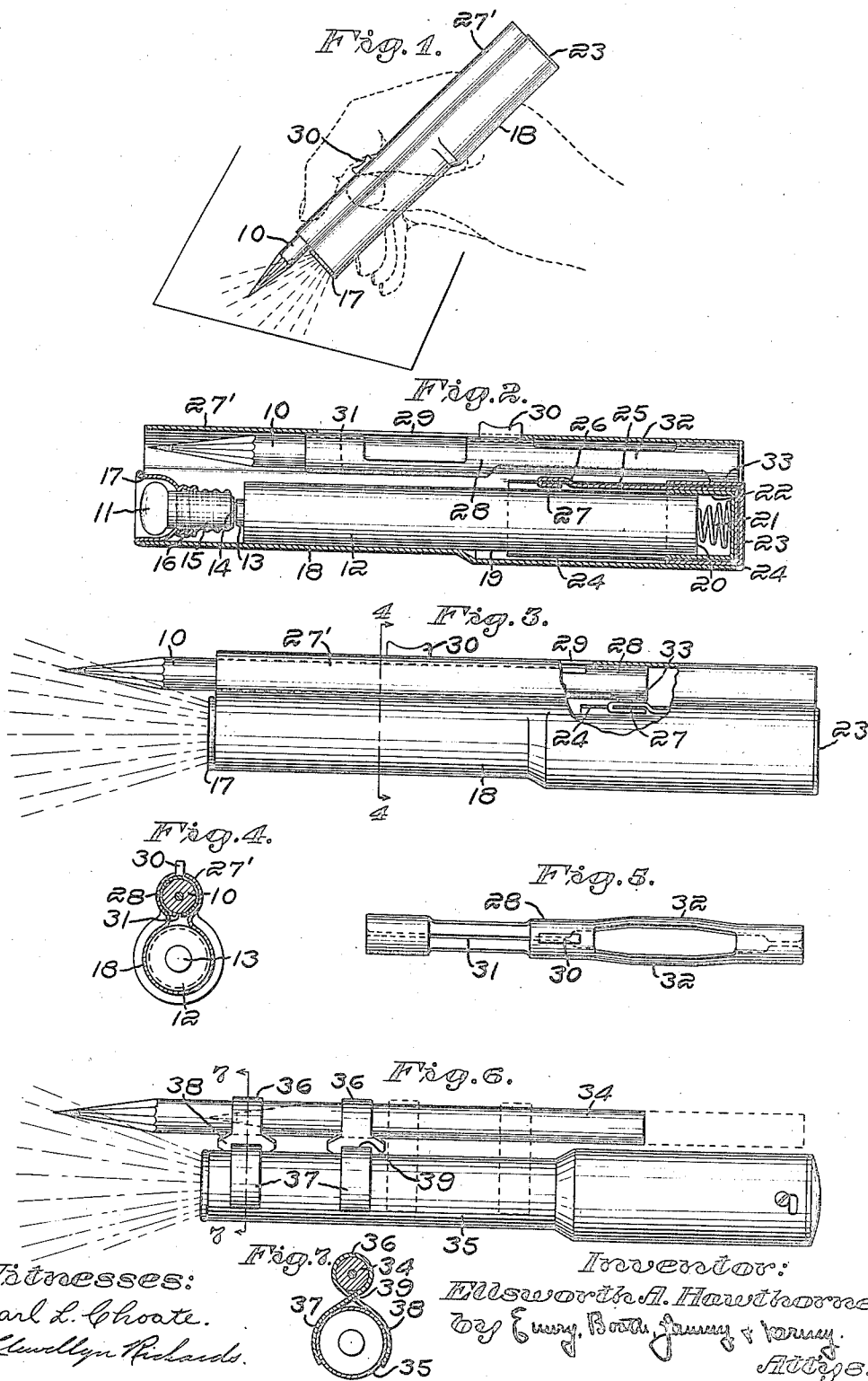


E. A. HAWTHORNE.
MARKING IMPLEMENT.
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UNITED STATES PATENT OFFICE.

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MARKING IMPLEMENT.

