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3,331,171

JOINT COVERS

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2 Sheets-Sheet 1

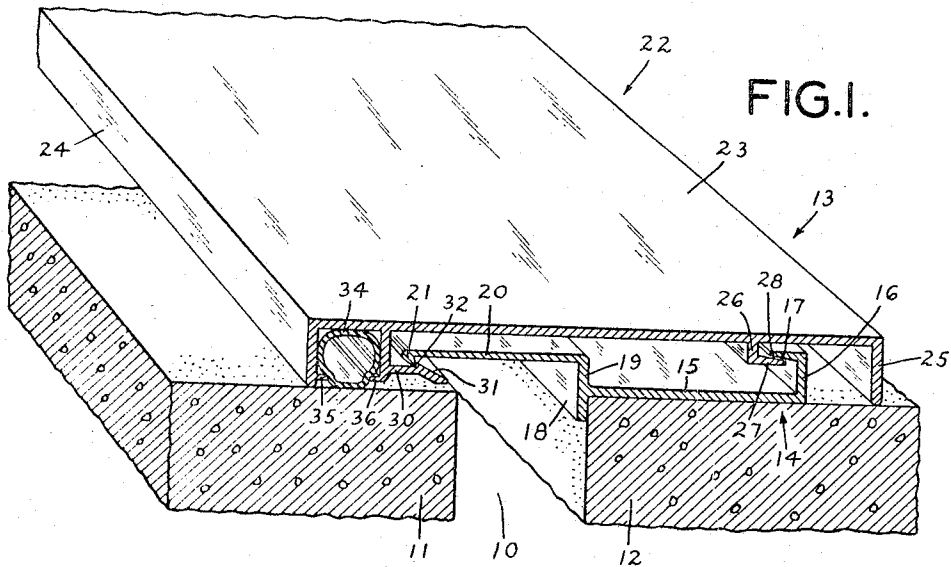


FIG. 1.

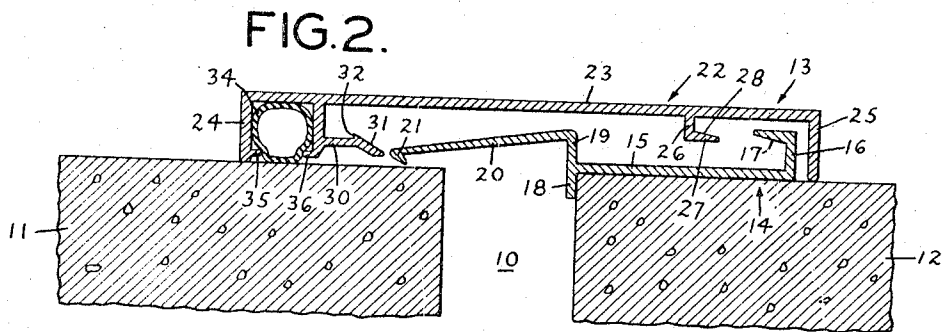


FIG. 2.

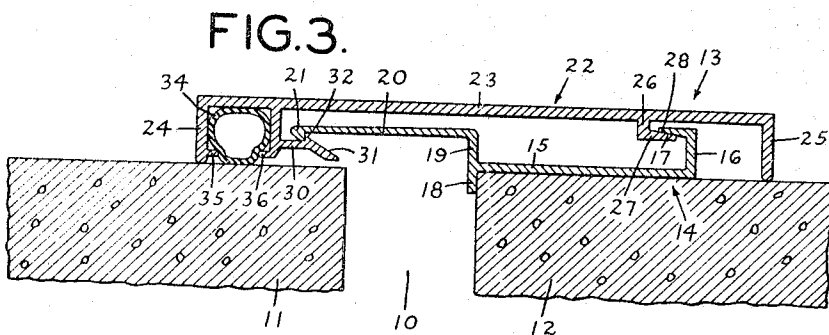


FIG. 3.

