E. SEGUIN.

INSULATOR.

APPLICATION FILED OCT. 14, 1912.

1,104,009.

Patented July 21, 1914.

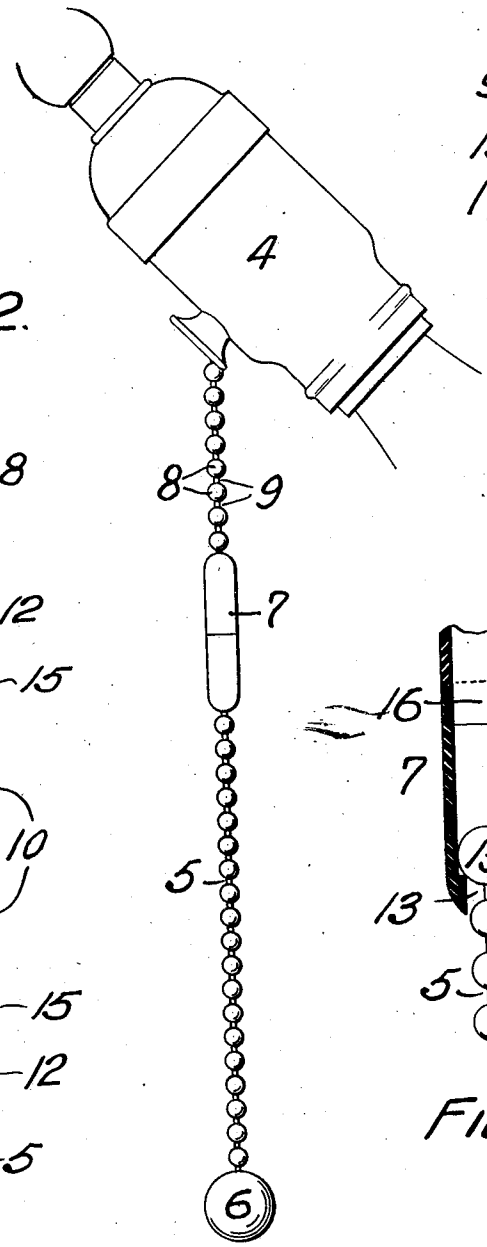


FIG. 1.

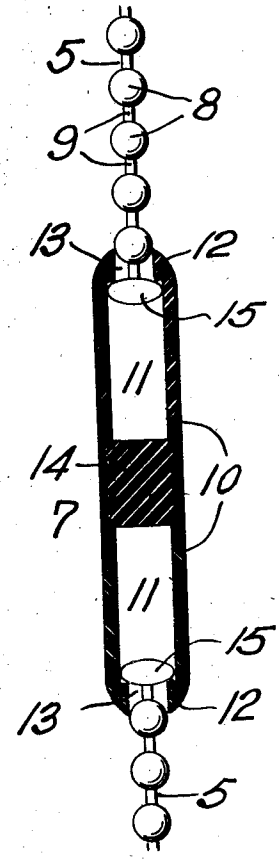


FIG. 2.

FIG. 3.

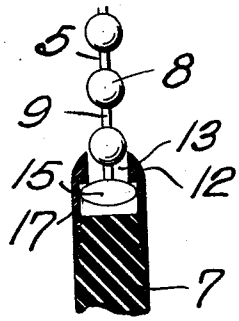


FIG. 4.

Witnesses

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EMILIEN SEGUIN, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-HALF TO FREDERICK J. PARSONS, OF MONTREAL, QUEBEC, CANADA.

INSULATOR.

1,104,009. Specification of Letters Patent. Patented July 21, 1914.

Application filed October 14, 1912. Serial No. 725,767.

To all whom it may concern:

Be it known that I, EMILIEN SEGUIN, of the city of Montreal, in the Province of Quebec and Dominion of Canada, have invented certain new and useful Improvements in Insulators, of which the following is a full, clear, and exact description.

This invention relates to improvements in insulators for use in connection with the pull chains of rotary electric lamp switches.

