C. E. L. HOLMES.

BATH-TUB.

No. 189,559. Patented April 17, 1877.

Fig.1.

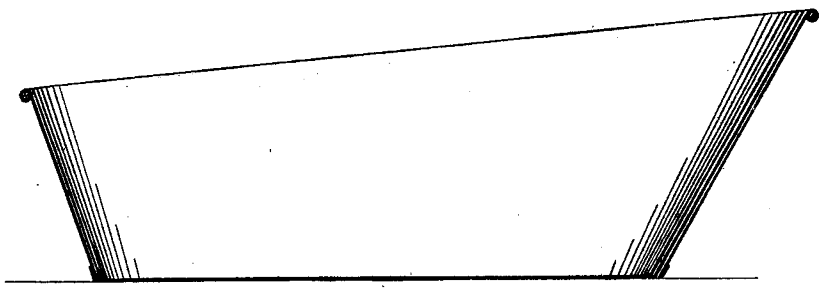

Fig.2.

Attest;
Howard Ziewhyst.
Fred Benjamin

C. E. L. Holmes.
By his attorney
Charles S. Foster

UNITED STATES PATENT OFFICE.

CHARLES E. L. HOLMES, OF NEW YORK, N. Y.

IMPROVEMENT IN BATH-TUBS.

Specification forming part of Letters Patent No. **189,559**, dated April 17, 1877; application filed March 24, 1877.

To all whom it may concern:

Be it known that I, CHARLES E. L. HOLMES, of the city, county, and State of New York, have invented Improvements in Bath-Tubs, of which the following is the specification:

The object of my invention is a bath-tub constructed, as fully described hereafter, to impart increased durability, strength, and obviate objections to bath-tubs constructed in the ordinary manner.

In the drawing, Figure 1 is a longitudinal section of my improved bath-tub; and Fig. 2 a section of the compound metal of which the tub is made.

Bath-tubs as made either of cast metal, wood with metal linings, or of sheet metal, are defective in several important particulars.

The cast-metal tubs are rough and heavy, and the metal used heretofore for sheet-metal tubs, or for lining wooden tubs, is either expensive or wanting in stiffness, durability, or finish.

Thus sheet-metal tubs, as infant-tubs, foot-tubs, &c., are made of tinned iron painted externally and internally, the paint and tin coating soon wearing away from the inside, exposing the iron, which rusts.

The main defect in this class of tubs is the thinness of the tin coating, which, being applied by "dipping," cannot exceed a certain limited thickness. Tinned copper has also been used; but the copper is so soft as to be unsuitable for portable tubs, unless heavy and expensive, and the tin is applied by dipping, and cannot be of sufficient thickness to withstand wear any great length of time.

I obviate all these objections by making a tub of a compound metal, *a b*, Fig. 2, the body *a* of the metal being zinc, and the facing or facings *b* of block tin or tin compound.

The sheet is formed by uniting a thin sheet of tin and a thicker sheet of zinc by rolling the two sheets together, soldering them face to face, or otherwise producing a homogeneous sheet having tin for a facing and zinc for the body. The tub is then made of or lined with this compound metal.

The sheet, when thus formed, is so ductile as to be easily worked, and possesses all the stiffness requisite to maintain the shape of the tub under the strain and pressure it must bear, while the tin can be applied of such a thickness, and is so hardened and condensed, that it will withstand the wear for an unlimited length of time. The tin, moreover, constitutes a durable lustrous surface, while the zinc, although of limited luster, is capable of sufficient polish to render the painting of the external face unnecessary. Moreover, the cheapness of the zinc renders the tub comparatively inexpensive, and the cost can be further reduced in stationary tubs by the use of the usual wood supports, so as to employ the metal as a lining only.

I claim—

As a new article of manufacture, a bath-tub in which are combined a body or backing, *a*, of zinc and a facing of block tin or tin compound united face to face to the zinc, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

C. E. L. HOLMES.

Witnesses:
F. D. BAKER,
P. SMITH.