March 21, 1939. D. A. HAMILTON 2,151,597

INSTALLATION OF STRUCTURAL GLASS

Filed May 20, 1938

Fig. 1.

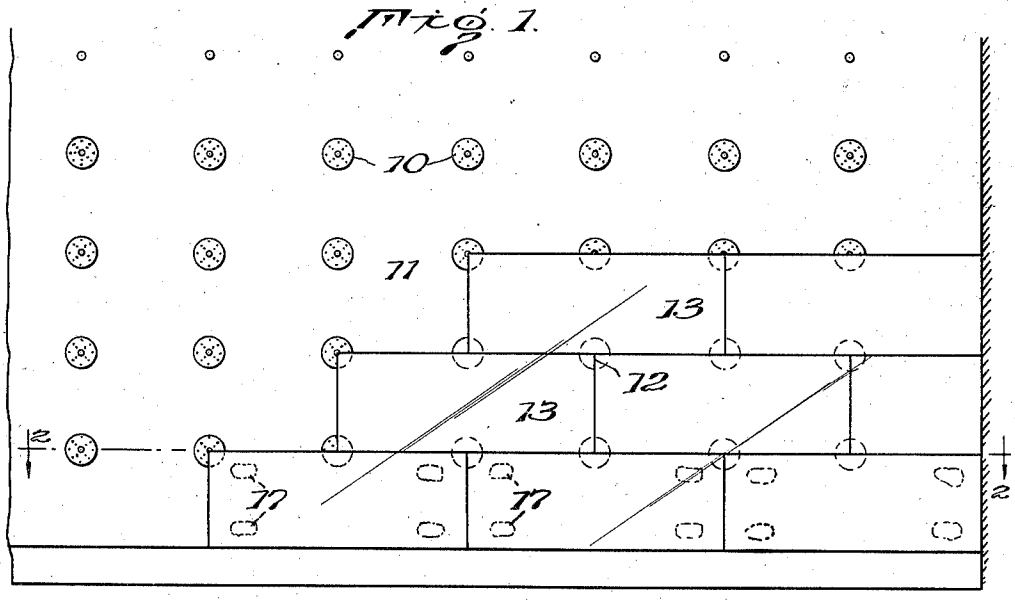


Fig. 2.

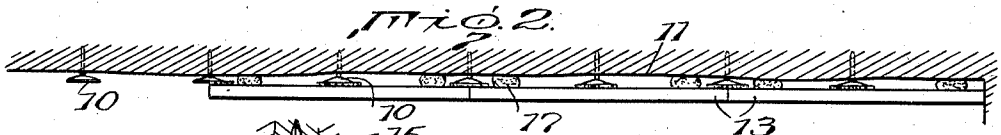


Fig. 3.

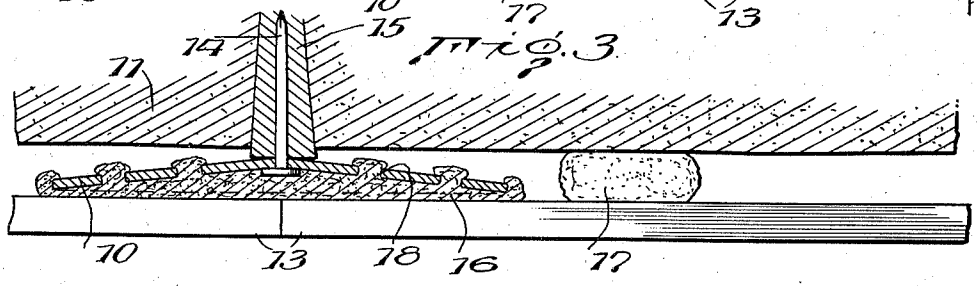


Fig. 4.

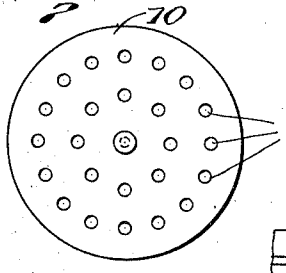


Fig. 6.

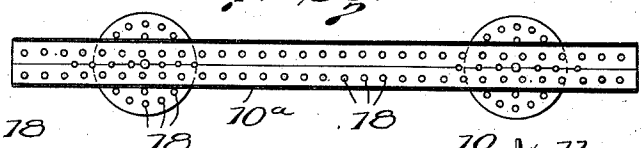


Fig. 7.

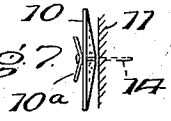


Fig. 8.

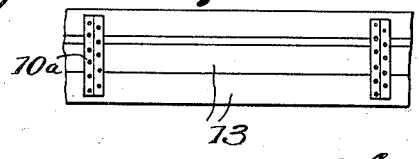
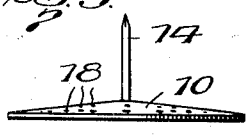


Fig. 5.



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INSTALLATION OF STRUCTURAL GLASS

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Application May 20, 1938, Serial No. 209,143

5 Claims. (Cl. 72—18)

This invention relates to improvements in appliances and methods for installing plates of structural material, for instance, glass, on surfaces to be covered by such material.

One object of the invention is to provide a method of applying plates of structural material to irregular surfaces, whereby the material will present a uniform, level surface when completed, regardless of the number of plates used therein.

Another object is to provide an appliance by which a number of plates of structural material can be installed on a surface and will be more or less instantaneously anchored or secured thereon, thus eliminating distortion or displacement of the joints between plates, and of the plates themselves.

