NONCRACKING JOINT COVERING AND FINISH

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This invention has to do with a joint covering and finish which is designed primarily for use in the building arts, and is concerned particularly with the type of joint illustrated and described in my application Serial Number 79,719 which is to be issued April 20, 1937, under Patent Number 2,078,049.

A joint of the type with which this invention is concerned is ordinarily found in a wall-like structure made of a plurality of panels or slab-like members arranged with their outer surfaces in substantially the same plane to form a supporting structure for a coating or finish.

Due to such conditions as temperature changes, moisture changes, drying out of the material from which the panels are made, or the setting up of stresses on the panels incident to building construction or subsequent settling, it is important that the edges of these panels be relatively movable, and this invention is intended to accommodate such movement. Ordinarily a supporting or weight carrying element is also included in the building structure at the adjacent edges of the panels, so as to support these structural parts.

In my above identified patent application various types of joints are illustrated in which provision is made for preventing adhesion of the finishing coating to the panels along zones at the edges of the panels, whereby strains and stresses incident to displacement of the panels are distributed over a relatively wide area of the finishing material.

The present invention is adapted to provide a continuous surface unbroken by ridges or sags, due to the use of a plurality of panels, by providing a coating and under structure therefor which comprises a panel and a resilient elastic porous member arranged adjacent thereto, so as to form a comparatively smooth surface for the coating.

A coating of the general character disclosed in my pending application is then used to cover this surface and provide the continuous surface desired.

The resilience, elasticity and porosity of this member in combination with my said coating then permits various movements of my underlying panels without damaging the outside surface of my coating. This result follows because the resilient elastic and porous member is able to withstand deformation without imparting to the coating the full fracturing influence which would be found otherwise when adjacent panels were moved; my described coating works in conjunction with this cushioning effect to prevent the full movement of the under structure from cracking the outer surface of the coating.

A more limited object is to facilitate the construction of a wall-like surface having the characteristics above described by maintaining the resilient elastic and porous member in proper position by the frictional or abutting contact of adjacent panels.

The invention, therefore, comprises a finished and covered joint in which an under structure is formed of a panel and an adjacent resilient elastic porous member, and the two are then covered with a coating of flexible elastic finishing material such as herein described; the said coating is bonded to the panel and resilient elastic porous member.

For a full and more complete understanding of the invention, reference may be had to the following description and accompanying drawings, wherein:

Figure 1 is a section taken through a joint made in accordance with this invention,

Figure 2 is a view similar to Figure 1 of a modified form,

Figure 3 is another similar sectional showing of still another modification,

Figure 4 is another view taken on the same relative plane, but of a further modification; likewise Figure 5 is a sectional showing of another modified form,

Figure 6 develops another modification, and

Figure 7 is a similar view of still another modified form.

Referring now to the drawings, wherein like reference characters denote corresponding parts, a pair of building panels are shown at 10 and 11 as having edges 12 and 13 which are spaced apart. These panels 10 and 11 may be of any suitable composition which has met with approval for the particular building purpose it is designed. Panels such as these are well-known to those skilled in the structural arts.

In the form of the invention shown in Figure 1, it is notable that the edges 12 and 13 are substantially perpendicular to the broad faces of the panels 10 and 11. Interposed between these edges 12 and 13 is a supporting body designated 14, which is designed to completely fill up the space between the edges 12 and 13. This supporting body should be of a resilient elastic porous material having the ability to permit relative displacement between the panels 10 and 11. As a material for the supporting body 14 an appropriate cork composition will provide the de-
sired results. A supporting stud or beam such as is shown at 15 of Figure 3 is preferably placed under supporting member 14 and the adjacent edges of panels 10 and 11. 5

A finishing coating is designated 16, and is shown as applied continuously over the panel 10, supporting body 14 and panel 11. This coating or finishing material should have the properties of elasticity and flexibility to the degree necessary to accommodate an appreciable amount of movement between the edges of the panels 10 and 11. Due to the spacing of the edges 12 and 13 a comparatively wide distance apart the stresses engendered by such relative displacement will be distributed over a corresponding area of the finishing coating 16.

