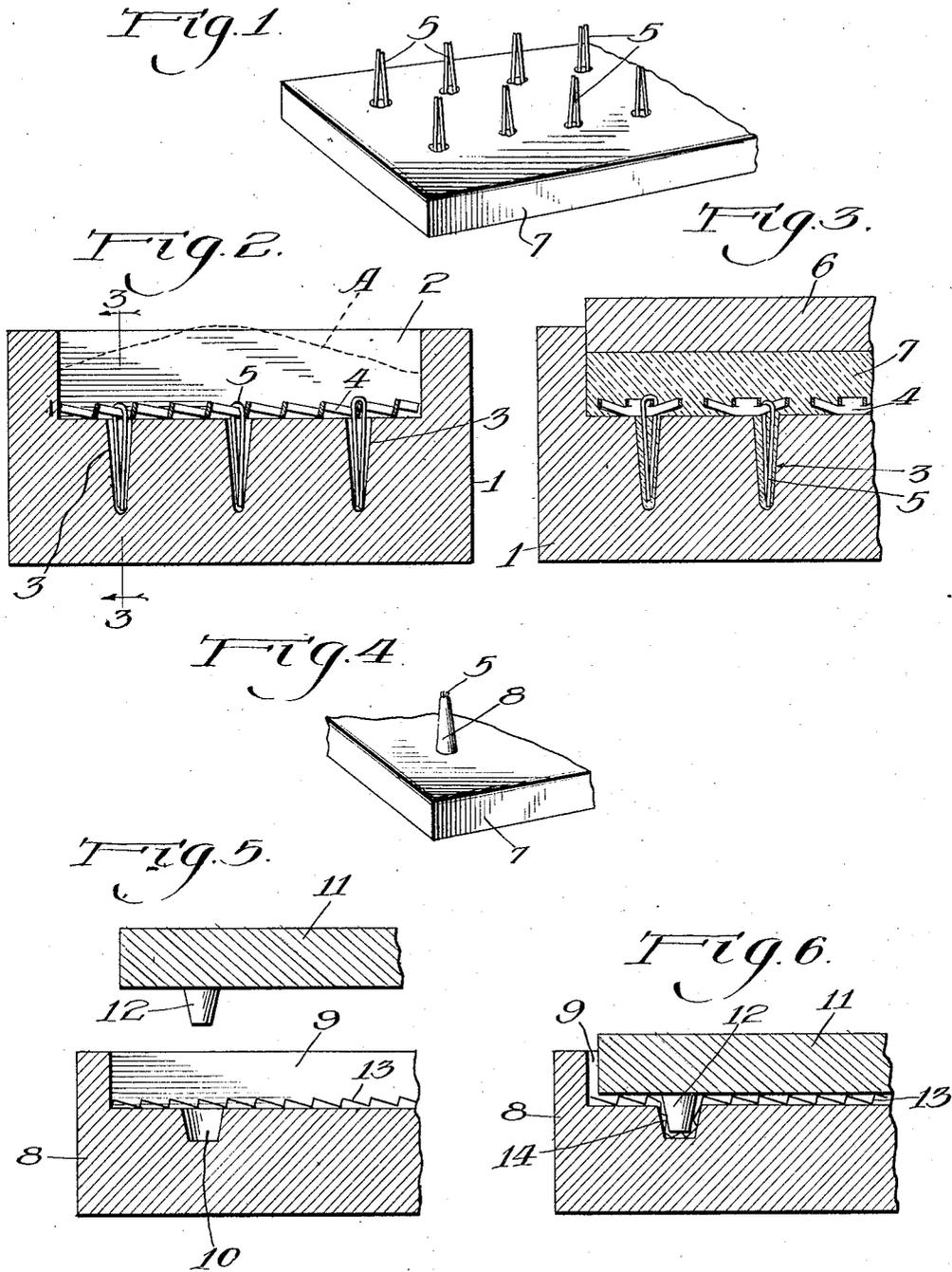


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METHOD OF MAKING REINFORCED BODIES HAVING  
PROJECTING ANCHORING ELEMENTS  
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## UNITED STATES PATENT OFFICE

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METHOD OF MAKING REENFORCED BODIES HAVING PROJECTING ANCHORING  
ELEMENTS

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The present invention has for its object to produce in a simple manner panels and other bodies of opaque vitreous material, reenforced with metal and provided with protruding anchoring wires or other elements of any desired length.

