

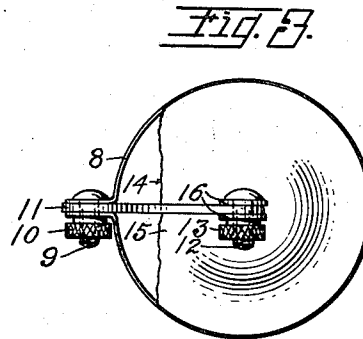
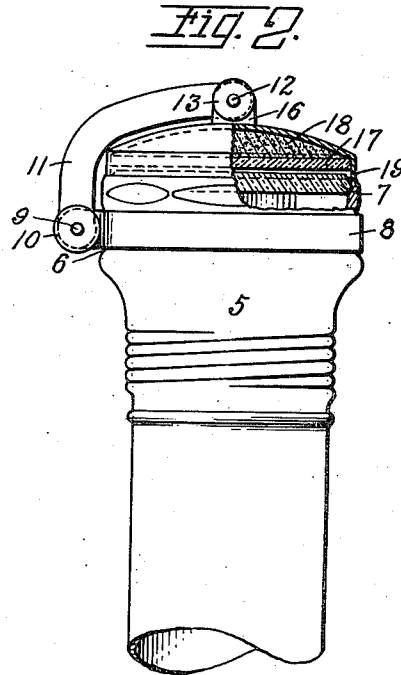
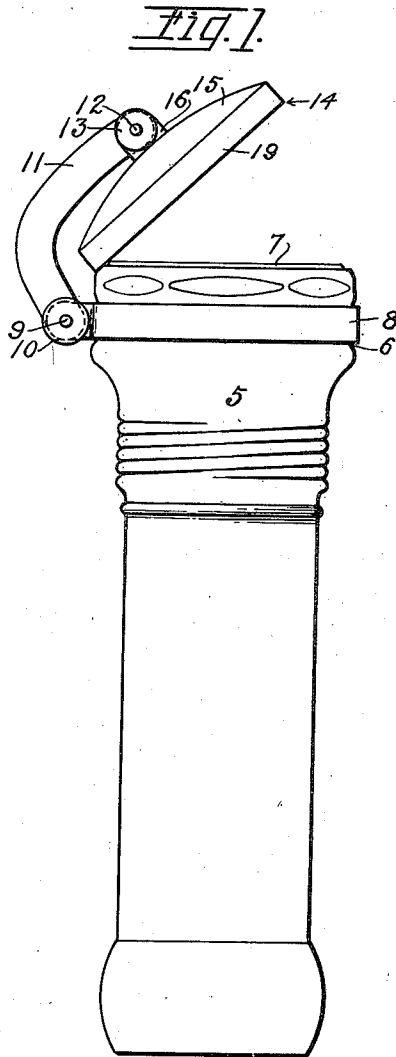
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REFLECTOR ATTACHMENT FOR FLASHLIGHTS

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## UNITED STATES PATENT OFFICE

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REFLECTOR ATTACHMENT FOR  
FLASHLIGHTSCharles Thoroughgood and Harold J.  
McLaughlin, New York, N. Y.Application May 11, 1935, Serial No. 20,925  
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4 Claims. (Cl. 240-6.4)

This invention relates to illuminating and reflecting devices, and particularly, an improved reflector attachment for flash-lights.

One object of this invention is to provide a reflector-attachment that, when in its normal folded relation on a flash-light, forms a very compact arrangement that occupies but slightly more space than the flash-light minus the attachment, and can be carried in a pocket or in the hands of the user without detriment thereto or to any carrier therefor.

Another object is to provide a device of this kind that includes a very simple and thoroughly effective dual clamp that serves the purpose of securing the reflector-carrying arm on the casing of the flash-light, and frictionally maintaining the said arm in any one of an infinite number of adjusted positions wherein it holds the reflector at an infinite number of different reflecting positions.

Another object is to provide such attachment with a second adjustable clamp to secure the reflector-unit frictionally on the adjustably mounted arm in such relation that the variety of adjustments is increased.

Another object is to provide the reflector-unit with a peripheral protecting flange that serves alike to protect the reflector or reflecting surface and the lens of the flash light.

The object or purpose of adjusting the reflector angularly with respect to the projected light-rays is to diffuse the light while directing it to any desired place nearby, for instance, onto a stairway about to be ascended or descended.

