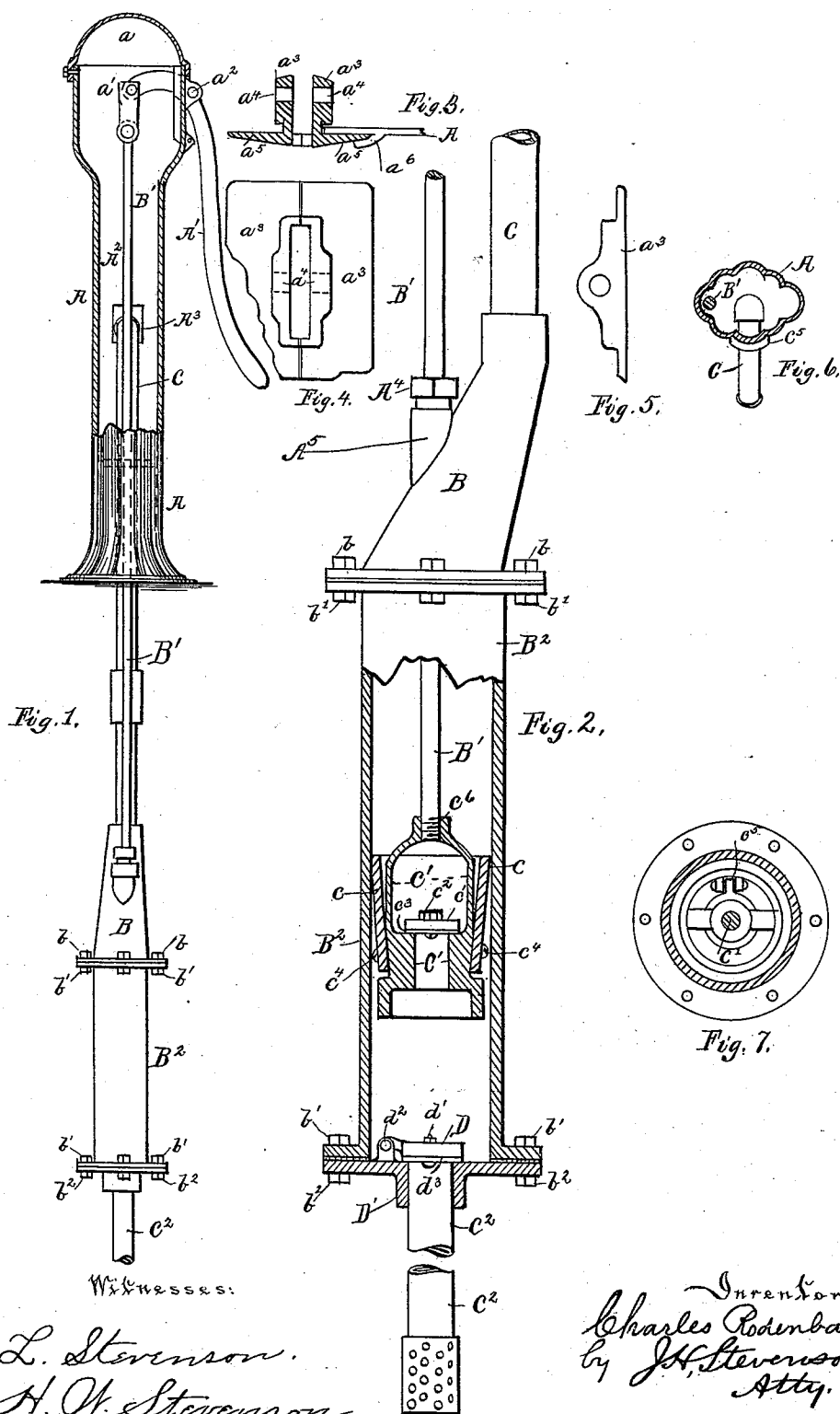


C. RODENBAUGH.
PUMP.

No. 393,176.

