

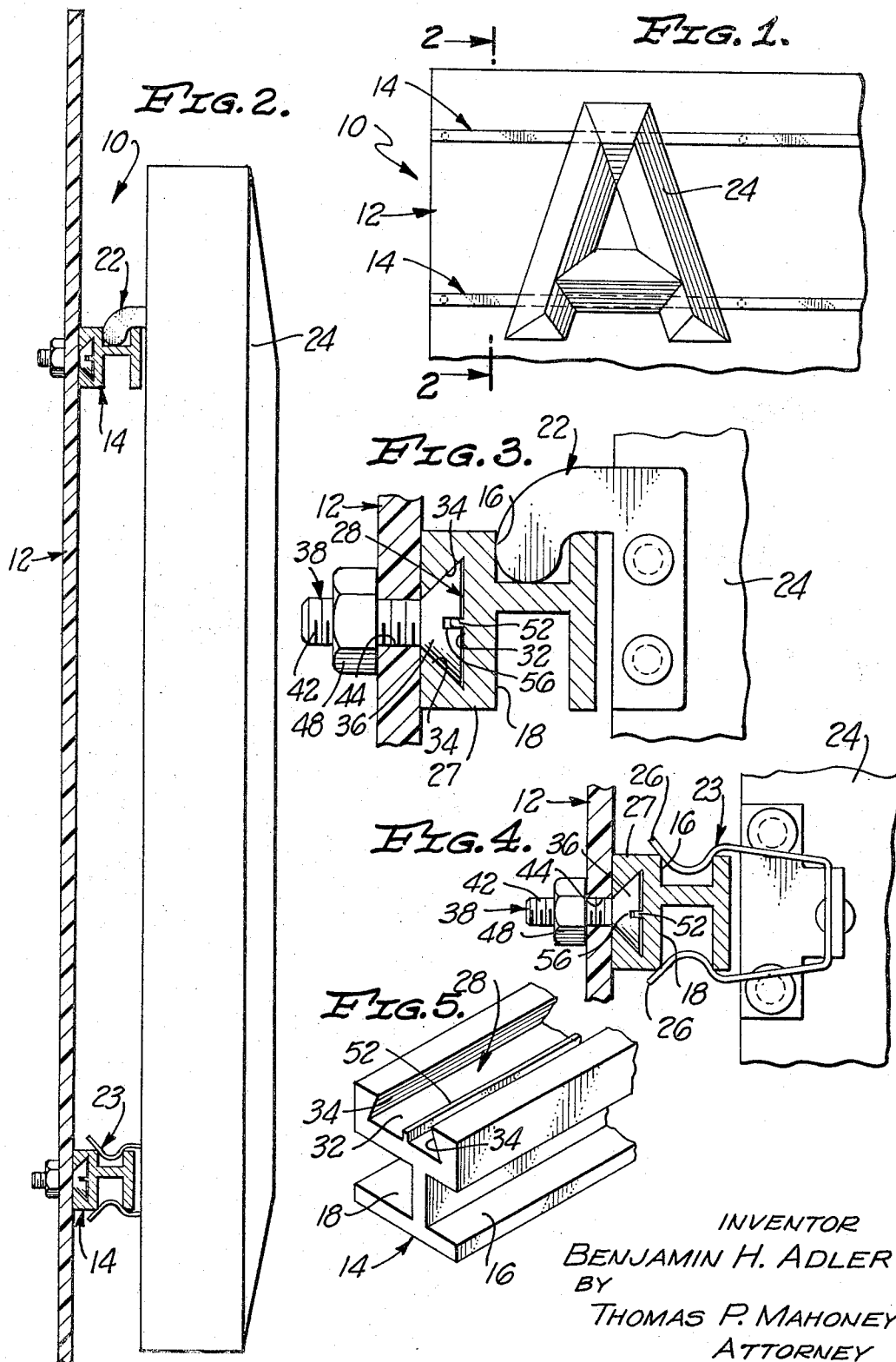
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SUSPENSORY SYSTEM FOR OBJECTS

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SUSPENSORY SYSTEM FOR OBJECTS
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This invention relates to a suspensory system adapted to be secured in operative relationship with a supporting member to suspend a plurality of objects in operative relationship with each other.

