Aug. 12, 1958 L. R. BOYD 2,846,797

CHANGEABLE DISPLAY DEVICE

Filed March 16, 1956 2 Sheets-Sheet 1

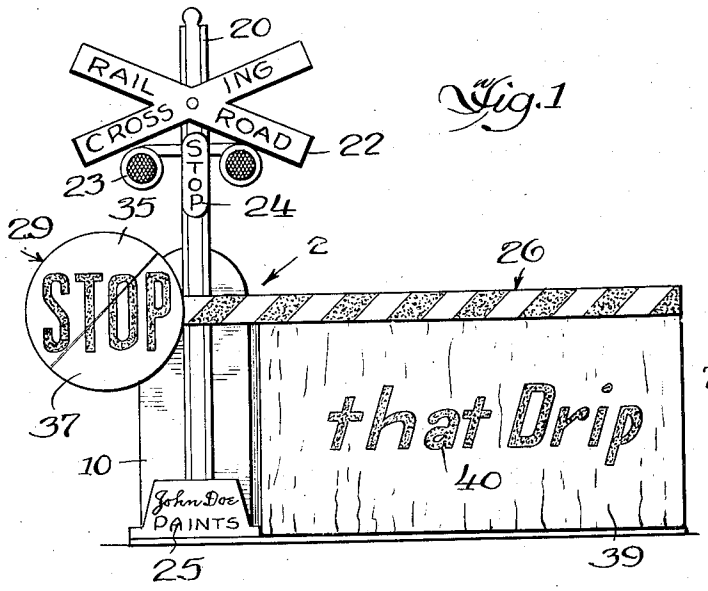


Fig. 1

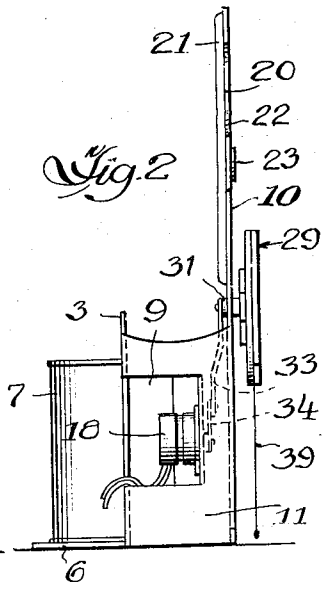


Fig. 2

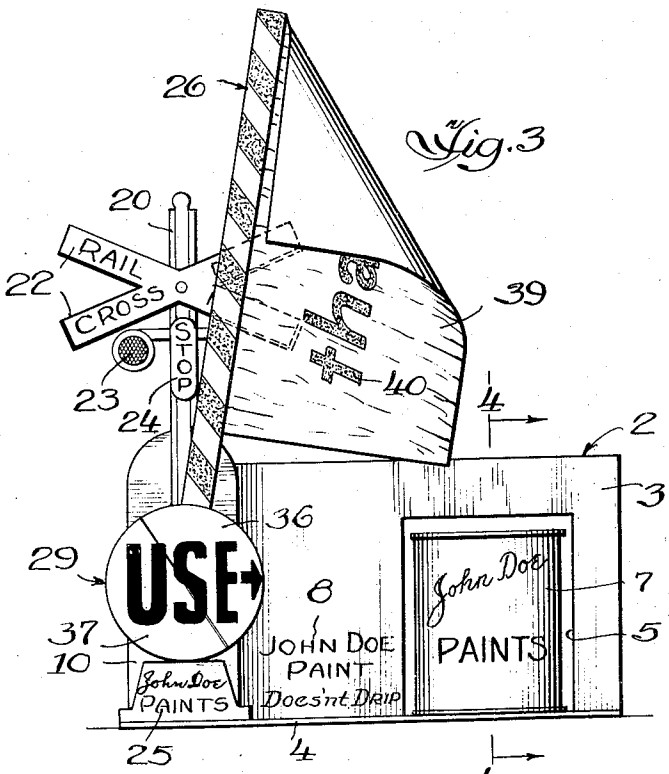


Fig. 3

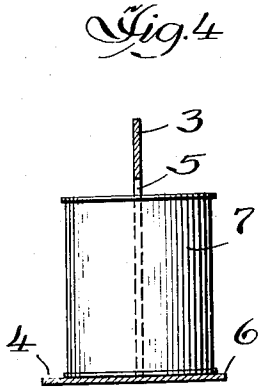


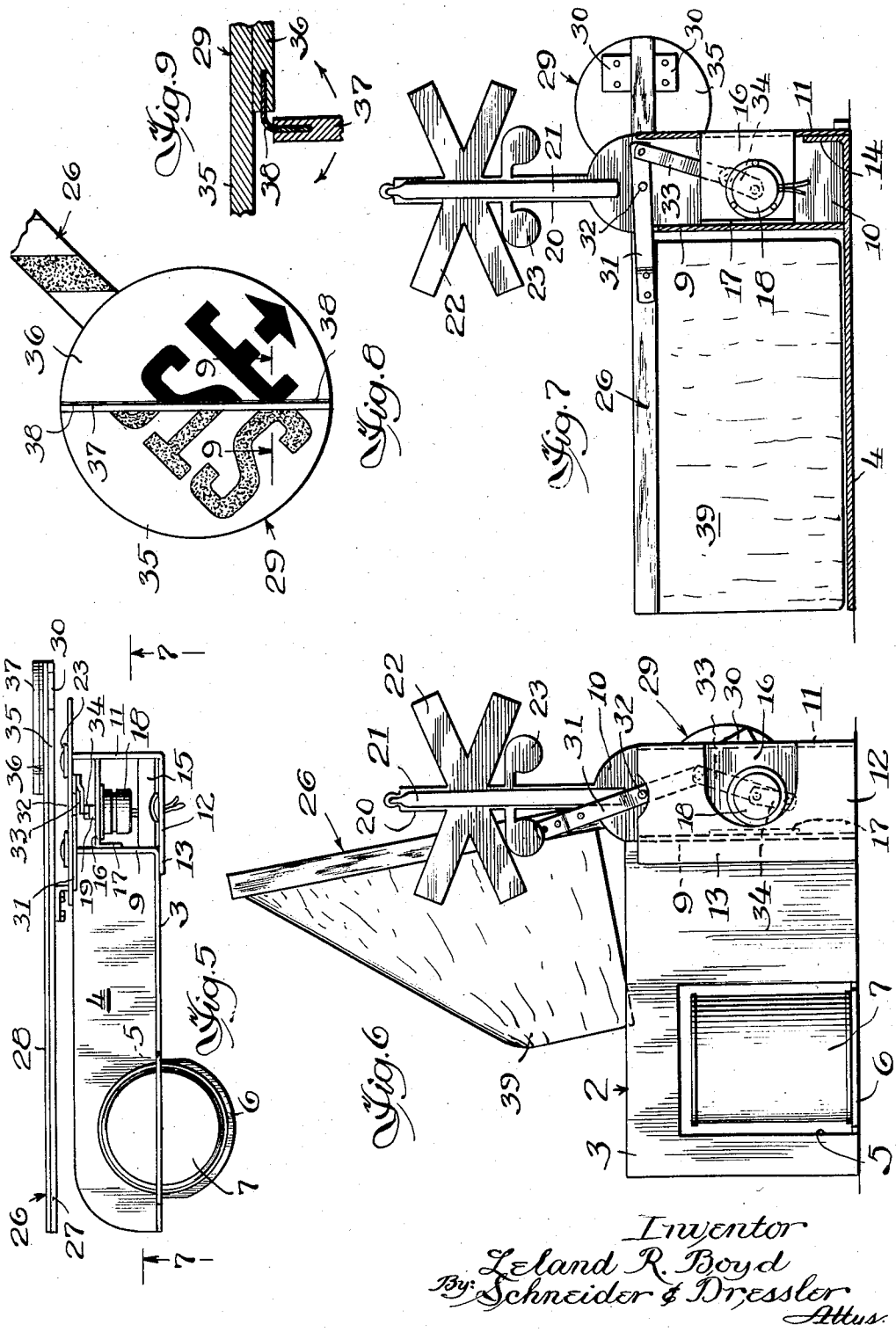
Fig. 4

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CHANGEABLE DISPLAY DEVICE

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CHANGEABLE DISPLAY DEVICE

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Application March 16, 1956, Serial No. 572,107

6 Claims. (Cl. 40—30)

This invention relates to a changeable display device adapted to change constantly between two positions, in each of which a different part of an advertising message is displayed.

The device comprises a movable flag or curtain that is alternately lowered to conceal the product and raised to reveal the product. The movement of the curtain is coordinated with a changeable sign adapted to present one message when the curtain is in one position, and to present a different message when the curtain is in its other position.

