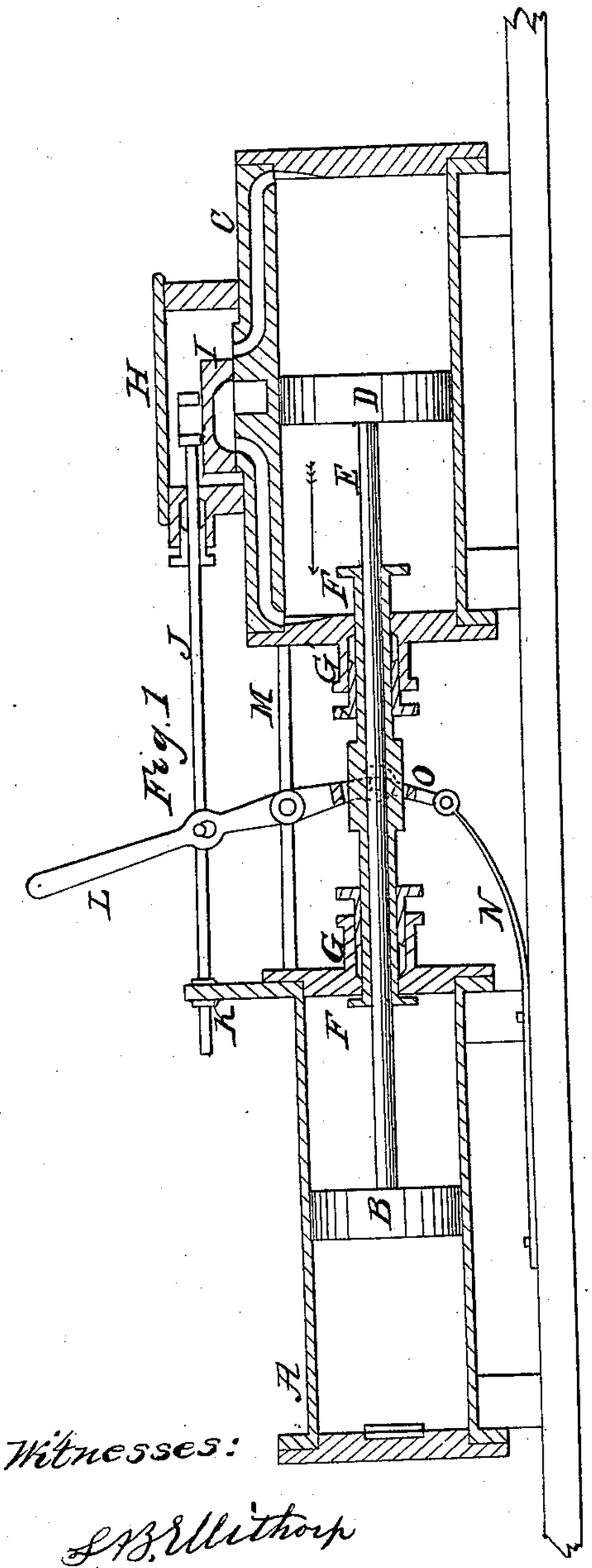
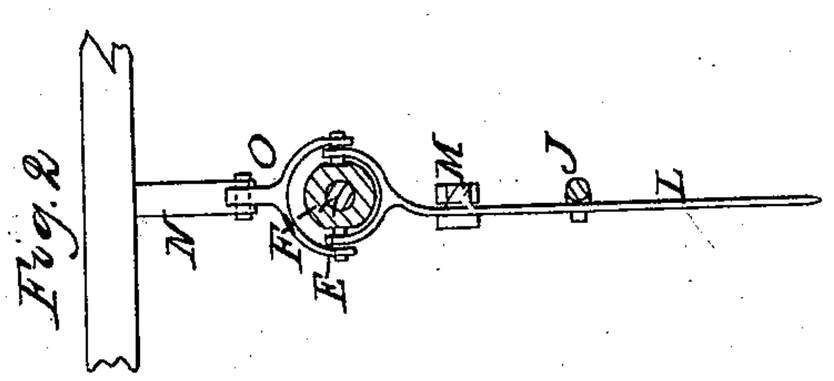
R. Henry,

Steam Slide Valve.