Other objects and important features are pointed out or implied in the following details of description, in connection with the accompanying drawing in which:

Fig. 1 is a side elevation of a flash-light having the improved reflector attachment secured thereon and adjusted angularly. Fig. 2 is a fragmental sectional view showing a part of the casing of the flash-light having the reflector attachment thereon in its normal folded or closed position, the part in section showing the reflector and lens spaced from one another and surrounded by a protecting flange or rim.

Fig. 3 is a front end view of the reflector attachment detached, a part of the reflector-unit being broken away to clearly disclose the frictional joint of the clamp-band and the reflector-carrying arm.

Referring to the drawing in detail, wherein the similar reference numerals refer to similar

parts in the several views, the invention is described as follows:

The flash-light-casing is shown at 5, and includes a substantially cylindrical part 6 and a lens 7. The reflector-attachment consists of a clamp-band 8, a clamp-screw 9, a clamp-nut 10, an arcuate or substantially L-shaped link or arm 11 having apertured ends, a clamp-screw 12, a clamp-nut 13, and a reflector-unit 14.

The reflector unit, in this embodiment of the invention, comprises a concave disc 15 having spaced apertured ears 16 united with its central outer part and being somewhat flexible so as to serve as clamping elements which are spaced just sufficiently to receive between them the link or arm 11 and to combine with the clamp-elements 12 and 13 for frictionally holding the disc 15 and its dependents in different adjusted positions in front of the lens 7. Said dependents of the disc are the reflecting plate 17, the cement or securing medium 18 and the protecting flange or rim 19, the latter protruding beyond the face of the reflecting disc and normally resting against the margin of the adjacent end of the casing 5.

From the foregoing, and in the drawing, it is seen that the parts 8, 11 and 14 are pivotally united by means of the clamp-screws 9 and 12, and that by tightening or loosening the clamp-nuts 10 and 13, the frictional resistance is increased or decreased so as to effectively maintain the parts in the desired adjustments, while permitting the changes of adjustment to be made easily and quickly.

It is not intended to limit the patent protection to the precise details shown and described in the foregoing, for the invention is susceptible of numerous changes within the scope of the inventive ideas, as implied and claimed, for instance, the reflector may be of metal instead of glass as indicated, and means other than that shown at 18 may be employed for securing the reflector in place.

What we claim as our invention is:

1. In an attachment for a flash-light, the combination of a clamp-band of proper size and shape to embrace a casing of a flash-light, a substantially L-shaped arm pivotally and frictionally connected to said clamp-band in proper relation for being angularly adjusted about its pivotal connection and to be frictionally held at different adjustments, and a reflector-unit pivotally and frictionally connected to said arm in a proper relation to be moved to different angularly adjusted positions and frictionally maintained thereat, the substantially L-shaped arm

providing a compact arrangement in relation to said clamp-band and reflector-unit while the latter is in its normal substantially parallel relation to said clamp-band.

- 5 2. In combination with a flash-light casing having a light-projecting end, a reflector-unit including a peripheral flange around the reflecting surface and normally resting on said light-projecting end of the casing, said reflector unit having a pivot-bearing on the side opposite to said reflecting surface, a pivot-bearing on said casing, and an arm having apertured ends pivotally connected to the first said and second said pivot-bearings and also frictionally engaged therewith
- 10 so as to permit the reflecting surface to be moved to an infinite number of various angular adjustments with respect to said light-projecting end.

3. The combination with a flash-light casing having a light-projecting end, a clamp-band normally embracing said casing and having spaced apertured ends, a reflector-unit having its reflecting surface normally extending across said light-projecting end of the casing, said reflector-unit having spaced yielding pivot-bearings on the side opposite to said reflecting surface, an arm having apertured ends disposed respectively between the apertured ends of the clamp-band and
- 15 20 25

between said yielding pivot bearings, clamp-screws forming pivots that pass respectively through the apertured ends of the said arm and through the said apertured ends of the clamp-band and through the said yielding pivot bearings, and clamp-nuts operatively fitted on the respective clamp-screws for causing the clamp-band and the yielding pivot-bearings to frictionally clamp said arm with various pressures, substantially as shown, for the purpose specified.

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4. The combination with a flash-light casing, of a reflector-unit having a reflecting surface on a side normally across the light-outlet of said casing, said reflector unit having a frictional pivot bearing on a side opposite to said reflecting surface, an arm pivotally connected to said pivot bearing and frictionally engaged with the latter for maintaining it in different adjustments, and a dual clamp including a pivot engaged with said arm, said dual clamp also including means to clamp an element of said casing and means to frictionally clamp said arm so as to permit the latter to be adjusted and to hold it in different adjustments.
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