July 24, 1962 F. F. CATELLI ET AL 3,046,389

PORTABLE LIGHTING UNIT FOR CLIP BOARDS OR THE LIKE

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Fig. 1

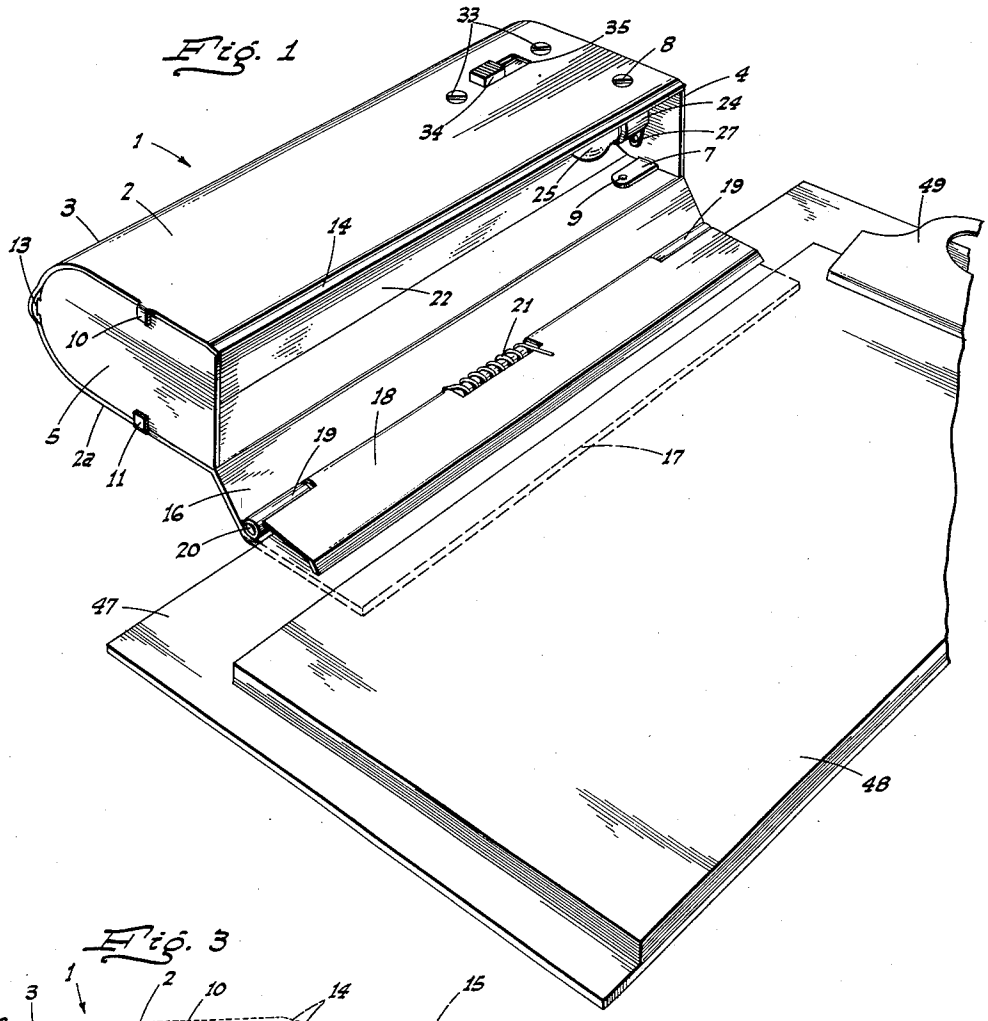
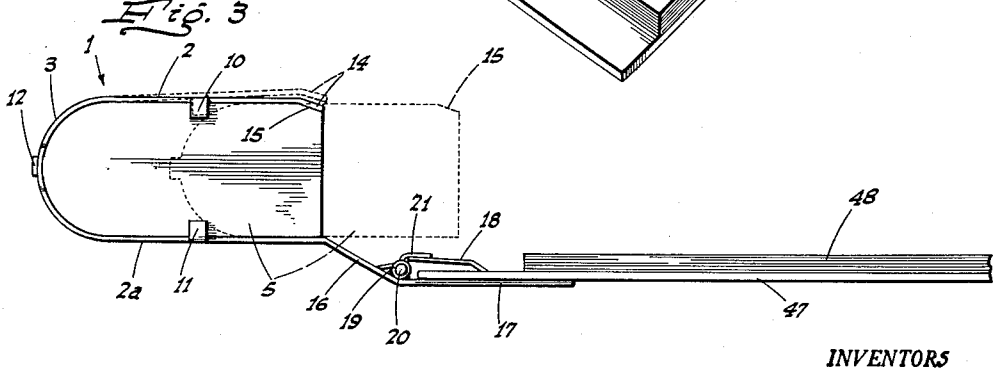


