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ACID RESISTANT CONTAINER

John Jay Mick, Needham, and Ralph Edwin McCurdy, Wellesley, Mass., assignors to The B. F. Goodrich Company, New York, N. Y., a corporation of New York

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2 Claims. (Cl. 206—2)

This invention relates to a method of treating storage battery boxes and similar containers and materials which are normally subject to attack by acids and is especially concerned with the provision of an effective acid-resistant coating for battery boxes formed of plastic compositions such as asphalt-fiber compositions. The invention also contemplates the coating material used in treating such boxes.

Certain types of containers such as storage battery boxes and especially such boxes formed of asphalt-fiber compositions are subjected to attack by acids that are contained within them. It has long been recognized that the life of such containers would be materially lengthened by applying some kind of acid resistant coating to these containers. Much work has been done on this and several methods have been proposed for making the containers acid resistant but none has heretofore been entirely satisfactory. Either the coating materials used in the prior methods were not tenacious, or they were not sufficiently acid resistant, or they produced an unsightly surface, or the treatment was too difficult to use.

We have discovered a method of coating containers, such as asphalt (which is understood to include other analogous bituminous materials) composition battery boxes, so as to produce a coating that is extremely acid resistant, is tenacious and long lasting and that is easy to apply. To produce the acid resistant coating for the containers we employ a fluid solution comprising a copolymer of a vinyl ester and a vinyl halide, polymerized coumarone, and a volatile solvent. The solution may be applied by any method desired, such as by dipping the container in the treating solution, by painting with the solution, by spraying, and the like. In each case the solvent is allowed to evaporate thereby resulting in a tenacious acid resistant coating on the container.

As a preferred example of the coating solution used in this invention we employ a solution comprising a copolymer of vinyl acetate and vinyl chloride, such as the commercial product known as "Vinylite," and polymerized coumarone, commonly known as "Cumar." These materials are dissolved in enough acetone, or a similar solvent, to make up a solution that can be easily spread on the surface of the containers and the containers are treated with this solution. Upon evaporation of the solvent a film of the mixed polymers remains tenaciously affixed to the surface. This film is extremely resistant to acid and when used on asphalt composition storage battery boxes it resists attack on the boxes by the sulfuric acid and lengthens the life of the boxes considerably.

A practical example of the treating solution that may be employed in the method of this invention is one consisting of 20 parts by weight of the copolymer of vinyl acetate and vinyl chloride, 45 parts by weight of polymerized coumarone, and 165 parts by weight of acetone. The materials are mixed together and may be heated if desired to shorten the time required for the polymers to dissolve in the solvent. Such heating is not necessary, however, as little difficulty is encountered in dissolving the polymers. The solution is applied by brushing it over the surface of a battery box and the acetone is evaporated. The resulting film of mixed polymers is tenaciously affixed to the surface of the box and is extremely acid resistant.

Acetone has been found to be an ideal solvent for use in this method but other solvents may replace a portion of the acetone. Portions of methyl ethyl ketone, toluol, xylol, methyl isobutyl ketone, or the like may be substituted for up to 50% of the acetone. The solution may be applied to the container by dipping them in the solution, by spraying the solution on the containers, or by brushing the containers with the solution. In any case a tough, acid resistant film is produced.

Having disclosed herein a method of treating containers so as to make them resistant to the action of acids it is our intention to apply the invention broadly not limited by any particular solvent or solvents or by any particular method of applying the treating solution to the containers. We desire protection of our invention broadly as indicated by the spirit and scope of the appended claims.

We claim:

1. In an asphaltic composition battery box structure normally subject to attack by battery acids contained therein, an acid-resistant surface coating tenaciously affixed thereon and comprising a homogenous mixture comprising a copolymer of vinyl acetate and vinyl chloride together with polymerized coumarone.

2. In an asphaltic composition battery box structure normally subject to attack by battery acids contained therein, an acid-resistant surface coating tenaciously affixed thereon and comprising a homogeneous mixture comprising approximately 20 parts by weight of a copolymer of vinyl acetate and vinyl chloride and approximately 45 parts by weight of polymerized coumarone.

RALPH EDWIN McCURDY.
JOHN JAY MICK.