

A Signboard

This invention relates to a signboard and component parts thereof.

Signboards have been proposed in which a plurality of panels bearing information can be attached to a surface by engagement of the panels with respective retaining clips connected to the surface.

The clips include resilient engagement members which deform to engage the panel in a snap-fit arrangement. The engagement members are subjected to considerable strain in the engagement process and are consequently susceptible to failure after few clipping and unclipping operations.

It is an object of the invention to provide a signboard and component parts thereof which alleviate this problem.

According to the invention there is provided signboard apparatus comprising at least one clip member onto which a panel is removably attachable in snap-fit engagement, the clip member having a curved panel engaging surface arranged to contact a lip of the panel substantially at a point when the panel is being attached.



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In the described embodiment of the invention, the clip members are either of generally circular, oval or slightly barrelled form, an arcuate portion of each member forming the panel-engaging surface. When a panel is clipped to the member, since the engaging surface is of curved form, there is only a small area of contact between the panel and the clip member. This results in a concentration of pressure, so that relative deformation of the panel and clip to allow engagement can be greater for the same level of applied force. The construction of these components can thus be more robust in comparison with the prior art.

An embodiment of the invention, will now be described by way of example, with reference to the accompanying drawings in which:

Figure 1 is a perspective view of an embodiment of the invention;

Figure 2 is a plan view of a strip of clips;

Figure 3 is a cross-sectional front view across A-A of Figure 2 with panels attached;

Figure 4 is an enlarged view of "B" of Figure 3;

Figure 5 is an enlarged view of "C" of Figure 3 with an additional panel 20 attached;

Figure 6 is an enlarged cross-sectional end view of a panel of Figure 3;

Figure 7 is an enlarged cross-sectional end view of a clip 8 and rail of Figure 1;

Figure 8 is an enlarged front view of a panel 22 of Figure 3; and

Figure 9 is an enlarged view of a clip 6 of Figure 1.

Figure 1 is a perspective view of a sign board comprising two strips 2 of clips (of which one is shown) which slidably engage a support rail 4. A plurality of extruded aluminium panels 18, 20, 22 extend between the rows of clips and are connected thereto. The clips are formed from injection moulded plastics material e.g. polyethylene. The clips are of two shapes clips 6 and clips 8.

Panels 22 provide signboard dividers, between regions comprising different kinds of information or different offices for example and signboard edges, while panels 18, 20 have information provided upon them.

Figure 2 is a plan view of the strip of clips 2. Clips 6A, 6B, 6C, and 6D have oval or barrel shaped heads having curved, preferably arcuate panel-engaging surfaces 7. Clips 8A, 8B,

8C, 8D, 8E and 8F are circular shaped panel-engaging surfaces 9. The clips 6 and 8 have bores 12 and 16 respectively, for fastening the clips to a wall or board by means of screws, for example.

Figure 3 is a side view of the strip of clips 2. A single panel 18 is clipped onto three clips 6A, 6B and 8A. Panels 20 are respectively clipped onto each of the clips 8B and 8C. Panels 22 are respectively clipped onto each of the clips 6C and 6D.

Grooves 34 are formed in the moulded plastics between each clip provide cutting guides so that the strip of clips 2 can be parted accurately when the clips need to be separated. The length of the row of clips 2 may thus be varied and the relative position of the two kinds of clip 6, 8 changed in accordance with need.

By comparison of Figures 2 and 3, it can be seen that the clips are curved not just in two-dimensions, but also in the third dimension, since each clip has a curved panel-engaging surface 7 in plan as shown in Fig. 2, this surface also being curved in cross-section as shown in Figure 3.

Figure 4 is an enlarged view of the partially engaged panel 20 and clip 8E. Engagement is performed by first engaging concave lip 26 of the panel with side 28 of the clip and then applying pressure to force lip 32 over side 36. The edge 32 engages the side 36 almost tangentially, thus concentrating the force applied to the panel and clip, making relative deformation of these components, to allow engagement in a snap-fit manner, easier.

