Dec. 14, 1948. N. CHIRELSTEIN 2,456,376

DISPLAY LAMP

Filed March 27, 1948 2 Sheets-Sheet 1

Fig. 1.

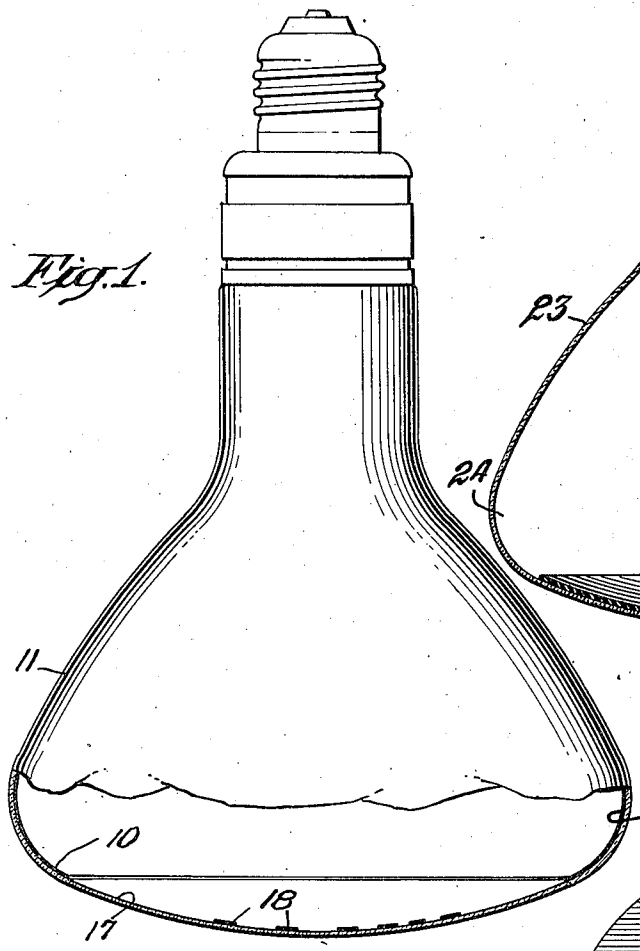


Fig. 3.

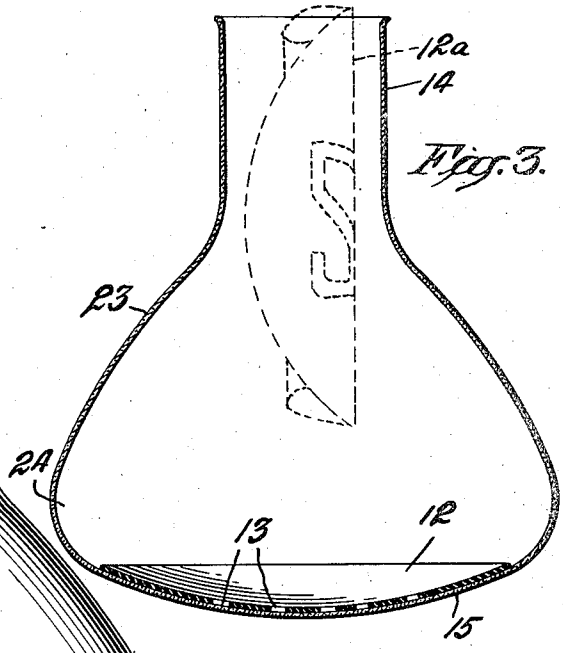


Fig. 2.

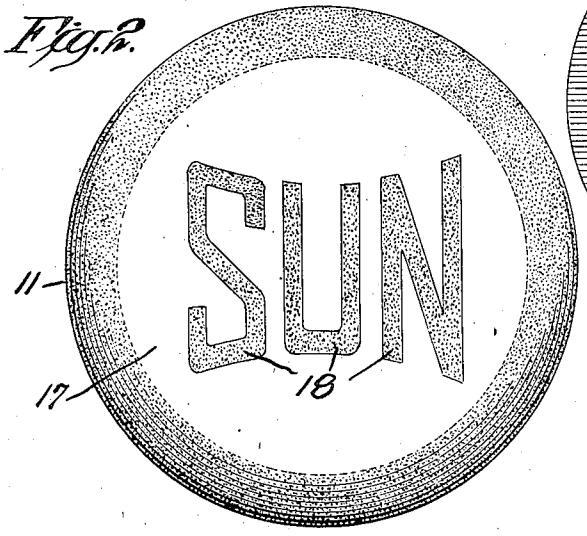
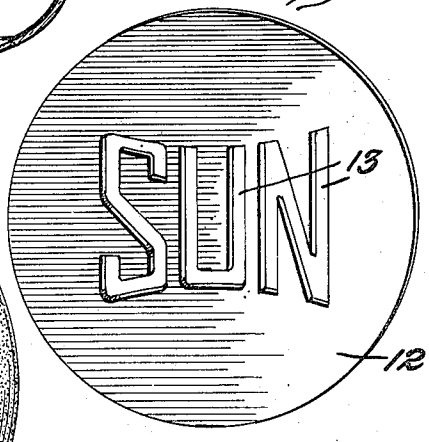


Fig. 4.



