

W. AUSTIN.
Sheet-Metal Buckets.

No. 141,748.

Patented August 12, 1873.

Fig 1.

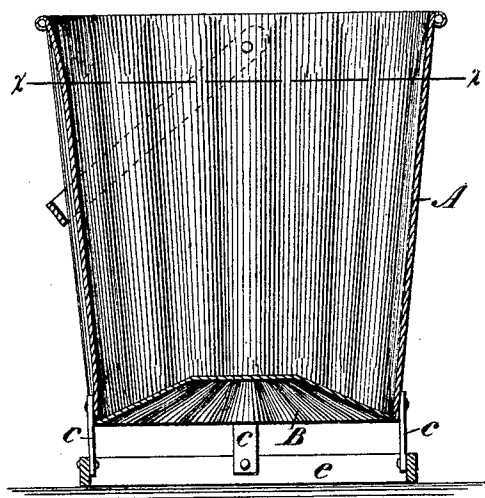
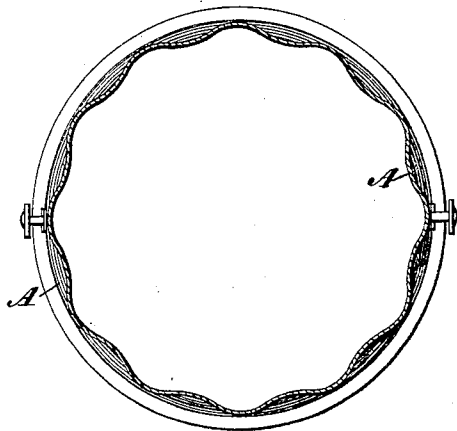


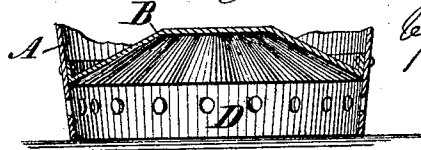
Fig 2.



Witnesses.

Harry King.
W. W. P. King

Fig 3.



Inventor.

William Austin
by Dodgson
Attys

UNITED STATES PATENT OFFICE.

WILLIAM AUSTIN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SHEET-METAL BUCKETS.

Specification forming part of Letters Patent No. **141,748**, dated August 12, 1873; application filed February 17, 1873.

To all whom it may concern:

Be it known that I, WILLIAM AUSTIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Metal Buckets, of which the following is a specification:

My invention relates to fire-buckets, which are generally used in shops, factories, and similar buildings for storing water for use in case of fire; and the invention consists in constructing them of corrugated sheet metal, and in so constructing them that the cold air shall have free access to the under side of the bottom, so that when the contents of the bucket are frozen the ice may form as thickly at the bottom as at the sides, and thus prevent the bottom from being injured; and, also, in a novel manner of forming the bottom, in order to give it greater strength—all as hereinafter more fully explained.

Figure 1 is a transverse vertical section of a bucket embodying my improvements, Fig. 2 is a transverse horizontal section on the line *x x* of Fig. 1, and Fig. 3 represents a modification of the bottom portion.

It is a common custom to provide shops, factories, and similar buildings, that are specially subjected to danger from fire, with a number of buckets, which are to be kept filled with water and arranged at convenient points, where they can be used in case of necessity; and this is required by law in many localities. Ordinary wooden buckets are generally used for this purpose, and sometimes plain sheet-iron ones. In either case they are subject to injury from the freezing of the water in them; and as these buckets are usually constructed in such a manner that the cold air does not have access to the under side of their bottom to the same extent that it has to their sides, it follows that the ice at the bottom, if formed at all, is much thinner and weaker than at the sides and top, and that, consequently, when the strain occurs from the expansion of the ice the bottom is ruptured, and the bucket destroyed or rendered useless.

To obviate these difficulties is the object

of my invention; and to do this I construct my bucket of sheet metal, and corrugate its sides and bottom, as represented in the drawings. The corrugations may be of any desired number and size, but should be sufficient to allow for the expansion of the water as it is converted into ice, which expansion is about one-ninth of its volume. As, however, it is never expected that the entire contents of the bucket will be frozen, it is not necessary to provide for so great an expansion.

As shown in Figure 1, the body A may be formed of a single sheet, suitably corrugated, then having its vertical edges united by rivets or solder. The bottom B I make concave on its under side, and provide it in like manner with corrugations, preferably arranged radially, as shown in Figs. 1 and 3, this being accomplished by suitable dies.

The bottom may be seamed to the body in the usual manner of working sheet metal, in which case I attach a strong metallic ring or band, *e*, thereto by means of vertical strips *c*, as shown in Fig. 1, by which means a free open space is provided for the air to circulate freely under the bottom, so that ice will form as readily and as thick on the bottom as at the sides.

If desired, the bottom may be attached as represented in Fig. 3, where the body A is shown extended down past the bottom to form the air-space, the projecting portion being provided with holes for the free admission of the air. In this case the bottom will have a suitable flange formed on it for riveting it to the body, and this flange may be turned downward, and made to extend down to the lower edge of the body below, and thus strengthen the latter.

I prefer to form the bucket complete, and then galvanize it, as by so doing all the joints are firmly united and rendered perfectly tight.

A bucket thus formed will stand any amount of freezing of its contents without injury, as the corrugations enable it to expand without rupture; and when the contents are

melted the elasticity of the metal will cause it to resume its original shape.

By forming the bottom in the manner shown it is rendered much stronger, and less liable to be bulged or forced outward by the pressure within.

Having thus described my invention, what I claim is—

A bucket having its body composed of corrugated sheet metal, and having an open flange or support below the bottom, substantially as described.

WILLIAM AUSTIN.

Witnesses:

PHIL. T. DODGE,
JOS. T. K. PLANT.