J. A. McMICHAEL.

GUARD FOR INCANDESCENT LAMPS.

APPLICATION FILED DEC. 23, 1912.

1,085,750. Patented Feb. 3, 1914.

Fig. 1.

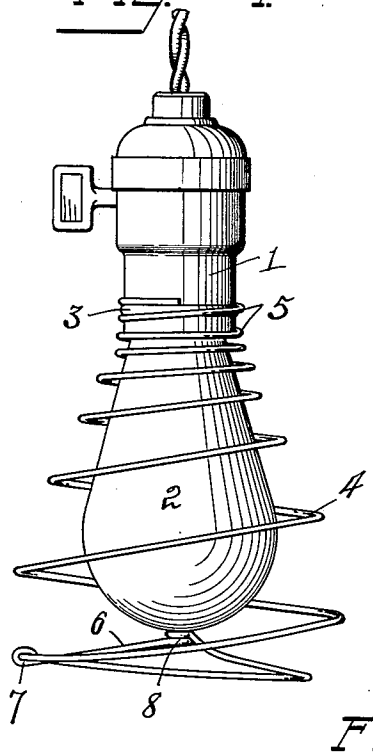


Fig. 2.

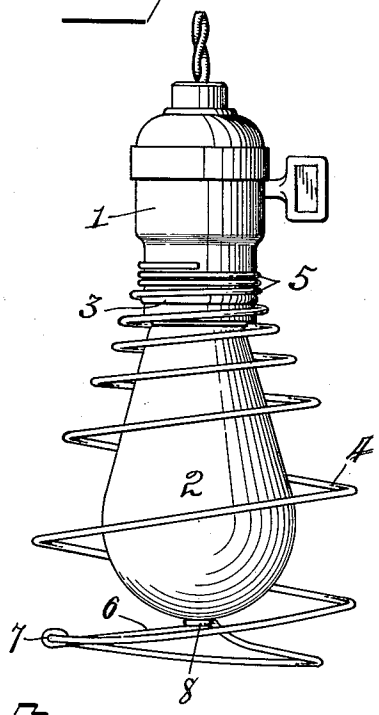
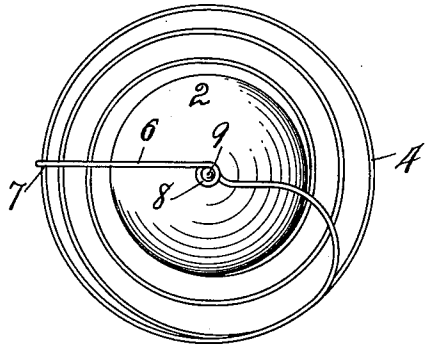


Fig. 3.



WITNESSES:

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GUARD FOR INCANDESCENT LAMPS.

1,085,750. Specification of Letters Patent. Patented Feb. 3, 1914.

Application filed December 23, 1912. Serial No. 738,351.

To all whom it may concern:

Be it known that I, JAMES A. McMICHAEL, a citizen of the United States, and a resident of Toledo, in the county of Lucas and State of Ohio, have invented a certain new and useful Guard for Incandescent Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to protectors or guards for electric-light bulbs, and particularly to guards of that class constructed of wire.

The object of my invention is the provision of an improved device of this character, which is formed of a single piece of wire coiled in proper shape to envelop a lamp bulb and having its inner end portion adapted to adjustably engage the bulb carrying socket in a manner to facilitate an easy adjustment of the guard relative to the socket to suit the size of the bulb or to increase or diminish the spring tension of the outer end portion of the guard against the outer end of the bulb, as desired.

The invention is fully described in the following specification, and while, in its broader aspect, it is capable of embodiment in numerous forms, a preferred embodiment thereof is illustrated in the accompanying drawings, in which,—

Figures 1 and 2 are elevations of a guard embodying my invention in different positions of adjustment on a lamp socket and bulb, and Fig. 3 is an outer end view thereof.

Referring to the drawings, 1 designates a socket for electric-lamp bulbs, and 2 an incandescent lamp bulb fitted therein, the socket having the customary external annular rib or shoulder 3 adjacent to its outer or bulb receiving end.

