

T. LAVENDER.
Metallic Lining for Water Cooler.

No. 23,177.

Patented March 8, 1859.

Fig. 1

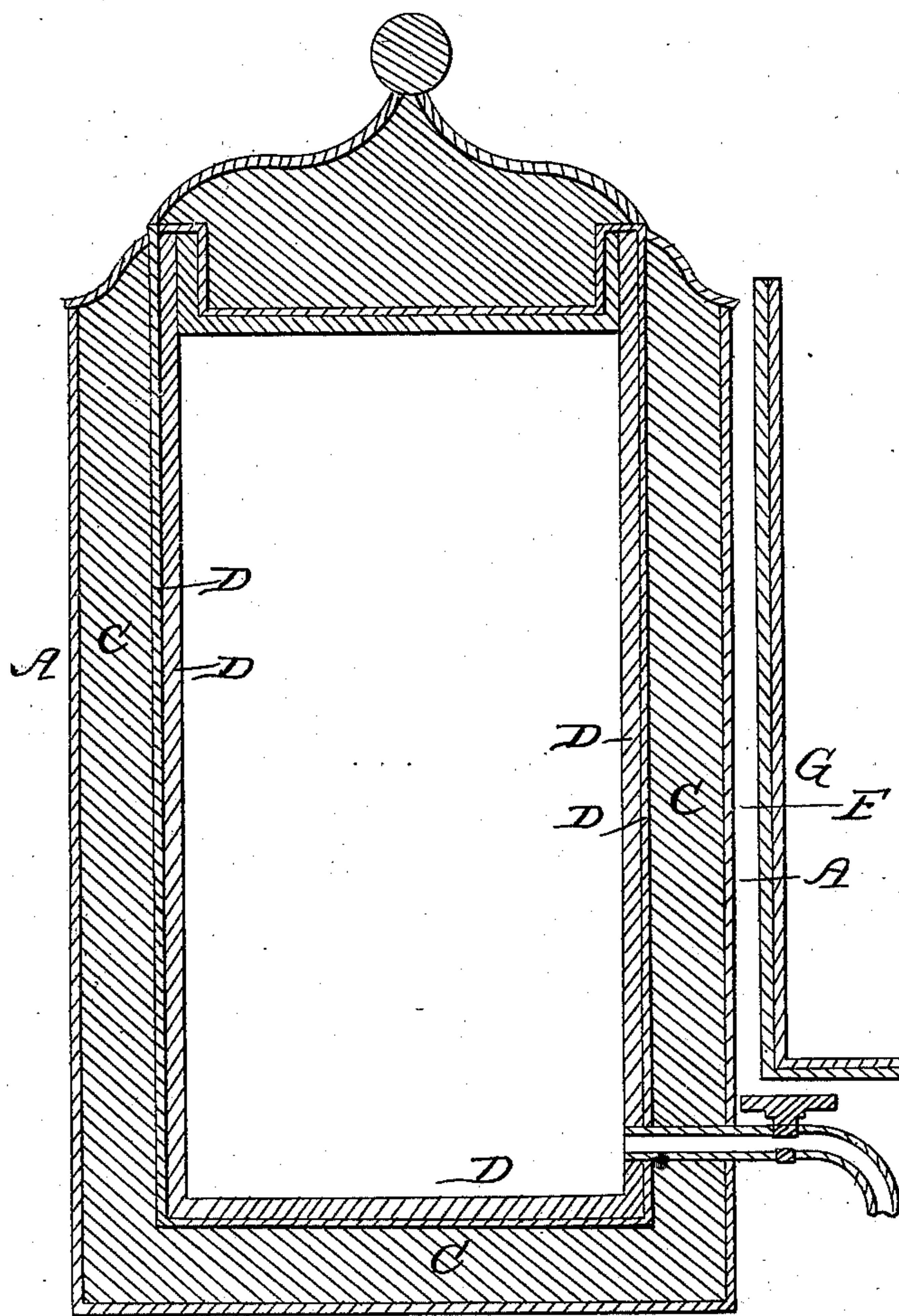


Fig. 2



Witnesses
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THOMAS LAVENDER, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC LINING FOR WATER-COOLERS.

Specification of Letters Patent No. 23,177, dated March 8, 1859.

To all whom it may concern:

Be it known that I, THOMAS LAVENDER, of the city of Philadelphia and State of Pennsylvania, have invented a new and useful

5 Method of Applying Tin as a Lining for Vessels Such as Water-Coolers; and I declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, in which—
10 Figure 2 is a vertical section of a vessel showing my improvement and Fig. 1, a vertical section of a water-cooler containing my improvement.

In Fig. 2, F F F represent the outside of the vessel made of any convenient material such as sheet-iron, etc. G G represent the lining composed of an alloy of tin and anti-

15 mony, or its equivalent.
In Fig. 1 A A represent the outer coat of a water cooler made of any convenient material, B B B the inner coat, C C C the space between the two coats, and D D D is the lining of tin alloy.

I am aware that tin pipes have been lined
25 with tin by casting the tin within them or by applying it by the ordinary tinning process. I am also aware that a combination of nickel, tin and iron has also been employed as a lining for vessels, but I propose lining with
30 tin alloyed with antimony or its equivalent, rolled into sheets in the manner hereinafter described.

In order to line a vessel in the manner I propose, the pure tin is first hardened, cast
35 into ingots and then rolled to the required thinness. The plate of tin alloy thus formed is fitted to the interior of the vessel to be lined and there fastened by any mechanical device such as soldering. The lining does
40 not unite chemically with the body of the vessel as it does when iron or any other

metal is coated in the ordinary manner such as by plunging into the melted tin, etc. The great advantage of my process is that vessels lined with tin in this manner, are anticorro- 45 sive, while ordinary sheet tin, or iron coated with tin, is soon eaten through by water and eventually becomes coated with iron rust.

My improvement is intended, mainly, to 50 be applied to household articles where an anticorrosive vessel as well as cheapness and durability is required. The outside of the vessel may be formed of ordinary sheet tin or any stiff substance as its only object is to 55 protect the anti-corrosive lining which is necessarily soft.

The pure tin is alloyed with antimony or its equivalent in order to increase its hardness. If the vessel were made of pure tin 60 alone it would require to be very thick and being soft it would be liable to be bruised while the combination above described is durable, light and cheap as well as anticorrosive. A covering of tin pre- 65 pared and applied in this manner will act with equal efficacy where it is necessary that the outside of a vessel should be protected from corrosion. My process however cannot practically be employed for the lining of 70 pipes.

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

The lining or casing of an ordinary metallic vessel with tin prepared and applied 75 in the manner and for the purpose substantially as above described.

THOMAS LAVENDER,

Witnesses:

L. Y. WALRAVEN,
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