Feb. 15, 1944. E. WAGNER ET AL 2,341,964

DISPLAY DEVICE

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Fig. 1.

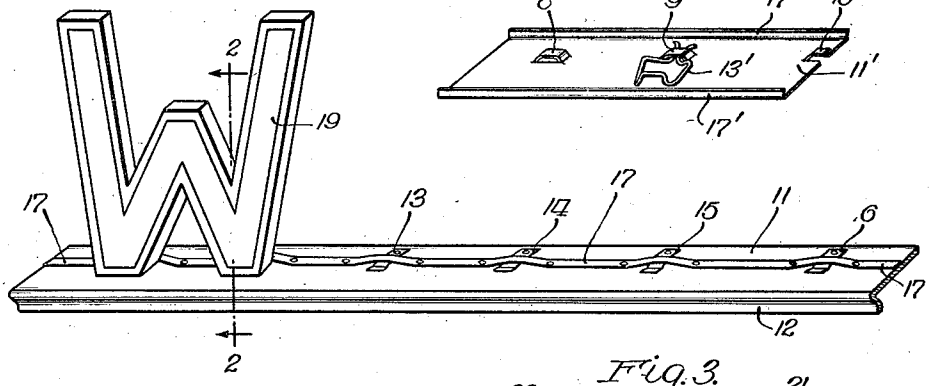


Fig. 1A.

Fig. 2.

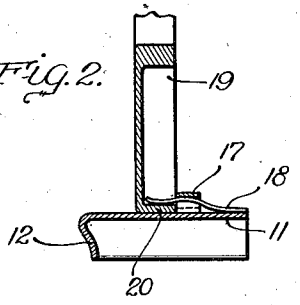


Fig. 3.

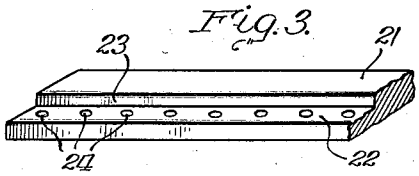


Fig. 4.

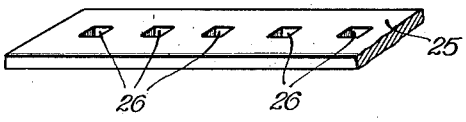


Fig. 5.

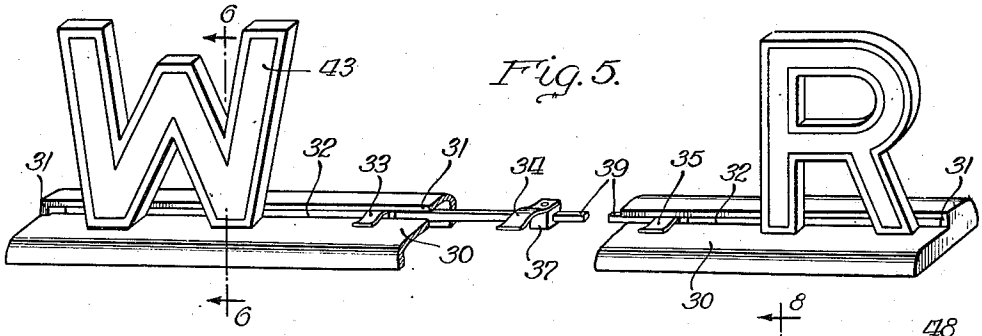
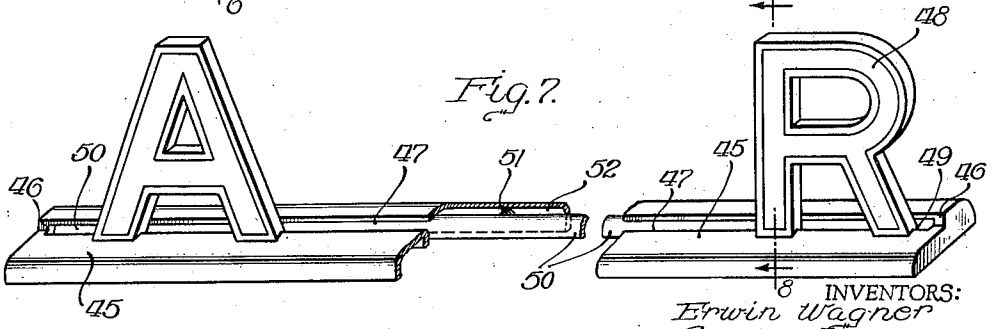


Fig. 7.



