May 23, 1967 R. E. ADLER 3,321,616

ILLUMINATED SKETCH AND MEMO BOARD

Filed Jan. 11, 1965

FIG. 1.

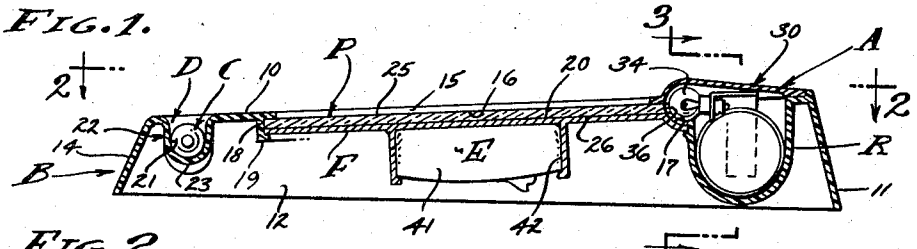


FIG. 2.

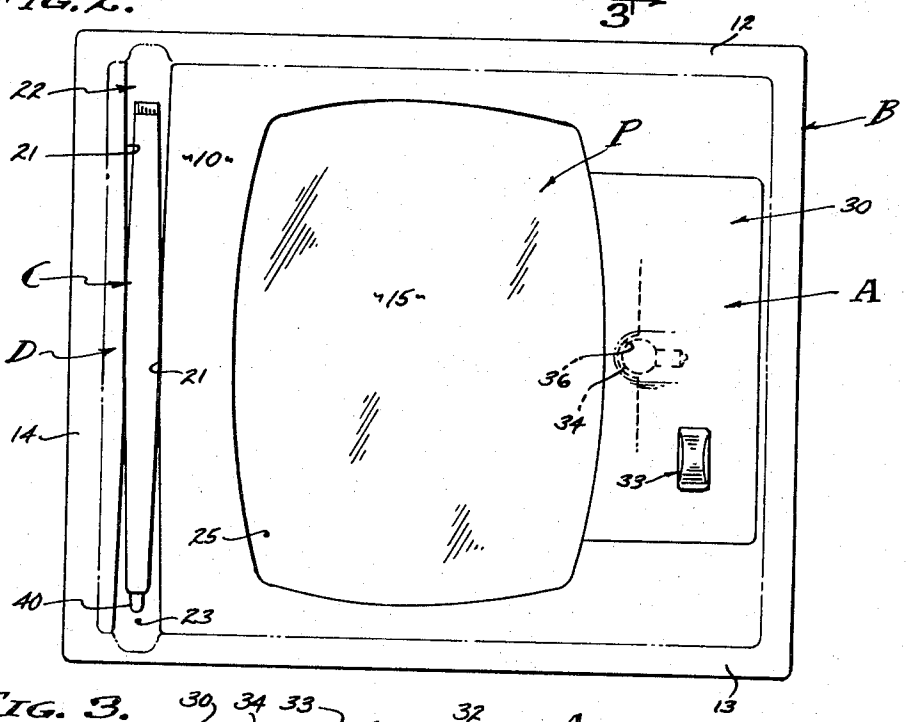


FIG. 3.

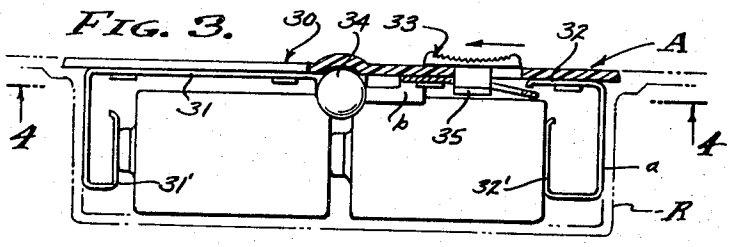


FIG. 4.

