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D. J. FAHLMAN

TINNING APPARATUS

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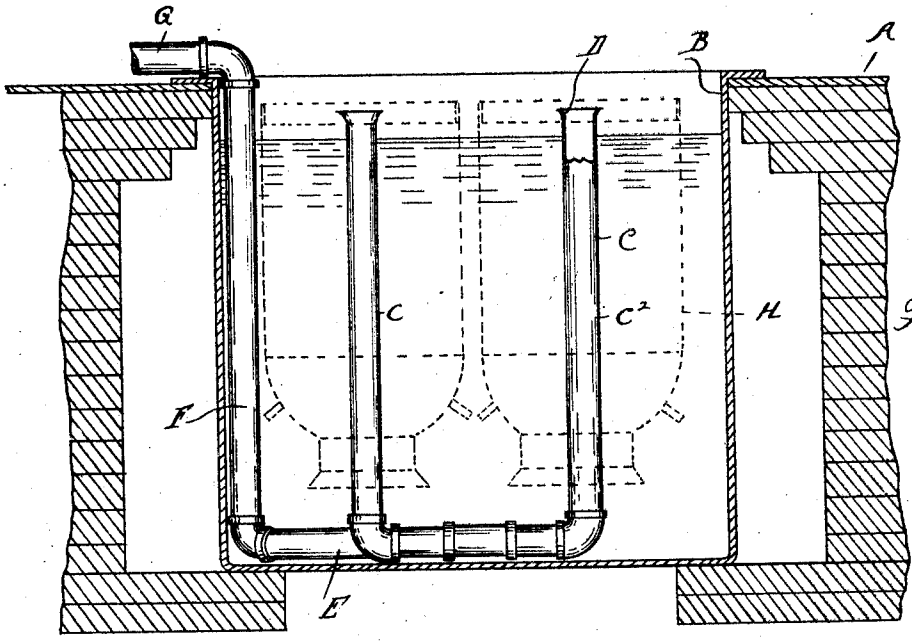


Fig. 1.

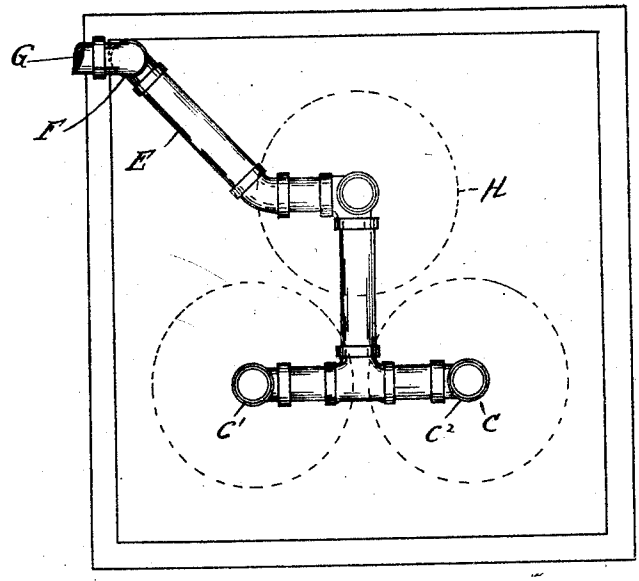


Fig. 2.

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UNITED STATES PATENT OFFICE.

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TINNING APPARATUS.

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The invention relates to apparatus for tinning hollow ware, such, for instance, as milk cans, and has more particular reference to the means for stripping the surplus molten tin from the surface of the article. In the present state of the art articles which have been coated with molten tin are immersed in a heated bath of stripping compound, which uniformly distributes the tin over the surface of the article, removing the surplus. Where hollow articles, such as milk cans, are treated in this manner it has been found difficult to immerse them in the stripping compound because of their buoyancy, and it is also difficult to properly treat the inner surface of the can. I have therefore devised a construction of apparatus which permits the immersion of the hollow article without material displacement of the stripping liquid and without the necessity of overcoming hydrostatic pressure.

In the drawings:

Figure 1 is a vertical longitudinal section through the apparatus;

Figure 2 is a plan view thereof.

A is a suitable heating furnace in which is located the vat or tank B containing the molten stripping compound. C is a conduit extending upward within the tank B to a point slightly above the normal level of the stripping compound and preferably having its upper end slightly flared as at D to avoid the slopping of the liquid into the tube. The conduit C at its opposite end is connected with the atmosphere and as shown this is accomplished by means of the laterally extending pipe E at the bottom of the tank and the upwardly extending pipe F at the corner of the tank, terminating in a lateral pipe G which is vented to the atmosphere. I also preferably provide a plurality of the vertical pipes C, as indicated at C', C^2, all being connected with the vent pipe.

With the construction as described, a hollow article such as the milk can H, after being coated with the molten tin, is inverted and pressed downward in the stripping compound in a position to surround one of the vertical pipes C. As this pipe is vented to the atmosphere, the air within the can can be displaced without the development of more than atmospheric pressure, thereby permitting the easy immersion and withdrawal of the can from the stripping compound. This also facilitates a proper treatment of the inner surface of the can, as the stripping compound is not agitated or displaced from its normal level.

While I have described my apparatus for this specific use of stripping molten tin, it is obvious that it may be used for other purposes where for any reason it is desirable to immerse a hollow article in a liquid bath.

What I claim as my invention is:

1. The combination with a liquid container, of a conduit extending upward within said container to a point above the level of the liquid therein, the lower end of said conduit being vented to the atmosphere.

2. The combination with a liquid container, of a conduit extending upward within said container to a point above the level of the liquid, said conduit being vented to the atmosphere outside of said container, and means at the upper end of said conduit for minimizing the slopping of the liquid thereinto.

3. The combination with a liquid container, of a plurality of vertically extending conduits distributed within said container and rising to a point above the level of the liquid, said conduit being vented to the atmosphere for the purpose described.

4. The combination with a liquid container, of a conduit rising vertically within said container to a point above the level of the liquid, its lower end being vented to the atmosphere, said conduit permitting the displacement of air from a hollow article when immersed in said liquid and surrounding said conduit.

5. The combination with a liquid container, of a conduit vented to the atmosphere outside of said container having an open end rising above the level of the liquid in said container, said open end being flared outwardly for the purpose described.

In testimony whereof I affix my signature.

DUNCAN J. FAHLMAN.