

[54] **CARD DIRECTORY**

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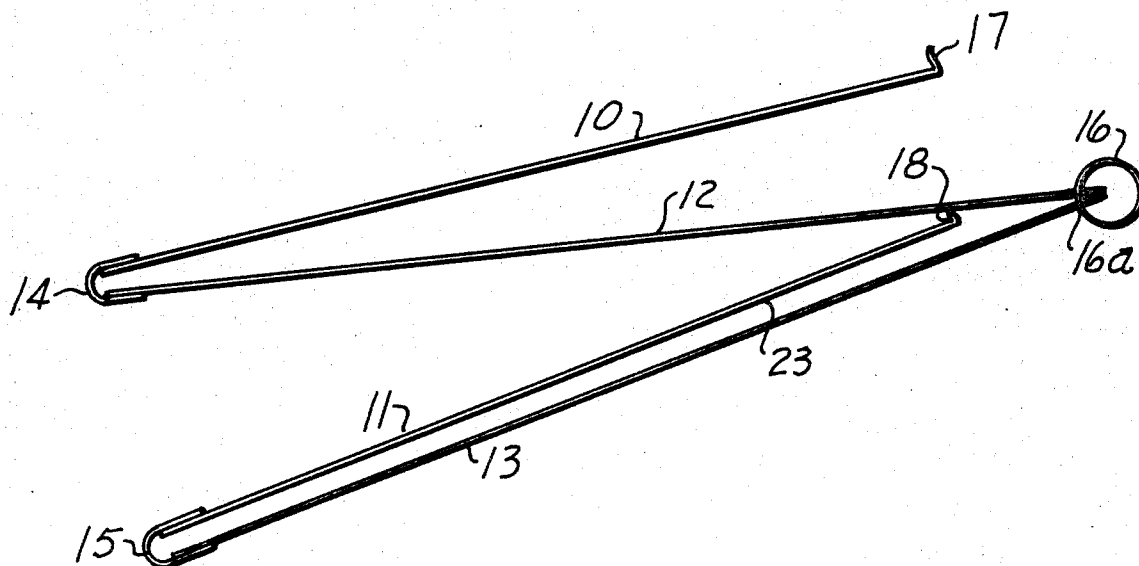
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