H. Lindsey,

Double-Acting Pump,

No. 13,881, Patented Dec. 4, 1855.

Fig: 1

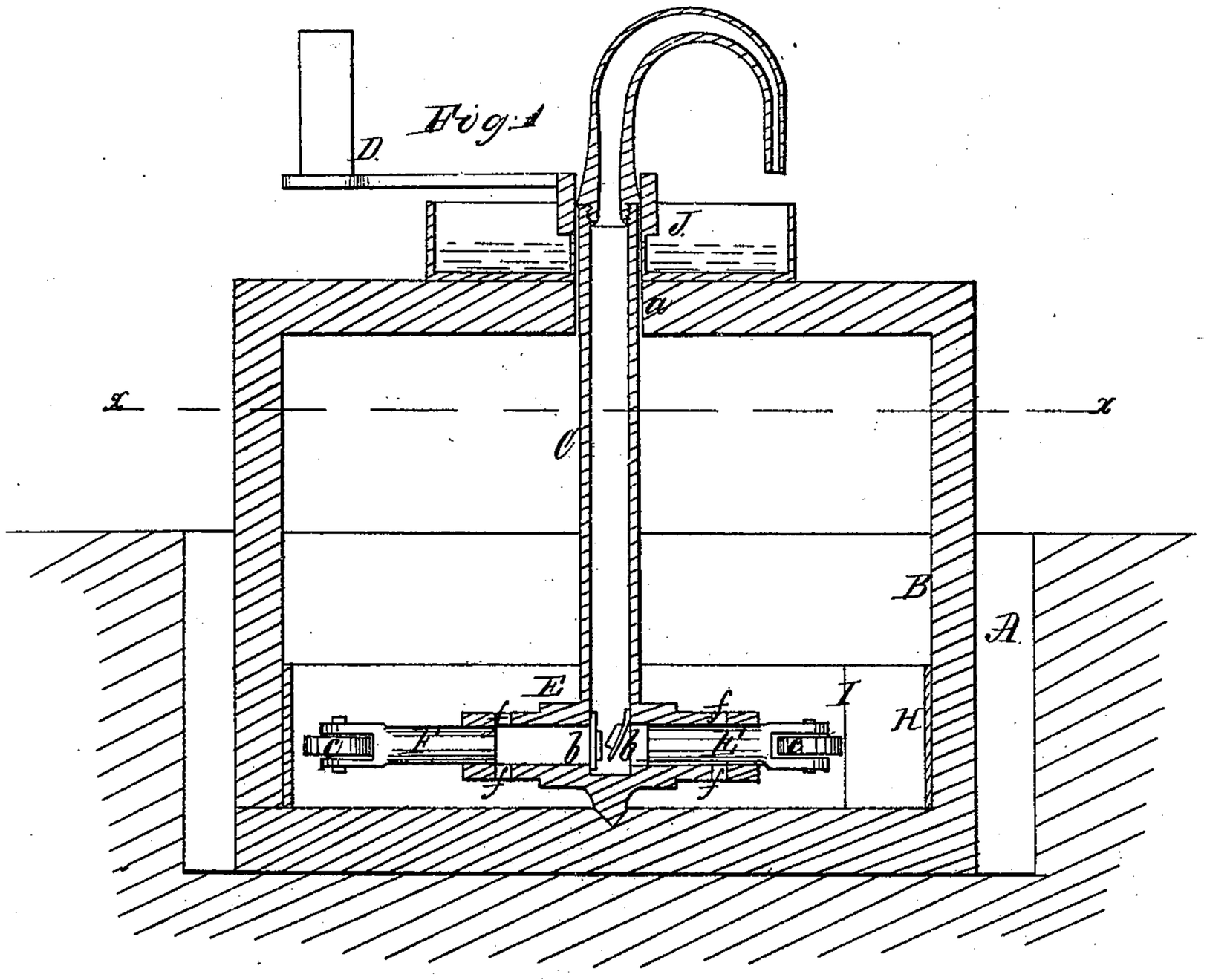
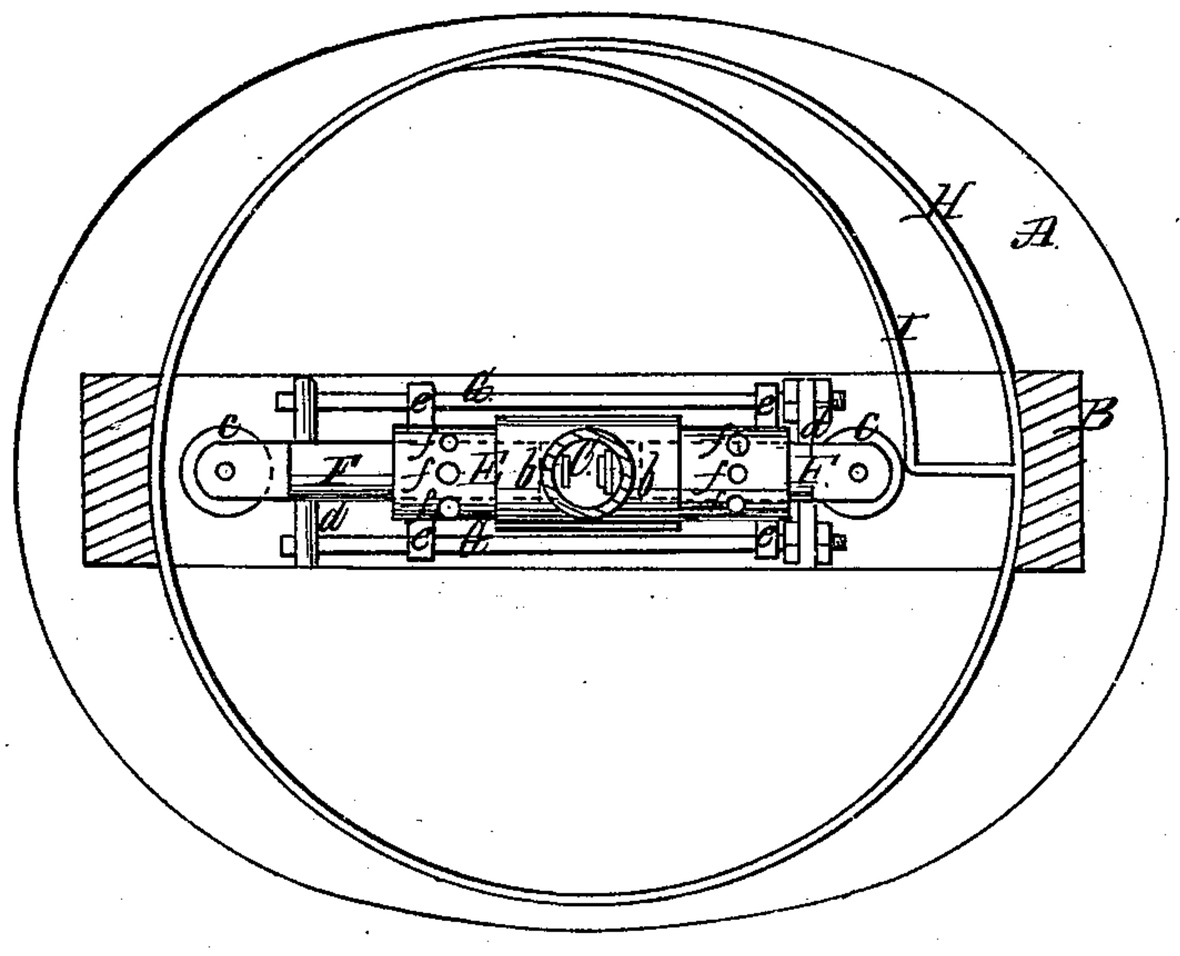


