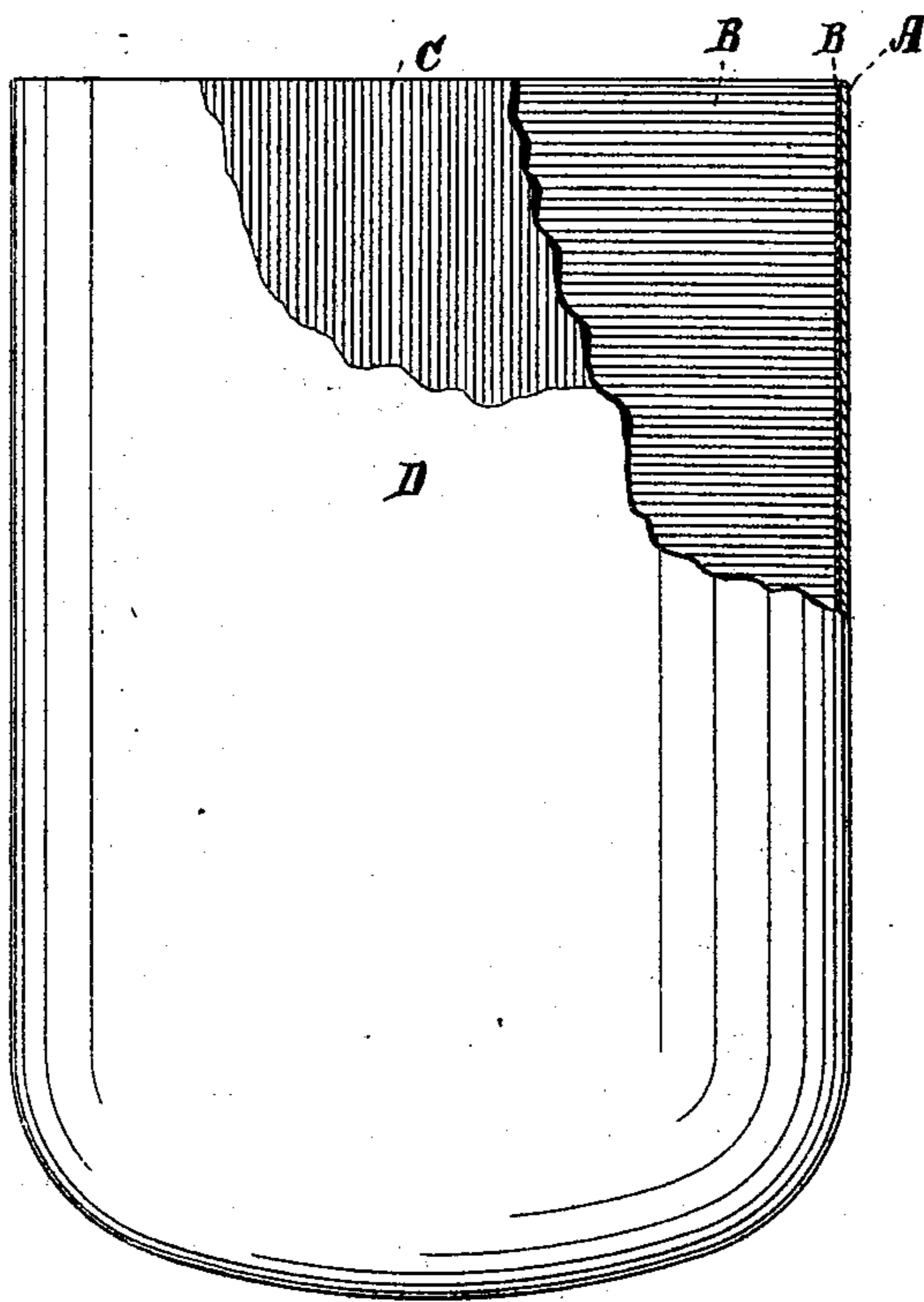


J. C. MILLIGAN.
Methods of Forming the Outside Facings of
Porcelain-Lined Vessels.

No. 152,148.

Patented June 16, 1874.



WITNESSES:

A. Bennekenhoff.
Seugnick

INVENTOR:

J. C. Milligan
BY *Munn & Co.*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN C. MILLIGAN, OF SOUTH ORANGE, N. J., ASSIGNOR TO LALANCE
AND GROSJEAN MANUFACTURING COMPANY, OF NEW YORK CITY.

IMPROVEMENT IN THE METHOD OF FORMING THE OUTSIDE FACING OF PORCELAIN-LINED VESSELS.

Specification forming part of Letters Patent No. **152,148**, dated June 16, 1874; application filed
March 7, 1874.

To all whom it may concern:

Be it known that I, JOHN C. MILLIGAN, of South Orange, in the county of Essex and State of New Jersey, have invented a new and Improved Method of Forming the Outside Facing of Porcelain-Lined Sheet-Metal Vessels, of which the following is a specification:

The invention consists in a new process or method of forming the outside facing upon porcelain-lined and metal-coated vessels, as hereinafter described, and pointed out in the claim.

Up to this time it has been the custom in the manufacture of porcelain-lined ice-pitchers and the like to inclose the porcelain-lined bowl or pot in an outer shell, plated on the outside to obtain the necessary exterior finish. This was considered necessary because the heat of the bath for plating the exterior would injure the porcelain lining if the lining were applied before the plating, and the heat for baking the porcelain would injure the plating if that were applied first; and as it was considered necessary to apply the plating by the bath process, in order to fill the little cells and cover the high places in the surface, especially the surface of iron, which it is most desirable to use on account of the cost, no better method of making such articles was known, and hence two bowls or pots have been used when one would answer as well, provided its exterior surface could be properly finished. This I have succeeded in doing by plating the iron pot with a heavy coat of tin, or copper, or other cheap metal, by the battery process, after it has been lined, and then brushing and scratching the surface with strong revolving

or other equivalent brushes, and other rubbing instruments, to level down the high places and fill up the low ones, and then smoothing and burnishing the surface, and plating the tin, copper, or other cheap metal used for the preparatory coating, with the finishing coat of tin, silver, or nickel, thus obtaining as smooth and even a surface as can be had by applying it by the bath, and saving the cost of the extra bowl heretofore used for the plating only.

The drawing is an elevation of the bowl of a pitcher, with a part sectioned, representing a sheet-iron vessel with a porcelain lining and plated exterior surface.

A represents the sheet-iron bowl, which is produced in the shape required by stamping, pressing, or spinning, in any approved way. B represents the porcelain lining; C, the exterior metal surface; and D the plating, the latter being applied in the manner above described.

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

The method herein described of plating porcelain-lined iron vessels, consisting in first coating the outside with a heavy layer of cheap metal, next smoothing the same with stiff brushes, and finally putting upon the cheap metal the silver or other costly plating, as set forth, whereby the metal bath and extra-plating bowl are rendered unnecessary.

J. C. MILLIGAN.

Witnesses:

A. P. THAYER,
ALEX F. ROBERTS.