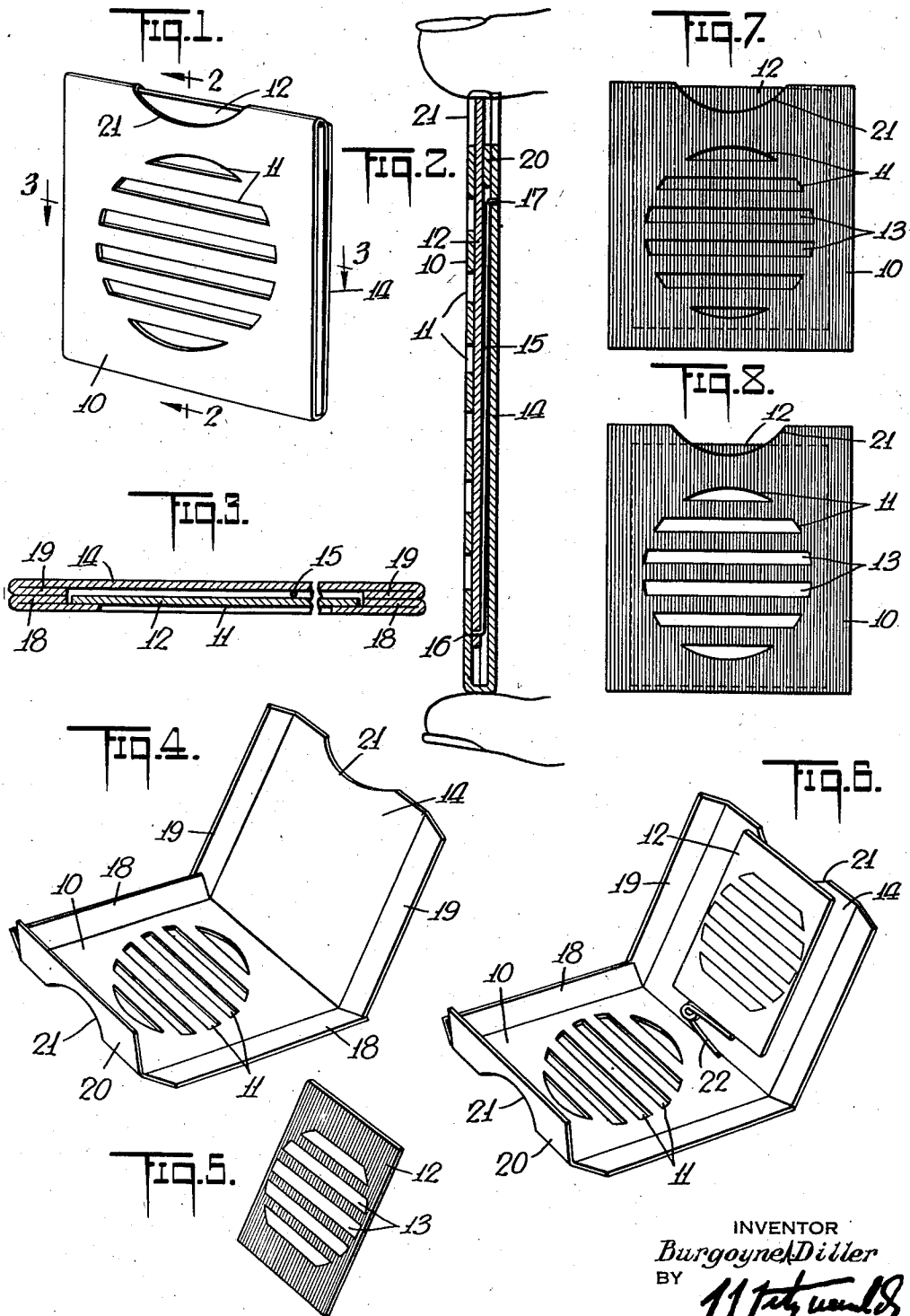


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BLINKER SIGNALING DEVICE

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BLINKER SIGNALING DEVICE

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6 Claims. (Cl. 35—14)

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My present invention relates generally to signaling devices, and has particular reference to a device of the "blinker" type.

A general object of my invention is to provide a signaling device of such simplified structure that it may be manufactured almost entirely of simple inexpensive sheet material such as cardboard or the like. A more particular object is to provide a structure and mode of operation which permits the device to assume an unusually small and compact form adapted to be held in and operated by one hand of a user.

The present improved device has been designed primarily for instructional purposes, it being intended that large quantities of the device may be manufactured speedily and at low cost, for distribution to trainees in the armed forces, and others, to enhance the teaching of signaling generally and the art of "blinker" signaling in particular. Because of its small and inexpensive nature, the device may also find utility as an educational toy. Nevertheless, since it is a complete signaling device by means of which messages and signals may be transmitted from one person to another, and since certain features of the invention are not necessarily restricted to a device of reduced size, it will be understood that certain phases of the invention may be considered to relate to signaling devices generally.

