D. J. DOWLING.

PUMP BUCKET.

APPLICATION FILED NOV. 26, 1909.

998,678. Patented July 25, 1911.

Fig. 1.

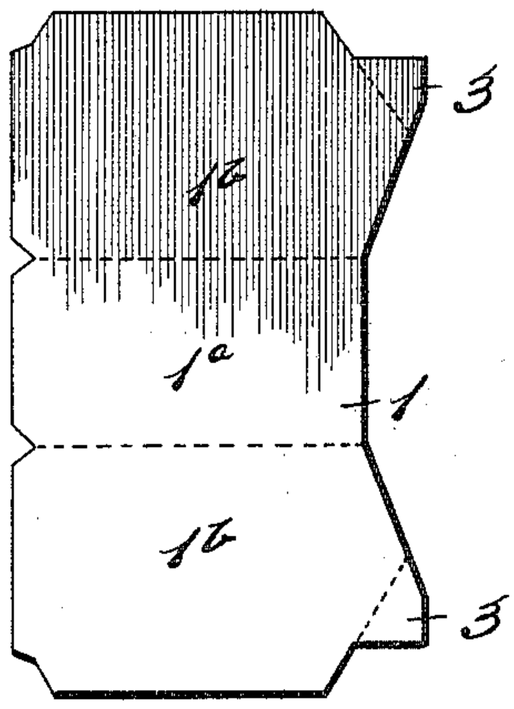


Fig. 2.

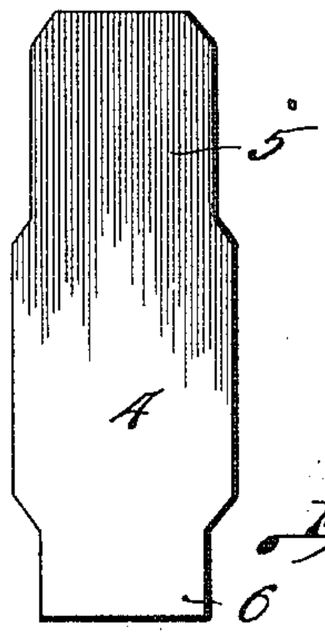


Fig. 8.

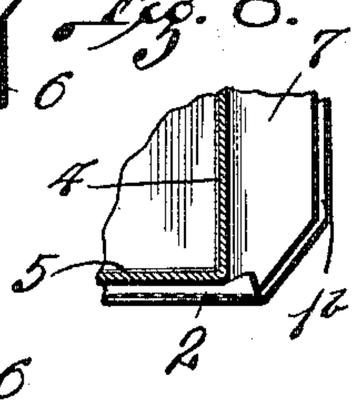


Fig. 3.

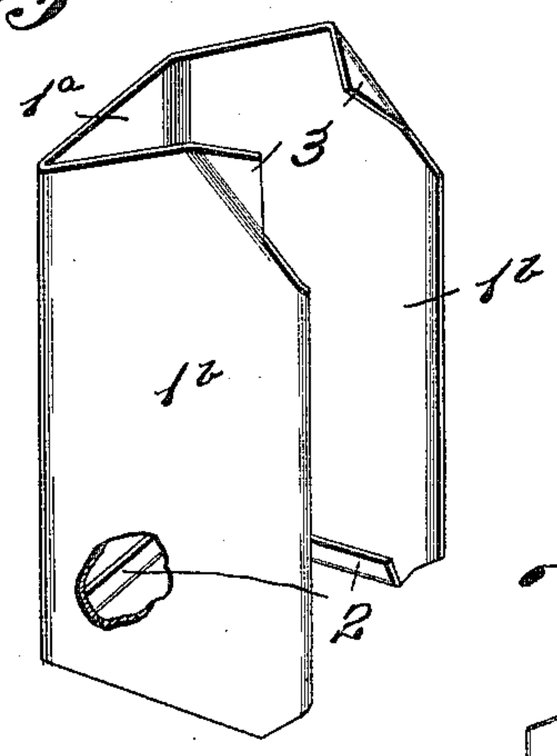


Fig. 4.

