

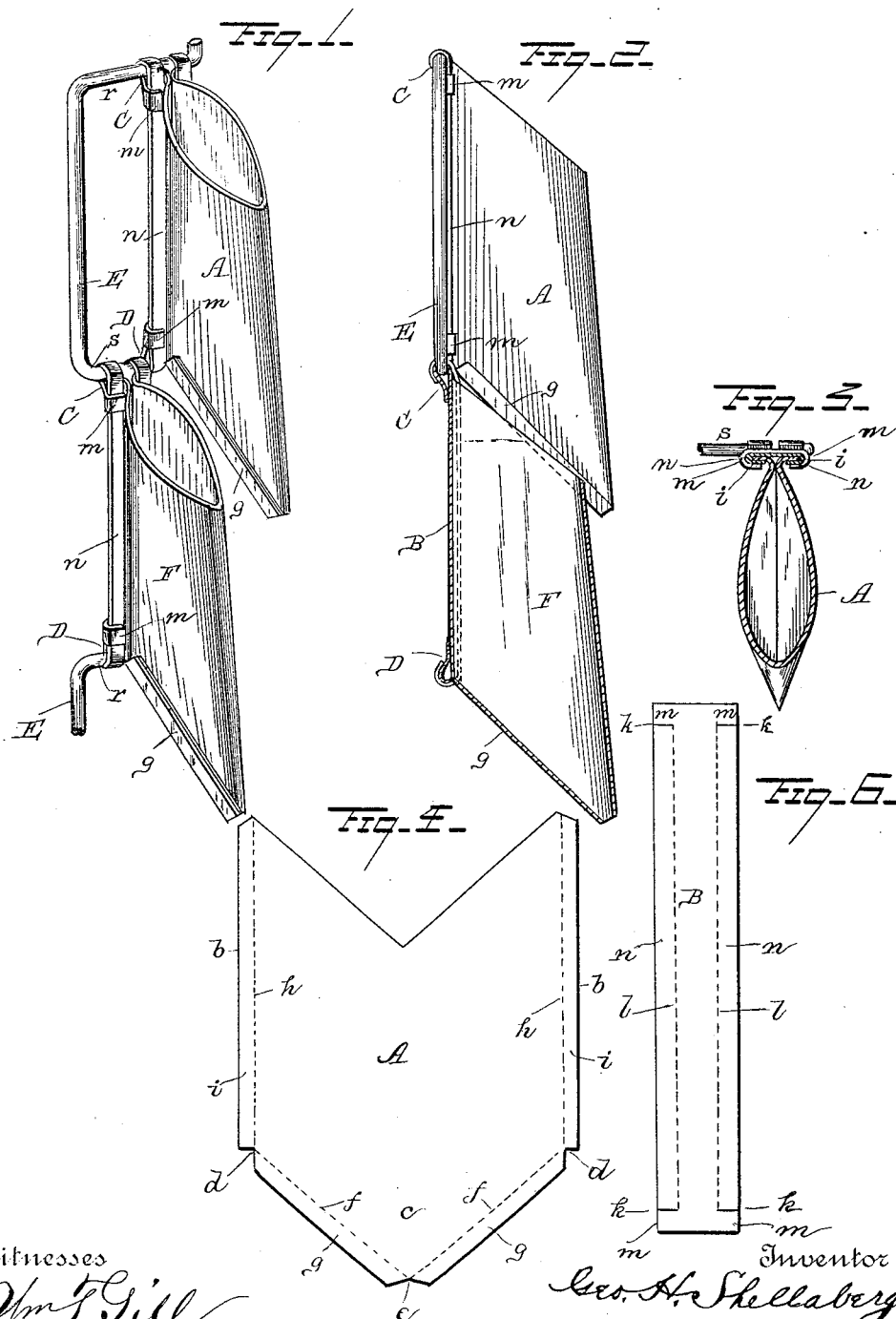
(No Model.)

G. H. SHELLABERGER.

BUCKET FOR ENDLESS CHAIN PUMPS.

No. 348,298.

Patented Aug. 31, 1886.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE HARRIS SHELLABERGER, OF ST. JOSEPH, MISSOURI, ASSIGNOR OF TWO-THIRDS TO REINHOLD WILLMAN AND JOHN F. TYLER, OF SAME PLACE.

## BUCKET FOR ENDLESS-CHAIN PUMPS.

SPECIFICATION forming part of Letters Patent No. 348,298, dated August 31, 1886.

Application filed April 30, 1886. Serial No. 200,700. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE HARRIS SHELLABERGER, a citizen of the United States, residing at St. Joseph, in the county of Buchanan and State of Missouri, have invented a new and useful Improvement in Buckets for Endless-Chain Pumps, of which the following is a specification.

My invention relates to an improvement in buckets for endless-chain pumps; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a pair of pump-buckets embodying my improvements, connected together. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a transverse sectional view taken on the line *xx* of Fig. 2. Fig. 4 is an elevation of the blank for forming the body of the bucket. Fig. 5 is a similar view of the blank for forming the stiffening-flange and connecting-loops of the bucket.

The object of my invention is to provide a bucket for chain-pumps which may be easily and cheaply made without wasting any of the metal, and which shall be strong and durable, and practical and efficient in operation. These objects I attain by the construction hereinafter described.