The coating or finishing material of the type described in my said pending application is preferably used. One example of a composition of such a finishing material is found in said application as follows, and it is noted that the proportion of the material is given by weight:

- Fibrous asbestos..........................pounds— 3
- Ground mineral..................................do.— 1
- Elastic varnish..................................fluid ounces— 45
- Mineral spirit..................................do.— 60

The varnish used in this example is about 50% volatile by volume, and the asbestos used contains fibres of substantial length. The ground mineral may be fine or relatively coarse for texturing or other purposes. It is adapted to be applied in a rather thick coating of 5/16" or more.

Referring now more particularly to Figure 2, a slightly modified form is shown in which the edges of the panels 10 and 11 are disposed at an acute angle with respect to the surface which receives the finishing coating 16. These edges are designated 17 and 18, and are effective to provide a space between the panels which is narrower at the top edges of the surface to which the coating 16 is applied than at the bottom. A resilient elastic supporting body 14 corresponds in shape to these inclined edges 17 and 18, and fills up the space therebetween.

In the form of the invention shown in Figure 3, the edges 12 and 13 of the panels 10 and 11 are perpendicular to the broader surfaces of these panels, but the supporting body 14 engages only the edge 12, being spaced from the edge 13. This free space between the edge 13 and supporting body 14 imparts the capability of the panels 10 and 11 to flex more readily.

It is notable in this arrangement a supporting structure 15 is employed to maintain the supporting body 14 in position between the edges 12 and 13. It is also important to note that a small amount of the finishing material 14 has entered into the space between the edge 13 and body 14, as shown at 19.

Referring now more particularly to Figure 4, the panels 10 and 11 are shown as having the usual right-angled edges 12 and 13, while the supporting body 14 is shown as having inclined edges 20 and 21 that are spaced from the edges 12 and 13 respectively. It is notable that the body 14 is wider at the top than at the bottom, and that the finishing material 16 enters in the space between the edges 12 and 20, as shown at 22, and 13 and 21, as shown at 23. The supporting structure 15 is also shown for the purpose of maintaining the supporting body 14 in position.

Referring now more particularly to Figure 5, a resilient elastic porous panel, such as a cork composition, is shown at 24 as having an edge 25 that is spaced from an edge 26 of a panel 27. The finishing material 16 is applied over the panels 24 and 27 somewhat enters the space between the spaced edges 25 and 16.

A somewhat similar arrangement is shown in Figure 6, in which the edges 25 and 28 meet; the relative movement between the panels being accommodated by the porous and resilient structure of the cork composition panel 24.

In Figure 7 the panels 10 and 11 are shown as having the edges 12 and 13 spaced a slight distance apart. The upper surface of the panel 10, which is designated 28, is cut away to provide a recess 29 in which is positioned a supporting body 30 of the resilient elastic porous material, such as a cork composition. This body 30 extends over into the space between the edges 12 and 13 to engagement with the edge 13. A finishing material 16 is applied continuously over the surfaces of the panels 10 and 11 and the body 13.

While preferred specific embodiments of the invention are hereinbefore set forth, it is to be clearly understood that I am not to be limited to the exact constructions illustrated and described, because various modifications of these details may be provided in putting the invention into practice within the purview of the appended claims.

I claim:

1. In building structure adapted to provide a continuous surface over the panels at their edges adjacent said member, said coating comprising a panel and a resilient elastic porous member arranged adjacent thereto, and a stable coating of a flexible, elastic finishing material bonded to said panel and said member, said coating attaining a thickness of 5/16" at the juncture of said panel and member and comprising particles of solid material, fibrous material, and elastic adhesive material from the class of elastic varnish.

2. In building structure adapted to provide a continuous surface, an under structure for a coating comprising a panel and a resilient elastic porous member arranged adjacent thereto, and a coating of a flexible, elastic finishing material bonded to said panel and said member, said coating comprising particles of solid material including a substantial amount of substantially flexible particles and elastic adhesive material from the class of elastic varnish.

3. In building structure, a finished joint comprising a pair of panels having edges spaced apart, said edges defining a space between the panels which is as narrow at the surface to be coated as it is elsewhere, a member of a resilient elastic porous material interposed between said spaced edges, and a continuous coating of flexible elastic finishing material comprising particles of solid material, fibrous material and elastic adhesive material from the class of elastic varnish applied to said panels and over said member bonded fixedly to the surfaces of said panels at their edges adjacent said member, said coating attaining a thickness of substantially 5/16".

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