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COMBINATION CLIP BOARD AND LIGHT

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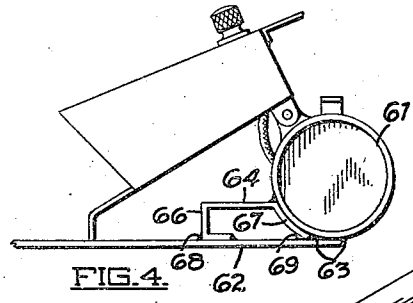


FIG. 4.

FIG. 1.

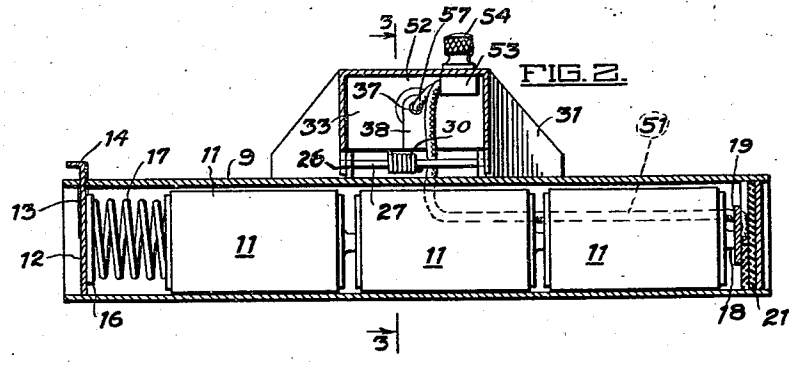


FIG. 2.

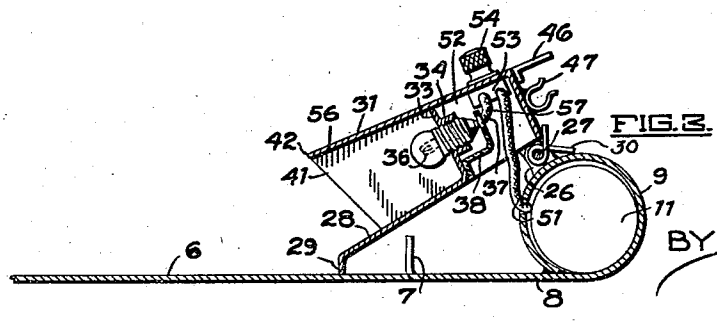


FIG. 3.

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COMBINATION CLIP BOARD AND LIGHT

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4 Claims. (Cl. 240—6.4)

This invention relates to portable writing equipment, or more specifically to a device providing means for releasably retaining one or more sheets of material adapted to receive thereon writing or other matter, or having writing or other matter thereon to be read, and to support the sheet or sheets in position to afford convenience in writing and/or reading while the device is held in the hand or upon the lap of the user. Devices of this type are known to the trade as "Clip-boards".

An object of the present invention is to provide an improvement in devices of the general type indicated whereby their field of utility is greatly widened. We accomplish this by providing means for illuminating the work carried by the clip-board so that it can be used just as conveniently during other than daylight hours and in localities where other source of illumination is not available.

Another object is to provide a clip-board having combined therewith a self-contained source of illumination which not only illuminates the work on the clip-board, but is also adapted to project an appreciable amount of light off the clip-board and to a considerable distance therefrom, so that the device also serves the purpose of an ordinary flash-light in that it affords great convenience in such uses as finding house numbers, finding one's way through dark passages or over rough or encumbered ground, locating lost articles and the like.

A more detailed object of our invention is to provide a self-illuminated clip-board as described wherein the illuminating means comprises a reflector having a light source therein and carried by and preferably formed integrally with the clip member by which the sheets of paper or other material are releasably attached to the board, and with the reflector so disposed that is is adapted to reflect and preferably diffuse light from the bulb substantially evenly in an inclined direction downward and toward the sheet or sheets engaged by the clip.

