

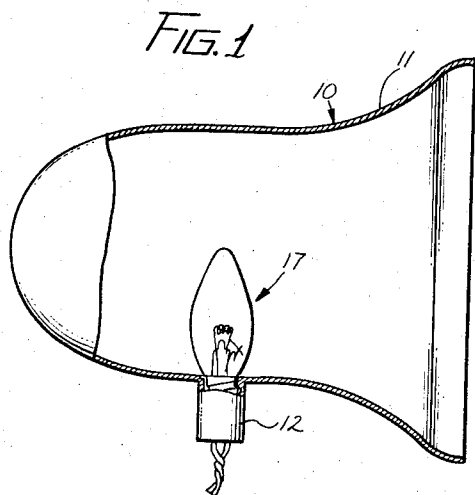
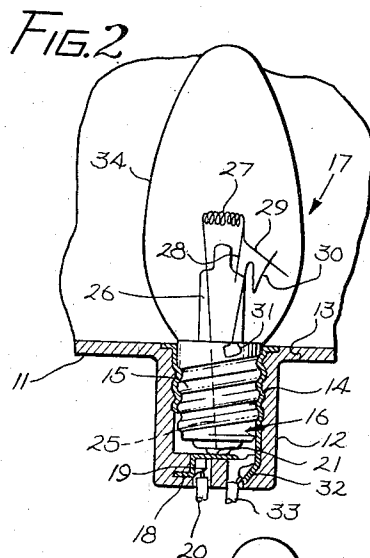
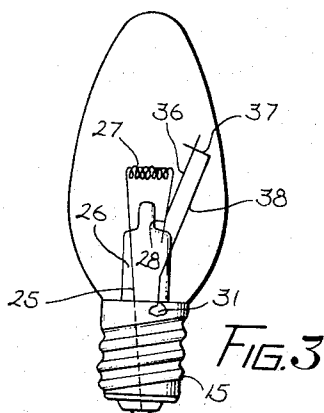
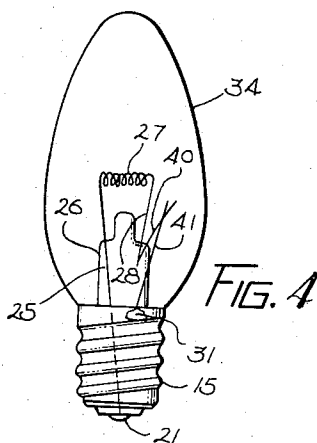
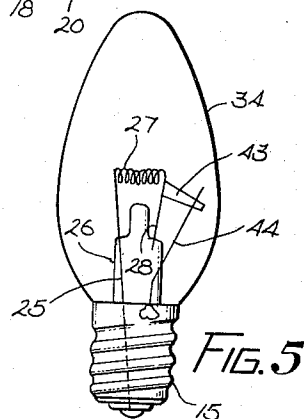
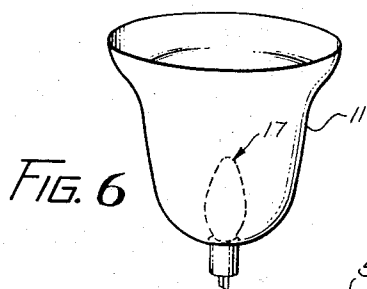
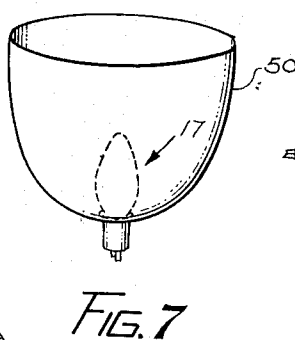
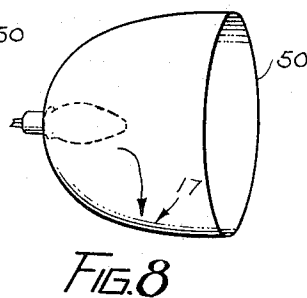
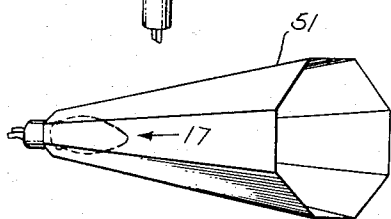
March 5, 1968

R. A. SANFORD

3,372,388

CHIME LIGHT

Filed July 30, 1965



ROBERT A. SANFORD,
INVENTOR.