1,222,948.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ELLSWORTH A. HAWTHORNE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented an Improvement in Marking Implements, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to marking implements, such for example as pencils, pens or similar instruments, and as more especially concerned with an implement of this general character having illuminating means associated with the marking means in such a manner that their functions are coördinated and each assists in the operation of the other, the one carrying the other whereby the rays of light are caused to illuminate the area being marked upon and, on the other hand, the illumination of such area enables the user to direct the marking means intelligently.

My invention will be best understood by reference to the following description when taken in connection with the accompanying drawings of two illustrative embodiments thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is a perspective view of a marking implement embodying my invention as it appears when held in the hand of the user, the hand being shown in dotted lines;

Fig. 2 is a central, longitudinal section of the marking implement with the marking means shown in its retracted position;

Fig. 3 is a side elevation of the same, partly in longitudinal section, showing the marking means in its advanced position;

Fig. 4 is a sectional view on line 4—4 of Fig. 3, looking toward the right;

Fig. 5 is a detail plan of the slide which constitutes the carrier for the marking means, as well as a switch for opening and closing the lamp circuit;

Fig. 6 is a side elevation of a modified form of marking implement, the marking means being shown in full lines in its extended position and in dotted lines in its retracted position; and

Fig. 7 is a sectional view on the line 7—7 of Fig. 6.

Referring to the drawings and more espe-

cially to Figs. 1 to 5, inclusive, I have there shown a marking implement comprising marking means 10 which may be of any appropriate character for the marking operation, such, for example, as a pen or pencil, the latter being selected as an illustrative example. Associated with the marking means 10 is suitable illuminating means, which in the present exemplification of the invention comprises an electric lamp having a bulb 11 to which current is furnished by a battery 12 which may be, and preferably is, of the common dry-cell type having at one end a central terminal 13 contacting with a central terminal 14 of the electric lamp bulb, the latter having a usual form of threaded shell 15 which constitutes its other terminal and which is threaded into the neck 16 of a cup-like, metallic shell 17. The latter in turn is mounted in a metallic casing 18 which serves as a housing for the lamp and its battery and constitutes one of the conductors for the lamp circuit.

The battery 12 is wrapped about with an insulating jacket 19, as usual, and has its rear end 20 in the form of an exposed, metallic conductor, constituting its second terminal. A suitable spring 21, herein of the helically coiled type is placed at the rear end of the battery and urges the latter in a forward direction so that its front terminal 13 is pressed firmly in contact with the terminal 14 of the lamp. In addition to this function, the spring performs another, that of constituting a conductor between the battery terminal 20 and a metallic shell 22 of generally cup-shaped form within which it is disposed. This cup-like shell is inserted in a second cup-like shell 23 and between the two there is interposed an insulating jacket 24. The cup-like shell 23 closes the rear end of the lamp casing 18 and constitutes in effect a part thereof. A conductor 25 interposed between the insulating jacket 24 and the inner cup-like shell 22 makes electric contact with the latter and extends forwardly in the form of a tongue along the inner surface of the insulating jacket to a point adjacent the forward end thereof, then outwardly at 26 through the wall of the insulating jacket onto the external surface of the latter, its terminal portion 27 then being bent inwardly and rearwardly along the internal surface of the insulating jacket whereby it is securely held and whereby

there is formed at a convenient point upon the external surface of the insulating jacket a sort of nub or projection, which, as will presently appear, is utilized as the fixed contact of an electric switch whereby the lamp circuit may be controlled.

As herein shown, the lamp casing 18 is extended laterally to form a convenient housing 27' for the marking means and the latter is preferably mounted within such housing in such a manner that it may be advanced to a position (see Fig. 3) where its point will be within the scope of the rays of light from the lamp, while in its retracted position (Fig. 2) the point of the marking implement is protected from injury within the housing. As a convenient means for advancing and retracting the pencil at will, the latter is herein mounted within a slide 28 which plays to and fro within the housing 27', and the latter is provided with a slot 29 through which a finger piece 30 secured to the slide projects outwardly to a point where it may be conveniently engaged by the thumb or finger of the user for the purpose of moving the slide lengthwise.

