

(No Model.)

J. D. COWAN & R. E. LEE.

BARGE PUMP.

No. 255,492.

Patented Mar. 28, 1882.

Fig. 1.

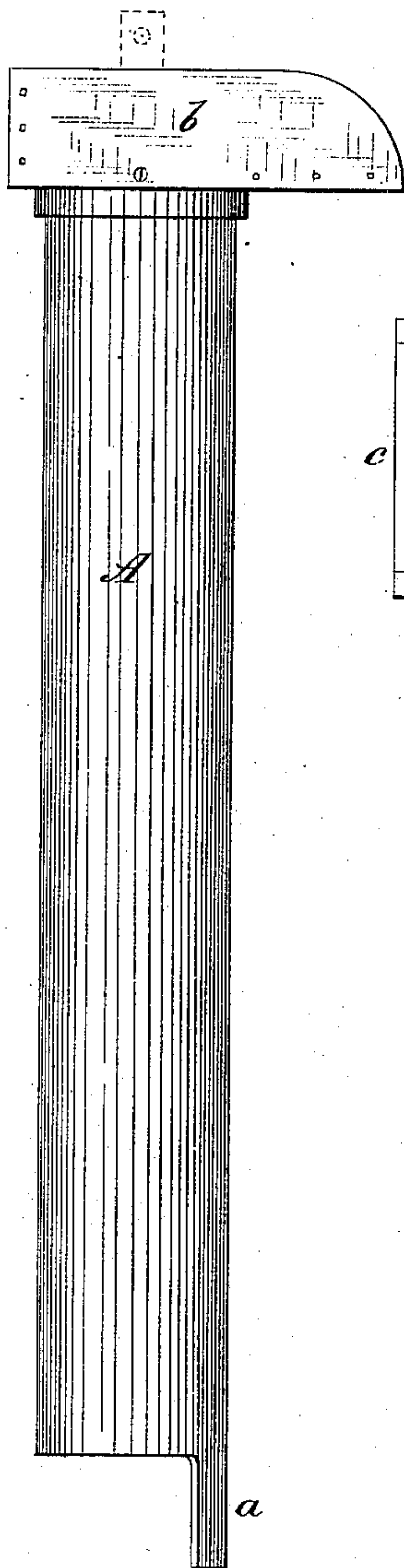


Fig. 2.

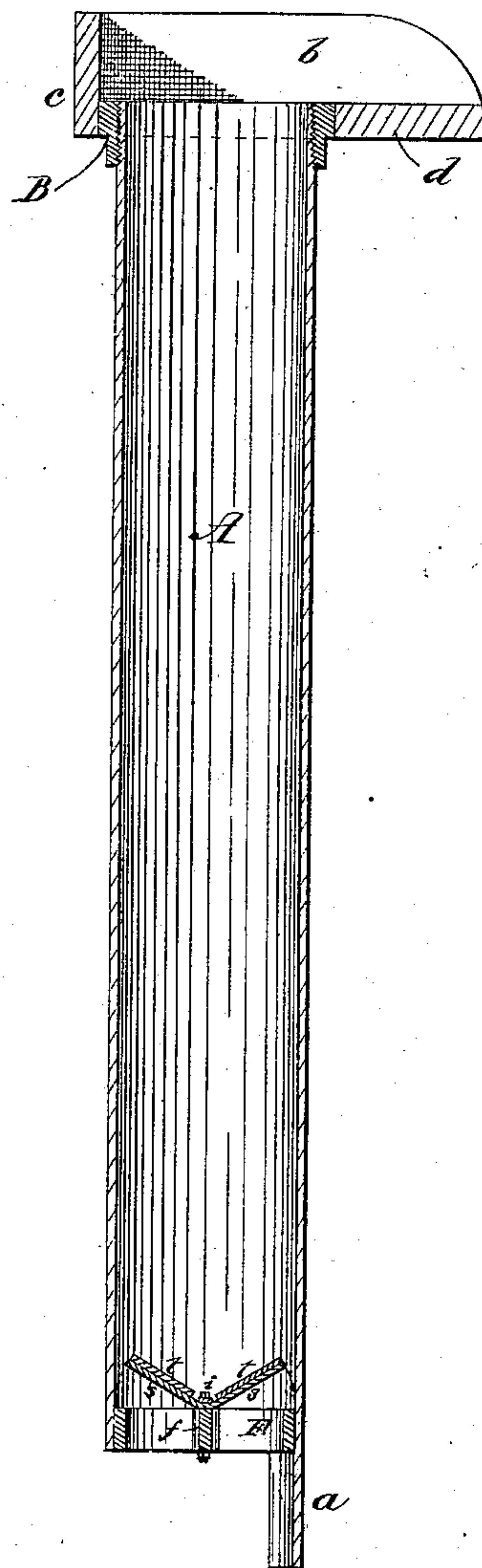


Fig. 3.