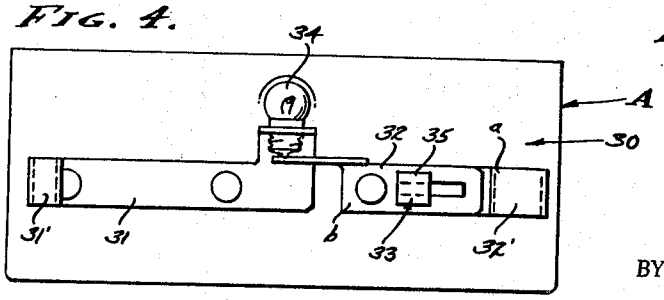
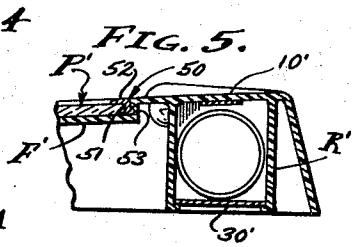


FIG. 5.



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ILLUMINATED SKETCH AND MEMO BOARD

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This invention relates to a board which can be drawn upon by use of an instrument that deposits visible material and whereby said board transmits light from a source thereof for illumination in general and for the illumination of the said visible material deposited thereon, it being a general object of this invention to provide a unit of the character referred to wherein the board is of substantial area and is adequately lighted from a single light source.

Edge lighting of signs and panels is known to the art, but a portable edge lighted transparent light transmitting board usable as a night light or toy has not been available. Therefore, the present invention concerns itself with a practical and utilitarian edge lighted board upon which sketches and memos are to be made, and with a sketch and memo board in which the markings thereon are illuminated and which are also easily erased.

An object of this invention is to provide a unit of construction in the form of a board that is to be sketched and/or written upon and in which the markings that are made are illuminated and in which the markings are also erasable. It is significant that the board is virtually non-illuminated unless marked upon and that the erasure of the markings is accomplished with facility.

Another object of this invention is to provide a sketch and memo board of the character above referred to and which is portable and which can be manipulated to best advantage for the comfort and convenience of the person using the same. Preferably, the board construction is completely self-contained, having a battery operated light source, all features of the construction being easily accessible from the top or front of the board.

It is still another object of this invention to provide an apparatus wherein three independent means are manipulated; one, a board upon which sketches or memos are to be deposited; two, a means in the form of an instrument which deposits the sketches or memos upon said board, through suitable manipulation; and three, a means in the form of an eraser which removes the sketches or memos from the board with facility, and also through suitable manipulation; all three means being combined and manipulated as required.

The various objects and features of this invention will be fully understood from the following detailed description of the typical preferred forms and applications thereof, throughout which description reference is made to the accompanying drawings, in which:

FIG. 1 is a sectional view taken through the illuminated board of the present invention.

FIG. 2 is a plan view taken as indicated by line 2—2 on FIG. 1.

FIG. 3 is an enlarged sectional view taken as indicated by line 3—3 on FIG. 1 and FIG. 4 is a bottom view taken as indicated by line 4—4 on FIG. 3.

FIG. 5 is a fragmentary view similar to a portion of FIG. 1 and illustrates a modified form.

The sketch and memo board is a flat rectangular unit of construction which comprises, generally, a body B, a plate P, illuminating means A, and marking means C. The body B provides the necessary housing structure to contain the plate P and illuminating means A and to capture and support the marking means C when it is not in use. The said body B provides the necessary optical backing which is peculiarly required when edge lighting the plate P which is transparent, all to the end that markings made by the marking means C become visible. Also, the illuminating means A as hereinafter described is such as to adequately light the entire area of the plate P, the structure of means A being accessible from the front of the structure for ease in servicing.

The body B can be fabricated in many ways and is preferably a molded plastic shell having an open bottom and established by a top panel **10** bordered by depending side walls **11**, **12**, **13** and **14**. The upper wall **11** is of substantial height for accommodating the structure of the illuminating means A, while the opposite wall **14** is substantially shallow. Thus, the top panel slopes gently toward the user as does a desk top. In accordance with the invention, the panel **10** has an enlarged opening **15** therein and which occupies the greater area of the top panel. The top panel **10** is of nominal thickness, as shown, and the underside **16** of the top panel **10** establishes a planar seat to be engaged by the top planar face of the plate P.