In carrying out my invention I press a mass of molten vitreous material upon a metal reenforcing structure having the anchoring elements projecting from a face thereof, while the reenforcing structure is in a mold whose mold cavity determines the shape of the finished product and which is adapted to accommodate the anchoring elements in such a manner that they will project from the finished body. By employing a mold any desired shape and surface configuration may be obtained, so that I am able to make not only flat panels but many other useful devices that will be strong and capable of being firmly anchored to a support.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawings, wherein:—

Figure 1 is a perspective view of a fragment of a flat panel made according to the present invention; Fig. 2 is a vertical section through a mold having therein the metal reenforcing and anchoring structure preparatory to pouring in the molten vitreous material; Fig. 3 is a section on line 3—3 of Fig. 2, illustrating the final step in the molding operation; Fig. 4 is a view similar to Fig. 1, showing a smaller fragment and the sheathing of vitreous material that may be formed in the molding process upon the individual anchors; Fig. 5 is a sectional view, showing a modified form of mold and means for deforming a metal reenforcing fabric in the latter to produce an anchoring element there-

on; and Fig. 6 is a view similar to Fig. 5, showing the anchor forming means at the end of its downward stroke.

Referring to Figs. 2 and 3 of the drawings, 1 represents a mold having a mold cavity 2 open at the top. Opening downwardly from the bottom of the mold cavity are deep auxiliary cavities 3 of comparatively small cross-sectional area. Having the mold, the first step in forming the molded product is to lay into the mold, so that it will rest at the bottom of the cavity, the metal reenforcing structure having anchor elements depending into the auxiliary cavities. In the arrangement shown, the reenforcing structure is a simple sheet 4 of expanded metal; the anchors being wires 5 bent into U shape and each extending down into one of the auxiliary cavities and having one of the strands of the reenforcing structure lying in the closed end. A mass of molten vitreous material is then deposited in the mold cavity; the broken line A in Fig. 2 indicating roughly the top of the mass when it is first deposited. The top of the mold, in the form of a plunger or platen slidably fitting into the mold cavity, is then forced down upon the molten mass so as to press the vitreous material through the interstices in the reenforcing structure and to a greater or lesser extent into the small auxiliary cavities. The under face of the plunger or platen is shaped to give the desired contour to the upper face of the molded product. When this product is to be a simple flat panel, as shown, the under face of the plunger or platen will be flat. In Fig. 3 I have illustrated the condition which exists at the moment the plunger or platen, indicated at 6, has reached the lower end of its stroke, having pressed the vitreous material through the openings in the reenforcing structure and given to the vitreous material the shape of a flat panel 7. After the molded body has cooled sufficiently to permit it to be removed from the mold, the mold is inverted and the

casting drops out, and the anchors, with their more or less complete sheathings 8 of vitreous material project upwardly from the panel, as indicated in Fig. 4. The vitreous material that may be on the projecting anchors in the form of sheathings may readily be removed by tapping with a hammer or other hard object, leaving the anchors in the condition shown in Fig. 1.

It will be seen that the auxiliary cavities in the mold may be made of any desired depth, so that the finished panel or other object may have thereon wires or other anchor elements projecting several inches therefrom.

