O. A. MYGATT.

PRESSED OR MOLDED RIBBED GLASSWARE.

APPLICATION FILED JULY 1, 1909.

1,042,463. Patented Oct. 29, 1912.

FIG. 1.

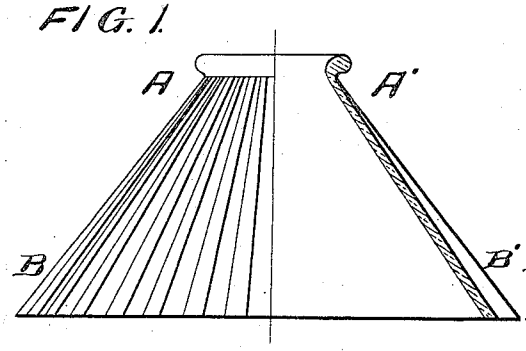


FIG. 2.

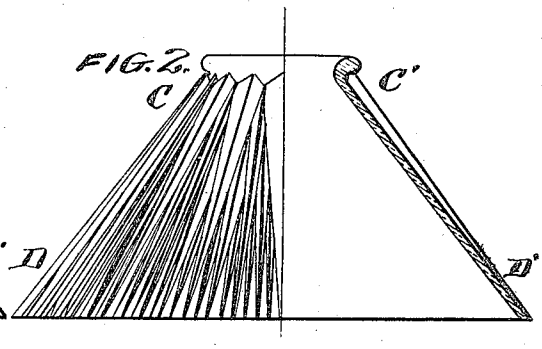


FIG. 6.

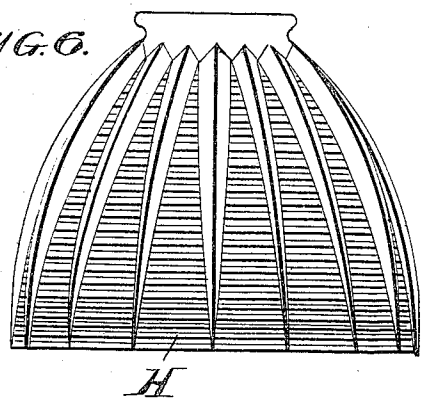
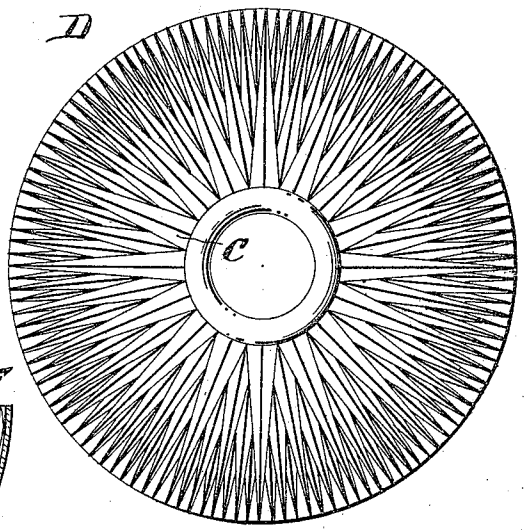


FIG. 3.



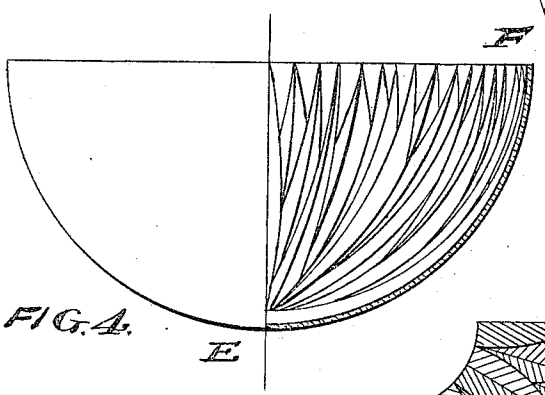
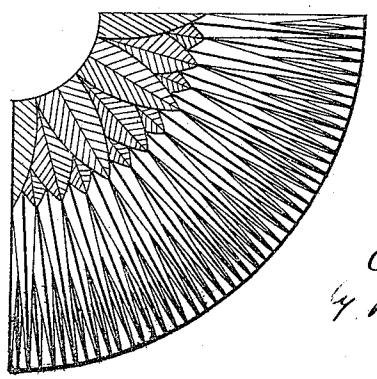


FIG. 4.

FIG. 5.



WITNESSES

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PRESSED OR MOLDED RIBBED GLASSWARE.

1,042,463. Specification of Letters Patent. Patented Oct. 29, 1912.

Application filed July 1, 1909. Serial No. 505,435.

To all whom it may concern:

Be it known that I, OTIS A. MYGATT, a citizen of the United States, residing at New York, in the county and State of New York, have invented certain new and useful Improvements in Pressed or Molded Ribbed Glassware.

