

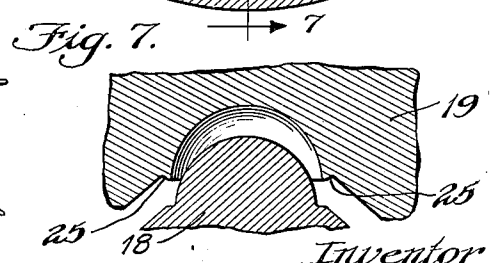
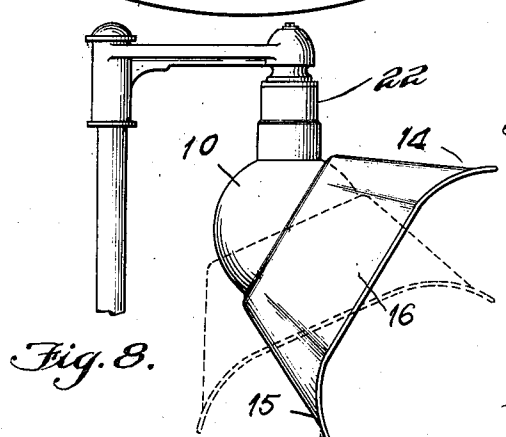
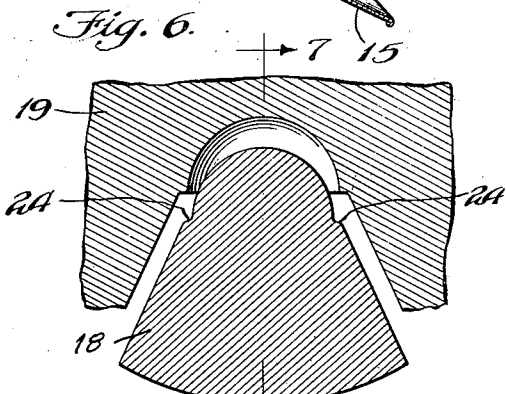
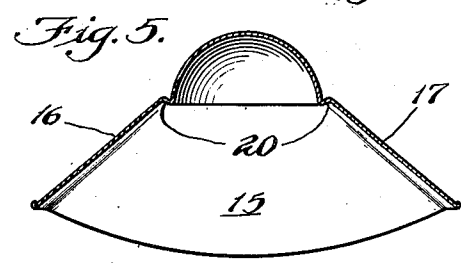
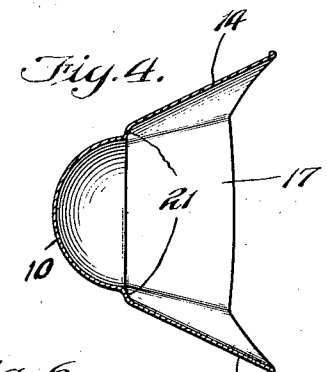
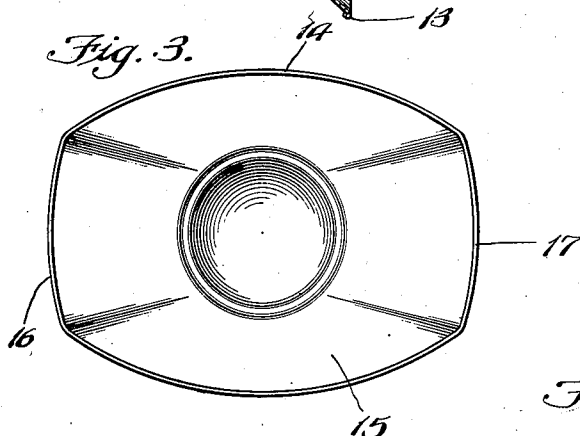
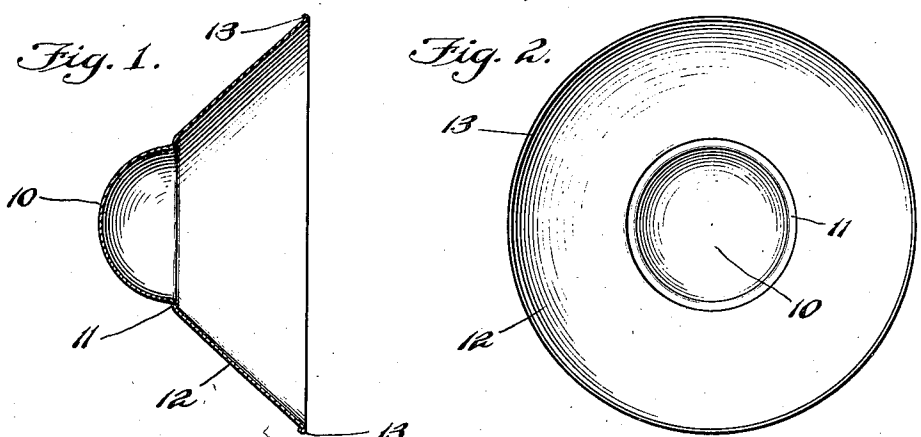
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2,258,875

