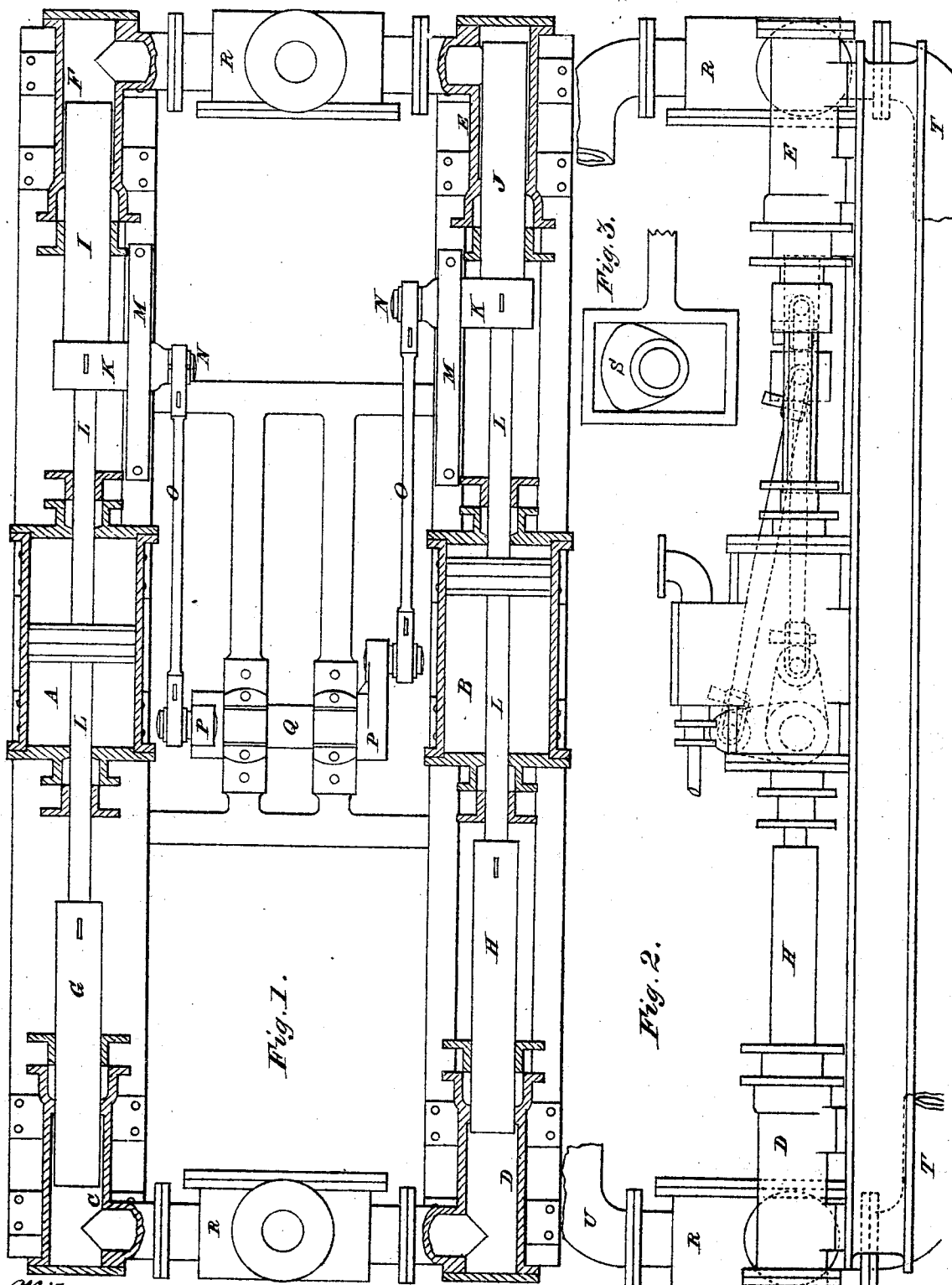


L. H. ALLEN & WILLIAM BARTON.

Improvement in Steam Pumps.

No. 123,659.

Patented Feb. 13. 1872.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LUCIEN H. ALLEN AND WILLIAM BARTON, OF TAMAQUA, PENNSYLVANIA.

## IMPROVEMENT IN STEAM-PUMPS.

Specification forming part of Letters Patent No. 123,659, dated February 13, 1872.

### SPECIFICATION FOR IMPROVEMENT IN PUMPS.

We, LUCIEN H. ALLEN and WILLIAM BARTON, of Tamaqua, in the county of Schuylkill and State of Pennsylvania, have invented certain new and useful Improvements in Pumps; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of our invention consists of a pump to be used for mining and other purposes; and its object is to throw a continuous stream and to keep the water at an uninterrupted flow, so that when the column of water is once started it will continue to move so long as the pump is in motion.

In order to enable others skilled in the art to which our invention appertains to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a plan or top view of our improved pump, part in section. Fig. 2 is a side view of the same. Fig. 3 is a cam for moving steam-valve.

A B represent two steam-cylinders, arranged in a horizontal or other position, parallel to each other, or in any other position, as desired. C D E F are four pump-working barrels, arranged at each end of steam-cylinders and in line with cylinders. G H I J are four pump-plungers, connected with steam-piston rods L L L L, thereby imparting a direct motion from steam-piston to pump-plungers. K K are two cross-heads, connected to pump-plungers I J and working through guides M M, with wrist-pin N N on end to connect connecting-rods O O, they connecting on opposite ends with cranks P P, the cranks set at right angles and

fastened to crank-shaft Q, whereby the steam-cylinders assist each other over the dead-point, and also keep the column of water in constant motion. One pump-plunger being at the end of stroke, the other in the middle of the stroke, the column, consequently, will be kept continually in motion. S, Fig. 3, is a cam, placed on crank-shaft and fastened thereon, to move the steam-valve. Two of these cams are used, one for each steam-valve. R R are two clack-chambers, each supplied with two receiving and two discharging valves, with the necessary partitions, so as to work the valves in conjunction with the plungers. T T are receiving-pipes, conveying water to the pumps through the clack-chambers R R. U U are discharge-pipes, the water passing through these pipes from pumps to column-pipe.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the cross-heads K K, attached to plungers I J or piston-rods, if necessary, whereby motion is communicated to cranks P P and shaft Q through connecting-rods O O, substantially as set forth.

2. The combination and arrangement of steam-cylinders A B, piston-rods L, plungers G H I J, cross-heads K, guides M, connecting-rods O, cranks P, shaft Q, cam S, clack-chambers R, receiving-pipes T, discharge-pipes U, all constructed to operate substantially as and for the purposes hereinbefore set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 15th day of December, A. D. 1871.

L. H. ALLEN.  
WM. BARTON.

Witnesses:

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