Dec. 12, 1950 W. O. LANGILLE 2,534,037

UNITARY SHADE, DEFORMABLE REFLECTOR, AND LENS ASSEMBLY

Filed April 5, 1946

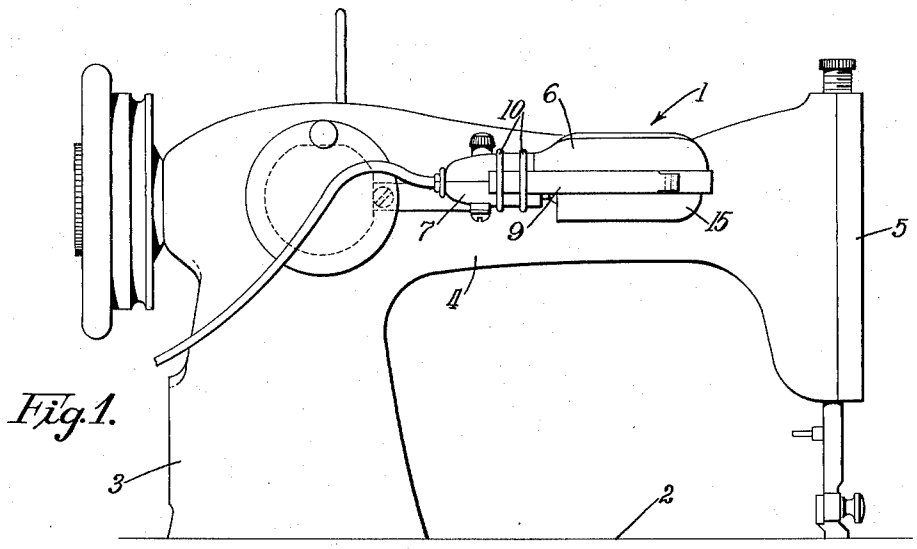


Fig. 1.

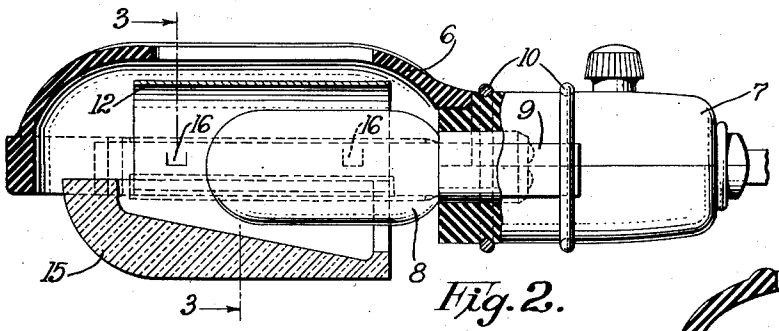


Fig. 2.

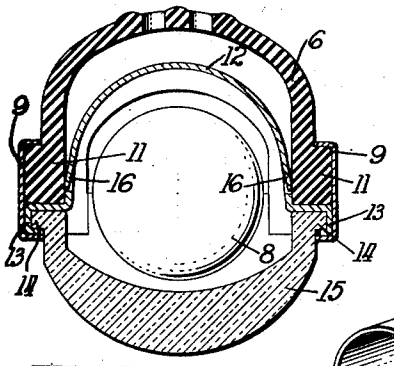


Fig. 3.

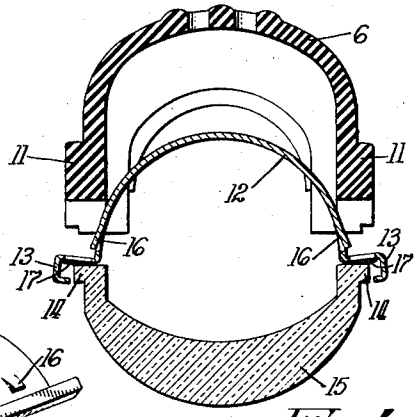


Fig. 4.

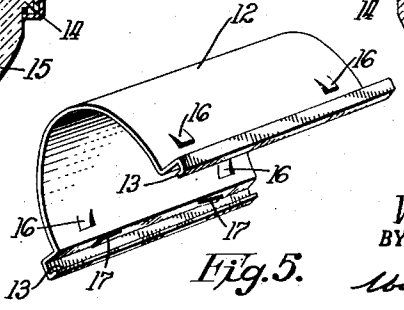


Fig. 5.

WITNESS

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UNITARY SHADE, DEFORMABLE REFLECTOR, AND LENS ASSEMBLY

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2 Claims. (Cl. 240—2.14)

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This invention relates to an improvement in electric lighting fixtures and especially lighting fixtures adapted for use with sewing machines and made of separable elements.

More particularly, this invention is an improvement in the lighting fixture set forth and described in U. S. Patent of Wilfred O. Langille and Kenneth Perkins, No. 2,347,420, April 25, 1944. The construction described in the aforesaid patent provides a lighting fixture wherein separable shade, reflector and lens elements are secured to a supported lamp-receiving socket so as to provide a unitary enclosure for a lamp held in said lamp-receiving socket, which enclosure may be readily removed to adequately expose the lamp to facilitate its replacement. It has been found that, when the shade, reflector and lens elements are jointly removed from the lighting fixture by sliding them endwise off the guideway provided by the prong members, said elements tend to separate easily and become disarranged unless securely held in the hand during replacement of the lamp bulb. This is undesirable because it either demands the use of a hand which can better be employed for the immediate task of replacing the lamp bulb, or requires the reassembly of the separable elements before the lighting fixture can be restored to normal use. It is not desirable, however, permanently to secure together the otherwise separable elements, as this would prevent easy cleaning and/or replacement of the individual parts.