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DISPLAY DEVICE

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Fig. 6.

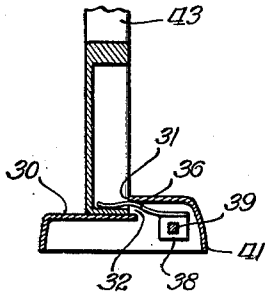


Fig. 8.

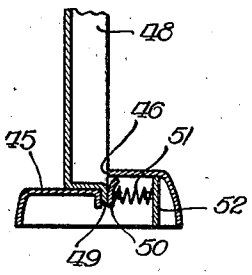


Fig. 9.

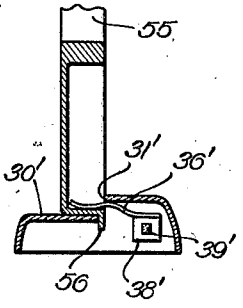


Fig. 10.

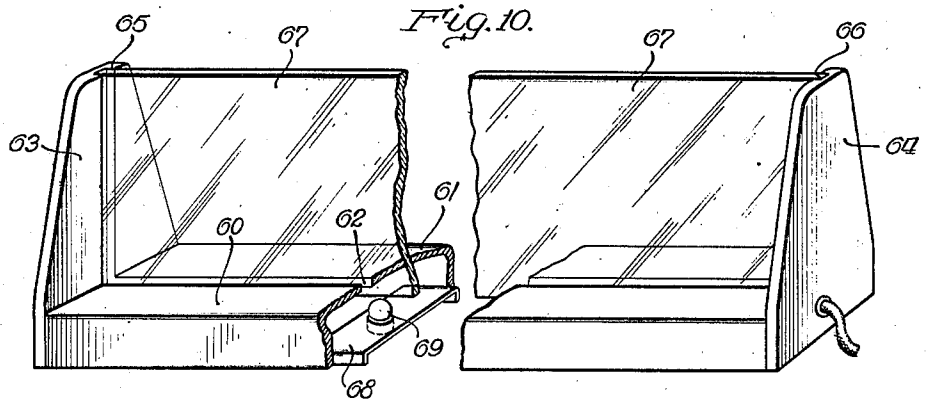


Fig. 11.

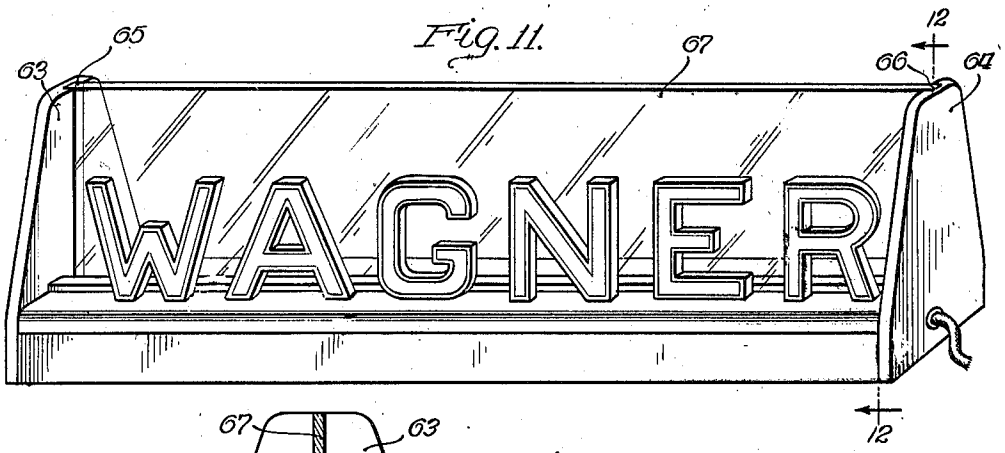
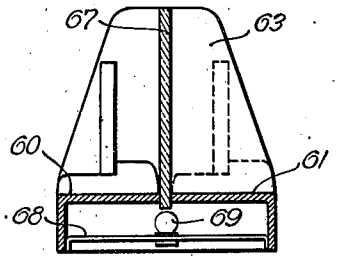


