

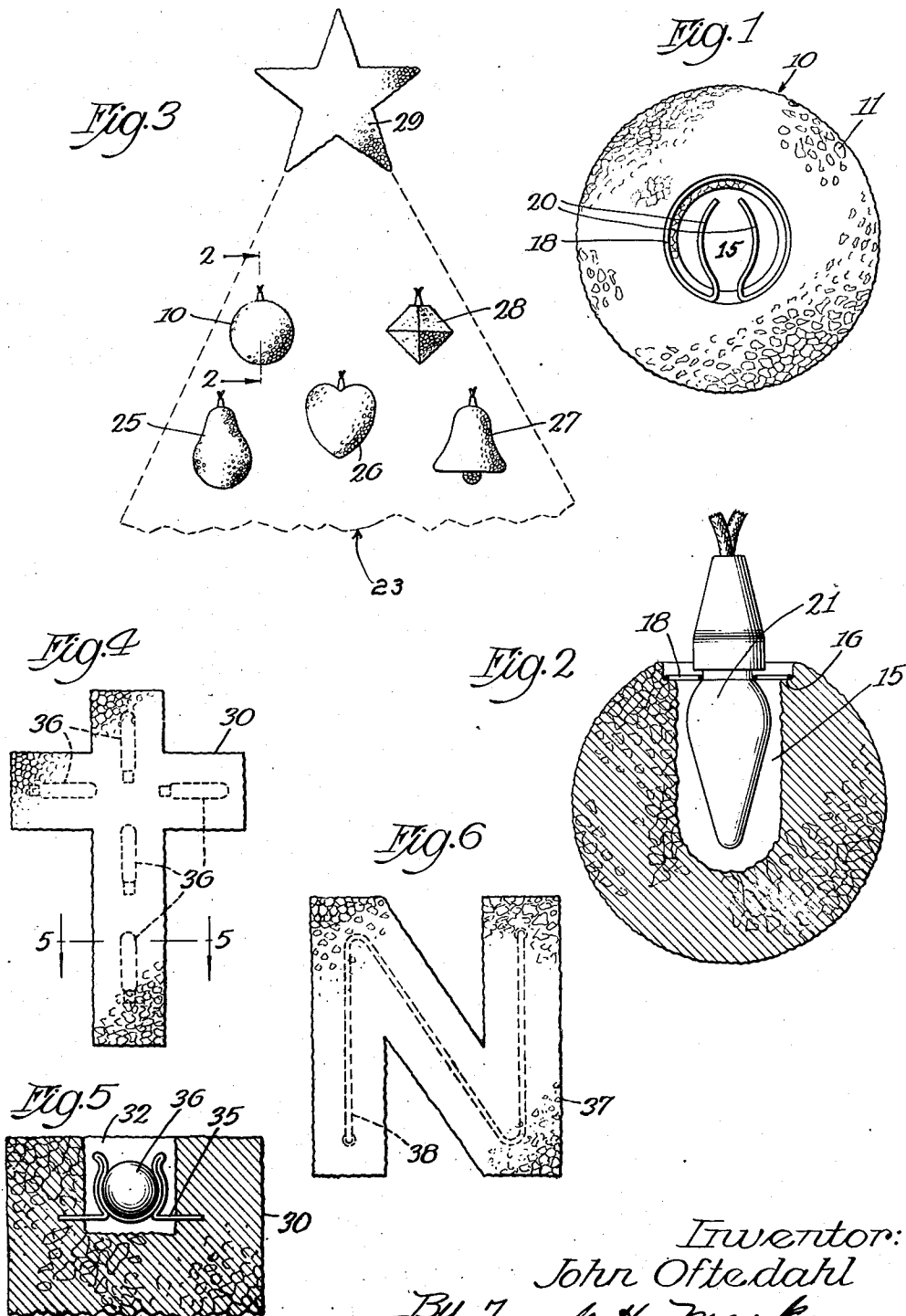
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ILLUMINATION AND DISPLAY DEVICE

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ILLUMINATION AND DISPLAY DEVICE

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7 Claims. (Cl. 240-10)

My invention relates to illuminating and display devices and has to do more particularly with a device which may be used either as a source of diffused light or for ornamental or commercial displays, or both. My invention contemplates devices or elements formed of a peculiar type of material such that when a source of illumination is arranged in juxtaposition thereto, it glows with a diffused light.