A still further object of the invention is the provision of an appliance by which an uneven or undulating surface can be covered with plates of structural material which will present an even, uniform surface.

More specifically, the invention contemplates an appliance in the nature of a container having a dished or depressed surface in which a body of mastic will be retained, preferably by a number of perforations in said depressed surface, whereby mastic exuded through the perforations will key or interlock the entire body of mastic to the container. In installing the structural plates, the appliances or retainers are secured to the surface to be covered with the several retainers located in a common plane. A quick-setting mastic is then placed in the several containers after which the structural plate is installed on the mastic-filled containers.

Preferably, bodies of a more slowly setting mastic are also interposed directly between the covered surface and structural plates, but the more quickly setting mastic will secure the plates firmly in place to prevent accidental displacement of said plates until the more slowly setting mastic has set.

With these and other objects in view, the invention consists in certain details of construction and combinations and arrangements of parts, all as will hereinafter be more fully described, and the novel features thereof particularly pointed out in the appended claims.

In the accompanying drawing—

Figure 1 is a front elevation of a surface partially covered or concealed by structural plates secured thereto in accordance with the present invention;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a similar view on an enlarged scale;

Fig. 4 is a plan view of one of the mastic containers;

Fig. 5 is an edge view thereof;

Fig. 6 is a plan view of a modified form of container;

Fig. 7 is an end view thereof; and

Fig. 8 is a plan view illustrating a still further modification of the container.

In installing the structural plates, whether they be of glass or other material, a plurality of mastic holders or containers 10 are secured to the wall or other surface 11, with the several containers all located in a common plane. As the plates are to be ultimately supported by the containers, it will be apparent that the plates, when installed, will present an even, uniform surface, regardless of depressions or irregularities that may be present in the covered surface 11. In other words, the spacing of each container with respect to the particular section or point of surface 11 to which it is attached will be such that all the retainers will lie in the same or common plane, regardless of any unevenness in surface 11.

The several containers 10 should, preferably, be so placed on surface 11 that they will be located at the joints 12 formed between contiguous plates 13, the surface of each container preferably being such that it will underlie portions of at least three plates. In installing the plates, the containers are first secured in the surface 11, as described, by nails 14 or other fastening elements, preferably driven in wooden blocks 15 embedded in the wall or surface. A quick-setting mastic 16 is then placed in the containers and the structural plates applied to the surfaces of the mastic in a number of the containers, the several plates being usually applied with sufficient pressure to position the surfaces of the several plates flush with one another. Usually, other bodies of a comparatively slow-setting mastic are also interposed between the plates and surface 11, as indicated at 17. Heretofore, it has been the practice to use only the slow-setting mastic and, as a consequence, it quite frequently occurs that one or more of the plates will be displaced somewhat before the mastic has set and anchored the plates. As a result of this prior practice, open joints and uneven surfaces were a more or less common occurrence. The combined use of the quick and slow-setting mastics, with the latter at the joints, eliminates these difficulties.

Preferably, the containers have a dished or concave surface to receive the mastic and are

formed with a plurality of apertures 18, so that when the mastic is pressed into the container, either at the time the container is filled or when the plates 13 are applied, small increments of plastic will exude through these openings and key or interlock the main body of mastic to the container.

Where it is desired to have the container span considerable distances, it may be made of elongated form as shown at 10a in Figs. 6 to 8. This form of container can be arranged transversely of any number of plates, as illustrated more or less diagrammatically in Fig. 8. Also, if desired, the elongated container 10a can be used in conjunction with the smaller, disc-like containers 10, the latter serving the purpose of properly spacing the members 10a from the surface to be covered. Such an arrangement is indicated in Fig. 7. The nail or other securing element 14 is shown extending through both the containers in Fig. 7, but it will be appreciated that member 10a can be secured otherwise as, for instance, by using mastic in container 10.

In each instance, the structural plates are firmly and quickly secured in place flush with one another, regardless of the contour of the surface covered, and will remain in the positions in which they are initially installed, thus eliminating danger of joints opening up or plates being displaced and thus misalined to destroy the evenness of the assembled plate surfaces.

What I claim is:

1. The method of installing plates of structural glass and like materials to a surface to be covered thereby which consists in securing a plurality of perforated mastic retainers to said surface with said retainers positioned in a common plane, filling said retainers with a quick-setting mastic under sufficient pressure to exude portions of the mastic through said perforations, and applying the structural material to the mastic-filled retainers.

2. The method of installing structural plates of glass and like materials to a surface to be covered thereby which consists in securing to said surface a plurality of mastic retainers with the several retainers positioned in a common plane, filling said retainers with a quick-setting mastic, applying the plate of structural material to the mastic in said retainers, and interposing additional bodies of a comparatively slow-setting mastic directly between said surface and structural plate.

3. An appliance for securing plates of structural material to a surface in spaced relation thereto consisting of a perforated member having a depressed surface for supporting mastic therein at a point spaced from said surface, and means for securing said member to said surface.

4. An appliance for securing plates of structural material such as glass to a surface consisting of a member of sufficient area to overlie portions of each of a plurality of juxtaposed plates of said material, said member having means for supporting a body of mastic thereon independently of said surface, and means for securing said member to said surface.

5. An appliance for securing plates of structural material such as glass to a surface consisting of a member having a depressed surface of sufficient area to overlie portions of juxtaposed plates of said structural material, said depressed surface having recesses therein whereby mastic pressed on to said surface will enter said recesses and be interlocked to said member and means for securing said member to said surface with the mastic on the depressed surface spaced from the surface to which the glass plates are to be secured.

DON A. HAMILTON.