

P. M. WILLIS.

SELF LUMINOUS WRITING OR READING DEVICE.

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1,351,935.

Patented Sept. 7, 1920.

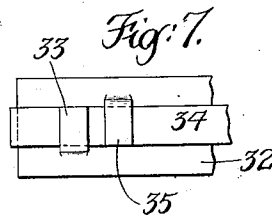
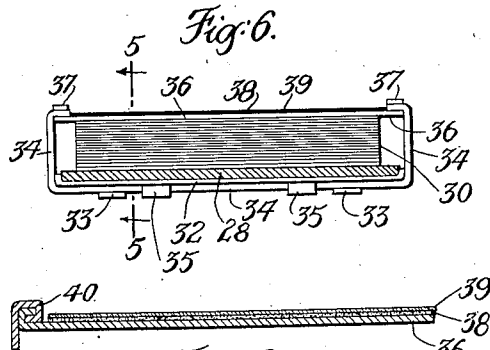
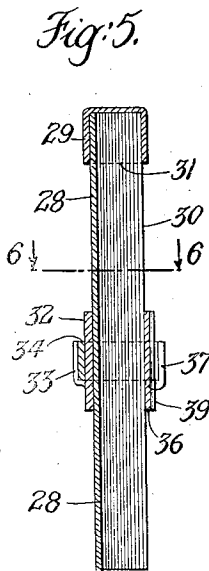
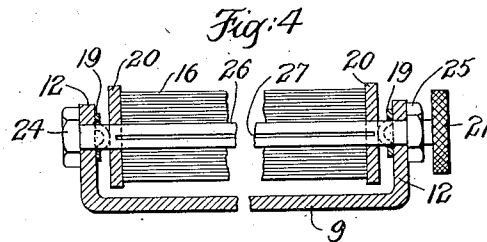
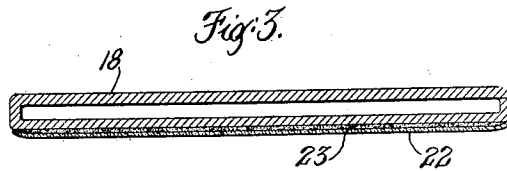
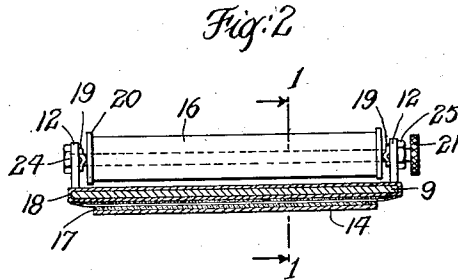
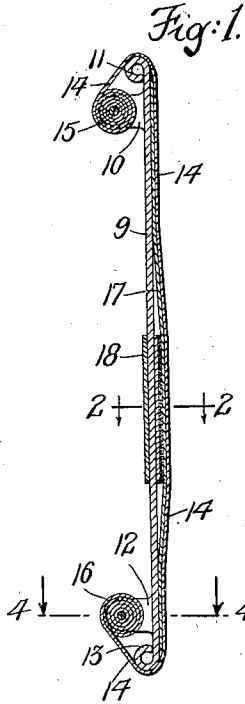
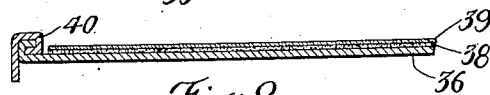


Fig. 8.



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SELF-LUMINOUS WRITING OR READING DEVICE.

1,351,935.

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To all whom it may concern:

Be it known that I, PAUL M. WILLIS, a citizen of the United States, residing at Orange, in the county of Essex and State of New Jersey, have invented a certain new and useful Self-Luminous Writing or Reading Device, set forth in the following specification and illustrated in the accompanying drawings.

10 This invention consists in a self-luminous writing or reading device by which notations can be written upon or read from a record sheet, in the dark, and without the aid of any light extraneous to the device.
15 The object of the invention is to provide such a device for military service and general use.

The invention is exemplified in the structure illustrated by the accompanying drawings in which—

Figure 1 is a longitudinal sectional view of one device embodying the invention, the section being taken on the plane 1, 1 of Fig. 2;

25 Fig. 2 is a transverse sectional view of the device of Fig. 1, on the section plane indicated at 2, 2 of Fig. 1;

Fig. 3 is an enlarged transverse sectional view of the self-luminous sliding yoke of Figs. 1 and 2, also taken on the plane 2, 2 of Fig. 1;

Fig. 4 is a transverse sectional view on an enlarged scale, taken on the plane 4, 4 of Fig. 1;

35 Fig. 5 is a longitudinal sectional view of another embodiment of the invention, taken on the section plane 5, 5 of Fig. 6;

Fig. 6 is a transverse sectional view of the device of Fig. 5, taken on the section plane 6, 6 of Fig. 5;

Fig. 7 is an enlarged detail plan view of the clips 33 and 35, formed on the back-plate 32 for holding the elastic band 34; and

45 Fig. 8 is an enlarged transverse sectional view through a self-luminous yoke adapted for the device of Figs. 5, 6 and 7, but having a form of band-grip different from that of Figs. 5 and 6.