The body B includes a receiver R for cooperatively completing the illuminating means A, said receiver R being located between the wall **11** and the parallel edge of the opening **15**. The receiver R is a well-shaped cavity that preferably opens upwardly at the top panel **10** and which also opens laterally into the opening **15**. In practice, the receiver R is provided with an aperture **17** that is limited to the size of a small incandescent lamp, said aperture communicating with the opening **15** in order to transmit light to the plate P later described. It is to be understood that if the board is inverted, intentionally or accidentally, the cover by means of its retaining features will support the weight of the batteries. In other words, reversibility from a top to a bottom installation of the batteries is feasible, and for example, in FIG. 5 of the drawings I have illustrated such a modification wherein the construction remains substantially the same with the illuminating means A fastened to and depending from the top panel **10'**, with the receiver R' opened downwardly, and with the cover **30'** snapped into place to support the weight of the batteries.

The body B includes a frame F for cooperatively completing the illumination of plate P, and to this end the frame F is opaque and such as to present a darkened matte background. The frame F can be secured to the top panel **10** in various manners and as shown has sides **18** that have keyed engagement with mating rails **19** that depend from the underside **16**. In practice, the frame F is preferably a flat plate-like part with a topside **20** spaced from and parallel to the underside **16**, the mating rides **18** and rails **19** being snapped together and/or cemented as may be required. Alternatively, the frame F' is integral with the top panel **10'**, as shown in FIG. 5, in which case there is an upwardly opening recess into which the plate P' is to be retained. In this case the edges of the plate P' are spaced uniformly from the edge walls of the recess thus formed, and a retainer **50** is provided and which has a wall **51** that occupies the space between the opposed edges and which has a lip **52** overlying the marginal portion of the plate P'. Further, the edge walls of the recess are vertically disposed and are provided with inwardly opening notches for the reception of projections **53** on the retainer **50** and which locks the retainer **50** and plate P' in working position.

The body B includes a releasible clamp D for captured support of the marking means C, and the said releasible clamp D comprises a channel **22** into which the means C can be forcibly pressed, and said channel being characterized by a transversely crowned bottom **23**. As is shown, the channel **22** has spaced side walls **21** that are substantially parallel and opposed at the center of the channel, and which are divergent somewhat in oppo-

site directions of extent. Alternatively, the marking instrument can be tapered (also as shown) from a center point. In practice, the high point of the crowned bottom **23** also occurs at the center, whereby the marking instrument to be described can rock in the channel **22**.

The plate P is cooperatively related to the body B, frame F and receiver R all hereinabove described, and is a flat plate of transparent material having opposite parallel and smooth internally reflective faces **25** and **26**. The plate P is a solid of transparent material such as "Plexiglas" or "Lucite" or any cast acrylic or the like, the top planar face **25** of which seats flatly against the underside **16** and the bottom planar face **26** of which is pressured against or supported by the top side **20** of the frame F. Since the frame F is opaque, and it is also imperforate, with a dark and preferably black matte finish, the opening **15** and plate P present a darkened screen even when edge lighted. However, markings deposited on the top planar face **25** will be illuminated by incident light that reflects through the plate P.