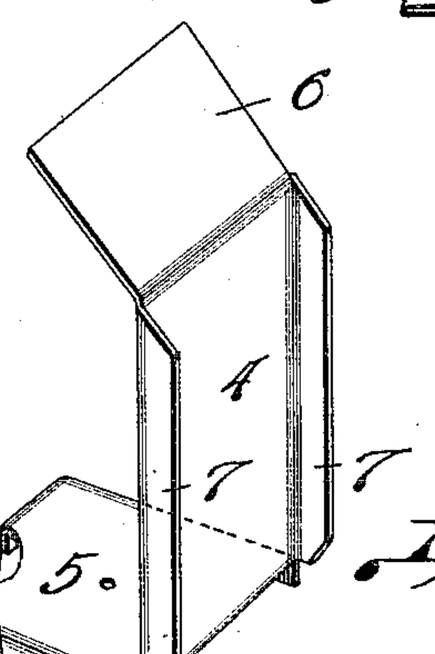


Fig. 7.

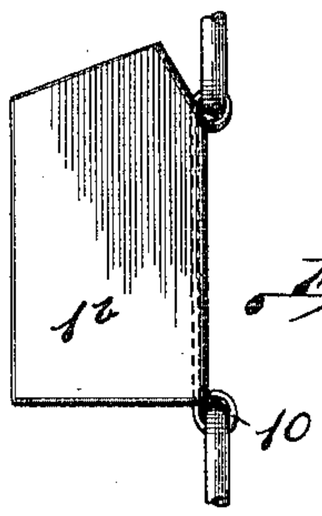


Fig. 9.

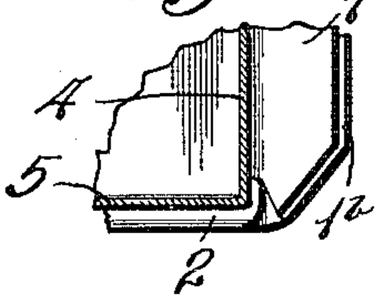


Fig. 5.

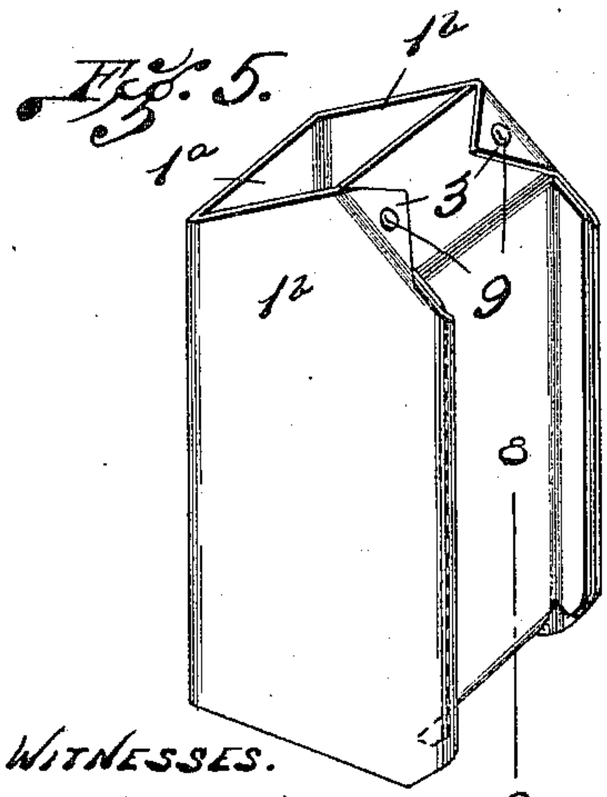


Fig. 10.