The guard comprising my invention is composed of a single piece of spring wire, which is coiled in a plurality of convolutions 4, with such convolutions gradually diminishing in diameter toward the inner end thereof and spaced from an inclosed bulb and with several convolutions 5, all of substantially the same diameter, at its inner end adapted to fit closely around the outer end portion of the socket 1. The end of the wire forming the outer end portion of the bulb, terminates in a cross-piece 6, which curves inwardly from the attached convolution and extends across the outer end of the guard substantially diametrically thereof and has its free end attached to the outer one of the convolutions 4, as at 7, and cooperates with a portion of the outer convolution to form an end seat for the guard. The cross-piece 6 is looped centrally of the guard convolutions, as at 8, to provide an eye into which the customary sprue 9, at the outer end of the bulb, may seat. The cross-piece 6 is bowed inward from the outer convolution of the guard, or that to which it is attached, so as to permit the outer end of the guard to project beyond the outer end of the bulb as shown.

In the use of my improved guard, a bulb 2, prior to being screwed into a socket, is inserted into the guard between two of the larger convolutions thereof, such convolutions being sprung apart for such purpose, and the bulb is then screwed into the socket. This being done, the eye 8 on the cross-piece 6 is engaged with the sprue 9 of the bulb and the inner end of the guard then drawn toward the socket and engaged to the adjacent end thereof over the rib 3, which rib coacts with some one of the convolutions 5 to retain the inner end of the guard in engagement with the socket. As the tendency of the guard is to collapse, or for its convolutions to move toward each other, the rib or shoulder 3 on the socket resists such collapsing action, and by adjusting the convolutions 5 lengthwise of the socket so that different ones may be placed in engagement with the rib 3, an adjustment of the tension of the cross-piece 6 against the outer end of the bulb is effected. Such engagement of the guard with the socket also enables the guard to be adjusted relative to the socket to suit the size of the bulb employed. It will be noted by reference to Fig. 1 that when the outer one of the convolutions 5 is engaged with the socket rib 3 the other convolutions are sprung apart so that the spreading strain, which would otherwise be on the convolutions 4, is partly distributed to the inner contracted convolutions 5, whereas if all or a part of the convolutions 5 are disposed above the rib 3 such convolutions will assume their normal closed relation and the entire spreading strain will be on the convolutions 4, thus materially increasing the

tension of the cross-piece 6 against the outer end of the bulb. This feature of the guard is found to be of considerable importance and to very materially enhance the efficiency and practicability of wire guards of this character.

I wish it understood that my invention is not limited to any specific construction or arrangement of the parts except in so far as such limitations are specified in the claims.

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

1. The combination with an electric lamp socket having a rib around its outer end portion, and a bulb carried by said socket and having a sprue at its outer end, of a single-piece spring wire guard disposed around the bulb and having a plurality of convolutions which are spaced from the bulb and gradually diminish in diameter toward the inner end of the guard with a plurality of the convolutions at the inner end of the guard of substantially the same diameter and adapted to fit over the outer end portion of the socket and to be selectively engaged with the socket rib to axially adjust the guard relative to the socket to suit bulbs of different sizes or to adjust the spring tension of the outer end of the guard against a bulb, said guard having the convolution at the outer end thereof terminating in a diametrically disposed cross-piece which attaches at its free end to the outer convolution and is coiled at its central portion to form a sprue receiving eye.

2. The combination with an electric lamp socket having a rib around its outer end portion, and a bulb carried by said socket and having a sprue at its outer end, of a single piece spring wire guard disposed around the bulb in spaced relation thereto and having a plurality of convolutions which gradually diminish in diameter toward the inner end of the guard with a plurality of the convolutions at the inner end of substantially the same diameter and adapted to fit over the outer end of the socket and to be selectively engaged with the socket rib to axially adjust the guard relative to the socket, said guard having the convolution at the outer end thereof terminating in a cross-piece which attaches at its free end to the outer convolution and is bowed inwardly relative to such convolution and provided at its center with a sprue receiving eye.

3. The combination with an electric lamp bulb having a sprue at its outer end, of a single piece spring wire guard disposed around the bulb in spiral form, said guard having a plurality of successive convolutions which diminish in diameter toward the inner end of the guard to provide a restricted neck portion and which has its outer convolution substantially as large or larger than the maximum diameter of the bulb and terminating in a cross-piece which extends substantially diametrically across the outer guard end and attaches at its free end to the opposite side of the outer convolution to that from which it extended, said cross-piece being provided at its center with an eye for fitting over the bulb sprue and being inwardly bowed relative to the outer convolution whereby such convolution is projected outwardly beyond the bulb sprue to protect the same against injury.

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

JAMES A. McMICHAEL.

Witnesses:
S. T. KLOTZ,
F. E. AUL.