METHOD OF MAKING REFLECTORS

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METHOD OF MAKING REFLECTORS

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8 Claims. (Cl. 113—116)

An object of the invention is in the provision of a method of making a reflector having a distorted portion made from a reflector of regular shape without distorting a portion thereof.

A further object of the invention is in the provision of a method of making a flood-light reflector with a distorted rim for directing light therefrom to cover a certain area by utilizing a reflector of regular shape having a spherical fixed surface with a flanged ring connecting a flaring rim thereto so that when the rim is distorted the ring will assume a corresponding angular set which prevents distortion of the spherical supporting portion.

Other and further objects of the invention will appear hereinafter, the accompanying drawing illustrating a shade or reflector and the method of making it in accordance with the invention. In the accompanying drawing,

Fig. 1 is a section, and

Fig. 2 is a view of the inside of a circular reflector;

Fig. 3 is an inside view of a reflector when distorted for flood-light or other purposes;

Fig. 4 is a vertical section, and

Fig. 5 is a horizontal section of the reflector shown in Fig. 3;

Fig. 6 is a fragmentary section of dies for forming the distorted reflector;

Fig. 7 is a section taken on the line 7—7 of Fig. 6; and

Fig. 8 shows a reflector of this kind as supported by a post.

In making reflectors for special purposes, such as flood-light reflectors for concentrating or particularly directing illumination from a lamp in a certain direction or to cover a certain area, it is desirable to modify the ordinary round flaring reflector or shade and to bend or distort a portion thereof, particularly the flaring rim, in certain of the dimensions. Such bending or distortion is liable to deform the central or supporting portion of the reflector and thereby to make it practically impossible to apply a supporting and lamp holding neck thereto because of the unevenness or such distortion. A further objection to the distortion of a circular reflector, or other reflector of regular shape, is that unless provision is made for holding the rim or other portions in the desired shape, they will tend to buckle and bend, particularly when used in the open air and subject to the ordinary weather conditions.

The present invention overcomes these objections by providing a reflector of regular shape, preferably circular, in which the central portion

is formed with a curved, preferably spherical, attachment portion which is fixed in shape and curvature having a flanged ring extending therefrom with an outwardly flaring rim forming a continuation of the flange. This regularly shaped reflector is formed in the desired shape by bending, deflecting or distorting the rim portions, preferably in male and female dies provided for that purpose, the bending operation causing a corresponding distortion or set to be imparted to the connecting flange ring, bending it more or less with respect to its first or original position and thereby preventing any bending or distortion from being imparted to the central or supporting portion of the reflector.

Referring now more particularly to the drawing, a so-called regular and continuous circular reflector is shown in Figs. 1 and 2, having a circular curved central portion 10 preferably spherical in curvature and embracing something less than a semisphere. Extending continuously from the outer edge of the central portion is a flanged ring 11 and extending continuously from the ring is a flaring rim 12 with beading 13 at the outer edge thereof. Reflectors of this kind are made of a single piece of flat material, being shaped by a mold or preferably by spinning, which imparts the desired size, shape and angular relations thereto.

In order to modify or alter the shape of the reflector, pressure may be applied to opposite sides of the rim as 14 and 15, 16 and 17, in Fig. 3, to produce a rounded rectangular form as shown. This may be accomplished by means of male and female dies 18 and 19 between which the circular blank is placed and then the dies moved together to deflect the sides under pressure to form them into the desired shape. In shaping or deforming the flange of the circular reflector to produce the desired new shape the flanged ring 11 is also accordingly deformed, the flange being bent backwardly in the portions 20 when the rim sections 16 and 17 corresponding thereto are deflected to a great flaring inclination, and the flanged sections 21 being bent inwardly when the rim sections 14 and 15 are compressed inwardly so that they are flared to a less degree. In other words the portions of the flange 11 are deflected or distorted in accordance with the shaping or distortion of the rim sections to which they relate.

