

[54] **VERTICALLY MOVEABLE MULTI PANEL SIGN**

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[51] **Int. Cl.²**..... **G09F 11/30**

[58] **Field of Search**..... **40/16, 16.4, 10 R, 64 R,
40/65, 128, 125 C**

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Primary Examiner—John H. Wolff

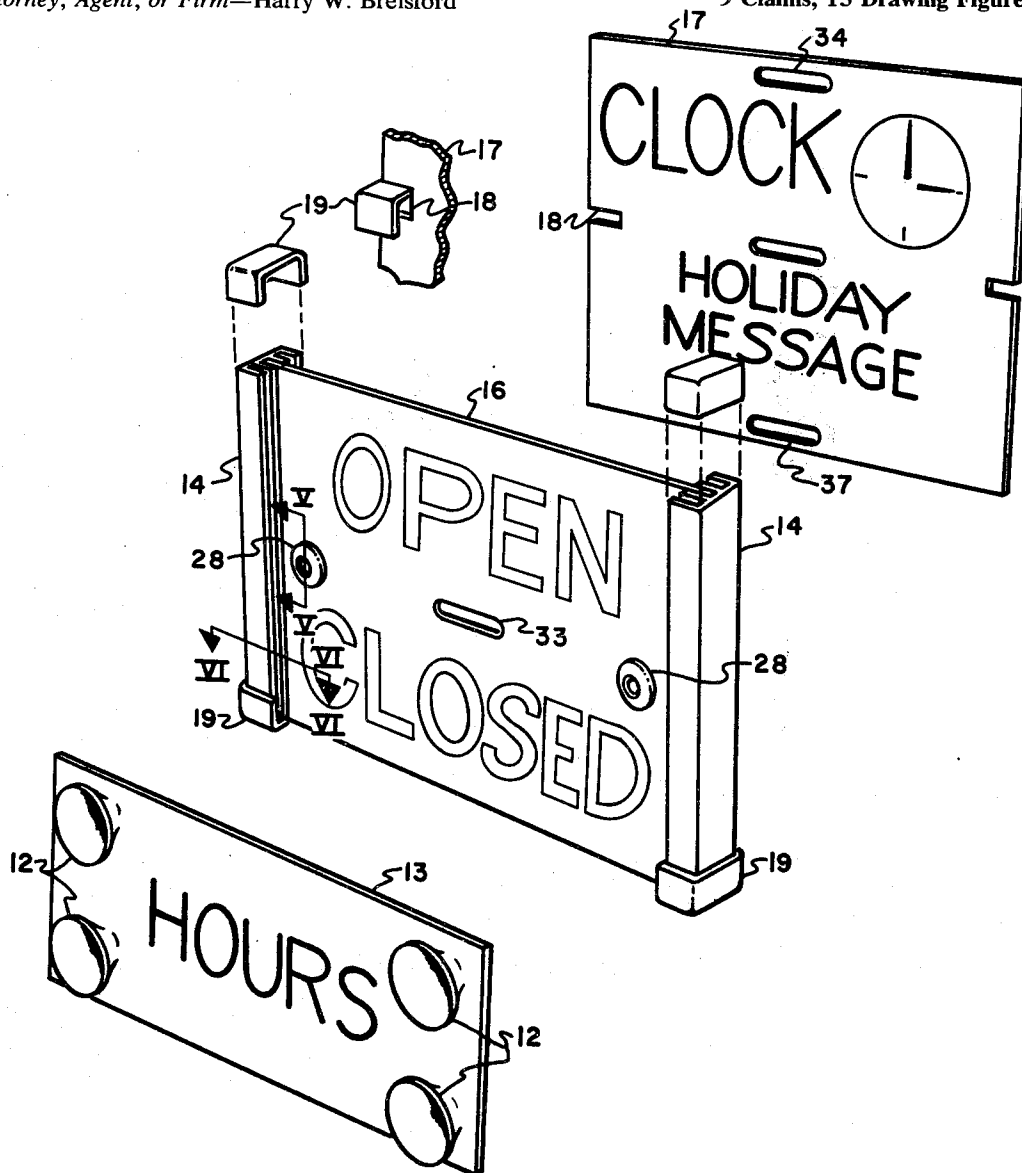
Attorney, Agent, or Firm—Harry W. Brelsford