Fig. 12.



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2,341,964

UNITED STATES PATENT OFFICE

2,341,964

DISPLAY DEVICE

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Application September 30, 1941, Serial No. 413,000

20 Claims. (Cl. 40—142)

This invention relates to display signs and display devices, and is particularly concerned with a new device for displaying, either alone or in combination with other objects, letters conveying a desired message.

The invention contemplates a carrier member having an elongated display shelf or display surface for receiving a plurality of letters removably assembled thereon and edgewise projecting therefrom to form the message.

The device thus formed constitutes a sign that may be mounted for display in any suitable manner—horizontally, face up with the letters extending upwardly on a horizontal line, or on a vertical line with the letters extending laterally in an up or down sequence and spelling the message vertically up- or downwardly, or in inverted position, face down with the letters depending therefrom, forming a horizontally suspended message. In short, the new sign may be disposed for display in any desired position—vertically, horizontally, or at an angle.

The new sign may be used alone, as outlined, or in combination with a new display stand or display device comprising a plurality of display shelves separated by an illuminated panel. The message carrying sign may be placed either in front of the panel which then forms a background therefor, or it may be placed in back of the panel to be visible therethrough, and the free shelf of the display stand may in either case be used for receiving articles for display in conjunction with the sign message.

The term "letters" or equivalent language, as used herein, is intended to include letters, characters, numerals, figures, or suitable symbols or combinations designed to convey, alone or in combination with other sign elements, an informatory or a descriptive message. The letters may be of the general type disclosed in U. S. Patent No. 2,048,040 or in U. S. Patent No. 2,038,978.

The invention will now be described in detail with reference to the accompanying drawings, wherein

Fig. 1 shows a simple embodiment of the new sign, with one letter mounted thereon;

Fig. 1A illustrates a modification;

Fig. 2 is a section through the sign and letter along lines 2—2 in Fig. 1;

Figs. 3 and 4 show embodiments of different bases for the sign;

Fig. 5 shows an embodiment of the new sign with letters mounted thereon, wherein the securing means for holding the letters are lengthwise movable and adjustable;

Fig. 6 illustrates a section through the embodiment shown in Fig. 5;

Fig. 7 shows another embodiment of the sign which is particularly suitable for use with lug type letters;

Fig. 8 is a section along lines 8—8 in Fig. 7;

Fig. 9 is a section similar to the sections shown in Figs. 6 and 8, illustrating how the sign may be made to support either the simple flange type letter or the flanged lug type letter;

Fig. 10 is an embodiment of the new display device or display stand;

Fig. 11 shows the assemblage of the new display device with the new sign carrying letters forming a message; and

Fig. 12 illustrates a diagrammatic section along lines 12—12 of Fig. 11, and shows, in addition, in dotted lines, a different combination of the message-carrying sign with the new display stand.

Like parts are indicated in the various drawings by like reference numerals. Details and elements that may be assumed to be well known will be described or mentioned only to the extent necessary for understanding the invention.

