

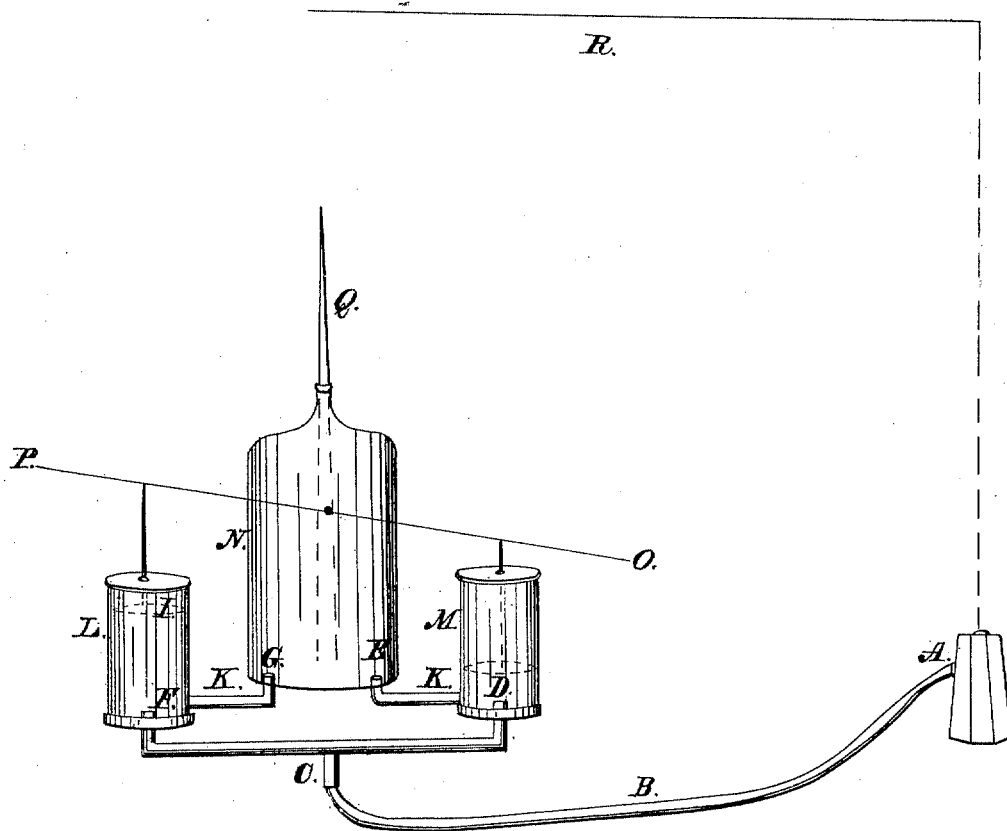
F. RANSOM & U. WENMAN.

FIRE ENGINE.

No. 1,980.

Patented Feb. 13, 1841.

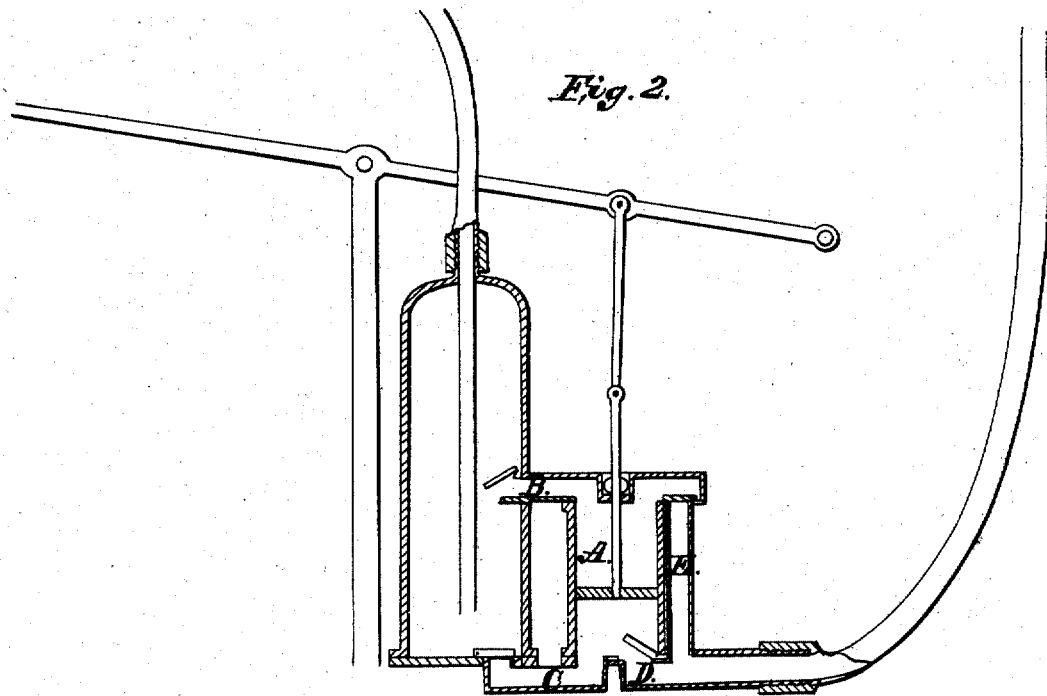
*Fig. 1.*



F. RANSOM & U. WENMAN.  
FIRE ENGINE.

No. 1,980.

