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2,185,708

TRANSLUCENT INTERNALLY ILLUMINATED CONTAINER

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Fig. 1.

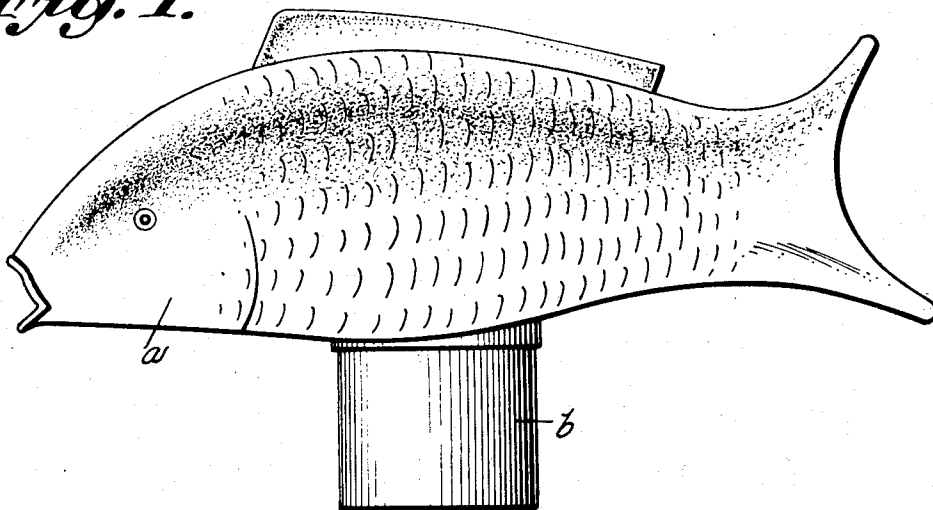


Fig. 2.

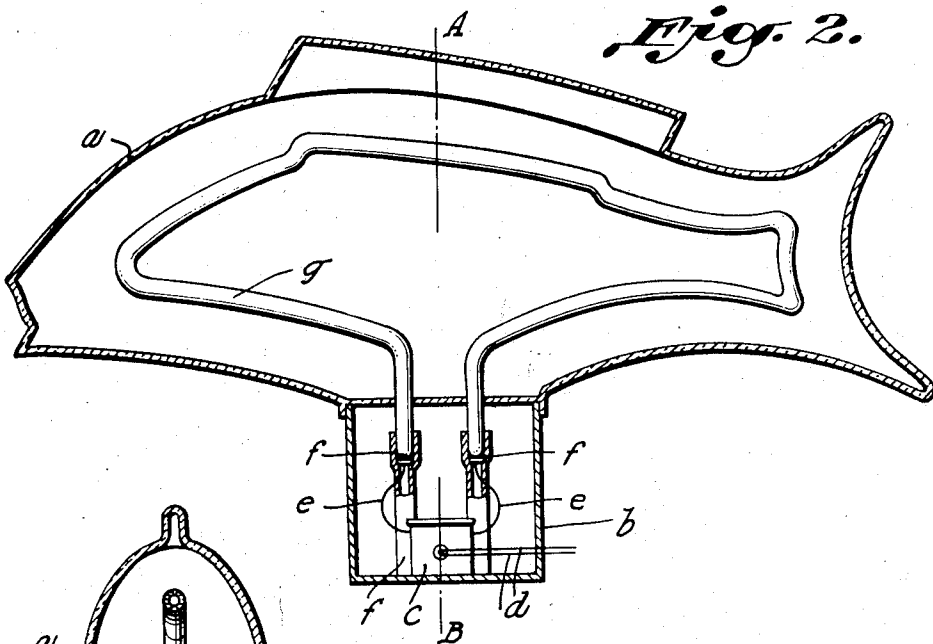
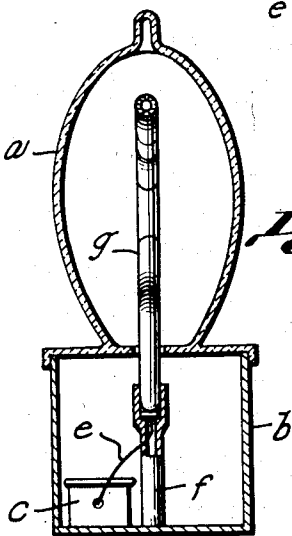


Fig. 3.



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TRANSLUCENT INTERNALLY ILLUMINATED
CONTAINER

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1 Claim. (Cl. 40—126)

This invention relates to translucent internally illuminated containers, hollow bodies and the like which may be of any desired shape. The object of the invention is to improve the efficiency and utility of such bodies.

Translucent, internally illuminated containers, hollow bodies and the like are employed for many different purposes, for example for advertising displays, illuminated signs, which may or may not be provided with special legends, and so forth. If an article is to be displayed for advertising purposes it is arranged in a display window or, for permanent advertising purposes, it is set up on the side or top of a building or is displayed in some other suitable manner. The difficulty is to make the articles visible in the evening and at night since the full value of the advertisement is not obtained if the articles are visible only by day. Moreover even by day a display in a display window does not attract attention unless it stands out sufficiently from its surroundings. In the dark, a display is made visible in a display window by switching on the window lighting, while in the open air it may be made visible by means of flood lighting and the like. The effect of the advertising display is then largely lost because attention is directed mostly to the light and not to the illuminated object. A disadvantage of illuminated advertising displays is that they do not correspond as regards colour with the actual appearance of the object which they represent.

Advertising displays of this nature were hitherto illuminated by means of incandescent electric lamps but this kind of illumination is very expensive owing to the high consumption of current which is necessary to obtain sufficient and uniform brightness. It has the further disadvantage that the incandescent lamps heat up the display to a high temperature.