The object of the invention is to provide an insulator which may be easily connected in any length of chain without the use of special tools, and which may be inserted in pull chains already installed.

The convenience of a pull chain on an electric lamp or clusters of lamps arranged to operate a continuous rotary switch has led to its almost universal adoption. It has, however, been found that these chains are not entirely satisfactory for the reason that they are metallic and therefore of high electric conductivity, and frequently become charged so that the person touching same receives a shock. This feature is particularly noticeable in damp places such as cellars, bath rooms and the like. To overcome this unpleasant condition and also to guard against fire, and loss of life, small insulators have been inserted in the chain. The type of chain in most general use is the bead type, which consists of a number of small metal spheres connected by dumb-bell shaped links, the enlarged ends of which are inclosed in the spheres. In attaching insulators in such chains, the general practice was to provide a ferrule on each end of the insulator which were compressed over the end balls of two lengths of chain so as to unite the two lengths. This method requires the use of special machinery so that insulators cannot be inserted in the pull chains of existing lamps, without disconnecting the chain from the lamp and taking the same away to a shop, thus rendering the lamp inoperative for some time. The present invention aims to overcome this disadvantage by using an insulator having the ends thereof provided with apertures of sufficient size to allow the chain to be drawn through. Suitable means are provided to hold the end of the chain within the insulator.

In the drawings which illustrate the invention:—Figure 1 is a side elevation showing the insulated pull chain in operative position. Fig. 2 is an enlarged sectional view showing one method of connecting the chain to the insulator. Fig. 3 is a similar view showing another method of connecting the chain to the insulator. Fig. 4 is an alternative form of insulator.

Referring more particularly to the drawings, 4 designates a lamp socket provided with a pull chain 5 of the bead variety, having at the lower end a ball or other ornament 6 and provided at a suitable distance from the lamp socket with an insulator 7. The pull chain consists of a series of beads 8 of spherical or other shape which are connected by suitable links 9. The insulator consists of two similar parts 10 of cylindrical or ornamental shape and each provided with a bore 11 somewhat larger than the chain. Toward the ends of the ferrule the bore is shouldered at 12 and reduced in size as shown at 13 until the chain will just pass through. The two members 10 are internally threaded and connected by a threaded plug 14, which is also preferably of insulating material. To insert the insulator in a length of chain, the chain is cut away where desired and the two halves of the insulator screwed apart and slipped onto adjacent ends of the two portions of the chain. The end bead of each piece of chain is then flattened as indicated at 15, so that it will not pass through the reduced aperture 13. The two halves of the insulator are then screwed together.

In Fig. 3 a slightly modified form is shown, in which the plug 14 is replaced by a threaded neck 16 formed integral with one member 10 and arranged to screw into the other member. In this form, the end bead of the chain is shown flattened in a different direction.

In Fig. 4 an alternative form is shown in which the insulator 7 is solid and provided on each end with a ferrule 17, which is screwed at one end to the insulator and is provided at the other end with the aperture 13 and shoulder 12 for the purposes already described. The application of this form of insulator is practically the same as previously described, except that the ends of the severed chain are slipped through the ferrules which are then screwed onto the

insulator. The form of screw threading may be much simplified by replacing the ferrule threads with a pin, which engages a substantially L-shaped groove in the insulator, the circumferential arm of which is slipped sufficiently to draw the ferrule tightly onto the insulator.

Having thus described my invention, what I claim is:—

1. In a device of the type described, the combination with two similar tubular members having screw threads at one end and at the other an opening of less size than the internal bore thereof, and an insulating member adapted to connect said members, of a pair of chains having enlargements at the ends thereof, said enlargements being of sufficient size to prevent their passage through the reduced openings in said tubular members.

2. In a device of the class described, the combination with a chain of an insulator formed in two similar tubular sections each screw threaded at one end and provided with an opening of reduced size at the opposite end adapted for the passage of the chain, upset portions on adjacent ends of the chain too large for passage through said end openings, and a threaded plug connecting the two parts of the insulator.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

EMILIEN SEGUIN.

Witnesses:

STUART R. W. ALLEN,

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."