Feb. 28, 1933. I. KASS 1,899,391

METHOD OF APPLYING MATERIAL

Filed Aug. 11, 1931

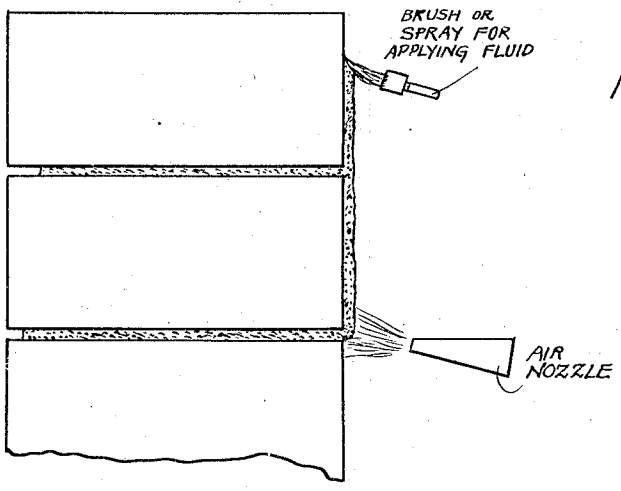


FIG. 1.

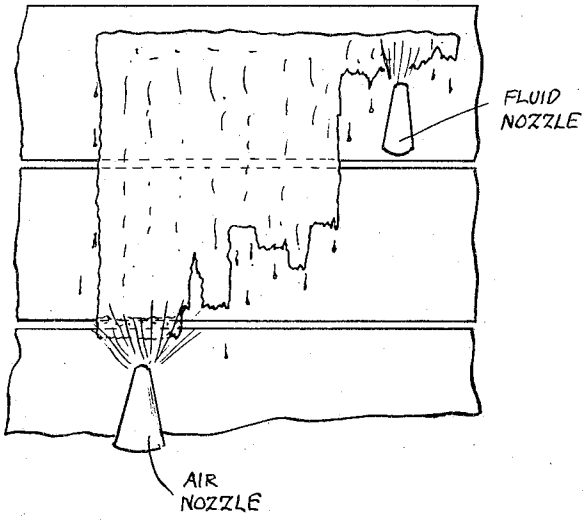


FIG. 2.

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UNITED STATES PATENT OFFICE

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METHOD OF APPLYING MATERIAL

Application filed August 11, 1931. Serial No. 556,462.

This invention relates to the method of treating joints in a structure and in particular to the method of filling the joints or cracks in a building structure with a material of a preservative nature in order to prevent deterioration inside the structure wall and to prevent the passage of moisture through the cracks in the wall, and will prevent waste of material of application and will be effective in sealing said joints, cracks or deep pores.

In building structures already erected that are not weatherproof and consequently admit moisture, the joints in the brick work or in the structural work, or in the structural element, must be filled from the exterior of the building. There are a great many different kinds of material that can be applied to form a chemical precipitate or provide a waterproofing or a preserative or the material used may be a combination of chemicals to form a chemical precipitate in one instance and in another instance, the chemical would congeal around the precipitate and create a packing of waterproofing. Material may also be provided acting as a combination of preservative, precipitate and waterproofing.

There are a great many different kinds of material that can be applied such as heated wax, fluosilicates, stearates mixed with naphtha, benzine substitutes, and so on, and being nearly all in liquid form carrying a waterproofing in suspension, have heretofore been applied by a brush or spray. In the case of the brush, the amount of material that gets into the joint is ineffective and in the case of a spray, there is a great waste of material and not much force. In the use of the brush, also, there is considerable waste of material and the cracks or joints are filled for a very short distance from the surface and do not provide the necessary packing in the joint that is necessary to render the building moisture-proof and prevent the structural elements being properly preserved.

The important feature of my invention is that it is distinctive from spraying a wall as the spray air pressure could not be strong enough to blow a liquid through a crack and at the same time be practical for spraying.

My improved process consists of applying a liquid to a wall in any manner permitting the liquid to run down the wall until it reaches a crack or joint at which point a separate air stream is applied from the exterior in such a way as to force the liquid into the crack or joint and in this way, liquid throughout the entire distance of the crack may be blown into the crack so that the crack is filled completely through the wall of the structure. The liquid is guided to the crack by the air stream and held at the crack until the liquid flows into and completely fills the crack to refusal.

With these and other objects in view, the invention comprises certain methods hereinafter described and then particularly pointed out in the claims;

Figure 1 is a view in side elevation of a structure treated in accordance with my improved process, and

Figure 2 is a view in front elevation of the structure illustrated in Figure 1 showing the application of the fluid through the medium of a nozzle or spray of liquid to the wall and forcing of the liquid into the joints in the structure.

