

UNITED STATES PATENT OFFICE.

DAWSON B. HILTON, OF BROOKLYN, NEW YORK.

PROCESS OF RETINNING BATH-TUBS.

SPECIFICATION forming part of Letters Patent No. 526,836, dated October 2, 1894.

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To all whom it may concern:

Be it known that I, DAWSON B. HILTON, of Brooklyn, New York, have invented an Improved Process of Retinning Bath-Tubs, of which the following is a specification.

This invention relates to an improved process by which bath tubs composed of copper, sheet iron or zinc may be retinned without removing the bath tubs or disturbing the plumbing or woodwork.

Heretofore it has been impracticable to re-tin bath tubs without detaching and removing them, because the solder would run unevenly over the surface and the tub had to be tilted, to spread the solder uniformly. By my invention, the solder runs entirely smooth while the bath tub may be retained in its normal upright position.

In carrying out my invention I proceed as follows: The bath tub is scoured with coarse sand and raw muriatic acid, to remove the dirt, grease and stains; the sand and acid are washed off by water, and a bath of raw muriatic acid is applied. Next I cover the bath tub with a liquid alloy which acts as a flux, and which is composed of about two-thirds parts of mercury and one-third part of a soft metal which is dissolvable in mercury. For this metal, I prefer to use pure tin filings, though lead, Babbitt metal, pewter, or other soft metals may be used. After the tub is thoroughly bright with this alloy, I clean off the scum with water, and then apply a bath of nitric acid, which I let stand until a white

froth appears on the surface. This froth is washed off with water and sand, the sand is washed off and the tub is dried. Next, I apply a bath of diluted muriatic acid, and then cover the tub by a soldering iron with solder composed of equal parts of tin and lead. The tub is again washed with sand, is provided with a second bath of diluted muriatic acid, and is covered with a second coating of solder, which is composed of two-thirds part of tin and one-third part of lead. The acid is cleaned off with sand, and the sand is washed off by water, and then the process is completed.

I have found in practice, that by my improved process, the solder can be distributed evenly over the entire surface of the tub, and that it will not form lumps or ridges, while the soldering iron need be heated only to such an extent, that it will not warp the body of the tub.

What I claim is—

The process of re-tinning bath tubs which consists in washing them with acid, applying an alloy consisting of mercury and a soft metal dissolved therein, washing consecutively with nitric and muriatic acid, applying a coating of solder, washing with muriatic acid, and applying a second coating of solder, substantially as specified.

DAWSON B. HILTON.

Witnesses:

F. V. BRIESEN,
WILLIAM SCHULZ.