The curtain and changeable sign are both mounted on a pivoted cross arm on opposite sides of its pivot so that as the curtain moves into down position, in which it conceals the advertised product, the movable sign displays a message, or a part of a message that is continued on the exposed surface of the curtain, calling attention to some undesirable condition. In the drawings the changeable sign displays the word "Stop" and the curtain displays the words "That Drip." When the curtain moves up to display the advertised product the folds conceal the words "That Drip" and the changeable sign has been changed to display the word "Use." The inference is that the displayed product, in the cited example a can of paint, should be used to avoid dripping.

The changeable sign comprises a laminated disc, with half the forward lamination cut diagonally and hinged along the cut line. One section, comprising one half of the forward lamination, is adhered to the rear lamination, and the other section is hinged to move from one side to the other. The hinge line extends at an angle of 45° to the horizontal when the cross bar is in its horizontal position. When the cross bar moves 45° upwardly the hinge of the changeable sign is vertical. A slight movement of the changeable sign beyond this point will cause the hinged section of the front lamination to move from one position to the other.

An electric motor is provided to rotate a crank arm, and a link secured at one end to the crank arm is secured at its other end to a pivoted lever. The opposite end of the pivoted lever is secured to the rear side of the cross arm upon which the curtain and changeable sign are secured. As long as the motor continues to operate the cross arm will oscillate, and the flag will constantly cover and then uncover the advertised product. At the same time the laminated disc will move between one position to display the word "Stop" and a second position to display the word "Use."

It will be obvious that the display device may be used for other products and that the wording on the changeable sign and on the curtain may be designed to fit the particular product advertised.

The structure by which the above and other advantages of the invention are attained will be described in the following specification, taken in conjunction with the accompanying drawings showing a preferred illustrative embodiment of the invention, in which:

Figure 1 is a front elevational view of a display device

embodying the invention, showing the curtain in its lower position;

Fig. 2 is a side elevational view of the device shown in Fig. 1;

Fig. 3 is a front elevational view of the device with the curtain raised to show the advertised product;

Fig. 4 is a cross sectional view, taken along the line 4—4 of Fig. 3;

Fig. 5 is a top plan view of the display device;

Fig. 6 is a rear elevational view, showing the curtain in its raised position;

Fig. 7 is a cross sectional view, taken along the line 7—7 of Fig. 5;

Fig. 8 is a front elevational view of the changeable sign with the hinged section extending forwardly at right angles to the rest of the disc; and

Fig. 9 is a cross sectional view, taken along the line 9—9 of Fig. 8.

In the drawings, the reference numeral 2 indicates an upstanding support member which is preferably cardboard, but may be made of any suitable material. The support member comprises an upstanding back panel 3 and a base flange 4 extending forwardly from the bottom of panel 3 at right angles thereto. Panel 3 is provided with a cut-out 5, and a flap 6 formed from the lower portion of the cardboard within the cut-out area is folded rearwardly at right angles to lie in the plane of flange 4. Flap 6 cooperates with flange 4 to provide a base upon which an article, such as a can of paint 7, may stand. The display article is framed in cut-out 5 and approximately half of it projects forwardly of panel 3. The cut-out is preferably dimensioned to fit around the displayed article with sufficent clearance to facilitate insertion or removal of the displayed article and to enhance the appearance of the displayed article. Panel 3 preferably has a suitable legend 8 printed on its front surface adjacent the cut-out.

The cardboard is folded forwardly at one end of panel 3 to form a partition wall 9, outwardly to form a front wall 10, rearwardly to form an end wall 11, and inwardly to form a back wall 12 having a flap 13 overlapping the adjacent edge of panel 3. Partition wall 9 and end wall 11 are parallel and extend at right angles to panel 3 and walls 10 and 12 which are parallel to each other. Base flange 4 extends forwardly from panel 3 a distance equal to the width of walls 9 and 11. If base flange 4 has sufficient depth, cut-out 5 may be omitted, and can 7 may be displayed forwardly of panel 3. One end of flange 4 is bent upwardly to provide a flap 14 engaging the inner surface of end wall 11. Flaps 13 and 14 are secured to panel 3 and end wall 11 in any suitable manner to provide stability for support member 2. The upper edge of back wall 2 is also provided with an integral flap 15 which is folded forwardly and downwardly between walls 9 and 11 to provide additional stability.

