Aug. 30, 1932. G. LEVENE 1,875,048

LIGHT PENCIL

Filed Dec. 13, 1930

Fig. 1

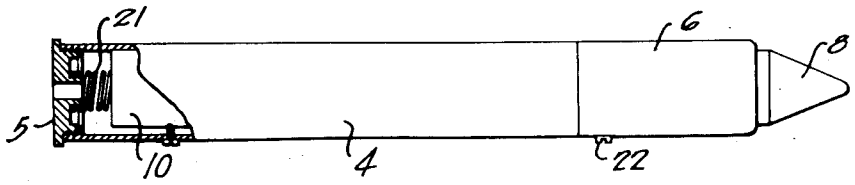


Fig. 2

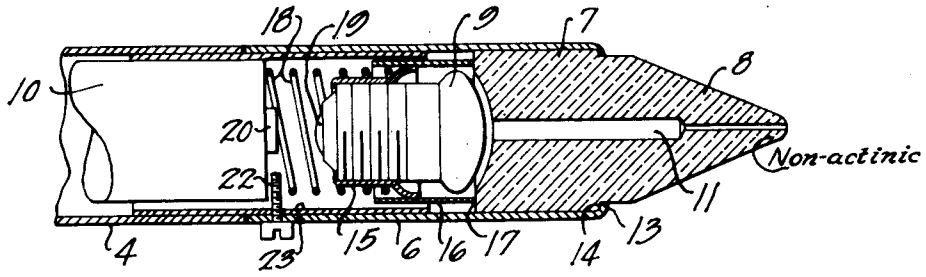
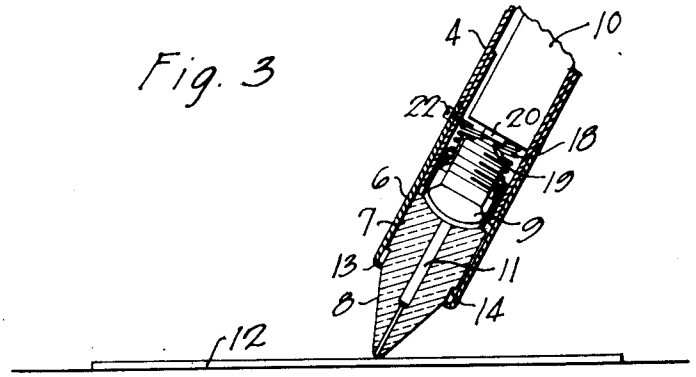


Fig. 3



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UNITED STATES PATENT OFFICE

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LIGHT PENCIL

Application filed December 13, 1930. Serial No. 502,019.

This invention relates to devices for marking photographic films, plates or other sensitized sheets, and has for its principal object the provision of a compact and handy utensil which may be used in the manner of a pencil and which is provided with an apertured tip adapted to direct a beam of light onto the film or plate when the pencil is moved over a sensitized surface, thereby to expose traced characters, words or other indicia to be reproduced upon ensuing prints of the developed sheet.

More specifically, the purposes of the invention are to provide a light pencil in which the working end or tip is movable longitudinally of a casing containing a light source and a source of current for the light, the light source being automatically energized upon inward movement of the tip caused by pressure upon the sheet; and to provide a tip which constitutes a light filter preventing the spread of actinic rays but permitting "safe" light to illuminate the region surrounding the tip to facilitate the marking of sensitive sheets in a dark room. These and other features of the invention will be evident from the following description and will be pointed out in the appended claims, it being understood that the invention is not intended to be limited to the specific form or details of the present disclosure.

A preferred embodiment of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a side view, partly in section, of the improved light pencil;

Fig. 2 is an enlarged fragmentary section thereof; and

Fig. 3 is a similar view, showing the pencil in position for use.

In the particular embodiment chosen for the purpose of illustration, the improved pencil comprises a cylindrical casing 4 having a threaded cap or closure 5 at its rearward end and a removable tube 6 mounted at its forward end; a marking tip 7 slidable axially within the tube 6 and having a tapered projecting nose 8; a normally extinguished electric lamp bulb 9 or other light source supported within the casing tube; and a common type of battery 10 also mounted in the casing and constituting a source of current for the light 9. The arrangement is such that the lamp is automatically energized upon inward movement of the tip 7 caused, for example, by pressing the nose 8 upon the sensitized sheet; and the tip has an axial opening 11 therethrough permitting the passage of light from the bulb 9 and directing the beam of light upon the senstitized surface to expose the plate or film.