The suspensory system of the invention will be described as utilized in conjunction with advertising and display signs to mount a plurality of demountable objects, in the present case, demountable letters and other symbols, to create advertising signs and displays which can be readily altered by dismounting the letters and symbols and rearranging them in new patterns or new words to form different messages. However, it will be obvious to those skilled in the art that the teachings of the invention need not be limited to the specific application which is utilized only as a means of disclosing the mode of construction and manner of operation of the invention.

The conventional support for such demountable objects normally includes a vertical supporting member fabricated from translucent plastic or similar material and elongated supporting elements which are arranged in spaced relationship on said supporting member for engagement by corresponding mounting means on said letters or symbols.

One of the major problems encountered in the fabrication of such advertising systems is the difficulty of securing the conventional elongated supporting elements in operative relationship with the corresponding supporting member.

It is, therefore, an object of my invention to provide a suspensory system which includes an elongated supporting element adapted to be maintained in operative relationship with a corresponding surface of an associated supporting member, said elongated suspensory element including a supporting surface engageable by corresponding mounting means on the associated letters or symbols and an elongated mounting receptacle in the rear portion thereof, said mounting receptacle being characterized by the fact that the vertical cross-sectional shape thereof corresponds generally to the cross-sectional shape of the heads of the fasteners to be mounted therein, said fasteners having elongated shanks adapted to be inserted through corresponding mounting holes or openings in the supporting member.

Another object of the invention is the provision of a suspensory system of the aforementioned character which is characterized by the inclusion of elongated suspensory elements including correspondingly elongated receptacles having cross-sectional configurations corresponding to the heads of fastening screws mounted therein, said receptacles having key means provided therein engageable with the conventional slots in said screws to prevent relative rotation between the heads of said screws and the receptacle. Therefore, when the screws are inserted through the corresponding mounting openings in the supporting member, the nuts can be readily threaded upon the shanks of said screws because relative rotation between the heads of said screws and the corresponding receptacle is prevented by engagement of the key means in said slots in said screw heads.

A further object of the invention is the provision of a suspensory element adapted to be utilized in conjunction with the suspensory system of the invention which is characterized by the fact that it may be readily extruded

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in one piece from various types of materials, such as aluminum, plastic and the like. Consequently, the roll forming and stamping operations entailed in the formation of prior art suspensory elements are eliminated, with a corresponding reduction in cost of the suspensory element of the invention.

Other objects and advantages of the invention will be apparent from the following specification and the accompanying drawing, which is for the purpose of illustration only, and in which:

FIG. 1 is a fragmentary view illustrating a portion of a suspensory system constructed in accordance with the teachings of the invention;

FIG. 2 is an enlarged vertical, sectional view taken on the broken line 2—2 of FIG. 1;

FIG. 3 is an enlarged, fragmentary sectional view showing the manner in which the upper suspensory element is mounted in operative relationship with the supporting member;

FIG. 4 is a view corresponding to FIG. 3 showing the manner in which an identical member is engaged by the mounting means on the lower portion of the letter secured in operative relationship therewith; and

FIG. 5 is an enlarged, fragmentary isometric view of the elongated suspensory element.

Referring to the drawings, and particularly to FIGS. 1—3 thereof, I show a suspensory system 10 constructed in accordance with the teachings of my invention. The suspensory system 10, as previously explained, is intended to be utilized in supporting a plurality of objects in a desired operative relationship upon a corresponding surface of a vertically oriented supporting member. The suspensory system 10 of the invention is particularly adapted for utilization in advertising signs and displays which are susceptible of being readily altered and changed, as in the case of the signs which appear upon theatre marquees.

Mounted in operative relationship with the corresponding front surface of a supporting member 12 which may be fabricated from any desired type of plastic or other material, is a plurality of suspensory elements 14.