A section of back wall 12 and end wall 11 is cut away along three sides to form a vertically hinged panel 16 folded in spaced relationship to the rear surface of front wall 10 and having a flap 17 secured to partition wall 9 in any suitable manner. An electric motor 18 is suitably mounted on panel 16. Panel 16 is apertured to permit the output shaft 19 of motor 18 to project therethrough.

Front wall 10 is shaped to emphasize a particular message. In the example shown in the drawings, the front wall is provided with an upstanding projection 20. A reinforcing strip 21 of wood, or other suitable material, is secured to the rear surface of projection 20. A pair of cross arms 22, suitably lettered, light reflector buttons 23, and a "Stop" warning 24 are applied to the front of projection 20 to make it simulate a railroad crossing marker. The lower front portion of front wall 10 carries an advertising message 25.

The appearance of a railroad crossing is heightened by a cross bar **26** comprising a strip of wood **27** with its front surface covered by a strip **28** of paper or paperboard decorated with wide stripes of black and white in the manner of a regular railroad crossing gate. A circular sign **29** at one end of cross bar **26** simulates the appearance of a weight on the short arm of the crossing gate when the cross bar **26** is moved pivotally in the manner hereinafter described. Preferably strip **28** is made of paperboard and circular sign **29** is integral therewith. Wood strip **27** extends across the back of sign **29** to provide reinforcement therefor, and has two metal plates **30** secured to the back of sign **29** adjacent opposite edges of said wood strip to provide extra weight for the short end of cross bar **26**.

A lever **31**, pivoted intermediate its ends to the rear of front wall **10**, as indicated at **32**, has one end rigidly secured to cross arm **26** and the other end pivoted to a link **33**. The other end of link **33** is pivotally secured to one end of a crank arm **34** mounted on the output shaft of motor **18** and rotatable therewith. Lever **31**, link **33** and crank arm **34** are so related that lever **31**, and cross bar **26** to which lever **31** is rigidly secured, are substantially horizontal when link **33** and crank arm **34** are extended in a straight line from the output shaft of motor **18** to the pivotal joint between lever **31** and link **33**, as shown in Fig. 7. When crank arm **34** is in its diametrically opposite position, lever **31** and cross bar **26** are at their upper limit of travel. Accordingly, cross bar **26** will be moved between the lower position of Fig. 7 and the upper position of Fig. 6 as the crank arm **34** is rotated continuously by motor **18**.

Circular sign **29** comprises a circular disc **35** which is preferably integral with strip **28**, and a pair of complementary disc sections **36** and **37** each comprising half a disc having arcuate edges coinciding with the peripheral edge of disk **35**. Disc section **36** is rigidly secured to the front surface of disc **35** and is so arranged that its straight edge is inclined approximately 45° to the horizontal when cross bar **26** is in its horizontal position. If desired, disc section **36** may be integral with disc **35**. Disc section **37** is hinged along its straight edge to the straight edge of disc section **36**, as indicated at **38**, so that disc section **37** may lie flat against either disc **35** or disc section **36**. The arcuate edge of disc section **37** coincides with the peripheral edge of disc **35** regardless of which way disc section **37** is swung.

Hinge **38** is inclined at an angle of approximately 45° to cross bar **26**, so that when the cross bar is at an angle of 45° the hinge is vertical. If the cross bar is moved upwardly past the 45° position indicated in Fig. 8, the disc section **37** will swing downwardly by gravity to cover half the surface of disc **35**. The other half of the surface of disc **35** is covered by disc section **36**. When cross bar **26** is moved downwardly past said 45° position, disc section **37** will swing downwardly by gravity to cover the exposed surface of disc section **36**. From the foregoing it will be obvious that when cross bar **26** is horizontal, the front surface of half of disc **35** cooperates with the exposed surface of disc section **37** to present a certain message, such as the word "Stop," half of which is lettered on disc **35**, and half of which is lettered on one surface of disc section **37**.

The opposite surface of disc section **37** cooperates with the exposed surface of disc section **36** to present the word "Use." The lettering for the word "Use" extends at right angles to the lettering for the word "Stop" so that whichever word is exposed it will appear in a horizontal line. When the word stop is exposed, cross bar **26** extends horizontally and a flag or curtain **39**, which depends from the cross arm **26**, conceals the can **7** of paint or other merchandise. A message complementary to the word "Stop" such as "That Drip" is lettered on the front of curtain **39**, as indicated at **40**, so that the complete message striking the attention of the viewer

is "Stop That Drip." When the curtain is raised the sign **29** displays the word "Use" and the legend **8** is also visible, along with the advertised merchandise.

