

(No Model.)

T. ROSE.
PUMP.

No. 309,493.

Patented Dec. 16, 1884.

FIG. 2.

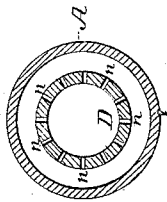
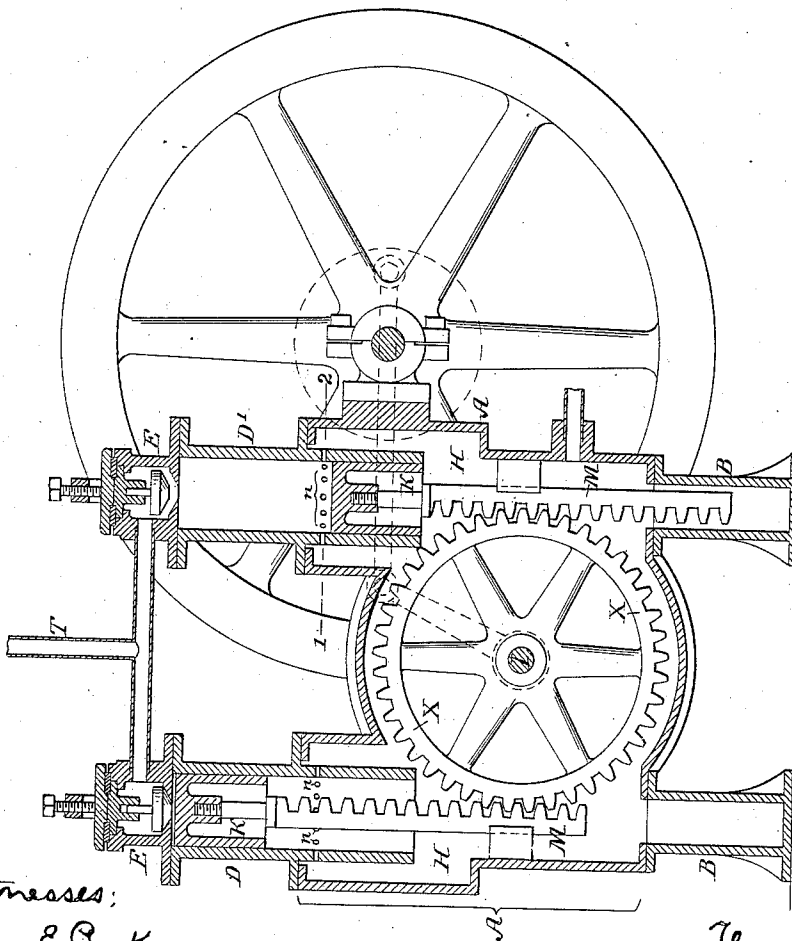


FIG. 1.



Witnesses:
John E. Parker
James F. Johns

Inventor
Thomas Rose
by his Atty.
Horace A. Jones

UNITED STATES PATENT OFFICE.

THOMAS ROSE, OF BROOKLYN, NEW YORK, ASSIGNOR TO DUDLEY S. STEELE
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PUMP.

SPECIFICATION forming part of Letters Patent No. 309,493, dated December 16, 1884.

Application filed March 31, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS ROSE, a subject of the Queen of Great Britain and Ireland, and a resident of Brooklyn, New York, have
5 invented certain Improvements in Pumps, of which the following is a specification.

My invention relates to an improvement, described and claimed hereinafter, in that class of pumps in which the fluid to be forced voluntarily enters the barrel through openings in
10 the same when the piston is at the limit of its inward movement; and the main object of my invention is to so construct a pump of this class that, while it can be used for pumping
15 water and other liquids, it shall be especially applicable to the pumping of gas.

In the accompanying drawings, Figure 1 is a vertical section of a pump illustrating my invention, and Fig. 2 a sectional plan on the
20 line 1 2, Fig. 1.

The pump has, in the present instance, two cylinders or barrels, D D', the lower portions of which project into an inlet-chamber, H, contained within a casing, A, which is supported
25 by suitable legs, B B, and into which extends a shaft, I, carrying a cog-wheel, X, which gears into the guided racks M M, one secured to each piston K.

As regards the general structure of the pump,
30 it forms no part of my invention; hence it will suffice to remark, therefore, that a vibrating motion is imparted to the shaft I, and consequently a reciprocating motion in contrary directions to the two racks M M and their pistons, the air, water, or gas admitted to the
35 cylinder being forced through the valve-chests E and through the force-pipe T. There are a series of openings, *n*, in each barrel of the pump, and when the piston of each barrel is

at the limit of its inward movement these open- 40
ings afford a direct communication between the inlet-chamber and the interior of the barrel. The pistons are without valves, and can be so operated that the terminus of the outward stroke of each piston shall be very near
45 to the outer end of the barrel without being in absolute contact therewith. This is of especial advantage in pumping gas, as very little of the latter can remain in the barrel of the piston when it reaches the limit of its outward
50 stroke.

I am aware that a pump-barrel has been made with lateral openings for the admission of water when the piston is at the limit of its inward stroke, as in Patent No. 181,144, Au-
55 gust 15, 1876, but in this case the piston or bucket was perforated and provided with valves, an arrangement which would frustrate the main object of my invention.

I make no claims to the general structure of
60 the pump, as it is similar to that described in the application of N. W. Conduct, Serial No. 126,008, filed March 31, 1884.

I claim—

A pump in which the following elements are
65 combined, namely: first, an inlet-chamber, H; second, a barrel having a series of lateral openings communicating with the said chamber; third, the valveless piston K; and, fourth, the discharge-valve, all substantially as set forth.
70

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS ROSE.

Witnesses:

JOHN M. CLAYTON,
HARRY SMITH.