March 25, 1924. 1,488,265

I. N. MATSUO

INFLATABLE COVER FOR LAMPS AND THE LIKE

Filed June 7, 1923

Fig. 1.

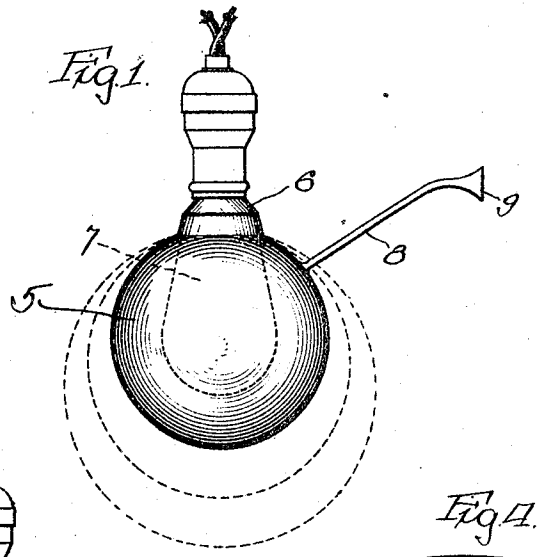


Fig. 3.

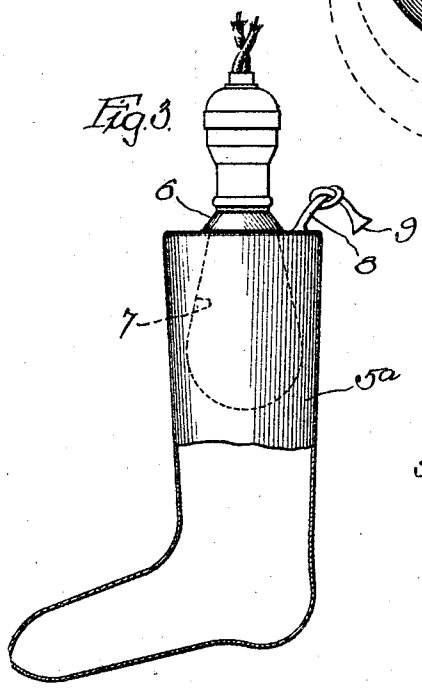


Fig. 4.

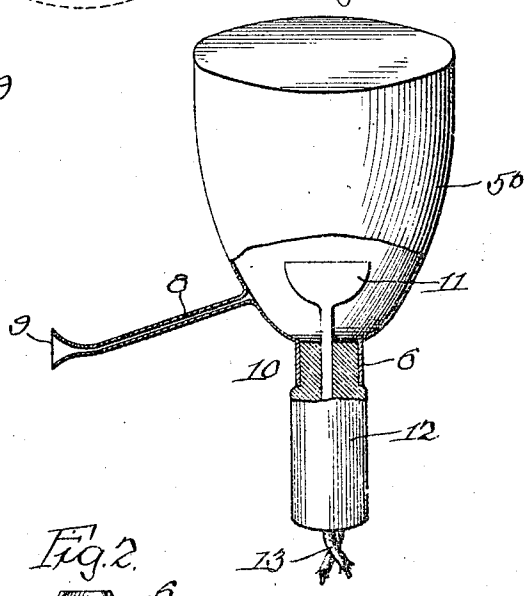
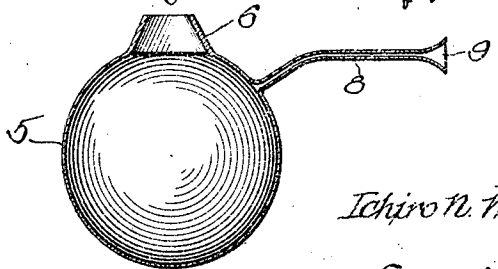


Fig. 2.



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UNITED STATES PATENT OFFICE.

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INFLATABLE COVER FOR LAMPS AND THE LIKE.

Application filed June 7, 1923. Serial No. 643,940.

To all whom it may concern:

Be it known that I, ICHIRO N. MATSUO, a subject of the Emperor of Japan, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Inflatable Covers for Lamps and the like, of which the following is a specification.

This invention relates to improvements in covers or shades for lamps of various kinds, but particularly for electric lamps and those used by photographers in their "dark" room work, and also for light producing devices employed for creating flash-lights, and it consists in certain peculiarities of the construction, novel arrangement and combination of the various parts thereof as will be hereinafter more fully set forth and specifically claimed.

One of the objects of the invention is, the provision of an inflatable semi-transparent covering for lamps, which can be easily applied to a lamp, or a light producing device, so as to entirely encompass the light of either, and which can be inflated or deflated at will, so that the material of which the covering is made may be caused by inflation, to become thinner and further from the light and by deflation, thicker, and nearer to the light, thereby regulating the degree of light furnished through the cover, from a dim light to a brighter or much stronger one, or vice versa.

Another object of the invention is to provide a cover which may be of transparent or semi-transparent material, but of such construction as to enable it to entirely encompass the lamp bulb, or light producer, to the end, that it will, to a certain extent, provide protection for the lamp bulb against breakage, but in the event of such breakage, will hold the pieces of glass produced thereby so as to prevent them being scattered, and to the end, that when the cover is applied to a light producer, such as that used for creating flash-lights for photographic purposes, it will prevent the escape of smoke caused by the ignition of the explosive material and will hold it till by removing the cover from said device it can be discharged therefrom at any suitable point.

A further object is the provision of a cover for lamps which can be fashioned into different shapes, to the end, that an illuminated figure of a desired design or shape may be produced.