The distorted flange ring portions thereby acquire a permanent inclination or set which is not communicated to the permanently curved central portion 10 of the reflector and a supporting

and lamp holding shell or collar 22 may therefore be attached to the curved or spherical portion 10 at any portion thereof and at any angle thereto without danger that it will not fit properly or cannot be properly attached to the spherical portion by reason of any distortion thereof.

In order that the flanged ring portions may receive their proper inclination or set without improper restriction thereof, the forms 18 and 19 are provided with corresponding recesses 24 and 25 which permit the flange portions 21 and 20 to be deflected freely within the male and female dies when pressure is applied for shaping or distorting the flaring rim thereof. In other words the portions of the dies which are adjacent the ring 11 while it is being formed are spaced from actual contact with the flange ring so that it is free to bend and acquire a set in opposite directions from its normal or central portion, depending upon the direction of bending the rim portion corresponding thereto. Thus the permanent set or inclination is given to the ring which prevents distortion of the central spherical portion. After the reflector receives its permanent set or formation it is fitted with a holding and lamp supporting sleeve or shell 22 at any desired angle or inclination thereto, the surfaces of the reflector are painted, coated with enameling material, and are then dried or fired in a well known manner. The shape or distortion as shown is only by way of example as various shapes, inclinations and distortions may be provided, depending upon the use for which the reflector is designed and intended.

I claim:

1. The method of making shades and reflectors which consists in forming a metal sheet with a central permanently rounded portion having a connected flat ring and an outwardly flaring rim, in pressing opposite sides of the rim toward each other, and in distorting the ring without distorting the central rounded portion to which it is connected.

2. The method of making a reflector of sheet metal which consists in forming the center with a permanently curved central portion having a ring extending at the edge thereof and an outwardly flaring continuous rim, in pressing opposite sides inwardly and the opposite portions between the first named sides outwardly, in distorting the connecting ring by bending adjacent portions thereof in opposite directions from their central or original position and in protecting the permanently curved central portion so that it is unaffected by the distortion of the ring.

3. The method of making a reflector from sheet metal which consists in forming the center with a permanently spherical portion having a ring extending therefrom and a rim extending as a continuation of the ring and flaring outwardly therefrom, in bending adjacent portions of the rim in opposite directions, and in distorting the ring accordingly without affecting the said spherical portion.

4. The method of forming reflectors and shades from a sheet metal spinning which consists of a permanent spherical portion at the center with a narrow ring and a rim flaring uniformly therefrom, in pressing opposite portions of the rim inwardly to distort the ring by bending it at its junctures with the spherical portion and the rim without distorting the curvature of the spherical portion.

5. The method of making shades and reflectors from sheet metal spinnings which comprise a center with a permanently curved spherical portion having a continuous rim flaring outwardly therefrom and connected to the central portion by a ring extending at an angle to both the central and rim portions, which consists in distorting the rim by pressing adjacent sections thereof in opposite directions to bend the corresponding ring sections in opposite directions from their original flaring positions without deflecting the central curved portion, and in holding the rim to its distorted shape as the ring sections are bent.

6. The method of making distorted shades and reflectors which consists in first forming them in regular circular form having a permanently curved center, a flaring rim, and a connecting ring portion, in then distorting the rim by pressing portions thereof inwardly and other portions outwardly to the desired shape, and in inclining the connecting ring so that it is distorted but leaving the centrally curved portion unaffected.

7. The method of making distorted reflectors from circular ones which consists in spinning a metal sheet to form a permanently curved central portion having a flanged ring extending therefrom and a flaring circular rim as an extension of the ring, in placing the spinning thus formed in a shaper which presses some portions of the rim inwardly and some portions of the rim outwardly from their original flaring inclination, and at the same time in bending the connecting ring portion to distort it without distorting the centrally curved portion.

8. The method of making a reflector from a circular sheet metal spinning, having a central permanently set curved portion, a ring extending therefrom, and an outwardly flaring rim forming an extension of the ring, which comprises applying this spinning to a former for engaging the inside and outside of the centrally curved portion and the rim thereof for distorting the latter to any desired shape but leaving the ring free from engagement by the mold parts so that it is free to bend in accordance with the bending of the ring portion adjacent thereto, in imparting permanent set to the ring, and in holding the rim as deflected by the mold parts without distorting the centrally curved portion of the spinning.

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