March 4, 1958 C. A. BAYLON 2,825,152

WALL-MOUNTED INFORMATION DISPLAY PANEL STRUCTURE

Filed Oct. 18, 1954 2 Sheets-Sheet 1

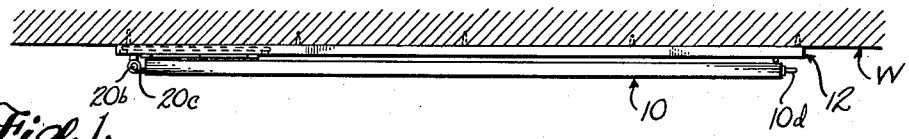


Fig. 1.

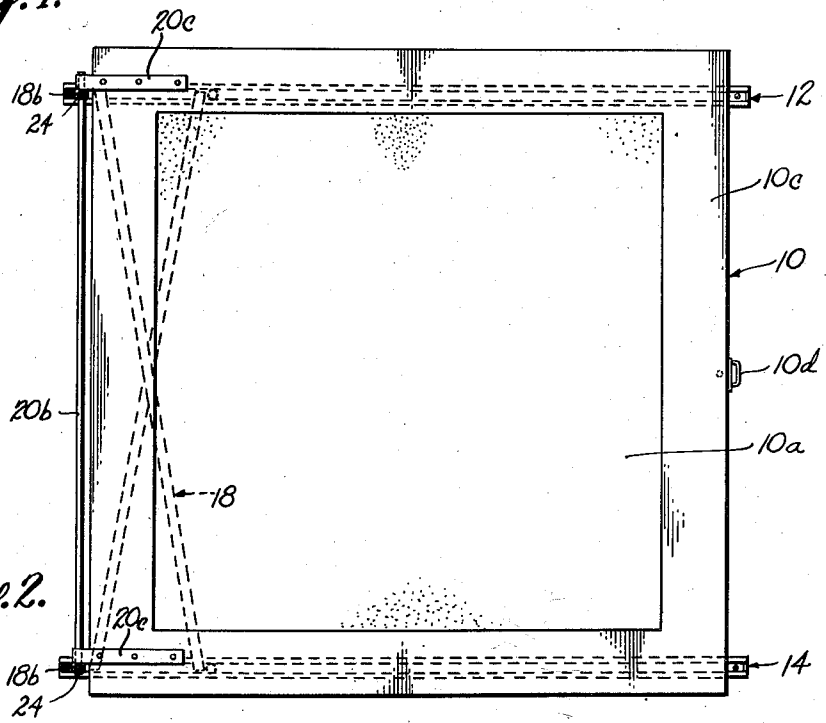


Fig. 2.

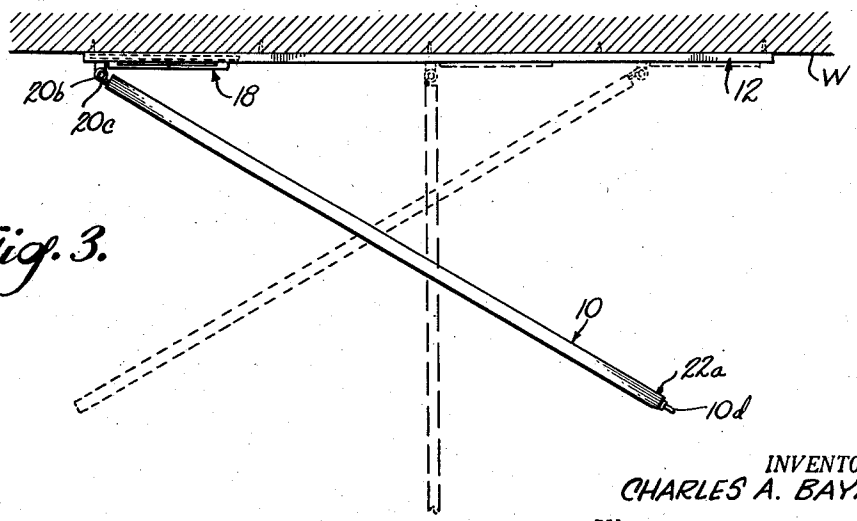


Fig. 3.