Other objects and advantages of the invention will be disclosed from the following description and explanation.

In the accompanying drawing, which serves to illustrate an embodiment of the invention,—

Fig. 1 is a view in elevation showing the cover applied to an electric lamp of the ordinary type and illustrating by continuous lines one of the positions the lamp cover will occupy when it is almost deflated, and by dotted lines the positions of the lamp cover when more or less inflated.

Fig. 2 is a detached central vertical sectional view of the lamp cover.

Fig. 3 is a view partly in elevation and partly in section showing a modification in the shape of the lamp cover, and

Fig. 4 is a view in elevation partly in section of a flash-light producer and a cover for the same embodying another modification in the shape of the cover.

Like numerals of reference refer to corresponding parts throughout the different views of the drawing.

The reference numeral 5 designates the lamp cover in one of its forms, which cover may be made of any suitable size, color, and material, but by preference of elastic semi-transparent material such as thin rubber or any other elastic material, and as shown in Figs. 1 and 2, is substantially globular in shape. This globular or bag-like cover is provided with a neck 6 in communication with the interior of the cover, which neck is by preference reinforced and outwardly tapered as shown in Fig. 2 of the drawing.

By suitably stretching the neck 6 the bulb 7 of an electric lamp can be inserted into the cover 5 as shown by dotted lines in Fig. 1 of the drawing, and when so inserted, the neck 6 will contract or tighten around the tapered portion of said bulb in such a way as to prevent the escape of air and so as to hold the cover 5 securely in place. The cover 5 has communicating therewith a flexible tube 8 which may be provided at its free end with a mouth-piece 9 by means of which air can be forced from the mouth of a person into the cover 5 until the same is inflated to such an extent as to furnish the desired degree of light passing through the cover, it being understood that when the cover is in its contracting form or partially deflated condition, the material thereof will be thicker than if inflated, and

that consequently the degree of light furnished through the cover when the same is in its partially deflated condition, at which time it will be nearer the light, that the light furnished through the cover will be dim. By inflating the cover 5, it is manifest that the stretching of the material out of which it is formed, will cause it to become thinner and located at a greater distance from the light and consequently, a brighter or stronger light will be furnished through the cover.

In Fig. 3 is shown a modification in the shape of the cover, which in this instance is designated by the numeral 5^a and may be in the form of a stocking as shown or of any other suitable design. In this modified construction the cover 5^a is provided as in the other construction with a neck 6 through which the lamp bulb 7 may be extended into the body of the cover 5^a which may be of any desired design, that of a stocking being shown merely as an example. This modified form of the cover is also equipped with a flexible tube 8 having a mouth piece 9 to be used for inflating and deflating the cover.

In Fig. 4 I have shown the cover in still another modified form and as being applied to a light producing device designated as a whole by the numeral 10 which may be of the ordinary or any well known construction. In the present form of this light producer, a basin 11, for holding flash-light powder is shown as being supported on the upper end of a suitable support 12, the upper end of which support is slightly reduced, as shown. Electric conductors 13 extended through the support 12 into the basin 11 provide means for operating the spark plug located in said basin for the purpose of igniting flash powder therein.

In the modification now under consideration, the cover is designated by the reference numeral 5^b and as in the other constructions has a neck 6 through which the basin 11 may be extended into the cover 5^b and which neck is adapted to fit snugly around the reduced portion of the support 12 for said basin. The cover 5^b is provided with a flexible tube 8 having a mouth piece 9 to be used for inflating the cover 5^b in a like manner to that above explained with reference to the constructions shown in Figs. 1 and 3 inclusive. The cover of the modified form shown in Fig. 4 being more especially employed to catch and hold the smoke created by the ignition of the flash-light powder within the basin, is by preference of transparent elastic material so that but little, if any, diminution in the brilliancy or strength of the light produced by the ignition of the powder within the basin 11 will be effected. The elasticity of the material out of which the cover 5^b is made will prevent bursting of the cover, and it is manifest that the smoke emanating from the powder will be held in the cover and escape prevented. If desired, the cover 5^b may be removed from the upright 12, the neck 6 and tube 8 closed, when it is obvious that the smoke may be discharged from the cover at a desired point. After the cover of either construction has been suitably inflated or deflated, it is apparent that it can be maintained in such position by simply closing the tube 8 or tying a knot in the same as shown in Fig. 3 of the drawing.

By my improvements I have provided a very simple and efficient means for use by photographers in "dark" room work, for it is obvious that by using a cover 5 of elastic and semi-transparent material of a red color, the degree of light furnished through said cover can be regulated from a very dim light to one of very much greater strength or brilliancy yet the red color necessary in such rooms will be maintained. Of course, the covers may be of any color that may be desired for other purposes.

While the inflatable cover is shown in the different views of the drawings in a more or less distended condition by reason of being partially inflated, yet it will be understood that when the air pressure within the body or cover is practically the same as atmospheric pressure, the cover will assume a more bag-like shape.

Having thus fully described by invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the class described, consisting of an inflatable bag-like body made of elastic material and having an elastic reinforced neck adapted for the insertion of a lamp through the same into the body and to engage the neck of the lamp, the said body also being provided with a flexible tube for inflating the same.

2. In a device of the class described, the combination with an electric lamp bulb, of a bag-like covering therefor made of elastic semi-transparent material and having a reinforced tapered neck portion adapted to permit the lamp bulb to be extended into the covering and to engage said lamp bulb, and a flexible tube having communication at one of its ends with the interior of the covering.

ICHIRO N. MATSUO.