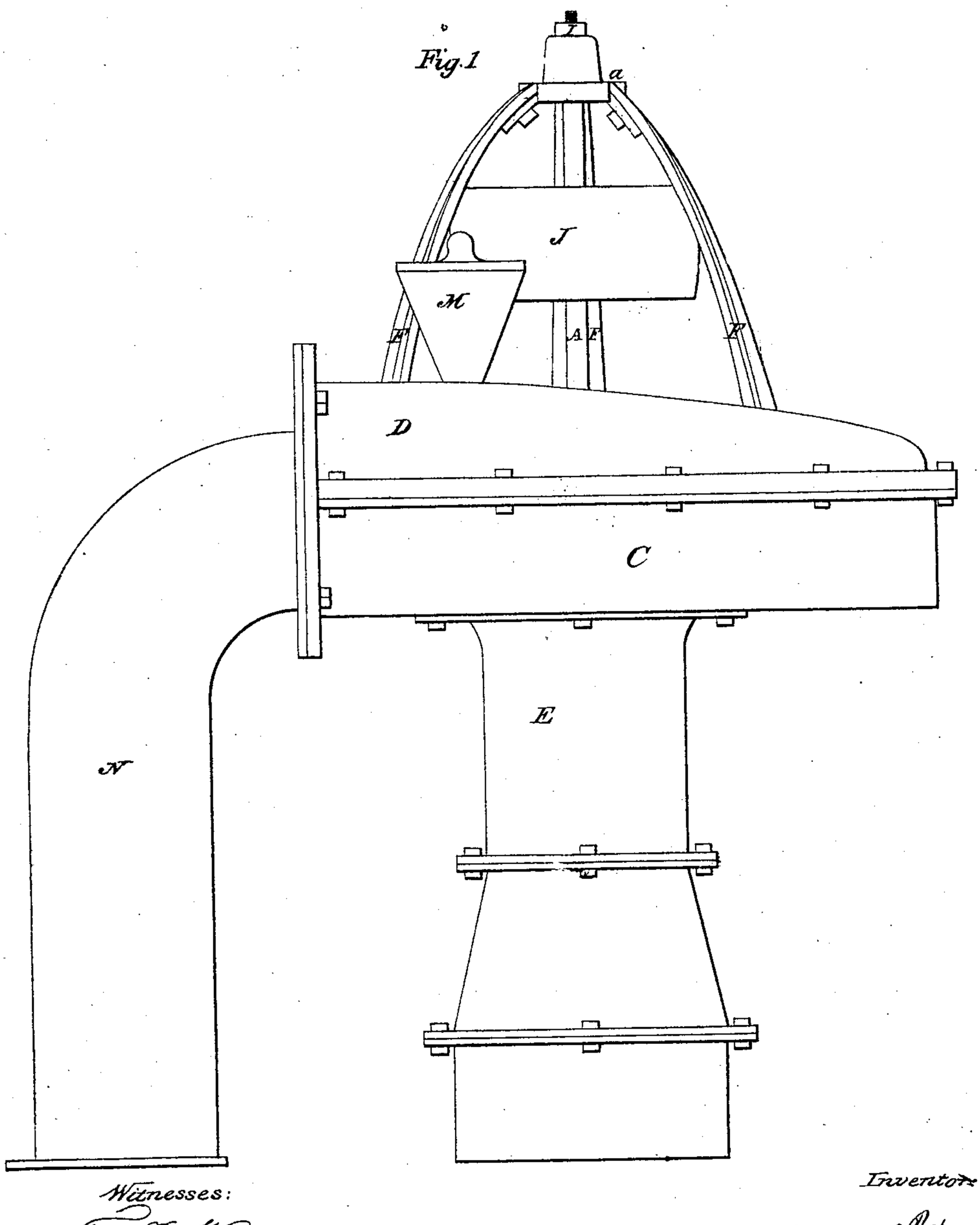
3 Sheets—Sheet 1

O. PALMER.

ROTARY WRECKING PUMP.

No. 13,273. Patented July 17, 1855.

Fig. 1



Witnesses:

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Inventor:

