July 24, 1962 S. J. CYGAN 3,045,961

DISPLAY AND SUPPORT FIXTURE AND CLIP

Filed Dec. 11, 1958 2 Sheets-Sheet 1

FIG. 1

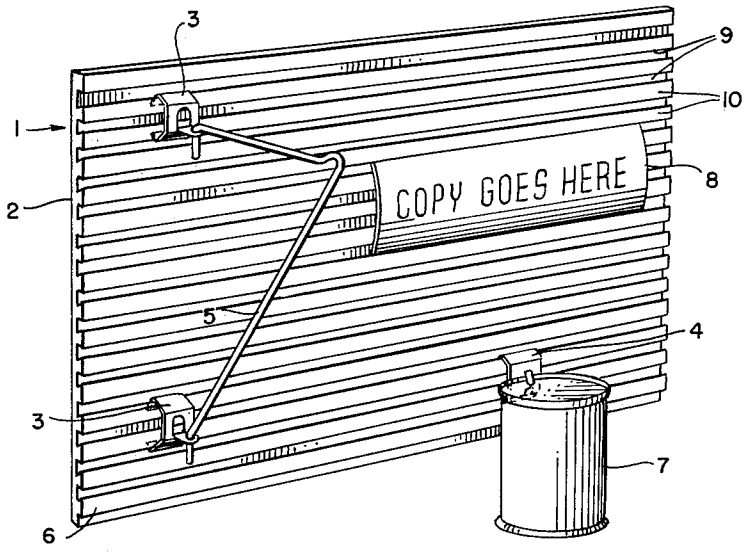


FIG. 2

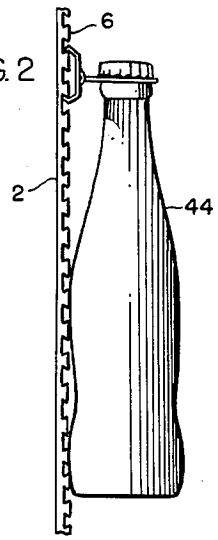


FIG. 4

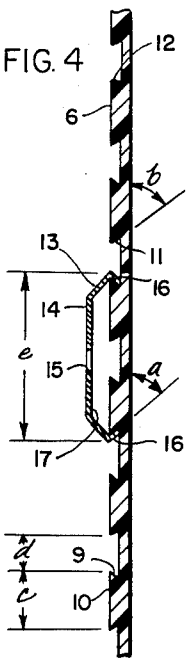


FIG. 5

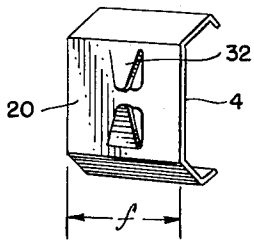


FIG. 6

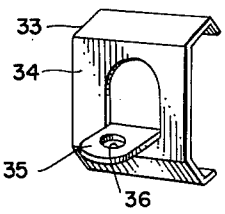
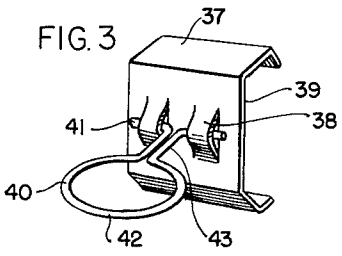