The present improved structure consists essentially of a pair of superposed relatively slidable flat front and back members, the front member having a series of adjacent spaced apertures therein, the back member being provided on its front surface with spaced light and dark areas which are so arranged that relative endwise movements of said members will bring either the light or the dark areas into matching registry with said apertures. The apertures preferably assume the form of parallel slits arranged in a group which conjointly defines a sort of circular "spot," and the markings on the back member are correspondingly shaped and arranged. Thus, if the outer surface of the front member is of dark character, the contemplated relative movements of the members will result in making this "spot" alternately dark and light, whereby code messages may be transmitted to an observer at a distance in much the same manner as such messages are transmitted by large-size blinker signaling devices. However, whereas the conventional large-size devices usually employ a beam of light from an artificial source, and require pivoted movements of louvres or the like and all the mechanism and accessories which such an

action calls for, the present device is essentially composed of only the two front and back members referred to.

In accordance with my present invention, the back member is held in sliding contact with the front member by a bracing panel or backing, this panel and the front member being so associated as to define a pocket within which the back member is movable in an endwise manner. This back member is a separate element, and a resilient yieldable means is provided in the pocket for constantly urging this member into a normal position, the hand or fingers of the user being employed to effect the desired relative movements of the front and back member against the action of the resilient means.

In one embodiment of the invention, the resilient means assumes the form of a compression spring, in another embodiment it consists of a tension spring such as a length of rubber or its equivalent. In each case, the spring is operatively interposed between the separate back member (which constitutes the movable member of the pair) and another relatively fixed part of the structure.

I achieve the foregoing objects in the manner illustratively exemplified in the accompanying drawing, in which:

Figure 1 is a perspective view of a signaling device constructed in accordance with the present invention;

Figure 2 is an enlarged cross-sectional view taken substantially along the line 2—2 of Figure 1;

Figure 3 is an enlarged cross-sectional view taken substantially along the line 3—3 of Figure 1;

Figure 4 is a perspective view of the relatively fixed parts of the device as they appear prior to final assembly of the device during its manufacture;

Figure 5 is a view of the movable member or slide shown by itself;

Figure 6 is a view similar to Figure 4 illustrating a modification in the spring means employed; and

Figures 7 and 8 are face views of the device illustrating the changes in its appearance when it is used for signaling purposes.

The front member 10 consists of a flat blank of sheet material, such as cardboard, and is provided with a series of spaced adjacent apertures 11 which I have illustratively shown in the form of parallel slits conjointly defining a sort of circular "spot." The front member 10 is preferably

substantially rectangular and I have illustratively shown it in the form of a square. So that the general nature and capabilities of my invention may be more fully appreciated, it may be mentioned that a satisfactory and highly efficient device may be constructed with this square no more than about two inches long.

Arranged behind the member 10 and in sliding contact therewith is a back member 12 (see Figure 5) which is provided on its front surface with spaced light and dark areas 13. Where the apertures 11 assume the form of slits as shown in Figure 1, the markings on the back member 12 are of corresponding striped configuration. These markings are so arranged that reciprocating endwise movements of one of the members relative to the other will alternately bring either the light areas or the dark areas 13 into matching registry with the apertures or slits 11.

Behind the member 12 is a backing or bracing panel 14 which serves to hold the member 12 in position. A sort of flat pocket is provided between the panel 14 and the front member 10.

In Figures 2 and 3 I have illustrated one type of resilient yieldable means for normally urging the movable member 12 in one direction. I have illustratively shown a tension spring 15 in the form of a length of rubber or the like, one end 16 being fastened in any suitable manner to the lower part of the member 12, the opposite end 17 being fastened in any suitable manner to the upper part of the panel 14.

The several parts may be held together in various ways. A preferred construction is illustrated most clearly in Figure 4 in which it will be observed that the front member 10 and the backing panel 14 are formed of a single blank of sheet material, such as cardboard. Along the side edges, the front member 10 may be provided with flaps 18 which turn inwardly when the device is assembled and serve as side guides for the movements of the movable member 12 (see Figure 3). The panel 14 may also be provided with side flaps 19 which turn inwardly and provide a space which serves to accommodate the resilient tension member 15. At one end of the member 10 a flap 20 is provided which is ultimately secured to the panel 14 to seal the pocket that is formed between this panel and the front member 10, this final assembly being performed, of course, only after the sliding member 12 and the spring associated with it have been properly inserted into the space between the front member 10 and the panel 14.