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Fig. 2

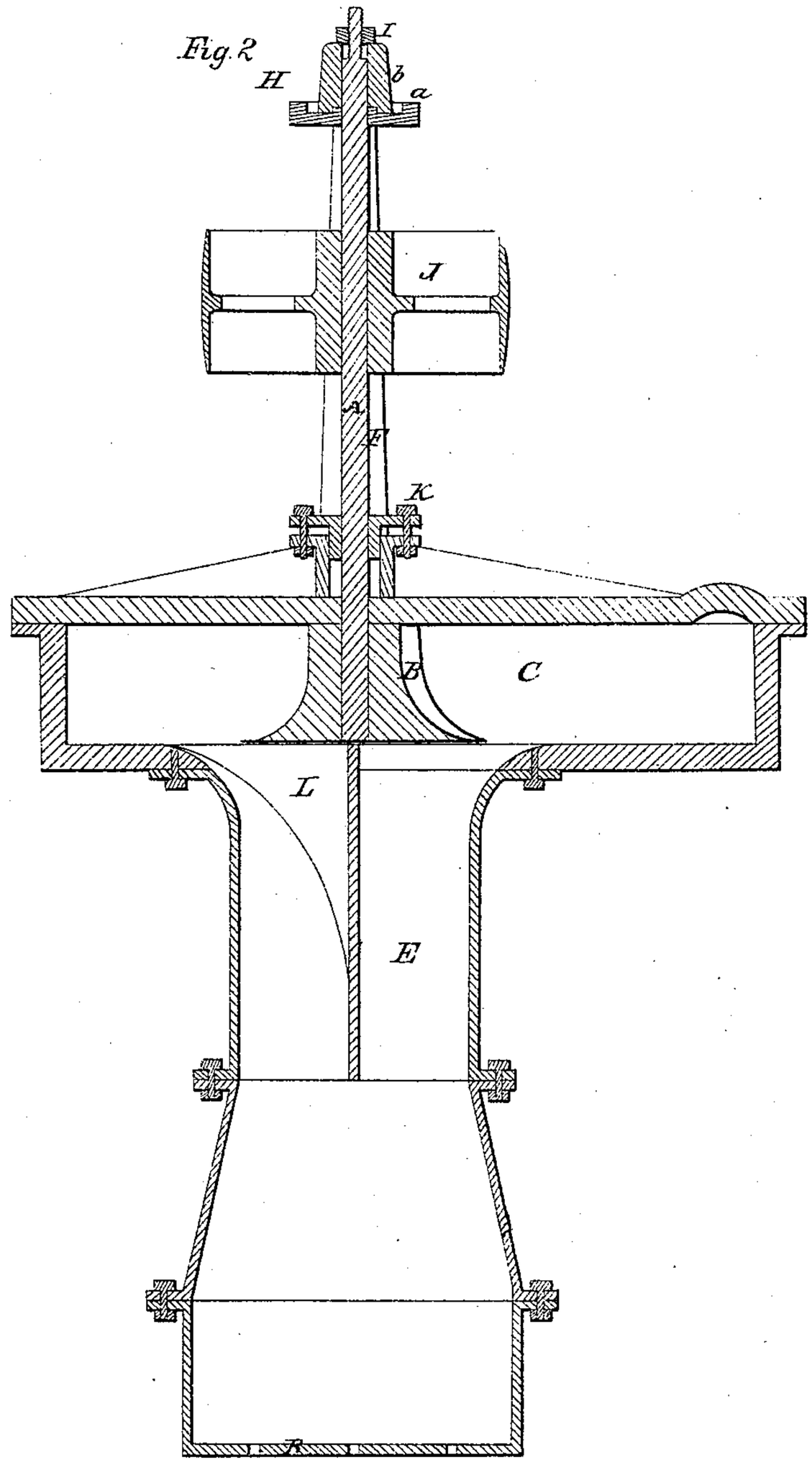