The object of this invention is to improve radially ribbed pressed glass inclosures, for illuminating purposes such as reflectors, shades and similar articles, and to produce such articles with a thinner edge and of a construction which enables better and more uniform results to be obtained than has been the case with ribbed glassware as heretofore made.

It is of special advantage in glass reflectors with radial or approximately radial double reflecting prisms, making a material increase in their reflective efficiency.

As heretofore made, the prisms of prismatic glass reflectors and shades have been smallest in cross-section at the neck of the reflector where the diameter of the article is least and have gradually increased in size, being largest at the mouth of the reflectors where its diameter is the greatest. This construction produces a relatively heavy article with a thick edge. The reflectors are removed from the mold at a temperature at which the portions of the prisms near the neck which are formed in the bottom or hottest part of the mold tend to run and lose their shape. When these parts of the prisms are small a very slight deformation will destroy the reflecting power of the prism. Also as the molten glass mass is forced upward in the grooves and cavities of the mold under the pressure of the plunger, it decreases in volume and cools to a sufficient extent to flow less freely. The spaces to be filled, however, are larger, and the result is that the larger parts of the prisms are very apt to be imperfect.

Reflectors made according to this invention are better balanced upon their supporting fixtures than prismatic reflectors of the old type, because of the better distribution of the weight.

In reflectors made according to my invention the parts of the prisms which leave the mold at the highest temperature are largest in cross-section so that a slight deformation will not destroy their reflecting properties. The grooves into which the flowing glass is forced decrease in size as the volume of the molten mass diminishes so that there is less strain on the apparatus and the prisms are formed of greater perfection and sharpness of outline. Less glass is required, the article is lighter in weight and it comes from the mold with a much thinner edge. The thin edge is not only desirable for the sake of appearance, but is also advantageous when it is desired after removal from the mold to crimp the edge, flare it in or out or finish it to any required shape or size.

The same principle applied to light transmitting shades results in a saving of material, a reduction in weight, and the production of a more uniform and perfect ribbing. The advantages of the thinner edge from the point of view of appearance and from the increased facility of finishing to any desired shape is equally great as in the case of reflectors.

As the ribbings taper from the neck to edge of a reflector or between the corresponding parts of other glassware, there are left gradually widening intermediate spaces. These spaces may be provided with successive sets of similar ribbings. If desired, they may be depolished or provided with vertical or radial or with transverse ribbings of any desired construction.

In instances where the diameter of the glass article remains constant or does not appreciably increase, the advantages of my construction are not as great as in glassware of converging shape. There is still, however, a very marked saving in weight and the article thus produced may be made very attractive in appearance, especially as ribbings of this type may be constructed and arranged in decorative forms.

Figure 1 is a partial elevation and partial section of a reflector as heretofore made. Fig. 2 is a partial elevation and partial section of a reflector constructed according to my invention. Fig. 3 is a top plan view of the reflector shown in Fig. 2. Fig. 4 is a partial elevation and partial section of a hemisphere constructed according to my invention. Fig. 5 is a top plan view of a reflector in which the principles of a modification of my invention are applied. Fig. 6 is an elevation of a modified shade-reflector.

Fig. 1 is a reflector as heretofore made, shown partly in side elevation and partly in section. The exterior radial reflecting prisms as they proceed from the collar part A A′ to the mouth part B B′ increase uniformly in width and height, resulting in a thick edged comparatively heavy and clumsy article. If a prism is of any substantial size at point A′ it becomes cumbrously large when it reaches point B′. If on the other hand the prism is of the desired size at point B′ it will be relatively small in the vicinity of point A′, and it is impossible to avoid considerable loss of reflective qualities at this point on the reflector being taken from the mold.

The reflector, shown partly in elevation and partly in cross-section in Fig. 2, and in a top plan in Fig. 3, is constructed according to the principles of the present invention. For convenience in both this figure and Fig. 1 a simple cone-shaped reflector is shown, although other shapes may be used as hereinafter illustrated. In this reflector there are a plurality of sets of double-reflecting radial prisms which taper outwardly. The first set of prisms begin at the collar part C C′ of the reflector and taper uniformly to the wider mouth part D D′. The spaces between these prisms are provided with a second set of similarly constructed prisms. A third set of prisms occupies the spaces between the second set of prisms, and so on. At the portion C C′ of the reflector which leaves the mold at the highest temperature the prisms are largest and their reflective powers least affected by slight deformation. The smallest portions of the prisms at D D′ are much sharper and more nearly perfect when formed in the upper part of the mold than when formed in the lower narrowest part into which the molten glass is poured before the plunger is inserted. The prisms being smallest at D D′ where the diameter is greatest, less material is required than for the form of construction shown in Fig. 1, resulting in the production of a thin edged lighter article. Actual tests show that in addition to the very substantial decrease in weight and gain in appearance given by my improved construction there is a decided gain in reflecting efficiency over the old form of construction. In this modification the prisms have taken the form of diamonds. These serve to reflect the light back and forth within the shade and since the number of diamonds is increased in the lower portion of the shade, the light rays as they descend will be more and more broken up. Not only is a brilliant appearance imparted to the shade but the light is reflected back and forth within the shade by successively large numbers of diamonds or parts of diamonds.

