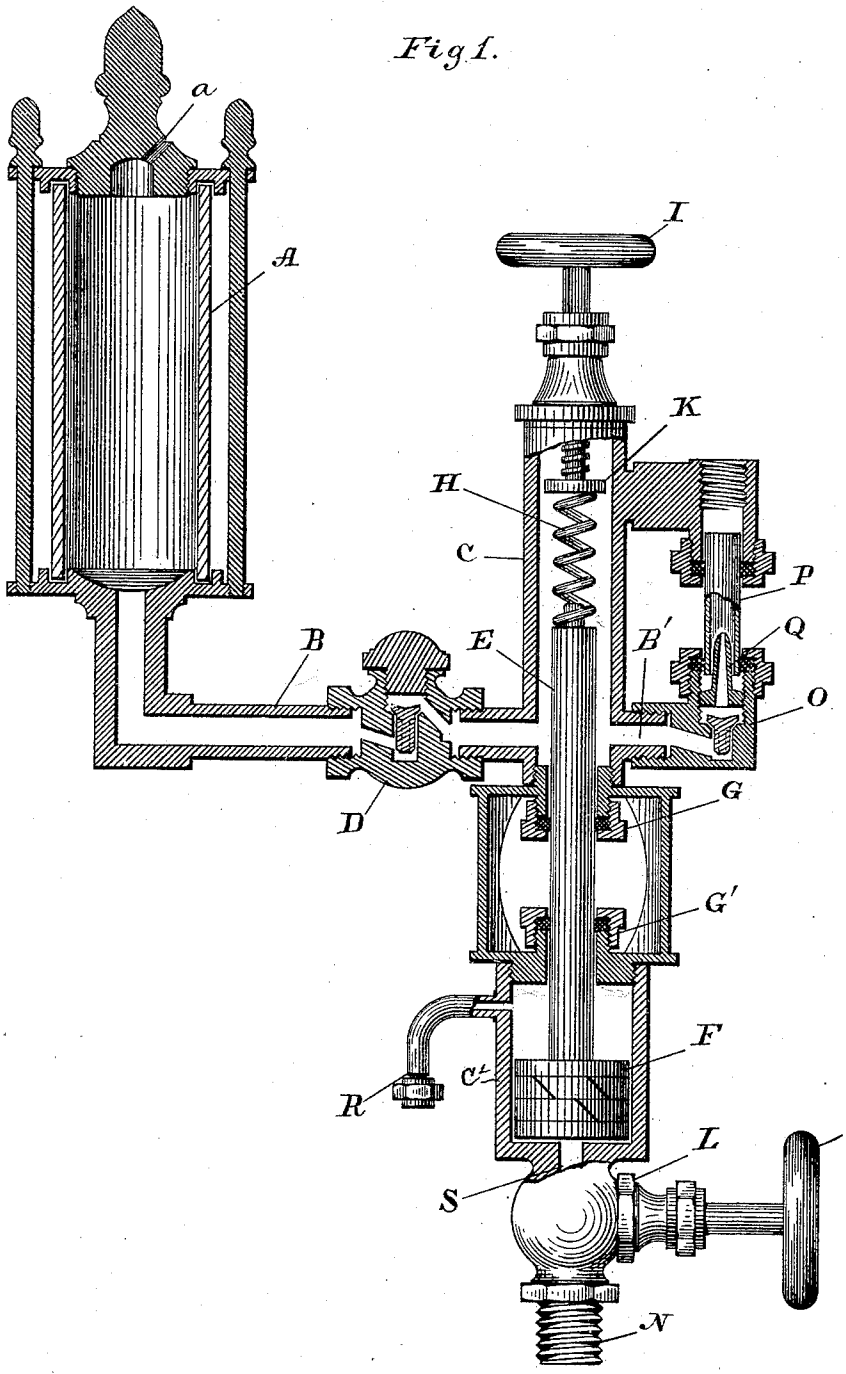
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W. HESTON.