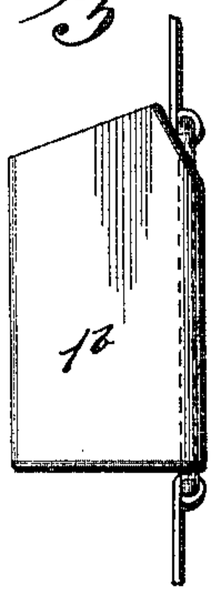
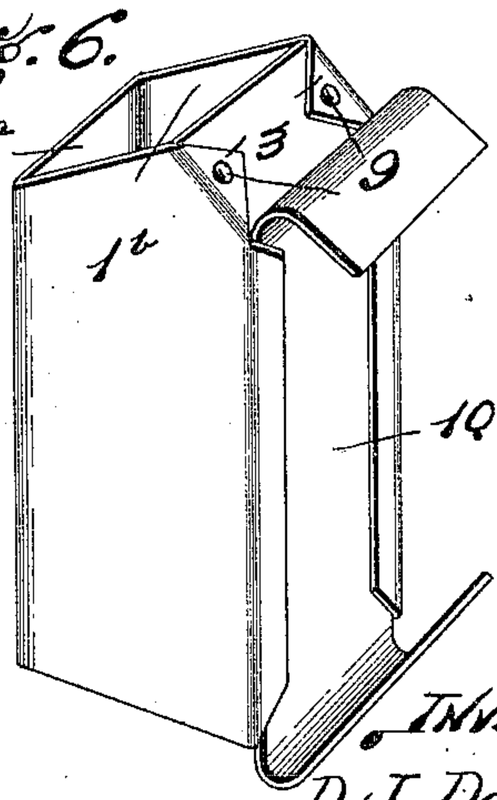


Fig. 6.



WITNESSES.

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DENNIS J. DOWLING, OF ST. LOUIS, MISSOURI.

PUMP-BUCKET.

998,678. Specification of Letters Patent. Patented July 25, 1911.

Application filed November 26, 1909. Serial No. 529,930.

To all whom it may concern:

Be it known that I, DENNIS J. DOWLING, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Pump-Buckets, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view of the blank section of sheet metal which forms the front and side walls of my improved pump-bucket; Fig. 2 is a view of the blank section which forms the bottom and back wall of the pump-bucket; Fig. 3 is a perspective view of the blank which forms the front and side walls, bent into proper shape to receive the opposite part of the pump-bucket; Fig. 4 is a perspective view of the blank forming the bottom and rear wall, and which blank is bent into proper shape to be fitted into the part of the pump-bucket seen in Fig. 3; Fig. 5 is a perspective view of the two parts of the bucket fitted and fastened together, and ready to receive one of the links of the pump-chain; Fig. 6 is a perspective view of my improved pump-bucket, and showing a flat link in position on the rear side of the bucket; Fig. 7 is a side elevation of one of my improved pump buckets provided with a flat link on its rear side and the ends of said flat link connected to the wire links of the pump chain. Fig. 8 is an enlarged detail section taken approximately on the line 8—8 of Fig. 5, and showing a joint at one of the lower rear corners of my improved bucket before said joint is closed; Fig. 9 is a detail view similar to Fig. 8, and showing the joint at the lower rear corners closed; Fig. 10 is a side elevation of one of the buckets provided with a wire link on its back and with flat intermediate links connected to the ends of said wire link.

My invention relates to a pump-bucket utilized in connection with bucket-pumps, and which bucket is constructed of sections of thin sheet metal or like material.

The principal objects of my invention are; to form a simple, strong and durable pump-bucket wherein the amount of material required for its construction is reduced to a minimum; to construct the pump-bucket from two sections of material of such outline as to be cut from a large sheet of material with very little waste; to do away entirely with the use of solder in the assembling of the parts of the bucket, thereby materially reducing the cost of manufacture of said bucket, and to attach a link to the back of the bucket, thus providing means for readily attaching the adjacent links of the pump-chain.

To the above purposes my invention consists in certain novel features of construction and arrangement of parts hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, 1 designates the section of material which forms the front and side walls of the pump-bucket, which section is cut or stamped from suitable sheet metal and being approximately rectangular in outline when in blank form. The central portion 1^a of the section 1 forms the front wall of the pump-bucket and the end portions 1^b form the side walls after the section has been bent by dies or tools into the shape shown in Fig. 3. The side walls 1^b lie parallel with each other and occupy positions at right angles to the front wall 1^a. The extreme lower portions of the walls 1^a and 1^b are bent inward and upward as designated by 2, thus forming grooves which receive flanges formed on the opposite part of the bucket hereinafter described. The upper ends of the sections 1^b forming the side walls of the pocket are provided with small triangular sections 3, which are bent inward toward one another, and occupy a plane at right angles to the plane occupied by the walls 1^b.

