J. Briggs, Jr

Fire Engine,

No. 2,770. Patented Sep. 3, 1842.

Fig. 1.

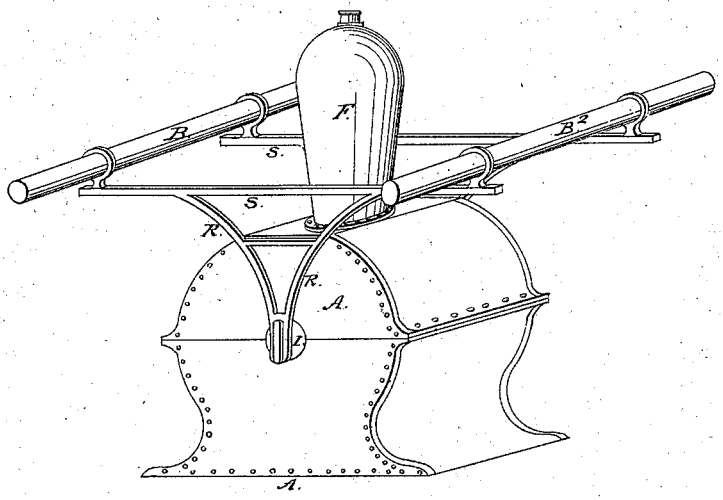


Fig. 2.

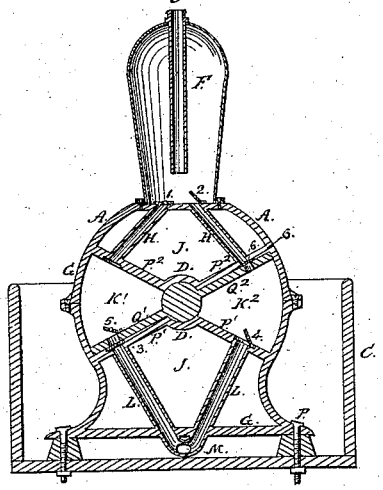
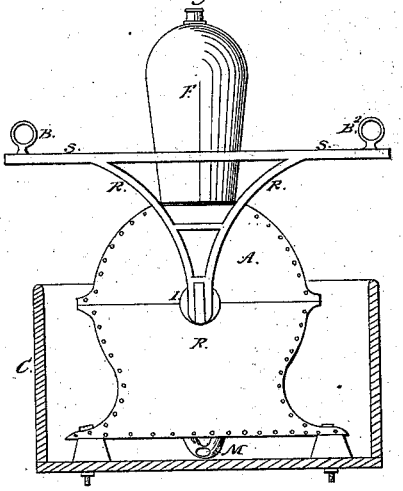


Fig. 3.



Inventor;

Joseph Briggs Jr.

UNITED STATES PATENT OFFICE.

JOSEPH BRIGGS, JR., OF ST. LOUIS, MISSOURI.

CONSTRUCTION OF FIRE-ENGINES.

Specification of Letters Patent No. 2,770, dated September 3, 1842.

To all whom it may concern:

Be it known that I, JOSEPH BRIGGS, JR., of the city of St. Louis, in the State of Missouri, have invented a new and useful Fire-Engine, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification, of which—

Figure 1 is a perspective view of the engine, Fig. 2 is a vertical section through the center of the engine, Fig. 3 is a vertical section through the cistern showing an end elevation of the segment cylinders, air chambers, arms, and rails.

This engine consists of a segment cylinder A of any required length and diameter with flanges by which it is secured to the bottom of a cistern C or to a frame, or to any convenient place having an air vessel F of the usual form and construction screwed or bolted to the top of said segment cylinder A and a hub or cylindrical box D in the center of the cylinder in which the spindle I turns and from which radiate four partitions P^1 P^1 P^2 P^2 extending to the inner side of the cylinder and dividing it into four chambers J J K^1 K^2 in two of which K^1 K^2 the pistons Q^1 Q^2 radiating from and fixed to the spindle I alternately work for drawing and lifting the water flowing into said chambers K K through apertures in said partitions provided with suitable conducting pipes L L and from which chambers the water is discharged through similar apertures in the two upper partitions P^2 P^2 provided with like pipes H H leading into the air vessels F the upper ends of the four pipes being provided with flap valves 1, 2, 3, 4 to prevent the return of the water and the pistons Q being also fitted with similarly constructed valves 5, 6 placed over apertures in the pistons on the upper sides thereof hinged thereto so as to allow the water to pass through the pistons on their descent and to prevent its return on their ascent causing said pistons to lift the water and force it into the air vessel F from whence it is prevented returning by the valves 1, 2 at the bottom thereof, or at the upper ends of the discharging pipes. The pistons are operated by manual or other power applied in the usual manner to two parallel rails B connected to the spindle I by segment arms R and braces S.

The conducting tubes may be united at the bottom of the cistern C inside, or with a box having a male screw to which a pipe or hose may be screwed leading to a well, reservoir, pond or other place from whence the water is to be drawn.

The hose or water pipe is attached to the top or side of the air vessel F in the usual manner.

The operation of this engine is as follows:

When the rail B^2 is raised in the segment of a circle the piston Q^2 will be raised to the top of the chamber K^2 leaving a partial vacuum in this chamber into which the water will be forced by the pressure of the atmosphere through the valve 4—on the descent of this piston Q^2 (by the descent of rail B^2) valve 4 closes and valve 6 of the piston opens allowing the water to pass through the piston which is lifted and forced through pipe H into the air vessel F by the return of the piston Q^2 and simultaneously with the above described movement of piston Q^2 an opposite or contrary movement of piston Q′ takes place—that is to say when piston Q^2 rises piston Q′ descends being both connected to the same axle I. By a repeated alternate action of the pistons in the manner above described the water is forced into the air vessel F until the air therein becomes compressed so that, by its elasticity, it will force the water to issue in a continuous stream.

The axle and pistons may be vibrated by means of a crank or in any convenient way.

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

The combination of the partitions P′ P^2 with the pipes H, L, as described.

JOSEPH BRIGGS, JR.

Witnesses:

WM. P. ELLIOTT,

EDMOND MAHER.