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UNITED STATES PATENT OFFICE.

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FABRIC IMPERVIOUS TO PETROLEUM HYDROCARBON VAPORS.

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To all whom it may concern:

Be it known that we, ROBERT E. WILSON and EUGENE P. BROWN, citizens of the United States, residing at Chicago and Whiting, respectively, in the counties of Cook and Lake and States of Illinois and Indiana, have invented new and useful Improvements in Fabrics Impervious to Petroleum Hydrocarbon Vapors, of which the following is a specification.

This invention relates to fabrics substantially impervious to gasoline and oil and to thin vapors, and more particularly to such fabrics suitable for use in preventing evaporation from storage tanks, for example, as described in the applications of one of us filed May 4, 1923, Serial Nos. 636,589 and 636,590.

In accordance with this invention a suitable fabric, preferably a closely woven, light fabric such as that commonly known as "balloon silk" is given a continuous coating on one or both sides with an aqueous solution of high grade glue or gelatine and glycerine, together with a small proportion of any suitable preserving agent, for example, 0.1% of $FeSO_4.7H_2O$. The proportions of glue and glycerine may vary; thus 1 to 3 parts of glycerine (by weight) may be used for each part of glue. We have found a mixture containing 2 parts glycerine to 1 part of glue excellent in use. Sufficient water is employed in making the solution to produce a liquid readily applied under the conditions of use; for example, 2 to 4 parts of water may be employed. The liquid, which gels at normal temperatures, is applied hot, say at 150 to 190° F., by hand or any suitable coating device or machine. The resulting coating, after evaporation of the solvent, retains a certain amount of water in an equilibrium mixture dependent upon the moisture of the atmosphere, for example, the residual coating formed with 1 part of glue and 2 parts of glycerine contains about 1 part of water. Sufficient of the coating material is applied to provide a continuous film or coating on the fabric, say from 5 to 20 oz. of the final coating material per square yard of a fairly close woven fabric such as "balloon silk."

The coated fabric, after evaporation of superfluous solvent, is then dusted with a finely powdered inert solid, such as talc, the non-adherent talc or other solid being removed by any suitable method, for example, by shaking, light brushing or blowing. The coating of solid matter or talc prevents stickiness or tackiness of the coated fabric and materially facilitates its utilization.

We claim:

1. The method of preparing a fabric impervious to the vapors of petroleum oil products which consists in applying to a textile fabric a continuous coating of a mixture of glue and glycerine and dusting a finely divided inert solid thereupon.

2. The method of preparing a fabric impervious to the vapors of petroleum oil products which consists in applying to a textile fabric a continuous coating of a mixture of glue and glycerine in the proportions of 1 part glue to 2 parts glycerine, and dusting finely powdered talc thereupon.

3. The method of preparing a fabric impervious to the vapors of petroleum oil products which consists in applying to a textile fabric a continuous coating of a mixture of glue and glycerine in the proportions of 1 part glue to 2 parts glycerine, and dusting finely powdered solid thereupon.

4. A fabric impervious to petroleum hydrocarbon vapors consisting of a textile fabric, a continuous coating of glue and glycerine upon said fabric and a coating of adherent finely divided solid matter thereupon.

5. A fabric impervious to petroleum hydrocarbon vapors consisting of a textile fabric, a continuous coating thereupon containing glue and glycerine in the proportions of 1 part glue to 2 parts glycerine, and a coating of adherent powdered talc thereupon.

6. A fabric impervious to petroleum hydrocarbon vapors consisting of a textile fabric, a continuous coating thereupon containing glue and glycerine in the proportions of 1 part glue to 2 parts glycerine, and a coating of adherent powdered solid thereupon.

7. A fabric impervious to petroleum hydrocarbon vapors consisting of a textile fabric having thereupon a continuous coating containing glue and glycerine in the proportions of 1 to 3 parts of glycerine to 1 part of glue.

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