

UNITED STATES PATENT OFFICE.

DANIEL F. BOWKER, OF FITZWILLIAM, ASSIGNOR OF ONE-HALF OF HIS
RIGHT TO JOHN A. WRIGHT, OF KEENE, NEW HAMPSHIRE.

COATING THE INTERIOR OF VESSELS FOR HOLDING OILS.

SPECIFICATION forming part of Letters Patent No. 228,028, dated May 25, 1880.

Application filed March 25, 1880. (Specimen.)

To all whom it may concern:

Be it known that I, DANIEL F. BOWKER, a citizen of the United States, residing at Fitzwilliam, in the county of Cheshire and State of New Hampshire, have invented certain new and useful Improvements in Coating the Inside of Vessels for Holding Oils, &c.; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to render vessels or packages for holding oils, benzine, spirits turpentine, paints, varnish, japan, and kindred substances impervious, so as to prevent leakage while in course of transportation or use.

To carry my invention into effect I adopt the following process for coating the inner surface of vessels or packages designed for these purposes.

First, I use a compound made of the following ingredients and in the following proportions: Frozen glue, four pounds; molasses, one and a half pound; alum, one-half pound; glycerine, one-half pound; potters' clay, one-half pound; water, sixteen pounds.

The glue is first soaked in the water, say, ten hours; then the other ingredients are added, and the whole mass simmered at about 200° Fahrenheit for about two hours; then the compound is applied while at this temperature, with a brush, to the surface of the vessel or package to be coated, which, after being so coated, is allowed to stand and dry two or three hours, or until perfectly dry, after which a second coating of the same compound is applied as before, but at a temperature of 100° Fahrenheit or lower, which forms a thicker and more elastic coating, that will effectually resist the penetration of oils and the other substances named, and will not crack when exposed to excessive heat or cold.

The treatment as to time of drying may be varied to conform to the different kinds of wood or other material used in making the vessels or packages.

Second, after the last coating has been ap-

plied, as described, and the vessel or package has stood a few hours until perfectly dry, I wash or rinse it out with a solution of six ounces of bichromate of potash and one gallon of water, and dry while exposed to the light.

As soon as dry the vessel or package is ready for use for oils, benzine, spirits turpentine, paints, varnish, japan, or kindred substances.

Experience has shown that vessels or packages so coated not only effectually resist the penetration of the substances named, but also water, thus rendering them valuable for all purposes in which these commodities are used, and also in shipping them, as there is no danger from leakage or shrinkage.

December 19, 1876, I obtained Patent No. 185,483 for a composition for coating barrels, cans, tanks, &c., for holding oils and kindred substances. The constituent elements of that composition were, in the main, similar to those first named in this specification. This composition I have since used in an extensive manufacture of cans and packages for holding oils, mixed paints, &c., and they have effectually resisted the penetration of oils and greasy substances when properly used; but sometimes purchasers test them as to whether or not they will leak by filling them with water. This, of course, dissolves the glue. The composition washes off, and hence, when used for oil or any oily substances, the vessel or package would leak and be returned to me condemned, thus injuring the sale of the article. This difficulty is entirely prevented by the final treatment with bichromate of potash.

This process is equally efficacious when used on vessels or packages made of wood, paper, or metal.

Having thus described my invention, I claim—

1. A vessel or package provided with a lining of glue, molasses, alum, glycerine, potters' clay, bichromate of potash, and water, in the proportions as set forth.

2. The process of rendering vessels or packages proof against the penetration of oils or kindred substances, which consists in apply-

ing to the inside of same a coating of glue,
molasses, alum, glycerine, potters' clay, and
water at a temperature of 200° Fahrenheit,
then a second coating of the same at 100°
5 Fahrenheit or lower, and finally treating said
coating with a solution of bichromate of pot-
ash, substantially as described.

In testimony whereof I affix my signature
in presence of two witnesses.

DANIEL F. BOWKER.

Witnesses:

HIRAM BLAKE,
CHESTER ALLEN.