As motor **18** oscillates cross bar **26** through the arc from its lower horizontal position to its upper position the display alternately exposes the message "Stop That Drip" and "Use John Doe Paint Doesn't Drip." The sign **29** changes by gravity from "Stop" to "Use," and when the word "Use" is exposed the can **7** is also exposed. The continuous changing of sign **29** in coordination with the changing of position of the moving members **26** and **39**, together with the change of context between the "Stop" and "Use" expressions, creates considerable interest in the display, and effectively presents the advertising message to the viewing public.

It will be obvious that the specific wording of legends **8** and **40**, as well as the specific wording of changeable sign **29**, may be changed to appropriate language for advertising different products. For example, sign **29** may alternately display the words "Stop" and "Go" to advertise a particular store. If the merchandise is cough medicine, the curtain may contain the legend "That Cough" so that in the horizontal position of the cross bar the complete message would read "Stop That Cough." In the up position of the cross bar the message could read "Go to Smith's Drug Store for 'Coughskill'."

While I have described a preferred embodiment of my invention in detail, it will be understood that the description thereof is illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of my invention. Accordingly, I do not desired to be restricted to the exact construction described.

I claim:

1. A changeable display device comprising a support member adapted to support an article to be displayed, said support member including an upright front wall, a cross bar pivotally secured adjacent one end to said front wall, a changeable sign at said one end of said cross bar, and means for oscillating said cross bar, said sign having means incorporated therein for changing the legend exposed thereon in coordination with the change of position of said cross bar.

2. A changeable display device comprising a support member adapted to hold an article to be displayed, said support member including an upright front wall, a cross bar pivotally secured to said front wall, a changeable sign at one end of said cross bar, a curtain depending from said cross bar, and means for oscillating said cross bar, said curtain being adapted to alternately conceal and expose an article held by said support member, said sign having a section movable to change the legend exposed thereon in coordination with the exposure or concealment of said article.

3. A changeable display device comprising a support member adapted to hold an article to be displayed, said support member including an upright front wall, a cross bar pivoted intermediate its length to said front wall, a changeable sign secured to said cross bar on one side of said pivot, a curtain secured to said cross bar on the opposite side of said pivot, and an electric motor mounted on said support member for oscillating said cross bar, said curtain being adapted to alternately conceal and expose an article held by said support member, said sign including a section adapted to change the legend exposed thereon in coordination with the change of position of said cross bar.

4. A changeable display device comprising a support member adapted to hold an article to be displayed, said support member including an upright front wall, a cross bar pivotally secured to said front wall, a curtain and a changeable sign secured to said cross bar, and an electric motor mounted on said support member for oscillating said cross bar, said sign comprising a rigid disc and a disc section hinged thereto, said disc section being mov-

able about its hinge by gravity in accordance with the position of said disc, said disc section cooperating with one portion of said disc in one position thereof to display one legend, and cooperating with another portion of said disc in another position thereof to display a different legend, said curtain being adapted to expose an article held by said support member when said disc is in one position and to conceal it when said disc is in a different position.

5. A display device comprising a paperboard sheet cut and folded to form a set-up support member having an upstanding back panel, a base flange extending forwardly from said panel, and a front wall, said flange being adapted to hold an article to be displayed, said panel being decorated to enhance the appearance of an article supported on said flange, a cross bar pivoted to said front wall, a curtain depending from said cross bar on one side of its pivot, means for oscillating said cross bar to raise and lower said curtain to expose and conceal an article supported on said flange, a disc on said cross bar on the opposite side of its pivot, and a disc section hinged to said disc, said hinge extending angularly with respect to said cross bar, whereby said disc section swings from one portion of said disc to another as said cross bar is oscillated.

6. A display device comprising a paperboard sheet cut and folded to form a set-up support member having an upstanding back panel, a base flange extending forwardly from said panel, and a front wall, said flange being adapted to hold an article to be displayed, said panel being decorated to enhance the appearance of an article supported on said flange, a cross bar pivoted to said front wall, a curtain depending from said cross bar on one side of its pivot, means for oscillating said cross bar to raise and lower said curtain to expose and conceal an article supported on said flange, a disc on said cross bar on the opposite side of its pivot, and a disc section hinged to said disc, said hinge extending at an angle of approximately 45° to the longitudinal center line of said cross bar.

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