Feb. 2, 1937. B. J. MANY 2,069,674

MASONRY TREATMENT

Filed June 17, 1935

Fig. 1.

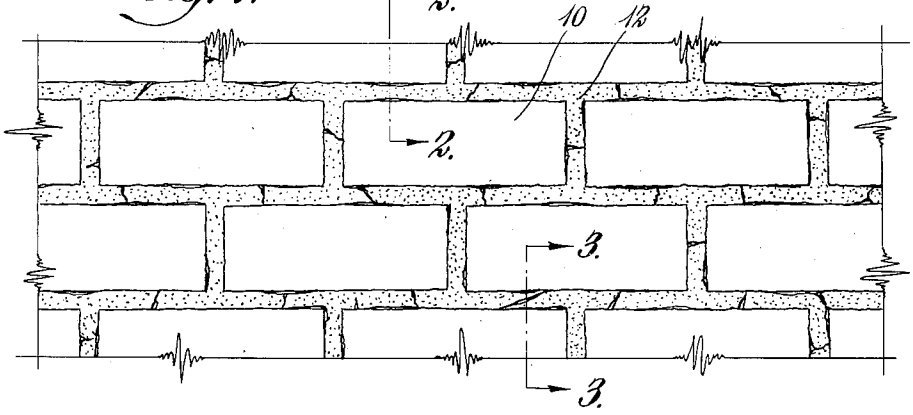


Fig. 2.

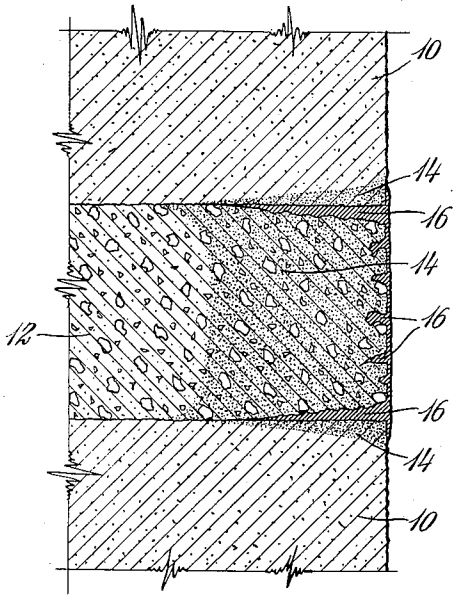
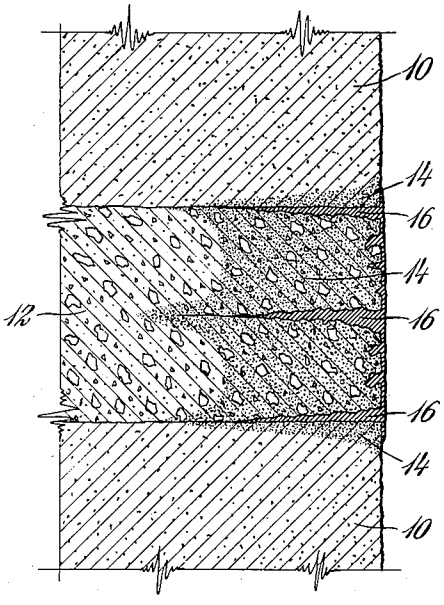


Fig. 3.



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MASONRY TREATMENT

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4 Claims. (Cl. 72—106)

My invention relates to masonry structures, and has among its objects and advantages the provision of an improved method of moistureproofing joint areas, structurally rehabilitating joints, and treating structurally sound joints to prevent disintegration thereof and moistureproofing the same.

In the accompanying drawing:

Fig. 1 is a fragmentary elevational view of a brick wall before treatment;

Fig. 2 is a sectional view along the line 2—2 of Fig. 1 illustrating a joint treated according to my invention; and

Fig. 3 is a sectional view along the line 3—3 of Fig. 1.

In masonry structures made up of brick, stone, tile, etc., the joints between the units of material tend to crack and/or otherwise disintegrate. Frequently the joint tends to break down to a point where it is necessary to reconstruct the joint. Such disintegration is usually caused by the alternate wetting and drying of the material of the joint. The volumetric changes due to alternate wetting and drying tend to break down the bonding properties of the material of the joint, with the result that partial reconstruction is necessitated. Such disintegration of the joint not only results in destruction of the joint itself, but permits penetration of moisture in an undesirable degree.

In reconstructing walls according to present methods, the disintegrating areas must be removed before effective rehabilitation of the joint can be made. My invention embodies a method and a material for rehabilitating the joint and waterproofing the same in such a manner as to eliminate the necessity for removing the disintegrating areas. Furthermore, the application of the material to a joint in good condition prevents such disintegration in addition to rendering the joint moistureproof.

