CEILING AND WALL PANEL CLIPS

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Abstract

Ceiling and wall panel clip assemblies are characterized by wall and ceiling panel clips having extending fingers that engage companion U-shaped spring-steel panel clips attached to various panels for securing the panels to a framework or grid on the wall or ceiling of a structure. The ceiling panel clip includes a main tee characterized by a main tee leg, typically fitted with a top cross member and a bottom cross member and extending downwardly to a finger mount that mounts the three fingers which engage the corresponding panel clips in a friction-fit. In one embodiment the ceiling panel clips accommodate a support clip fitted over the top of the main tee at the top cross member and having a flange and a downwardly-extending leg attached to a lanyard secured to a decorative ceiling panel, for safety purposes. The wall panel clips include a finger mount flange for supporting the three outwardly-extending panel fingers that engage the companion panel clips attached to selected wall panels. Mount openings are provided in the finger mount flange for receiving screws and securing the finger mount flange to a wall structure or a wall and mounting the panels on the wall structure or wall by engaging the respective panel clips and corresponding fingers attached to the finger mount flange, in a friction-fit.
CEILING AND WALL PANEL CLIPS

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of and incorporates by reference prior filed pending U.S. Provisional Application Ser. No. 60/557,530, filed Mar. 30, 2004.

SUMMARY OF THE INVENTION

[0002] This invention relates to ceiling and wall panel attachment devices and more particularly, to ceiling and wall panel clip assemblies, which in separate embodiments are designed to secure panels such as decorative ceiling panels to a cross-tee ceiling structure and decorative wall panels to a wall or wall structure. The ceiling panel clip element includes a main tee having a main tee leg which is typically, but not necessarily, fitted with a top cross member and a bottom cross member, and having a transverse finger mount, with three spaced-apart fingers extending downwardly from the finger mount for removably engaging corresponding companion, generally U-shaped spring-steel panel clips attached to the ceiling panels, in a friction-fit. The ceiling panel clips may accommodate a support clip shaped to engage the top cross member on the main tee leg of the ceiling panel clip and provided with a downwardly-extending support clip leg, to which is attached a lanyard secured to an underlay, typically decorative, ceiling panel, for safety purposes. In another preferred embodiment both the end fingers and the middle finger elements of the ceiling panel clip are serrated to more securely, yet releasably, engage the respective cooperating panel clip elements in the clip assembly, which are attached to the respective ceiling panels.

[0003] The wall panel clip embodiment of this invention includes an elongated finger mount flange fitted with spaced-apart mount screw openings for receiving mount screws, facilitating attachment to a wall structure or wall. The finger mount flange is provided with outwardly-extending, spaced-apart end fingers and a middle finger, for engaging the corresponding companion panel clips in the clip assembly, which are secured to various types of wall panels. Accordingly, the respective spaced-apart lengths of wall panel clips can be screwed, bolted, glued or otherwise attached to a wall or wall mount in spaced-apart relationship with respect to each other. Various, typically decorative, wall panels are fitted with the generally U-shaped spring-steel panel clips to engage the corresponding spaced-apart end fingers and middle finger extending from the finger mount flange in the wall panel clips and secure the decorative wall panels on the wall mount or wall in a friction-fit, for easy installation and removal.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0004] The invention will be better understood by reference to the accompanying drawings, wherein:

[0005] FIG. 1 is a perspective view of a preferred embodiment of a ceiling grid or support incorporating the ceiling panel clip elements of a ceiling panel clip assembly of this invention, with a pair of decorative ceiling panels removably installed thereon using companion spring-steel panel clips;

[0006] FIG. 2 is a perspective exploded view of the ceiling grid and ceiling panel clips illustrated in FIG. 1, more particularly illustrating the decorative ceiling panels and panel clips detached from the ceiling panel clips;

[0007] FIG. 3 is an exploded view of a pair of spaced-apart ceiling panel clips, a companion panel clip secured to a decorative panel and a pair of conventional cross-tee and 2-way clip elements of the ceiling grid, to which the ceiling panel clips are attached for securing the ceiling panel clips to a ceiling;

[0008] FIG. 4 is an elevation, partially in section, of one of the ceiling panel clips and a pair of panel clips in a typical ceiling panel clip assembly, along with supporting cross-tees and 2-way clips and decorative ceiling panels illustrated in FIGS. 1-3:

[0009] FIG. 5 is a perspective view of a preferred embodiment of a pair of spaced-apart wall panel clips of this invention attached to a wall mount, with several decorative wall panels in mounted position on the wall panel clips by operation of the companion panel clips;