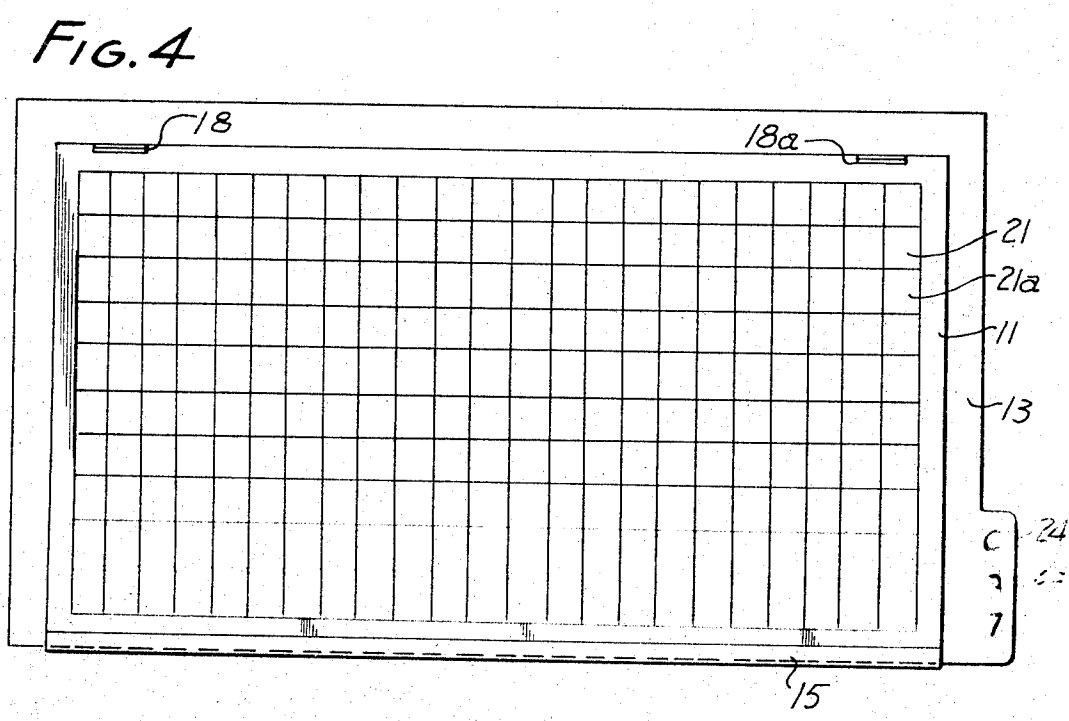
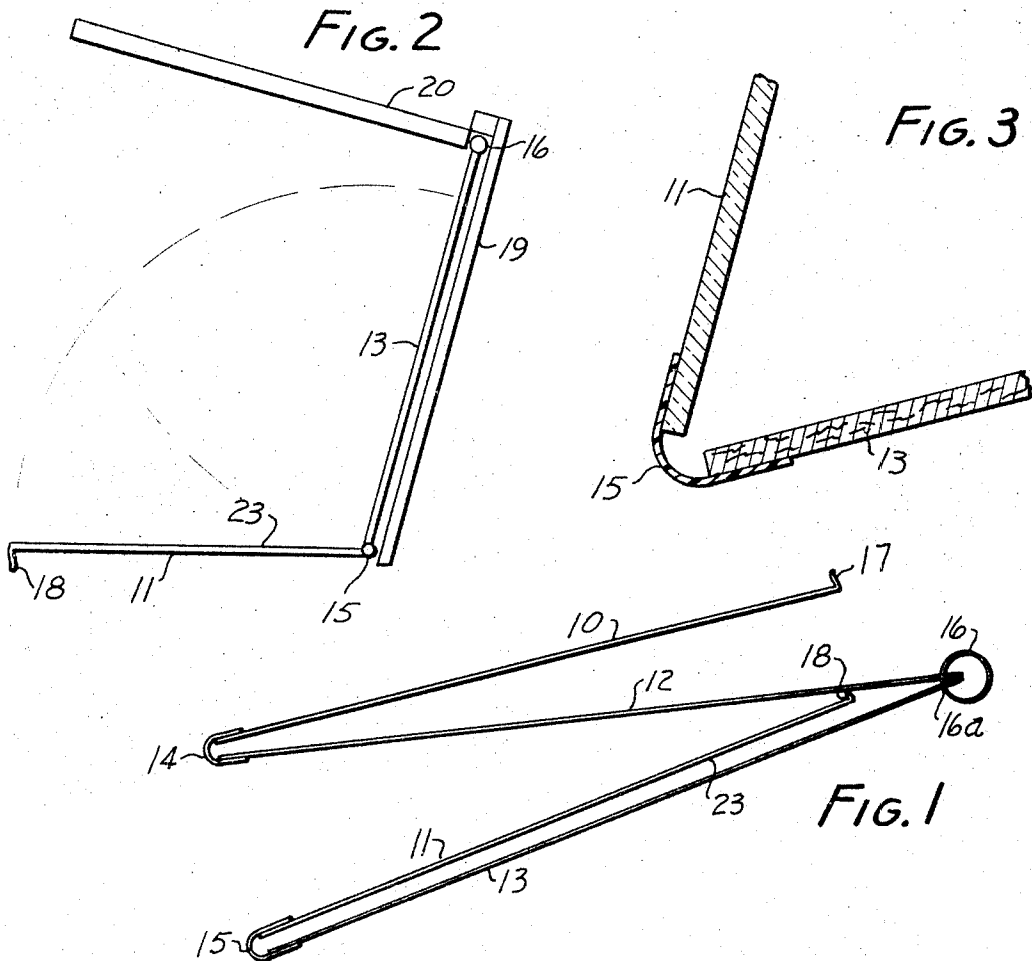
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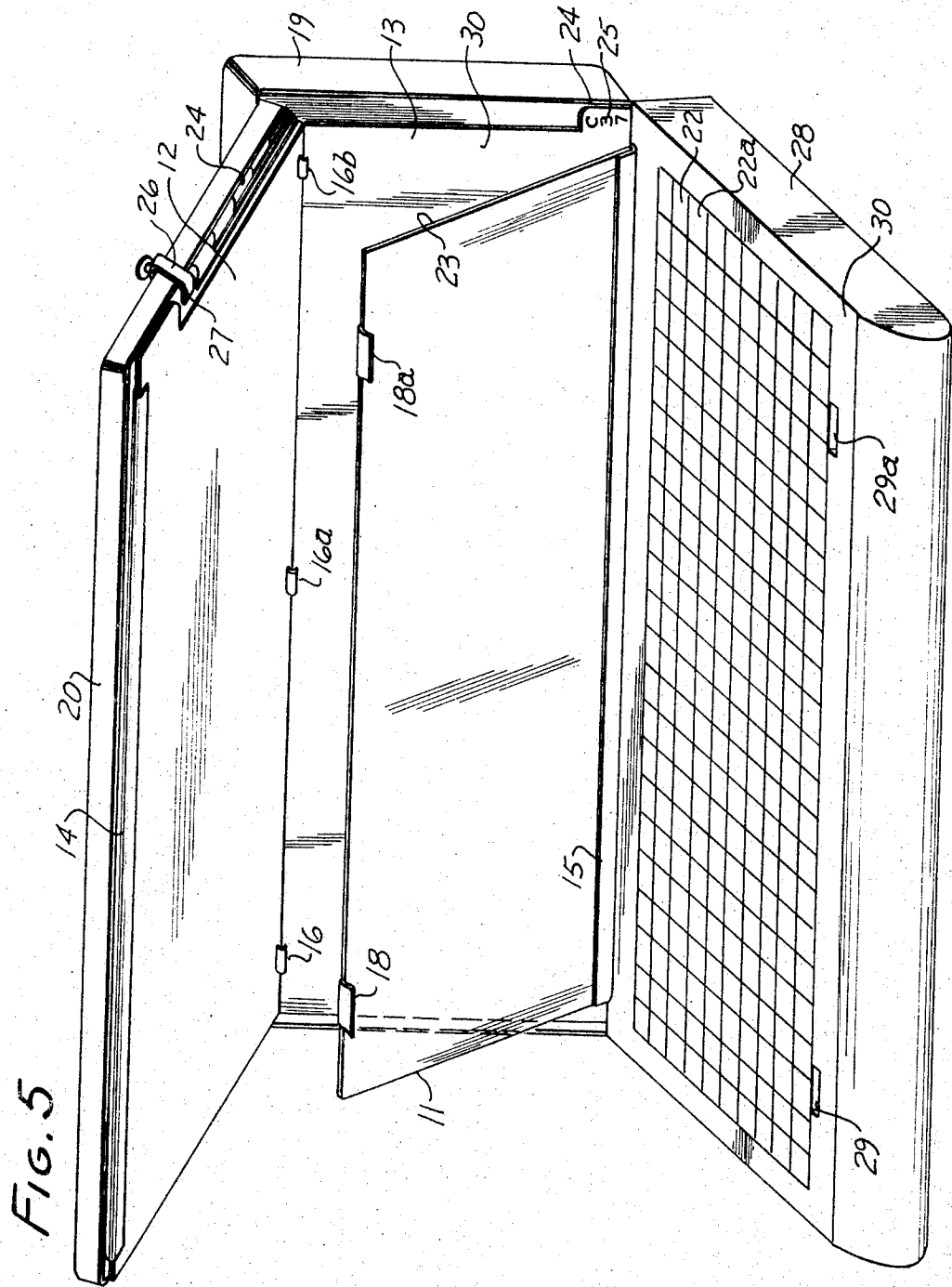
[57] **ABSTRACT**