FIG. 3



INVENTOR:
STANLEY J. CYGAN
BY Margall, Johnston, Cook & Root
ATT'YS

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FIG. 7

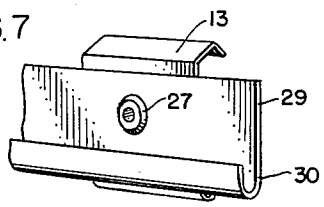


FIG. 8

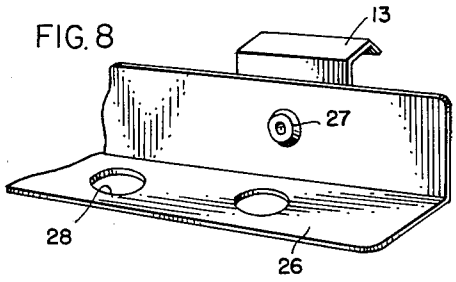


FIG. 9

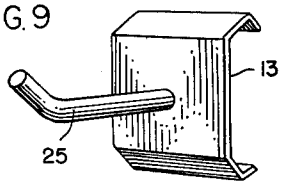


FIG. 10

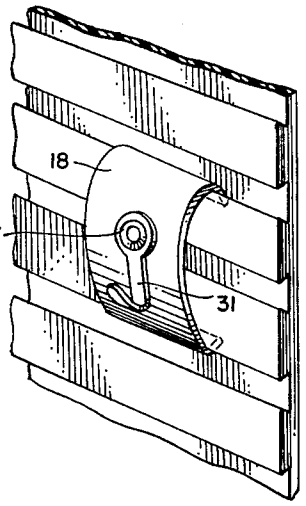


FIG. 12

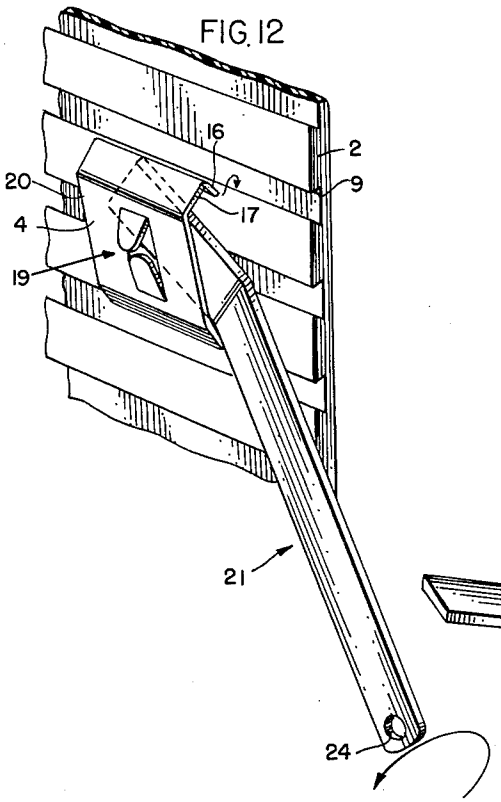
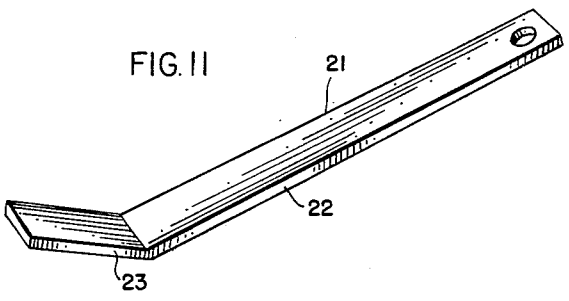


FIG. 11



INVENTOR:
STANLEY J. CYGAN
BY Margaret, Johnston, Cook & Brant
ATT'YS

United States Patent Office 3,045,961 Patented July 24, 1962

3,045,961

DISPLAY AND SUPPORT FIXTURE AND CLIP

Stanley J. Cygan, Chicago, Ill., assignor to Poster Products, Inc., Chicago, Ill., a corporation of Illinois

Filed Dec. 11, 1958, Ser. No. 779,604
2 Claims. (Cl. 248—223)

This invention relates to a display and support fixture including a baseboard, a clip removably mountable thereon, and means on the clip for mounting an article thereon. More particularly, the invention relates to a new and improved combination of a grooved baseboard or signboard and a snap-on clip, and to the novel clip.

An important object of the invention is to provide a versatile display and support fixture adaptable to many uses, which constitutes an improvement over and serves to replace pegboards and the like.

Another important object is to provide a display fixture on which may be displayed innumerable types of articles, such as articles of merchandise or representations thereof, including hard goods and soft goods, pictorial matter, identification, prices, advertising, and so forth. While the construction has been denominated a display fixture for convenience of description, it is suitable for many uses which immediately suggest themselves upon consideration of the invention, such as for holding tools, shelves, cooking utensils, and many other purposes where a wallboard or pegboard having supporting or suspending means has been or may be employed.