The illuminating means A is shown as a battery operated means incorporated in and carried by a cover **30** that closes the well-shaped receiver R. It is preferred that the receiver R be elongated so as to receive two ordinary cylindrical dry-cell batteries arranged end to end in series, in which case the cover **30** is shaped in a similar manner and is undercut at its edges to be snapped into place at the plane of the top panel **10**. The cover **30** and/or cover **30'** completely closes the opening of the receiver R and/or receiver R'. The cover **30** is fashioned so as to trap light within the receiver, having overlapped engagement with the top panel as shown. In accordance with the preferred form of the invention, the entire workings of the illuminating means A are incorporated in or on the said cover **30** and which involves, generally, a pair of electrical conductors **31** and **32** and a shiftable contactor **33**. In the case illustrated, the body B and cover **30** are formed of insulating plastic material, non-metallic, and the conductors **31** and **32** are spring brass parts that are permanently fastened, as by rivets, to the cover. The conductors **31** and **32** have opposed legs **31'** and **32'** respectively, that depend from the cover **30** and which are biased against opposite end terminals of the battery. The conductors **31** and **32** are electrically separated, the lamp **34** having its base threaded into one and its center contact engaged with the other. Broadly, the shiftable contactor **33** releasibly engages between the conductors **31** and **32** in order to complete the circuit therethrough, and in the particular case illustrated the conductor **32** is sectional, having section *a* which is fastened to the cover **30** and has the depending leg **32'**, and having section *b* which is fastened to the cover **30** and engages the center contact of lamp **34**. As shown, the sections *a* and *b* overlap and are normally sprung apart, there being a slider **35** which runs in a limiting slot in section *b* and which has shoulders to underlie the said section and releasible pull the end portion thereof, comprising the conductor, into engagement with the other section *a*. The said slot in the section *b* is continued in the overlying cover **30**, whereby the contactor-slider **33–35** is manually operable where it projects from the exterior of the cover.

In accordance with the invention the lamp **34** is entered into the aperture **17** with its filament centered between the planes **25** and **26**, and is engaged in a notch **36** that is cut into the margin of the plate P. Thus, a substantial quantity of light radiates from lamp **34** and enters the marginal portion of the plate P to internally illuminate the same. As a result, the plate P is efficiently edge lighted from a single lamp **34** that is effectively hidden from view beneath the cover **30**. As shown, the cover can be slightly enlarged or raised so as to accommodate the diameter of the lamp **34**.

The marking means C is a writing instrument, preferably of longated cylindrical form, with a projecting element **40** of crayon or like material that is deposited

upon the plate P when the said element **40** is frictionally engaged over said plate. The element **40** leaves a deposit of translucent and/or opaque material which adheres sufficiently to and so as to remain upon the surface **25**. As a result of the existing incident internal lighting within the transparent plate P, the said deposit markings are illuminated and become visible. As above described, the said marking means C is captured on the body B, by pressing it into engagement between the opposed walls **21**. Said engagement between said walls **21** is voluntarily overcome by rocking the elongated cylindrical form on the bottom **23**, thereby prying the same out of said opposed engagement.

In carrying out this invention there is provided an erasing means E which comprises a pad of soft absorbent fibers. For example, a most effective erasing means E is a pad, square or section of soft paper tissue which is commercially available in small compact packages **41** and which can be pressed and held frictionally in a cavity **42** provided beneath the frame F, and housed within the body B, as shown.

From the foregoing it will be apparent that I have provided a simple, compact and effective unit or apparatus wherein three general elements are involved. One element is the body B and plate P construction which is a self-contained unit with its illuminating means A. The second element of the apparatus is the marking means C, and the third element is the erasing means E, the latter two requiring suitable manipulation by the user. The combination of elements B, P and A is easily manufactured and assembled and when the lamp **34** is lighted the plate P is effectively illuminated internally. The said marking means C is then manually removed by rocking the same from the body F and is used for applying crayon marks, or the like, to the surface **25**. In order to renew the surface **25** it is then a simple matter to erase by employing a gentle scrubbing action with the means E comprised of soft absorbent tissue.

Having described only the typical preferred forms and applications of my invention I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any modifications or variations that may appear to those skilled in the art and fall within the scope of the following claims.