A plurality of individually folded cards, each bearing indicia relating to the location of individual switches of a switch array, is hingedly attached to a housing. Selection means is provided for selecting one of the cards so that the certain of the cards become stacked in a region of the housing and the selected card unfolds across the switch array. Registration means may be provided for fixedly positioning the selected card with respect to the switch array. The cards may be translucent so that light emitting indicators associated with the switches may be viewed through the selected card.

10 Claims, 5 Drawing Figures







CARD DIRECTORY

This invention relates to card directories, and particularly to card directories for selecting cards of the class containing data relating to messages for transmission, which cards are adapted to be positioned over message entry devices by the directory.

Digital message entry devices employ input switches which may be selectively actuated to supply inputs to an electronic processor. The processor forms a coded message, representative of the actuation of the input switches, for transmission to a central station. The character of the message is dependent upon which of the switches is actuated, and in some cases, the order of actuation. Actuation of selected ones of the switches determined the message to be transmitted. For example, the switches may be arranged in a matrix array and may be individually actuated to select and determine the message to be transmitted. One example of a touch-entry membrane switch matrix for use in such message entry devices is more fully disclosed in the copending application of George R. Kaelin and David M. Piatt, Ser. No. 225,826, filed Feb. 14, 1972, for "Touch Entry Membrane Switch Matrix" and assigned to the same assignee as the present invention.