It is, therefore, a primary object of this invention to provide an assembly for a lighting fixture in which shade, reflector and lens elements are normally adequately held in unitary assembled position by means of cooperative contours and the application of resilient frictional forces thereto, but which elements may be readily separated by simple release of these forces.

With the above and other objects in view, as will hereinafter appear, the invention comprises the devices, combinations and arrangements of parts hereinafter set forth and illustrated in the accompanying drawings of a specific embodiment of the invention, from which the several features of the invention and the advantages attained thereby will be readily understood by those skilled in the art.

In the accompanying drawings:

Fig. 1 is a rear elevational view of the bracket-arm of a sewing machine having mounted thereon a lighting fixture embodying the invention.

Fig. 2 is a longitudinal vertical sectional view, partly in side elevation, of a lighting fixture illustrating the invention.

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Fig. 3 is a vertical section on the line 3—3 of Fig. 2.

Fig. 4 is a vertical section similar to Fig. 3 and showing the shade, reflector and lens in partly disassembled relation.

Fig. 5 is a detailed perspective view of the reflector element per se.

Referring more particularly to the drawings, Fig. 1 portrays a lighting fixture 1 mounted on the rear side of a sewing machine having a frame comprising a cloth plate 2, and a standard 3 of a bracket-arm 4 terminating in the head 5.

The lighting fixture, itself, as shown best in Fig. 2, comprises an upper shade element 6, an adjacent lamp-receiving socket 7 for receiving a lamp 8, and lens-supports 9 secured to said socket 7 by means of wire snap-rings 10. The lens-supports 9 are of channel-shape in cross-section and are entered by the flanged edge-portions 11 of the shade element 6.

For a more complete general description of this lighting fixture, reference may be had to U. S. Patent No. 2,347,420, hereinbefore mentioned.

A reflector element 12, preferably of thin, resilient spring metal, is formed into a generally semi-cylindrical shape with reversely bent and channeled side flanges 13 adapted, when sprung inwardly, to embrace the out-turned edge-portions 14 of the lens element 15. The inwardly bent free edges of the flanges 13 are engaged by the lens-supports 9.

It will be seen from Fig. 4 that, in normal unsprung position, the span of the reflector element 12 between the flanges 13 is great enough to permit the sidewise entry of the lens element 15 as shown. Further upward movement of the lens element 15 springs the reflector element 12 into the shade element 6. This causes the flanges 13 to embrace the out-turned edges 14 of the lens element 15. Resilient ear portions 16 struck up from the reflector body are bent outwardly and, in the sprung position of said reflector, press firmly but resiliently against the inner surface of the shade element as shown in Fig. 3, and thus resist any ordinary tendency of the reflector to become separated from the shade element. The lens element, being secured by contour engagement to the reflector is also maintained in assembled position, with the result that a unitary enclosure for the lamp bulb comprising shade, reflector and lens elements is provided

which enclosure remains assembled as a unit even when removed from the lighting fixture.

Furthermore, the shade, reflector and lens elements, when removed in their assembled relation from the supports 9, may be readily disassembled by pulling downwardly on the lens element. This moves the reflector out of engagement with the shade element so that the inturned edges of the reflector element are free to spring apart to release the lens element. This construction requires the use of no separate fastening elements.

The upper flat portions of the reflector edges are provided with struck-up fingers 17, which yield slightly to take up slack and provide a snug fit between the lens edge 14 and the cooperating inturned edge portions 13 of the reflector 12.

It is advantageous to have the reflector, in its unsprung condition, completely disengage the lens element therefrom so that, once the reflector is detached from the shade element, no further manipulation is necessary to completely separate the elements. That is to say, the act of assembly locks up in the reflector a spring force which is later released to complete the act of disassembly.

From the foregoing, it will be perceived that I have provided a shade, reflector and lens assembly for a lighting fixture which assembly forms a unitary enclosure for a lamp bulb and which enclosure remains in its assembled form even after removal from the lighting fixture, but which may be disassembled into its three component parts by easy relative displacement of two of said parts.

It will be obvious to those skilled in the art that the invention may, without departure from its essential attributes, be embodied in various specific forms other than that shown and described, which latter is to be considered in all respects as illustrative of the invention and not restrictive; reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

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

1. In a lighting fixture, a rigid shade element, a rigid lens element having out-turned side-edge flanges, an elastically deformable reflector element having inturned channeled side-edge portions, the span between said channeled side-edge portions in the undeformed state of said reflector being greater than the span across the side-edge flanges of the lens element to permit sidewise entry of said lens element between the channeled portions of said reflector element, said flanges being held in releasable engagement with said channeled portions in the deformed state of said reflector so that the stress locked up in said deformed reflector may later be released to separate the lens from the reflector.

2. In a lighting fixture, a removable lamp enclosure therefor, comprising separable shade, reflector and lens elements, said shade and lens elements being rigid, said reflector element being flexible and having a flexed assembled state and an unflexed unassembled state, said reflector and said lens elements each having cooperating portions which are interlocked only in said flexed state so that the stress locked up in said reflector element in the flexed assembled state may later be released to separate the lens element from the reflector element.

WILFRED O. LANGILLE.

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