[0010] FIG. 6 is an exploded view of the wall panel clips, the wall mount and a pair of the decorative wall panels and panel clips in position for mounting on the wall panel clips;

[0011] FIG. 7 is a perspective view of one end of a typical wall panel clip of this invention, more particularly illustrating preferred mount screws for attaching the wall panel clip to a wall or wall mount; and

[0012] FIG. 8 is an elevation, partially in section, of a typical wall panel clip assembly, including a wall panel clip secured to a wall mount and receiving a panel clip on one of a pair of decorative wall panels, for removable attachment of the wall panels to the wall mount.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Referring initially to FIGS. 1-4 of the drawings the ceiling panel clips of this invention are generally illustrated by reference numeral 1 and, in combination with the companion U-shaped, spring-steel panel clips 25, define the ceiling panel clip assembly 25 (FIG. 4). The ceiling panel clips 1 each includes a main tee 2, characterized by a main tee leg 3, optionally fitted with a top cross member 4 and a bottom cross member 5, as further illustrated in FIG. 4. A finger mount 6 terminates the bottom end of the main tee leg 3 in perpendicular relationship thereto and includes a pair of downwardly-extending end fingers 7 that are spaced-apart to accommodate a middle finger 8, also illustrated in FIG. 4. Accordingly, the spaces between the respective end fingers 7 and middle finger 8 are sized to accommodate the respective and companion panel clip legs 33 of the panel clips 32, attached to typically decorative ceiling panels 31, in a tight or friction-fit, for mounting the decorative ceiling panels 31. In a preferred embodiment of the invention the respective panel clips 32 are secured to the decorative ceiling panels 31 by panel grip mount screws 38, at spaced-apart points adjacent to the respective panel edges 36 and the panel sides 37, to facilitate securing the respective panel clips 32 on the decorative ceiling panels 31 to the single ceiling panel clips 1 to define panel match lines 35 between respective panel edges 36, as illustrated in FIGS. 2 and 4 of the drawings.

[0014] In a preferred embodiment the respective pairs of spaced-apart ceiling panel clips 1 are secured to the corre-
sponding conventional, spaced-apart cross-tees 20, each connected in any suitable manner to a ceiling or ceiling mount (not illustrated) and each having a cross-tee leg 21 with cross-tee leg slots 21a, and a cross-tee flange 22 extending across the top of the cross-tee legs 21, respectively. A cross-tee slot 23 is provided in selective ones of the cross-tee legs 21 for engaging a conventional coupling 2-way clip 27, as illustrated in FIGS. 3 and 4 of the drawings. Each 2-way clip 27 further includes an end flange 28, designed to engage a corresponding clip slot 29 provided in the main tee leg 3 of a corresponding ceiling panel clip 31 and a pair of spaced-apart side flanges 29 on each end, which extend through the corresponding cross-tee slots 23 located in selected cross-tee legs 21 of the cross-tees 20, as further illustrated in FIG. 3. The cross-tee legs 21 are typically each provided with a leg edge 24, as further illustrated in FIG. 3. Accordingly, it will be appreciated from a consideration of FIGS. 3 and 4 of the drawings that the 2-way clips 27 serve to secure the respective ceiling panel clips 31 in spaced-apart relationship with respect to each other on the corresponding cross-tees 20, to fabricate a ceiling grid or support from which to suspend the decorative ceiling panels 31. When this grid has been constructed using the conventional 2-way clips 27 and the conventional cross-tees 20, mounted on a ceiling or ceiling structure (not illustrated) with the respective ceiling panel clips 31, the panel clips 32 on respective adjacent decorative panels 31 can be quickly and easily snapped into the corresponding downwardly-extending, spaced-apart end fingers 7 and middle finger 8, projecting from the finger mount 6 of the ceiling panel clip 31. This action securely, yet removably, supports the respective decorative ceiling panels 31 along the corresponding panel match lines 35, and aligned along the respective panel sides 37, as illustrated in FIG. 2 of the drawings.

[0015] As further illustrated in FIG. 3 of the drawings in another preferred embodiment of the invention a conventional support clip 10 is characterized by a support clip flange 11, extending downwardly from one edge of a support clip cap 13 and having a support clip leg 14 projecting downwardly from an opposite edge of the support clip cap 13 from the support clip flange 11. A leg opening 12 is provided in the support clip leg 14 for receiving one end of a lanyard 15 at a lanyard loop 16, for securing the lanyard to the support clip leg 14 of the support clip 10. The lanyard 15 extends downwardly with the opposite end attached to a lanyard mount screw 17, fitted into a mount screw opening 34, drilled or otherwise provided in the decorative ceiling panel 31. Accordingly, when the support clip 10 is fitted over the top end of the main tee 2 or over the top cross member 4 of the main tee 2 of a ceiling panel clip 1 as illustrated in FIG. 4, the lanyard 15 serves as a safety device to prevent the decorative ceiling panel 31 from inadvertently falling beyond a specified point determined by the length of the lanyard 15, during panel installation and removal procedures.