In the device of Figs. 1, 2, 3 and 4, the oblong main platen 9 of suitable metal has its ends 11 and 13 rolled in wire-edge form, and has two rearwardly projecting lugs 10 on its longer edges near its upper end, and two similar lugs 12 on the same platen edges

near its lower end. Spindles such as 26 55 with spool-flanges 20, are mounted between these upper and lower pairs of lugs, and have slots 27 to receive the ends of a ribbon or strip 14 of a transparent or translucent membrane, such as any suitable paper. 60 Spring washers 19 introduce friction between the spindle flanges 20 and the mounting lugs 10 or 12, to prevent a free unwinding of the paper strip which has its ends in the slots of the opposite spindles and forms 65 rolls 15 and 16 on the spindles and runs from roll to roll over the rounded edges 11 and 13 of the platen. Suitable knurled heads such as 21 on the spindles serve to turn them to draw the strip 14 in either 70 direction.

A metal band or yoke 18 embraces the platen and slides upon it from end to end between the opposite lugs 10 and 12, and the front leg of this yoke is interposed between 75 the platen and the paper strip and is rendered self-luminous by a suitable self-luminous paste or other material 23 covered by a protective transparent or translucent membrane 22. The self-luminous material 80 23 may include an adhesive to secure the protective strip 22 which may be of celluloid. The self-luminous mixture 23 may be itself transparent or translucent and the surface of the yoke 18 on which it adheres may be 85 rendered white or light-reflective to utilize the light rays falling upon it from the self-luminous material.

A stationary celluloid or other transparent sheet 17 may be cemented or otherwise 90 suitably connected at its ends to the front side of the platen 9, over the sliding self-luminous sheet to further protect the same and also to shield the paper strip from contact with the edges of the self-luminous 95 sheet which might otherwise cause the point of a pen or pencil to break through the paper in the act of writing.

The self-luminous material of the sliding yoke 18 will preferably be of radio-active 100 character which is expensive.

The scheme of carrying this self-luminous material on the sliding yoke makes it possible to illumine the paper strip by transmitted light successively along all portions of its length traversed by the sliding 105 movement of the yoke and without employing such an amount of self-luminous mate-

rial as would be necessary to provide equal illumination of all said paper area at one time. Although the sliding self-luminous yoke thus facilitates writing on or reading from successive portions of the paper strip, the self-luminous area beneath the paper may be immovably fixed on the platen and successive portions of the paper may be illuminated by recourse solely to the turning of the paper spindles.

In the device of Figs. 5, 6, 7 and 8, a leaf pad 30 of translucent or transparent leaves is mounted on an ordinary card back 28 by a flexible cloth binding 29 glued to the card back and to the upper edges of the pad leaves. The leaves may be perforated at 31 for tearing off along a line parallel to the binding.

A metal plate 32 lies transversely across the rear surface of the card 28 and has its ends bent forward to embrace the edges of the card, so that the plate may freely slide along the length of the card. An elastic band 34 passes along the back of the plate 32 through retaining clips 33 and 35 formed integrally with the plate, and thence extends forward across the thickness of the pad to the ends of the self-luminous slide 36 to which the ends of the band are secured by suitable clips 37 formed of the metal of the slide. In lieu of the clips 37, the clench joint 40 of Fig. 8 may be employed. The front end of the slide 36 is rendered self-luminous by an adhesive self-luminous paste 38 compressed between the slide and a transparent protective covering 39. The front surface of the slide may be light-reflective as mentioned of the yoke 18 in the device of Figs. 1 to 4. To illuminate successive portions of any leaf of the pad, the self-luminous slide or yoke may be slid along the pad beneath any desired leaf, and the elastic band 34 will hold it in place clamped lightly on the card back 28 and the pad leaves remaining beneath the slide.

The inventive idea may be embodied in various other forms within the skill of artisans, and still other adaptations may be inventively devised, within the scope of the following claims:

1. A luminous writing or reading device

comprising a base member, means for holding a record sheet thereon, and a self-luminous sheet slidably connected with the base member in position to slide under successive portions of the record sheet, whereby to successively illuminate said record sheet portions by transmitted light.

2. A luminous writing or reading device comprising a leaf book, a self-luminous sheet of lesser area than the leaves of said book, and a slidable connection between said self-luminous sheet and the book adapted to permit movement of said sheet under any one of said book leaves.

3. A device for illuminating pad or book leaves by transmitted light consisting in a self-luminous sheet adapted to be inserted beneath the pad or book leaf to be illuminated, and a yoke connected with said self-luminous sheet and adapted to inclose other leaves of the pad or book between said yoke and self-luminous sheet while said sheet is in place beneath said leaf to be illuminated.

4. A device for illuminating pad or book leaves by transmitted light consisting in a self-luminous sheet adapted to be inserted beneath the pad or book leaf to be illuminated, and an elastic yoke connected with said self-luminous sheet and adapted to clamp other leaves of the pad or book between said yoke and self-luminous sheet while said sheet is in place beneath the said leaf to be illuminated.

5. A device for illuminating pad or book leaves by transmitted light consisting in a self-luminous sheet of lesser area than the pad or book leaves and adapted to slide beneath the pad or book leaf to be illuminated, and an elastic yoke connected with said self-luminous sheet and adapted to lightly clamp other leaves of the pad or book between said yoke and self-luminous sheet while said sheet is in illuminating position beneath the said leaf to be illuminated, and said yoke being also adapted to slide relative to its said leaves thus clamped whereby to successively illuminate successive portions of said leaf to be illuminated.

In testimony whereof I have hereunto affixed my signature.

PAUL M. WILLIS.