It is an object of the present invention to provide a card directory for selecting and positioning message cards over a switch array, each card containing indicia corresponding to the location of switches of the array to be actuated.

It is another object of the present invention to provide a directory of cards having means for selecting individual cards for positioning over a switch array.

In accordance with the present invention, a plurality of cards containing indicia relating to switches to be actuated is hinged to a housing. Each card includes tab means, and a tab selector is provided to selectively restrain the cards. A selected card may be positioned over the switch array by selectively positioning the tab selector so that the selected card is positioned in registration with the switch array so that an operator may actuate the switches of the array in accordance with the information on the selected card.

One feature of the present invention resides in the provision of retention means for locating the cards adjacent the switch array.

Another feature of the present invention resides in the provision of translucent cards so that indicators associated with the switch array may be viewed through the cards.

In accordance with yet another feature of the present invention, the housing of the card directory is part of a cover for the switch array, thereby providing a compact arrangement for the array and directory.

The above and other features of this invention will be more fully understood from the following detailed description and the accompanying drawings, in which:

FIG. 1 is a side view elevation of a plurality of cards in accordance with the presently preferred embodiment of the present invention, each card being stacked and folded for use in the directory;

FIG. 2 is a side elevation of the directory having the cards attached therein, one of the cards being readied for position over a matrix of switches;

FIG. 3 is a section view of a portion of a card in accordance with the presently preferred embodiment of the present invention;

FIG. 4 is a plan view of a portion of a card; and

FIG. 5 is a perspective view of an array of switches having a directory containing a plurality of cards in accordance with the presently preferred embodiment of the present invention.

FIG. 1 illustrates a plurality of cards 10, 11 hinged to card portions 12, 13 by hinges 14, 15 respectively. For example, and as illustrated particularly in FIG. 3, hinge 14 may comprise a flexible member bonded or otherwise attached to cards 10 and 12. Portions 12 and 13 are hingedly attached to hinge 16. Preferably, and as more fully understood hereinafter, clips 17 and 18 may be attached to the edge of cards 11 and 12 opposite from hinge 14 and 15. Preferably, clips 17 and 18 may be hingedly attached to cards 10 and 11 so that when the cards are stacked and folded together, the clips do not protrude into the adjacent card. Alternatively, other fastener means, such as magnets may be provided.

Hinge 16, which may comprise a plurality of rings fixedly attached to housing 19, receives slots 16a of card portions 12 and 13. Housing 20, which may, for example, comprise a cover for housing 19, is hinged to housing 19. Housings 19 and 20, together, form a cavity for receiving all of the cards. As illustrated in FIG. 3, cards 10, 11 are preferably constructed of a transparent or opaque material while card portions 12, 13 are preferably constructed of cardboard or the like.

FIG. 4 illustrates card 11 and card portion 13 folded together. Card 11 is divided into a plurality of segments 21, 21a, etc., which correspond to individual switches 22, 22a of the switch matrix (FIG. 5). Surface 23 of cards 10, 11 preferably carries suitable indicia (not shown) on surface 23 thereof, separate indicia being provided for one or more segments 21 of the card. The indicia provides information to the operator as to which areas of the card should be depressed in order to operate the switches 22 for formulation of the message dictated by the particular card. Preferably, the cards are translucent so that indicators associated with each individual switch 22 of the switch matrix may be viewed through the cards. Tabs 24, integral with cards 12, 13 protrude from one edge of the cards and may include suitable indicia 25 identifying the card.

As illustrated particularly in FIG. 5, the tab 24 associated with each card has a distinct length, graduated along one edge of the card so that arm 27 of selector 26 will bear against a selected tab 24 thereby retaining one or more cards in housing 20 and permitting the remaining cards below the retained cards to be positioned over the matrix of switches 22.

Switches 22 are arranged in a substantially rectangular matrix in housing 28. The switches are connected by means (not shown) to logic circuitry or establishing messages to be sent to a central station (not shown). Preferably, each switch has associated with it a light-emitting indicator (not shown) for indicating that the switch has been actuated. Further details of the switch matrix and the attendant indicators is described in the aforementioned copending application of Kaelin et al.

