(No Model.)

C. P. CARLSON.

BOAT PUMP.

No. 346,720. Patented Aug. 3, 1886.

Fig. 1.

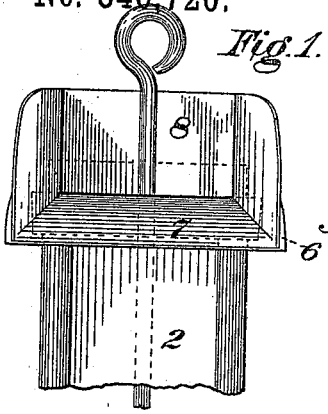
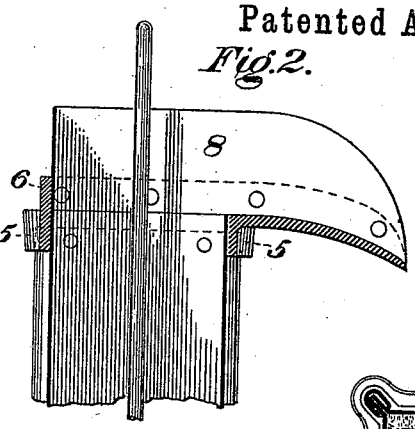
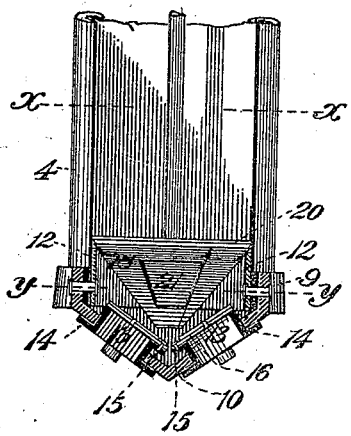


Fig. 2.





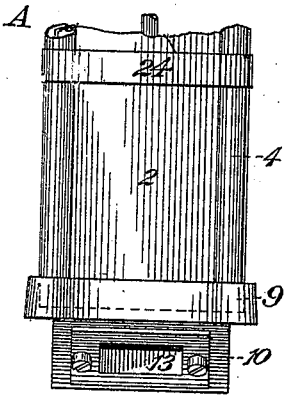


Fig. 3.

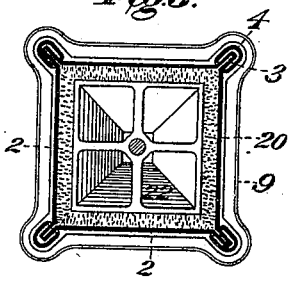


Fig. 4.

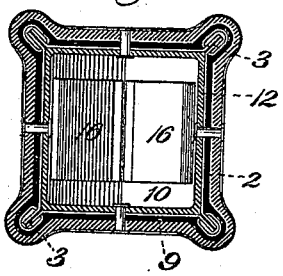


Fig. 5.

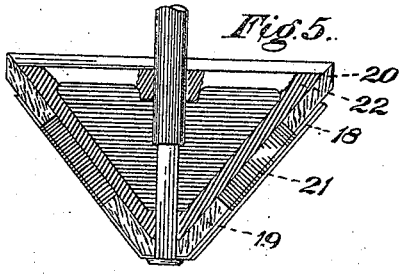


Fig. 6.

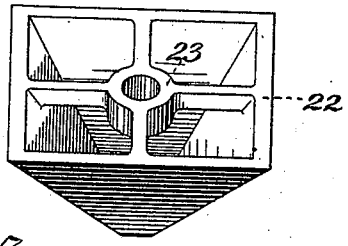
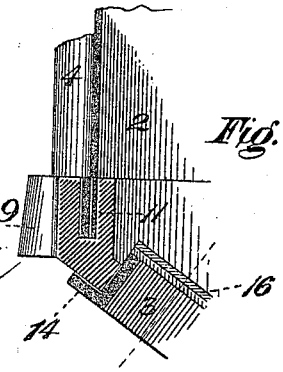


Fig. 7.



WITNESSES:
Darwin S. Wolcott
R. M. Clarke

INVENTOR,
Charles P. Carlson.
BY George H. Christy
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES P. CARLSON, OF McKEESPORT, PENNSYLVANIA.

BOAT-PUMP.

SPECIFICATION forming part of Letters Patent No. 346,720, dated August 3, 1886.

Application filed November 21, 1885. Serial No. 183,465. (No model.)