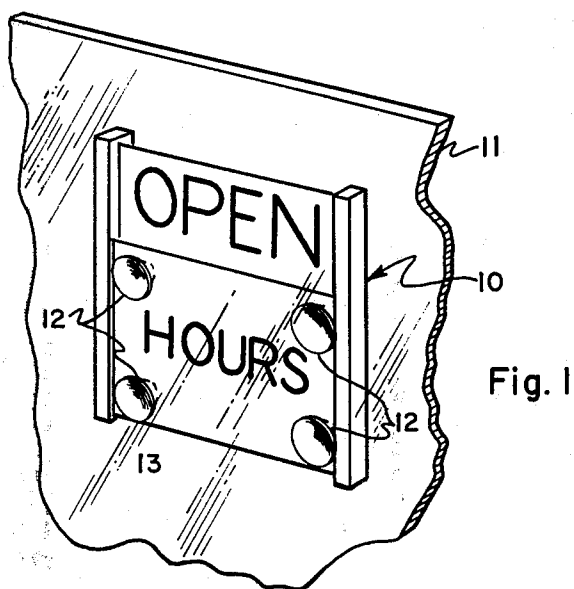
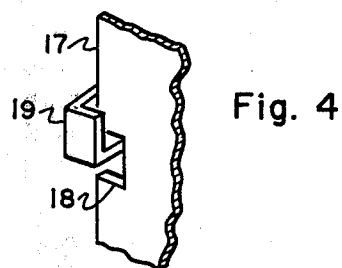
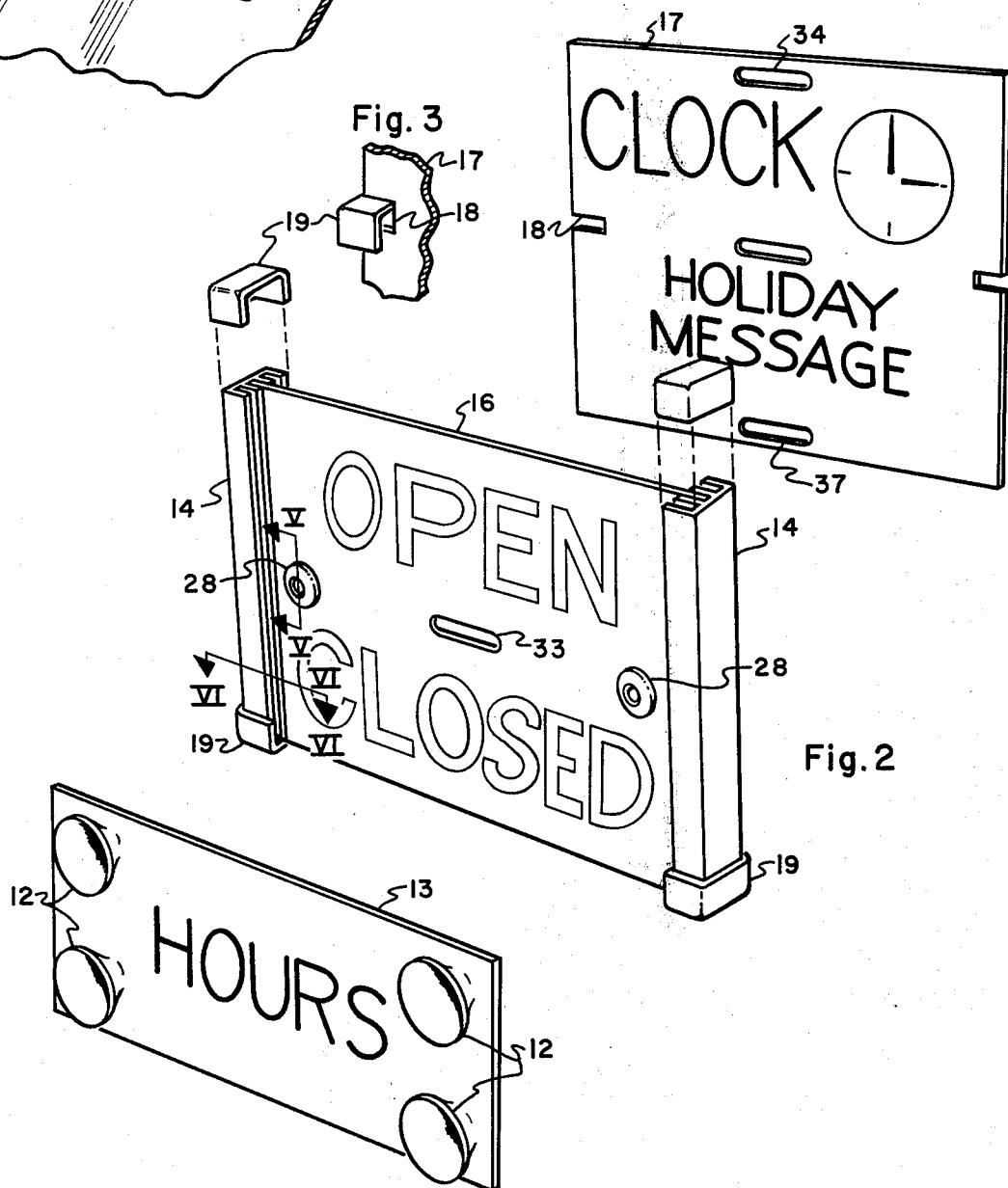
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ABSTRACT

A panel that slides vertically with respect to a sign frame is removeably fastened to the inside of a store window with suction cups. To display different messages on the panels to the rear of this suction cup panel, the frame itself is moved relative to the stationary panel. A detent structure holds the sign frame above the stationary panel when this position is desired and detents or end caps on the frame limit downward movement of the frame with respect to stationary panel. The suction cup structure may be conveniently used as part of a detent. One or more rear panels may be of the pop-off type to obtain displays above and below the sign frame and interlocks, such as panel notches fitting in end caps, may be used to hold these panels in selected positions. The rear of the sign may have indicia to advise the owner what message is being displayed on the front of the sign. Apertures in rear panels may act as telltales to indicate, for example, that OPEN or CLOSED is being displayed.

