Oct. 10, 1961 C. R. GOMES 3,004,140

ILLUMINATED PEN OR PENCIL

Filed Oct. 30, 1957

Fig.1

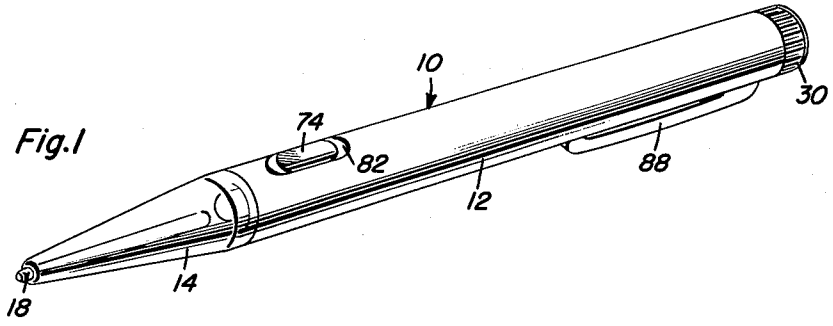


Fig.2

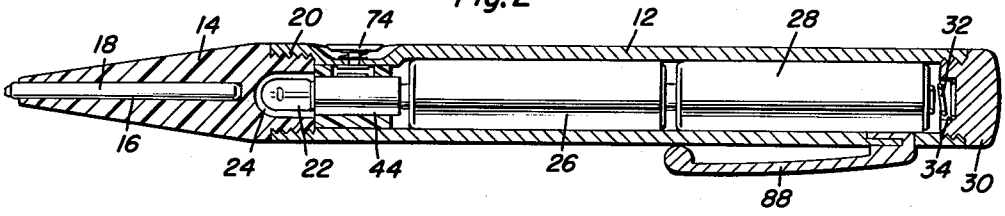


Fig.3

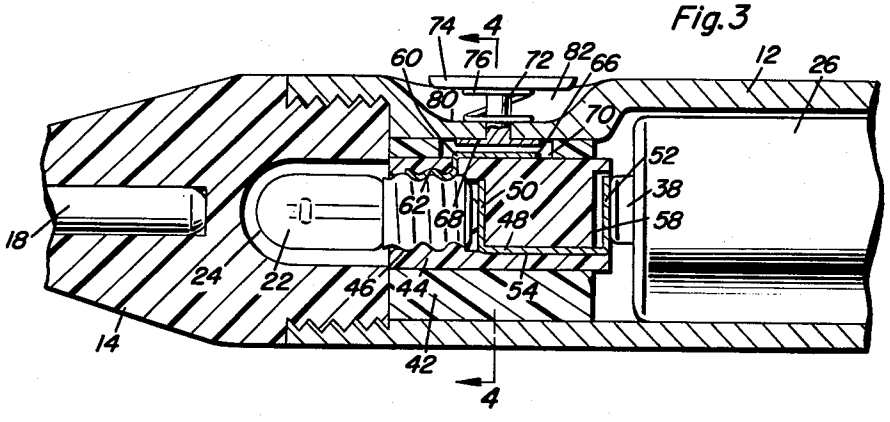
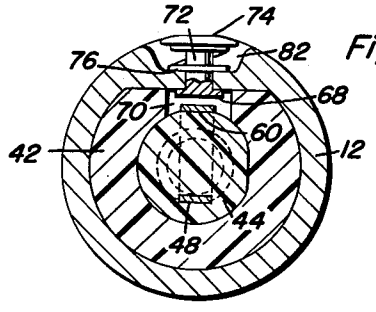


Fig.4



Cyril R. Gomes
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

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ILLUMINATED PEN OR PENCIL

Cyril R. Gomes, 2336 Palolo Ave., Honolulu 16, Hawaii

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This invention relates to an illuminated pen or pencil and more particularly to a pen or pencil which is constructed in such a manner that a considerable amount of illumination is provided on the writing surface when the lamp in the pen or pencil is operated

An object of the invention is to provide a practically constructed illuminated pencil or pen which provides a copious area with enough illumination by which to write very easily and plainly. Although there have been illuminated pencils in the past my illuminated pencil is considered to be more practical because of the location of the switch enabling the user to close the switch practically automatically while using the pencil. The switch is so constructed that it automatically opens in response to the release of a light pressure which is all that is required to close the switch.

The light rays from my pen or pencil are directed in such a path of travel that they are practically coincident with the writing end of the writing element of the pen or pencil. Yet, a considerable area adjacent to that which is actually used for writing is illuminated.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of a writing implement constructed in accordance with the invention.

FIGURE 2 is a longitudinal sectional view of the implement in FIGURE 1.

FIGURE 3 is an enlarged sectional view showing details of the switch construction and its interposition in the pen or pencil.

