Feb. 28, 1933. H. HERTZ 1,899,272

ELECTRIC LAMP SHADE

Filed Oct. 11, 1930

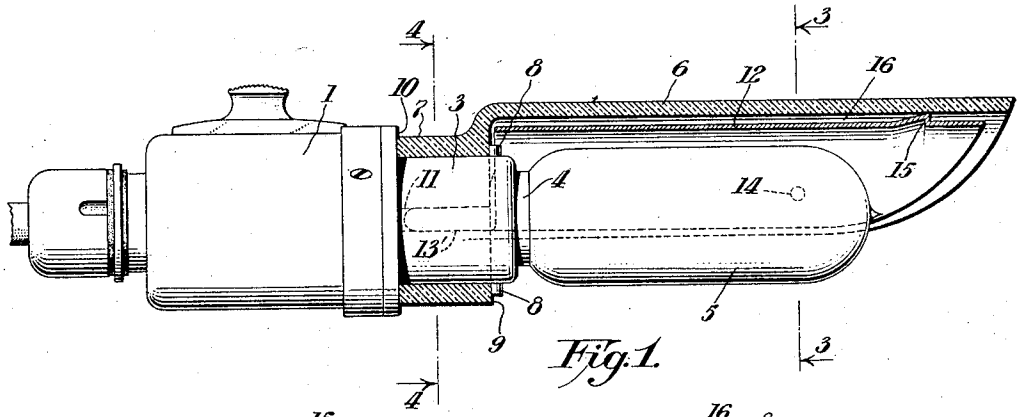


Fig. 1.

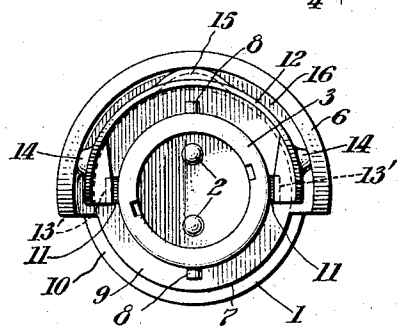


Fig. 2.

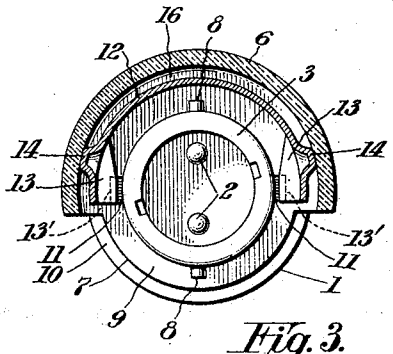


Fig. 3.

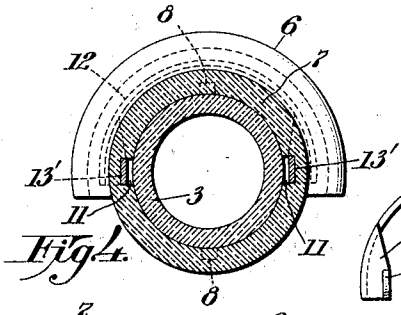


Fig. 4.

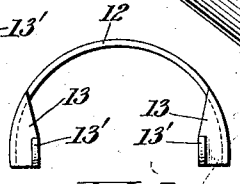


Fig. 5.

Fig. 6.

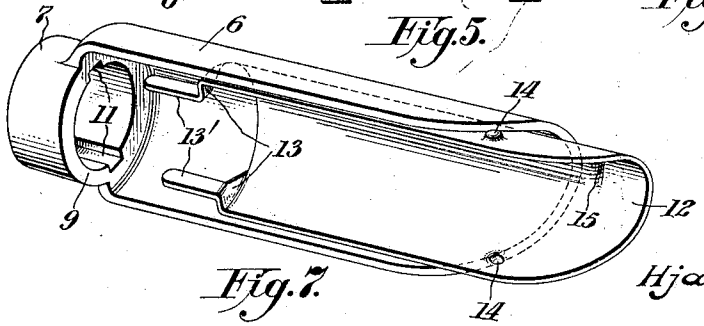


Fig. 7.

Inventor

Hjalmar Hertz

Witness:

Godfrey Peirce

By Henry J. Miller

Attorney

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UNITED STATES PATENT OFFICE

HJALMAR HERTZ, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, OF ELIZABETH, NEW JERSEY, A CORPORATION OF NEW JERSEY

ELECTRIC LAMP SHADE

Application filed October 11, 1930. Serial No. 487,933.

This invention relates to shades for electric lighting devices, and more particularly to shades for sewing machine lighting devices. The invention has for an object to overcome excessive heating of such a shade without sacrifice of its reflecting properties.

With the above and other objects in view, as will hereinafter appear, the invention consists in the devices, combinations and arrangements of parts hereinafter described and claimed.