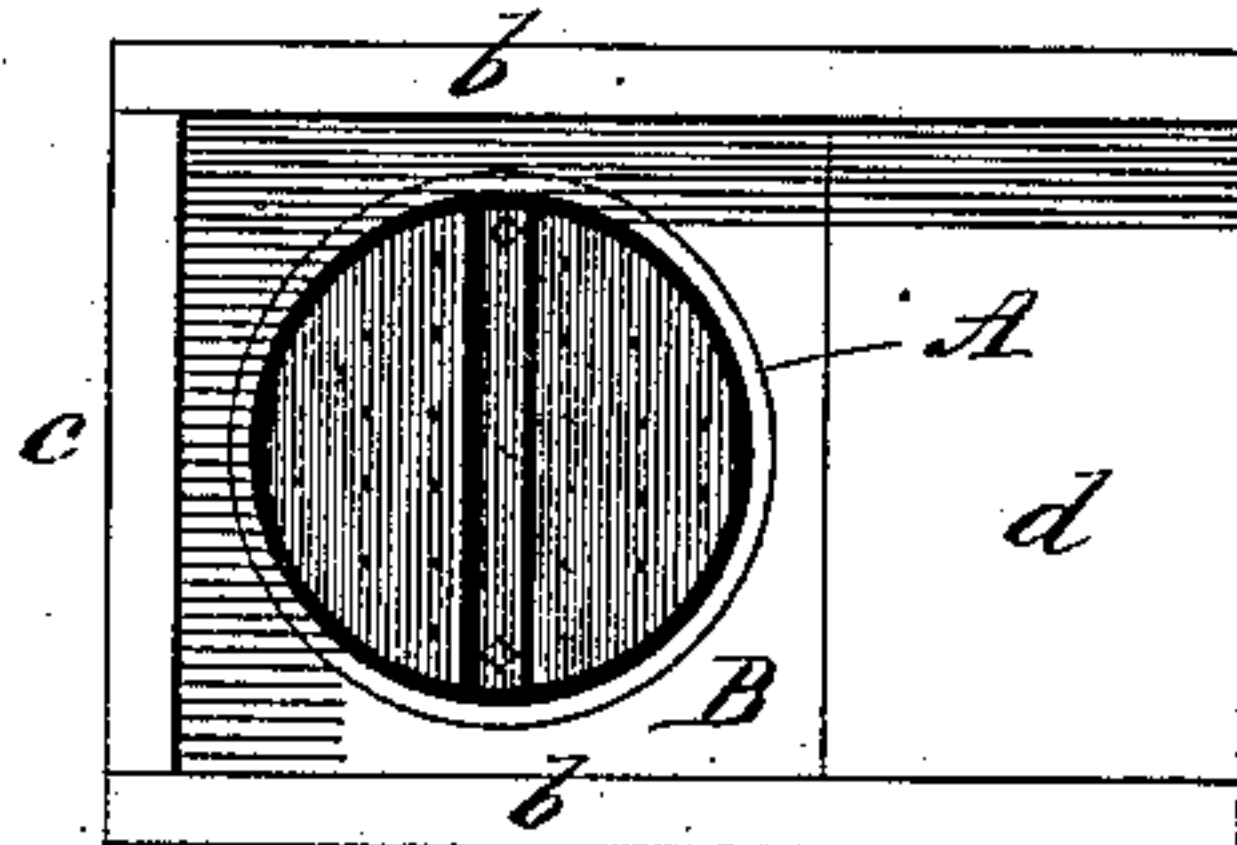


Fig. 4.

