UNITED STATES PATENT OFFICE.

LEWIS FRANCIS, OF NEW YORK, N. Y.

IMPROVED COMPOSITION FOR LINING BARRELS FOR PETROLEUM, &c.

Specification forming part of Letters Patent No. **46,554**, dated February 28, 1865; antedated November 21, 1864.

To all whom it may concern:

Be it known that I, LEWIS FRANCIS, of New York, in the county and State of New York, have invented, made, and applied to use a new and improved composition for lining vessels for holding petroleum, spirits of turpentine, benzine, naphtha, and all oils and similar fluids, as well as for the formation of molds or images, figures, and busts; and I do declare the following to be a full, clear, and correct description of the same, reference being had to the accompanying specimens.

The nature of my invention consists in combining glue, glycerine, and sugar, as hereinafter shown, for the purpose of forming an improved composition for the above purposes.

To enable those skilled in the arts to make and use my improved composition, I will describe my mode of making the same.

I take of ordinary glue fifty (50) pounds and soak the same in water for five (5) or ten (10) minutes; remove the same from the water and allow it to stand for two (2) or three (3) hours. I then place it (the glue) in a steam-kettle and melt it, adding about one hundred (100) pounds of glycerine and fifty (50) pounds of sugar, allowing it to boil about one hour at 200° Fahrenheit. The composition may then be run in molds or sheets for transportation, or may at once be used.

One of the most important uses of this composition, both novel and advantageous, is in coating the inner surface of petroleum and other barrels, by which they are made perfectly impervious to all the above-named fluids, thereby saving great losses from leakage or by the fluids penetrating the wood; also the lining of vessels for many dry substances. Owing to the great strength and elasticity of the composition, the barrel coated on its inner surface with the same cannot be made to leak by rough usage in transportation or by starting the bung. Another advantage is that a less expensive barrel can be used when lined with this composition, as all flaws in the wood, imperfect joints, as well as the results of shrinkage, are instantly and perfectly remedied, in proof of which any of the foregoing fluids may be transported in a common basket which has been coated with this composition. Again, the composition does not harden, shrink, crack, or lose its elasticity by any degree of hot or cold weather, nor is it liable to decompose by age or effect of climate, all of which peculiarities make it very useful in attaining the objects specified.

Mode of applying to barrels: The composition is placed in an ordinary steam or glue kettle and melted. Then about three (3) gallons are poured into the bung of a forty (40) gallon barrel. The barrel should then be turned rapidly around, so as to allow the composition to cover all parts of its inner surface. The surplus composition is then poured off through the bung. The operation of coating or lining the barrel must be performed quickly while the material is hot. When the material is too thick, water may be added to give it the proper consistency.

I do not in all cases conform to the formula herein stated, as it may sometimes be necessary to vary it in order to cheapen it, and for other reasons. The sugar may be omitted in some cases, as its principal office is to prevent decomposition.

Gums in part may be used for the body of the composition, in which case a less quantity of glue will be required; but I prefer glue and sugar.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

Combining glue and glycerine, with or without sugar, to form a new and useful composition, for the purposes specified.

LEWIS FRANCIS.

In presence of—
A. SIDNEY DOANE,
GEO. T. GORDON.