The invention constitutes an improvement over the construction described and claimed in my prior copending application Serial Number 619,426, filed October 31, 1956, now U.S. Patent No. 2,880,537, wherein the combination of a grooved signboard and three-dimensional letters or other characters is claimed. The present application is a continuation-in-part of the said prior patent application and the disclosure thereof is incorporated herein by reference. The combinations of the prior application and the present application are adapted both to be used separately and in different applications, and together in providing a display fixture or sign construction combining letters or other characters, supported articles, and other sign materials.

The present invention includes in the new combination a new and very advantageous snap-on clip which is changeably and removably mountable on the baseboard and holds or supports any of numerous articles in any position on the baseboard.

A further important object is to provide a lightweight, strong and durable display and support fixture, which furnishes snap-on attachment of various articles and ready removal thereof, and which is yet capable of supporting considerable weights and resisting dislodgment of the clips and supported articles.

An additional object is to provide a fixture constructed of attractive, economical and lightweight plastic material, combined with small inconspicuous removable snap-on yet strong and rigid preferably metal clips. The fixture is especially suited for use in retail establishments. It also provides a useful and attractive addition to the home and shop.

Another object is to provide a fixture which readily may be mounted in various locations or moved from place to place, due to its compact and light construction, and on which various articles may be changed at will.

A further object is to provide a combination which includes a snap-on clip and a simple removing tool cooperating therewith.

These and other objects, advantages and functions of the invention will be apparent on reference to the specification and to the attached drawings, in which like

parts are identified by like reference characters in each of the views, and in which:

FIGURE 1 is a front perspective view of a grooved baseboard or signboard with several snap-on clips on which articles are mounted, together with a card for advertising or like copy as may be employed therewith, representing a preferred embodiment of the invention;

FIGURE 2 is an end elevational view of a baseboard and further embodiment of the clip and load supporting element joined thereto, illustrating the support of a bottle thereby;

FIGURE 3 is a front perspective view of the clip illustrated in FIGURE 2;

FIGURE 4 is a vertical section of the baseboard illustrated in the remaining views and a simple form of the clip of the invention;

FIGURES 5 through 9 are front perspective views of additional embodiments of the clip and load supporting elements joined thereto;

FIGURE 10 illustrates a further embodiment of the clip and load supporting element joined thereto, on a portion of the baseboard in front perspective view;

FIGURE 11 is a top perspective view of a lifting or removing tool for removing the clips from the baseboard; and

FIGURE 12 is a front perspective view illustrating the removal from the baseboard of the clip of FIGURE 5, by means of the tool illustrated in FIGURE 11.

The invention provides a display and support fixture which includes a grooved baseboard or equivalent construction, a snap-on clip mountable thereon, and means on the clip for mounting an article on the clip and thus on the baseboard. The clip has a non-planar body so that portions thereof are raised with respect to the baseboard or signboard upon which it is mounted, and the clip is thus described as having an outwardly concavo-convex body. In its preferred embodiment, the new clip for a grooved board includes the described body and inwardly extending snap-on flanges joined thereto. A lifting or removing tool is also provided by the invention, which may be very simple owing to the improved construction of the clip, and comprises a handle and a flange element constituting the tool head.

Referring to the drawings, FIGURE 1 illustrates the display and support fixture generally indicated by the numeral **1**, as it may be employed for supporting and displaying merchandise as well as other materials. The fixture includes a grooved baseboard or signboard **2** and one or more snap-on clips **3** and **4**. Two of the snap-on clips, numbered **3**, are illustrated as supporting a bent wire hanger **5** or the like, on which various articles of merchandise, display cards, or other items may be supported or suspended outwardly from the outer or front surface **6** of the baseboard. This view also illustrates the fixture including a can holder clip **4**, also illustrated in FIGURES 5 and 12, supporting an oil can **7** or the like as a display. Other articles may be mounted on the baseboard **2**, such as the thin flexible plastic card or sheet **8** bearing printed copy, or letters or other characters as illustrated in my aforementioned prior patent application.