The marking instrument 10 may be secured to the slide 28 in any appropriate manner, as by making the latter in the form of a cylindrical jacket which encircles the circumferential surface of the marking instrument and is provided with a longitudinal slot 31 whereby it may be collapsed and caused to grip the inclosed, circumferential surface with sufficiently strong frictional engagement to hold the pencil securely therein. As a means for retaining the slide 28 in the desired position of adjustment, it is herein provided with a pair of laterally expanded portions 32 (see Fig. 5) which yieldingly press against the inner walls of the housing 27' and frictionally hold the slide in the position in which it may be placed. These laterally extended portions 32 perform another important function,—that of causing the slide 28 to grip the inclosed marking instrument. It must be evident that since the slide 28 is provided with the longitudinal slot 31, and since the expanded portions 32 are introduced into the casing 18, the natural effect is to contract the holder. It must be equally evident that, since the marking instrument is within the slide 28 which constitutes a holder therefor, the result must be that the marking instrument is firmly gripped.

In addition to its function of moving the marking instrument from an operative into an inoperative position, the slide 28 may, and preferably does, constitute the movable contact member of a switch for completing the lamp circuit when the marking instrument is retracted. To this end the slide is herein provided with a contact portion 33, which, in the forward position of the slide,

contacts with the contact portion 26 already described. When this occurs the lamp circuit is completed because the slide itself is in electrical contact with the metallic lamp casing 18, which, it will be remembered, is one of the conductors of the lamp circuit and is always in electric connection with the lamp terminal 15.

When in use the marking implement may be grasped in a manner similar to that illustrated in Fig. 1, and operated in an obvious manner, to write, draw or otherwise mark upon the desired surface. Meantime the lamp is carried by the marking implement in all its movements and the illuminating means and marking means are thus conjointly movable during the marking operation, whereby the rays of light are caused to illuminate the marking means and the area being marked upon and each assists in the operation of the other. Thus, their functions are coördinated and the user is enabled to write in the midst of surrounding darkness with only the illumination afforded by the lamp carrying the marking means. The utility of this need scarcely be dwelt upon, but it will be evident that there are many uses to which the instrument may be put under circumstances where there is either no need for any general lighting or where it would be quite undesirable to have any sort of general lighting. Under such circumstances there is, of course, a distinct advantage in having only a spot of light follow the pencil or pen point and illuminate the latter, as well as a small prescribed area of the writing surface.

Referring now to Figs. 6 and 7, I have there shown a writing implement which is similar in its general characteristics to that which has already been described and comprises marking means 34, such for example as a pen or pencil, and an electric lamp 35 similar to that already described, the marking means in this instance, however, being simply mounted to slide upon the exterior of the electric lamp by the use of a pair of clips 36 constituting slides which encircle and grip the pencil or pen, thus forming a suitable carrier therefor, while each is provided with two arms 37 and 38, the latter being provided with a slot 39 through which the former extends, so that the two arms are crossed as it were at this point and the arms are caused to embrace the lamp casing with frictional engagement whereby they are held in the desired position of adjustment. It must be evident that when the electric lamp 35 is introduced between the arms 37 and 38, the natural effect is to cause the latter to contract about and grip the pencil or pen, as well as to produce the desired frictional engagement with the lamp casing. The pencil or pen and its slide as thus constituted may be pushed forward upon the

lamp to the position shown in full lines in Fig. 6, in which position the point of the pen or pencil will be illuminated, whereas when retracted to the position in dotted lines the pen or pencil point does not project beyond the forward end of the lamp. In this case the lamp may be lighted or extinguished by a suitable switch which it will be unnecessary here to describe. The operation of this form of my invention is similar to that already described and it will be unnecessary further to describe the same.

While I have herein shown and described two specific forms or embodiments of my invention for illustrative purposes and have disclosed and discussed in detail the construction and arrangement incidental to such specific applications thereof, it is to be understood that the invention is limited neither to the mere details nor relative arrangement of parts nor to its specific applications herein shown, but that extensive deviations from the illustrated forms or embodiments of the invention may be made without departing from the principles thereof.

Claims:

1. A marking implement comprising, in combination, marking means and illuminating means, one carried by the other and both being conjointly movable during the marking operation whereby movements of one are accompanied by like movements of the other and the rays of light are caused to illuminate the area being marked upon, a casing for said illuminating means, and holding means for said marking means, said holding means being movable along said casing in a direction lengthwise thereof whereby in one relative position said marking means extends beyond said illuminating means within the light shed by the latter and in another position is retracted, said holding means being held by said casing in grasping relation with said marking means.