To all whom it may concern:

Be it known that I, CHARLES P. CARLSON, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, a citizen of the United States, have invented or discovered certain new and useful Improvements in Boat-Pumps, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a view in front elevation of my improved boat-pump, a portion of the front wall being broken away. Fig. 2 is a view in side elevation of the same, the upper portion of the side being broken away. Fig. 3 is a horizontal sectional view, the section being taken on the line *x x*, Fig. 1. Fig. 4 is a similar view, the sections being taken on the line *y y*, Fig. 1. Fig. 5 is a vertical sectional view of the piston. Fig. 6 is a perspective view of the piston-valve. Fig. 7 is a sectional detail view of the lower end of the pump, showing a modification.

The invention herein relates to certain improvements in that class of pumps known as "boat-pumps"—*i. e.*, such as are employed in pumping boats, barges, flats, &c.—and has for its object such a construction of pump as will render the same more efficient in operation, more substantial in construction, and more easily repaired than the pumps now in use, which are generally formed of wood.

To these ends the invention consists in a pump having a rectangular cylinder, removable valve frames or supports, a piston having a vertically-moving check-valve, and other peculiar features of construction, as more fully hereinafter described and claimed.

The body A, which is rectangular in form, consists of the sheet-metal sides 2, having their vertical edges bent outward, as shown at 3 in Fig. 3, at such an angle to the body of the sheets that when the latter are arranged together in rectangular form these outwardly-bent edges 3 will lap one upon the other, as clearly shown in Figs. 3 and 4. The bent edges 3 are held together by the U-shaped plate-metal corner-posts 4, which are slipped into the outwardly-bent edges, and the sides of these U-shaped posts are squeezed together by suitable rolls, so as to tightly compress the edges 3 against each other, thus forming a close hermetic joint between these edges.

The head of the pump is formed by a rectangular cast-iron frame, having its corners reenforced by abutments 5, recessed, as indicated by dotted lines in Fig. 2, for the reception of the upper ends of the corner-posts. On three sides of the frame are formed upwardly-projecting flanges 6, the remaining side being provided with a downwardly-curving spout, 7, the flanges 6 being also extended along the edges of the spout, as clearly shown. For the purpose of reducing the weight of the head-frame, and at the same time obtaining the required height of rim above the surface of the spout, a sheet-metal strip, 8, projecting above the flange 6, is firmly riveted thereto. The upper ends of sheet-metal sides, which project a little beyond the ends of the corner-posts 4, are inserted into the head-frame and riveted to the sides thereof, the ends of the corner-posts being inserted within the recesses in the abutments 5.

The base of the pump is formed by rectangular frame 9, closed on its side by a box, 10, having two inwardly-inclined and two vertical sides. In the upper edge of the frame 9 is formed a groove, 11, (see Fig. 7,) for the reception of the lower end of the body of the pump, where it is secured by rivets. The outside joint between the sheet-metal sides and the frame is tightly packed with lead or other suitable material, as shown; or in lieu of forming the groove 11 in the frame, said frame is made sufficiently large to receive the lower end of the pump-body, and within the body is placed a gasket of heavy metal, the gasket, body, and frame all being united by rivets, as shown in Fig. 1.

In the inclined sides of the box 10 are formed openings for the reception of the valve-boxes 13, which are provided at one end with flanges 14, for the purpose of securing them in place. On the ends within the pump said boxes are provided with lugs 15, to which are attached the check-valves 16, of the usual construction.

To the lower end of the pump-rod 17 is secured the pyramidal case or shell 18, within which is arranged the similarly-shaped leather packing 19, completely lining said shell and projecting beyond the edges of the shell, as at 20 in Fig. 5, thereby forming not only a seat or cushion for the piston-valve, but also a packing between the edges of the piston and

the sides of the body. Through the sides of the shell and leather lining are formed openings 21, for the flow of water from one side of the piston to the other. On the pump-rod is mounted the pyramidally-shaped metal valve 22, having a rectangular opening through its apex for the reception of the correspondingly-shaped lower portion of the pump-rod. Across the upper end of the valve are formed transverse arms supporting the sleeve 23, which serves to prevent any lateral tipping or displacement of the valve during its up-and-down movement. Around the body of the pump, about midway of its length, is arranged a band, 24, which serves to brace the corner-posts 4 as against displacement.

I claim herein as my invention—

1. In a boat-pump, the body A, consisting of metal sheets having their outer edges outwardly bent, in combination with malleable-iron corner-posts slotted for the reception of the edges of the sheets, and cast-metal head and bottom pieces recessed for the reception of the ends of the sheets and corner-posts, substantially as described.

2. A piston for boat-pumps, having in combination a metal shell having inclined sides, an elastic lining therefor extending beyond the edges of the shell, said shell and lining being perforated, as described, and a vertically-sliding check-valve, substantially as described.

In testimony whereof I have hereunto set my hand.

CHARLES P. CARLSON.

Witnesses:
DARWIN S. WOLCOTT,
W. B. CORWIN.