Many methods are now employed in an attempt to waterproof masonry structures, but my invention contemplates a radical departure from existing methods.

As is well known in the art, moisture accumulates within the wall structure proper, and gases are generated, the presence of which is detrimental to the wall structure in the absence of proper venting properties of the structure. Therefore, it is important that wall structure be treated in such a manner that the wall will retain its normal breathing properties. My method of treatment provides an effective moistureproof joint, does not negative the breathing properties of the wall material itself, in addition to rehabilitating the joint and preventing disintegration thereof.

In carrying out my invention, I make use of a treating material consisting of a filler in the proportion of approximately 60% by volume held in suspension by a vehicle medium in the amount approximately 40% by volume. This material embodies an element of penetration of such a nature as to penetrate the joint to a depth greater than normal penetration of moisture in the wall structure proper. At the same time the treating material applied to the joint penetrates the surfaces of the bricks or other material abutting the joint, thereby moistureproofing such areas of the building units within the wall structure at a depth beyond the normal penetration of moisture therein. Thus, penetration of moisture in the wall does not circumvent the treated joint.

Referring to the drawing, Fig. 1 illustrates a wall comprising brick 10 connected into an integral structure by the usual mortar joints 12. In Fig. 2 I illustrate a joint treated with my material. The material is preferably applied to the joint through the medium of a spray gun and subsequently rubbed, brushed or ground into the face of the treated areas.

Because of the peculiar properties of the material, I attain a deep penetration, as indicated by the shaded areas 14. Such penetration is caused by the capillary action of the brick or other building unit and the mortar joint, and the penetration is deeper than the normal penetration of water in the building structure. Thus, in deeply impregnating the mortar joint, in addition to adjacent areas of the wall units, I prevent any circumvention of moisture beyond the treated joint. Thus, through the medium of one application I attain a moistureproof joint in addition to a deposit of a body material sufficiently heavy to fill the cracks and surface cavities, as indicated at 16.

An important feature of my invention resides in the fact of deep penetration and deposition of a filler body whereby I do not depend upon a film or veneer for treating purposes. After application my material sets into a firm, homogeneous mass. Because of the deep penetration, the depth of impregnation is deeper than the disintegrated areas of the joint, whereby the disintegrated areas are structurally rehabilitated. Furthermore, the treating of joints in good structural condition prevents disintegration thereof.

My method is essentially a simple one, in that a single application is sufficient. In treating good

joints to prevent disintegration, I eliminate the necessity for frequent repairing of the wall structure. In rehabilitating disintegrated joints, my method is an economical one in that it eliminates the necessity for removing the disintegrated parts of the joint structure and rebuilding the same.

In limiting the application of my method and material to the joint areas, I maintain normal breathing of the wall structure. Thus, moisture accumulations within the wall structure and gases which are frequently generated therein have freedom of escape, in contradistinction to wall structures which are treated over the entire surface.

Without further elaboration, the foregoing will so fully explain my invention that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. The method of moistureproofing and rehabilitating disintegrating joints in a masonry structure, which consists in applying a mass embodying a filler and waterproofing material of high penetrating properties to the joint areas, allowing the mass to partially set for the penetrating material to impregnate the areas to a depth exceeding the normal penetration of moisture, and then working the filler into said areas.

2. The method of moistureproofing and rehabilitating disintegrating joints in a masonry structure, which consists in applying a mass embodying a filler and waterproofing material of high penetrating properties to the joint areas, allowing the mass to set a predetermined time for the penetrating material to impregnate the areas to a depth exceeding the normal penetration of moisture, and to leave a filler deposit upon the areas, and then rubbing the filler deposit into the areas.

3. The method of moistureproofing and rehabilitating disintegrating joints in a masonry structure, which consists in spraying a mass embodying a filler and waterproofing material of high penetrating properties to the joint areas, allowing the mass to set a predetermined time for the penetrating material to impregnate the areas and to leave a filler deposit upon the areas, and then brushing the filler deposit into the areas.

4. The method of moistureproofing and rehabilitating disintegrating joints in masonry structure, which consists in applying to the joint areas a mass capable of hardening and which embodies a filler and waterproofing material of high penetrating properties, allowing the mass to set a predetermined time for the penetrating material to impregnate the areas and to leave a filler deposit upon the areas, and then rubbing the filler deposit into the areas, thereby rendering the areas moistureproof but not impairing their normal breathing properties.

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