BY *R. E. Seangue*
ATTORNEY

1

3,372,388

CHIME LIGHT

Robert A. Sanford, 6971 Cozycroft Ave.,
Canoga Park, Calif. 91306

Filed July 30, 1965, Ser. No. 476,092

3 Claims. (Cl. 340—371)

ABSTRACT OF THE DISCLOSURE

The chime light has a housing in the form of a horn with a socket in the wall of the housing to receive a flashing light. The flashing mechanism for the flashing light produces a sound as it turns on and off and this sound is directed to the surroundings by the housing.

This invention relates to a chime light and more particularly to a flashing light which is combined with a sound producer to provide a ringing sound.

Small flashing lights have been utilized for Christmas tree ornamentation but these lights have not been accompanied by a sound producer. Also, various noise producing objects have been surrounded by horns to direct and couple the sound to the surroundings. The chime light of the present invention consists of a flashing light which is mounted within an ornamental object which serves as a horn to direct the contact sound of the light contacts to the surrounding and at the same time, produce a pleasant ringing sound. The shape of the ornament and the shape and configuration of the moving switch element all can be varied to vary the magnitude and quality of the sound. The ornament can be fabricated of any suitable type of material which will ring in response to sound vibration. The sound directing member can be decorated as a Christmas tree ornament so that the chime light will serve both as a Christmas tree light and ornament which will produce a pleasing holiday sound.

It is therefore an object of the present invention to provide a chime light consisting of a flashing light associated with a sound directing member which directs the contact sound of the flashing light to the surroundings.

Another object of the invention is to provide a chime light in which a flashing light is mounted within a housing to provide both light and sound.

Another object of the invention is to provide a chime light which consists of a flashing light mounting within an ornamental housing, the switching sound of the light being coupled with the surrounding by said housing to provide a ringing sound.

A further object of the invention is to produce a chime light for decorating Christmas trees which consists of a flashing light and a decorated sound directing means for directing sound emanating from said light.

These and other objects of the invention not specifically set forth above will become readily apparent from the accompanying description and drawings in which:

FIGURE 1 is a vertical section, partly in elevation, of a first form of the invention in which the light is mounted in the side of the housing;

FIGURE 2 is an enlarged sectional view of the socket in the housing of FIGURE 1 showing the movable switch contact;

FIGURE 3 is an elevational view of a second form of a flashing light in which the movable switch arm is longer;

FIGURE 4 is an elevational view of a third form of a flashing light having a short movable switch arm;

FIGURE 5 is an elevational view of a fourth form of a flashing light having a wide contact area for the switch arm;

FIGURE 6 is an elevational view of a second form

2

of chime light in which the flashing light socket is located at the end of a bell-shaped housing;

FIGURE 7 is an elevational view of a third form of chime light in which the flashing light socket is located at the end of a cup-shaped housing;

FIGURE 8 is an elevational view of a fourth form of chime light in which the flashing light socket is located in the side of a cup-shaped housing; and

FIGURE 9 is an elevational view of a fifth form of chime light in which the flashing light socket is located at the end of an elongated horn.

Referring first to the first form of the invention shown in FIGURES 1 and 2, the chime light 10 comprises a bell-shaped housing 11 having a socket 12 attached thereto and projecting from the side thereof. The socket 12 can be formed separately from the housing and secured in a side opening in the housing around circumference 13 by welding, cementing metal or the like. Also, the socket could be formed integrally with the housing. Socket 12 contains a metal liner 14 which has an interior spiral groove to receive metal threads 15 on the contact end 16 of light bulb 17. A terminal plate 18 is embedded in the socket 12 and end 19 of electrical power lead 20 is connected to this terminal plate. Contact 21 on end 16 of the light bulb engages the terminal plate when the bulb is screwed fully into the socket.

A lead wire 25 passes through socket end 16 and through glass post 26 in order to connect with one end of light filament 27. The other end of filament 27 connects with a lead wire 28 which has its other end embedded in glass post 26. A branch lead wire 29 extends from wire 28 into position to be contacted by one end of the bi-metallic lead or contact 30. The other end of lead 30 is supported by post 26 and connects with metal threads 15 at point 31. A terminal plate 32 extends from liner 14 into the end of socket 12 and connects with a second electrical power lead 33. Thus, the current flow is from electrical lead 20 through terminal plate 19, contact 21, lead 25, filament 27, leads 28, 29, bi-metallic lead 30, metal threads 15, metal liner 14, terminal plate 32 and electrical power lead 33. Evacuated glass envelope 34 surrounds the post 26 and the elements connected thereto.