The sign shown in Figs. 1 and 2 comprises a carrier or support forming the elongated display surface 11 and the front wall 12. The ends of the carrier may be closed by suitable plates. If desired, the carrier may be made U-shaped in transverse cross-section having a rear wall angularly extending from the display surface 11 opposite the front wall 12. The carrier body may also be made of suitable molded material, for example, of a phenol condensation product such as Bakelite, "Tenite" or the like, or even of wood, or in short, of any desirable and suitable material. Means, for example, eyelets, openings, clamps or hooks may be provided for attaching the carrier to a support.

A plurality of suitably shaped springs, such as noted at 13, 14, 15, 16 and 18, may be mounted with their rear ends on the display surface 11, as shown. These springs may be suitably attached by screws, by welding or riveting or the like, and may be spaced apart so as to serve as holding or securing means for letters assembled on the carrier. The spacing of these springs should be so that it will not interfere with the proper spacing of the letters forming the message. The total length of the carrier member will depend on the size of the sign that is to be produced or, in other words, on the number and size of letters to

be displayed. The number of springs will depend on the length of the letter carrier or rail as well as on the type of letters to be displayed. In order to explain this point a little more in detail, it should be kept in mind that the letters may be furnished in different sizes and the user may obtain several sets of letters of different sizes. The message to be displayed may be made up of letters of either identical or different size. For example, the capitals may be represented by larger size letters than the remainder of a word or message. The letter is, briefly stated, a sign symbol, and such symbol may also be made so as to represent an ornamental design which differs in size from the size of the other sign elements. Although the letters or symbols in a message may be uniformly spaced from each other, their shape and outline may require non-uniform spaces between the springs holding them in position. Therefore, the number of springs to be used should be chosen and spaced so that there will always be a spring in back of a letter, symbol or other sign element when it is placed on the carrier in juxtaposition with others, no matter what the element may represent or what its size.

A mounting member which may be in the form of a strip or ledge 17 is disposed lengthwise of the display surface. This member is suitably attached by screws, by welding or riveting or the like, and is curved at the places where the various springs are located so as to loop slightly over each spring and to provide a backing or stop for each spring. This strip or mounting means 17 has a dual function: First, it holds the securing springs against detrimental displacement and reinforces the pressure tension thereof; and second, it furnishes a ledge against which the letters are placed so as to form the properly aligned message. The strip 17 holds the letters against transverse and angular displacement; i. e., the letters cannot slip back crosswise of the display surface, and they cannot twist angularly. They are held in lengthwise alignment. The cross-section illustrated in Fig. 2 indicates clearly that the rear edge of the flange of the letter 19 abuts against the front edge of the strip 17 and that the securing spring 18 projects forwardly through the looped section of the strip 17, engaging the bottom flange portion 20 of the letter 19 and holding it in place. Each and every other letter in the message may be mounted in the same way. The securing springs hold the letters down in display position and against longitudinal displacement lengthwise of the display surface.

The letters used in the present invention may be of the general structure noted in the previously mentioned U. S. patents and may be made of any desired material, including transparent or semi-transparent or translucent molded artificial or plastic materials, for example, materials such as that known under the trade name "Tenite" or the like, and may be furnished in any one of a great number of colors. The inclined notches required for mounting the letters in accordance with the previously mentioned Patent No. 2,048,040 may be omitted if desired; that is, the rearwardly extending flanges of a letter used in the present display structures may extend peripherally uninterrupted around the entire outline of the letter. Lug type letters may also be used in the present case, such as shown, for example, in the previously mentioned Patent No. 2,038,978, or the lugs may be omitted if desired.

The structure of the letters may be modified in various ways. The letter may consist, for example, of a body portion which outlines the intended shape, provided with an angular extension or a plurality of extensions or projections simulating flanges. The flanges or extensions taking their place are then in a sense mounting members for the letters. If the letters are made of materials that would not be self-supporting or would be subject to bending or warping, the flanges will reinforce the body of the letter and prevent such or other distortion of its shape.