The opposite part of my improved bucket is preferably stamped or cut from sheet metal, approximately rectangular when in blank form, and comprises a central section 4, forming the rear wall of the bucket, the section 5 forming the bottom of the bucket and the section 6, which forms an inwardly projecting extension at the upper end of the rear wall of said bucket. This portion of the bucket is bent by suitable tools or dies into the form shown in Fig. 4 with the section 5 occupying a position at right angles to the section 4 and the section 6 occupying a position at an angle relative to said section 4. The side edges of the sections 4 are bent rearward at right angles to the body of said section 4 as designated

by 7 and when the two parts of the bucket are first fitted together these edges 7 lie immediately against the rear portions of the side walls 1^b. The front and side edges of the section 5 forming the bottom of the bucket are bent downward as designated by 8 and when the two parts of the bucket are first assembled these downwardly bent portions occupy positions inside the upwardly bent lower edges of the walls 1^a and 1^b.

The two parts of the bucket formed and bent as above described are fitted together with the downwardly bent edges 8 occupying positions inside the upwardly bent portions 2 and with the section 6 in position beneath the inwardly bent triangular sections 3, and by means of suitable tools the portions 2 and 8 are pressed and rolled together to form water-tight seams or joints. Rivets 9 or like fastening devices are formed through the portions 3 and 6 for rigidly uniting the same.

When the two parts of the bucket are assembled and before the interlocking portions 2 and 8 are bent together, the rear ends of the upwardly bent portions 2 on the side walls 1^b project slightly beyond the rear wall 4 as shown in Fig. 8, and when the interlocking parts 2 and 8 are pressed together by the die or seaming tool these rearwardly projecting ends are bent upward against the lower corners of the rear wall 4 in the manner shown in Figs. 5 and 9, thus forming a water-tight joint at the lower rear corners of the bucket. A link 10 either wire or sheet metal, is now positioned directly against the back wall of the bucket, after which the rear edges of the side walls of the bucket and the rearwardly bent portions 7 of the section 4 are bent downward over the side portions of said link. The buckets so constructed are connected to one another for use in a pump by means of intermediate links, the ends of which are attached to the ends of the links 10 as shown in Figs. 7 and 10. A small aperture is punched through the center of the bottom 5 to provide for the escape of air from the buckets passing downward into the water while the pump-chain is in operation, thus aerating said water and to also provide for the discharge of water from the buckets above the water line when the pump-chain is at rest.

It will be noted that the two parts of my improved bucket while in blank form are approximately rectangular in outline and said parts can therefore be cut from large sheets of material with comparatively little waste, and said parts are fixed to one another without the use of solder, thereby effecting a considerable saving in the cost of manufacture.

The lower portions of the front and side walls of my improved bucket engage and interlock with the edges of the bottom of the bucket in such a manner as to form a water-tight joint and also to form a reinforcing rib around three sides of the lower end of the bucket, thus strengthening the same and providing a construction which will hold its shape and withstand hard usage. The rear ends of the interlocking portions 2 are extended beyond the wall 4 and bent upward at the rear lower corners of the bucket in order to form a water-tight joint at said rear lower corners, and such construction also assists materially in locking the two parts of the bucket to one another.

A pump-bucket of my improved construction can be cheaply produced owing to the small amount of material required for its manufacture and by reason of the absence of solder in uniting the seams and joints.

It will be readily understood that minor changes in the form and construction of my improved pump-bucket can be made without departing from the spirit of my invention.

I claim:

1. The herein described pump bucket, comprising a sheet of metal bent to form front and side walls with flanges turned in and up at the bottom, a section of sheet metal bent to form a rear wall and bottom with flanges turned down from the bottom, the side and front edges of the bottom being interlocked with the lower portions of the front and side walls by interconnecting the flanges thereof, and the flanges at the rear end of the side walls being extended so as to be bent upward at the rear lower corners of the bucket, the rear and side walls of the bucket also being united at their meeting edges.

2. A pump bucket constructed of two sections of sheet metal bent to form a receptacle having an open upper end, the lower portions of the side and front walls of the bucket forming flanges interlocked with the side and front edges of the bottom, said flanges being extended beyond the rear wall of the bucket, and said extensions being bent upward against said rear wall.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 23rd day of November, 1909.

DENNIS J. DOWLING.

Witnesses:
M. P. SMITH,
L. A. CORRAO.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."