9 Claims, 13 Drawing Figures





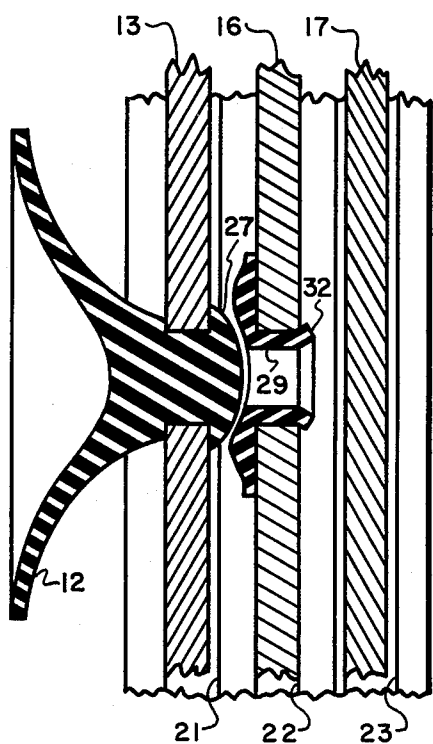


Fig. 5

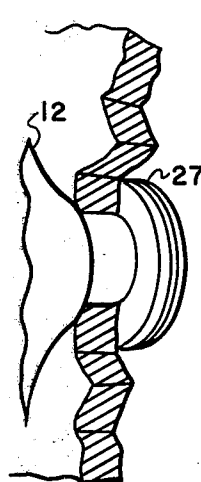


Fig. 8

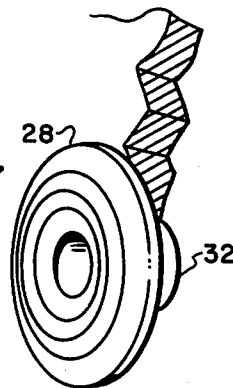


Fig. 7

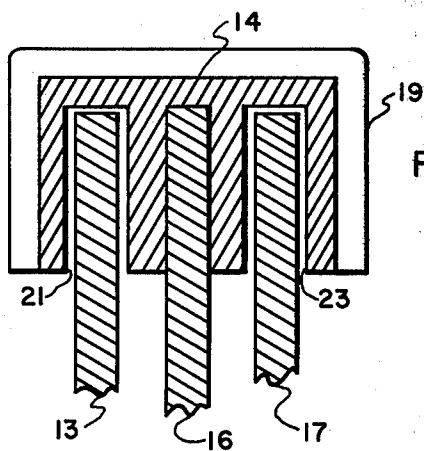