A further object is to provide a container on the clip-board for releasably retaining one or more electric battery cells, and the necessary electrical connections for energizing the bulb by means of the battery.

A still further object is to provide a switch interposed into the electrical circuit and disposed in position to afford the utmost convenience in controlling operation of the light bulb.

It is a further object of our invention to provide a device of this general character which will be relatively simple and inexpensive in construction and which will be generally superior in efficiency and serviceability.

Our invention possesses other objects and advantageous features, some of which, with the foregoing, will be set forth in the following description of the preferred form of our invention which is illustrated in the drawing accompanying and forming a portion of the specification. It is to be understood that we do not limit ourselves to the showing made by the said drawing and description, as we may adopt variations of the preferred form within the scope of our invention as set forth in the claims.

Referring to the drawing:

Figure 1 is a perspective view of an illuminated clip-board embodying the principles of our invention.

Figure 2 is a transverse sectional view, the plane of section being indicated by the line 2—2 of Fig. 1, with the direction of view as indicated.

Figure 3 is a longitudinal vertical sectional view, the plane of section being indicated by the line 3—3 of Fig. 2 and the direction of view by the arrows. A portion of the figure is broken away to reduce its length.

Figure 4 is a side elevation, partly broken away, of a slightly modified form of construction.

Specifically describing that embodiment of our invention which at present appears to be the most practicable, our self-illuminated clip-board comprises a plate 6 of any suitable rigid or semi-rigid material, such as wood or sheet metal. The plate 6 is of such proportions that it is adapted to support one or more sheets of paper (not shown) or other material with the sheets lying flat upon the upper surface of the plate 6 and collected in a stack, i. e., one upon the other. Stop means, such as a pair of spaced ears or lugs 7 are provided adjacent one end, preferably the upper end 8 of the plate 6, these lugs being alined so as to provide convenient stop means for guiding the upper ends of all of the plurality of sheets supported by the plate and thereby assist in maintaining them in neat, stacked relation.

A battery container 9 is provided at the upper end 8 of the plate 6. If the plate 6 is of sheet metal, one convenient method of providing the container 9 is by rolling the upper end into cylindrical form, as shown upon the drawing, whereas, if the plate 6 is composed of other material, it probably will be more convenient to form the container 9 separately and preferably in cylindrical form and attaching it by any suitable means in proper position at the upper end 8 of the plate 6. In the modification shown the batteries

11 are of cylindrical form and for this reason the container 9 is shown also cylindrical and hollow to receive the batteries 11, but it should be understood if other types of batteries 11 are employed, the housing 9 may be of different configuration in order to accommodate the particular type of battery employed.

Moreover, although the device is illustrated as being provided with three battery cells 11, it should be understood that we do not wish to be limited to any particular number of such batteries, as the number may be varied in order to meet the requirements of any particular occasion.

The battery or batteries 11 are releasably contained within the container 9 by means of a plate 12 inserted through a slot 13 adjacent one end of the container 9 after the batteries 11 have been placed in proper position. A handle 14 projects beyond the side wall of the container 9 to assist in removing the plate 12 when it is desired to remove or replace the batteries 11. Disposed inside the plate 12 is a smaller plate 16 having a coil spring 17 secured thereto and under compression between the plate 16 and the proximal battery 11. The purpose of this spring is to press all the batteries into good electrical contact with each other and toward the opposite end of the container 9 so that the center contact 18 of the distal battery 11 establishes efficient electrical connection with the contact plate 19 carried by a suitable plate 21 of insulating material at the distal end of the container 9. The spring 17 also serves to establish electrical connection between the bottom end or shell of the proximal battery 11; and inasmuch as the plates 16 and 12 are of suitable conductive material, the spring also serves to establish a grounded connection between the batteries and the container 9.