The modified structure illustrated in Fig. 1A comprises a carrier member having a display surface 11' and the side walls or ledges 17' and 17''. These ledges may be very low, and one of them takes the place of a mounting member or mounting ledge for holding letters assembled on the carrier against transverse and angular displacement in a similar manner as the mounting member 17 described in connection with the structure Figs. 1 and 2. A number of projections such as 8, 9, 10 are punched out from the material of the display surface 11'. Springs 13' are furnished with the sign structure for removable insertion in any one of the loop-like extensions 8, 9, 10. The letters or sign elements are aligned on the display surface with their flanges extending rearwardly from the ledge, for example, ledge 17'. In back of each letter will be a loop such as 8, 9, 10, and a spring 13' is inserted as shown with loop 9, for engagement with the flange of the letter in front thereof to hold it in proper position on the display surface and against displacement lengthwise thereof. Other letters are secured in the same manner. The removable springs 13' constitute the securing means of the sign structure. The carrier may be provided with suitable means, eyelets, hooks or the like, for holding it in proper display position. Only a fraction of the carrier is shown in Fig. 1A; its length will depend on the maximum number of letters to be assembled thereon to form a desired message.

The embodiment Fig. 3 shows a letter carrier having a raised rear section 21 forming with the frontal section 22 a ledge or mounting member 23. This ledge has the function of the strip 17 or the ledge 17' used in the embodiments Figs. 1 and 1A; that is, the letters are assembled against the ledge 23 so as to form a properly aligned message on the carrier. The frontal section of the carrier which forms the display surface is provided with a number of holes such as 24 suitably spaced from each other in a similar manner as explained in connection with the embodiments Figs. 1 and 2. There is no particular provision in this simple embodiment for holding each letter in place. Instead, each letter may be provided with a depending peg or lug for insertion in a corresponding hole 24, holding the letter in place against the ledge 23 and securing it against lengthwise displacement.

The embodiment Fig. 4 is similar to the one shown in Fig. 3, but dispenses with the need for a mounting ledge such as 23 or a mounting strip such as 17. This extremely simple letter carrier may consist of a member 25 made of suitable material and provided with a number of squared openings 26. These openings are again spaced from each other as previously mentioned and the letters are in this case provided each with a square peg or lug for insertion in one of the holes 26. The square peg is in this case the

means for holding the letter against transverse, angular or lengthwise displacement.

The embodiments Figs. 3 and 4 are mentioned for the sake of completeness. They are very simple examples of how the invention may be realized. The need for providing each letter with a peg is a feature that may not be desired, and therefore of all embodiments so far described, those shown in Figs. 1, 1A and 2 are thought to solve the problem better than the embodiments Figs. 3 and 4. No machining or conditioning of the letters is required when used in connection with the embodiment Figs. 1, 1A and 2. Mounting means as mentioned before, for example, clamps, eyelets, openings, or hooks may also be provided in case of the carriers Figs. 3 and 4, and likewise in case of the carriers noted below and shown in the remaining figures.

Figs. 5 and 6 show a further embodiment of a sign comprising the display surface **30**, which is part of the carrier member, and a mounting means **31** projecting therefrom in the form of a strip or ledge and taking the place of the member **17** previously discussed in connection with Figs. 1 and 2. The carrier body is slotted underneath the ledge **31**, as indicated at **32**, and forwardly projecting from this longitudinally extending slot are a number of securing springs **33**, **34**, **35** and **36**. Each of these springs is mounted on a bushing **37**, as shown in connection with spring **34** (Fig. 5), or on a bushing **38**, as shown in connection with spring **36** (Fig. 6). These bushings in turn are longitudinally slidably mounted on a suitable bar **39**. The bar **39** may be square, so as to prevent the turning of the spring bushings. The device may be equipped with a maximum number of springs sufficient to provide for securing a maximum number of any given letters on the carrier. The springs are slidably mounted on the bar **39** and may thus be brought into any position lengthwise of the display surface, that may be required for obtaining proper spacing of the letters. If desired, each bushing may be provided with an extension projecting from a suitable slot in the carrier housing and equipped with a knob at its outer end so as to shift the bushing and its securing spring into position.