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Fig. 3

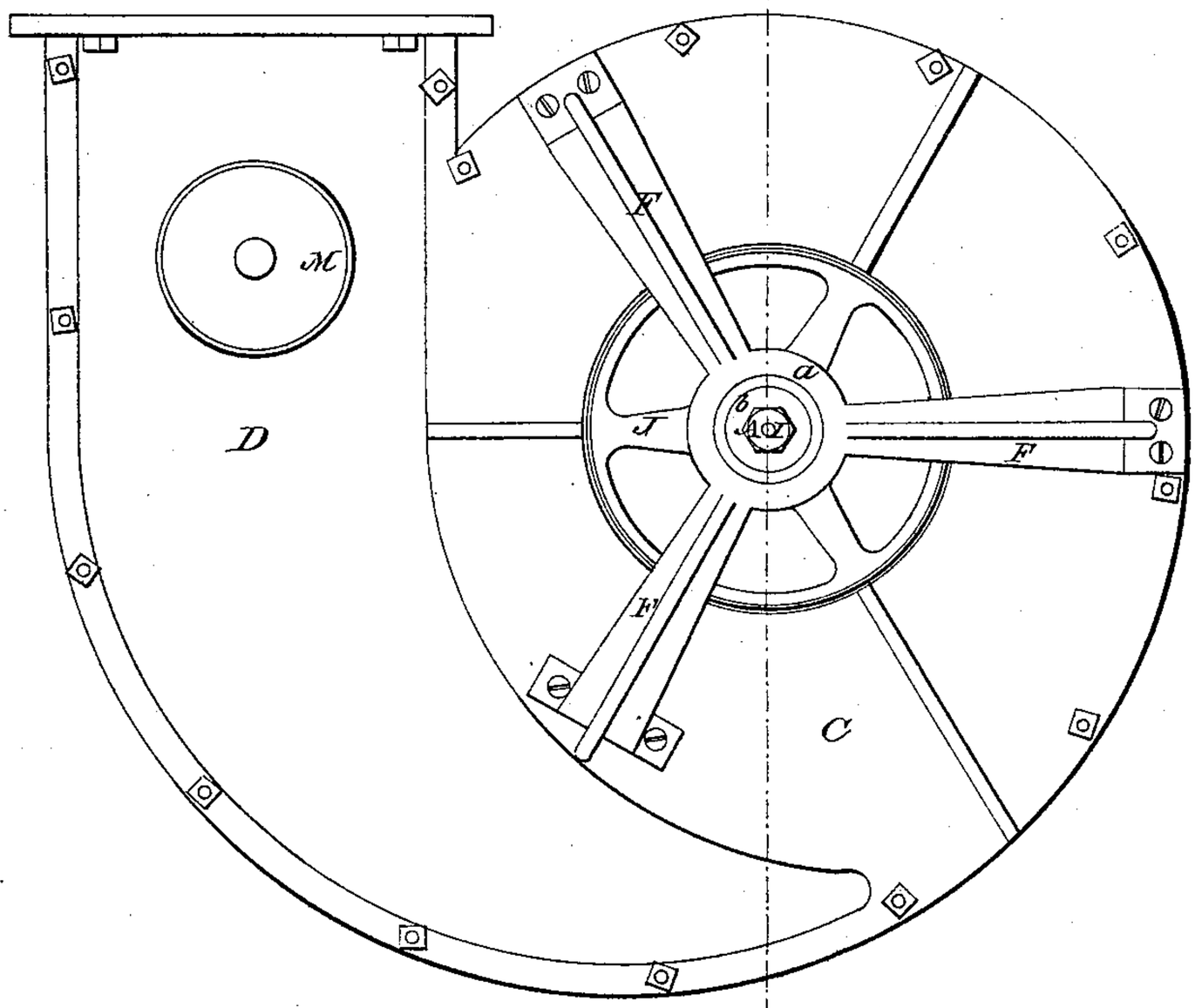
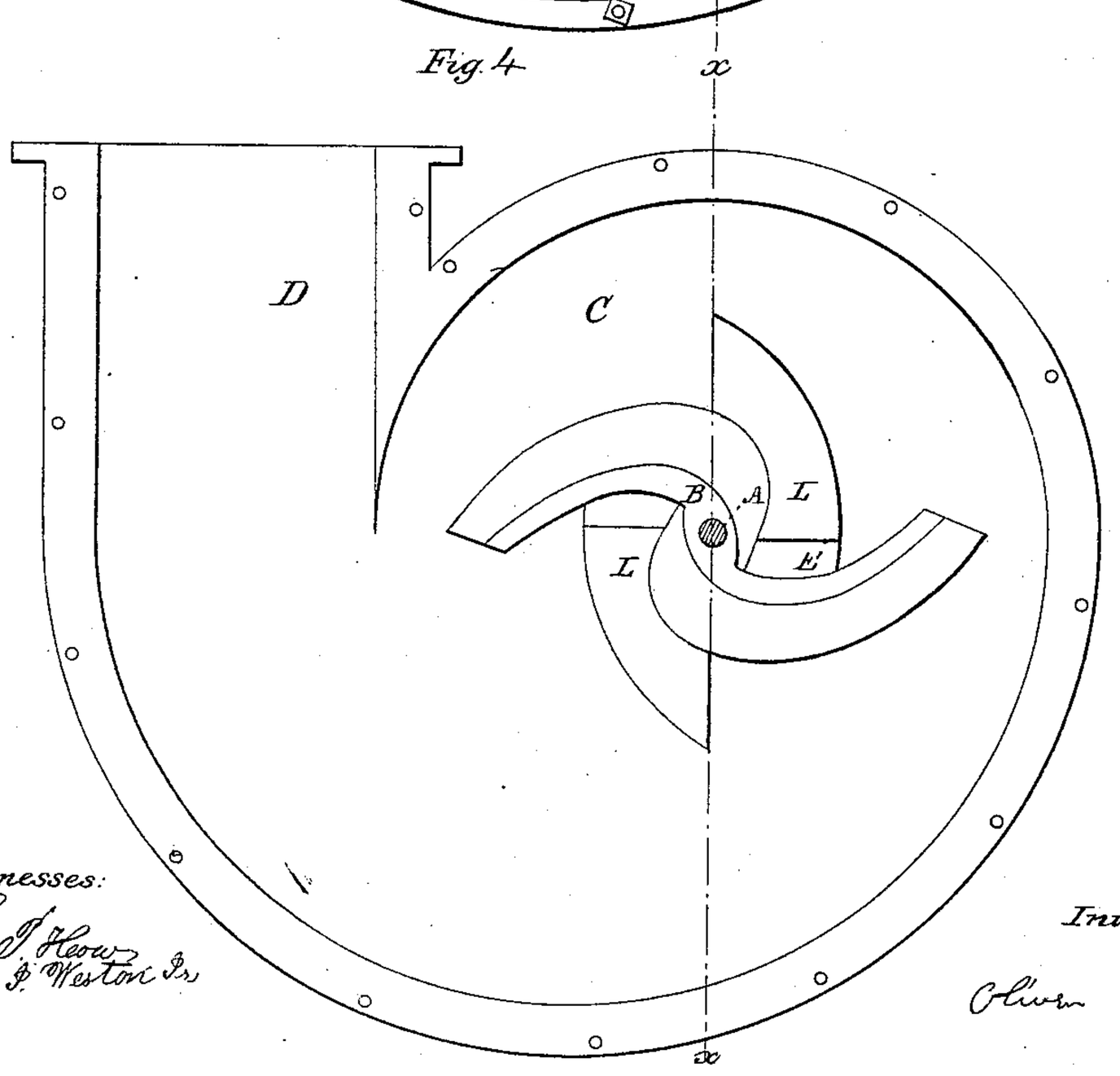