The baseboard or signboard **2** includes a plurality of spaced parallel preferably dovetailed elongated grooves or channels **9**, which alternate with correspondingly raised undercut or recessed strip portions or surface portions **10** which form the outer surface **6** of the baseboard. The baseboard **2** is preferably, but not necessarily, constructed of plastic material, preferably synthetic thermoplastic organic resinous material such as polystyrene and vinyl chloride polymers and copolymers. The baseboard can be formed as a grooved sheet, such as by extrusion or vacuum forming. One surface may be grooved, such as the

outer surface 6, or the reverse surface may also be grooved. Alternatively, a pair of baseboards 2 may be employed back to back. It is preferred that the baseboard 2 be a unitary or one-piece grooved sheet or panel, but in a less desirable although useful embodiment, the strips 10 can be separate pieces fastened to a flat sheet or base, with the strips spaced apart and in parallel, by mechanical means, adhesives or other securing means.

The plastic material of construction for the baseboard 2 must be relatively strong and rigid, and remain true to shape and size, so that the proper engagement with the clips such as 3 and 4 continues to be obtained over a period of time and under varying conditions. These characteristics are also necessary for the support of various articles thereon, which may be relatively heavy and supported at some distance from the surface 6 of the baseboard. Consequently, the resinous material is preferably a synthetic addition polymer of the unsymmetrically substituted ethylene class, comprising resins obtained by the polymerization or copolymerization or monomers containing a

$$CH_2=\overset{|}{C}-$$

group, such as vinyl halides, vinyl esters, styrene and acrylics. Of the class, those polymers are employed which can be formed and will hold a shape. Polystyrene and vinyl polymers are further preferred, more preferably high impact polystyrene and copolymers of vinyl chloride and vinyl acetate. For example, a very useful copolymer constitutes 85% by weight of vinyl chloride and the balance vinyl acetate. It is also contemplated that the baseboard be produced from synthetic thermosetting resin as the plastic material.

In some applications, the fixture may be employed as illustrated in FIGURE 1 and the various articles which engage in the grooves 9 of the board may be inserted from the ends, sliding them into position. However, it is often necessary or desirable to mount the baseboard 2 in a frame or the like, in conventional manner not illustrated, and in these instances, it is necessary that the articles engaging in the grooves, such as the clips 3 and 4, cards 8, and letters or other characters, be mounted on the board from the front. Also, there is the disadvantage in sliding such articles in the grooves, that they must be inserted in the proper order and if the order is to be changed, a number of articles must be removed and rearranged. It is a feature of the invention that the display fixture includes the novel snap-on clips such as 3 which are both readily inserted and removed from the front of the baseboard and yet result in a strong and durable assembly capable of supporting heavy articles without being dislodged.

In providing the grooved baseboard adapted for combination with snap-on fittings, the grooves are dovetailed or have sides 11 inclined from the surface 6 of the baseboard at an angle *b* (see FIGURE 4) of about 40 to 60°, preferably about 50°. The angle may be less but is preferably not greater, or the clips such as 3 or other articles may come off when not intended. Depending upon the intended use, only some of the grooves need have inclined sides such as 11, it merely being necessary that there are sufficient oppositely inclined sides 11 and 12 to enable snap-on engagement with the articles attached in the desired locations.

In providing an attractive and versatile baseboard 2, the grooves 9 and the strip portions 10 may be of relatively small dimensions. For example, in the embodiment illustrated, the outer surface of the strip portions 10 may have a width of about ⅜ inch, represented as *c* in FIGURE 4, and the opening or the mouth of the grooves 9 may have a width, represented as *d*, of about one-half that value. The width of the grooves *d* may be reduced to render the grooves less prominent. In this construction, the clip as represented in a simple embodiment by the

perforated clip 13 in FIGURE 4, may span two or more strip portions 10.