NATHAN CHIRELSTEIN
INVENTOR.

BY Philip S. McLean.
ATTORNEY

Dec. 14, 1948. N. CHIRELSTEIN 2,456,376

DISPLAY LAMP

Filed March 27, 1948 2 Sheets-Sheet 2

Fig. 5.

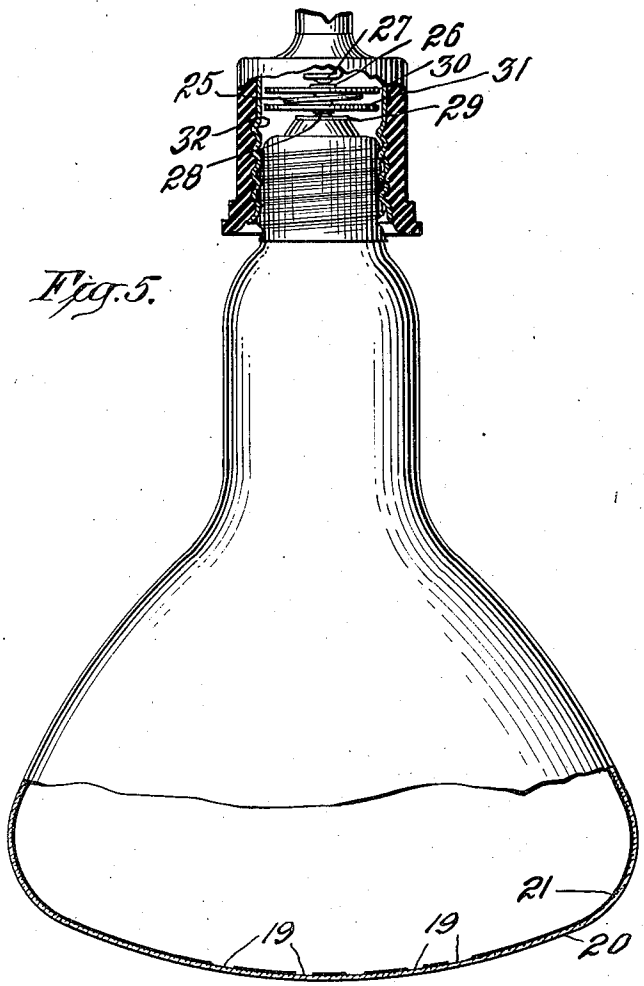


Fig. 6.

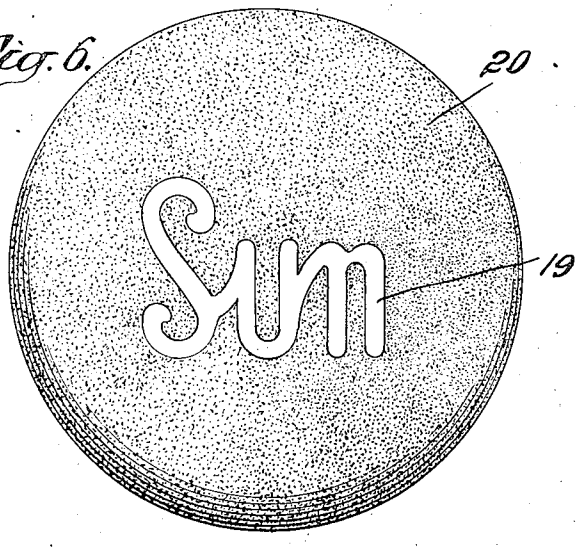


Fig. 7.

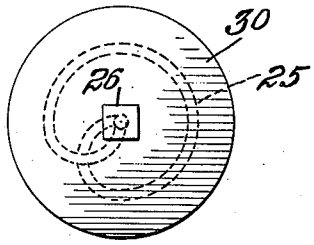


Fig. 8.

