July 7, 1959 M. M. MEYERS 2,893,344

COMBINATION HORN AND FLASHLIGHT

Filed Oct. 19, 1956

Fig. 1.

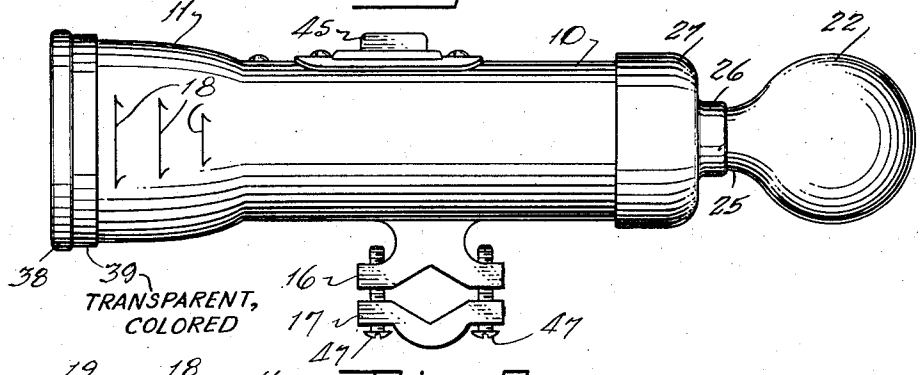


Fig. 2.

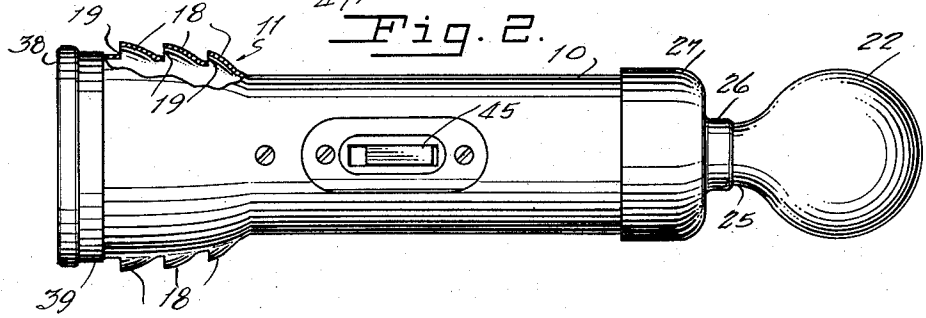


Fig. 3.

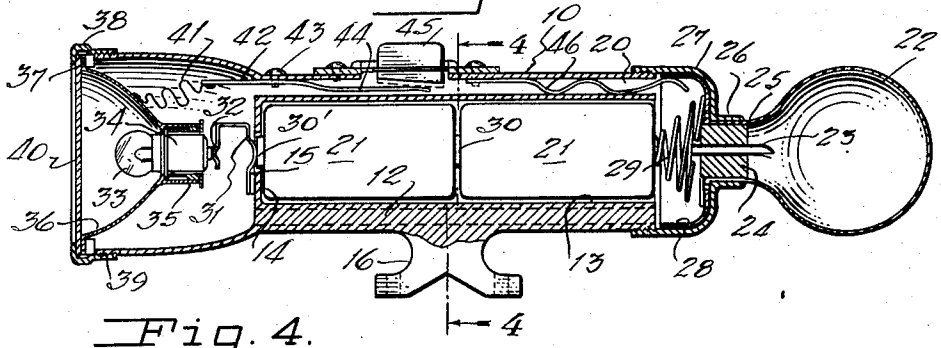
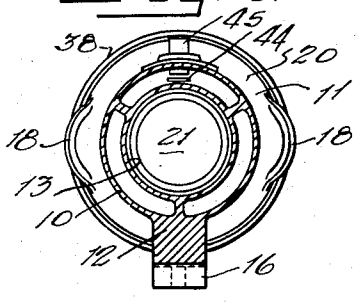


Fig. 4.



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COMBINATION HORN AND FLASHLIGHT

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1 Claim. (Cl. 116—112)

This invention relates to battery-energized lighting devices, particularly adapted for use in connection with canes and crutches used by persons who are incapacitated by blindness, or other causes, and it has special reference to a device which is capable of producing light signals while having means thereon for also producing sound, and it has for its principal object the provision of a light structural article which can be readily attached to a cane for guiding a blind person, or one who is incapacitated by some infirmity, as in connection with either a cane or crutch, and it is contemplated that the device include elements for projecting light signals laterally as well as in the forward projection of the invention.

An object of the invention is that of providing a battery energized signal whereby the user can apply the same to a cane, in case of blindness, and indicate his presence in traffic, or otherwise, by flashing signals, or by lighting the device to continuously produce a light signal, in crossing streets, approaching traffic, and in other activities.

It is also an object of the invention to provide a device in which is embodied a sound-signalling element which is economically constructed and capable of producing certain audible warning signals by which both pedestrians and motorists can be apprised of the presence of a person who is incapacitated so that proper assistance may be administered or care exercised in respect to the welfare of the person.