The suspensory elements are elongated and, in the present embodiment thereof, are fabricated from aluminum by the utilization of the extrusion process. However, it will be obvious to those skilled in the art that the suspensory elements may be fabricated with equal facility from various types of extrudable plastic materials and from metals other than aluminum. However, one of the principal advantages of the invention lies in the fact that the economies inherent in the extrusion process may be utilized to fabricate the suspensory elements 14 in contradistinction to the more expensive techniques utilized in fabricating conventional suspensory elements.

Each suspensory element 14 incorporates upper and lower channels 16 and 18, said channels providing supporting surfaces engageable by mounting means 22 and 23 secured to the upper and lower extremities of a letter 24, said mounting means being constituted by resilient clips 26 adapted to snap into said channels of the lower suspensory element 14.

However, it will be obvious to those skilled in the art that mounting surfaces other than those provided by the channels 16 and 18 may be incorporated in the elongated suspensory elements 14 without departing from the scope or teaching of the invention.

Formed in the rear portion 27 of each suspensory element 14 is an elongated mounting receptacle 28, said elongated mounting receptacle having a vertical bottom wall 32 and angularly inclined side walls 34 which impart to the receptacle 28 a vertical cross-sectional configuration conforming substantially to the vertical cross-sectional configuration of the heads 36 of fasteners 38, in this case screws, which are located in said receptacle.

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The screws 38 have elongated shanks 42 insertable in corresponding mounting openings 44 in the supporting member 12 and projecting therethrough for engagement by a nut 48 or similar fastener to maintain said screws and, thus, the elongated suspensory elements 14 in operative relationship with the corresponding surface of the supporting member 12.

While there has been disclosed herein a particular configuration of mounting receptacle 28 and screwhead 36, it will be obvious to those skilled in the art that various configurations of receptacle and head may be utilized without departing from the teachings of the invention.

Located in the bottom wall 32 of the receptacle 28 in each elongated suspensory element 14 is locating or key means 52 which is constituted by an elongated rib which runs the length of the receptacle and is engageable with the corresponding slots 56 provided in the heads 36 of the fasteners 38.

Consequently, relative rotation between the heads 36 of the fasteners 38 and the receptacle 28 in which they are mounted is prevented. Therefore, after the shanks of the fasteners 38 have been inserted through the corresponding mounting openings 44 in the supporting member 12, the nuts 48 may be readily applied thereto because the shanks 42 of the fasteners 38 will not rotate as the nuts 48 are applied.

Installation of the suspensory elements 14 in operative relationship with the corresponding surface of the supporting member 12 is readily accomplished because the desired number of fasteners 38 is readily inserted by sliding their heads along the receptacle 28 with the slots thereof in alignment with the elongated key or locating means 52. The shanks 42 of the fasteners 38 are arranged on centers corresponding to the spacing of the mounting openings 44 in the supporting member 12, and the screws are then inserted through the mounting openings 44 to permit the shanks 42 of the fasteners 38 to project there-through and be engaged by the nuts 48.

I thus provide by my invention a suspensory system for supporting objects in operative relationship upon a supporting member which is characterized by the ease with which the components thereof may be assembled in operative relationship with a supporting member, and the facility with which the fasteners mounting the elongated suspensory elements may be secured to said supporting member.

Also characteristic of the invention is the provision of elongated suspensory elements which are readily associated with the mounting fasteners therefor and which may be produced by the use of conventional extrusion techniques.

I claim:

1. In a suspensory system for supporting a plurality of objects in alignment upon a supporting member having a plurality of openings therethrough, the combination of: an elongated suspensory element having a supporting surface thereupon for engagement by suspensory means on said objects, said suspensory element having an elongated receptacle in the rear side thereof disposed in communication with said openings; and a plurality of screws mounted in said receptacle, said screws having heads whose configuration conforms substantially to the vertical cross-sectional configuration of said receptacle and having shanks extending through associated mounting openings in said mounting member, said shanks having associated fastening means thereupon for securing said fasteners in operative relationship with said mounting member.

