C. S. WARNER.

Water-Elevator Bucket.

No. 211,812. Patented Jan. 28, 1879.

Fig. 1.

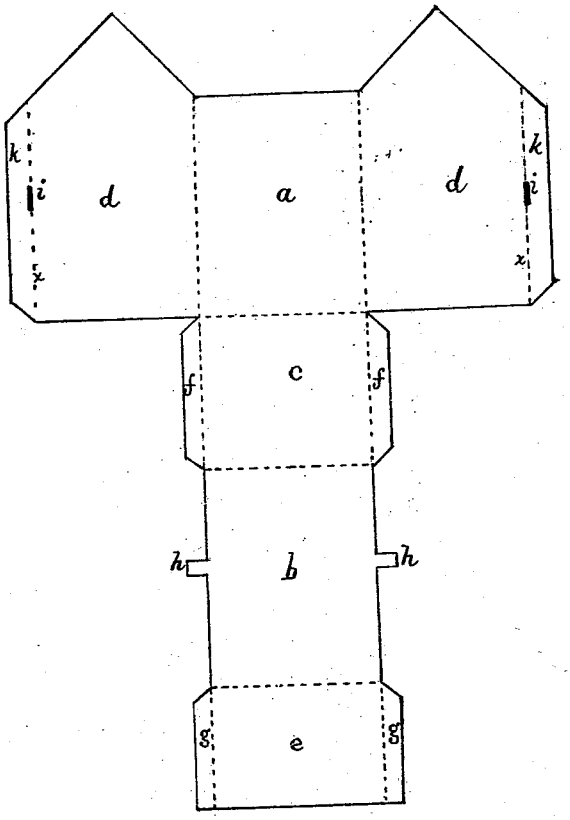
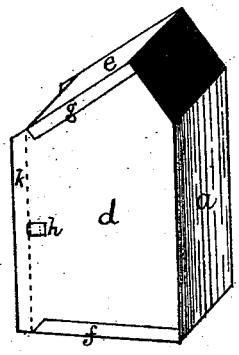


Fig. 2.



Witnesses:

Robert H. Duncan

Theodore Adams

Inventor.

Carlos S. Warner

by his attorney

Chas. A. Duncan

UNITED STATES PATENT OFFICE.

CARLOS S. WARNER, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN WATER-ELEVATOR BUCKETS.

Specification forming part of Letters Patent No. **211,812**, dated January 28, 1879; application filed November 27, 1878.

To all whom it may concern:

Be it known that I, CARLOS S. WARNER, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Buckets for Water-Elevators, of which the following is a specification:

The object of the present invention is to provide a metallic bucket or cup for the class of water-elevators commonly known as "chain-pumps," which shall be at the same time strong, economically constructed, and readily galvanized. Metallic buckets for this purpose, as heretofore constructed, have been made of two or more pieces of metal, the various joints and seams being closed with solder. This use of solder prevented the galvanizing of the bucket, while to have joined the parts by means of double-lap seams or by rivets (which would have made it possible to have galvanized the article) would have unduly increased the cost of the production, both by the unnecessary consumption of material and by the increased greater difficulty and labor of manipulation.

By making the bucket from a blank composed of metal, in the manner herein shown and described, the use of solder and rivets may be dispensed with, and yet the parts when bent into shape be held so closely together that they can be readily galvanized.

The blank is to be cut substantially as shown in Figure 1 of the accompanying drawings. It is then to be folded up along the various dotted lines, (except the lines *x x*,) so that the rectangular part marked *a* will form the front, the part *b* the back, *c* the bottom, and *d d* the two sides, of the vessel, while *e* forms the cover to one half of the top of the bucket, the other half being left open. By turning up the flanges *f f* against the sides of the bucket and turning down the flanges *g g*, the sides will be supported against springing outward during the operation of galvanizing; and by cutting the blank with tongues *h h* upon the back section, *b*, and passing such tongues through slits *i i* in the side sections, and bending them down against the outside of such sections, both the sides and the back will be more firmly bound together and stayed.

It will be readily understood that, instead of cutting the blank with flanges *f f* upon the edges of the bottom section, *c*, to be turned up against the sides *d d*, the blank may be formed with flanges along the bottom edges of these side sections, to be turned in under the bottom part, *c*, when the blank is bent up into shape; or shorter and alternating flanges may be formed along the edges, both of the bottom section and the side sections, so as when bent into place to brace all three of these sections; or, again, in addition to the use of flanges, the bottom section, *c*, and the sides might be further bound together by means of tongues and slits, in like manner as the back section, and the sides are thus supported. So, also, instead of the flanges *g g* on the top section, *e*, the flanges may be made along the upper edge of the sides *d d*, and turned down against the upper face of the part *e*; or partial flanges may be formed along the edges of both the top part, *e*, and the sides *d d*, and turned down, so as to brace these edges in all directions. And, again, the tongue and slit may be used here in the same manner as at the bottom, as above indicated.

The flanges *k k*, which will project beyond the plane of the back of the completed bucket, are for the purpose of attaching the bucket to the chain which carries it, being used for this purpose in the way already well known—*i e.*, by simply bending them around the edges or wires of the chain-links.

Fig. 2 is a perspective view of the completed bucket.

The great economy attending this construction is, first, that the blank can be cut out at a single stroke of the die; and, secondly, it can be more readily manipulated in bending up into shape and in uniting the edges than when the blank is in two or more pieces. And the superiority of the structure, when completed, consists in the fact that it is very firmly braced, which makes it strong and durable, and that, if desired, it can be galvanized, which would be impossible with a bucket in which the parts are united simply by solder. This latter consideration is of much importance in buckets for water-elevators, since by reason of the corroding action of water the metal, unless thus protected, will quickly rust out and require to be replaced.

Preferably the bucket should have a small

vent in the bottom to permit the escape of air as the bucket enters the water, and the escape of water when the bucket is brought to a stand at an elevation above the water-level.

It is not intended herein to claim, broadly, an elevator-bucket constructed from a single piece of metal, as such buckets, held together at the seams with rivets, are old.

What is claimed as new is—

1. A galvanized elevator-bucket composed of a single piece of sheet metal, and held together without the use of solder or rivets, substantially as shown and described.

2. An elevator-bucket formed from a single piece of metal by bending the edges of the blank, previously cut to a pattern, over upon the adjoining parts, and provided with projecting flanges for attaching it to the chain-links, substantially as described.

3. An elevator-bucket composed of a single piece of metal, and having the parts stayed by means of tongues and slits, substantially as and for the purpose set forth.

C. S. WARNER.

Witnesses:
SAML. A. DUNCAN,
ROBERT H. DUNCAN.