The features of the invention and the advantages attained thereby will be readily understood by those skilled in the art from the following detailed description of a preferred embodiment of the invention, taken in connection with the accompanying drawing, in which Fig. 1 is a side elevation of an electric lighting device showing the shade in section. Fig. 2 is an end elevation of the device. Fig. 3 is a section on the line 3—3, Fig. 1. Fig. 4 is a section on the line 4—4, Fig. 1. Fig. 5 is an end view of the shade insert. Fig. 6 is a perspective view of the shade-supporting socket, and Fig. 7 is a disassembled perspective view of the shade elements.

In the device illustrated, 1 represents the socket-shell which encloses the usual socket-insides including the pin-terminals 2. The socket-shell is molded preferably from phenolic condensation material and includes the tubular extension 3 into which the base 4 of the lamp 5 is inserted in the usual manner.

The lamp-shade is non-metallic and is preferably molded from phenolic condensation material. It comprises a semi-cylindrical or inverted trough-shaped shell 6 formed at one end with a reduced tubular shank 7 which snugly fits upon the socket-extension 3. The extension 3 is provided with the outwardly extending retaining pins 8 which engage the end-wall 9 of the shank 7 and retain the opposite end-wall of the shank 7 in engagement with the shoulder 10 of the socket-shell 1. The shank 7 is formed with the inner longitudinal grooves 11 which clear the pins 8 during the application of the shade 6 to the socket; the shade 6 being rotated relative to the socket-shell, after it is applied to the latter, to carry the grooves 11 out of register with the pins 8.

The construction as above described, is substantially in accordance with the disclosure of the application of Kenneth Perkins, Serial No. 463,592, filed June 25, 1930.

According to the present invention there is interposed a thin sheet-metal reflecting liner 12 which is of the same inverted trough shape as the non-metallic shade 6 and is formed at its base-end with inwardly bent ears 13, terminating in the parallel tongues 13′ removably fitted to the grooves 11 in the shank 7 of the shade 6; the grooves 11 constituting recesses to receive the tongues 13′. The liner 12 is formed with the outwardly extending indentations 14 and thumb-catch 15 which engage the inner wall of the shade 6 and hold the liner 12 spaced inwardly from the latter. This separation provides an inverted trough-shaped air-gap 16 which is open along its lower edges and at one end to provide a free circulation of air by convection currents which carry the heat away from the liner 12. There are, in the present instance, two factors acting concurrently to control and direct the dissipation of heat from the lamp and hot reflector 12; one of these factors is the free circulatory air-gap and the other is the nonmetallic outer shade. These factors operate in combination to lead or direct the heat stream into the free air current between the reflector and the outer shade, where it is desired that the heat shall go, and repel or block the heat stream from lateral flow through the wall of the outer shade, where it is desired that the heat shall not go.

It will be understood that the liner 12 serves to lock the shade 6 against removal from the socket-extension 3 and that the liner 12 must be removed prior to removal of the shade 6 from the socket-extension. The bright metal surface of the liner 12 acts as an effective reflector of light and, being within the molded shade 6, is not seen and does not detract from the unitary, neat and inconspicuous appearance of the molded socket and shade assembly.

Having thus set forth the nature of the invention, what I claim herein is:—

1. The combination with an electric lamp and lamp-socket, of a lamp-shade having a tubular shank fitted to said socket, said shank having recesses extending longitudinally thereof, and a thin sheet-metal liner disposed within and in spaced relation to said shade and having tongues at one end entering said recesses.

2. A lamp-shade liner comprising a thin sheet-metal body of semi-cylindrical form having at one end a plurality of inwardly bent ears terminating in tongues, said tongues being substantially parallel to one another.

3. A lamp-shade liner comprising a thin sheet-metal body of semi-cylindrical form having at one end a plurality of inwardly bent ears terminating in tongues, said tongues being substantially parallel to one another, the body of said shade being formed with outwardly extending indentations.

4. The combination with an electric lamp-socket and inverted-trough-shaped lamp-shade assembly, of an inverted-trough-shaped sheet-metal liner disposed within and spaced from said lamp-shade and slidably connected at one end to said socket and shade assembly.

5. The combination with an electric lamp-socket and inverted-trough-shaped lamp-shade assembly, of an inverted-trough-shaped reflector nested within and spaced from said lamp-shade and supported at one end only.

6. The combination with an electric lamp-socket and an inverted-trough-shaped lamp-shade of molded phenolic condensation material, of an inverted-trough-shaped sheet-metal reflector disposed within and spaced from said lamp-shade to provide an air-space of inverted-trough-shape, said air-space being open along its lower edges and at one end.

7. The combination with electric lamp and lamp-socket members, of a non-metallic lamp-shade having a metallic reflecting liner spaced inwardly therefrom and disposed between said lamp-shade and lamp to provide a free air-gap, which is open to the external atmosphere for ingress of cool air and egress of heated air.

8. The combination with horizontally disposed electric lamp and lamp-socket members, of an inverted-trough-shaped non-metallic lamp-shade having a similarly shaped metallic reflecting liner spaced inwardly therefrom to provide an air-gap open along the lower edges and at one end of the shade.

In testimony whereof I have signed my name to this specification.

HJALMAR HERTZ.