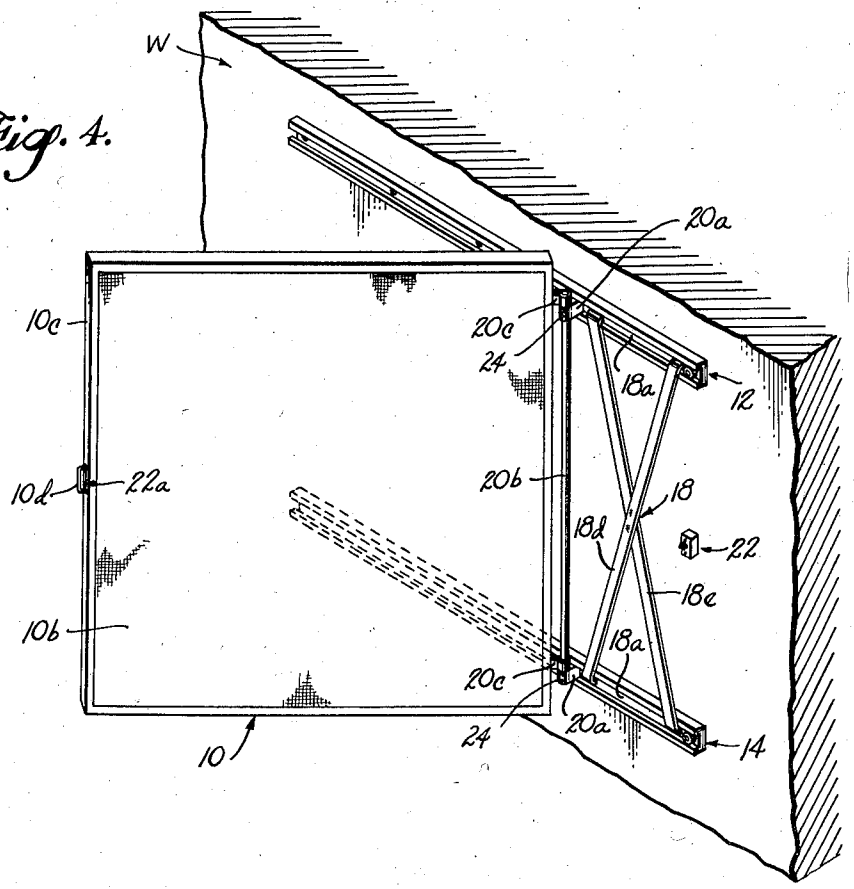
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Fig. 4.



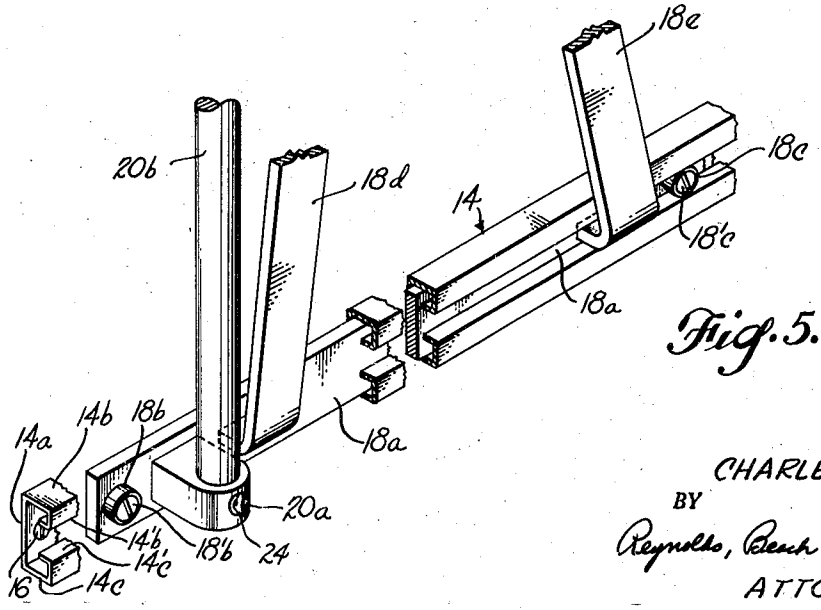


Fig. 5.