In a simple embodiment of the invention, a clip 13 as illustrated in FIGURE 4 is provided which is composed of a body 14 provided with a central hole or opening 15, and a pair of inwardly extending snap-on flanges 16 which are inclined towards each other from opposite edges of the body. The body 14 of the clip is thus raised or projects outwardly from the flat outer surface 6 of the baseboard 2, leaving a concavity 17 for insertion of a removing tool between the clip and the baseboard. The body and the flanges 16 together form a C-clip, with the body of the clip extending in three substantial dimensions. Another embodiment of the C-clip is illustrated in FIGURE 10 wherein the clip has an arcuate body 18.

In the described construction, the clip has an outwardly concavo-convex body. This construction is important for two principal reasons. To accomplish the objects of the invention, it is necessary to provide a strong relatively rigid clip for the reliable support of heavy articles. This results in problems of construction in also attempting to provide a small clip which can be fastened from the front of the baseboard and removed without special measures, and without damage to or weakening of the clip. With the described construction, and referring to FIGURE 12, the clip 4 may be applied to the baseboard 2 by thumb pressure in the direction of the arrow 19, causing the clip to snap on the board. The non-planar or concavo-convex body 20 construction renders the body and the clip 4 flexible and extensible, so that it spreads sufficiently for engagement of the flanges 16 in the grooves 9.

The expansible construction of the clip cooperates in the same manner when removing the clip from the baseboard. Also, the concavity 17 provides room for insertion of the lifting tool 21. This tool may be relatively simple and constructed as a bent bar or the like including a handle 22 and a flat flange 23 at an angle to the handle and constituting the tool head.

In removing a clip, thumb pressure is again exerted in the direction of the arrow 19 in FIGURE 12, on the top or outer surface of the clip, which tends to spread the clip and the flanges 16 thereof. At the same time, the flange 23 of the lifting tool is inserted between the clip and the baseboard and rotated counterclockwise, which lifts the upper flange 16 of the clip from its groove followed by removal of the clip. The tool may be stored inconspicuously behind or in the vicinity of the fixture when not in use, hanging it by means of a hole 24 in the handle.

The clips such as 3, 4, 13 and the other clips illustrated must be stiff or rigid and strong yet flexible and resilient. It is therefore preferred that they be unitary and constructed of strong and durable metal, preferably annealed spring steel. It is necessary that they be relatively thin for application and removability, and about 30-gauge or 0.012 inch sheet metal is recommended. For these reasons and also to provide an inconspicuous clip, the size of the clip is such that the body is on the order of one inch square. Thus, the width of the body, *e* as represented in FIGURE 4, is preferably about one inch, and the length *f* as illustrated in FIGURE 5 is about one inch. The other construction is about in the proportions illustrated in the various views. The flat integral flanges 16 may be about 1/16 inch in width. In order to permit the clips and the flanges 16 to be pressed on the baseboard without buckling the flanges, and also to retain the clips and supported articles on the baseboard, the flanges form an angle *a* with the surface 6 of the baseboard of about 40 to 60°, preferably 50°, as illustrated in FIGURE 4. The same angle is formed with the outer flat surface of the body 14 of the clip 13 or with the horizontal when the clip stands on a horizontal surface.

The clip is provided with means for mounting an arti-

cle thereon. In the simple embodiment represented by the clip **13** in FIGURE 4, the mounting means constitutes the hole **15** in the body of the clip, in which may be secured an article or additional mounting means. Preferably, an additional load supporting element is joined to the body **14** and extends or projects outwardly therefrom. For example, the simple form of the clip **13** may have attached thereto a bent utility rod **25** as illustrated in FIGURE 9, by riveting or other appropriate attachment.

A further illustration of a very advantageous construction is given in FIGURE 8, which illustrates a merchandise rack or shelf **26** which serves as a load supporting element and is fastened to the perforated clip **13** by a tubular rivet or grommet **27**. The merchandise rack is provided with a plurality of holes or openings **28** in which numerous articles may be displayed or supported. To illustrate, a tooth brush may be displayed in each of the openings, various tools such as screw drivers may be displayed or supported, and other uses become apparent. The merchandise rack **26** may extend for a considerable distance and include a number of holes, so that a pair of clips **13** is fastened to the rack, only a portion of which is illustrated.

