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WATERPROOF MATERIAL AND THE MANUFACTURE THEREOF

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2 Claims. (Cl. 91—70)

This invention relates to waterproof and weatherproof material, and with regard to certain more specific features, to a process of waterproofing and weatherproofing which involves a treatment of materials with vapors.

Among the several objects of the invention may be noted the provision of a process for waterproofing and the like which employs, in contradistinction to previous processes, a waterproofing medium in the vapor phase; a process in which vapors issuing directly from a carbonization are utilized to effect the waterproofing; a process particularly adaptable to the waterproofing of wood and lumber, fabrics, paper and the like; and a process of the class described which is easily and economically carried through and which requires a minimum of expensive treating materials and the like. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly comprises the elements and combinations of elements, steps and sequence of steps and features of synthesis which will be exemplified in the description hereinafter and the scope of the application of which will be indicated in the following claims.

In the destructive distillation of carbonaceous and/or bituminous materials, for example, in the coking of coal at low temperatures, quantities of hydrocarbonaceous and tar vapors are evolved. More especially, in the destructive distillation of carbonaceous materials according to the method set forth in my co-pending application, Serial No. 342,315, filed February 23, 1929, greater volumes of vapors having a high hydrocarbon content, and, in addition, chlorine compounds such as chlorinated hydrocarbons, chlorinated phenols, and acid vapors, are obtained. In said copending application, the process is briefly one in which the coal or other carbonaceous material is plasticized with chlorides and the like prior to distillation, and during the distillation such chlorides disintegrate and chlorinate the volatiles leaving the distillation or carbonization chamber. The present invention relates particularly to the utilization of such vapors for the direct impregnation of substances to be waterproofed, for example, wood, stone materials, cloth and paper. The material impregnated with these vapors becomes thoroughly waterproofed, acidproof, fume-proof, and in addition, antiseptic.

In carrying out the present invention, the vapors are preferably withdrawn from the retort in which the distillation is taking place by means of a vacuum pump, and conducted directly to contact with the material to be treated. A great proportion of the vapors are absorbed immediately by the material being treated, and said vapors penetrate deeply into the pores of said material. Whatever vapors are not absorbed by the material are condensed by contact, and drained from the material, to be recovered.

Best results with impregnation are had if the material being treated is dry before being brought into contact with the vapors. The finished product has been thoroughly impregnated, and retains the various constituents of the vapors. Drying of the impregnated material is facilitated by the presence of tars which are solid at room temperature.

A wide variety of materials can be impregnated and waterproofed by this process; the general characteristic of such substances being their ability to absorb into their structure hydrocarbonaceous vapors such as those herein described.

In view of the foregoing, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As many changes could be made in carrying out the above objects without departing from the scope of the invention, it is intended that all matter contained in the above description shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. The process of waterproofing materials which comprises impregnating said materials with a vaporous products of a destructive distillation of a mixture of chlorine-containing materials and solid carbonaceous or bituminous materials, said vaporous products including hydrocarbons, phenols, tars, and volatile chlorinated organic products.

2. The waterproof product comprising a material impregnated with the vaporous products of a destructive distillation of a mixture of chlorine-containing materials and solid carbonaceous or bituminous materials said vaporous products including hydrocarbons, phenols, tars, and volatile chlorinated organic products.

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