Fig: 2.



UNITED STATES PATENT OFFICE.

H. LINDSEY, OF ASHEVILLE, NORTH CAROLINA.

PUMP.

Specification forming part of Letters Patent No. 13,881, dated December 4, 1855; Reissued August 24, 1858, No. 589.

To all whom it may concern:

Be it known that I, HOSEA LINDSEY, of Asheville, in the county of Bucombe and State of North Carolina, have invented a new and Improved Pump; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical section of my improvement, the plane of section being through the center. Fig. 2, is a horizontal section of ditto, (*x*), (*x*), Fig. 1, showing the plane of section.

Similar letters of reference indicate corresponding parts in the two figures.

This invention relates to a new and improved pump, and consists in attaching a horizontal cylinder to the lower end of a vertical pipe, the pipe being attached to the center of the cylinder and communicating with the cylinder by means of valves. The cylinder is provided with two pistons, one in each end, which pistons are operated, as the pipe and cylinder are rotated, by means of a curved flanch so that the water is drawn into the cylinder and forced up the pipe into a receptacle prepared to receive it.

To enable others skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, Fig. 1, represents a well or reservoir containing water.

B, represents a framing or box which is placed at the bottom of the reservoir or well, said box or framing being nearly equal in diameter to the well or reservoir.

C, represents a vertical pipe, the lower end of which is stepped at the center of the bottom of the box or framing B. The upper end of the pipe C, has a crank D, attached to it or gearing may be substituted for the crank when necessary. The upper part of the pipe C, works in a proper bearing (*a*), in the cross piece at the upper part of the framing B.

E, is a horizontal cylinder which is attached to the lower end of the pipe C, the pipe C, communicating with the center of the cylinder E, and (*b*), (*b*), are valves at the lower part of the pipe C, said valves being at the junction of the pipe and cylinder and dividing the cylinder transversely into two parts.

F, F, are piston rods which are fitted in each end of the cylinder E, said rods fitting snugly the bore of the cylinder. The outer ends of the piston rods have friction rollers (*c*), attached to them one to each. And a cross bar (*d*), passes through the outer end of each piston rod, the ends of said bars being connected by guide rods G, G, which work through eyes (*e*), attached to the sides of the cylinder E.

H, represents a circular rim which is fitted in the lower part of the box or framing B, and I, is an eccentric segment or flanch attached to the inner side of the rim H, as shown clearly in Fig. 2.

J, is a circular trough on the upper part of the box or framing B, the pipe C, passing through the center of said box and having its end curved downward and as shown in Fig. 1.

The cylinder E, is perforated with holes (*f*), near its outer ends.

The operation will be readily understood. By turning the pipe C, and cylinder E, in any proper manner, the rollers (*c*), will strike alternately against the flanch I, and the piston rods F, F, will be forced alternately in the cylinder E, inward and outward and the water will rush through the holes (*f*), behind the piston rods as they are forced outward, and the water will be forced up the pipe C, as they are forced inward the valves (*b*), of course close as their respective piston rods are forced outward and open as they are forced inward. The piston rods being connected by the guide rods G, one piston will be forced outward as the other is shoved inward, and the water will be forced out of the upper end of the pipe C, in a continuous stream.

The above invention is extremely simple, not liable to get out of repair, will require but little power to operate it, and is economical to manufacture.

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

The horizontal cylinder E, and pipe C, connected as shown, the cylinder being provided with valves (*b*), (*b*), and piston rods F, F, the piston rods being operated as the pipe C, and cylinder E, rotate by the curved flanch I, as herein shown and described for the purpose specified.

HOSEA LINDSEY.

Witnesses:

JAS. W. PATTON,

D. C. TAYLOR.

[FIRST PRINTED 1912.]