Jan. 7, 1964 G. C. NEUGEBAUER 3,116,883

WRIST BAND ILLUMINATING DEVICE

Original Filed April 18, 1961

FIG. 1

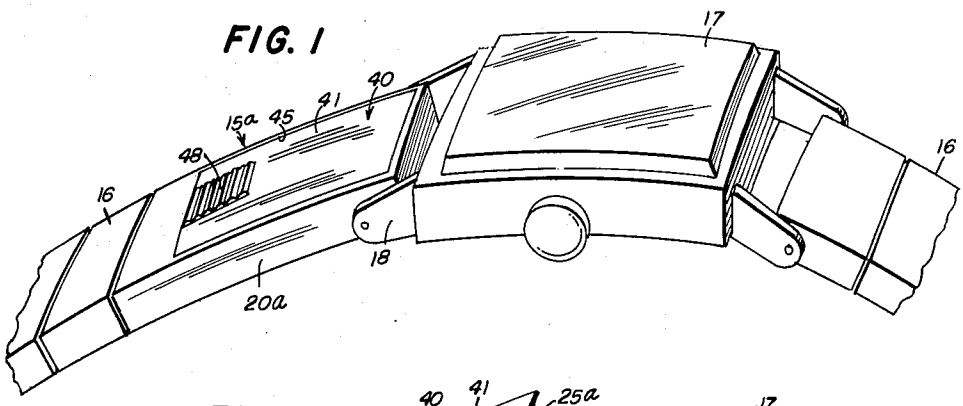
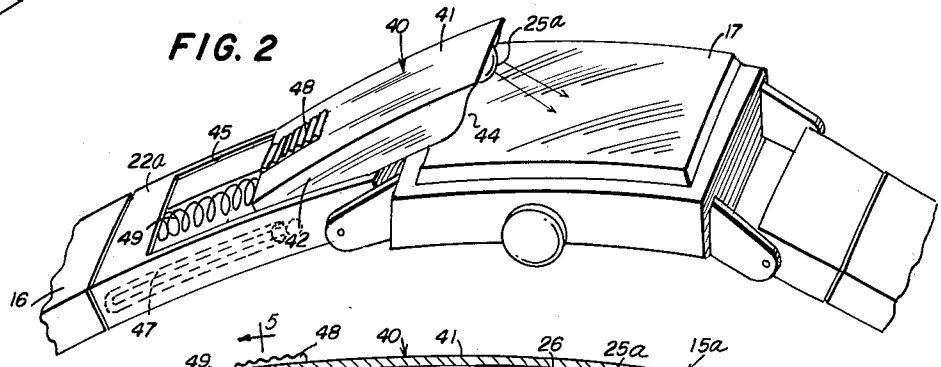


FIG. 2



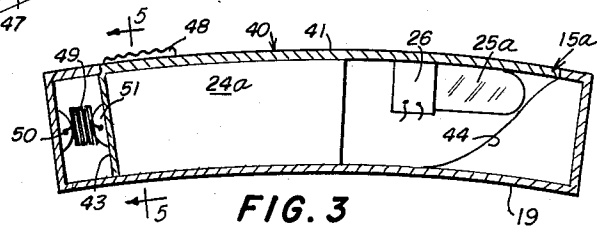


FIG. 3

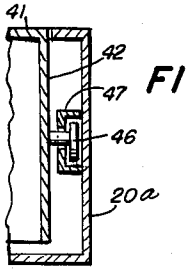


FIG. 5

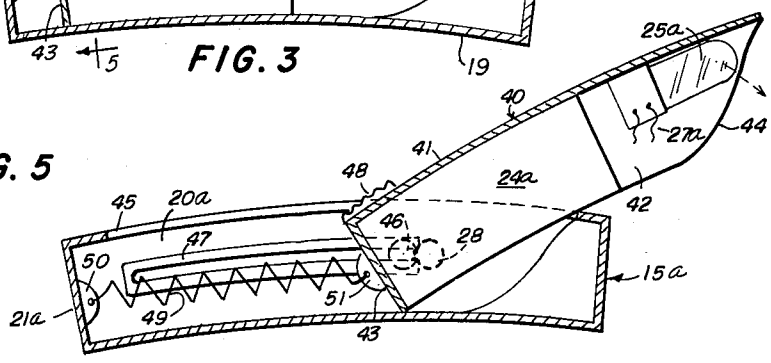


FIG. 4

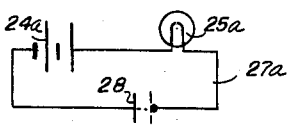


FIG. 6

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3,116,883
WRIST BAND ILLUMINATING DEVICE

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Original application Apr. 18, 1961, Ser. No. 103,877, now Patent No. 3,078,364, dated Feb. 19, 1963. Divided and this application Aug. 1, 1962, Ser. No. 215,480
4 Claims. (Cl. 240—6.43)

This invention relates to an illuminating device for wrist bands and consists more particularly in new and useful improvements in a device designed to form an integral part of a wrist watch band or similar article and adapted to illuminate the dial of the watch or other object when required, the present application being a division of application Serial No. 103,877, filed April 18, 1961, now Patent Number 3,078,364.

An object of the invention is to provide an illuminating device of this character which is convenient for the wearer, easy to operate and adaptable to various sizes and shapes to conform to the particular styling of the wrist band, bracelet or other article, and which, when not in operation, is not only inconspicuous but can be designed to enhance the eye appeal of the article.

Another object of the invention is to provide an illuminating device which is energized by replaceable, self-contained batteries or any suitable energy cells and which may be actuated by a simple flip of the wearer's finger.