The ledge **31** defining the upper side of the slot **32** operates as a mounting for proper alignment of the letters and also as a protective backing for the forward ends of the springs, in a similar manner as the member **17** in embodiments Figs. 1 and 2. This can be clearly seen in Fig. 6 which illustrates how the letter **43** is mounted. It is held against transverse and angular displacement by the mounting ledge **31**, and is held in position on the display surface **30** and against lengthwise displacement by the securing spring **36**. The spring in turn is backed against any detrimental displacement by the ledge **31**. The relative proportions in Figs. 5 and 6 (and also in other figures) are somewhat distorted in order to bring out details more clearly; the ledge **31** (or corresponding parts in other figures) need not be as high as might be inferred from the drawings. It is merely necessary to provide for a slight rise from the display surface sufficient to accommodate the longitudinal slot and the securing springs, as well as for the very slight movement required for the springs to secure the flanges of the letters in display position.

The embodiment shown in Figs. 7 and 8 is similar to the one just described with reference to Figs. 5 and 6, but is particularly adapted for holding letters of the lug type. The carrier body is provided with a display surface **45** and a mounting ledge **46** for aligning the letters. In front of the ledge is a slot **47**. The letters such as **48** are each provided with a depending lug **49**. The lugs of the letters extend downwardly through the slot **47**, as shown in Fig. 8. In the rear of this slot is a strip **50** forming a movable portion of the slot. This strip is held in a forwardly biased position by suitable spring means **51**. A cross bar **52** may be provided for holding the rear ends of the springs, or these rear ends may extend back to the rear wall of the carrier housing. The strip **50** may be made of yieldable tape-like material, for example, a thin metal tape, so as to provide for slight differences in the thickness of the lugs **49**. The springs **51** may be adjustable or movable longitudinally of the strip **50**. This can be taken care of by mounting the pegs at the ends of the springs in a guide groove in the member **52** or in the wall of the carrier. Leaf springs may be used in place of the springs shown.

The embodiment Fig. 9 is generally along the lines of the one discussed in connection with Figs. 5 and 6, but may be used for simple flanged letters as well as for the lug type letters. The letter **55** shown in this figure is provided with a depending lug **56** which extends downwardly through a longitudinal slot in the carrier. The spring **36'** corresponds to the identically marked, but unprimed, spring in Fig. 6; other identical parts are likewise identically numbered but carry primed reference numerals. Their function is the same as discussed in connection with Figs. 5 and 6. As noted before, the relative proportions of the parts in this figure are somewhat distorted. Care should be taken to dimension and to place the parts so that the letters with their lugs can be easily put in place in the carrier slot.

The device, Figs. 5 and 6, is shown equipped with a square spring mounting bar **39**. This bar may be attached at its ends in the end walls of the carrier member in suitable brackets, or such brackets may be mounted, depending from the inside of the carrier housing. Supports may also be provided for the bar **39** intermediate its ends, if desired. The spring bushings **38** are slidable on the bar **39** but are not rotatable thereon. The pressure tension of the springs, therefore, will be merely a function of the displacement caused by the insertion underneath each spring of the flange of a letter, and such pressure will suffice for most practical conditions.

The display stand for use in combination with any of the signs so far discussed, and particularly in combination with the signs shown in Figs. 5 to 9, comprises, as shown in the embodiment Fig. 10, a housing having horizontally extending display shelves or surfaces **60** and **61**. These shelves are divided by a slot **62**. There are two similarly shaped end walls **63**—**64** each provided with a milled slot, as shown at **65** and **66**. These slots may terminate in means for supporting the panel **67**; for example, they may extend downwardly for part of the height of the end walls and may end in shoulders on which the panel rests at its ends when in inserted position. The panel **67** may be made of glass and is slid into these slots and into the longitudinally extending center slot **62**, thus dividing the two display shelves **60** and **61**. Brackets **68** carrying lamps **69** may be disposed inside of the housing, as shown underneath the slot **62**, and there-

fore substantially underneath the lower edge of the light diffusing panel 67. Light reflecting upwardly illuminates the panel from its lower edge. The slots 65 and 66 are milled in the side walls down to a point slightly below the shelf surfaces. The side walls may be omitted; the end walls of the housing may be provided with the milled slots.

