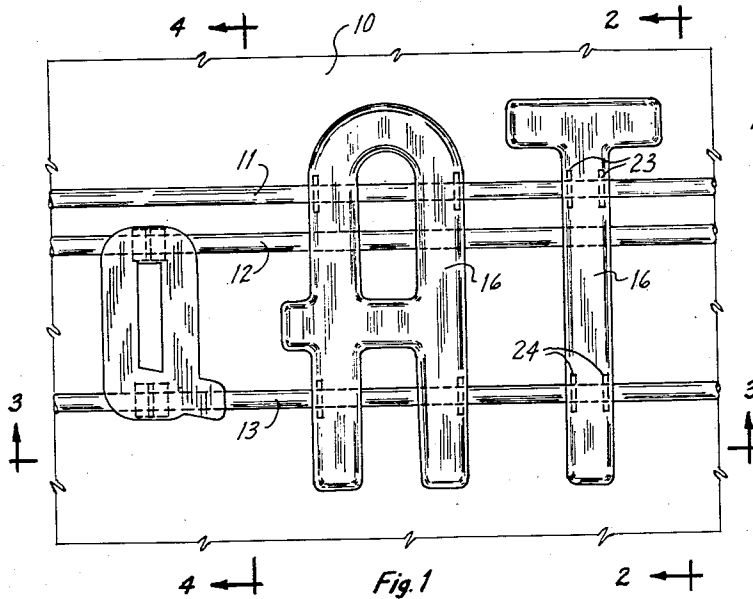
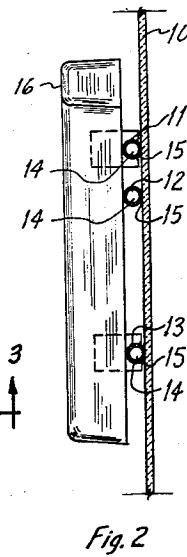
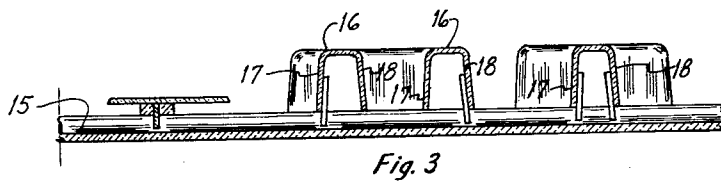
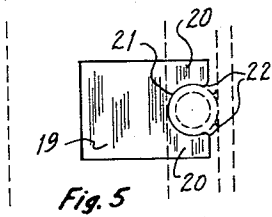
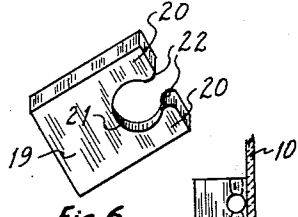
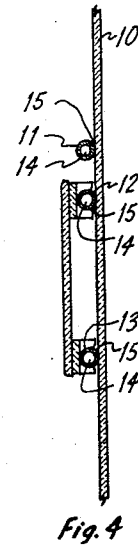
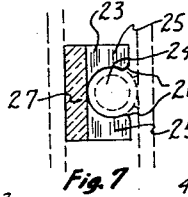
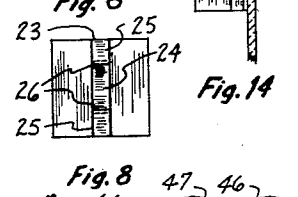
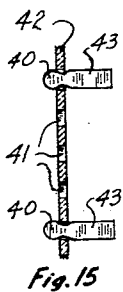
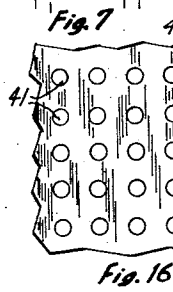
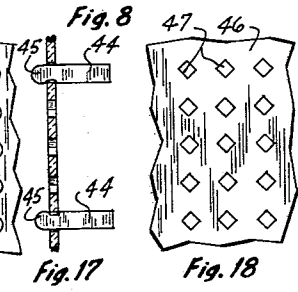
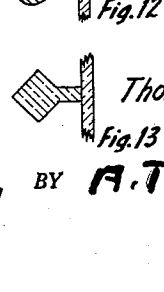


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T. G. FAULKNER
CHANGEABLE EXHIBITERS

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CHANGEABLE EXHIBITERS

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1 Claim. (Cl. 40—140)

This invention relates to display devices of the changeable character type and is particularly concerned with the mounting and securement of the changeable characters.