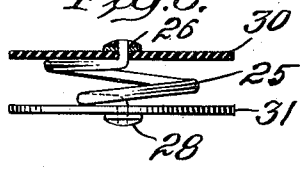


Fig. 9.



NATHAN CHIRELSTEIN
INVENTOR.

BY Philip S. McLean
ATTORNEY

Patented Dec. 14, 1948

2,456,376

UNITED STATES PATENT OFFICE

2,456,376

DISPLAY LAMP

Nathan Chirelstein, Maplewood, N. J.

Application March 27, 1948, Serial No. 17,512

4 Claims. (Cl. 176—16)

1

The invention disclosed in this patent application is a lamp for outlining, displaying or projecting designs of selected shapes.

General objects of the invention are to provide a lamp which will have the design forming media on the inside of the lamp globe and permanent in character so as to last as long as the lamp itself.

Particular objects of the invention are to produce such a lamp at low cost and by simple manufacturing methods.

Special objects of the invention are to provide simple means and method by which lamps may be produced for all sorts of advertising, decorating, signaling and other purposes and by which any portions of the lamp globe may be utilized to carry the desired designs, insignia or other forms of marking.

The foregoing and other desirable objects are attained by the novel features of construction, combinations and arrangements described in the following specification and broadly covered in the claims.

The drawings accompanying and forming part of the specification illustrate certain present practical embodiments of the invention. Structure, however, may be modified and changed within the full intent of the invention as herein set forth and claimed.

Fig. 1 is a side elevation of one of the lamps with the sign or design in an opaque outline surrounded by light and with the end portion of the lamp broken away and appearing in section;

Fig. 2 is an end view of the lamp;

Fig. 3 is a sectional view of the lamp globe with the design forming stencil centered in the end of the same and with broken lines showing how this stencil may be rolled to enter it through the narrow neck portion of the globe;

Fig. 4 is a perspective view of the stencil or masking element;

Fig. 5 is a broken and part sectional view illustrating a form of the invention in which the design is outlined in light and showing a form of spring take-up inserted in the socket back of the lamp, enabling the lamp to be turned to line up the sign horizontally or otherwise directed as required;

Fig. 6 is an end view of the lamp;

Figs. 7 and 8 are plan and part sectional side views, respectively, of the spring contact adapter;

Fig. 9 is a perspective view of the mask used to produce the design appearing in Fig. 6.

The lamp shown in Figs. 1 and 2 is of the reflector type having an aluminum, silver or other

2

reflective coating 10 on the inner wall of the globe 11.

This inside coating is usually applied by flashing an aluminum wire in the globe during process of manufacture. A feature of the present invention is the utilizing of this flashing step to apply a desired design or outline over the end or any other selected portion of the lamp globe.

Figs. 3 and 4 show how this may be accomplished by using a stencil 12 having the selected design 13 cut therein.

This stencil member is flexible so that it may be rolled, as indicated at 12*a* in Fig. 3, to insert it in through the narrow neck portion 14 of the globe and so that it will unroll, flatten out and lay in close fitting engagement over the broadened and more or less flat end wall 15 of the globe.

At the time this stencil is inserted the neck of the globe is fully open so that, if necessary, a pusher or flattening-out tool may be inserted to fully unroll and smooth the stencil into the necessary close fitting engagement with the inner surface of the globe.

After the stencil element has been inserted and properly located the globe may be flashed in the usual way, producing in this particular case a reflective coating 16 on the inner surface of the globe, interrupted by a circular, clear space 17 and opaque letters 18 of the reflector material at the center of the clear space, all in conformity with the particular stencil or mask.

With this particular embodiment of the invention the letters forming the design will appear dark in a brightly illuminated field.

This arrangement may be reversed by having the letters or other elements of the design appear as brightly illuminated objects either with or without an illuminated field or background. Thus in the embodiment shown in Figs. 5 and 6, the letters 19 forming the design appear in bright illumination in a dark or opaque background 20 formed by the inside reflective coating 21 of the lamp globe.

This produces a particularly brilliantly illuminated sign or design since all the light emitted from the lamp and collected by the total internal reflecting surface is centered on the design, forming the only light outlet.

Fig. 9 shows how in such a case the mask or stencil element 22 is an opaque element shaped to the light design which it is desired to produce, flexible so that it may be rolled or reduced in size to enter the neck of the globe and such that it will spread out and lay flat against the end wall of the lamp.

While various materials may be used for the stencil, mask or shield, "Silicone" rubber and asbestos and "Silicone" rubber impregnated with fibre glass have been found suited to this purpose. If desired, fibre, cardboard or paper may be used, being discarded if too badly scorched after a single use or possibly after use several times.