2. In a suspensory system for supporting a plurality of objects in alignment upon a supporting member having a plurality of openings therethrough, the combination of: an elongated suspensory element having a supporting surface thereupon for engagement by suspensory means on said objects, said suspensory element having an elongated receptacle in the rear side thereof disposed

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in communication with said openings, said receptacle having locating means therein; and a plurality of screws mounted in said receptacle, said screws having heads whose configuration conforms substantially to the vertical cross-sectional configuration of said receptacle and having shanks extending through associated mounting openings in said mounting member, said shanks having associated securement means thereupon for securing said fasteners in operative relationship with said mounting member, said locating means being engageable with the heads of said fasteners to prevent relative rotation between said fasteners and said elongated suspensory element.

3. In a suspensory system for supporting a plurality of objects in alignment upon a supporting member having a plurality of openings therethrough, the combination of: an elongated suspensory element constituted by an extruded body having supporting surfaces thereupon engageable by corresponding suspensory portions of said objects, said body having an elongated receptacle in the rear portion thereof disposed in overlying relationship with said openings, said receptacle having locating means formed therein; and a plurality of fasteners mounted in said receptacle and having their heads engaged by said locating means, said fasteners having shanks extending through said openings and said shanks being maintained by associated fastening means in operative relationship with said supporting member.

4. In a suspensory system for suspending a plurality of objects upon a supporting member having a plurality of mounting openings therein, the combination of: an elongated extrusion having supporting surfaces thereupon engageable by suspensory elements on said objects, said extrusion having an elongated opening in the rear portion thereof disposed in overlying relationship with said mounting openings, said receptacle having an elongated key therein; and a plurality of fasteners mounted in said receptacle having portions thereof engageable by said key to prevent rotation thereof relative to said receptacle, said fasteners having elongated shanks extending through said mounting openings for maintaining said extrusion in operative relationship with said supporting member.

5. In a suspensory system for suspending a plurality of objects upon a supporting member having a plurality of mounting openings therein, the combination of: an elongated suspensory element having supporting surfaces thereupon for mounting said objects, said element having an elongated receptacle in the rear portion thereof disposed in overlying relationship with said openings, said elongated receptacle having an elongated key therein; and a plurality of mounting screws having their heads located in said receptacle and including transverse slots in said heads engageable by said key to prevent relative rotation between said screws and said receptacle, said screws having shanks extending through said mounting openings for maintaining said elongated suspensory element in operative relationship with said supporting member.

6. An elongated suspensory element for mounting objects in operative relationship with a supporting member, said suspensory element having mounting surfaces thereupon, fasteners, each of said fasteners having a head and a shank, said suspensory element incorporating an elongated receptacle in a rear surface thereof whose cross-section corresponds to the cross section of said fastener heads, said fastener heads being inserted in said receptacle with said fastener shanks projecting rearwardly from said suspensory element rear surface, and said receptacle cross-sectional configuration forming forward facing surface means engaging and preventing rearward displacement of said fastener heads.

7. An elongated suspensory element for mounting objects in operative relationship with a supporting member, said suspensory element having mounting surfaces thereupon, fasteners, each of said fasteners having a head and

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a shank, said suspensory element incorporating an elongated receptacle in a rear surface thereof whose cross section corresponds to the cross section of said fastener heads, said fastener heads being inserted in said receptacle with said fastener shanks projecting rearwardly from said suspensory element rear surface, said receptacle cross-sectional configuration forming forward facing surface means engaging and preventing rearward displacement of said fastener heads, said elongated receptacle having key means therein engaged with said fastener heads for preventing relative rotation between said fastener heads and said receptacle.

8. An elongated suspensory element for mounting objects in operative relationship with a supporting member, said suspensory element having mounting surfaces thereupon, fasteners, each of said fasteners having a head and a shank, said suspensory element incorporating an elongated receptacle in a rear surface thereof whose cross section corresponds to the cross section of said fastener heads, said fastener heads being inserted in said receptacle with said fastener shanks projecting rearwardly from said

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suspensory element rear surface, said receptacle cross-sectional configuration forming forward facing surface means engaging and preventing rearward displacement of said fastener heads, said receptacle having elongated key means therein for engagement with slots of said fastener heads for preventing relative rotation between said fasteners and said receptacle.

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