[0016] Referring again to FIG. 4 of the drawings in another preferred embodiment of the invention finger serrations 18 are provided on the inside surfaces of the respective spaced-apart end fingers 7 and on both projecting edges of the middle finger 8 of the ceiling panel clips 1 to better grip the corresponding panel clip legs 33 of the respective companion panel clips 32 in the ceiling panel clip assembly 25, mounted on the corresponding decorative ceiling panels 31, typically with an approximate 20 pound pull-out strength.

[0017] Referring now to FIGS. 5-8 of the drawings in another preferred embodiment of the invention the wall panel clip elements of a wall panel clip assembly 26 (FIG. 8) of this invention, are generally illustrated by reference numeral 40. Each wall panel clip 40 is characterized by a finger mount flange 6a, from which project the spaced-apart end fingers 7 and middle finger 8, typically provided with finger shoulders 19, as further illustrated in FIGS. 7 and 8. The finger mount flange 6a is sufficiently wide to accommodate multiple wall panel clip mount screws 41, extending through the mount screw openings 44 and engaging a wall mount 42, illustrated in phantom in FIGS. 5, 6 and 8. The typically decorative wall panels 43 are fitted with companion, generally U-shaped spring-steel panel clips 32 using the panel clip mount screws 38, and having panel clip legs 33, as in the ceiling panel clip and panel clip assembly embodiment illustrated in FIGS. 1-4. The panel clips 32 are spaced-apart along the inside surfaces of the respective decorative wall panels 43, adjacent to the panel edges 36 and panel sides 37. The panel clip legs 33 of the panel clips 32 thus engage the corresponding end fingers 7 and middle finger 8 of the wall panel clip 40, as further illustrated in FIGS. 5 and 6 of the drawings. Accordingly, it will be appreciated from a consideration of FIGS. 5-8 of the drawings that the decorative wall panels 43 can be joined end-to-end and top-to-bottom to the corresponding wall clips 40, secured to the wall mount 42 in spaced-apart relationship, by engaging the respective panel clips 32 with the corresponding wall panel clips 40 in a wall panel clip assembly 26 friction-fit. This secure, yet removable, mounting of the respective decorative wall panels 43 on the corresponding wall panel clips 40 and the wall mount 42 facilitates quick and easy assembly and disassembly of the decorative wall panels 43 to and from the wall mount 42, as desired.

[0018] It will be appreciated by those skilled in the art that the ceiling panel clip 1 and wall panel clip 40 elements, together with the panel clips 32, define a ceiling panel clip assembly 25 and wall panel clip assembly 26 that can be utilized to secure various types of pre-fabricated modules of the decorative ceiling panels 31 and decorative wall panels 43 to various types of integral suspension webs, ceiling grids and supports, as well as walls and wall supports, respectively, as desired. Furthermore, it will be recognized from a consideration of FIGS. 1-4 of the drawings that the decorative panel clips 1 can be used with or without the top cross member 4 and/or the bottom cross member 5, as well as the support clips 10 and the lanyard 15, according to the knowledge of those skilled in the art. Moreover, regarding the wall panel clips 40 illustrated in FIGS. 5-8 of the drawings, the finger mount flange 6a elements of the wall panel clips 40 can be of any desired size to accommodate the necessary number and spacing of the mount screw openings 44 and mount screws 41, further according to the knowledge of those skilled in the art. Also, in both the ceiling panel clips 1 and the wall panel clips 40, the corresponding end fingers 7 and middle finger 8 can be of any desired length and spacing to facilitate accommodating the companion assembly panel clips 32, each having a panel clip leg 33 spacing of corresponding dimensions, further according to the knowledge of those skilled in the art.
While the preferred embodiments of the invention have been described above, it will be recognized and understood that various modifications may be made in the invention and the appended claims are intended to cover all such modifications which may fall within the spirit and scope of the invention.

Having described my invention with the particularity set forth above,

What is claimed is:

1. A clip assembly for connecting a panel to a structure, said clip assembly comprising a structure clip characterized by a base connected to the structure and at least three fingers extending from said base in spaced-apart relationship with respect to each other and at least one panel clip provided on the panel for engaging said fingers of said base and securing the panel to the structure.