OILING PUMP FOR STEAM ENGINES.

No. 271,238. Patented Jan. 30, 1883.

Fig. 1.



WITNESSES

Albert L. Lord.
Geo. Wyman

William Heston, INVENTOR
by Francis J. Wing & Co.

ATTORNEYS

N. PETERS, Photo-Lithographer, Washington, D. C.

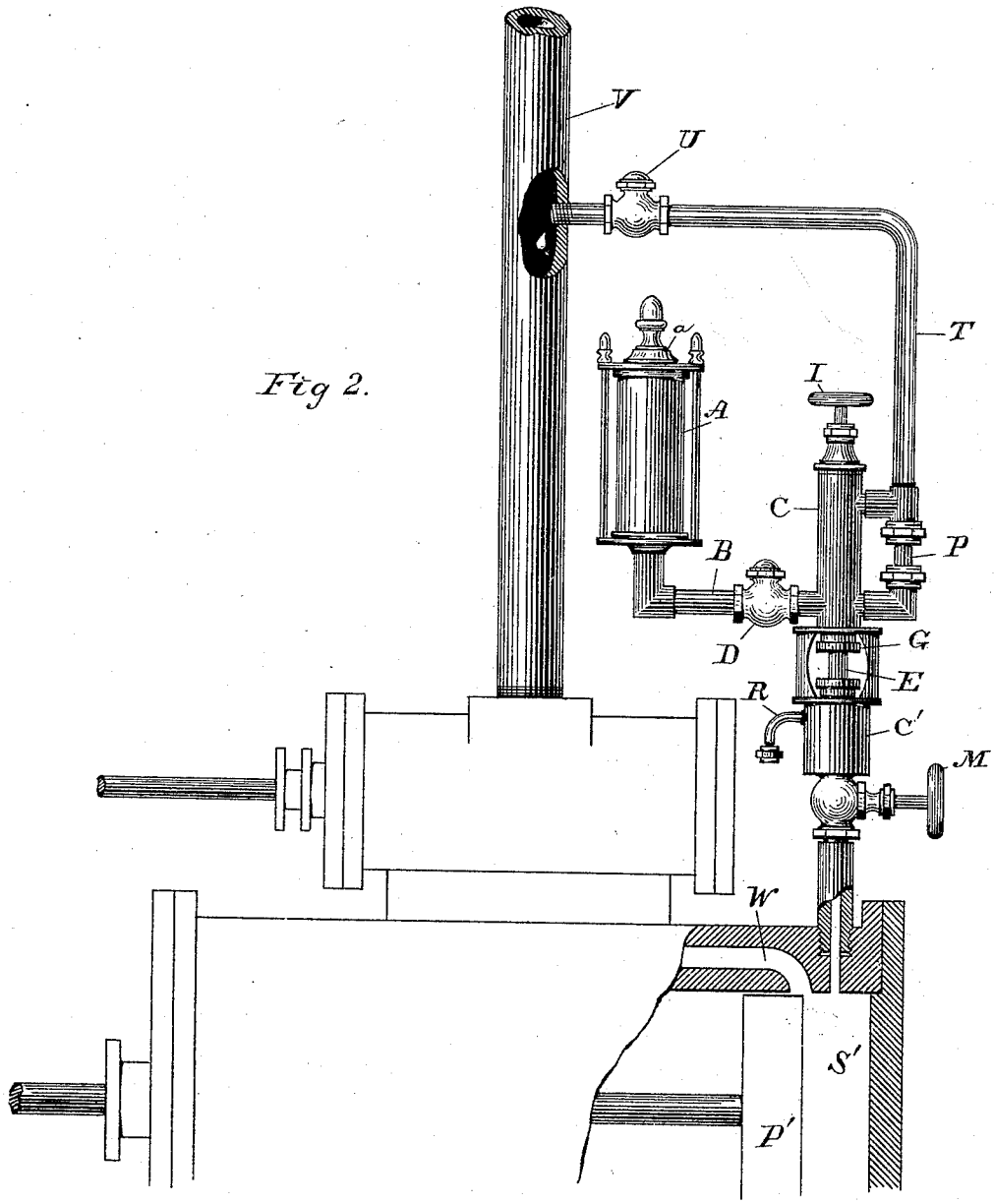
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Fig 2.