Fig. 3



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Fig. 2

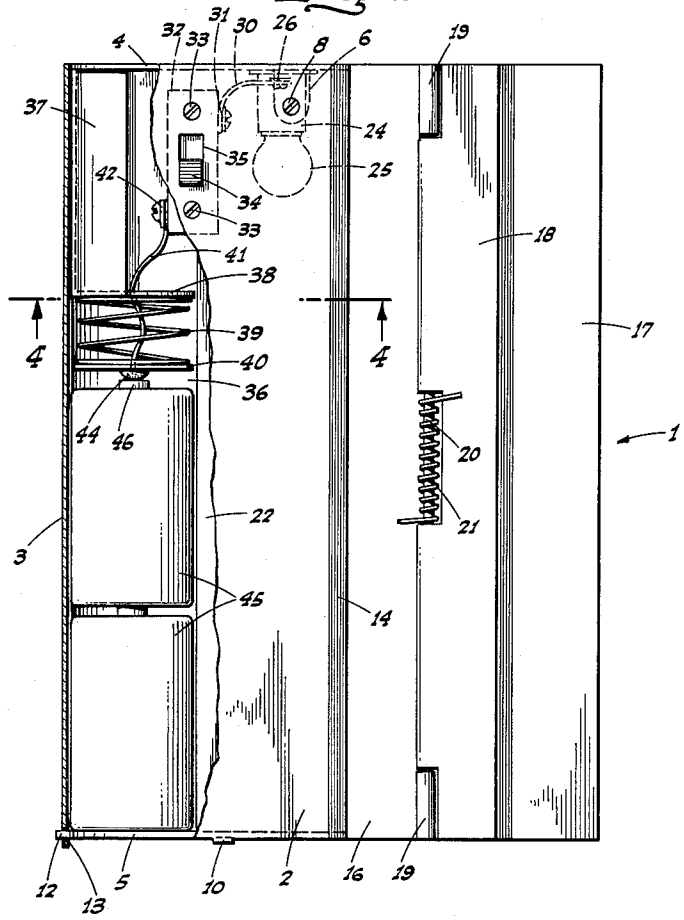
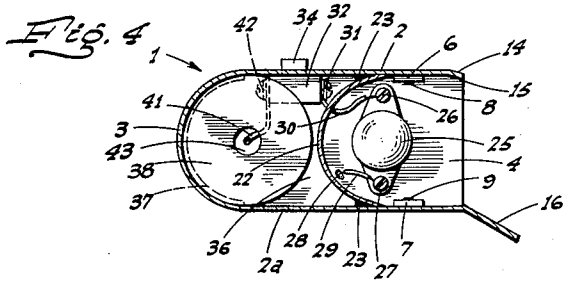


Fig. 4



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PORTABLE LIGHTING UNIT FOR CLIP BOARDS OR THE LIKE

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1 Claim. (Cl. 240—10.65)

The present invention is directed to, and it is a major object to provide, a small, portable, compact, flashlight-battery energized, lighting unit; the primary purpose of such unit being to afford artificial illumination to a person, such as a police officer, who must at night do writing or reading on a clip board or other similar flat and relatively thin member.