In Figs. 5 and 6 I have illustrated a modification in which the mold 8 has a cavity 9 similar to the cavity 2, but has short auxiliary cavities 10 extending down from the bottom of the main cavity. A press or plunger device 11 is adapted to move down into the mold cavity, and it has on its under side a projection 12 corresponding to each auxiliary cavity in the mold. When the member 11 is forced down into the mold cavity while the latter contains a metal reinforcing fabric 13, the projections 12 deform the fabric, as indicated in Fig. 6, to produce open-work bosses or projections 14 thereon. After the reinforcing fabric has been deformed to produce thereon the bosses or projections that will serve as anchors, the process of forming the completed product is carried out in the same manner as in the case of the mold shown in Figs. 2 and 3.

While I have illustrated and described with particularity the best mode now known to me for carrying out my invention, I do not desire to be limited to the details thus illustrated and described; but intend to cover the invention in a broader sense, as will be evident from the definitions of my invention constituting the appended claims.

I claim:—

1. The method of forming a reinforced vitreous body having anchoring elements projecting from a face, which consists in producing a flat open-work sheet of metal having anchoring elements projecting from one side, applying a mass of molten vitreous material, and molding the mass into the desired shape about the metal to embed the same and leave the anchoring elements protruding from the vitreous material.

2. The method of forming a reinforced vitreous body having anchoring elements projecting from a face, which comprises the production of an assembly consisting of a flat horizontal open-work metal reinforcing sheet having anchoring elements depending therefrom and a support underlying the sheet and having openings to receive said anchoring elements; pouring molten vitreous material upon the sheet, and pressing the molten mass down through the interstices in the sheet.

3. The method of producing a reinforced vitreous body having anchoring elements projecting from a face, which comprises laying in the bottom of a mold, having small cavities extending downward from the bottom of the mold cavity, a flat open-work reinforcing sheet of metal provided with anchoring elements depending into said small cavities, pouring a molten batch of vitreous material into the mold, and pressing the mass down through the interstices in the reinforcing sheet.

4. The method of producing a reinforced vitreous body having anchoring elements projecting from a face, which consists in providing a mold having deep cavities of small cross-sectional area extending downward from the bottom of the mold cavity, associating with the mold a reinforcing sheet of open-work metal laid in the bottom of the mold and having long anchor elements depending into said deep cavities, pouring molten vitreous material into the mold, and pressing the molten mass through the opening in the reinforcing sheet and into conformity with the mold cavity.

5. The method of producing a reinforced vitreous body having individual anchoring elements distributed over the length and breadth and projecting from one face of such body, which consists in providing a mould having a flat bottom and deep cavities of small cross sectional area extending downward from the bottom of the mould cavity and distributed across the length and breadth of the mould, laying on the bottom of the mould a sheet of expanded metal having long anchor elements depending into said deep cavities, pouring vitreous material into the mould, and pressing the molten metal through the openings in the sheet of expanded metal into conformity with the mould cavity and into said deep cavities.

6. The method of forming a reinforced vitreous body having anchoring elements projecting from a face which consists in producing a flat sheet of expanded metal having numerous individual anchoring elements projecting from one side and distributed across the length and breadth thereof, laying said sheet upon a flat support having small deep cavities into which said anchoring elements project while said sheet is lying flat on the support, pouring a batch of vitreous material upon said sheet, and pressing said molten metal down through the interstices in said sheet and at least part way into said cavities.

7. The method of forming a reinforced vitreous body having anchoring elements projecting from a face which consists in producing a flat sheet of expanded metal having numerous individual anchoring elements projecting from one side and distributed across the length and breadth thereof, lay-

ing said sheet upon a flat support having  
small deep cavities into which said anchoring  
elements project while said sheet is lying flat  
on the support, pouring a batch of vitreous  
5 material upon said sheet, pressing said  
molten metal down through the interstices  
in said sheet and at least part way into said  
cavities, and removing the cast body from the  
support and breaking away the vitreous ma-  
10 terial surrounding the anchoring elements.

In testimony whereof, I sign this specifica-  
tion.

ELBERT E. FISHER.

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