My invention contemplates more particularly a device formed from cellular or foraminous material, i. e., having a large number of cells or vesicles, the walls of which are transparent or translucent, and having a source of illumination arranged adjacent said device on the side opposite that from which it is viewed, so that the light from said source is transmitted through said device and is diffused by the walls of said vesicles so that the entire device glows with a diffused light. Devices embodying my invention may be used for utilitarian as well as for ornamental and display purposes, the details of which will be described below.

Devices embodying my invention are quite inexpensive to make, and are rugged and attractive in appearance.

My invention will be more readily understood by referring to the accompanying drawing forming a part of this specification and illustrating certain preferred embodiments of my invention, wherein:

Fig. 1 is an elevational view of a spherical ornament embodying my invention;

Fig. 2 is a sectional view of the same;

Fig. 3 is a conventional representation of a Christmas tree bearing a number of ornaments embodying my invention;

Fig. 4 is an elevational view of a cross shaped display embodying a modified form of my invention;

Fig. 5 is a sectional view taken substantially on the line 5-5 of Fig. 4; and

Fig. 6 is an elevational view of a letter of the alphabet suitable for use in commercial displays and embodying another modification of my invention.

The preferred material for use in connection with my invention is that covered by my Patent No. 1,890,127, granted December 6, 1932. As described in said patent, I dehydrate a water solution of a soluble silicate, such as water glass (sodium silicate), or other alkaline silicate, which may be accomplished by heating the same in a pan placed in an oven or the like, or by other means, such as by blowing a blast of hot air through the material, until the material is substantially dry and in the form of a highly porous cellular mass having a large number of vesicles or cavities throughout the same, separated by thin membranes or walls. Where the material

has been prepared by heating in an oven, there will usually be formed a hard crust which should be removed and eliminated.

A characteristic of material prepared as described above is that it has a startling resemblance in appearance to snow, since it presents a fragmentary, glistening surface of a bright white color, reflecting the light from a large number of small crystal-like facets. Of course, if desired, a suitable dye may be introduced into the soluble material before dehydration thereof so that the final product will be colored instead of white. However, I find that the white material is most universally applicable for reasons which will appear below.

Figs. 1 and 2 illustrate in detail one form of ornament embodying my invention, which may be referred to as an artificial snowball. The ball represented generally by the numeral 10, which may be cut by any suitable means, either by hand or by machine, from a block or slab of the material described above or equivalent, or may be molded, contains a large number of vesicles or cavities 11. The ball 10 is preferably spherical or roughly spherical in shape and has a cylindrical cavity 15 therein extending diametrically part way through the device. Said cavity may be bored by any suitable tool. Adjacent its outer extremity, said cavity 15 is enlarged, providing a shoulder 16 against which is seated a spring clip 18 of wire or other suitable material. Said clip, as seen clearly in Fig. 1, seats snugly against the shoulder 16 and has a pair of prongs 20, 20 which are designed resiliently to engage a lamp bulb 21 or socket therefor.

Devices such as the balls 10 are readily arranged on a Christmas tree, indicated by the numeral 23 in Fig. 3, merely by draping the lamp bulbs or conduits carrying the same about the branches of the tree in the usual manner and then frictionally securing the ornaments to the bulbs in the manner shown in Fig. 2. In lieu of spheres as shown in Figs. 1 and 2, ornaments may be made in various other shapes, as, for example, resembling pears 25 or other fruit, hearts 26, bells 27, diamonds 28, stars 29, etc. Such devices may be similar in construction to the balls shown in Figs. 1 and 2 except for the external contour.

The ornaments described above are extremely decorative when formed of white material, since they closely resemble snow, and, furthermore, when used in conjunction with colored lamps 21 of the common Christmas tree type, as shown in Fig. 2, the color of the lamp bulb is diffused through the ornament giving a pleasing colored glow. Where colored lamps are not obtainable, the same effect may be obtained by inserting in the cavity 15 a colored liner of translucent sheet material, such as casein sheeting, etc.

As shown in Figs. 4 and 5, display devices em-

bodying my invention may be made by providing foraminous translucent material, as described above, in the desired shape and size and arranging adjacent them a lamp or plurality of lamps in order that a diffused glow may be transmitted therethrough. According to the illustrations referred to, I have shown a cross 30 provided with a plurality of pockets or cavities 32 in one surface thereof, in which cavities are arranged spring clips 35 seating lamps 36. These lamps may be of the conventional filament type having elongated bulbs as shown in Fig. 4, or of any other suitable design. Obviously, display devices made in accordance with my invention may be of any desired size and may be used to provide highly ornamental displays for church altars, parks and other places, and are especially appropriate for festive occasions and ceremonials.