WITNESSES

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Geo. Wyman.

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by Francis J. Wright his

ATTORNEYS

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM HESTON, OF MOUNT UNION, OHIO.

OILING-PUMP FOR STEAM-ENGINES.

SPECIFICATION forming part of Letters Patent No. 271,238, dated January 30, 1883.

Application filed June 21, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HESTON, a citizen of the United States, and residing in the town of Mount Union, in the county of Stark and State of Ohio, have invented a new and useful Oiling-Pump for Steam-Engines, of which the following is a specification.

My invention relates to improvements in automatic oiling-pumps for steam-engines, in which a piston in a cylinder of a pump attached to the cylinder of a steam-engine is raised by the pressure of steam in the steam-cylinder of the engine acting directly upon the piston of the pump, and such piston in the pump is forced back to its seat by a spring operating downward, when the pressure of the steam in the steam-cylinder of the engine is released through the exhaust-port.

In the drawings, Figure 1 is a vertical section of the pump, and Fig. 2 is a side view of the pump as attached to the steam-cylinder and steam-pipe of an engine.

Similar letters refer to similar parts in both drawings.

A is the oil-reservoir, provided with small vent *a*, from which oil flows into and fills the pump-cylinder C by means of pipe B, provided with check-valve D. The cylinder C of the pump incloses the piston E, which is of less diameter than the piston-head F, inclosed in cylinder C′. The spring H rests upon the upper end of piston E and bears against plate K. The tension of spring H may be regulated by raising or lowering plate K by means of hand-screw I, so as to increase or decrease the lift of piston E in the pump. The piston E is provided with packing G G′ to prevent the escape of oil from cylinder C and of steam from cylinder C′. Cylinder C′ is firmly fixed to the steam-cylinder of the engine by screw N, and is connected with such cylinder by the opening S, so that the pressure of the steam operates upon the face of the piston F in cylinder C′.

The progress of steam through opening S may be regulated by globe-valve L M.

When steam is introduced through port W into the space S′ the force of the boiler-pressure of steam extends through opening S and raises piston F in cylinder C′, that necessarily raises piston E in cylinder C, as the two pistons are directly connected, which thereby displaces oil in cylinder C and forces it through port B′ and check-valve O, through jet Q and pipe P T, through check-valve U, and into the steam-pipe of the engine V. The oil is prevented from returning through pipe B to the reservoir A when piston E is raised by check-valve D. The oil thus pumped into pipe P T is prevented from returning to cylinder C when piston E recedes by check-valve O, and when piston E recedes oil is drawn into cylinder C from reservoir A by suction, and supplies the place of the oil before driven through port B′ into pipe P T. The oil forced through pipe P T into steam-pipe V descends into the steam-chest and steam-cylinder of the engine and lubricates the pistons. When piston P′ is driven back and the pressure of steam in S′ is released, and consequently the pressure upon piston F is withdrawn, the spring H operates to force piston E downward and brings piston F to its seat, as shown in the drawings, and the result follows in cylinder C as above described, and when steam-pressure is again applied to piston F piston E is again raised and the same results follow, as above described.

R is a vent which permits ingress and egress of air to and from cylinder C′ when piston F is lowered and raised.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of reservoir A, pipe B, check-valve D, cylinder C, piston E, spring H, plate K, cylinder C′, provided with vent R, piston F, port B′, check-valve O, pipe P T, and check-valve U, with the steam-cylinder of an engine, substantially as shown and described.

WILLIAM HESTON.

Witnesses:

FRANCIS J. WING,

JOHN T. MEAD.