Fig. 4 is a shade hemispherical in form and provided on its inner surface with light diffusing ribs. These ribs taper uniformly from point E to the widest part of the shade at F. The intermediate spaces are provided with successive sets of similar ribbings.

Fig. 5 is a top plan view of a reflector illustrating one of the numerous decorative forms in which the principles of my invention may be embodied. Successive sets of petal shaped prisms are formed near the collar portion which may be either reflecting or light transmitting, and series of radial reflecting prisms of the type shown in Figs. 2 and 3, are formed upon the reflector in the neighborhood of the outer rim.

Fig. 6 is a side elevation of a shade-reflector having on its outer surface the radial reflecting prisms extending integrally from the neck B to the mouth C and having the intermediate spaces provided with the horizontal light transmitting and light directing ribs.

While I have shown and described reflectors and shades having radial ribs my new construction may be extended (as already indicated) to articles of this sort in which the ribbings are not radial, provided that a thinning or narrowing of the ribbing in the direction of its length results in the formation of an article with a thin edge.

I claim:

1. A glass body having a series of tapering ribs thereon, said ribs being relatively larger and nearer one another at points nearest the axis of the glass body and smaller and farther apart at points more remote from the axis.

2. A hollow glass body of larger diameter at one end than at the other, said body having thereon ribs arranged approximately in the planes of the axis of the body, said ribs decreasing in dimensions from the smaller portion of the body toward the larger portion thereof.

3. A flaring hollow glass body having thereon tapering ribs arranged with their larger portions adjacent to the smaller end of the body.

4. A flaring hollow glass body having thereon a plurality of tapering ribs, the ribs being arranged with their larger ends toward the smaller portion of the body and their smaller ends extending toward the larger portion of the body.

5. A hollow glass body of divergent shape having thereon a plurality of ribs arranged with their bases adjacent to the smaller portion of the body, said ribs decreasing in size toward the larger portion of the body, and other ribs arranged intermediate the ribs first mentioned, said other ribs having their larger portions toward the smaller part of the body and extending toward the other portion of the body.

6. A hollow flaring glass body provided

with a series of reflecting prisms extending approximately from one end of the body to the other, said prisms decreasing in dimensions from the smaller portion of the body toward the larger portion thereof, and shorter prisms arranged between the portions first mentioned, said shorter prisms having their larger portions directed toward the smaller portion of the body and their smaller portions extending toward the larger portion of the body.

7. A glass reflector, or the like, comprising a collar portion and an open mouthed side portion extending therefrom, the side portion having thereon tapering ribs extending approximately from the collar to the mouth, the larger portions of the said ribs being adjacent to the collar and the smaller portions being adjacent to the mouth.

8. A glass reflector, or the like, comprising a collar portion and a flaring side portion extending therefrom, the side portion being provided with tapering ribs, the larger portions of the ribs being arranged adjacent to the collar.

9. A glass reflector or the like, comprising a collar portion and the flaring side portion extending therefrom, the side portion being provided with tapering reflecting prisms arranged with their larger portions adjacent to the collar.

10. A glass reflector or similar article, comprising a collar portion and an open mouthed flaring side portion, the side portion being provided with a plurality of sets of prisms arranged approximately in the planes of the axis of the reflector, each of said prisms tapering in size from one end to the other and being arranged with its larger portion toward the collar.

11. A glass body having a series of tapering reflecting prisms thereon, said prisms being relatively larger and nearer one another at points nearest the axis of the glass body and smaller and farther apart at points more remote from the axis.

12. A pressed glass shade having a smooth interior, the exterior portion of the shade having projecting diamonds, the shade increasing in diameter toward the bottom and the bottom rows containing a larger number of smaller diamonds than the upper row or rows.

13. A crystal glass shade which enlarges in diameter downwardly, said shade having external projecting diamonds arranged in circular rows, the diamonds in the lower rows being smaller than those in the upper rows and of much greater number.

14. A crystal glass shade having a larger diameter at its lower end than at its upper end and provided with integral external diamond-shaped projections, there being a larger number of smaller diamonds around the lower part of the shade than around the upper part.

15. A glass shade having external diamonds arranged in circular rows, the lower half of the full diamonds in one of the upper rows overlapping the diamonds in two of the lower rows.

16. A glass shade having external diamonds arranged in circular rows, the lower half of the full diamonds in one of the lower rows being equal to the length of the diamonds in the row below it.

17. A glass shade having external diamonds arranged in circular rows, the lower rows containing more diamonds than the upper rows, the lower portions of the diamonds in one row being longer than the upper portions of said diamonds.

In testimony whereof, I have signed my name in the presence of two witnesses.

OTIS A. MYGATT.

Witnesses:
JOEL B. LIBERMAN,
ERNEST P. RAY.