Along the hinge line connecting the flap 20 to the member 10, I prefer to provide a cut-out 21 which affords access to the upper edge of the movable member 12 when the device is to be used.

In Figure 6 I have illustrated a modified construction similar to that in Figure 4. In this figure, the movable member 12 is shown in position prior to the final closing and sealing of the structure, and I have illustratively shown a compression spring 22 operatively interposed between the lower part of the slide 12 and the lower end of the pocket. The other parts of Figure 6 are identical with those of Figure 4, and the same reference numerals have therefore been applied.

The front face of the front member 10 may be either of dark or light character. I prefer to make this surface dark, as shown in Figures 7 and 8, and to arrange the markings 13 on the member 12 so that in its normal position the dark markings register with the apertures 11 so that the device appears entirely dark (as shown in Figure

7) when viewed from a distance. In operation, the hand or fingers of the user are applied to opposite ends of the device, as indicated in Figure 2, so that a slight pressure will result in moving the member 12 downwardly (as viewed in Figures 1, 2, 7, and 8), thereby bringing the light areas 13 into registry with the apertures 11. This imparts the appearance of Figure 8 to the device, the "spot" having been made visible from a distance. A release of the pressure allows the interior spring or other resilient means to restore the parts to their original relationships.

I have illustrated a construction in which the front member 10 and the retaining panel 14 are formed of a single piece of material. It will be understood, however, that these elements may be separate pieces, and that the various flat parts shown in Figures 1 and 2 may be held together in any other convenient manner.

While in the preferred construction, the light and dark areas 13 on the front surface of the member 12 are provided by merely printing or otherwise applying suitable pigment to this surface (e. g., by printing with black ink upon a white background or with white ink upon a darker background), it will be understood that the desired effect could be achieved in various other ways, if desired. For example, the member 12 might have a mirrored surface upon which the suitable areas are provided by blackening or darkening certain predetermined regions, but in such a case it has been found that the desired signaling effect is not of uniform character since the mirrored surface would appear light only in certain angular positions with respect to an exterior source of light to be reflected by it. In any case, the term "light and dark areas" as used herein and in the appended claims is intended to include within its scope any means equivalent to that shown whereby the desired variations in the appearance of the "spot" may be effected by simple reciprocating movements of the character described.

In general, it will be understood that the details herein described and illustrated to explain the general nature of the invention may be modified by those skilled in the art without departing from the spirit and scope of the invention as expressed in the appended claims.

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. In a blinker signaling device, a pair of superposed relatively slidable flat front and back members, the front member having a series of adjacent spaced apertures therein and an exterior surface of uniform coloration, the back member being provided on its front surface with spaced light and dark areas so arranged that relative endwise movements of said members will bring either the light or the dark areas into matching registry with said apertures, one set of said areas having a uniform coloration identical with that of the exterior surface of the front member so that when said set is in registry with said apertures the front of the device presents to view a blank composite area of uniform coloration.

2. In a blinker signaling device, a pair of superposed relatively slidable flat front and back

members, the front member having a series of adjacent spaced apertures therein and an exterior surface of uniform dark coloration, the back member being provided on its front surface with spaced light and dark areas so arranged that relative endwise movements of said members will bring either the light or the dark areas into matching registry with said apertures, the dark set of said areas having a uniform coloration identical with that of the exterior surface of the front member so that when said dark set is in registry with said apertures the front of the device presents to view a blank composite area of uniform dark coloration.

3. In a blinker signaling device, the combination of elements set forth in claim 1, said apertures being in the form of parallel slits of progressively increasing and decreasing lengths so as to conjointly define an apertured area of substantially circular contour, said light and dark areas being correspondingly in the form of parallel stripes.

4. In a blinker signaling device to be held in and operated by one hand of a user, a substantially rectangular flat bracing panel, a flat front member overlying said panel and secured thereto so as to form a pocket between them, said front member having a series of adjacent spaced aper-

tures therein and an exterior surface of uniform coloration, a separate movable member slidably mounted in said pocket and provided on its front surface with spaced light and dark areas so arranged that reciprocal endwise movements of said movable member will alternately bring the light areas and the dark areas into matching registry with said apertures, one set of said areas having a uniform coloration identical with that of the exterior surface of the front member so that when said set is in registry with said apertures the front of the device presents to view a blank composite area of uniform coloration, and a yieldably resilient means within said pocket arranged to act upon an edge of said movable member so as to urge the latter constantly into the position in which said blank composite area of uniform coloration is exposed to view.

5. In a blinker signaling device, the combination of elements set forth in claim 4, said yieldable resilient means comprising a compression spring.

6. In a blinker signaling device, the combination of elements set forth in claim 4, said means comprising a tension spring operatively interposed between said movable member and a wall of said pocket.

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