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WALL-MOUNTED INFORMATION DISPLAY PANEL STRUCTURE

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10 Claims. (Cl. 35—63)

This invention relates to a novel, wall-mounted reversible and angularly adjustable information display panel structure, primarily intended for school classroom use and similar applications. The invention is herein illustratively described by reference to its presently preferred form as devised for such usages; however, it will be recognized that certain changes and modifications therein with respect to details may be made without departing from the inventive concepts involved.

In modern teaching methods, considerable use is made of visual aids, including photographic slides and motion pictures. It is, therefore, desirable to provide at least certain classrooms with a photographic projection screen, and it is inconvenient in such circumstances to employ projection screens of the collapsible floor stand type which creates storage and handling problems. School classrooms also require bulletin boards, chalkboards, wall charts and other information display panels. The problem presented by these requirements involves, among other factors, cost, convenience and wall space availability.

A general object of the present invention is to provide a wall-mounted, readily reversible information display panel having useful display surfaces on both sides thereof and devised so that it may be shifted on its supports between relatively opposite positions in which one or the other panel side faces outwardly from the supporting wall, preferably without utilizing appreciably more wall space than the panel area itself. The term "wall" as herein used is intended to connote any building wall or equivalent supporting structure suitable for the mounting of the information display panel structure as herein disclosed.

A more specific object of the invention is a versatile information display panel structure so devised that the supported panel may not only be shifted back and forth between opposite limiting positions generally parallel to the wall, but may also be intermediately disposed in any of different angular positions relative to the wall for convenience in viewing either side thereof from any direction in the room.

A related object is a relatively inexpensive, simple and practicable device of the described character employing track-mounted pivotal-translational support means and in its preferred form as disclosed, occupying not appreciably more wall space than the panel area. For reasons of safety, compactness and appearance the panel may be swung into stored position disposed closely adjacent the wall and directly overlying most or all of the track and runner means supporting it.

These and other incidental objects of the invention are achieved in the novel display panel structure comprising the reversible panel, elongated guide means mounted on the wall in horizontally extending position thereon, runner means engaged in said guide means for horizontal translatory movement lengthwise of the latter, and pivotally acting panel support means mounted on the runner means and supportingly connected to the panel by one upright

edge of the panel to provide a horizontally slidable pivotal support for the reversible panel. Preferably, the elongated guide means is of a length slightly exceeding the breadth of the panel, whereby the runner means may be moved to one end or the other of the guide means and the panel may then be swung into parallel relationship with the wall overlying the remaining or traversed portion of the guide means.

These and other features, objects and advantages of the invention will become more fully evident from the following description thereof by reference to the accompanying drawings.

Figure 1 is a plan view of the display panel structure installed and with the panel positioned flat against the wall.

Figure 2 is a corresponding front elevation view.

Figure 3 is a plan view similar to Figure 1 with the panel swung outwardly from the wall, the view showing by dotted lines alternative angular and translational positions of the panel.

Figure 4 is a perspective view of the display panel structure installation.

Figure 5 is an enlarged perspective detail view of a fragmentary portion of the mechanism by which the panel is supported for pivotal and translational movement relative to the wall.

In the example the generally rectangular information display panel **10** has one side covered at least in part by a cork layer **10***a* to serve as a tack board, and its opposite side covered with a light reflecting and dispersing material suitable for a photographic projection screen **10***b*. The structural details of the panel proper are of incidental consideration for purposes of the invention. Obviously, strength is a consideration but the avoidance of excessive weight is also important for minimizing strain on the panel support means which must carry the panel as a cantilever element in all of its various attainable positions. For instance, the panel may comprise a sheet of quarter-inch plywood having a frame **10***c* extending around its peripheral edge to impart form-retaining stiffness to the sheet. The cork sheet **10***a* and the projection screen sheet **10***b* may then be adhesively bonded directly to the opposite faces of the plywood panel. Masonite, metal sheeting (especially aluminum), edge-bonded lightweight boards, and various other structural materials may also be used in forming the panel if desired. Also, it will be evident that the nature of the information display surfaces on respectively opposite sides of the reversible panel may vary in different situations. For example, in lieu of cork on one side of the panel, a chalkboard surface may be provided. A calendar, an artistic rendition, a chemical periodic chart, or any of numerous other display items or media are alternatives.