No. 15,211. Patented June 24, 1856.





Witnesses:

S. B. Elliott

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UNITED STATES PATENT OFFICE.

REMY HENRY, OF MELROSE, NEW YORK, ASSIGNOR TO JAMES SMITH, OF NEW YORK, N. Y.

METHOD OF OPERATING STEAM-VALVES OF STEAM-PUMPS.

Specification of Letters Patent No. 15,211, dated June 24, 1856.

To all whom it may concern:

Be it known that I, REMY HENRY, of Melrose, in the county of Westchester and State of New York, have invented a new and useful Improvement in Steam-Pumps; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and the letters of reference marked thereon.

The nature of my invention consists in giving motion to the steam valve of a steam pump by the alternate action of the pump and steam pistons, and in placing the pump and steam cylinders nearer together—for the purpose of compactness and portability—than is practicable by any other arrangement.

Figure 1, in the annexed drawings is a horizontal section of my improvement—the valve being shown on the side of the steam cylinder, and Fig. 2 is a transverse section of a portion of the valve gear detached.

A is the pump cylinder, made with the valve attachments of any description that may be preferred; B, the pump piston; C, the steam cylinder; D, the steam piston; E, piston rod connecting the two pistons; F, a sleeve through which the piston rod works freely, but yet sufficiently tight at the end projecting into the steam cylinder to prevent the passage of steam past the piston rod into the pump cylinder. It is made tight on its exterior surface by being packed at the stuffing-boxes G, G′ on the interior heads of the two cylinders, and is made as much longer than the distance from inside to inside of the two heads as the movement required to be given to it to give the proper thrown to the steam valve. It is moved by the pistons of the pump and steam cylinders coming in contact with it as they alternately arrive at the terminus of their stroke toward the inner heads of the two cylinders. H, steam chest and I steam valve to the steam cylinder, both of ordinary construction—the steam being conveyed to the cylinder by passing into the ports and passages past the ends of the valve, and from it by passing to the exhaust port and passage through a cavity in the body of the valve. J valve rod, attached at one end to the valve and at the other end working in the guide K. L, a lever, working on a pin on the bar M, by which the motion of the sleeve F is communicated to the steam valve. It is attached at one end to a pin on the sleeve F, and at a proper distance from its center—toward the opposite end—to a pin on the valve rod J, beyond which it extends sufficiently far to form a handle by which the valve can be operated by hand to start the pump. N, a strong spring, bearing in the direction of the sleeve F, connected to the pin on the sleeve F by the fork O. It effects the double purpose of giving the valve a sudden opening as soon as the lever L and the fork O have been moved past a direct line by the piston striking the sleeve, and of holding the valve in its proper position until the return stroke is made.

As represented in the drawing, the sleeve has been moved, and the steam valve thrown, by the pump piston, and the steam piston is moving toward the inner head of the steam cylinder—on approaching the terminus of its stroke, the sleeve, and by its connections, the valve, will be moved by it to make the return stroke.

While all the steam pumps at present in use require the pump and steam cylinders to be placed at least as far apart as the length of their stroke, mine require only to be placed sufficiently far apart to permit the pin on the sleeve F to move back and forth a sufficient distance to give the proper throw to the steam valve, so that it will occupy less space and be more compact and portable.

I do not claim attaching the pistons of a steam cylinder and a pump to one rod and operating the pump by the direct connection, nor do I claim operating the valve of a steam cylinder by the piston, but

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

1. Giving motion to the steam valve of a steam pump by the alternate action of the steam and pump pistons, in the manner described.

2. The combination of the sleeve F, the lever L, the fork O, and the spring N to communicate the requisite movement to the steam valve.

REMY HENRY.

Witnesses:
S. B. ELLITHORP,
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