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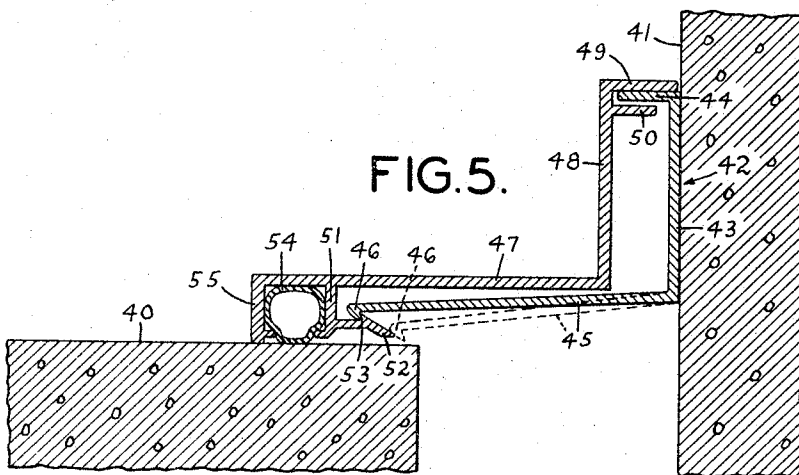
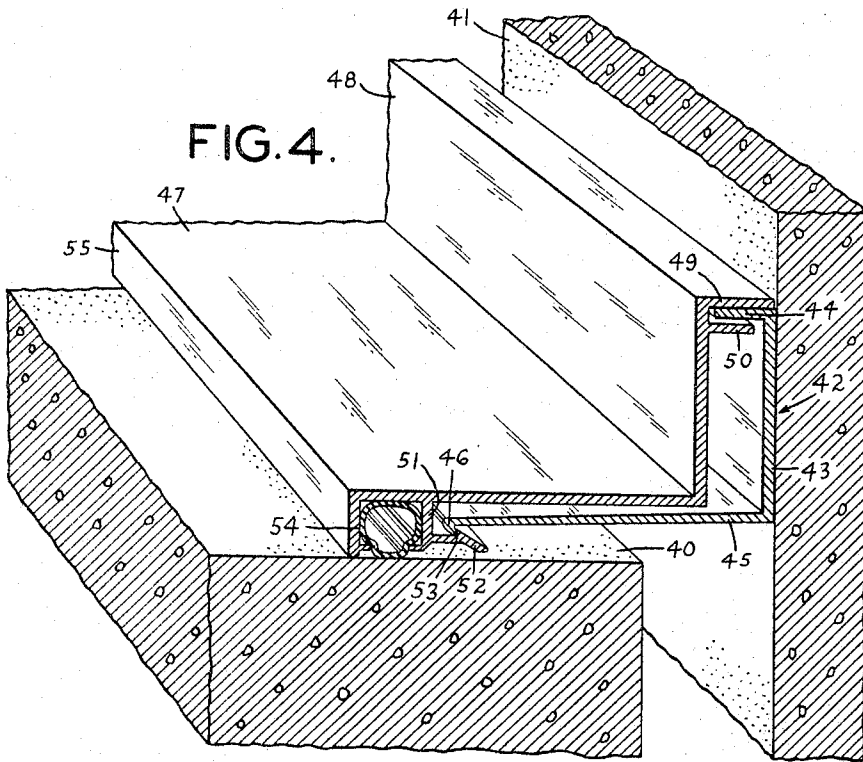
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## JOINT COVERS

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This invention relates to improvements in expansion joint covers for structures, such as walls, floors, walks and the like and, more particularly, to expansion joint covers including base and cover members which can be attached to and assembled on structures of the types indicated above with a minimum of difficulty.

In accordance with the present invention, the new joint cover includes a base member which is adapted to be attached to a structural element, such as, for example, a floor or wall adjacent to an expansion joint or crack therein, and a cover member which covers the joint or crack and engages one or both of the structural elements on opposite sides of the joint and is attached to the base member by means of a snap action connector or connection.

More particularly, in accordance with the invention, the cover member and base member include interfitting elements which position one edge of the cover member relative to the base member and interlocking elements, at least one of which is resiliently biased into interlocking engagement with the other element to retain the cover member on the base member. The above indicated interlocking and interfitting relation of parts enables the cover member to be placed in overlying relation to the base member when the latter is mounted on a structure and pushed across the base member thereby causing the interfitting elements and the interlocking hook-like portions on the cover and member and base member to engage. In this way the cover member is retained securely on the base member and in proper covering relation to the joint without restricting the expansion and contraction of the structural elements at the joint.

Where required, the cover member may be provided with a suitable weather seal in engagement with one of the structural elements on which the expansion joint cover is mounted thereby preventing entry of moisture, dirt or the like into the joint.

Typical cover and base members may be formed as extrusions of metals or plastic and in preferred form of invention and particularly for heavy duty service, the expansion and joint base member and cover member each may be made of a metal extrusion such as extruded aluminum which requires little, if any, additional processing, other than the attachment of weather strips, where required, in order to finish them for use.

For a better understanding of the present invention, reference may be had to the accompanying drawings, in which

FIGURE 1 is an isometric and vertical sectional view of an expansion joint cover for covering a joint in a plane surface, such as, for example, a floor;

FIGURE 2 is a view in vertical section through the expansion joint of FIGURE 1 with the elements in position for assembly of the cover to the base member;

FIGURE 3 is a view in vertical section through the assembled expansion joint cover;

FIGURE 4 is an isometric and vertical sectional view of an expansion joint cover for a joint between vertical and horizontal surfaces; and

FIGURE 5 is a view in vertical section through the expansion joint cover of FIGURE 4.