The conditions are also the same when signs, boards and the like have to be illuminated.

In the first place it is difficult to illuminate the plate or sign uniformly and without shadows, particularly when its area is large, because the source of light, namely the incandescent lamps employed for illumination, can always be detected. Further, illuminated plates which are illuminated by means of incandescent lamps have the disadvantage that the incandescent lamps must be of very high power even if an illumination which only approaches that which could be considered satisfactory is to be obtained. The consequence is that the signs or plates are very expensive both to make and also

to maintain in operation. Further a sign which is illuminated by means of and contains incandescent lamps must have a relatively great width in order to accommodate the incandescent lamps.

A further disadvantage of illuminating plates, signs and the like by means of incandescent electric lamps is that the lamps develop a very large amount of heat, particularly when very powerful lamps are employed; consequently a box sign, which is illuminated by this means must be capable of withstanding the heat produced. Usually it is quite out of the question to attach any articles to the signs or plates because only very few articles are sufficiently resistant to heat.

The object of the present invention therefore is to obviate the aforesaid disadvantages and to provide improved translucent internally illuminated containers, hollow bodies, signs and the like which are both inexpensive to manufacture and effective in use. The said hollow bodies and the like may either be in the form of an imitation or model of a particular article so that they produce on the person who sees them the impression that he is looking not at a representation but at the actual object, or of signs which, as such, attract the attention of the observer or are provided with legends or pictures.

According to the invention, a luminous tube is arranged inside the translucent container, hollow body or the like and its distance from the boundary walls of the container or the like and its path therethrough, which is closed by the two terminal connections of the luminous tube, are such that all parts of the translucent container or the like appear from the outside to be uniformly illuminated. In some cases the tube may be provided with bends or convolutions which fill up a further portion of the internal space. In any case, however the shape of the luminous tube and its convolutions should be such that the luminous portions of the different parts of the tube or its windings do not intersect.

It is possible in this way to represent any object to be advertised in such a way that it stands out and produces a three-dimensional effect even when illuminated. Thus for example bottles, boxes, packages, human and animal figures and objects of any kind whatever can be made in this form. In the case of signs, plates and the like they can be kept relatively flat and yet a three-dimensional effect is obtained because the part of the surface which appears luminous stands out owing to its uniform illumination. Signs and plates of this kind are extremely cheap to operate because the current consumption of the

luminous tubes is very low. Hollow bodies which are internally illuminated in this way remain quite cold even after the luminous tubes have been in operation for many hours, so that objects which melt, soften or change their shape at quite low temperatures can be fitted to or on the hollow bodies, signs or the like.

Especially in the case of signs and plates, the invention presents the possibility also of employing internally illuminated signs in places where illuminated signs could hitherto not be employed at all. This is particularly important for the traffic signs which are erected in the streets. In most cases such signs have to be visible from two sides and on the other hand, in order to give the impression of being a plate, they must be as thin as possible, nevertheless by means of the present invention uniform illumination, which is of greatest importance, can be obtained. Signs which have hitherto been illuminated from the outside can now be illuminated from the inside and they will then be more satisfactory, since they can be observed more easily owing to the three-dimensional effect produced.

Since the luminous tubes can be made in many different colours, it is possible to illuminate the entire sign or separate portions thereof in different colours. This possibility is of particular value for advertising purposes, when frequently the colour in which the sign appears is varied.

In order that the invention may be fully understood and readily carried into effect, various examples of signs and display devices constructed in accordance with the invention are illustrated in the accompanying drawing, in which

Fig. 1 shows a display device in elevation,

Figure 2 is a longitudinal section through the device of Figure 1,

Figure 3 is a cross section on line A—B of Figure 2,

Referring to Figures 1 to 3 of the drawing, the hollow body *a* represents a display device in the form of a fish. The body *a* is arranged on a stand *b* which contains a transformer *c* which is connected to a source of current by means of two leads *d* which pass to the outside through an opening in the stand *b*. Two leads from the transformer *c* are connected to two sockets *f* into which two ends of a luminous electric dis-

charge tube *g* can be inserted. The luminous tube *g* extends upwardly inside the body *a* and runs at such a distance from the walls of the hollow body in a path which is closed by the two sockets *f* that the body appears from the outside to be uniformly illuminated. Since the luminous tube *g* follows exactly the contours of the hollow body representing a fish, the impression made on an observer when the luminous tube is connected to the source of current is that of a three-dimensional representation of a fish.

If the display device is not to be carried on a stand but is to be suspended or fixed in another manner the transformer can be fitted in the suspension device or in another suitable place as the stand is then omitted. Obviously the transformer can be separate from the display device, in which case the two leads to the sockets of the luminous tube are taken from the outside through the walls of the hollow body.

If the body to be illuminated is so large that uniform illumination is not obtained if the luminous tube follows the contour of the body, the luminous tube may be bent or coiled in such a way that it illuminates the entire body uniformly.

The translucent surfaces may be made, for example, of frosted glass, opal glass or the like.

The luminous tubes employed are preferably neon tubes because these remain cold even after being in operation for many hours. However, other forms of luminous tubes, for example mercury vapour low pressure tubes, can be employed equally well since they heat up only to a relatively slight extent.

The shape and size of the hollow bodies, signs, plates and the like may be varied as desired according to the intended use.

I claim:

An optical device, comprising a three-dimensional translucent body of non-symmetrical outline, and a gaseous discharge tube of identical non-symmetrical outline, said outline of the tube forming a closed circuit, the entire circuit being uniformly spaced from the outline of the container, whereby all parts of the translucent body appear from the outside to be uniformly illuminated and the effect of a three-dimensional body is produced.

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