Patented Nov. 20, 1888.



(No Model.)

2 Sheets—Sheet 2.

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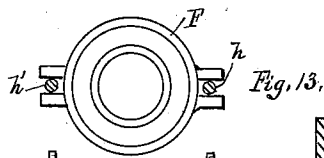


Fig. 13.

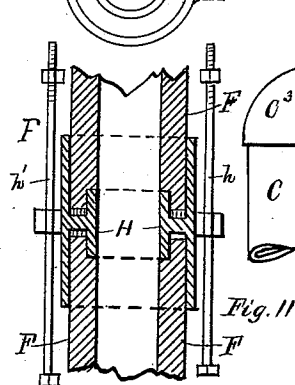


Fig. 11.

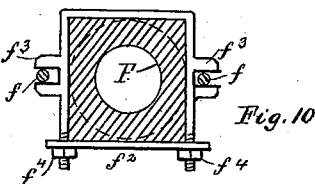


Fig. 10.

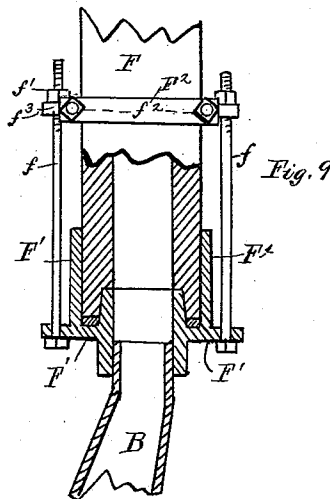


Fig. 9.