Another important object of this invention is to provide a portable lighting unit, as above, which is adapted for ready spring-clamping engagement on a marginal portion of the clip board; the unit then being effectively and rigidly supported from said clip board in a position to illuminate the top thereof, and including any writing pad or reading material thereon.

An additional object of the invention is to provide a portable lighting unit, as in the preceding paragraph, which includes a body or housing which forms a convenient hand grip, and by means of which both said unit and the clampingly engaged clip board may be supported by one hand of the user, leaving the other hand free for writing on the pad on said clip board.

A further object of the invention is to provide a portable lighting unit which—when detached—can also be used for general, though short range, illumination much in the same manner as a hand type flashlight.

It is also an object of the invention to provide a portable lighting unit which is designed for ease and economy of manufacture; being relatively simple in structure and of light weight.

Still another object of the invention is to provide a practical, reliable, and durable portable lighting unit for clip boards or the like, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specifications and claim.

In the drawings:

FIG. 1 is a perspective view of the portable lighting unit as engaged with a clip board.

FIG. 2 is a plan view of the portable lighting unit, detached; the view being partly broken away and partly in section.

FIG. 3 is an end elevation of the portable lighting unit as clampingly engaged on a clip board, as in FIG. 1; the view—in dotted lines—showing the lower end plate as partially removed.

FIG. 4 is a fragmentary cross section taken on line 4—4 of FIG. 2.

Referring now more particularly to the drawings, and to the characters of reference marked thereon, the novel, portable lighting unit comprises an elongated sheet metal housing or body, indicated generally at 1; such body including a flat top 2, a flat bottom 2*a* in spaced parallel relation to such top 2, and—in integral relation—a semi-circular outer side or back wall 3.

Additionally, the body 1 includes—in matching relation—an upper end plate 4 and a lower end plate 5; said body 1 being fully open along its inner or front side for the purpose as will hereinafter appear.

The upper end plate 4 is retained in place by means including laterally inwardly extending ears 6 and 7 secured to the top 2 and bottom 2*a* by screws 8 and 9, respectively.

The lower end plate 5 is removably maintained in place

by ears 10 and 11 inturned from the top 2 and bottom 2*a*, respectively, and by a tongue 12 centered at the rear of end plate 5 and projecting through a slot 13 in an adjacent portion of the outer side wall 3.

The inner edge of top 2 is slightly down-turned to form a lip 14, and the adjacent corner of the end plate 5 is correspondingly chamfered, as at 15, whereby the lip 14 normally holds said end plate 5 against displacement.

A full length, downwardly and laterally inclined flange or skirt 16 is formed integral with the inner edge of the bottom 2*a*. In turn, such inclined flange merges with a full length, laterally inwardly extending apron 17; such apron being in a plane parallel to but below the bottom 2*a*.

An elongated, hinged, spring-urged strip or clamping bar 18 is disposed above—and cooperates with—the apron 17 for substantially full length thereof. The clamping bar 18 is hinged at its rear edge in connection with the apron 17 in the manner shown in part at 19, and which hinging means includes a full length hinge pin 20. A helical torque spring 21 surrounds a portion of the hinge pin 20 and at one end bears against the clamping bar 18 to normally and forcefully urge the latter toward the apron 17. As shown, the clamping bar 18 has considerably less projection than said apron 17.

A longitudinal reflector 22, substantially semi-circular in transverse section, is disposed in the body 1 intermediate the outer side wall 3 and the open inner side of such body; said reflector—whose concave face is toward said open side—extending full length between the end plates 4 and 5. The reflector 22 is secured in the body 1 by suitable means, such as soldering or brazing, as at 23.

A socket 24 is mounted on the inside face of end plate 4 between the reflector 22 and the open side of the body 1; such socket carrying an electric globe 25 of flashlight type.