The nose 8 at least of the working tip is preferably so constructed as to provide a light filter permitting (in addition to the light directed through the aperture 11) general distribution of light to which the surface is substantially insensitive. For this purpose, the tip may be formed of colored celluloid or other treated, semi-transparent material which obstructs the emission of the actinic rays; or the surface of the nose 8 of a tip formed of clear glass or the like may be painted or otherwise coated or covered with colored matter or material having similar properties. For ordinary films or plates the filter will be ruby colored; whereas panchromatic sheets require a green filter. It will be understood that the marking operation should be performed in the usual dark room; and it is thus apparent that the safe light emitted through the marking tip substantially increases the visibility of the darkened sheet and the nose of the moving pencil. Hence, the writer is enabled to mark legibly upon the sheet 12 when the pencil is pressed downwardly thereon in the manner indicated in Fig. 3.

Although in this aspect of the invention the tip may be fixed with respect to the casing and the light energized by a suitable switch, a particular feature of the illustrated construction resides in the provision of circuit closing means operable upon inward movement of the slidable tip 7. To this end, the bulb is movably mounted within the casing so that it is carried into circuit-closing position with respect to the battery 10 by the motion of the marking tip when the nose 8 is pressed upon the film or plate. It will be observed that outward movement of the tip

is limited by an annular flange 13 at the casing mouth which engages a complemental shoulder 14 on the tip 7; and that in such position the lamp is extinguished.

The base of bulb 9 is mounted in a socket 15 fixed in a slidable tubular member or holder 16 which extends forwardly to serve as a shield for the bulb and preferably seats against the inner end of the tip 7, as indicated at 17. The bulb holder and marking tip are yieldingly held in outward position by means of a helical spring 18 interposed between the socket 15 and the end of the battery 10, thus normally spacing the contacts 19 and 20 of the bulb base and battery respectively. As shown in Fig. 3, these contacts are closed upon inward movement of the marking tip and light the bulb.

As in the usual hand flashlight the circuit of the battery case may include a spring 21 bearing against the casing cap 5, the casing 4 and a switch element electrically connecting the casing and the lamp socket 15. In this instance the circuit from casing to socket may be continuously closed by sliding engagement of the tube 16 with the wall of the casing or it may be closed through the spring 18 by providing a conductor such as the screw 22 which is engaged by the compressed spring (Fig. 3). In either event the lamp is illuminated as soon as the contacts 19 and 20 are closed, and is extinguished when these contacts are opened.

In the structure illustrated, the screw 22 also serves to secure the casing 4 and its removable end tube 6 in axial alignment; and it is evident that the various elements may be assembled within the device before the casing is closed by applying the end portion 6. The tube 6 fits over a sleeve 23 suitably fixed in the casing part 4, and the screw 22 is threaded in registering apertures in the tube and sleeve respectively, and extends inwardly toward the spring 18. These and other structural details of the light pencil herein described may, however, be varied to suit particular purposes without departing from the essence of this invention as defined in the following claims.

It is apparent that a marking device constructed in accordance with this invention is easy to manufacture and assemble, simple to operate and particularly compact and convenient to use. The desired markings are readily traced upon the photographic film or plate by pressing the marking tip upon the sheet and moving it thereover in the manner of a writing pen or pencil; the safe light emitted through the filter tip enables the writer clearly to see and follow the area to be traced by exposure of light through the tip aperture; and the automatic switch arrangement ensures that the light will be extinguished as soon as marking pressure is released.

It should be understood that the present disclosure is for the purpose of illustration only and that this invention includes all modifications and equivalents which fall within the scope of the appended claims.

I claim:

1. A pencil for marking a sensitized sheet, comprising a casing provided with a tip movable longitudinally thereof, a light source within the casing, and means operative upon inward movement of the tip for electrically energizing the light source, the tip constituting a filter preventing the passage of actinic light rays while permitting the emission of non-actinic rays, and the tip having an opening therethrough communicating with the light source so that the sheet is exposed by said light when the tip is pressed thereon.

2. A pencil for marking a sensitized sheet, comprising a casing, a light source within the casing, and a marking tip at one end thereof, the tip constituting a filter preventing the passage of actinic light rays while permitting the emission of non-actinic rays, and the tip having an opening therethrough communicating with the light source so that the sheet is exposed when the tip is moved over its sensitized surface.

3. A pencil for marking a sensitized sheet, comprising a casing, a light source within the casing, and a marking tip at one end thereof, the tip being made of material which prevents the passage of actinic light rays but permits the emission of non-actinic rays, and the tip having an opening therethrough communicating with the light source so that the sheet is exposed when the tip is moved over its sensitized surface.

4. A pencil for marking a sensitized sheet, comprising a casing, a light source within the casing, and a marking tip at one end thereof, the tip being transparent and having a surface coating of material which prevents the passage of actinic light rays but permits the emission of non-actinic rays, and the tip having an opening therethrough communicating with the light source so that the sheet is exposed when the tip is moved over its sensitized surfaces.

Signed by me at Boston, Massachusetts this ninth day of December, 1930.

GEORGE LEVENE.