A pair of spaced ears or lugs 26 rigid with the container 9 extend upwards therefrom preferably adjacent the uppermost portion of the container. Between these lugs 26 a pintle 27 extends and this serves as the pivotal supporting means for a second, smaller plate or blade 28 which inclines downward from the lugs 26 toward the plate 6. A spring 30 of any suitable design, preferably, however, being of spiral form and mounted upon the pintle pin 27, is interposed between the plate 28 and any other suitable portion of the device so that it resiliently urges the plate 28 to swing in a counterclockwise direction as viewed upon Figures 1 and 3, thereby causing the plate 28 to press its lower edge 29 onto the upper surface of the plate 6 or upon the uppermost of a pile of papers carried by the plate 6. Hence the plate 28 serves as the conventional clip of an ordinary clip-board in releasably retaining one or more papers in position to receive writing or other matter thereupon or to permit the reading or observation of writing or other matter already appearing upon said paper.

The clip member 28 differs, however, from those of more conventional design in that it is provided with a reflector 31 which preferably is formed integrally with the plate 28 inasmuch as this provides a very convenient type of construction which can be produced at a minimum of expense. As a matter of design, we prefer to make the reflector of truncated pyramidal form, but this of course is open to variation in accordance with the ideas of the designer.

Preferably the upper end of the reflector 31 is closed by a plate 32; and a partition 33 extends across the reflector 31 in spaced relation with respect to the upper plate 32. This partition 33 carries an internally threaded ferrule 34 which provides means for conveniently mounting a miniature electric light globe 36. Inasmuch as the reflector 31, the partition 33 and the ferrule 34 are all composed of suitable electrical conductive material, the ferrule 34 also serves as one of the electrical contacts for establishing the electrical circuit whereby the bulb 36 can be energized. The other contact 37 is preferably in the form of a button and is carried by a resilient strip 38 of insulating material as clearly shown upon Figure 3.

The inner surface of the reflector 31 below the partition 33 is preferably coated with a suitable light-reflecting material, such as a light-colored paint or enamel, silver, or the like. The lower end 41 of the reflector 31 is open; and inasmuch as the reflector when in normal, or operating position inclines downwards and towards the plate 6, it is adapted to direct light from the bulb 36 downwards onto the plate 6 or upon the uppermost of a pile of papers which are retained upon the plate 6 by means of the clip plate 28. Preferably, however, the upper edge 42 of the opening 41 is at such an elevation above the plate 6 that at least some of the light from the bulb 36 is directed above the lower end 43 of the plate 6, so that it can be projected for a material distance from the user of the device. This, of course, permits the device to serve the purpose also of a conventional flash-light, as will readily be understood.

At or adjacent the upper end of the reflector 31 we prefer to provide a projecting flange or handle 46 which affords convenience in lifting the lower end 29 of the clip plate 28 against the action of the spring 30, as is necessary in inserting paper or papers into position to be retained upon the plate 6 by the clip-plate 28. Moreover, if desired, one or more aligned pencil retaining clips 47 may be secured upon the top plate 32 of the reflector 41 whereby a pencil or other suitable writing implement may be supported in conveniently accessible position and ready for instant removal for use whenever desired.

The electrical circuit for energizing the bulb 36 from the batteries 11 comprises an electrical conductor preferably in the form of an insulated wire 51 leading from the contact 19 into the chamber or recess 52 which is defined within the reflector 31 by means of the partition 33. Here the conductor 51 leads to a switch 53, the operating knob or handle 54 of which is disposed in convenient location outside the reflector and preferably upon its upper wall 56 where it can readily be grasped and turned so as to control the illumination of the bulb 36. From the switch 54 another conductor 57 leads to the button contact 37 which engages the end of the bulb 36.

Thus it may be seen that when the switch 53 is closed, current will flow from the battery 11 by way of the contact plate 19 through the conductor 51 to the switch 53 and thence by way of the conductor 57 to the bulb 36 from which the current will flow through the ferrule 34, reflector housing 31, lug 26 and thence to and through the container 9 to the plates 12 and 16 in the order named, and then through the spring 17 back to the batteries 11.