Upper and lower elongated guide channels **12** and **14** are mounted on the wall W in horizontally extending, vertically spaced and relatively superimposed positions. Serving as supporting guides for the runner means **18** carrying the panel **10** as later described, the guides **12** and **14** are preferably formed of steel or other strong material, capable of resisting wear under the repeated sliding and rolling action of the runner elements engaged therewith, and possessing strength sufficient to support the cantilever load presented by the panel. Preferably both channels are of a length slightly exceeding the breadth of panel **10**. The guide channels **12** and **14** are similar, and by describing the channel **14** it will be unnecessary separately to describe the channel **12**. The channel **14** has a web **14***a* apertured at intervals along its length to receive countersunk screws **16** by which the channel is secured against the wall surface. Upper and lower channel flanges **14***b* and **14***c* have respective edge

portions which are turned inwardly and toward the channel bottom or web in order to form parallel horizontal roller tracks 14'*b* and 14'*c*, respectively, extending lengthwise of the channel. The inwardly directed inner edges of the tracks 14'*b* and 14'*c* are spaced outwardly a short distance from the channel web 14*a* in order to define, between the channel flanges proper, a guide space which is wide in relation to the space between the tracks 14'*b* and 14'*c*.

A slider bar 18*a*, comprising part of runner means 18, is slidably received extending lengthwise in the relatively wide guide space thus formed in the base of the channel 14, and a similar slider bar is likewise received in the corresponding space in the upper channel 12. These slider bars are rigidly interconnected by braces 18*d* and 18*e* and are of sufficient length to avoid an excessive racking or binding tendency in the channel tracks under cantilever load imposed by the panel when disposed generally parallel to the wall W. Rollers 18*b* and 18*c* are mounted on journal pins 18'*b* and 18'*c* projecting from the outer face of each slider bar at respective locations near opposite ends of the bar. Such rollers run in the space formed between the parallel guide tracks 14'*b* and 14'*c* and their outside diameter is only slightly less than the width of that space. The individual rollers run on the upper or lower tracks 14'*b* and 14'*c* depending on the sense of any tilting moment applied to the slider bar 18*a* in its own vertical plane, which moment may occur in either sense as the panel 10 is swung through a position perpendicular to the wall W. The spacing of the rollers 18*b* and 18*c* permitted by the length of slider bar 18*a* is sufficient to provide adequately spaced bearing points on the tracks 14'*b* and 14'*c* whereby the cantilever load presented by the display panel may be carried easily with minimum strain on the guide channels and the associated runner structure 18. Any tendency under such load for the slider bars to shift relatively and out of vertical registry is resisted by the crossed braces 18*d* and 18*e* interconnecting them as shown. The ends of these braces are turned inwardly at right angles to their general plane for connection to the slider bars 18*a* through the slots formed between sets of roller tracks 14'*b* and 14'*c*, hence do not prevent free translational movement of the runner means 18 lengthwise of the guide channels.

Suitable stops (not shown) may be provided at the channel ends preventing dislodgement of the runner means from the guide channels.

In order to mount the panel 10 pivotally on the runner means 18, each slider bar 18*a* carries a projecting support 20*a* for the vertically disposed pivot bar 20*b*. In the illustration the vertically aligned supports 20*b* are located near one end of the respective slider bars 18*a*, but it will be understood that other locations along the length of the slider bars may be selected if desired; the ability of the track-engaged runner means 18 to carry cantilever load imposed by panel 10 is not affected by such choice of location. Hinge members 20*c* secured to one vertical edge portion of the panel 10 engage the pivot bar 20*b* immediately above the respective bar supports 20*a* so that vertical thrust load represented by weight of the panel is carried directly by these supports while the pivot bar permits swinging of the panel on a vertical axis extending along the supported vertical edge of the panel. Preferably the pivot-bar-encircling ends of hinge members 20*c* lie in the general plane of the panel 10 so that the panel will lie nested against the track channels in the same attitude with either panel face directed outwardly from wall W.