In recent years with the development of more and more superior plastic materials, signs, and announcement boards, particularly of the illuminated variety, such as are frequently in stores, on the marquee of theatres and in advertising generally, changeable characters of colored and/or translucent plastic material are increasingly employed. While generally rugged and durable such characters, usually numbers or letters, are often fractured in their application to/or removal from their supporting sign board panels or backing structures or other supports. For the most part such damage results from the fact that the characters are suspended over racks or rails or engaged in or by angular slots. In such instances the characters must be maneuvered with a vertical component of motion as well as moved in a plane normal to the sign board, where angular slots are involved both components of motion must be simultaneous. In carelessness, ignorance, or haste, the operator frequently neglects to perform the requisite motion attempting to release the letter solely by a movement outwardly of the support, thus the letter may be broken or mutilated.

Problems have also been encountered in connection with the sign boards or supports themselves. One piece prefabricated boards are not difficult of construction. However, the fabrication of structures including the mounting of supporting rails is a complicated and expensive procedure resulting in a multi-part arrangement often not rigid and usually subject to wear and dislocation of parts under strain. The horizontal mounting rails are usually metal or other opaque material and hence militate against the appearance of the composite structure.

The present invention has overcome these and other difficulties and disadvantages of many prior art devices in the field of changeable exhibitors by providing a letter or character which may be secured and removed by either a straight movement to or from the support or by a tilting movement, in neither case subjecting the letter to such strain as to cause damage to either the letter or its support. Applicant's numbers, letters, or the like are characterized by unique mounting means by which improved securement may be achieved while permitting ease of manipulation as well as economy of manufacture. The invention also comprehends a novel and improved support for such letters which do not mar the appearance of the letters by the presence of opaque rails and which lends itself to combination and co-operation with the securing means of the present invention.

Certain aspects of the present invention may be broadly applicable in various display devices; one form of the present invention, here presented by way of example, may be defined as including a generally inperforate board or backing piece, preferably formed of a translucent material such as plastic. Synthetic plastics lend themselves to the operation of plastic welding, wherein plastic solvent is applied to contacting plastic areas to wet such areas permitting fusion of the plastic materials whereby they are securely, simply, and inexpensively united. On the front face of such board or backing letter carrying rods, usually of at least partial circular section, are mounted. While such rods may be demountably secured as il-

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lustrated in one view of the drawings, an important feature of the present invention is the permanent and rigid securement of such to such board to form a single composite, integral structure.

The invention comprehends the use of plastic bars by which the plastic welding above referred to provides an ideal mode of attachment. As indicated in the drawings a wide variety of rod sections may be provided within the scope of the present inventive concept. The rods shown as extending horizontally and in such spaced relation as to receive the securing means of individual letters, a plural arrangement of bars is suggested in order to mount various case letters in horizontal arrangement.

The letters of the present invention are also preferably formed of plastic material and each is provided with at least one securing means characterized by a configuration defining a resilient portion yieldable under pressure to provide letter securement. In one preferred form, such means provides an arcuate opening adapted to receive one of the bars. In that form of the invention such securing means are of resilient plastic, formed as flat clips fused to the edges of the letter to protrude in the direction of the sign board as integral plastic welded elements. Such clips are spaced in conformity with the spacing of the bars to form pairs of generally vertically disposed members, the rod receiving openings being in a vertical plane normal to the face of the board. Such clips are generally U-shaped in form with their openings so curved as to present terminal leg throats somewhat less in width than the maximum diameter of the rods. Such legs are, however, inherently resilient by virtue of the material and hence may spring or snap over the rods to secure the letters thereto. Such construction permits application and removal by movement in a straight path horizontally toward or from the board or by a canting movement in a straight path horizontally toward or from the board or by a canting movement tilting the character with respect to the board to detach either the upper or lower clip, one after the other, in either instance breakage of the character or clip by careless operation is avoided. The invention also comprehends the use of yieldable plastic clips for the securement of characters to angularly or circularly apertured boards.

These and other features, advantages and improvements of the present invention taken separately and in combination are more particularly set forth in the following specification which, in conjunction with the accompanying drawings disclose the present inventive concept.

In the drawings:

FIGURE 1 is a front elevation of a sign board of the present invention; with the characters of the present invention secured thereto by clips of the present invention,

FIGURE 2 is a vertical sectional view taken on line 2—2 of FIGURE 2,

FIGURE 3 is a horizontal section view taken on line 3—3 of FIGURE 1,

FIGURE 4 is a vertical section taken on line 4—4 of FIGURE 1,

FIGURE 5 is a detailed side elevation of the clip of the larger letters of FIGURE 1,

FIGURE 6 is an isometric view of the clip of FIGURE 5,

FIGURE 7 is a detailed sectional view of the clip of the smaller letter of FIGURE 1,

FIGURE 8 is a detailed elevation of the clip of FIGURE 7,

FIGURES 9, 10, 11, 12, and 13 are individual sectional views of various formations of the letter rods comprehended by the present invention,

FIGURE 14 is a detailed view illustrating an alternative form of rod mounting,

FIGURE 15 is a side elevation of an alternative form of clip,

FIGURE 16 is a front view of an alternative form of side board,

FIGURE 17 is a sign elevation of another alternative form of clip, and

FIGURE 18 is a front view of another alternative form of sign board.