Fig. 6

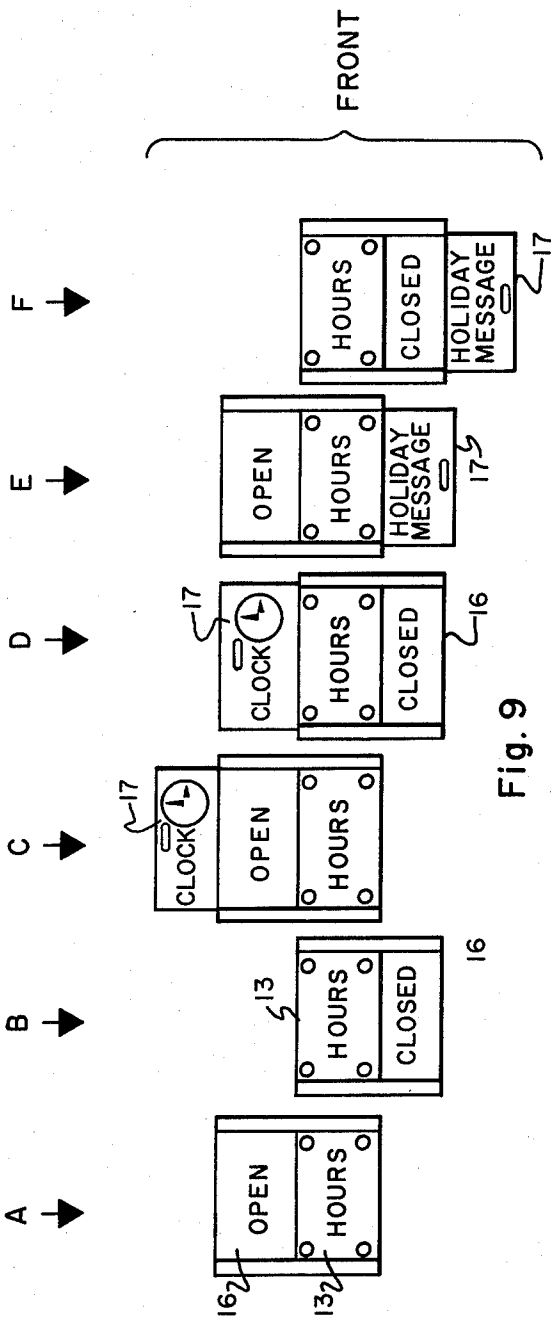


Fig. 9

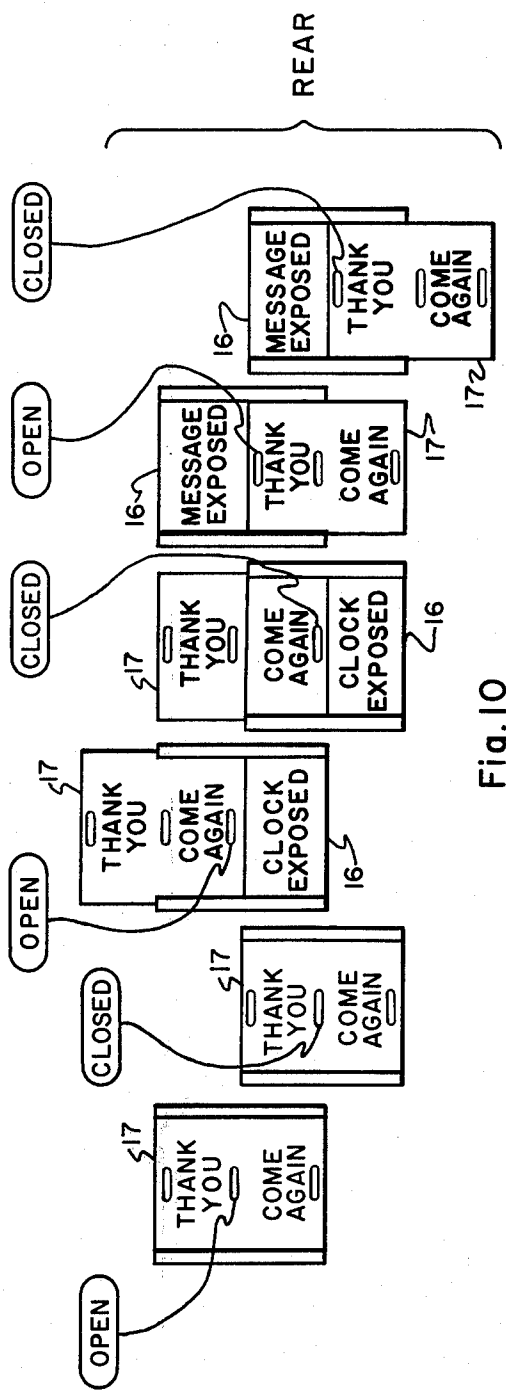
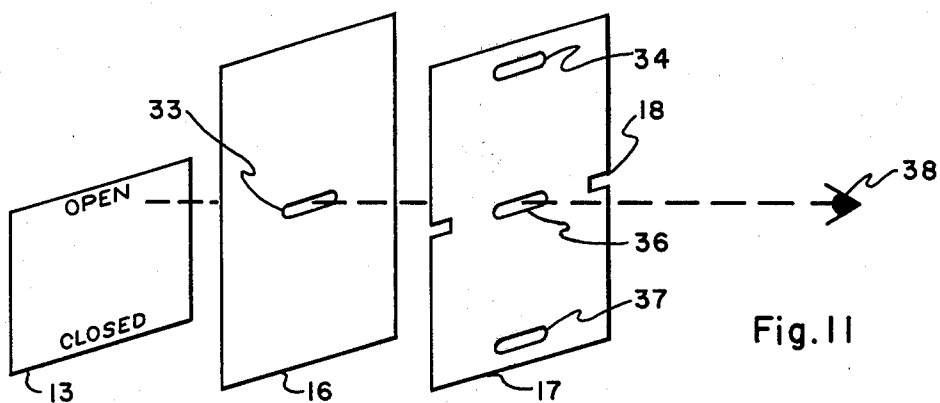
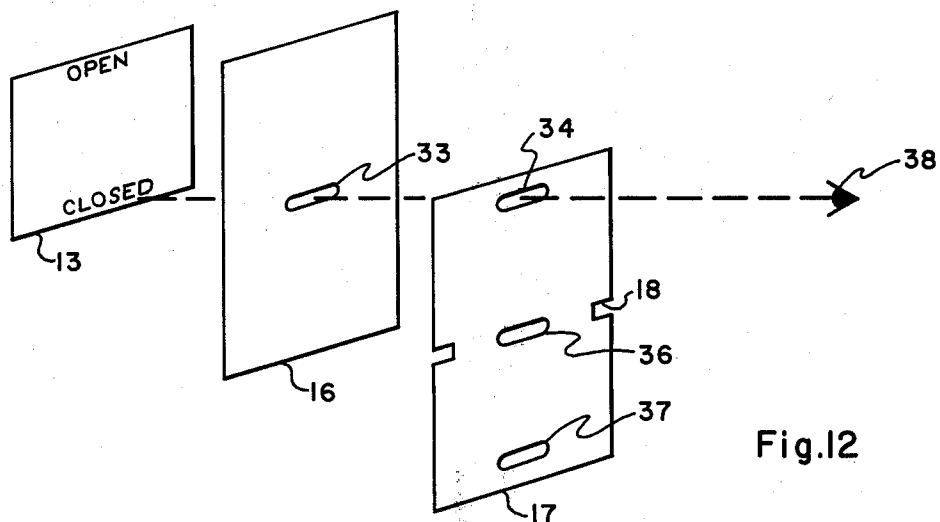
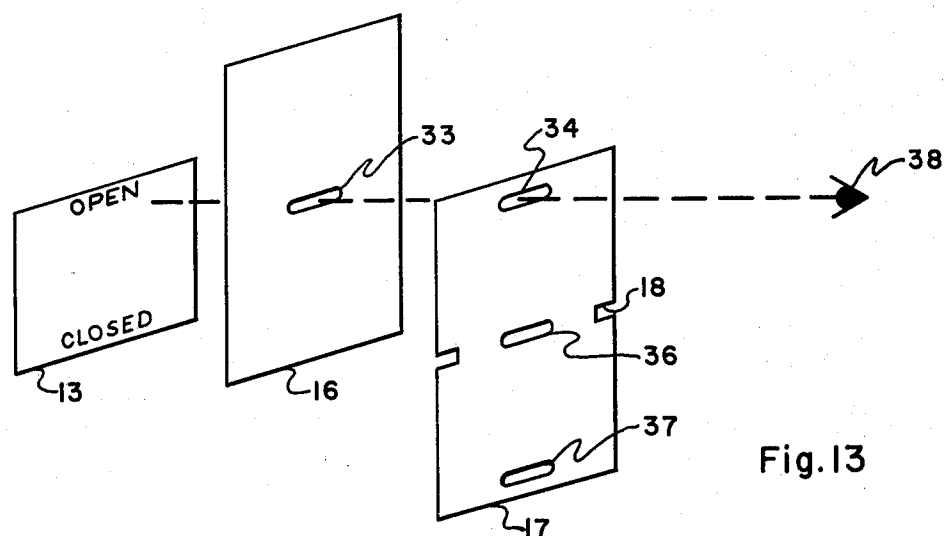