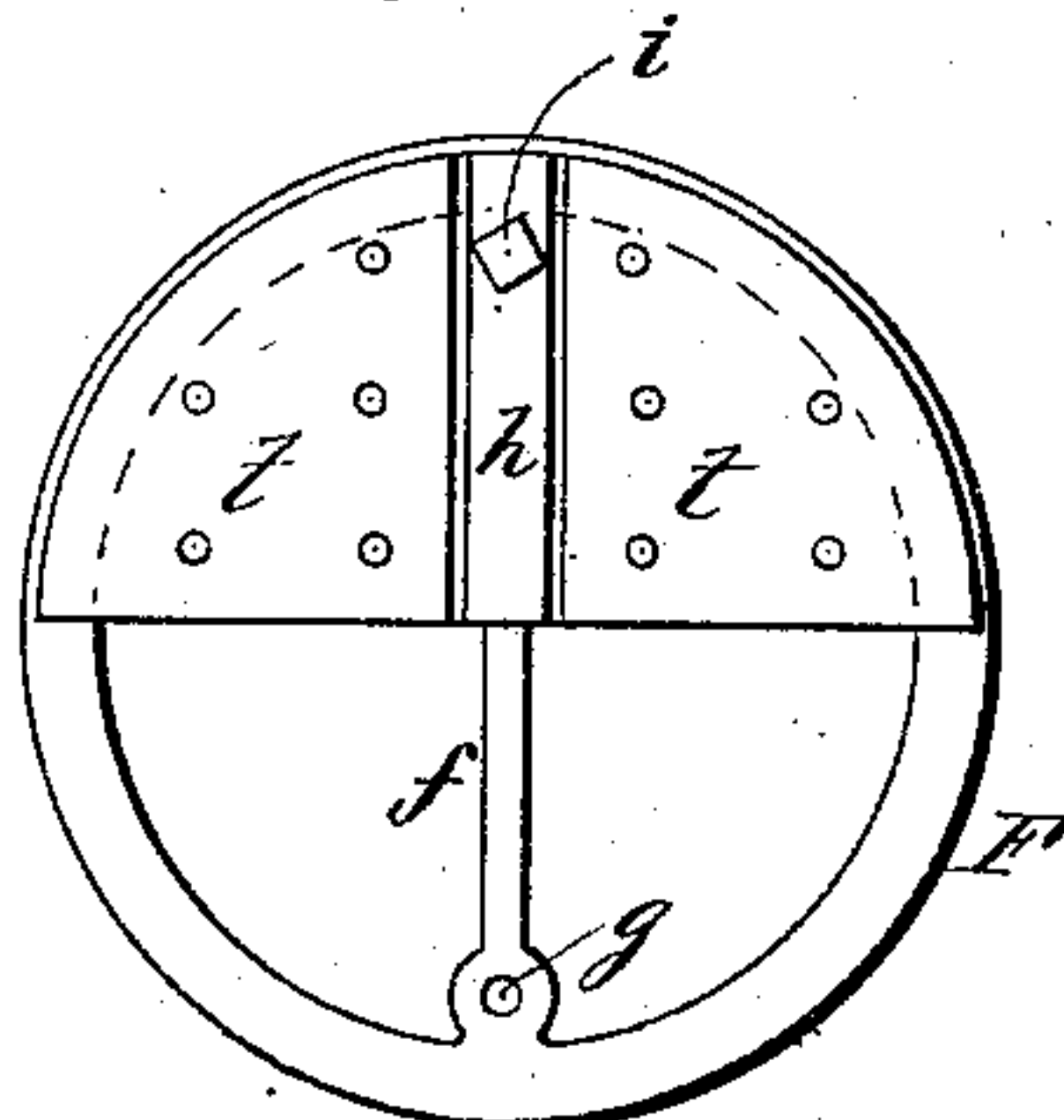
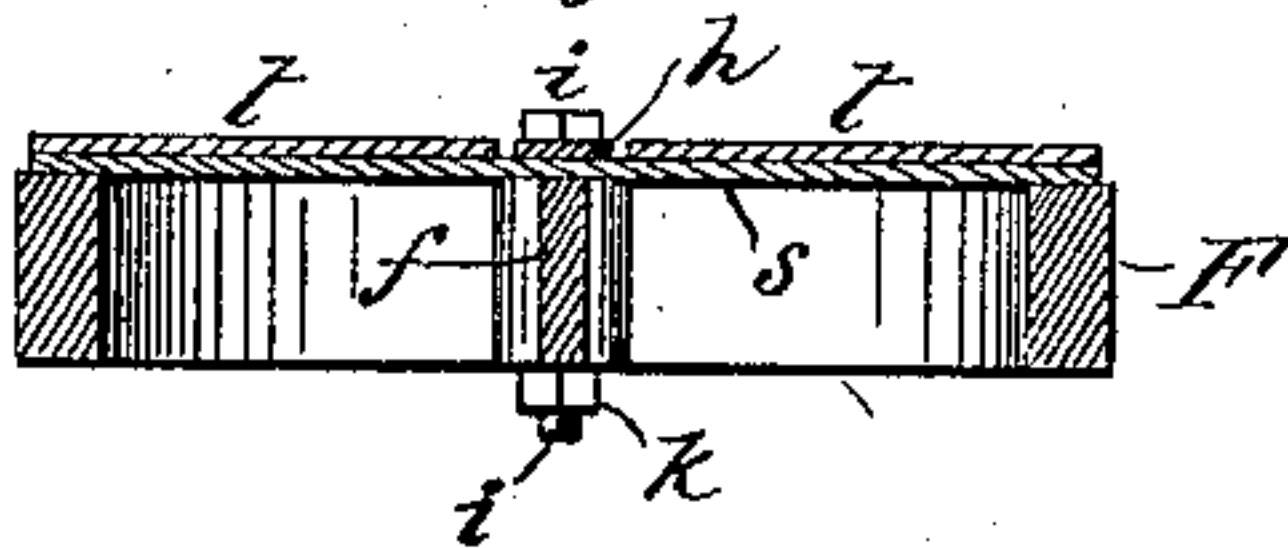


Fig. 5.