FIGURE 4 is a transverse sectional view taken on the line 4—4 of FIGURE 3.

In the accompanying drawing there is a writing implement **10** which may be either a pencil or a pen with equal facility. With the advent of the popularity of ball point pens and pencils, my illustration is of this type. Accordingly, the writing implement has a hollow casing **12** at one end of which there is a tapered member or nib **14** provided with an elongated passage **16** in which to accommodate a rather slender cartridge **18** that constitutes the writing portion of the implement. Member **14** is tapered toward the end of passage **16** to facilitate gripping the same. This member is made of Lucite or some other light transmissive plastic material through which light rays can pass for illuminating the surface on which the writing portion is used. Although not essential, it is suggested that there be threads **20** on a reduced part of member **14** and in an open end of the casing **12**. These separably connect the member **14** to the casing **12** and thereby permit ready access to the light bulb **22** whose envelope is located in recess **24** that is coaxial with passage **16** and in the inner end of member **14**.

One or more, for example two batteries **26** and **28**, are removably disposed in the hollow casing **12**. Closure **30** is threaded on or in one end of casing **12** and supports spring **32** in a recess **34** of closure **30**. The spring bears against battery **28**.

An insulating sleeve **42** is fitted within the end of casing **12** and held firmly in place, as by a close fit or by being cemented. Other fastening means may be resorted to as found desirable or necessary. An insulating body

44 is located in sleeve **42**. The body **44** has a socket **46** in one end within which the light bulb **22** is separably disposed. A generally U-shaped conductive strip **48** having ends **50** and **52**, is located in a passageway **54** of body **44**. One end **50** of the conductive strip **48** is disposed at the inner end of socket **46** and comes to bear against the center contact of light bulb **22**. The other end **52** of the conductive strip **48** is in contact with the center pole **38** of battery **26**. There is a relieved part **58** of body **44** within which the end **52** of the conductive strip **48** can flex.

A second conductive strip **60** is passed through an opening in the body **44** and has a terminal part **62** threaded and seated within the threads of socket **46**. The part **62** of the contact strip **60** touches the shell of the lamp base. The other end of contact strip **60** is flat and constitutes a contact **66** that is stationary. Movable contact **68** is in the form of a plunger head and is disposed in an aperture **70** formed in a side wall of sleeve **42**. Shank **72** is attached to head **68** and has a push button **74** on the outer extremity thereof. Spring **76** seats on the bottom wall **80** of a recess **82** in casing **12** and seats on the push button **74**. The bias of spring **76** is in such direction as to keep the switch, constituted by movable contact **68** and fixed contact **66**, in the open position. The location of the recess **82** is important. It is close to the writing end of the pen or pencil and is in a position where it can be depressed by a portion of one of the fingers or by a part of the hand near the fingers when the pencil or pen is in normal writing position. The fact that the push button **74** is flush with the surface of the pencil or very nearly so, is also important, No objectionable protrusions to hang on the clothing when inserted or removed from the pockets, exist.

An electrical circuit is established through the casing **12**, the switch and batteries as well as the closure **30** and its spring **32**.

It is understood that various changes may be made without departing from the invention. Moreover, various additions, such as the pencil or pen pocket clip **88** may be applied without departing from the scope and comprehension of the following claims.

What is claimed as new is as follows:

1. An illuminated pen comprising a substantially cylindrical electrically conductive casing, a removable nib of a light conducting material threadedly mounted in one end portion of said casing and having a recess in its inner end portion, a writing cartridge in said nib, a sleeve of insulating material mounted in the casing in end-abutting engagement with said nib and having an opening therein, a generally cylindrical body of insulating material mounted in the sleeve and having a threaded socket in one end portion opening into the recess and further having a recess in its other end portion, a conductor strip mounted longitudinally in the body, a fixed contact on one end of the conductor strip engaged in the socket, a yieldable contact on the other end of the conductor strip operable in the second named recess, batteries in the casing electrically connected to the yieldable contact, an electric lamp mounted in the socket and projecting therefrom into the first named recess, said lamp being electrically connected to the fixed contact, a conductor element in the body electrically connected to the lamp in the socket and extending therefrom into the opening, means electrically connecting the batteries to the casing, and a normally open switch on the casing for electrically connecting said conductor element to said casing for establishing an electrical circuit through the lamp for energizing same.

2. The illuminated pen of claim 1, said casing having a depression in the grip portion thereof and further

having an opening therein connecting the depression and the first named opening, said switch comprising a metallic shank slidable in the second named opening, a contact on the inner end of said shank engageable with the conductor element, a push button on the outer end of the shank flush with the periphery of the casing and operable in the depression by a digit of the writing hand, and a coil spring in the depression encircling the shank and engaged under compression with the push button for yieldingly urging same outwardly for disengaging the last named contact from the conductor element.

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