Fig. 10



VERTICALLY MOVEABLE MULTI PANEL SIGN

My invention relates to multi panel sliding signs and has particular reference to such a sign wherein the panels move up and down with respect to each other as contrasted to the usual horizontal movement.

My signs are particularly adapted for use on store fronts or on other business establishments having glass windows that can be viewed by the public. Such businesses frequently desire to advise prospects and customers when they are open by having a sign stating OPEN and when they are closed by having a sign stating CLOSED. While cardboard signs are available having these two words on opposite sides, these lack class and in addition confuse customers inside the building who view the rear of the same sign which gives just the opposite word from that intended. For these and other reasons businesses like to use sliding signs on the inside of the window facing the street.

The common sliding sign is horizontally oriented with a panel that says OPEN on one end and CLOSED on the other end, and a sliding panel covers the word not wanted. While such signs are generally satisfactory for some establishments, others wish to display more and different messages and generally like to use as much of the "front" window as is available. The horizontally sliding sign is generally limited in vertical dimension and does not use up much of the window. A vertically moveable sign, however, can be as wide as the horizontal sign and extends over a great vertical dimension and therefore makes better use of the available window area. My vertically sliding sign meets this need.

I have devised a multi panel sign so constructed that one panel is stationary and the frame of the sign moves to display different messages. I make the front panel of a group of panels of smaller vertical dimension than a rearward panel. I secure this front panel to the inside of a glass store front window by suction cups and this front panel thereby supports the rest of the sign. A suitable permanent message is placed on the front of this front panel. A rearward panel of greater vertical dimension may have a suitable message such as OPEN on the top and CLOSED on the bottom. This rearward panel is held above the front panel, to display OPEN, by a detent mechanism that is manually operated by grasping the sign frame and physically moving it up. When it is desired to display CLOSED, the operator physically pulls the frame downwardly, overcoming the detent, and gravity holds the frame in the down position to display CLOSED.

I have devised a telltale so that the merchant or other sign owner can visually determine which message is being displayed on the front of the sign by viewing the rear. This I do by marking indicia OPEN and CLOSED on the rear of the panel in front of the OPEN-CLOSED panel. These indicia are vertically spread by the amount of movement of the OPEN-CLOSED panel and suitable arrows or other telltales point to the correct indicia. I prefer at present to aperture the OPEN-CLOSED panel to view the correct indicia through this aperture.

I have devised a rear panel that may be extended above and below the sign frame so that additional messages can be viewed. I prefer to extend this rear panel by making it a readily bendable "pop out" panel to release it from the grooves in which it is normally kept. The panel is provided with an interlock with the frame to hold it above or below the frame. I prefer at present

a simple notch on the panel engaging end caps on the frame. This rear panel may also be suitably apertured to permit the viewing of the telltale indicia.

Various objects, advantages and features of the invention will be apparent in the following description and claims considered together with the drawings forming an integral part of this specification in which:

FIG. 1 is a three-dimensional elevation view of a sign embodying the invention as fastened to the inside of a glass window forming the front of a business establishment.

FIG. 2 is an exploded view of the sign of FIG. 1 showing the parts in spaced three-dimensional configuration.

