided by the invention for turning the switch; Figs. 2 and 3 are a side and end elevation, respectively, of a detail of the apparatus separated from other parts, a slight modification of the construction being shown in Fig. 2; Fig. 4 is a detail side elevation of the turn button or thumb-piece of the switch socket illustrated in Fig. 1, showing the method of applying the apparatus provided by the invention thereto; Fig. 5 is a plan view of the sheet metal blank from which a part of the apparatus, as illustrated in Figs. 1, 3 and 4, may be formed; Fig. 6 is a detail side elevation of the thumb-piece of an incandescent lamp socket showing a modified form of apparatus provided by the invention applied thereto; Fig. 7 is a sectional view of the same taken on the line 7—7 of Fig. 6; Fig. 8 is a front elevation of the same; and Fig. 9 is a sectional view of the same taken on the line 9—9 of Fig. 8.

The switch socket for an incandescent electric lamp 10, is shown in the drawings at 11, the usual rotatable thumb-piece or key for turning the switch being designated 12. The head of this key is of the flattened T form, most clearly shown in Fig. 4 and now almost universally provided upon lamp sockets of the type illustrated.

In carrying out the invention in the manner illustrated in Figs. 1 to 5 inclusive of the drawings, a cross-arm 13 is applied to the key 12, and a pendent cord or chain, as 14, 15, is provided at each end of the cross-arm whereby a rotation of the key for changing the switch of the socket may be effected by pulling downwardly upon one of the chains, a pull upon each chain effecting a rotation of the key in the opposite direction from that effected by a pull upon the other.

Preferably the chains 14 and 15 are of equal length and the cross-arm 13 is so applied to the key 12 that it passes the horizontal position in moving in either direction through the distance necessary to change the switch. By this means the chain which should be pulled for effecting the opposite change in the switch from that last produced will always occupy the higher position, and can be easily distinguished from the other at a glance or by feeling with the hand in the dark.

For attaching the cross-arm 13 to the head of the key 12, it will preferably be provided with arms 16, 17, adapted to straddle the key, each of the arms being apertured, as indicated at 18, to receive one of the ends of the T head of the key. Most conveniently the device will be formed of spring metal and the arms 16, 17, turned to the position, with relation to the part 13 illustrated in Figs. 2 and 3, whereby, when the device is applied to a key 12, as illustrated in Figs. 1 and 4, the contraction of the metal will serve to retain the arms 16, 17, in position and draw the part 13 firmly to its seat upon the head of the key.

As shown in Figs. 1, 3 and 4, the part 13 and arms 16, 17, are formed integral, the device being made from a blank of sheet metal, illustrated in Fig. 5. In Fig. 2 the arms 16, 17, are shown as being made from a single piece in the form of a clip, separately from the part 13 to which the clip is permanently united by a rivet 19.

If desired the device may be so constructed that the switch key of an electric lamp socket is always turned by it in the same direction.

Such an embodiment of the invention is illustrated in Figs. 6 to 9, inclusive, of the drawings. In this instance but one chain or cord, as 20, is provided, and this cord is secured to the free end of an arm 21, adapted to actuate the key 12 of a switch socket 11, through a ratchet and pawl mechanism 22, each pull upon the cord thereby effecting the opposite change in the switch from that last produced. A spring clip 23, comprising two arms as 24, 25, adapted to straddle the T head of a switch key 12, is provided, each of the arms 24, 25, being apertured to receive one side of the key head. To this clip a ratchet plate 26 is rigidly secured by a shouldered rivet 27, while the chain arm 21 is preferably swingingly mounted upon the same rivet and carries a pawl 28, which coöperates with the ratchet plate 26 for turning the key 12 when the arm 21 is swung by a downward pull upon the chain or cord 20. Preferably the arm 21 is extended beyond its pivotal engagement with the rivet 27 and is there provided with a counterweight 29 for returning the chain-carrying end of the arm to an elevated position.

As shown that part of the arm 21 adjacent its pivot is made of greater width than the ratchet plate 26, as indicated at 30, and is provided with a marginal flange 31 designed to provide a protective covering for the ratchet plate and the pawl 28.

Either form of the device may be sold independently of the lamp socket 11 and switch key 12, and be applied thereto convenient for use in the manner described, without tools or the exercise of more than ordinary skill.

I claim as my invention—

1. In combination, a spring clip having arms adapted to embrace the flattened T head of an electrical switch key from end to end, each arm of the clip being apertured to receive one end of the key head, a crank arm carried by the clip, and a pendent cord carried by the crank arm.

2. In combination a spring clip having arms adapted to embrace the flattened T head of an electrical switch key from end to end, each arm of the clip being apertured to receive one end of the key head, a ratchet plate carried by the clip, an arm pivotally secured to and carried by the clip to swing over the plate, a pawl carried by the arm for engaging the plate, a pendent cord secured to the free end of the arm, and means for raising the arm.

3. In combination, a spring clip having arms adapted to embrace the flattened T-head of an electrical switch-key from end to end, each arm of the clip being apertured to receive one end of the key head, and rotating means carried by the clip.

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