Patented Oct. 28, 1924. 1,513,133

UNITED STATES PATENT OFFICE.

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METHOD OF TREATING ASPHALT.

No Drawing. Application filed September 30, 1920. Serial No. 413,776.

To all whom it may concern:

Be it known that I, ANDREW J. ROWLAND, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Methods of Treating Asphalt, of which the following is a specification.

My invention consists in the process of treating asphalt set forth and claimed.

In carrying my invention into effect, I prefer to proceed substantially as follows:

A quantity of asphalt, either natural or petroleum, coal-tar pitch, bituminous products, or vegetable tars, is first subjected to heat for the purpose of melting the same, whereby a liquid product is formed. This liquid product is then subjected, while at a temperature of about 300° F., to the blowing of air therethrough for a period of from three to twenty-four hours, depending upon the hardness desired in the finished product. The longer the blowing continues the harder will be the finished product. The purpose of air-blowing the product is to oxidize it and give it a rubbery and elastic consistency, in order to render the product pliable so that it will readily bend instead of crack when the paper is bent or if the container is subjected to a sudden shock or blow. The product is air-blown without the addition of any metallic or organic salts so that the finished product will contain no salts that can be acted upon by the acids. The asphalt may be air-blown with catalyzers present and after the blowing is finished, washed to remove the catalyzers, or if the asphalt has already been air-blown it may be washed to remove the metallic salts before completing it for use as a coating.

The crude asphalt or other equivalent product is then washed to remove any water soluble salts that may be contained in it before it is in condition for the acid-proof, alkali-proof or water-proof purposes herein set forth. The washing consists in thoroughly agitating it for about thirty minutes in a boiling wash solution composed of from five to ten per cent of hydrochloric acid and from ninety to ninety-five per cent water, after which the asphalt is boiled in clean water until free from acid. After the washing is completed the asphalt is then heated to about 300° F. in order to drive off any water that may be held by entrainment in the asphalt.

The resulting product when cold is a solid plastic mass which can be thinned with benzol or naphtha or any of the volatile organic solvents to any degree of consistency required for its use on paper or fabric containers, and on containers of wood, metal and the like.

For heavy coating about fifty per cent of asphalt and fifty per cent of solvent may be used. If the article to be treated for the purpose of rendering it acid-proof, alkali-proof and water-proof is dipped in the asphalt, no solvent is necessary, but the asphalt is kept at a temperature of about 200° F. to 220° F. and the articles to be treated are simply dipped in the asphalt.

My main purpose is to produce a pliable acid-proof and alkali-proof coating that is water-proof and acid-proof to all acids except concentrated sulphuric acid, nitric acid and hydrochloric acid, and is suitable for any commercial strength of these acids.

Furthermore, while the claim has been drawn to specify asphalt, it will be understood that the claim will include any equivalent material, such as coal-tar pitch, bituminous products, vegetable-tars and the like.

Having described my invention and its manner of use, what I claim as new and desire to secure by Letters Patent is:

The herein described process which consists in first heating the asphalt to a temperature of about 300° F., then blowing air therethrough at that temperature for from three to twenty-four hours, then boiling the asphalt in dilute hydrochloric acid solution and then washing said asphalt by boiling it in clear water and then heating said asphalt to about 300° F.

ANDREW J. ROWLAND.