It will be apparent from the illustration that the panel 10 is mounted to swing through a range of substantially 180° so that it may be positioned parallel to the wall W with either panel surface facing outwardly and that such swinging movement is possible in any of different translational positions of the runner means 18 and panel 10 along the guide channels. In many situations, intermediate angular positions of the panel, such as those shown in Figures 3 and 4, may be used to advantage, as in the case of mounting the panel near a room corner where it is occasionally to be viewed from the middle portion of the classroom, that is, from the classroom seats. A corner location for a photographic projection screen is often necessary for achieving the requisite distance to focus a projected image of a certain size. Such angular positioning of the wall-mounted panel, in a corner location or otherwise, is made possible with a minimum of wall space requirements by reason of the shifting pivotal support for the panel.

A suitable detent 22 is mounted on the wall to engage a cooperating detent element 22*a* on the panel in the normal or stored position of the latter against the wall (Figure 2). In this position of the panel the photographic projection screen 10*b* faces inwardly, hence is protected from damage when not in use. A handle 10*d* may be provided on the panel edge near the detent if desired for convenience in disengaging the detent and swinging the panel outwardly from its normal position and simultaneously shifting it in translation along the guides 12 and 14 if necessary to provide clearance permitting such outward swinging to occur, as when the device is mounted on the front wall in the left-front corner of a classroom.

Each pivotal support carries a wing-head screw 24 the inner end of which may be advanced into contact with pivot rod 20*b* in order to secure the panel 10 against swinging out of a selected position. Obviously other locking or securing devices may be used in lieu of these screws to the same ends.

I claim as my invention:

1. A wall-mounted reversible and angularly adjustable information display panel structure comprising, in combination with a generally vertical supporting wall, an uprightly disposed relatively flat information display panel of predetermined breadth and height and having information display surfaces on opposite sides thereof including a photographic projection screen surface, elongated guide means mounted on said wall in horizontally extending position thereon, runner means engaged with said guide means for translatory guided movement of said runner means lengthwise of said guide means along said wall, and pivotally acting panel support means supportingly connected to said panel substantially at one upright edge thereof and in turn mounted on said runner means to support said panel bodily therefrom and permit pivoting of said panel on a substantially vertical axis located near said edge through substantially 180 degrees, between opposite angular positions parallel to and overlying said wall in any of different translational positions of said runner means along said guide means.

2. The panel structure defined in claim 1, wherein the length of the horizontally extending guide means is at least substantially equal to the breadth of the display panel, whereby the panel overlies and substantially fully covers said guide means in the opposite angular positions of said panel with said runner means moved to respectively opposite translatory positions along said guide means.

3. The panel structure defined in claim 2, wherein the guide means comprises a plurality of vertically spaced horizontal tracks, and the runner means comprises pairs of antifriction bearing members engaging the respective tracks at locations spaced apart lengthwise thereof, and uprightly disposed structural means rigidly interconnecting said pairs of bearing elements and comprising a means for the mounting of the pivotally acting panel support means.

4. The panel structure defined in claim 3, wherein the tracks are of open channel form mounted with their channel webs parallel to the wall, the pairs of bearing elements comprise rollers disposed between the channel

flanges to roll alternatively on the upper or lower such flange.

5. The panel structure defined in claim 1, wherein the information display surface on one side of the panel comprises a photographic projection screen and that on the opposite side thereof comprises a tack board.

6. A wall-mounted reversible and angularly adjustable information display panel structure comprising, in combination with a generally vertical supporting wall, an uprightly disposed relatively flat information display panel of predetermined breadth and height and having information display surfaces on opposite sides thereof, elongated guide means mounted on said wall in horizontally extending position thereon, said elongated guide means comprising at least two open channels mounted horizontally on said wall in vertically spaced positions thereon, said channels including outwardly projecting flanges having outer edge portions turned inwardly and toward their respective channel webs to define a relatively wide channel guide space between the channel flanges in the space between the channel web and the inturned flange outer edge portions and an adjoining relatively narrow channel guide space directly between said channel inturned edge portions, runner means including elongated slider elements respectively received in the wide guide spaces of the respective channels, pairs of antifriction rollers journalled on the respective slider elements at locations thereon spaced apart lengthwise of their channels and disposed in the narrow guide spaces to roll alternatively on the upper and lower channel flange edge portions, said runner means further including structural means rigidly interconnecting said sliders in substantially mutually superimposed registry, said sliders being moveable lengthwise in their respective guide channels and being of a sufficient width vertically to lodge behind said channel edge portions to be retained thereby against dislodgement laterally from their respective channels, and pivotally acting panel support means supportingly connected to said panel substantially at one upright edge thereof and in turn mounted on said runner means to support said panel bodily therefrom and permit pivoting of said panel on a substantially vertical axis located near said edge, between opposite angular positions relative to said wall in any of different translational positions of said runner means along said guide means.