The socket 24 includes terminals 26 and 27; the latter being connected to ground, as at 28, by a wire 29. The terminal 26 is connected by a wire 30 to one terminal 31 of a switch 32 mounted on the under side of the top 2 by screws 33; such wire 30 passing through an opening in the reflector 22, as shown in FIG. 4.

The switch includes a slidable switch button 34 which projects upwardly—for external access—through a slot 35 in said top 2. As is evident, the switch 32 is mounted in the longitudinal compartment 36 formed in the body 1 between the outer side wall 3 and reflector 22; such compartment 36 also including therein the following arrangement:

A semi-circular, laterally extending supporting finger 37 is fixed in connection with the end plate 4 and extends lengthwise into the compartment 36 in matching engagement with the inside face of the sidewall 3. The supporting finger 37 is of a length to extend inwardly to a point beyond the switch 32, and at its inner end such finger 37 is fixed to, and supports, a transverse backing disc 38 for a relatively short compression spring 39 to the opposite end of which is affixed a transverse dielectric disc 40; said disc forming a transverse partition in the compartment.

A flexible wire 41 is connected at one end to the remaining terminal 42 of switch 32, and thence said wire extends through a central opening 43 in backing disc 38, passes through the compression spring 39, and connects to a center contact 44 on the dielectric disc 40.

A pair of end-to-end flashlight-type batteries 45 are disposed in the longitudinal compartment 36 between the center contact 44 and the end plate 5; such batteries being disposed so that the adjacent one thereof grounds with said end plate 5, while the center post 46 of the other battery bears against said contact 44.

The foregoing arrangement provides a battery-energized, switch-controlled circuit for the electric globe **25**; the latter being turned on or off by appropriate manipulation of the slidable switch button **34**.

In use of the above described portable lighting unit it is engaged, in the manner shown in FIG. 1, with one marginal portion of a clip board **47**; said marginal portion being clamped between the apron **17** and the clamping bar **18**. With the portable lighting unit so attached to the clip board **47** the entire assembly can be manually supported by one hand grasping the body **1**, leaving the other hand free for writing on a pad **48** secured on the clip board **47** by its usual spring clip **49**.

When the electric globe **25** is energized, direct light therefrom, as well as that cast by the reflector **22**, effectively illuminates the writing pad **48** or the like on the clip board **47**. Such illumination also makes possible the reading, with ease, of any printed material which may be carried on said clip board **47**.

It is to be observed that by the inclusion of the downwardly and laterally inclined flange **16**, the electric globe **25** and reflector **22** are disposed in a plane somewhat above the clip board **47**, which enhances the illuminating effect.

When the batteries **45** are exhausted they can be readily replaced by merely sliding the lower end plate **5** in a direction away from the side wall **3** in the manner shown in dotted lines in FIG. 3, and at which time the adjacent part of the lip **14** and corresponding portion of the top **2** are sprung slightly upwardly. The lower end plate **5** is so slid until the adjacent end of the longitudinal compartment **36** is open. Thereupon, the exhausted batteries **45** can be removed and fresh batteries replaced; this being followed by return sliding of the lower end plate **5** to its normal closed position.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention, as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

A portable lighting unit for attachment to a marginal portion of a rigid board, said unit comprising an elongated body open along the front side, said body including a top wall, a bottom wall, a back wall, and end plates one only of which is rigid with the top and bottom walls, a reflector in the body spaced from the back wall and secured to the top and bottom walls and extending the full distance between the end plates, an electric light globe mounted on the body in front of the reflector, the space between the reflector and back wall providing a compartment for the reception of a battery, means mounting the other end plate on the body for forward and backward sliding movement to open the corresponding end of the compartment and comprising ears on the top and bottom walls overlapping said other end plate, the latter being disposed between the walls of the body with its peripheral edge in engagement with the inner surface of said walls, a tongue on such end plate at the back slidably projecting through a slot in the back wall of the body, and a downward sloping lip on the top wall at the front, the upper edge of said other end plate being cut to match the slope of the lip; the top wall of the body and the reflector being of resilient material whereby the lip yieldably retains said end plate against forward sliding movement.

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