The previously described sign, for example, the one discused in connection with Figs. 5 and 6, carrying the assembled message, may be displayed on the device Fig. 10 in front of the light diffusing panel 67, as shown in Fig. 11 (and at the left in full lines in Fig. 12), or it may be displayed in back of the panel, as shown in dotted lines in Fig. 12. Whatever shelf is free may be used for displaying any desired articles. The letter rail or sign with its message may also be displayed independently in any desired location, as previously discussed, and in this case the display stand may be used for displaying any desired articles.

Among the many uses to which the new sign may be put is display of a changeable message on display counters, or along the ceiling coves or cornices of walls, for example, in display or store rooms. Such coves or cornices may be provided with indirect lighting, furnishing a background for the message, consisting of the letters or characters, figures or symbols, assembled on the carrier.

Changes may be made within the scope and spirit of the appended claims in which we have defined what is believed to be new and what is desired to have protected by Letters Patent of the United States.

We claim:

1. A display sign comprising a carrier member having an elongated display surface for receiving letters which project therefrom in a direction generally perpendicular thereto, mounting means for holding said letters against transverse and against angular displacement, and a plurality of spring members which are individually adjustable lengthwise of said display surface, said spring members constituting securing means for removably holding each letter on said display surface and for securing it against displacement lengthwise of said surface.

2. A display sign comprising a carrier member having an elongated display surface for receiving letters which project therefrom in a direction generally perpendicular thereto, each letter being provided with an extension, a slot in said carrier member for receiving the extensions of said letters, mounting means for holding said letters against transverse and against angular displacement and movable means disposed underneath said slot constituting securing means for removably holding each letter on said display surface and for securing it against displacement lengthwise of said surface.

3. The combination of a display sign as defined in claim 2, with a display device comprising a pair of shelves each adapted to receive said sign, a light diffusing panel removably disposed upright between said shelves, members for holding said panel, and illuminating means disposed below said shelves substantially underneath the lower edge of said panel.

4. The combination of a display sign as defined in claim 2, with a display device comprising a box-like housing forming two parallel horizontally extending elongated shelves divided by a centrally extending slot, light diffusing means in said slot, and illuminating means disposed in said housing underneath said slot.

5. In combination, a housing forming two elongated horizontally extending parallel shelves divided by a centrally disposed slot, a light diffusing panel removably disposed edgewise in said slot and vertically projecting therefrom, illuminating means in said housing underneath the lower edge of said panel, a carrier member for placement on either one of said shelves, a plurality of letters removably disposed upright on said carrier member forming a message for display against said panel, each letter having a body forming a frontal face in a plane substantially parallel with said panel and flanges rearwardly extending therefrom, common mounting means on said carrier for holding said letters against transverse and angular displacement, and individual securing means for holding each letter in place and against displacement lengthwise of said carrier member.

6. The combination defined in claim 5, wherein a projection on said carrier member constitutes said common mounting means, and wherein a plurality of spring means extending transversely of said carrier member and spaced from each other longitudinally of said carrier member constitute said securing means.

7. The combination defined in claim 5, wherein a step-like projection on said carrier member constitutes said common mounting means, and wherein a plurality of spring means extending transversely of said carrier member and spaced from each other longitudinally of said carrier member constitute said securing means, together with means for adjusting the longitudinal spacing between said spring means in accordance with the spacing between the letters forming said message.