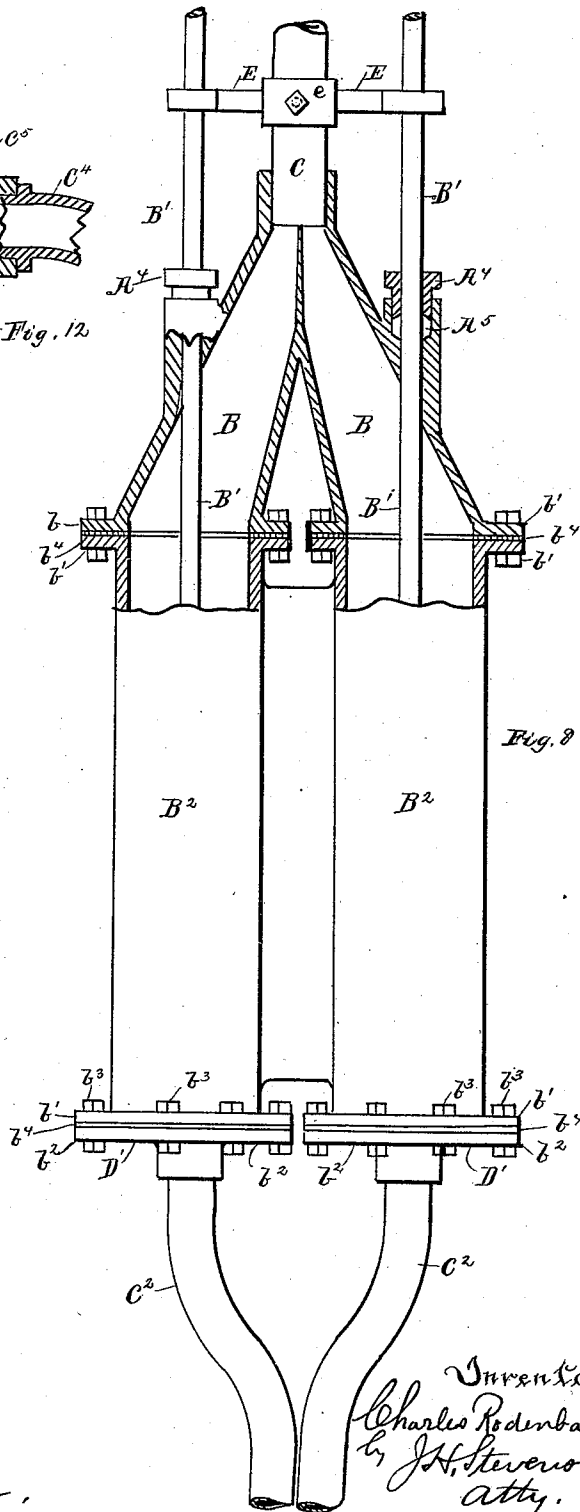


Fig. 8.

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UNITED STATES PATENT OFFICE.

CHARLES RODENBAUGH, OF ALLEGHENY, PENNSYLVANIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 393,176, dated November 20, 1888.

Application filed January 16, 1888. Serial No. 260,916. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RODENBAUGH, of No. 20 Resocca street, Allegheny, Pennsylvania, have invented a new and useful Improvement in Pumps, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

Similar letters of reference indicate corresponding parts.

The object of my invention is a pump for raising water from wells and may be either single or double acting, which I show in my drawings, and also describe.

In the accompanying drawings, which form part of my application, Figure 1 is a sectional side view showing the stock of the pump above ground and valve-chamber pipes, &c., below or in the well. Fig. 2 is also an enlarged sectional view of the valve-chamber and its connection that go in the well. Figs. 3, 4, and 5 are different views of my device for securing the pump-handle to the stock. Fig. 6 is a section of the stock at its pouring-orifice. Fig. 7 is a cross-section of the valve-chamber showing the valve. Fig. 8 is a full-length view, partly sectional, of my double-acting pump. Fig. 9 is a sectional and side view of my device for uniting wooden sections of pump-tubing with the metal posts. Fig. 10 is a cross-section of Fig. 9. Fig. 11 is a sectional view of my device for uniting wooden sections of pump-stocks. Fig. 12 is a side view of the pump at the pouring-orifice. Fig. 13 is a cross-section of Fig. 11.

A is the pump form, or the part above ground, to which the handle A' is secured to the pump at a^2 by means of the sliding pieces $a^3 a^3$. (Seen in Fig. 3, which is a top sectional view of the same.) The cap a being removed, the slides a^3 are placed from the top of the pump downward, the flanges a^5 sliding into position beneath flanges a^6 , formed on the inner side of the stock A, as seen in Fig. 3. These pieces a^3 have perforations $a^4 a^4$ for the fulcrum-bolt a^2 of the handle. This handle A' is secured to the valve-rod A² at a' . I prefer to make the pump stock or barrel A of elliptical form and corrugated, as seen in Fig. 6.

A³ is the outlet of the pump, from which water pours through a spout, C⁴.

B is a cylinder casting, shaped as seen in Fig. 2, and at one side of which enters the valve-rod B' through the boss A⁴. It will be seen that by this means my valve-rod is made to operate outside of the pipe C, through which the water flows to the upper outlet, A³. This cylinder B has flanges $b b$, by means of which and by bolts A it is secured to the main valve-chamber B², the latter also having a flange, b' , at the upper end and b' at the lower end.

To the rod B' is fixed the valve C', of which c' is the valve proper; c^2 , a bolt passing through the valve c' and the leather disk c^3 . This valve c' is hinged at c^5 , Fig. 7.

c is a leather band surrounding the valve, and is secured to the same by screws c^4 . The valve-rod B' unites to the bail of the valve at c^6 . This leather band is wide enough at the top to tightly fill the inner walls of the chamber B². At the bottom of the chamber B² is another or lower valve, D, hinged at d^2 , and of which d^3 is the leather disk, and d' a bolt to secure the same to the valve D. This valve D is secured to the part D'—a metal disk with flange b^2 and orifice in the center for receiving the end of a pipe lower in the well.