The "Silicone" rubber has a tendency to cling to the glass and will last more or less indefinitely and thus is considered as having advantages over other materials. This factor of clinging to the glass is particularly advantageous where it may be desired to locate and temporarily hold the stencil or shield in place over some other than the flattened end portion of the globe, for example over the inclined flaring side wall portions **23** or the large diameter curved wall portions **24**, Fig. 3.

Instead of being simply flat, the masking element may be molded or shaped to fit the exact contour of that portion of the globe which is to carry the design, it being in the contemplation of the invention that the design may be "imprinted" in the manner disclosed on any portion of the inner wall of the globe.

To enable the lamp being turned in a fixed socket to a position where a name, sign or other indicia will read properly, a spring contactor may be placed in the socket in back of the lamp where it will yield to turning movement of the lamp and provide necessary connection with the lamp turned to the proper position. Such an adapter or yieldable connector is shown in Figs. 7 and 8, consisting of a coiled spring **25** having a terminal **26** at one end for engagement with the center socket terminal **27**, and a terminal **28** at the opposite end for engagement by the lamp terminal **29**, the outer rim of the spring being protected at opposite ends by insulating discs **30**, **31**, small enough to freely enter the socket but large enough to prevent the spring from slipping sideways into engagement with the side terminal **32** of the socket.

In use this yieldable connector may be simply dropped into the socket ahead of the lamp and then the lamp screwed inward to make contact and turned beyond that to the point where the reading matter or design is in the desired reading or display relation.

The invention is of broad scope, providing an inexpensive method of manufacturing lamps for various advertising, signal or display purposes. Names, symbols, greetings, signs and the like are readily produced by simply providing the appropriately outlined masks and then flashing the lamp globes with such masks to form the corresponding permanent light designs in the lamp globes.

By designs it is intended to include any and all shapes such, for example, as might be produced by a mask having just a small opening for producing a concentrated "spot" of light.

It is contemplated also that a magnifying lens might be incorporated in the lamp, supported between the filament or light source and the stenciled design to effect a magnified projection of the design. The mask, as particularly shown in Fig. 9, may be made up of continuously connected characters indirectly readable, instead of the reverse design usually required in making stencils.

The marking of the lamp is permanent in character, enabling the lamp to be cleaned or treated in any way without possibility of injuring the design. Also, this construction permits the globe to be tinted, colored or otherwise treated to enhance or vary the display in any way.

What is claimed is:

1. The herein disclosed method of manufacturing a display lamp comprising inserting a mask carrying the delineation of the desired design in a folded condition through the restricted neck of a lamp globe, unfolding the mask within the globe and spreading the same in close-fitting engagement with the inner surface of the globe and then flashing the interior of the globe with said mask in the unfolded condition and thereby coating the inner surface of the globe with reflective material outlining the character depicted by the mask.

2. The herein disclosed method of manufacturing a display lamp comprising providing a mask of continuously connected characters, placing the same against the inner surface of a lamp globe, flashing the globe with the mask in place with a coating material and then removing the mask to leave the interior of the globe coated except for those continuously connected portions covered by the mask.

3. The herein disclosed method of manufacturing a display lamp comprising providing a stencil of sheet material of a character which will temporarily cling to the inner surface of a lamp globe, sufficiently fireproof to stand the heat generated in flashing a metallic vapor lamp coating, flexible enough to conform to the curvature of a lamp globe and shaped to delineate a desired design, inserting said stencil in the lamp globe and smoothing it into temporarily adhered engagement with a selected portion of the inner surface of a lamp globe, flashing the interior of the globe with a metallic reflective coating while said stencil is in place to coat the inner surface of the globe except for those portions covered by the stencil and then bodily removing the stencil to leave the interior of the lamp covered with a reflective coating carrying the design delineated by the stencil.

4. A step article of manufacture comprising a lamp globe open at the stem end and having a stencil of flexible fire-resisting sheet material of a character to cling to the surface of the globe and cut to delineate a desired design, temporarily adhered to a selected portion of the inner surface of the globe, preparatory to coating the inner surface of the globe.

NATHAN CHIRELSTEIN.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
576,266	Green	Feb. 2, 1897
1,147,532	Morris	July 20, 1915
1,761,344	Huber	June 3, 1930
1,798,745	Lyman	Mar. 31, 1931
1,824,429	Goss	Sept. 22, 1931
2,151,649	Birdseye et al.	Mar. 21, 1939
2,221,629	Birdseye	Nov. 12, 1940