Still another object of the invention and one of great importance to driver's of motor vehicles, is to provide a wrist watch illuminating device which is easily operable by a driver who frequently finds it necessary when driving at night to ascertain the time. Experience has shown that the vast majority of wrist watches equipped with luminous dials are either difficult to see at night or require a dangerous period of eye focusing to read the time.

Other advantages of the present invention wherein a small bulb is energized by a suitable battery or energy cell, reside in the elimination of radiation danger which is recognized to exist in certain watches provided with luminous dials and also the elimination of hazards for watch manufacturers when working on watches having luminous dials.

While the invention is primarily designed for wrist watch bands, it will be understood that it can be equally useful for wrist compasses, ladies' bracelets, identification bracelets and numerous other adaptations.

With the above and other objects in view which will appear as the description proceeds, the invention consists in the novel features herein set forth, illustrated in the accompanying drawings and more particularly pointed out in the appended claims.

Referring to the drawings in which numerals of like character designate similar parts throughout the several views:

FIGURE 1 is a fragmentary perspective view of one form of the invention wherein the bulb itself is projectible and retractible;

FIGURE 2 is a similar view showing the bulb holding member in projected position;

FIGURE 3 is a longitudinal sectional view taken through the device shown in FIGURE 1;

FIGURE 4 is a similar view showing the light projecting device in projected position;

FIGURE 5 is a fragmentary sectional view taken on line 5—5 of FIGURE 3; and

FIGURE 6 is a wiring diagram which may be embodied in the device shown in FIGURES 1–5 inclusive.

As previously stated, the illuminating device of the present invention may be embodied in a wrist band for various uses and for purposes of illustration, the accompanying drawings show the device installed as a part of a wrist watch band.

Referring to FIGURES 1 and 2, the illuminating device may comprise a housing 15*a* which is contoured to form a part of a conventional wrist watch band 16 and designed to be connected to an adjacent link of the wrist watch band at one end by any suitable means (not shown) and at the other end, to a wrist watch 17, as at 18. The housing 15*a* is provided with a bottom wall 19, side walls 20*a* and end walls 21*a*, and one end thereof is enclosed by a top wall 22*a* which only partially covers the interior of the housing, leaving a top opening 45.

A slidably projectible light directing member 40 fits within the opening 45 in housing 15*a* and comprises a hood-like shell of thin metal corresponding in character to that of the wrist watch band 16 and the watch 17. This shell includes a top wall 41, side walls 42, and a rear end wall 43, its forward end being open and the forward edges of the side walls 42 being curved or inclined upwardly and forwardly as at 44, to form runners as will later appear.

The rear portion of the shell 40 is designed to contain a battery or energy cell 24*a* which may be retained in place by any suitable means, and is connected to the socket 26 of a light bulb 25*a* mounted in the forward end of shell 40 with the bulb directed forwardly. The opening 45 in the top wall 22*a* of the housing 15*a* is of a size and shape to accommodate the shell 40 so that when the latter is retracted within the housing, its upper wall 41 closes the opening 45 in the housing as seen in FIGURE 1.

At the rear of the shell 40, its side walls 42 are provided with laterally projecting lugs 46 (FIGURE 5) adapted to run in longitudinally extending guide tracks 47 on the corresponding side walls 20*a* of the housing 15*a*. Thus, when the shell 40 is shifted forwardly in the housing 15*a*, its runners 44 engage the forward boundary of the opening 45 and cause the forward end of the shell 40 to ride upwardly and project over the dial of the wrist watch 17 as shown in FIGURE 2. A knurled area 48 may be provided on the top wall 41 of the light directing shell 40 to facilitate its forward shifting, the rear end of said shell being slidably retained within the housing 15*a* by the lugs 46 and trackway 47 so that when the shell 40 is retracted, its forward end will automatically fall in place within the housing.

Any suitable support means, such as a normally contracted coil spring 49 connected between ears 50 and 51 on adjacent end walls of the housing 15*a* and the hood-like member 41, may be employed for retaining the light directing shell 40 within the housing 15*a* and for retracting the shell from its operative position. A switch 28 may be interposed in the circuit 27*a* and designed to close the electric circuit upon the projection of the shell 40. This switch is normally in open position and so located that upon engagement by one of the lugs 46 at the completion of its forward travel in the trackway 47, it will close the circuit, thus energizing the bulb 25*a*.

With this form of the invention, it will be apparent that upon engagement of the wearer's finger or thumb with the knurled portion 48*a*, the light directing shell 40 is projected forwardly and upwardly with its forward end and the bulb 25*a* immediately over the dial of the wrist watch 17, to thereby direct the rays from the light bulb onto the dial of the watch. Upon release of the knurled area 48, the shell 40 will be automatically returned to the housing 15*a* by the action of spring 49.

From the foregoing, it is believed that this invention may be readily understood by those skilled in the art without further description, it being borne in mind that numerous changes may be made in the details disclosed

without departing from the spirit of the invention as set forth in the following claims.

I claim:

1. A combined wrist watch band and illuminating device comprising a housing, means for connecting said housing to said wrist watch band in proximity to a watch held thereby, a light directing member normally retracted in said housing and slidably projectible therefrom, said light directing member consisting of a shell, an energy cell contained in said shell, a light bulb at the forward end of said shell operatively connected to said energy cell, guide means for directing the sliding movement of said shell upwardly and forwardly from said housing to position said light bulb over the face of said wrist watch, and electric contact means operable upon the projection of said shell for energizing said bulb.

2. The combination as claimed in claim 1, including

guide means operatively connected to the rear end of said shell for retaining said rear end within said housing during projection and retraction of the forward end of said shell.

3. The combination as claimed in claim 2, including means at the forward end of said shell for directing its projection forwardly and upwardly over said wrist watch.

4. The combination as claimed in claim 3, including spring means for retracting said shell into said housing.

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