FIG. 3 is a fragmentary three-dimensional view of the interlocking of the rear sign panel with the frame top to have that panel project above the sign frame.

FIG. 4 is a fragmentary three-dimensional view of the same rear sign panel interlocked with the bottom end cap of the frame to dispose a sign message below the frame.

FIG. 5 is a sectional view on an enlarged scale along the line V—V of FIG. 2.

FIG. 6 is a fragmentary sectional view along the line VI—VI of FIG. 2.

FIG. 7 is a three-dimensional view of the mounting portion of the vacuum cup of FIG. 5.

FIG. 8 is a three-dimensional view showing the construction of the socket of FIG. 5 forming one part of a detent.

FIG. 9 is a schematic view of various panel positions of the sign of FIG. 1 as viewed from the front.

FIG. 10 is the rear view of the same panel positions as illustrated in FIG. 9 and showing the telltale apertures through which the notations OPEN and CLOSED appear.

FIG. 11 is an exploded view from the rear of the three panels of the sign of FIG. 1 showing alignment to read the notation OPEN.

FIG. 12 is an exploded three-dimensional view of the three panels of the sign of FIG. 1 wherein the notation CLOSED is viewed.

FIG. 13 is an exploded three-dimensional view of the three panels of the sign of FIG. 1 showing a different alignment of the apertures for viewing the notation OPEN.

Referring to FIG. 1, a sign 10 embodying the invention is held to the interior of a plate of glass 11 by means of suction cups 12. This same sign is illustrated in an exploded view in FIG. 2 and there it will be noted in the left-hand part of the figure that the suction cups 12 are disposed on a forward sign panel 13 which has a relatively permanent message to give, such as the hours the store is opened, for example 9:00 until 5:00. In the center part of FIG. 2 is illustrated the frame for the sign 10 which includes two grooved outer members 14, which may be identical which, are held in space relationship to each other by means of a center panel 16 held by an adhesive in one of the three grooves of the outer frame members 14. While a separate mechanical member could be used to space the slot members 14, one of the display panels, such as panel 16, is a handy and inexpensive way to secure these two outer members 14 in spaced relationship.

In the right-hand part of FIG. 2 is the rear sign panel of the sign designated by numeral 17 and there it will

be noted that this panel has notches 18 formed in each side thereof at about the mid-section line.

Also illustrated in FIG. 2 are end caps 19 which are disposed at each end of the two frame members 14. These end caps 19 not only limit the amount of movement of the frame 14-16 with respect to the stationary panel 13, but also act as part of the interlock for extending the rear panel 17 upwardly or allowing it to be disposed below the sign frame 16-14.

Illustrated in FIG. 3 is the interlock for holding the rear panel 17 above the top of the frame. The rear panel 17 is formed of flexible material so that it may be bent into a cylindrical shape about a vertical axis so that it can be removed from the rear groove of the frame members 14 and thereupon reinserted in the grooves by the same bending or pop out operation, but this time the notches 18 are disposed at the top end cap 19 whereupon the top half of the panel 17 is visible.

The same notch and cap arrangement is illustrated in FIG. 4 for allowing the lower half of the rear panel 17 to be displayed below the frame 14-16. In this event, also, the rear panel is bent about a vertical axis to pop it out of the rear grooves of the frames 14 and it is reinserted with the notch 18 engaging the lower end caps 19 on the frame members 14.

Referring to FIG. 6, there is illustrated the grooves in the side frame members 14. In that view it will be noted that the front panel 13 is slidingly held in a groove 21, the center or frame panel 16 is tightly held in a groove 22 and preferably held there by an adhesive, and the rear panel 17 is slidingly held in a groove 23. The frame members 14 may be of any suitable construction, such as extruded plastic or metal.

Referring to FIGS. 5, 7 and 8, there is illustrated the construction for holding the suction cups 12 in the front panel 13. The suction cups have a stem which has a reduced circumferential portion 24 which passes through an aperture 26 in the panel 13. Projecting on the right side of the panel 13 as viewed in FIG. 5 is an enlarged, rounded head 27 of the stem of the suction cup 12. This rounded head 27 acts as one member of a detent pair, the other of which is a socket 28 in the form of a shallow volcano having tubular stem 29 which passes through an aperture 31 in the panel 16 and held therein by radially outwardly projecting lips 32 on the tubular stem. The apertures in the two panels 13 and 16 are preferably the same size to reduce machine tooling and are preferably round. Both the suction cup 12 and the socket 28 are formed of resilient material, such as rubber, and the rounded head 27 makes an interference fit with the socket 28 forcing the panel 13 to the left in FIG. 5 against the left edge of its groove 21. This interference fit is so designed, however, that a mechanical pull by the operator will disengage the two detent members 27 and 28, but the detent has at all operative times enough strength to hold the entire weight of the sign.