WITNESSES:

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JACKSON D. COWAN AND ROBERT E. LEE, OF MCKEESPORT, PENNSYLVANIA.

BARGE-PUMP.

SPECIFICATION forming part of Letters Patent No. 255,492, dated March 28, 1882.

Application filed May 23, 1881. (No model.)

To all whom it may concern:

Be it known that we, JACKSON D. COWAN and ROBERT E. LEE, of McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Barge-Pumps; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to
10 which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to an improved construction of what are known as "barge-pumps"—that is, a short pump provided with a check-valve at its foot, a sucker-rod or "spear," a bucket, and an overhanging spout—the pump being used by placing it in the well or other portion of the barge or other craft with the
20 spout projecting over the edge of the barge, so that the water pumped will fall clear of the same. These pumps are made of wood, and are therefore wanting in durability, and, being of wood, are very troublesome and difficult to
25 keep tight and in working order.

Our invention consists in making the pump body or barrel of seamless iron tubing, and in providing the same with a suitable spout to discharge the water. Further, in constructing the pump with a detachable check-valve or clack-valve and valve-seat, whereby the flexible valve used may be readily replaced when worn out; and, further, in the construction and combination of parts, substantially
35 as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of our improved barge-pump. Fig. 2 is a vertical section of the same. Fig. 3 is a top view. Fig. 4 is a top view of the valve and valve-seat, half of the valve being removed. Fig.
40 5 is a transverse vertical section of Fig. 4.

The barrel or body A is a single piece of seamless wrought-iron tubing, and may be of the kinds known as "lap-weld" or "butt-weld." This at the bottom is formed with a leg, *a*,
45 which, while supporting the pump, allows free access of water thereto in the well of the craft. At its top, barrel A is threaded exteriorly and screwed into a threaded casting, B, of square
50 form at the top, as shown at Fig. 3. To casting B are screwed the spout-jaws *b b* and back *c*,

and between jaws *b b* the apron *d* is secured by nailing through jaws *b b*.

We thus construct a barrel and spout in an exceedingly cheap and simple manner, and produce a pump of great durability and strength,
55 while retaining sufficient lightness for convenient and easy handling. If left for an indefinite time in the sun, the barrel cannot warp and crack and become leaky, as a wooden barrel does. Besides, the small space occupied by
60 the walls of the barrel enables us to increase the diameter without enlarging the exterior, and we thus can increase the capacity.

The usual sucker-rod or spear and bucket are
65 used for operating.

The clack valve and seat at the foot are peculiar. The seat consists of an annular casting, F, having the cross-bar *f*. The upper face of the casting F is ground or turned true, or
70 reasonably true. Two bolt-holes, *g*, are either cored or bored vertically through the cross-bar *f* or through diametrically-opposite points in the casting F. This casting is made slightly larger than the bore of barrel A. Then the
75 latter is heated, and thus expanded, when the cold casting F is inserted, so that upon cooling the barrel A shrinks upon and permanently retains the casting F in proper position.

The valve consists of a circular piece, *s*, of
80 leather, rubber, or other appropriate flexible material, to which are riveted on top the nearly semicircular plates *t*, of iron, or zinc, or galvanized plate, or copper. The valve has holes of
85 a diameter corresponding to the holes *g* in cross-bar *f*. A cap-bar, *h*, having bolts *i*, is placed across the valve between the plates *t*, with bolts
90 *i* passing down through the valve *s*. Thus constructed, the valve is folded up and inserted upwardly through the casting *f*, and arranged
95 so that the bolts *i* drop down in holes *g*, after which all is readily secured by the nuts *k*. The placing or removing of the valve is done in a few moments, so that when worn out the leather may be readily removed.

While we have shown and described a particular form of spout and manner of attachment of the same, we do not confine ourselves herein to such form, as it may be varied without departing from the spirit of our invention.

We claim—

1. In a barge-pump, a cylindrical barrel con-

sisting of seamless wrought-iron tubing, in combination with a detachable cast-iron head and wooden spout, substantially as described.

2. The combination specifically of the cylindrical barrel A of iron tubing, the casting B, wooden jaws *b b*, back *c*, and apron *d*, substantially as described.

In testimony that we claim the foregoing as

our own we have hereto affixed our signatures in presence of two witnesses.

JACKSON D. COWAN.
ROBERT E. LEE.

Witnesses:

F. J. PATTERSON,
T. J. MCTIGHE.