7. The panel structure defined in claim 6, wherein the horizontally extending guide channels have a length at least substantially a major fraction of the breadth of the display panel, and the panel support means permits pivotal movement of said panel through substantially 180 degrees between opposite angular limits in which the panel is disposed generally parallel to the wall in relatively reverse positions thereon, respectively, directly overlying said guide means.

8. A wall mountable reversible and angularly adjustable photographic projection screen panel structure adapted for classroom use comprising a relatively flat panel suited for use disposed vertically and having predetermined breadth and height and having a photographic projection screen surface on one side thereof and another information display surface on the opposite side thereof, a pair of elongated tracks adapted to be fixedly mounted on the face of a vertical wall in horizontally extending mutually superimposed positions thereon, runner means engaged with said tracks for translatory guided movement of said runner means lengthwise of said guide means along said wall, and pivotally acting panel support means supportingly connected to said panel substantially at one upright edge thereof and in turn mounted on said runner means to support said panel bodily therefrom substantially wholly overlying the wall and permit pivoting of said panel on a substantially vertical axis located near said edge, through substantially 180 degrees between opposite positions parallel to said wall in any of different translational positions of said runner means along said tracks.

9. A wall mountable reversible and angularly adjustable information display panel structure adapted for classroom use comprising a relatively flat information display panel suited for use disposed vertically and having predetermined breadth and height and information display surfaces on opposite sides thereof, a pair of elongated tracks adapted to be fixedly mounted on a vertical wall in horizontally extending mutually superimposed positions thereon, said tracks comprising open channels individually including outwardly projecting flanges having outer edge portions turned inwardly and toward their respective channel webs to define a relatively wide channel guide space between the channel flanges in the space between the channel web and the inturned flange outer edge portions, and to define further an adjoining relatively narrow channel guide space directly between said channel inturned edge portions, runner means including elongated slider elements respectively received in the wide guide spaces of the respective channels, pairs of antifriction rollers journalled on the respective slider elements at locations thereon spaced apart lengthwise of their channels and disposed in the narrow guide spaces to roll alternatively on the upper and lower channel flange edge portions, said runner means further including structural means rigidly interconnecting said sliders in substantially mutually superimposed vertical registry, said sliders being moveable lengthwise in their respective guide channels and being of a sufficient width vertically to lodge behind said channel edge portions to be retained thereby against dislodgement laterally from their respective channels, and pivotally acting panel support means supportingly connected to said panel substantially at one upright edge thereof and in turn mounted on said runner means to support said panel bodily therefrom and permit pivoting of said panel on a substantially vertical axis located near said edge, between opposite angular positions relative to said wall in any of different translational positions of said runner means along said tracks.

10. The panel structure defined in claim 9, wherein the horizontally extending guide channels have a length at least substantially a major fraction of the breadth of the display panel, and the panel support means permits pivotal movement of said panel through substantially 180 degrees between opposite angular limits in which the panel is disposed generally parallel to the wall in relatively reverse positions thereon, respectively, directly overlying said tracks.

References Cited in the file of this patent

UNITED STATES PATENTS

627,396	Daley	June 20, 1899
726,362	Shrivell	Apr. 28, 1903
892,954	Hanson	July 7, 1908
1,099,748	Hopkins	June 9, 1914
1,310,843	Sebastian	July 22, 1919
1,970,351	Wiersma	Aug. 14, 1934
2,528,311	Hurley	Oct. 31, 1950
2,557,614	Schafer	June 19, 1951

FOREIGN PATENTS

147,638	Austria	Nov. 10, 1936
176,262	Germany	Oct. 10, 1906