

240
1.3

April 11, 1961

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2,979,601

PHOTOGRAPHIC FLASH ATTACHMENT

Filed Nov. 20, 1957

x 2649

Fig. 1.

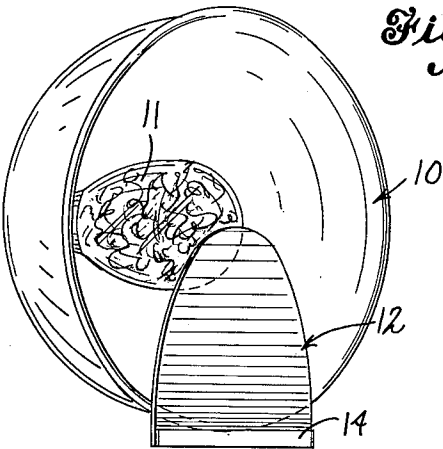


Fig. 2.

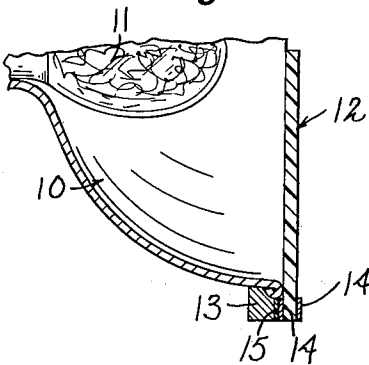
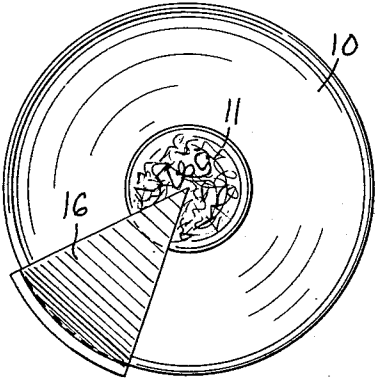


Fig. 3.



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PHOTOGRAPHIC FLASH ATTACHMENT

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Filed Nov. 20, 1957, Ser. No. 697,628

2 Claims. (Cl. 240—1.3)

This invention relates to attachments for photographic flash units.

It is the purpose of this invention to provide small area control of the light intensity emitted by flash bulbs and their reflectors.

Other objects of the present invention are to provide an attachment for photographic flash units which is inexpensive in manufacture, completely controllable in density ratio, and mobile in its directional area.

The problem which this device helps to solve has been intensified by automatic processing. No longer is it possible to dodge in too light areas on the print or transparency. Such control is not a part of automation. It therefore is necessary to shade light areas at the time of making the original exposure. This can be done with my shading filter.

For a better understanding of the invention, reference may be had to the following detailed description in connection with the accompanying drawing, in which:

Fig. 1 is a perspective view of a light filter embodying the invention and illustrating the filter in association with a light reflector and a photographic flashbulb;

Fig. 2 is a fragmentary elevational view partially in section illustrating the apparatus of Fig. 1; and

Fig. 3 is a front elevational view of a modified form of the light filter, and showing the same in association with a light reflector and a photographic bulb.

Referring now to the form shown in Figs. 1 and 2 of the drawing, there is shown a conventional photographic reflector 10 and photographic flashbulb 11. In the illustrated practice of my invention a graduated filter, indicated generally at 12, of predetermined density ratio is attached to the rim of the reflector 10 constructed of ferrous material by means of a magnet 13. The base of the filter is provided with a strip 14 of cardboard on each side. This sandwich may be fastened together with glue. A ferrous metal strip 15 is permanently secured in any suitable manner to one strip 14 for magnetic attraction to the magnet 13. This method of mounting allows the filter to be placed at any point along the 360 degrees of the reflector rim, thus giving mobile control of the graduated shading of the filter.

