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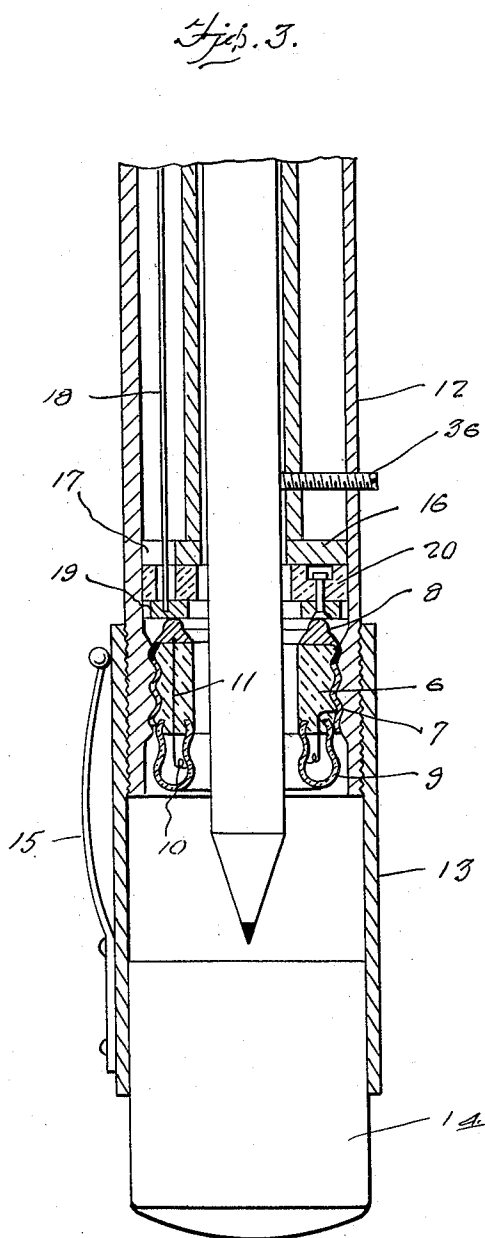
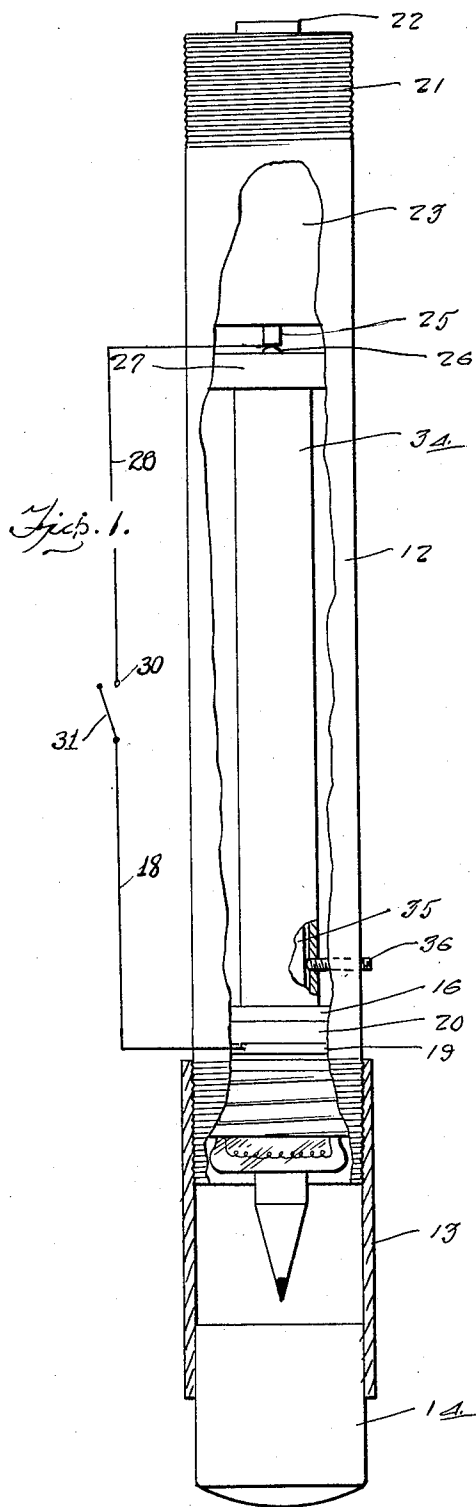
R. E. TURTON