A further object of the invention is that of providing a compact unit having a means thereon for applying the same to any portable object or vehicle, such as a bicycle, and embodying both visible and audible signals, and energized by a simple arrangement of batteries.

While the foregoing objects are paramount, other and lesser objects will become manifest as the description proceeds, taken in connection with the appended drawings wherein:

Figure 1 is an elevational view of the invention, showing an attaching clamp, and showing a light source and sounding bulb.

Figure 2 is another elevational view of the invention, especially illustrating the light switch.

Figure 3 is a longitudinal sectional view of the invention showing the lamp and reflector, the batteries for the lamp, and illustrating the sound-producing bulb, and

Figure 4 is a transverse sectional view of the invention on lines 4—4 of Figure 3 illustrating the annular sound channel about the battery chamber concentrically of the housing.

Accordingly, the invention comprises a housing **10** which is cylindrical and may be formed of any suitable material, such as metal or plastic, and preferably having a flared portion **11** toward its forward end, as shown in Figures 1, 2 and 3. The housing **10** has a thickened portion **12** in its lower side and this portion is integral with an inner cylindrical container **13** which has a closure **14** formed integral with its forward end but having a central opening **15** therein whose purpose will become manifest. The flared, or bell-shaped portion **11** at the forward end

of the casing or housing **11** is partially formed with the inner cylindrical container **13**, as is apparent in Figures 3 and 4.

The housing **10** is formed to be applied and used in any rotative position desired, that is, the device may be employed in its position shown in Figure 1 or 2, or in any other desired position. It is readily understood that, when the casing **10** is applied to a cane or crutch, for example, by the clamp member **16**, with its complementary device **17**, to a cane or crutch, neither of which are illustrated, the housing **10** may be utilized in the position shown in Figure 1 or 3. However, when the invention is attached to the handle bars of a bicycle, or used in a similar manner, the housing **10** may assume the position shown in Figure 2 or 4.

While it is not intended that the invention be limited to any special design in structure and appearance, it is to be noted that the flared portion **11** of the housing **10** has a series of louvers **18** formed therein whose openings **19** are directed forwardly of the housing **10** in order to augment the sound channel **20** which is formed about the concentric inner cylindrical container **13** which contains a plurality of batteries **21**, as illustrated in Figure 3. Sound is produced through the medium of a compressible bulb **22** by which air is compressed through a reed tube **23** concentrically of a cylindrical base member **24** of the bulb **22**, as shown in Figure 3. This arrangement is a well known principal of producing sound.

The base member **24** of the bulb **22** is disposed in the neck **25** of the latter and both are secured in the flange **26** of a circular cover **27** threaded to the rear end of the housing **10**, as depicted in Figure 3. The bulb **22** has a skirt **28** which provides a liner for the cover **27** and extends about the latter inwardly to embrace a spiral spring **29** whose inner coil engages the rearmost of the batteries **21** and provides a ground therefor, the electrode **30** of the rearmost battery being engaged with the inner end of the companion battery whose electrode **30'** is contacted by a tensioned conductor **31** which connects the former with the positive electrode **32** of a filament bulb **33**, as illustrated in Figure 3.

The bulb **33** has a base **34** which is enclosed in a socket **35** in the reflector **36** which is semi-spherical in form and has a perimetrical flange **37** retained by a cylindrical cap **38** having an interiorly threaded flange **39** threadedly applied to the outer perimeter of the bell-shaped portion **11** of the housing **10**, as shown in Figure 3. The cap **38** is preferably of plastic and has the flange **39** colored red or green, or any desirable hue, to produce a luminosity capable of attracting attention from right-angle viewers as may be attracted by the light projected through the lens **40** of the device, the latter being secured by the cap **38**.

A ground conductor **41** is attached to the reflector **36** and is connected to a switch strip **42** secured by a rivet **43**, or other suitable device, to the housing **10** and has a portion **44** which is contacted by a sliding switch member **45**, to the opposite side of which is attached a grounding strip **46** which is tensioned so that its convolutions are in contact with the housing **10**, as illustrated in Figure 3.

The clamp members **16** and **17** are connected by screws **47**, as apparent in Figure 1. Obviously, some type of flasher device, such as a mercury switch, can be employed to produce intermittent lighting of the filament bulb **33**.

The invention is designed for use in any manner where both visible and audible signals are desirable, and any changes or modifications in its form or application can be made without departing from the spirit of the invention or the scope of the appended claim.

What is claimed is:

A combined visual and audible signal device for attachment to a cane, for the use of blind persons, comprising a cylindrical casing, a clamp for attachment of the casing to a cane in transverse relation thereto, a battery-actuated lamp, and a lens and a reflector therefor, in one end of the casing, a battery chamber formed concentrically of the casing intermediate its ends, one or more batteries in the battery chamber for illuminating the lamp, an annular sound passage defined in the casing about the battery chamber, side openings in the end of the casing adjacent the lamp communicating with the sound passage, a reed tube aligned axially with the casing and positioned in the end thereof opposite the lamp, in communication with the sound passage, and a compressible bulb attached to the adjacent end of the casing and acting on the reed tube.

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