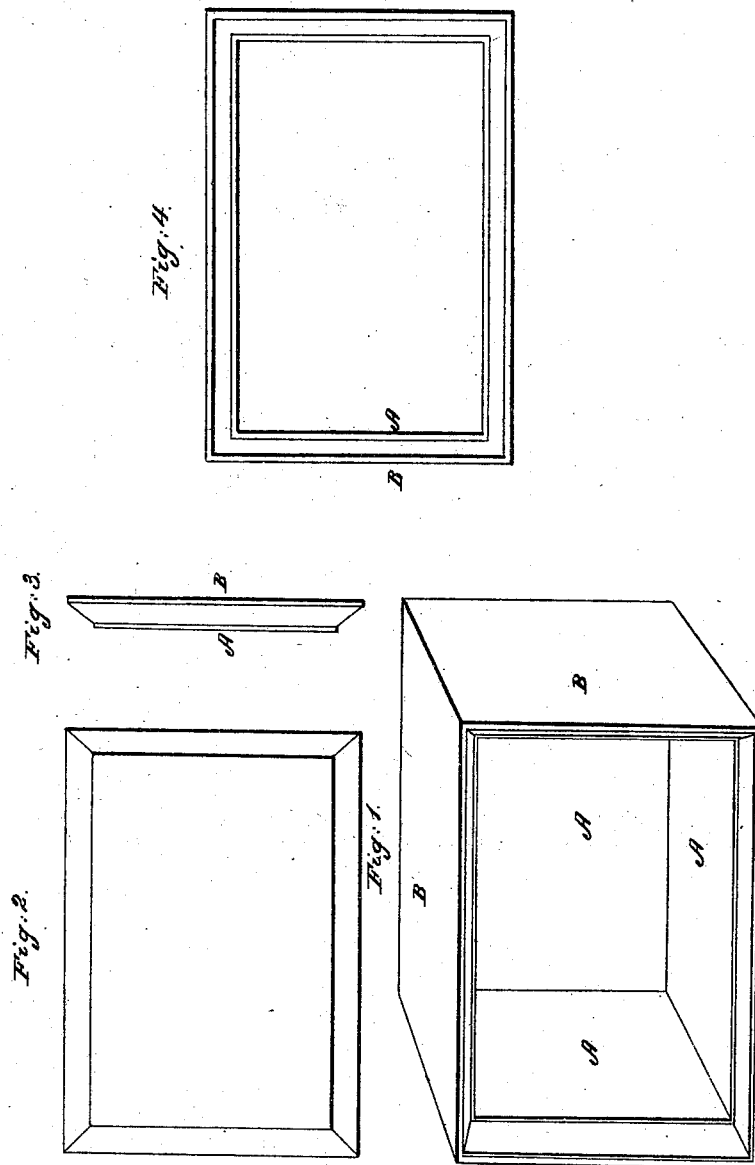


C. LYON.

Water Proof Composition.

No. 2,788.

Patented Sept. 23, 1842.



Witnesses:

James Robertson.  
R. Watson Bush.

Inventor:

Charles Lyon.

# UNITED STATES PATENT OFFICE.

CHARLES LYON, OF NEW YORK, N. Y.

## IMPROVEMENT IN WATER-PROOF COMPOSITIONS.

Specification forming part of Letters Patent No. 2,788, dated September 23, 1842.

*To all whom it may concern:*

Be it known that I, CHARLES LYON, of the city, county, and State of New York, have invented a new and useful Composition and Arrangement by which Wood and other Things are Rendered Impermeable to Water and Dampness; and I hereby declare that the following is a full and exact description.

The nature of it consists in applying to a box prepared for the purpose a composition that will not only coat the surface, but also saturate the substance of the wood, and thus prevent the passage of water.

To enable others to make and use it, I here proceed to describe the nature of the composition and the construction of the box to which it is more especially applied, reference being had to the drawings hereunto annexed, and making part of this specification.

Figure 1 of the drawings represents one of the chests intended for the importation of such merchandise as requires to be kept airtight and perfectly dry. Fig. 2 is the lid, made to fit in flush, so that the joints can be filled with the composition to render it airtight. Fig. 3 shows an end of the lid, and represents the thickness of all of the walls of the chest. Fig. 4 is a plan of the bottom or side.

The chest is made double—that is, one within another—and the lid also made double and adapted to fit the box, but not very close, except where the box is not required to be airtight. In ordinary cases to make a chest on this principle for the importation of fine cutlery, (where there is generally ten per cent. of the value lost by rust, and in case of wreck nearly or quite all,) take a strong box of thin light wood and impregnate it on the outside with the composition in the manner herein-after shown. This is the inner one, A. The outer one, B, should be of strong wood and somewhat thicker, and this must be coated on the inside. The relative dimensions must be such that the smaller one when put into the larger one will leave a space all round it of half an inch or more. They are then put together, the smaller one in the larger, and the space around them filled with dry plaster-of-paris. The top is then closed at the edges with tin, iron, or wood and the cover prepared

of two thicknesses coated and filled in like manner.

When the chest is to contain silks of that nature which renders them liable to be ruined by salt water or damp, or other very valuable merchandise, the chest may be coated on the outside after it is finished; but this could scarcely ever be necessary except for the casualty of being a long time immersed in the water.

In Fig. 4 the red lines indicate the composition. In this case the chest is represented as coated on the outside and inside of the outer portion and on the outer side of the inner one and the space between filled with the dry plaster. The lid may have hinges and a lock, or be fastened with screws. When it is not desirable to fill the chinks of the lid with the composition, a strip of india-rubber cloth is laid all round the edge and shut in. This will be tight enough to exclude damp, but could not be depended on for exclusion of water.

The effect of the dry plaster is that in case of accident to the outer part of the box, so that water gets in, the plaster will set and become solid, and thus resist the further passage of the water. Boxes of a large size, in which the thickness of walls would not be much in proportion to the whole bulk, would enable the importer to save on each package of wares liable to rust or be injured by air and damp from ten dollars to one hundred, and in case of the vessel's bilging and filling with water he would save almost the entire value of the goods. This will show that a chest of this kind is a desideratum, and would save millions annually.

The composition which I have found best and cheapest is made as follows: Take six pounds of coal-tar, half-pound gum-shellac, and one pound of rosin, melt them together, and apply the composition to the surface of the wood or other material to be rendered impermeable to water. To impregnate the wood with it, I generally apply a hot iron—not so hot as to burn it—and rub it in. By this means the composition penetrates entirely through an inch-board.

The above composition is quite cheap, so that the expense of coating a double box is in-

considerable and much less than to line it with tin, and infinitely better and safer.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the composition above described, or any other substantially the same, with the dry plaster to render a box, chest, or any other thing impervious to air, water, and

dampness, the said composition being applied to any or all sides of a double or triple box, and the dry plaster packed between, as above described.

CHARLES LYON.

Witnesses:

OWEN G. MORSE,  
ALFRED B. STREETER.