2. A marking implement comprising, in combination, marking means and electric illuminating means, one carried by the other for conjoint movement, one of said means being movable relatively to the other and having one relative position in which said illuminating means directs its rays of light onto said marking means, said electric illuminating means including a lamp and a battery, said battery having a lateral terminal, and switch means operable by such movement to engage said lateral terminal to control said illuminating means.

3. A marking implement comprising, in combination, a metallic casing, a battery disposed within said casing and having two terminals, a lamp carried by said casing and having two terminals one of which is in constant electrical connection with said casing and the other with one of the battery terminals, a conducting member having constant

electrical connection with said casing and having an operative movement to connect said casing electrically with the remaining battery terminal thereby to complete the lamp circuit, and marking means carried by said member and adapted to be carried by said movement into the rays of light from said lamp.

4. A marking implement comprising, in combination, a metallic casing, a battery disposed within said casing and having two terminals, a lamp carried by said casing and having two terminals one of which is in constant electrical connection with said casing and the other with one of the battery terminals, a conducting member having constant electrical connection with said casing and having an operative movement to connect said casing electrically with the remaining battery terminal thereby to complete the lamp circuit, said member being hollow and having elastic walls engaging said casing to hold said member against accidental movement, and marking means carried by said member and adapted to be carried by said movement into the rays of light from said lamp.

5. A marking implement comprising, in combination, a metallic casing, a battery disposed within said casing and having two terminals, a lamp carried by said casing and having two terminals one of which is in constant electrical connection with said casing and the other with one of the battery terminals, a conducting member having constant electrical connection with said casing and having an operative movement to connect said casing electrically with the remaining battery terminal thereby to complete the lamp circuit, said member being hollow and having yielding walls held under tension by said casing, and marking means grasped by said yielding walls and adapted to be carried by said movement into the rays of light from said lamp.

6. A marking implement comprising, in combination, a metallic casing constituting a holder and an electrical conductor, a battery disposed within said casing and having two terminals one at each end thereof, a lamp mounted in said casing and having two terminals one of which is in constant electrical connection with said casing and the other in constant electrical connection with one of said battery terminals, a conductor having constant electrical connection with the other of said battery terminals and extending therefrom laterally along said battery to a point intermediate the ends of the latter where it is provided with a contact portion, a hollow conducting member having constant electrical connection with said casing and having an operative movement to connect said casing electrically with said contact portion thereby to complete the

lamp circuit, and marking means housed within said hollow member and carried thereby and adapted to be carried by said movement into the rays of light from said lamp.

7. A marking implement comprising, in combination, a metallic casing constituting a holder and an electrical conductor, a battery disposed within said casing and having two terminals one at each end thereof, a lamp mounted in said casing and having two terminals one of which is in constant electrical connection with said casing and the other in constant electrical connection with one of said battery terminals, a conductor having constant electrical connection with the other of said battery terminals and extending therefrom laterally along said battery to a point intermediate the ends of the latter where it is provided with a contact portion, a hollow conducting member having constant electrical connection with said casing and having an operative movement to connect said casing electrically with said contact portion thereby to complete the lamp circuit, and marking means housed within said hollow member and carried thereby and adapted to be carried by said movement into the rays of light from said lamp, said conducting member having provision whereby it is caused to grip said marking means

and to hold said conducting member in the desired position.

8. A marking implement comprising, in combination, a metallic casing constituting a holder and an electrical conductor having a battery chamber and a marking implement chamber, a battery disposed within said battery chamber and having two terminals one at each end thereof, a lamp mounted in said casing and having two terminals one of which is in constant electrical connection with one of said battery terminals, a conductor having constant electrical connection with the other of said battery terminals and having a contact portion, means to insulate such other battery terminal and said conductor from said casing, a conducting member having an operative movement to make electrical connection between said casing and said contact portion thereby to complete the lamp circuit, and marking means carried by said conducting member into the rays of light from said lamp.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

ELLSWORTH A. HAWTHORNE.

Witnesses:

LOUIS A. JONES,
CLARA L. STUART.