It will be noted with respect to FIG. 2 that there are only two sockets at 28 on the center panel 16 and these work as detents when the sign is displaying the notation OPEN, at which point the sockets 28 engage the rear of the top two suction cups 12 on the panel 13. The socket 28 also acts as detents when the CLOSED message is displayed and in this position of the frame 14-16, they engage the bottom two suction cups 12. Additionally, the top end caps 19 may restrain the downward movement of the frame with respect to this

stationary panel 13. The CLOSED message is selected for display in the down position of the frame 14-16 in case of accidental jarring loose of the detents 27-28, because it is better customer relations to show CLOSED, for example, over a weekend.

Referring now to FIG. 9, there is illustrated the various positions of the three panel sign of FIG. 2 and the various positions are denominated A through F for both FIG. 9 and FIG. 10. In FIG. 9A there is illustrated the position of the sign shown in FIG. 1. In FIG. 9B the operator has manually pulled downwardly on the outer frame members 14 to release the detent 27-28 (FIG. 5) allowing the top end caps 19 to rest against the stationary panel 13 in conjunction with the lower detents. In FIG. 9C the rear most panel 17 has been popped out of its normal groove 23 and reinserted at the notch as shown in FIG. 3 to display a clock message. In FIG. 9D the rear panel 17 is still extended above the sign frame to display the clock message, but in this case the frame itself has been moved downwardly to display CLOSED on panel 16. In FIG. 9E the OPEN sign is displayed as in FIG. 9A, but in this case the rear panel 17 has been popped to align it below the sign frame as shown in FIG. 4 whereupon any selected holiday special message is displayed. In FIG. 9F the same holiday message is displayed, but in this case the CLOSED sign is displayed also.

Referring now to FIG. 10, the same relative positions of the signs are shown as in FIG. 9, but in this case the view is from the rear of the sign, that is the view which the merchant will have or departing customers will have. Any suitable message to the customer may be placed on the rear of the rear panel 17, such as "Thank you, come again". This will be the only message shown in large letters on the rear of the positions 10A and 10B. However, in position 10C where the clock is exposed then the bottom part of the center panel 16 will be exposed and this panel can have the notation "clock is exposed" to advise the merchant that on the front of the sign the clock message is being exposed to the public as shown in FIG. 9C. In FIG. 10D the same notation regarding the clock appears in large letters, but in FIG. 10E the notation will appear on the top of the center panel 16 to the effect that the special message is exposed to the public. This same special message notation will appear also in FIG. 10F because of the message as shown in FIG. 9F.

Illustrated in FIGS. 11, 12 and 13 is the arrangement of apertures or sighting holes which form a telltale for noting whether the OPEN or the CLOSED sign is being displayed. These figures show the three panels from the rear. It will be noted that the panel 13 has written at the top OPEN and written at the bottom CLOSED. This notation of OPEN is viewed in FIG. 11 by an observer 38 who sights through a central aperture 33 in the center panel 16 to view this notation OPEN. In FIG. 12 the observer 38 looks through an aperture 34 in the top part of the rear panel 17 and through this same center aperture 33 of 16 to view CLOSED on the rear of panel 13. In FIG. 13, however, the center panel 16 has now been moved upwardly but the rear panel 17 projects below the sign frame and here the observer 38 sights through holes 34 and 33 to view the OPEN notation. When the rear panel 17 is projected above the top of the frame, then the observer 38 will look through a bottom aperture 37 in the panel 17 to view either the OPEN or the CLOSED notation. The alignment of sign

panels in FIG. 11 corresponds with FIG. 10A. The alignment of the panels in FIG. 12 corresponds with FIG. 10F. The alignment of panels in FIG. 13 corresponds with FIG. 10E. The apertures 33, 34, 36 and 37, accordingly, act as telltales to indicate when the sign is displaying OPEN or displaying CLOSED.

It will be appreciated by those skilled in the art that various modifications and variations may be made in the sign disclosed. The disclosure is a presently preferred type of sign as is required by the patent rules and various other modifications are possible. For example, various numbers of panels can be placed together on one sign frame to achieve different signs depending upon the relative movement. All that is required is a difference in vertical dimension between signs that move within the limits of the end caps 19.

With respect to FIGS. 11, 12 and 13, it will be appreciated that if the top and bottom of the panel 17 are cut off at the apertures 34 and 37, then these apertures are not necessary and the OPEN and CLOSED notations can be viewed through the central aperture 33 in the panel 16. As shown in FIGS. 1 and 9 the apertures 33 and 36 are not visible from the front as the sign is viewed.

Various detent structures are possible and the one illustrated in FIG. 5 makes use of presently existing structure for the suction cups 12.

As used in the application the words "vertically moveable" refer to downward motion as well as upward motion. The particular detent mechanism illustrated permits the vacuum cups to serve the double purpose of a detent as well as a means for fastening the front panel to a glass window. The stem of the suction cup or vacuum cup 12 could engage any suitable detent recess including a plain hole in the adjoining panel 16, but this would mar the panel by rubbing against it and hence it is desirable to have the insert aperture 28 illustrated in FIG. 5. Any suitable mechanical arresting means to hold the frame upwardly on the front panel 13 would serve as a substitute for the detent illustrated. Multi detents could be used to obtain different amounts of projection of one sign over the other or different amounts of lowering of a rear panel with respect to the front panel. The materials of construction of the panels can be of any suitable sheet material including pressed wood fibers, metal or plastic.