As shown, the photographic light reflector is provided with a concave light-reflective surface having an outer opening and the light bulb is located centrally with respect to the last-named surface. The filter 12, supported from a marginal portion of the reflector, extends over a portion of the reflector surface in spaced relation thereto and outwardly of the bulb, the area of the filter being substantially less than the opening in the reflector, so that a substantial portion of the reflective surface is uncovered. The filter 12 has a broad base portion to extend over a portion of the rim of the light-reflective surface, and has a portion tapering radially inwardly toward the bulb to cover at least a portion of the latter. The filter is of graduated density, the density increasing in a direction radially outwardly from the bulb, so that light rays from the bulb may pass through the filter less readily in

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the region near the margin of the reflector, whereby light from the bulb is reflected past the periphery of the filter in some areas and light emitted from the bulb is filtered in the area of the filter to gradually lessen the illumination of a portion of the foreground of the subject. The use of two or more such filters gives control over several areas at once. The filter itself may be made in several shapes. In the modified form shown in Fig. 3 the filter, indicated generally at 16, is identical to the filter 12, except that the filter 16 has the shape of an isosceles triangle with the base of the triangle being radially outermost. The base of the triangle is mounted on the reflector rim in a manner similar to the mounting of the base of the filter 12. For general use, that shown in Fig. 1 is most practical. In each form the light rays controlled by the filter vary with the density ratio of the filter. This ratio may be from clarity at its lightest part to opacity at its darkest. The most useful range is contained within 3% to a maximum of 50% opacity. By using several filters of different ratios, say a 3% to 20% in conjunction with a 3% to 50%, the intensity of light reaching any given subject area is readily controlled by the operator. The filter themselves may be made in several ways. The most simple is by means of photographic film exposure to a controlled light source and subsequent development of the negative. The negative thus made and its densities measured allows of multiple reproduction photographically to specific densities in the filters. A similar result could be achieved by printing figures or lines on a suitable base.

The material used for the filter may be any substance that is transparent or translucent—preferably a suitable organic plastic material. The pattern of graduation may vary in direction, that is, diagonally rather than vertically, and be wavy rather than even in tone. This filter may be made of a polarized material for further control. Dyes may be incorporated with these filters for special effects.

It will be apparent that this filter may be used on any flashlight unit. It allows flexible control by the operator in both the amount of light allowed to pass and the area affected by the use of two or more units. This filter is different from earlier filters in that it does not control the entire light output but allows small area precision control with little interference in the normal light pattern produced by any particular reflector and bulb.

It is understood that this filter may be used on other sources of energy than photographic flash units for a similar purpose.

What is claimed is:

1. A flash attachment comprising a photographic light reflector provided with a concave light-reflective surface, having an outer opening and having a light bulb centrally located therein with respect to said surface, and a shading filter supported from the reflector extending over a portion of the reflective surface in spaced relation thereto and outwardly of the bulb, the area of the filter being substantially less than the opening in the reflector so that a substantial portion of the reflective surface is uncovered, the filter having a broad base portion extending circumferentially over a portion of the rim of said light-reflective surface and having a portion tapered radially inwardly toward the bulb and covering at least a portion of said bulb, and the filter being of graduated density, the density increasing in a direction radially outwardly from the bulb so that light rays from the bulb may pass through the filter less readily in the region near the margin of the reflector, whereby light from the bulb may be reflected past the periphery of the filter in some areas and light may be filtered in the area of the filter to gradually lessen the illumination of a portion of the foreground of the subject.

2. A flash attachment comprising a photographic light

reflector provided with a concave light-reflective surface, having an outer opening and having a light bulb centrally located therein with respect to said surface and a shading filter supported from a marginal portion of the reflector, the filter extending over a portion of the reflective surface in spaced relation thereto and outwardly of the bulb, the area of the filter being substantially less than the opening in the reflector so that a substantial portion of the reflective surface is uncovered, the filter having substantially the shape of an isosceles triangle with the base thereof extending throughout a portion of the rim of said light-reflective surface, the apex of the triangle extending radially of the reflector and covering at least a portion of the bulb and the filter being of graduated density, the density increasing in a direction radially outwardly from the bulb so that light rays from the bulb may pass through the filter less readily in the region near the margin of the reflector, whereby light from the bulb may be

reflected past the periphery of the filter in some areas and light may be filtered in the area of the filter to gradually lessen the illumination of a portion of the foreground of the subject.

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