My improved process or method therefore, consists in first brushing the material on the exterior surface of the structure to be treated so that the material will run down the surface in little streams. The next step is the use of a separate air stream blowing against the surface with a pressure ranging approximately between three to fifty pounds pressure. The air pressure at the point of contact with the wall is reduced in operation by holding the air nozzle further from the wall and is increased conversely by bringing the air nozzle nearer to the wall—the lower pressures are used to guide the material across the face of the wall and to the crack or section to be treated and the higher pressure is used to force the material into the crack—the application and operation being a continuous movement of the air nozzle to the surface of the wall as the liquid is guided to and forced into the crack. The air blast is strong enough to keep the stream from running down the face of the building so that when the stream reaches the air blast,

or is guided by the air blast, every bit of material will be blown into cracks or joints of the structure and the pressure employed will be such that the material will be forced all the way through the cracks to refusal thus eliminating the waste due to spraying and applying alone with a brush and permitting the use of a high air pressure that would not be possible with a spray to force the material into the joints or cracks.

By painting or spraying the surface only, the ordinary capillary action must be depended upon to reach inside the crack. In the case where the wall is damp or is wet from a previous coat of material, or in the case where the crack is of such nature that the capillary attraction is not effectively drawing moisture into the wall, the paint or spray coat merely remains on the surface. With my process, the liquid enters into the crack by virtue of the force of the air blast and the natural capillarity of the wall is not depended upon to any extent, and by this process we receive a more uniform application for this reason.

It is evident that this process is distinctive from the spraying of a wall as the spray air pressure cannot be made strong enough to blow a liquid through a crack and at the same time be practical for spraying without considerable waste. Also painting the surface with a brush or other implement only fills the crack or joint for a very short distance from the surface and is not effective in carrying out the treatment proposed by the use of the material employed.

My process consists in allowing a liquid to run down to the crack and then blowing it into the wall as a liquid with an air stream, or guiding the liquid to the crack with the air stream and then blowing it into the crack with the same or another air stream.

My invention is applicable for the treatment of any type of wall whether concrete, brick, ceramics or clay products, stone, mortar, manufactured combination blocks or combinations of masonry or metal and is highly effective in applying material for various purposes to the joints on the exterior wall of a structure. It might be mentioned that the invention is also applicable to interior walls but the waterproofing and treatment of structure walls is usually made on the exterior surface, as the inner wall of older buildings usually is covered with other parts of the building structure.

The material to be forced into the joints or crevices may be separate and distinct liquids to form a chemical precipitate in the crack or three separate liquids may be applied, two of which would form the chemical precipitate and the other would congeal around the precipitate and create a packing of waterproofing in the crack. It is also possible to use a combination of preservative, precipitate and waterproofing materials.

It is evident, therefore, that I have provided a method of treating walls of a structure which consists in applying to the exterior surface of the wall, a material that will trickle down the surface of the wall to the point where an air blast is applied to drive the liquid or material into cracks, crevices or joints in the structural element, the air pressure being effective to completely fill the joint with the material through the thickness of the wall and a method which eliminates waste, is more quickly and effectively applied and lends itself to the continuous working on a wall of several different materials to carry out the different treatments of a structure.

It is evident also that while the liquid is running down the face of the wall, an air stream may be used to guide this liquid to the portion of the wall that requires treatment or to a crack, and the same or a separate air stream can be used to drive it into this crack and concentrate at this point of weakness in this wall the greatest quantity of material in a logical manner.

It is evident also that my method anticipates the application to the cracks or joints of the wall of a filling material of a plastic, semi-plastic or fluid nature and thereafter applying the air blast to the cracks or joints to completely fill the same with the material by forcing the same as far as possible into the cracks or joints.

Ordinary plastic compounds nominally put on with a knife, calking instrument or calking gun, can with this process be thinned with a thinner such as benzine, linseed oil, fish oil, China-wood oil, or other thinners used for thinning calking compounds, and then blown into the crack with the air stream.

My invention is not to be restricted to the precise details of the method employed since various modifications may be made therein without departing from the scope of the invention or sacrificing the advantages derived from its use.

What I claim is:—

1. The herein described method of treating the wall of a structure consisting in applying fluid material to the wall and thereafter applying an air blast to the fluid to force it into the wall crevices.

2. The herein described method of treating the wall of a structure consisting in applying a fluid material to the wall so that the fluid streams down the wall, and applying an air blast at the lower edge of the stream to arrest the flow thereof and force the same into a joint.

In testimony whereof I affix my signature.

IRVING KASS.