Having described my invention, I claim:

1. An illuminated sketch and memo board for general illumination and for the illumination of visible material deposited thereon, said sketch and memo board comprising:

A body member (B), said body member having four side walls (**11**, **12**, **13** and **14**) depending therefrom, one of said side walls (**11**) having a greater height than another of said side walls (**14**) so that said body member is provided with a sloping configuration, said body member having a top surface (**10**) provided with an enlarged opening (**15**) therein, the lower peripheral edge of said opening being provided with an extended projected edge (**19**) for receiving and retaining structure (P) placed within said opening, said body member being provided at one end thereof with a well shaped receiver (R) for receiving and retaining electrical illuminating means (A) therein for illuminating said sketch and memo board, said body member being provided at the other end thereof with a channel shaped receiver (**22**) for receiving and retaining a marking instrument (C) used for making visible marks on said sketch and memo board;

A plate member (P), said plate member being made of a material which passes light therethrough, said plate member being of appropriate size so as to fit snugly within the opening (**15**) provided within the top surface (**10**) of said body member (B) and thus be supported by the extended projected edge at the lower periphery of said opening;

A frame member (F), said frame member being made of an opaque material, said frame member being provided with a cavity (42) for receiving and retaining erasing materials (E) therein, said frame member being connected to said body member so as to be positioned below said plate member and provide support for said plate member;

Illuminating means (A) for transmitting light onto said plate (P) so as to provide for general illumination and provide for the illumination of visible material deposited on said plate, said illuminating means including a lamp member (34) mounted within said body member so that the filament of said lamp member is substantially centered between the upper (25) and lower (26) plane surfaces of said plate for radiating a substantial quantity of light into the marginal portion of said plate for internally illuminating said plate and thereby effectively lighting the peripheral edge portions of said plate, said plate being provided with a notched portion (36) on one of its ends for receiving the filament section of said lamp member, said illuminating means also including at least two dry cell batteries electrically connected in an electrical series connection for electrically energizing said lamp member; and

Electrical switching means for electrically energizing and de-energizing said lamp member, said switching means including at least two electrical conductor members (31 and 32) the opposite ends of which are biased against opposite end terminals of the dry cell batteries and the other ends of which are in electrical contact with said lamp member, said switching means also including a shiftable contactor member (33–35) for electrically connecting and disconnecting said electrical conductor members so as to thereby electrically energize and de-energize said lamp member, said contactor member (33–35) including a manually operable slidable contractor button (33) mounted upon the upper surface of said body member, said contactor member having an electrical conducting member attached to its lower surface so that manual movement of said contactor will electrically connect and disconnect said battery electrical conductor members thereby electrically energizing and de-energizing said lamp member so as to thereby control the periods of time during which light is radiated from said lamp member to said plate for general illumination and for the illumination of visible material deposited on the plate of said illuminated sketch and memo board.

2. An illuminated sketch and memo board in accordance with claim 1 wherein said body member (B) is of a molded plastic shell construction having an exposed opened underside which provides easy access to the receiving and retaining cavity (42) for erasing materials (E) provided within said frame member (F).

3. An illuminated sketch and memo board in accordance with claim 1 wherein said frame member (F) is made integral with the top panel (10) of said body member and said plate (P), supported by the upper surface (20) of said frame member, is retained on said frame member by a retainer (50) which securely locks said plate (P) to said frame (F).

4. An illuminated sketch and memo board in accordance with claim 3 wherein said retainer (50) has a wall portion (51) which occupies the space between the peripheral edge of said plate (P) and the substantially vertically extending portion of said frame (F), said retainer also having a lip (52) which overlies the marginal portion of the plate (P) and a projection (53) which fits within inwardly opening notches provided in said frame for securely locking said plate (P) to said frame (F).

5. An illuminated sketch and memo board in accordance with claim 1 wherein said body member is provided with depending rails (19) for receiving and retaining the sides (18) of the frame (F) so that said body member and frame may be snapped together or otherwise bonded one to the other.

6. An illuminated sketch and memo board in accordance with claim 1 wherein said channel shaped receiver (22) within said body member for receiving and retaining marking instruments therein is provided with a transversely crowned bottom surface (23) having the high point of the crowned surface at the center of the receiver (22) so that the marking instrument retained therein may be pivoted within said receiver about the high point of the bottom surface and thereby removed from the receiver (22).

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