A, in Fig. 4, represents a blank which is made of a sheet of metal having parallel sides, *b*. In the upper end of the sheet A is made a V-shaped incision, the sides of which are arranged at an angle of about fifty degrees. The lower end of the plate A is provided with a projecting tongue, *c*, the sides of which are parallel with the sides of the incision in the upper end of the plate or blank, thus enabling the blanks to be cut from a continuous strip of metal without waste. Notches *d* are cut between the parallel sides *b* of the blank and the inclined sides of the tongue *c*, and a notch, *e*, is cut in the lower end of the tongue between the converging sides thereof.

In order to form the body of the bucket, the blank A is bent over a mold or former until its parallel edges *b* come in contact with each other, and the lower inclined edges of the

downwardly-projecting tongue C also come in contact with each other. The said inclined edges are bent over each other on the line *f*, (shown in dotted lines in Fig. 4,) thereby forming or closing the bottom of the bucket. Those portions of the inclined sides of the tongue *c*, between the notches *d* and *e* and the lines *f* and the outer inclined sides of the tongue, form flaps *g*. The parallel edges *b* are bent outwardly from each other on the lines *h*, (shown in dotted lines in Fig. 4,) the said outer parallel edges of the blank beyond the said dotted lines forming flaps or flanges *i*, which extend outwardly in line with each other, as shown in Fig. 3.

B, Fig. 5, represents the blank forming the stiffening-flange and connecting-loops of the bucket. This blank is made of a rectangular strip of sheet metal, which is provided near its ends at its outer sides with incisions *k*. This blank is nearly twice the length of the parallel sides of the blank A, and is applied to the rear edge of the body of the bucket by having its outer edges bent and doubled on the lines *l*, (shown in dotted lines in Fig. 5,) thereby engaging the projecting flaps or flanges *i* of the bucket and securely stiffening the same and preventing it from leaking. The outer corners of the blank B, beyond the incisions *k* and outside of the lines *l*, form flaps or ears *m*. That portion of the blank B which extends above the top of the bucket, when the said blank has been attached to the rear edge of bucket, is bent and doubled rearwardly, so as to form the loop C at the upper rear edge of the bucket, the said loop being made secure to the rear edge of the bucket by bending the flaps or ears *m* over the edges of the flaps *n* of the blank B, as shown in Fig. 3. That portion of the blank B which projects below the bottom of the bucket is similarly bent and doubled to form the lower loop, D, and its flaps *m* are also bent around the flaps *n*, as in the previous instance. These buckets are connected together so as to form a flexible endless chain by means of bails E, which are made of wire. These bails may each be made of a single piece of wire having its ends bent at right angles, and extending in the same direction, thereby forming upper and lower arms, *r* and

s, respectively. The length of the said arms is slightly greater than twice the width of the stiffening-flange formed by the blank B on the rear edge of the bucket. The upper arm, 5 *r*, is attached to the upper loop, C, of one of the buckets, as shown in Fig. 1, and the lower arm, *s*, of the bail is attached to the lower loop, D, of the bucket. The outer ends of the said arms *r* and *s* are then bent at right 10 angles, as shown in Fig. 1, in order to prevent the loops of the bucket from slipping from the arms. The bail thus secured to the bucket, in connection with the rear stiffening-flange of the same, forms the link of a sprocket-chain 15 to receive the tooth of a sprocket wheel or cam of suitable construction, such as are usually employed for operating pumps of this class. A second bucket, F, which is identical in construction with the bucket hereinbefore described, has its upper loop, C, attached to the 20 lower arm, *s*, of the bail, thereby hinging the said buckets A and F together. The buckets are thus connected together in series to form a flexible endless chain of any desired length, 25 according to the depth of the well or cistern from which the water is to be elevated.

An elevating-bucket for chain-pumps thus constructed is cheap and simple, effects an entire economy of all the sheet metal used in the 30 manufacture of the bucket, and without wasting any of it, is strong and durable, is not likely to leak, and is very light.

Having thus described my invention, I claim—

35 1. A bucket for chain-pumps formed of the blank A, having the lower converging sides provided with flaps *g*, bent over each other to form the bottom of the bucket, and the parallel sides *b*, having the flaps *i*, bent out- 40 wardly, and a plate secured to the flanges or flaps *i* to stiffen the back edge of the bucket, substantially as described.

2. The blank A, having the side flaps, *i*, and converging bottom flaps, *g*, substantially as described.

3. The blank A, to form the body of the 45 chain-pump bucket, having parallel sides *b*, the V-shaped incision in its upper end and the depending tongue *c* at its lower end, having converging sides parallel with the sides of the 50 incisions in the upper end of the blank, whereby the said blanks may be formed or cut from a strip of sheet metal without wasting any of the material, substantially as described.

4. The blank B, having the side flaps, *n*, 55 substantially as described.

5. The combination, with the body of the bucket formed of a single sheet of metal and having the outwardly-extending flanges *i* at one side of the plate, of the blank B, having 60 the side flaps, *n*, bent over the flanges *i* of the body of the bucket, thereby forming a stiffening flange or back for the rear edge of the bucket, substantially as described.

6. The combination of the bucket having 65 the loops C and D on their rear sides, and the bails having the arms *r* and *s* attached to the said loops C and D, whereby the said buckets are flexibly connected together, and the said bails form the links of a sprocket-chain, sub- 70 stantially as described.

7. The combination, with the bucket having the blank B on its rear side, the said blank having the flaps *m* at its upper and lower 75 ends bent over the edges, of the blank to form the loops C and D, for the purpose set forth, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

GEORGE HARRIS SHELLABERGER.

Witnesses:

JNO. A. READ,  
N. S. SMITH.