In the FIGURES 1 to 4 and 9 to 13 inclusively of the drawings, the numeral 10 designates the sign board or support which is here presented as a relatively thin flat plate preferably of translucent plastic material. Such a plate is admirably adapted for the support of translucent colored letters where the source of illumination is from the rear of the support, and there—through and thence—through the letters themselves. It is to be particularly understood, however, that the invention, while comprehending such material and physical form of support, is in many of its aspects not limited or confined to this particular embodiment. Wholly transparent or wholly opaque supports of various contours and thicknesses may well be adapted to support the letter rods of the present invention, and the support is by no means limited to plastic materials.

However, such material lends itself to the formation of an integral support with the letter rods welded in position to form a single unitary structure. As herein-after proposed, with the letter rods formed of similar plastic bonding by the fusing of the materials as in plastic welding this not only insures an integral structure but provides a safe, secure, fast and economic means of manufacture. When such rods are transparent or of like translucency and/or color to that of the support, they will not be of such appearance between the characters as to mar the outstanding view of the characters themselves.

The rods which are mounted on the backing 10 are identified in the FIGURES 1 to 4, inclusively, by the numerals 11, 12, 13 and are therein illustrated as round and hollow in cross section. Other cross sections embraced by the invention, either solid or tubular are indicated in FIGURES 9 to 13 inclusively. The rods are arranged in spaced relation on the board 10 in any arrangement as may be required to conform to the various sizes of letters to be applied. As here shown, the upper bar 11 is adapted to receive the upper clips of the larger letters while the intermediate rod 12 receives the upper clips of smaller or lower case letters. The lower rod 13 is adapted to receive the lower clips of both larger and smaller letters. Other arrangements and spacings of the rods may be resorted to and it will be understood that multiple arrangements of rods in the manner here shown may provide for such number of lines of letters as desired. Staggered, slanting, or curved arrangements of rods are contemplated to conform with whatever artistic or novel design effect may be desired. The round rods 11, 12, or 13 of FIGURES 1 to 4 and/or the shaped rods of FIGURES 9 to 12 inclusively may be either solid or tubular. For convenience the circular bars 11, 12, and 13 are shown as solid, either may be of either form as desired, and the wall thickness indicated for the rods 11, 12, and 13 is not deemed significant or critical.

The preferred form of the invention contemplates the rods as formed of plastic material preferably of the general nature of the plastic from which the element 10 is formed so as to facilitate the permanent bonding of the rods to the board by a plastic welding, indicated at 15, to form an integral structure of board and rods. As suggested, such weld may be provided by the application of a plastic solvent which wets the contacting surfaces of the plastics, fusing them together forming an integral bond. Unification by thermoplastic or thermo-setting operations may be substituted however and extraneous welding material or cements may be substituted in certain practices of the invention. The preferred form of the invention also contemplates that the rods be formed of a transparent or translucent material and if colored, to

conform with that of the panel 10 so as to blend therewith causing the rods to be effectively invisible between the letters. The large letters A and T of FIGURES 1, 2, and 3 of the present drawings are shown as hollow, being substantially U-shaped in transverse section through any single portion thereof. Thus each letter presents an outer flat or curved face portion 16 directed in aspect toward the viewer and hence generally parallel to the plane of the front face of the support 10. On each side of the aspect portion 16, integral side edges 17 and 18 extend rearwardly toward the face of the support 10. To at least one of each of the side edges there is secured one of the fastening clips 19 shown in detail in FIGURES 5 and 6. Each clip comprises a generally flat body with furcated end fingers 20 defining a generally rounded recess 21 provided with a restricted outwardly opening throat 22, bounded by the inwardly curved terminal lobes 23 to the fingers 20. Regardless of the material of the clips, though they are preferably of plastic, the fingers 20 are yieldable transversely of the body to expand the throat 22, opening the recess 21 to receive the rods. Such yielding is responsive to either a direct motion of the clip, with the letter, in a direction normal to the plane of the support or to a tilting movement of the letter.