1,878,431

ILLUMINATED PENCIL

Filed Oct. 26, 1931

2 Sheets-Sheet 1



Inventor

*R. E. Turton*

By *Clarence A. O'Brien*  
Attorney

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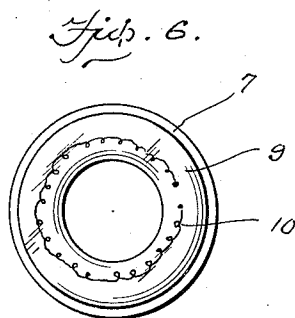
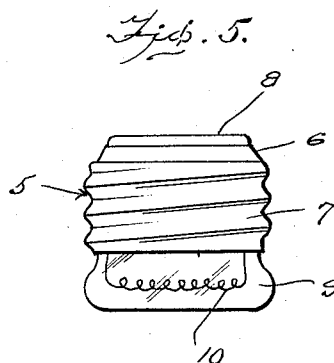
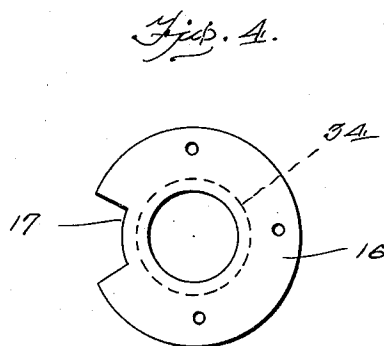
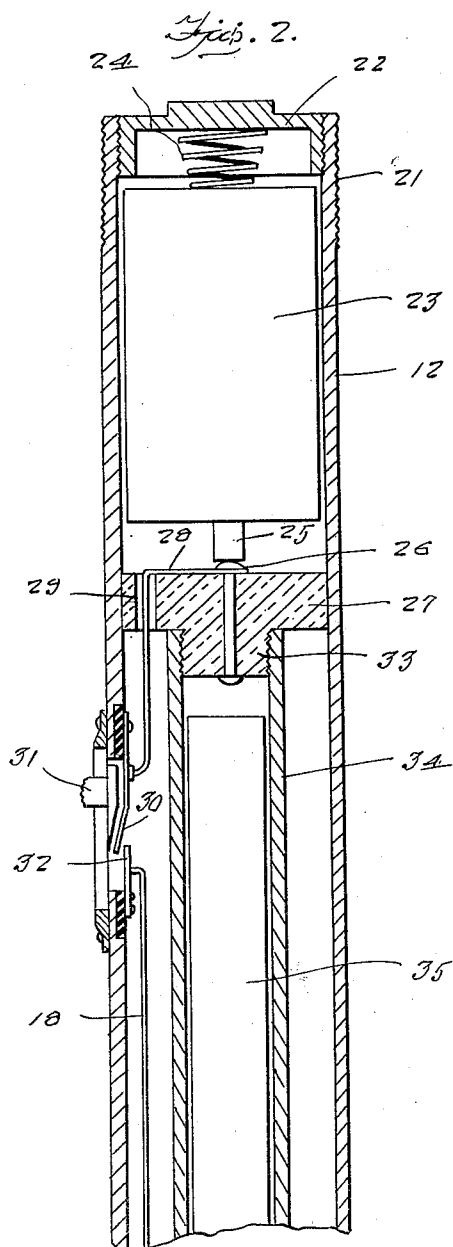
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2 Sheets-Sheet 2



Inventor

*R. E. Turton*

By *Clarence A. O'Brien*  
Attorney

# UNITED STATES PATENT OFFICE

RALPH ELON TURTON, OF LEXINGTON, KENTUCKY

## ILLUMINATED PENCIL

Application filed October 26, 1931. Serial No. 571,197.

This invention relates to improvements in the art of illumination and more particularly to a novel illuminated pencil or other writing implement.

- 5 An important object of the invention is to provide an illuminated pencil wherein the entire area of the paper where the pencil point is touching will be thoroughly illuminated with the absence of shadows.
- 10 Another important object of the invention is to provide an illuminated writing instrument including an electric bulb which circumscribes the pencil adjacent the point to illuminate at all points radial from the pencil so as to eliminate shadows.

Other important objects and advantages of the invention will become apparent to the reader of the following specification.