Current flows through and lights filament 27 when bi-metallic contact 30 engages lead 29. The current also heats up contact 30 and causes it to bend away from lead 29 to break the current flow and de-energize the filament. After the contact 30 cools, it again contacts lead 29 to re-energize the filament and this contact results in an audible click. By placing the bulb in bell-shaped housing 11, this sound is directed to the surroundings to produce a readily distinguishable signal each time the contact 30 re-energizes lead 29. The housing 11 can be fabricated from a variety of materials, such as glass, metal, plastic, etc. and these materials will produce a ringing sound while directing the contact sounds.

The amount of noise resulting from the engagement of bi-metallic contact 30 with its lead can be varied by varying the length, thickness and size of the contact. In FIGURE 3, the lead 28 has a branch lead 36 extending upwardly and contact 37 comprises a transverse wire on the end of long bi-metallic lead 38 which connects with point 31. Because of the length of lead 38, it moves a considerable distance away from lead 36 when hot and moves fast against lead 37 when making contact, thus producing more noise than produced by the shorter contact 30 of FIGURE 1. In FIGURE 4, the lead 28 has a branch lead 40 which is engaged by a short bi-metallic contact 41 which also connects with point 31. Because of the length of contact 41, less contact noise will be produced. In FIGURE 5, branch lead 43 from lead 28 con-

3

sists of a slightly tapered flat plate which is struck by bi-metallic contact 44 as it makes contact intermittently. Because of the large surface area of lead 43, more noise is generated from each contact than from contact with a wire lead. Thus, with the same shape of housing, the loudness of the chime produced by the flashing light can be varied by utilizing lights of different contact construction.

The type and volume of the chime produced can also be varied by varying the shape of the housing and by varying the location of the light in the housing. For instance in FIGURE 6, the light 17 is positioned at the closed end of the bell-shaped housing 11 to produce a different sound directing effect than produced when the light is in the side of the bell as shown in FIGURE 1. The socket 12 can be attached to the housing in the same manner as in FIGURE 2. In FIGURES 7 and 8, the housing 50 is cup-shaped with the light being located at the closed end in FIGURE 7 and in the side in FIGURE 8 to produce different sound directing effects. In FIGURE 9, the light 17 is located at the closed end of an elongated horn 51 to produce still a different sound effect.

It is therefore apparent that the present invention produces a chime light in which a housing serves to produce and direct the contact sound of a flashing light located within the housing. While housings in the form of horns are illustrated, the light can be directed by any suitable sound directing means. By directing the sound, the present invention concentrates the sound so that it is clearly audible in the area to which it is directed. In this sense, the sound directing means can be considered as amplifying the sound. Various types of flashing lights, other than those using bi-metallic contacts, can be utilized so long as the flashing of the light is accompanied by a noise which can be directed by sound directing means. Also, the lights can be located at other locations in a horn, other than in the side or in closed end, to produce a chime effect. Instead of securing the socket in an opening in the housing, it can be attached by a suitable clip to a separate sound directing means. The chime light with a

4

decorated housing is particularly useful as a Christmas tree ornament but can be used in all types of displays. Various other modifications are contemplated by those skilled in the art without departing from the spirit and scope of the invention as hereinafter defined by the appended claims.

What is claimed is:

1. A chime light comprising:

a housing in the form of a horn;
a socket supported by said housing and opening into the side of said housing;

flashing light means mounted in said socket and extending into said housing;

said light means comprising movable contact means located in said housing for interrupting the light from said light means and producing a contact sound;

said housing directing to the surroundings the light produced by said light means and the sound produced by said contact means.

2. A chime light as defined in claim 1 wherein said contact means comprises a movable, bi-metallic lead periodically contacting another lead to cause flashing of said light means, said sound being produced by engagement of said bi-metallic lead with said contacted lead.

3. A chime light as defined in claim 2 wherein said contacted lead comprises a flat plate having a surface engaged by said bi-metallic lead for providing said contact sound.

References Cited

UNITED STATES PATENTS

2,132,297 10/1938 Horowitz ----- 340-75

FOREIGN PATENTS

8,536 11/1907 Great Britain.
570,986 2/1959 Canada.
836,115 6/1960 Great Britain.

40 THOMAS A. ROBINSON, *Primary Examiner*.