As shown in FIGURE 1 the clips 19 of the large letter T are arranged as an upper pair 23 and a lower pair 24 being spaced such that the upper pair may engage the rod 11 while the lower pair may engage the lower rod 13. Each clip of each pair is secured to the inner face of each parallel side edge 17 and 18 of the central vertical staff of the letter. In the large letter A the upper pair of clips 26 are arranged on the inner face of the outer side edge 18 of the opposite leg of the letter. The lower pair of clips 27 are similarly arranged in downwardly spaced relation to removably engage the lower rod 13. In the preferred form of the invention the letters as well as the clips 19 are formed of plastic and are integrally joined by the same means aforesaid, i.e., through plastic welding or its equivalent. Thus the letters form a single rigid element with that portion of the integral clips defining the furcation extending beyond the edges to engage the rods. While the body of the letters may be of a lighter, though less rigid material than the clips the materials are preferably similar. While the letters are generally translucent and colored, the clips may be opaque and may be formed and distributed as individual elements for application to separately formed letters. Upon welding or equivalent connection the integral clip edged letter is completed.

The lower case letter Q of the FIGURES 1, 3, and 4 illustrates a further type of letter which may be removable, secured to the rods by the clips of the present invention. In this instance the letter is formed from flat, preferably plastic stock, colored transparent or translucent as so desired. Since the height of the lower case letters is less than the larger letters A and T, the distance between the clips is less conforming to the distance between rods 12 and 13. In this case the central clip portion 23 is formed in the shape and configuration of clip 19 to define an arcuate central opening 24 with side spring fingers 25 having bulbous ends 26 forming the restricted throat. To mount the clips 23 on the inner surface of the flat letters by plastic welding or the like to form a single rigid and integral part, the clips are attached or formed integrally with flat back mounts 27 by which they are fused to the letter.

As indicated in FIGURES 9 to 13 inclusive the rods 11, 12, or 13 need not be round or uniformly circular as in FIGURES 1 to 4. While shown as solid, the rods of FIGURES 9 to 13 may be tubular in the manner of rods 11, 12, and 13 or vice versa. FIGURE 9 illustrates a rod section in which circular head or body section is united to the support by an intermediate neck. FIGURE 10 shows a round rod, the support contacting side of which is flattened to provide a wide line of support contact for welding. FIGURE 11 illustrates one manner in which the generally circular rod may be supported in spaced relation

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to the board by an intermediate neck securement being achieved through a base or foot portion. In FIGURE 12 the shape of the rod of FIGURE 11 is modified by curving and blending the sides between the rod and the foot to form a generally bulbous cross section. FIGURE 13 discloses an angular formation of rod over which the clips may be forced and secured thus illustrating the fact that neither the clips nor the rods need, in every instance, be of curved formation.

While the integral and plastic welded type of support structure may be deemed preferable and while such structure constitutes one form of the present invention, the construction of FIGURE 14 also constitutes one form of the present invention. In FIGURE 14, the rod 30, whether wood, metal, glass or plastic and whether round as shown or of some alternative shape, as suggested by FIGURES 9 to 13, is removably secured to the support. In this instance the securement is by way of clips 31 which are the counterpart of the clips 19 being formed, as illustrated, with the same type of resilient furcations forming yieldable fingers for the removable reception of the rods. The characters 32 are of course removable, secured to the rod 30 by their similar clips 33. Clips 31 are preferably of plastic and may be secured to these boards 34 by plastic welding.

That aspect of the total inventive concept which relates to the use of resilient and/or yieldable clip fingers is not of necessity confined to the use of such fingers for the gripping of rods nor is it limited to clips having pairs of such fingers. As illustrated in FIGURE 15 plastic fingers or those formed of a like yieldable material may be formed with bulbous yieldable heads 40, adapted to be forced through the round peg holes 41 of the peg board 42 of FIGURE 16. Such clips are preferably plastic and attached by plastic welding to the letters in the manner of FIGURES 1 to 4, the bodies 43 being preferably flat. Similarly FIGURE 17 discloses a flat clip with a finger 44 formed with a recessed end defining a fielding terminal head 45. The clips of FIGURE 17 are effectively operable in support board 46 as shown in FIGURE 18 wherein angularly shaped apertures 47 are arranged

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to receive such clip fingers. It is interesting to note that while the clips of fingers 15 and 17 may be used with either the boards of FIGURES 16 or 18, clips 19 may also be used on such boards where the spread between fingers conforms to the distance between the holes.

In the practice of the invention, numerous changes, modifications and the full use of the equivalents may be resorted to without departure from the spirit or scope of the appended claim.

What I claim is:

A light-transmitting letter for a changeable exhibiter including in combination a thin hollow translucent plastic body presenting a generally flat aspect surface and substantially parallel side walls directed from said surface toward an exhibiter board for supporting said letter, and a securing clip of flat resilient plastic material integrally secured to one of said walls on the inner face thereof to extend rearwardly therefrom, said clip including a portion protruding from the plane of the letter, and said portion defining an aperture conforming in size and shape to the cross section of a mounting rod carried by said board and communicating with an open throat bounded by parallel resilient fingers.

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