To use the card directory according to the present invention, housing 19, which may form part of a cover for the array of switches 22, is opened to a near vertical position. Selector 26 is positioned along the edge of housing 20 to select a card 11 by retaining the tab 24 of the next adjacent card above it. Housing 20 is

thereafter opened to a substantially upside-down horizontal position, as illustrated in FIG. 2, and the selected card and the cards below it are permitted to pivot into the region of housing 19 so that the selected card 11 is on the top of the stack in housing 19. The top card 11 thereby unfolds across the array of switches 22, and clips 18 of card 11 may be attached to clip receptacle 29 in housing 28 to fixedly attach the card to the housing and hold it in position. Card 11, when secured to housing 28, is positioned over and in registration with the matrix of switches 22. The card displays its indicia to instruct the operator as to the location of the switches to be actuated to construct the message associated with the selected card. Further, information as to the message content and other instructional information may be printed on surface 30 of card 13. Indicia 25 on tab 24 may also provide information as to the identity of the card. Cards 10, 11 are preferably transparent or opaque so that a light emitting indicator associated with the actuated switches 22 may be viewed through the card when it is positioned over the matrix.

When not in use, the cards may be folded into the region between housings 19 and 20, and housing 20 may be received in housing 19. Housing 19 is preferably hinged to housing 28 so as to close over the matrix of switches 22 to form a cover for the same.

The present invention thus provides a directory for selecting message entries for use in a remote station for transmission of messages to a central station. The apparatus is easy to use, and is versatile in as much as the message entry cards may be changed when entry messages are revised.

The invention is not to be limited by the embodiment shown in the drawings and described in the description, which is given by way of example and not of limitation, but only in accordance with the scope of the appended claims.

What is claimed is:

1. A card directory comprising: first and second housing means hinged together; a plurality of card portions each having a first edge hingedly attached to said first housing means; a plurality of cards each hingedly attached to an edge opposite said first edge of a respective one of said card portions; said cards and card portions being normally individually folded together at the hinge between then and retained in a cavity between said first and second housing means; said cards and card portions being sized relative to said cavity; selectably movable retention means supported on said second housing for retaining selected card portions in said second housing, whereby when the cavity between said first and second housing is opened so that card portions are retained in said second housing above said first housing, selected cards and card portions are permitted to fall into said first housing in stacked individually folded relation and the card hinged to the uppermost card portion of said stack is permitted to un-

fold from said card portion.

2. Apparatus according to claim 1 wherein said cards are translucent.

3. Apparatus according to claim 1 wherein said first housing means is hingedly attached to a third housing supporting an array of switches, said cards each carrying indicia segmenting the cards into individual segments corresponding to individual ones of said switches, and registration means for positioning the card hinged to the uppermost card portion of said stack over said last-mentioned card are juxtapositioned to respective individual switches.

4. Apparatus according to claim 3 wherein light emitting indicators are associated with each switch of said array, and said cards are translucent so that operation of said indicators may be viewed through the selected card.

5. Apparatus according to claim 3 further including retention means for retaining the selected card to said third housing means.

6. Apparatus according to claim 3 wherein said cards include indicia associated with each segment for instructing an operator to actuate selected switches.

7. Apparatus according to claim 6 wherein said switches are adapted to be connected to message formulation means for formulating an electronic signal representative of a message to be sent to a remote station, and the indicia on said cards is representative of the location of the switches to be actuated to formulate a particular message.

8. Apparatus according to claim 6 wherein light emitting indicators are associated with each switch of said array, and said cards are translucent so that operation of said indicators may be viewed through the selected card.

9. Apparatus according to claim 3 further including tab means protruding from an edge of each of said card portions, the tab means for each such card portion having a portion at a distinct location on the edge of the card portion with respect to the location of similar portions of the tab means on the other card portions, and said retention means comprises means for bearing against the tab means on said card portions, said last-named means being movable along an edge of said second housing to selectively bear against selected portions of said tab means.

10. Apparatus according to claim 1 further including tab means protruding from an edge of each of said card portions, the tab means for each such card portion having a portion at a distinct location on the edge of the card portion with respect to the location of similar portions of the tab means on the other card portions, and said retention means comprises means for bearing against the tab means on said card portions, said last-named means being movable along an edge of said second housing to selectively bear against selected portions of said tab means.

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