Fig. 4



Witnesses:
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UNITED STATES PATENT OFFICE.

OLIVER PALMER, OF BUFFALO, NEW YORK.

ROTARY WRECKING-PUMP.

Specification of Letters Patent No. 13,273, dated July 17, 1855.

To all whom it may concern:

Be it known that I, OLIVER PALMER, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Rotary Pumps Intended Chiefly for Wrecking Purposes, which I have described in the following specification and illustrated in the accompanying drawings with sufficient clearness to enable others of competent skill to make and use my invention.

My invention consists in, first, the combination of an angular arm or bucket so made as to press the water outward from the shaft, with a spiral partition in the suction pipe which gives the water an initiatory rotation in the direction contrary to that in which the arms revolve; second, in combination with the horizontally angular arm and spiral plate, a curve in the vertical face of the bucket made in the manner herein described, to induce the water to rise upon the bucket and more effectually hold it upon it while it is within range of the circle of the arms.

In the accompanying drawings Figure 1 is a vertical projection of my improved pump. Fig. 2 is a vertical projection showing in section the parts at the left hand side of the line *x x* dotted across Figs. 3 and 4. Fig. 3 is a plan of the pump. Fig. 4 is a plan of the interior with the cover removed.

A is the shaft.

B B are the arms.

C is the chamber in which the arms revolve.

E is the suction pipe.

D is the discharge pipe.

F, F, F, are brackets or standards which support the cap G which cap supports the top of the shaft. This cap has a couple of circular ledges *a* and *b* upon it; and the disk surface between them is turned and finished true and smooth. A collar H fits loosely upon the upper end of the shaft and is kept from turning independently of the shaft by a feather in the shaft which fits in like manner into a slot or key seat in the collar. This collar forms a bearing which supports the top of the shaft by resting upon the disk surface between *a* and *b;* and this collar H is adjustable by means of the nut I.

J is a pulley for giving motion to the shaft.

K is a stuffing box in the cover of the chamber C, which stuffing box supports the lower bearing of the shaft, and must be air tight to exclude the air from the chamber C. The face of the arms present a horizontal angle of about 45° to a line radiating from the center of the shaft, and this angle is constant for the whole effective length of the arms, the angle being measured at the point of intersection of the radial line with the face of the bucket or arm. A spiral plate L divides the space in the suction pipe. This plate winds in the direction opposite to that in which the arms revolve; this giving the water as it enters the chamber C an initiatory rotary motion opposed to the rotation of the arms, the effect of which is to cause the rotation of the arms to force the water outward more effectually than it would otherwise do; much of the power being by the previous constructions exhausted in producing unnecessary rotation of the water.

As an auxiliary means of raising the water from the suction pipe, and to hold it more effectually upon the bucket till it is carried beyond the suction pipe, I curve the front face of the bucket in the manner shown in the drawings, which effectually accomplishes the purpose. A pump four feet in diameter should be run at the rate of from one hundred to one hundred and fifty revolutions per minute.

N is a hose to carry off the water. The length of the suction pipe may be adjusted to any depth of hold by short additions as the case may require.

M is a funnel for priming the pump. R is a valve seat for the suction pipe.

The valve is a thick sheet of india rubber and is held in its place by a bar bottled down upon the middle of it with three bolts.

I claim—

The combination of the vanes B, B, constructed in any equivalent manner, with the spiral partition L.

OLIVER PALMER.

Witnesses:

HENRY J. WESTON, Jr.,

THOS. P. HOW.