Devices embodying my invention are also adaptable for use as commercial displays and in that connection may be provided in various shapes and characters. Fig. 6 illustrates the alphabet character N represented by the numeral 37, embodying my invention. In this case there is arranged adjacent one surface of the member 37 a luminous-gas tube 38, such as a neon tube or the like. Obviously, when the tube is illuminated by passing a current therethrough in the usual way, a pleasing colored glow will be diffused through the character 37. Different colored effects may be obtained by means of different gases, as is well known to those skilled in the art.

It will be obvious that, in lieu of providing cavities in the devices for seating illuminating elements, the illuminating elements, in the form of bulbs, gas tubes, etc., may be arranged directly adjacent a flat surface of the device and secured by means of clips or brackets secured to the device; or, in some cases, the attaching means may be dispensed with.

Aside from the uses mentioned above, my invention has many other useful and ornamental applications in the arts. Thus, for example, devices embodying my invention may be employed where one desires a diffused light for utility rather than for display purposes, or in addition thereto. For example, in many cases a night lamp is desired which is constantly glowing but which is not sufficiently bright to be disturbing to a person, such as a patient. In such cases, a foraminous translucent member, either spherical or of other suitable shape, as described above, may be arranged adjacent an electric lamp or other light source. Thus, I may make a sphere of the described material provided with a bore of sufficient size to house a lamp, with an attaching clip, if required. It will be seen that with such an arrangement a bright lamp may readily be converted into a source of light having a soft, diffused glow.

Such an arrangement may also be desired where a lamp is normally disposed in juxtaposition to inflammable materials. Material embodying my invention normally has high heat insulating properties and thus may be used to enclose a lamp which normally produces a high amount of heat so as to insulate the same and insure against the starting of fires, while at the same time yielding sufficient illumination to meet the requirements. Devices embodying my invention may also be used for commercial displays, as, for example, in showcase lights, store lighting fixtures, and the

like, where it is desired to convert a brilliant source of light into a soft and diffused source. This may readily be accomplished by attaching foraminous members embodying my invention to the brilliant light sources in the manner described above, and such changes may be made at very slight expense.

Various other embodiments coming within the spirit of my invention may suggest themselves to those skilled in the art, and hence I do not wish to be limited to the specific embodiments shown and described or uses mentioned except to the extent indicated in the appended claims, which are to be interpreted as broadly as the state of the art will permit.

I claim:

1. A display device comprising a light shield and diffusing member formed of a soluble silicate which has been dehydrated so as to extend the same in a bubbly structure having a plurality of air spaces separated by thin, translucent walls, and a light source arranged in operative relation to said member.

2. A display device comprising a member formed of a soluble silicate which has been dehydrated so as to extend the same in a bubbly structure having a number of air spaces separated by thin, translucent walls, said member having a cavity therein, a light source arranged within said cavity, and means secured to said member for detachably securing said light source.

3. A Christmas tree ornament consisting of a ball formed of translucent non-inflammable spongiform material which has been solidified in the form of a froth, said material consisting substantially of a plurality of air vesicles separated by tenuous walls, said ball having a cavity adapted to engage a lamp bulb.

4. A Christmas tree ornament consisting of a ball formed of translucent non-inflammable spongiform material which has been solidified in the form of a froth, said material consisting substantially of a plurality of air vesicles separated by tenuous walls, said ball having a cavity therein, and a resilient member disposed in said cavity for detachably engaging a lamp bulb.

5. An ornamental ball formed of an alkaline silicate which has been dehydrated so as to extend the same in a bubbly structure having a plurality of air spaces separated by thin translucent walls, said ball having a cavity formed therein, and a resilient member disposed in said cavity for detachably engaging a light bulb.

6. A display device comprising a light shield and diffusing member formed of translucent non-inflammable spongiform material which has been solidified in the form of a froth, said material consisting substantially of a plurality of air vesicles separated by tenuous walls, and a light source arranged in relation to said member whereby the light will be transmitted therethrough in a diffused glow.

7. A display device comprising a light shield and diffusing member formed of translucent non-inflammable silicious spongiform material which has been solidified in the form of a froth, said material consisting substantially of a plurality of air vesicles separated by tenuous walls, and a light source arranged in relation to said member whereby the light will be transmitted therethrough in a diffused glow.

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