Between the flanges b and b' , and also b' and b^2 , are gaskets b^4 , to make the joints perfectly tight. The valve-stem B' passes down through the boss A⁴ and through a packing-chamber, A⁵, which latter chamber will be filled with some suitable packing. The stem or rod B' goes on through this chamber A⁵ and down through the side (inclined side) of the chamber B and into the same, as seen in Fig. 8.

By reference to Fig. 8 it will be seen that with but little change in the mechanism of my pump I can construct one that will be double-acting. To construct such double-acting pump, the chamber B will be cast double instead of single, as seen in Fig. 2. In this double-acting pump E is a device for guiding and steadying the rods B', and it will be secured to the pipe C by means of a set-screw, e , at any desired position.

To the lower end of the chamber B² and to the piece D', I secure pipes C², to extend on down into the well, and in deep wells several of these pipes C² will be used and as many as are needed. When a wooden pump-barrel is to be used at the upper end of the chamber

B, I use the device seen in Fig. 9, where F is the wooden barrel extending down into the metal boxing F', through the flange of which the bolts *f f* pass to secure the same to the said wooden barrel. This I do by putting a band, *f*², around the barrel F, as seen in Fig. 10. This band has lugs *f*³ at the sides, and through which the bolts *f* also pass, and hence by means of the nuts *f'* *f'* the part F' is drawn up tightly and held in place. The band *f*² is tightened on the barrel F by means of the nuts *f*⁴. (Seen in Fig. 10.) C³ is an elbow in the pipe C where it turns to pass out through to the spout C⁴.

15 It may be desirable to use wooden tubing in the well from the lower end of the chamber B, and when this is the case I make proper provision therefor by a device seen in Fig. 11, where H is a double cylinder-connection which will be seen in Fig. 11. In this figure F F are the wooden tubes or barrels to be joined together, properly shaped for the purpose, and shaped to fit the inside of said cylinder-connection H. Then these two barrels are closely drawn in place by the bolts *h h* by means similarly used to join the parts together described in Fig. 9. When water is forced into the chamber B, it will have but one outlet, and that will be up the pipe C, as no water can pass up alongside the rods B', and as the diameter of the pipe C is much less than the lower part of the chamber B a considerable force will be given to the water on its upward passage out of the chamber B. I propose to enamel the inside of the chambers B and B² and make the valve-rod B' and valves of brass to avoid rust. The pipe C is secured to the upper end of the chamber B by the usual means, the ends being threaded, and this is also the case with the pipes C².

40 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a pump, the combination, with a barrel or stock and an operating-handle, of sliding bearings *a*³, in which the handle is fulcrumed, said bearings being supported on the stock and capable of vertical movement thereon with the handle, substantially as described. 45

2. In a pump, the combination, with a barrel or stock and an operating-handle, of two sliding bearing-plates arranged on opposite sides of the handle, which is fulcrumed on said plates, the plates being fitted and guided in suitable flanges on the barrel or stock, substantially as described. 50 55

3. The combination, with a pump-barrel and a section of tubing, of a casting, F', having the annular flanges of varying diameters extending in opposite directions from a central plate to receive one end of a barrel and a contiguous end of a tube-section, the band *f*² clasp the tube-section and having the lugs *f*³, and bolts passing through said lugs and the central plate of the casting, substantially as described. 60 65

4. The combination, with a pump-barrel and a section of tubing, of a coupling having the concentric flanges to receive the ends of the tube-section and pump-barrel, a sleeve or band fixed to the tube-section, and bolts uniting the band and coupling, substantially as described. 70

5. In a pump, a coupling for uniting the meeting ends of tube-sections having two concentric shells of unequal lengths united together at an intermediate point of their length by an intermediate flange which thereby forms annular spaces in opposite ends of the coupling, bands adapted to be fixed to the tube-sections, and bolts connected to the bands and coupling, substantially as described. 75 80

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Witnesses:

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JOHN H. CRATTY.