Because of the fact that the illuminated clip-board of our invention is adapted to releasably retain one or more sheets of paper or other material having writing or other matter marked thereon or adapted to receive such writing or

other matter, and because of the further fact that our improved clip-board has combined therewith self-contained means for illuminating the uppermost of the pile of sheets carried by the clip-board, it becomes readily apparent that the device will be of great utility to such persons as freight car checkers, delivery car drivers, radio police car operators, and a great many other persons who are required to read or write in localities where it is impossible or impracticable to provide or use other means of illuminating the paper or papers carried by the clip-board. The plate 6 provides a convenient desk or the like for supporting the papers while writing or reading is being performed and the light from the bulb 36 illuminates the papers so that the writing or reading can be performed with the greatest convenience and without dependence upon any other source of illumination.

In the modified embodiment of our invention illustrated in Fig. 4, the battery container 61 is a tube similar to the container 9 except that it is formed separately from the plate 62, and attached thereto as by welding 63. Added strength and rigidity is attained by means of a pair of braces 64, of each of which one end 66 is substantially perpendicular to the plate 62, and the other end 67 is curved to conform to the side wall of the tube 61 so as to provide a saddle therefor. The braces are preferably formed of strips bent to proper configuration and attached to the plate 62 as by welding 68 and 69. It should be understood, however, that the braces could be in the form of solid blocks or in other form, and be equally satisfactory. The ends 66 of the braces 64 should be alined with each other, so that they can take the place of the lugs 7 as abutments for alining the upper ends of a plurality of sheets.

We claim:

1. In a device of the character described, a portable, substantially flat plate providing a writing surface, a container carried by said plate adapted to receive an electric battery, a clip pivotally mounted on said container, spring means urging said clip toward said plate to releasably clamp a plurality of sheets of paper upon the plate, a reflector on said clip and opening in an inclined direction downwards and toward said plate, an electric light bulb disposed within said reflector, and means providing an electrical circuit operatively connecting said bulb to said battery.

2. In a device of the character described, a portable, substantially flat plate providing a writing surface, a container carried by said plate and adapted to receive an electric battery, a movably mounted clip carried by said plate, spring means urging said clip toward said plate to releasably clamp a plurality of sheets of paper upon said plate, a reflector carried by said clip, an electric light bulb mounted within said reflector, said reflector being adapted to direct light from said bulb upon the uppermost of said sheets and the upper edge of said reflector being elevated above said plate higher than the plane intersecting said bulb and the lower edge of said plate whereby said reflector is adapted to direct light beyond said sheets onto more distant objects, means providing an electrical circuit operatively connecting said bulb to said battery, and a switch interposed into said circuit and accessible upon the upper side of said reflector.

3. In a device of the character described, a portable, substantially flat plate providing a writing surface, a container carried by said plate adjacent an end thereof and adapted to receive a battery, a brace rigid with said plate and conforming to and rigid with said container to provide a saddle therefor, said brace having a shoulder thereon providing stop means for a plurality of papers on said plate, a clip pivotally mounted on said container, spring means urging said clip toward said plate to releasably clamp a plurality of sheets of paper upon the plate, a reflector carried by said clip opening toward said plate, an electric light bulb within said reflector, and means providing an electric circuit operatively connecting said bulb to said battery.

4. In a device of the character described, a supporting plate providing a writing surface, clip means for releasably attaching a plurality of separate sheets upon said plate and comprising a blade pivotally mounted on said plate and disposed in inclined relation thereto with an elongated edge of said blade proximal to said plate and spring means urging said edge toward the plate to releasably hold said sheets upon said plate against displacement while said blade is in gripping position, a reflector mounted on said clip means, an electric light bulb mounted in said reflector, said reflector being adapted to direct light from said bulb upon the uppermost of said sheets, and means for energizing said bulb.

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