In the drawings:—

- 20 Figure 1 represents a side elevational view of the pencil partly in section and partly broken away to disclose the interior thereof and showing the switching circuit.

Fig. 2 represents a fragmentary longitudinal sectional view through the pencil.

Fig. 3 represents a fragmentary vertical sectional view through the pencil looking at the opposite end from that shown in section in Fig. 2.

- 30 Fig. 4 represents a top plan view of the upper plug.

Fig. 5 represents a side elevational view of the electric bulb.

- 35 Fig. 6 represents a top plan view of the bulb interior.

Referring to the drawings wherein like numerals designate like parts, it can be seen that numeral 5 generally refers to the novel electric light bulb which includes the annular di-electric body 6 having the thread formed jacket 7 thereon at the periphery thereof, while at one end is located the contact annulus 8 spaced from the jacket 7.

- 40 At the opposite end of the body 6 is the globe 9 which is made up of a pair of closely spaced concentric walls merging together at their outer portions to form a filament compartment for the filament 10, which has a connection 11 with the aforementioned conductor annulus 8.

In further carrying out the invention, numeral 12 represents an elongated barrel provided with internal threads for receiving the bulb 5, and with external threads at the same end for engagement with the internal threads of the cap 13, which cap is provided with an eraser 14 and a clip 15.

Within the barrel 12 is a ring 16 having a cut-away portion 17 at its periphery to accommodate the conductor 18, and as is clearly shown in Fig. 3, this conductor 18 extends to the conductor ring 19, which conductor ring is spaced from the member 16 by the di-electric spacer 20. Obviously, when the bulb 5 is fed inwardly of the barrel 12, its full extent, it bears against the conductor ring 19 and it is preferable that this spacer be of resilient material such as rubber or fiber so that there will be necessary cushion effect, which dispenses with the necessity of a spring.

It will be observed in Fig. 2, that the opposite end of the barrel 12 is externally threaded as at 21 for engagement into the cap 13 when the same is removed from the first-mentioned end of the barrel and is internally threaded to receive the plug 22. A battery 23 is to be located within this end portion of the barrel 12 and interposed between this battery 23 and the plug 22 is the conductor spring 24. The center electrode 25 of the battery 23 when positioned in the manner shown in Fig. 2, bears against the contact 26 on the circular plug 27. A connector 28 extends from the contact 26, through an opening 29 in the plug 27 to connect the spring 30 of the switch, which spring is operated by the slide button 31 in the manner well known in the switch art. It can now be seen, that when the contactor arm 31 is brought against the contact 30, current will pass from the battery 23 through the conductor 28 to the conductor 18 and from there to the ring 19 which contacts with the ring 8 of one side of the filament 10, the opposite side of the filament 10 connected to a band on the di-electric body 6 which contacts with the casing 12. The battery 23 has one side connected by way of the spring 24 to the cap 22 and barrel 12 shown in Fig. 2. Thus there is a complete circuit when the switch members 30 and 31 are brought together.

Complementary to the spring 30 is the spring contact 32, to which the aforementioned conductor wire 18 connects. The plug 27 is provided with a threaded nipple extension 33 which engages into the interiorly threaded end of the tube 34 which is located internally of the barrel 12. This tube 34 is to receive the pencil 35 and a set screw 36 is threaded through the barrel 12 and tube 34 to bite into the pencil 35 to retain the same in the desired position with respect to the bulb 5. (See Fig. 3).

While the foregoing specification sets forth the invention in specific terms, it is to be understood that numerous changes in the shape, size and materials may be resorted to without departing from the spirit and scope of the invention as claimed hereinafter.

Having thus described my invention, what I claim as new is:—

A pencil comprising a barrel having a di-electric plug therein adjacent one end thereof defining a compartment, a battery in the compartment, a tube extending from the plug toward the opposite end of the valve, a ring in the last-mentioned end portion of the barrel for supporting the tube, said ring being provided with a notch therein, a lead extending from the battery between the tube and the barrel and through the notch, a conductor ring, a di-electric spacer between the ring aforementioned, and the conductor ring and being provided with an opening therein for receiving the lead, said lead being attached to the conductor ring, a threaded socket in the last-mentioned end of the valve, a tubular bulb provided with a threaded base engageable into the socket and against the conductor ring, and a pencil adjustably mounted in the tube for extending through the said tubular bulb.

In testimony whereof I affix my signature.

RALPH ELON TURTON.

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