2. The clip assembly of claim 1 wherein the structure includes a ceiling grid attached to a ceiling and wherein said base comprises a finger mount projecting said fingers and a main tee extending from said finger mount in substantially perpendicular relationship, wherein said main tee engages the ceiling grid for supporting said structure clip and the panel beneath the ceiling.

3. The clip assembly of claim 1 wherein the structure includes at least one cross-tee connected to a ceiling and at least one 2-way clip connecting the cross-tee and wherein said base comprises a finger mount projecting said fingers; a main tee extending from said finger mount in substantially perpendicular relationship; and at least one cross-member spaced from said finger mount, said cross-member extending from said main tee, wherein said main tee engages the 2-way clip for supporting said structure clip and the panel beneath the ceiling.

4. The clip assembly of claim 2 comprising a support clip engaging said main tee leg and a lanyard connected to said support clip and the panel for securing the panel to said support clip.

5. The clip assembly of claim 1 wherein the structure includes a wall structure and wherein said base comprises a finger mount flange for seating on the wall structure and mounting said three fingers and a plurality of fastener mount openings provided on said finger mount flange for receiving fasteners and securing said finger mount flange to the wall structure.

6. The clip assembly of claim 3 comprising a support clip engaging said main tee leg and a lanyard connected to said support clip and the panel for securing the panel to said support clip.

7. The clip assembly of claim 1 comprising at least one gripping element provided on each of said fingers for gripping said at least one panel clip.

8. The clip assembly of claim 2 comprising:

   (a) a support clip engaging said main tee leg and a lanyard connected to said support clip and the panel for securing the panel to said support clip; and

   (b) at least one gripping element provided on each of said fingers for gripping said at least one panel clip.

9. The clip assembly of claim 5 comprising a shoulder provided on each of said fingers for removably receiving the wall panel clips on the panel.

10. A ceiling panel clip assembly for supporting ceiling panels from a ceiling structure, said ceiling panel clip assembly comprising a plurality of ceiling panel clips, each characterized by a main tee engaging the ceiling structure; a finger mount provided on said main tee and three fingers projecting from said finger mount in spaced-apart relationship with respect to each other; and a plurality of panel clips mounted on said ceiling panels for removably engaging said fingers on said finger mount, respectively, and removably mounting the ceiling panels on said ceiling panel clips.

11. The ceiling clip assembly of claim 10 wherein said ceiling panel clips each comprises at least one cross-member provided on said main tee in spaced-apart relationship with respect to said finger mount for engaging the ceiling structure.

12. The ceiling clip assembly of claim 11 comprising a support clip engaging said at least one cross-member on said main tee leg of said ceiling panel clip and a lanyard connected to said support clip and the ceiling panels for securing the ceiling panels to said support clip.

13. The ceiling clip assembly of claim 11 wherein said at least one cross-member comprises a top cross-member defining one end of said main tee and a bottom cross-member provided on said main tee of said ceiling panel clip between said top cross-member and said finger mount.

14. The ceiling clip assembly of claim 13 comprising support clip engaging said top cross-member on said main tee leg of said ceiling panel clip and a lanyard connected to said support clip and the ceiling panels for securing the ceiling panels to said support clip.

15. The ceiling clip assembly of claim 10 comprising at least one gripping element provided on each of said fingers for gripping said at least one panel clip.

16. The ceiling clip assembly of claim 15 comprising a support clip engaging said top cross-member on said main tee leg of said ceiling panel clip and a lanyard connected to said support clip and the ceiling panels for securing the ceiling panels to said support clip.

17. A wall clip assembly for mounting panels on a wall structure, comprising a plurality of wall panel clips, each characterized by a finger mount flange for seating on the wall structure; a plurality of fastener openings provided in said finger mount flange; fasteners extending through said fastener openings and at least into the wall structure for securing said finger mount flange to the wall structure; three fingers extending from said finger mount flange in spaced-apart relationship with respect to each other; and a resilient panel clip provided on each of the panels for engaging said three fingers on said finger mount flange, respectively, and removably mounting the panels on the wall structure.

18. The wall clip assembly of claim 17 comprising at least one gripping element provided on each of said fingers for gripping said at least one panel clip.

19. The wall clip assembly of claim 17 comprising a shoulder provided on each of said fingers for removably receiving the wall panel clips on the panel.

20. A clip assembly for connecting panels to a structure comprising a structure clip having a base for connection to the structure and three fingers extending from said base in spaced-apart relationship with respect to each other and a pair of resilient panel clips provided on the panel for engaging said fingers on said base and removably securing the panel to the structure.