As a typical example of the present invention, FIGURES 1 to 3 show an expansion joint cover for a gap or opening 10 between two structural elements 11 and 12 having surfaces which lie in a substantially common plane, e.g., a horizontal, vertical or inclined plane. The

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expansion joint cover 13 includes a base member 14 which may be formed as a continuous aluminum extrusion although it is not limited to such materials. The extrusion can be cut to appropriate lengths depending upon the length of the joint or gap 10 to be covered and it may be secured to one of the structural elements such as structural element 12 in any suitable way such as for example by means of cement, screws, anchor bolts or the like (not shown). The base member 14 includes a flat base member portion 15 which is adapted to rest against and be secured to the outer surface of the structural element 12. At one edge, that is, the right-hand edge of the base member portion 15 as viewed in FIGURES 1 to 3, is an inverted generally L-shaped flange 16 which has an inner surface 17 overlying the outer surface of the base member portion 15 and inclined at an acute angle to the surface of the base member portion 15. At the opposite edge of the base member portion 15 is a downwardly extending flange 18 which is adapted to abut against the vertical surface of the structural element 12 and further position the base member 14 as well as protect the edge of the structural member 12.

Extending upwardly from the left-hand edge of the base member portion 15 is a substantially vertical narrow flange 19 from which extends laterally a resilient flange 20 having at its outer end a hook-like portion 21, the purpose of which will be described hereinafter.

A cover member 22 is also provided which serves to cover the gap or slot 10 between the structural elements and to overlie and conceal the base member 14 and engage the upper surfaces of both the structural elements 11 and 12. As shown in FIGURES 1 to 3, the cover member 22 is an inverted channel having a base portion 23 which may have an ornamented, corrugated, roughened or, as illustrated, smooth upper surface and downwardly extending edge flanges 24 and 25, the lower edges of which engage the upper surfaces of the structural elements 11 and 12, respectively.

Cooperating and interfitting with the edge flange 16 of the base member 14 is a generally L-shaped flange 26 on the cover member. A laterally extending portion 27 of the flange 26 has an inclined upper surface 28 substantially complementary to the inclined surface 17 on the flange member 16. The surfaces 17 and 28 are adapted to be engaged by lateral sliding movement as shown, for example, in FIGURES 2 and 3.

Also, the cover member has a flange member 30 of generally L-shaped cross-section extending downwardly therefrom in spaced relation to the edge flange 24. At the right-hand end of the L-shaped flange 30 is a downwardly extending cam or wedge surface 31 having a hook-like upwardly extending ridge 32 thereon at its upper edge.

As shown particularly in FIGURE 2, the flange 20 is normally inclined downwardly with respect to the horizontal from its inner to its outer edge so that the hook-like end 21 thereon will engage the lowermost edge of the cam or wedge surface 31 when the cover member 22 is disposed in the relation shown in FIGURE 2 and prior to connecting the cover member to the base member. With the cover member and the base member in a position shown in FIGURE 2, the cover member may be pushed to the right with the result that the surfaces 17 and 28 on the flanges 16 and 27 will move into overlapping relation and upon continued movement of the cover member to the right, the hook-shaped portion 21 will slide up the surface 31 of the flange 30 and will snap behind the ridge 32 on the flange 31. At the same time, the surfaces 17 and 28 will engage thereby locking the right-hand edge of the cover member against upward movement relative to the base member. The resiliency of the flange 20 will retain the left-hand edge of the cover member with its flange 24 in engagement with the upper surface of

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the structural member 11. The flanges 16 and 27 are sufficiently resilient that they can flex slightly, if necessary, when they are forced together so that accurate machining of the surfaces 17 and 28 is not required.

If for any reason, it is desired to remove the cover member 22 from the base member, a suitable tool can be inserted between the edge of the flange 24 and the surface of the structural element 11 and forced inwardly into a position where the flange 20 can be raised to release the hook 21 from the hook portion 32 on the cover member. Other means for releasing the cover member may be provided if desired.

Inasmuch as the cover member 22 is supported essentially entirely by the base member, little if any restriction is imposed upon a relative movement of structural elements 11 and 12. If water or dirt intrusion beneath the cover member 22 is not desired, a suitable weather strip or seal may be mounted in the cover member as shown in FIGURES 1 to 3. Thus, a tubular weather strip or seal member 34 may be interposed between the flanges 24 and 30 and retained therein by means of inwardly extending flanges or protrusions 35 and 36 on the flanges 24 and 30, respectively. These protrusions may also be formed during extrusion operation. Due to resiliency of the seal 34, it can be readily pressed into and will be retained by the protrusions 35 and 36 in the channel between the flanges 24 and 30. Engagement of the seal at the surface of the structural element 11 respectively prevents the entry of moisture, dust, drafts or the like while the surface contact of the flanges 16 and 27 also provides a protective seal at the opposite side of the joint cover.