8. A display sign wherein a plurality of letters each having a frontal face and peripheral flanges rearwardly extending therefrom are assembled to form a message for display against a suitable background, a device for removably mounting said letters comprising a carrier member, a plurality of spring means each for engagement with the flange of one of said letters, and a backing on said carrier member coacting with said letters and with said spring means.

9. The display sign defined in claim 8, wherein said backing coacts with said letters to maintain alignment thereof, and with said spring means to reinforce tension pressure and to limit displacement thereof.

10. A display sign wherein a plurality of letters each having a frontal face and peripheral flanges rearwardly extending therefrom are assembled to form a message for display against a suitable background, a device for removably mounting said letters comprising a carrier, a plurality of spring means each for engagement with the flange of one of said letters, and a backing on said carrier coacting with said letters and with said spring means, said backing having the four-fold function of holding said letters on said carrier member against transverse and angular displacement, of reinforcing the pressure exerted by said spring means on the flange of the letters, and of limiting the displacement of said spring means.

11. The display structure and combination defined in claim 10, together with means for moving said spring means to adjust the spacing therebetween longitudinally of said carrier

member in accordance with the spacing between the letters forming said message.

12. A sign comprising a display device having an elongated display surface for supporting thereon a row of removably assembled letters which project therefrom in display position in a direction generally perpendicular thereto and form a message thereon, rigidly positioned mounting means forming part of said device and projecting therefrom in back of said letters for holding said letters in display position on said device against transverse and against angular displacement relative thereto, and yieldable securing means forming part of said display device for removably holding said letters in display position on said surface and for securing said letters against displacement lengthwise of said surface.

13. The sign structure defined in claim 12, wherein a ledge-like member projecting from said display surface constitutes said rigidly positioned mounting means, and wherein spring means disposed underneath said ledge-like member constitutes said yieldable securing means.

14. The sign structure defined in claim 12, wherein a plurality of individually lengthwise adjustable springs disposed underneath said rigidly positioned mounting means constitute said yieldable securing means.

15. The sign structure defined in claim 12, wherein a spring-operated member disposed underneath said rigidly positioned mounting means constitutes said yieldable securing means.

16. A display device for removably mounting letters in a row to form a desired message comprising a carrier having an elongated display surface for receiving said letters, a ledge-like member in back of said surface and elevated with respect thereto forming means for aligning said letters in display position on said surface and for holding them against transverse and against angular displacement relative thereto, and spring means disposed underneath said ledge-like member for holding said letters on said surface against longitudinal displacement relative thereto.

17. A display device for removably mounting letters in a row to form a desired message comprising a carrier having an elongated display surface for receiving said letters, a ledge-like member in back of said surface and elevated with respect thereto forming means for aligning said letters in display position on said surface and for holding them against transverse and against angular displacement relative thereto, and a plurality of springs disposed underneath said ledge-like member and spaced from each other lengthwise of said device for holding said letters on said surface against longitudinal displacement relative thereto.

18. The device defined in claim 17, wherein said springs are individually lengthwise adjustable so as to allow positioning and spacing thereof in accordance with the spacing of said letters on said surface.

19. A display device for removably mounting letters in a row to form a desired message comprising a carrier having an elongated display surface for receiving said letters, a ledge-like member in back of said surface and elevated with respect thereto forming means for aligning said letters in display position on said surface and for holding them against transverse and against angular displacement relative thereto, and a spring-operated member disposed underneath said ledge-like member for engagement with said letters to hold said letters on said surface against longitudinal displacement relative thereto.

20. A display device for removably mounting letters in a row to form a desired message comprising a carrier forming an elongated frontal platform constituting a display surface for receiving said letters in edgewise engagement therewith and forming a ledge in back of said frontal platform which is elevated with respect thereto and spaced therefrom to form means for aligning said letters in display position on said surface and for holding them against transverse and against angular displacement relative thereto, and yieldable means underneath said ledge for engagement with said letters to hold said letters on said surface against longitudinal displacement relative thereto.

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GEORGE AUER.