OPERATION

As shown in FIG. 1 the suction cups 12 on the front panel 13 are pressed against the inside of a business front window and these suction cups carry the entire weight of the sign as well as holding this front panel 13 stationary.

Referring next to FIG. 5, the suction cups 12 have a projecting button 27 engaging a socket 28 in the adjoining panel 16 to hold the entire sign in the upward position illustrated in FIG. 1 to display the OPEN message at the top of the second panel. When it is desired to display the CLOSED sign at the bottom of the second panel 16, the operator mechanically grasps the frame members 14 on each side of the sign and mechanically pulls downwardly on the frame disconnecting the detent of FIG. 5 so that the frame will drop downwardly. The frame will continue to drop downwardly until the top edge of the front panel 13 contacts the end caps 19 at the top of the frame members 14. Thereupon the bottom part of the second panel 16 will

be visible below the front panel 13 to display the message CLOSED. The detents act also in this position.

As shown in FIG. 6 it is not necessary that all the panels be slidable within the side frame members 14 inasmuch as one of them, panel 16, is secured to the side frame members.

The most rearward panel 17 is of the pop-off type in that it can be mechanically bent about a vertical axis so that its edges clear the grooves 23 in which it is located. Thereupon the panel may be raised or lowered with respect to the frame 14 by having the notches 18 engage the top or bottom end caps 19 as shown in FIGS. 3 and 4 respectively. This projection of the back panel above the sign frame is shown in FIG. 9, positions C and D. The projection of this rear panel below the sign frame is shown in FIG. 9, positions E and F.

A person inside of the business establishment can look at the rear of the sign to determine whether the OPEN or CLOSED message is being displayed. This is illustrated in FIGS. 11, 12 and 13 wherein the second panel 16 has a viewing hole 33 through which a person can look to observe either the OPEN notation as in FIG. 11 or the CLOSED notation as in FIG. 12. The rear panel 17 does not interfere with this visual telltale because of the openings 34, 36 and 37 through which the viewer can look to observe the OPEN and CLOSED notations. Similarly as shown in FIG. 10, the rear part of the second panel 16 may contain suitable notations such as those illustrated in FIG. 10, positions C and D, wherein the notation is made "clock is exposed". The top part of this same panel 16 may carry the notation there illustrated, namely "special message is exposed". These refer respectively to the clock shown in FIG. 9, positions C and D and to the holiday special message shown in FIG. 9, positions E and F.

While I have described my sign with respect to the presently preferred embodiment thereof as required by the rules, I do not limit myself to that particular embodiment but include within the scope the following claims, all variations and modifications that come within the true spirit and scope of the invention.

I claim:

1. A multi panel sign wherein the panels move vertically relative to each other comprising:
 - a. a plurality of sign panles, at least one having two opposite edges approximately parallel;
 - b. a frame having edge members slidably engaging the opposite parallel edges of at least said one of the panels;
 - c. means for securing to a support at least one of the panels that are slideable within the frame;
 - d. a detent disposed between said one panel having the means of securing, and an adjacent panel;
 whereby the panel secured to the support remains stationary and the frame slides with respect thereto to dispose portions of other panels above or below said one panel, said detent yieldingly and selectively holding another panel in a position above said one panel.
2. A sign as set forth in claim 1 wherein another of the panels is a pop out panel having means for engaging the frame, whereby at least part of the pop out panel may be extended selectively above or below the frame.
3. A sign as set forth in claim 1 wherein the means of securing to a support said one panel includes at least one suction cup so that the sign may be removeably secured to a window for viewing.

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4. A sign as set forth in claim 1 wherein the means for securing said one panel includes at least one suction cup, the suction cup has a stem projecting through the panel, and the panel adjacent has a socket in which the stem yielding fits to form the detent.

5. A sign as set forth in claim 1 wherein said panel having means for securing to a support is of lesser vertical dimension than the frame.

6. A sign as set forth in claim 1 wherein each panel has front and rear surfaces, a rearwardly disposed panel has a greater vertical dimension than a forwardly disposed adjacent panel, and the rear of a forward panel has indicia thereon indicating the sign being displayed on the front of a rearward panel, and said rearward panel has a telltale indicating by its position the appropriate indicia for the sign being displayed.

7. A sign as set forth in claim 1 wherein stops limit the downward sliding of the frame with respect to said one panel having means for securing to a support.

8. A sign as set forth in claim 1 wherein the edge members of the frame have end caps, another of the

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panels is a pop out panel, and the pop out panel has notches to engage the end caps to hold part of the pop out panel above or below the frame.

9. A multi panel sign wherein the panels move vertically with respect to each other comprising:

a. a front sign panel;

a rear sign panel of greater vertical dimension than the front sign panel;

c. means for guiding the panels in relative vertical movement;

d. means for securing the front panel to a support other than the rear sign panel;

e. and a mechanical arresting mechanism for selectively holding at least part of the rear panel above the top of the front panel;

whereby sign messages may be disposed on the top and bottom of the rear panel to expose one message and cover the other by relative vertical movement between the panels.

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