Another useful construction is illustrated in FIGURE 7, and it includes the clip **13** and a card holder or the like **29** riveted thereto. A channel **30** is provided at the base of the holder for supporting cards, price indicia, and the like. A card holder may also be supported by two clips **13** if it is relatively long.

An especially useful embodiment is illustrated in FIGURE 10, wherein a hook **31** is pivotally secured to the outer face of the arcuate body **18** by means of a tubular rivet or grommet **27**. In alternative constructions of the clip, the load supporting element may be integral with the body of the clip, being stamped therefrom, as illustrated in FIGURES 1–3, 5, 6 and 12. In producing such a clip, it is blanked out on a progressive die and preferably heat treated after it has been cut and shaped, to provide a strong one-piece construction.

In the embodiment of FIGURE 5, a pair of opposed nibs **32** are pressed out from the body **20**. They serve to support a can by its lip or edge, as illustrated for the can **7** in FIGURE 1.

In FIGURE 6, a clip **33** is illustrated, from the body **34** of which a perforated flange fitting **35** has been pressed out. The flange is normal to the outer surface of the body **34** and is provided with a central hole **36** which may serve for supporting various articles. As illustrated in FIGURE 1, a wire hanger **5** may be added, and articles of merchandise are hung thereon.

FIGURES 2 and 3 illustrate a clip **37** and sleeves or collars **38** pressed from the body **39** thereof. A bottle holder **40** is supported by the clip and the ends **41** of the holder are journalled in the sleeves **38**. The holder is constructed of spring wire and includes a central loop **42**, intermediate sides **43** and the ends **41**. The holder **40** is placed around a bottle **44** as illustrated in FIGURE 2, and the ends **41** are inserted in the clip. For insertion and removal of the holder, the sides **43** are pressed together by the fingers, removing the ends **41** from the sleeves **38**. The holder is rotatably journalled in the sleeves **38**, so that the bottle **44** is supported with its side abutting on the outer surface **6** of the baseboard.

The preferred clips are constructed so that when engaged with the baseboard, the flanges **16** and/or the adjacent body portions of the clip tend to clap the strip portions **10** between them, i.e., they exert pressure thereon. This both assists in preventing accidental removal of the clip and supported article and provides a tight connection to the baseboard without substantial play or relative movement of the two. The clips may be slid along the strip portions but the spring tension and frictional resistance prevents the clips from being readily displaced by accidental contact.

The elements of the new combination of the grooved baseboard and the novel clip cooperate to provide a versatile changeable display and support fixture which constitutes an improvement over the pegboards which have long been in use. The snap-on clip is especially well adapted for locating and supporting articles of numerous types and sizes on the baseboard, with ease and simplicity of mounting and removal. The fixture is especially adapted for mounting wherever desired, such as on a wall, over a partition wall, on or extending from a post or column, hanging in aisles, and any other convenient locations. The construction is lightweight, strong and durable and yet presents an attractive appearance and is well suited for its diverse uses.

The invention is hereby claimed as follows:

1. A display and support fixture which comprises a grooved baseboard having a plurality of parallel dovetail-shaped ribs, a snap-on resilient clip mounted thereon, said clip having a concavo-convex body, a front panel, oppositely disposed and outwardly flaring panels, and re-entrant flanges, said flanges being substantially shorter than the flaring panels, said re-entrant flanges being so angled and the front panel being so spaced from the baseboard that pressure placed on the front panel of said clip causes said flanges to engage said ribs, and means on said clip for mounting an article thereon.

2. A display and support fixture which comprises a grooved baseboard having a plurality of parallel dovetail-shaped ribs, a snap-on resilient clip mounted thereon, said clip having a concavo-convex body, a front panel, oppositely disposed and outwardly flaring panels, and re-entrant flanges, said flanges being substantially shorter than the flaring panels said front panel being raised from said baseboard, said re-entrant flanges forming an angle with the surface of said baseboard of from about 40° to about 60°, and means on said clip for mounting an article thereon.

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