FIGURES 4 and 5 illustrate a typical joint cover embodying the invention as applied to an expansion joint between a horizontal surface 40 and a vertical surface 41, for example, between a vertical wall and floor. Basically the joint cover is the same in function as the joint cover disclosed in FIGURES 1 to 3 differing principally in the configuration of the elements necessary to fit them to the building structure. Thus, the base member 42 includes a base member portion 43 adapted to be secured in any suitable way against the vertical surface 41. At the upper edge of the base member portion is an outwardly extending flange 44 substantially perpendicular to the base member portion 43. A resilient flange 45 extends outwardly at a slight angle from the perpendicular to the base member 43 and is provided at its outer edge with a rib extending along the length of the edge of the flange 45 and forming a hook portion 46. The cover member is composed of two right-angularly related cover member portions 47 and 48. At the upper edge of the cover member portion 48 are a pair of flanges 49 and 50 adapted to receive the flange 44 between them. Also, the flange 49 is adapted to engage the vertical surface 41. Spaced from the left-hand edge of the cover member portion 47 is a downwardly extending L-shaped flange 51 having an inclined camming surface 52 thereon and a hook-like ridge 53 at the inner end of the camming surface for cooperation and interlocking with the hook portion 46 on the base member portion. As shown in FIGURE 5 in dotted lines, the flange 45 normally is disposed so that its left-hand end engages the lower edge of the inclined camming surface 52 and thus is sprung upwardly as the cover member is pushed from left to right to engage the flange 44 between the flanges 49 and 50 and to engage the hook-like portion 46 with the hook-like portion 53 on the cover member flange. Inasmuch as the flange 44 is interposed between the flanges 49 and 50, the right-hand edge of the cover member is restrained against upward and downward movement while the engagement of the hook-shaped portions 46 and 52 prevents movement of the cover member to the left. It can, however, be raised to enable the insertion of a tool to release the hook-shaped member 46 from the hook-shaped portion 53 to enable the cover member to be separated from the base member. As shown in FIGURES 4 and 5, the cover member portion 47 may be pro-

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vided with a weather strip or seal 54 which is retained in position between the flange 51 and the cover member edge flange 55 in the same manner as the seal 34 shown in FIGURES 1 to 3.

The above-described expansion joint covers have numerous advantages over prior art covers including the simplicity of the structure and the avoidance of any extra finishing work, such as, for example, attachment elements for retaining the joint cover on the base member. Moreover, skilled labor is not required to assemble the joint cover where needed. The base member shown in FIGURES 1 to 3 is essentially self-aligning and after the base member has been mounted, all that is required is a simple pushing of the cover member into engagement with the base member where they interlock and the cover member is retained in firm engagement with the base member and in tight contact with the surfaces on opposite sides of the expansion joint slot or opening.

It will be understood that the joint covers disclosed herein are illustrative and are susceptible to change in shape, proportions and otherwise as mentioned above. Accordingly, the invention is not limited thereby save as defined in the following claims.

I claim:

1. A cover for a joint between a pair of structural elements comprising a base member having a base member portion, a cover member adapted to overlie said base member and having edge flanges for engaging said structural elements on opposite sides of said joint, interfitting elements on said base member portion and said cover member adjacent to one of the edges thereof, a resilient flange extending from adjacent to the other edge of one of said base member portion and cover member and spanning said joint, a hook-like portion on said resilient flange, a second flange extending from the other of said cover member and base member portion, a hook-like portion on said second flange engageable with and in interlocking relation to said hook-like portion on said resilient flange and urging said interfitting elements together to retain said cover member in overlying relation to said base member.

2. The expansion joint cover set forth in claim 1 in which said resilient flange is on said base member portion and extends laterally away from said interfitting elements on said base member portion and said cover member.

3. The expansion joint cover set forth in claim 2 comprising a weather strip on said cover member portion disposed between one of said edge flanges and the cover member flange having said hook-like portion thereon.

4. The expansion joint cover set forth in claim 1 in which said interfitting elements comprise flanges generally L-shaped in cross-section having substantially complementary acutely inclined engaging faces thereon and comprising an inclined surface on said second flange extending toward said resilient flange for flexing said resilient flange to engage said hook-like portion.

5. The expansion joint cover set forth in claim 1 in which said resilient flange and the interfitting element are disposed substantially perpendicular to and extend in the same direction away from said base member portion and said cover member comprises right-angularly related cover portions, said cover member interfitting element being a pair of spaced flanges on one of said cover member portions for receiving the base member interfitting element therebetween, and said other cover member portion having said hook-like portion thereon.

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