Figure 5 is an enlarged view of the panel 20 clipped onto the clip 8 and the panel 22 clipped onto the clip 6. The panel 20 is retained by clip 8 by the two concave outer edges 26 and 32 being held firmly by the edges 28 and 36 respectively.

Figure 6 is an enlarged cross-sectional front view of the panel 20, showing concave edges 26, 32 in greater detail. The concave edge 26 is of the same or marginally larger radius R as the edge of the clip. The edge 26 also extends 60° from horizontal, to ensure a firm grip on the clip once attached.

As shown in Figure 7, the rail 4 has a two longitudinally extending triangular grooves 40 in which corresponding formations 42 of the clips are retained when the clip is slid on to the rail.

Figure 8 is an enlarged view of clip 22. The clip 22 has similar concave edges 44, 48 to panels 20. Figure 9 shows a clip 6 onto which the panel 22 attaches. The clip 6 has convex edges 56, 58. The concave edge 44 clips onto the convex edge 56 and the concave edge 48 clips onto the convex edge 58.

At each end of the signboard, panel 22 is connected to a clip 6. Limb 60 of panel 22 extends over the clip 6 covering this to provide a neat finish to the end of the signboard. Grooves 50 formed on one or both sides of the clip 6 are cutting guides so that the strip can be parted accurately to accommodate limb 60 wherever panel 22 is positioned. For example in Fig. 5, the panel 22 is used as a divider and the strip is broken at 50 and 34, with the intervening portion being removed to accommodate limb 60.

From the above description on the general features and working principles of the signboard apparatus, it would be obvious to a person skilled in the art that there are many variations and alternative embodiments that may be used in substitution of the parts of the present invention. For example, the clips may be provided individually or connected with one other, for example, formed a strip as shown, permitting numerous permutations. Furthermore, although the clips have been shown with two curved

the present invention as illustrated by specific preferred embodiment described herein and shall be considered as falling within the scope of the following claims.

Claims

1. Signboard apparatus comprising at least one clip member to which a panel is removably attachable in snap-fit engagement, the clip member having a curved panel-engaging surface arranged to contact a lip of the panel substantially at a point when the panel is being attached.
2. Apparatus as claimed in claim 1 wherein the clip member is of circular form.
3. Apparatus as claimed in claim 1 or claim 2 wherein the clip member is of oval form.
4. Apparatus as claimed in any one of the preceding claims wherein the clip member is of barrelled form.
5. Apparatus as claimed in any one of the preceding claims wherein a plurality of said clip members are connected together.
6. Apparatus as claimed in claim 5 wherein said plurality of clip members are formed together as a single piece.
7. Apparatus as claimed in claim 6 further comprising parting guides formed between the clips.

8. Apparatus as claimed in any one of the preceding claims comprising a plurality of said panels.

9. Apparatus as claimed in claim 8 wherein said panels are of different sizes.

10. Apparatus as claimed in any one of the preceding claims further comprising a support rail engageable by the clip member.

11. Apparatus as claimed in any one of claims 1 to 10 wherein the panel-engaging surface is three-dimensionally curved.

12. A signboard comprising a plurality of clip members and a plurality of panels connectable in snap-fit engagement between spaced pairs of the clip members, the clip members each having an arcuate panel-engaging surface arranged to contact a lip of the panel substantially at a point when the panel is being attached.

13. A clip member for signboard apparatus, the clip member including an arcuate panel-engaging surface for snap-fit engagement with a lip of a panel, the surface being arranged to contact the lip substantially at a point when the panel is being attached to the clip.

14. A clip member as claimed in claim 13 having a circular panel-engaging surface.

15. A clip member claimed in claim 13 having a barrel-shaped or oval-shaped panel-engaging surface.

16. In combination a clip member as claimed in any one of claims 13 to 15 and a panel having a lip engageable with the panel-engaging surface.

17. A clip member as claimed in any one of claims 13 to 16 wherein the panel-engaging surface is three-dimensionally curved.