Patented Feb. 13, 1841.



# UNITED STATES PATENT OFFICE.

FRANKLIN RANSOM AND UZZIAH WENMAN, OF NEW YORK, N. Y.

## MODE OF APPLYING WATER TO FIRE-ENGINES SO AS TO RENDER THEIR OPERATION MORE EFFECTIVE.

Specification of Letters Patent No. 1,980, dated February 13, 1841.

*To all whom it may concern:*

Be it known that we, FRANKLIN RANSOM and UZZIAH WENMAN, of the city, county, and State of New York, have invented a new and useful improvement in the application and use of fire-engines or any kind of forcing-pumps for extinguishing fire or for leading and conveying water to other engines or pumps for extinguishing fire or for any other purpose; and we hereby declare that the following is a full and accurate description of the nature and operations of our said improvement.

The principle is well known, that water conveyed in a close tube, and passing through any descent below the fountain will, if the pipe be so conducted, seek its equilibrium on a level with the fountain from which it issued; and that at any part of the descent, the hydraulic pressure upward is equal to the weight of a column of water, reaching to the level of its source.

The object intended to be effected by this improvement is to unite the pressure with the power applied, in forcing water from any species of forcing pump, for extinguishing fire or for any other purpose. This we effect by leading the water in a close pipe, from a hydrant, from the original fountain, or from any other source above the level from which it is to be projected, still keeping it from escaping, until it is brought in connection with and discharged into the pump or pumps from which it is to be discharged. It is evident that the water so received into the pump or pumps will tend to rise, by the entire power of the hydraulic pressure, and if projected upward, it will rise by the full force of that power, plus, the power applied.

To illustrate the subject more clearly, we refer to the drawings herewith connected, and making part of this specification.

Drawing No. 1 represents two single action pumps, receiving water from a hydrant, which is supplied by close pipes, from a source, say one hundred feet, more or less, above the level from which the water is to be projected. The horizontal line R, represents the summit level, or height of the fountain; A, the hydrant; B, the pipe leading from the hydrant to the cross pipe C; D E, the valves, closing the inlets of the water into the pumps, to prevent its returning; L M, the two pumps; N, the air barrel;

H I, two pistons, operating alternately the brake, O, P; Q, the discharge pipe. In the operation, the water presses into the air-barrel, accelerated alternately, by the alternate descent of the pistons H I, and is prevented from returning, by the joint operation of all the valves D E and G F. As the piston H descends, it is resisted by the hydraulic pressure, against which it has to act, but is aided by the same power acting oppositely, in raising the other piston, and the effect is thereby neutralized. It follows conclusively that all the power of the hydraulic pressure, below the mean level of the pistons, is added to the power applied or acting above that level, and that the water projected from the pipe Q will rise to the same height as if the engine were raised to the line R, on a level with the fountain head, and acted without the hydraulic pressure.

Drawing No. 2 represents the same effect produced by one double action pump, communicating with the air-barrel from the top and bottom, and the effect will be the same as that produced by two single action pumps, but with less expense. A represents the pump; B C, the two pipes which lead from the pump to the air barrel; D E, the ingress pipes at the top and bottom of the pump and leading from the hydrant. In all other respects, the operation being the same with one pump as with two, needs no further description.

What we claim as our invention, and wish to secure by Letters Patent is—

The employing the pressure of a column of falling water, or the tendency of the hydraulic pressure on water at rest to assist in the working of fire engines, by combining a hose or pipe, conducting said water with the receiving tubes of an engine or pump, operated by animal or mechanical power, the same being constructed substantially in the manner set forth.

FRANKLIN RANSOM.  
UZZIAH WENMAN.

Witnesses:

PETER T. MERRSERIS,  
CHAS. W. SANDFORD.

*Disclaimer.*

*To the Commissioner of Patents:*

The petition of FRANKLIN RANSOM and  
UZZIAH WENMAN, of the city county and

State of New York, respectfully represents that Letters Patent of the United States were granted to them for a new and useful mode of applying water to fire engines, so as to render their operation more effective, which Letters Patent bear date the 13th day of February 1841, and which said Letters Patent were extended and renewed for the further term of seven years from the 13th day of February, 1855; that your petitioners have reason to believe that through inadvertence and mistake the claim made in the specification of the said Letters Patent, which is in the following words, to wit: "What we claim as our invention, and wish to secure by Letters Patent is—The employing the pressure of a column of falling water, or the tendency of the hydraulic pressure on water at rest, to assist in the working of fire engines, by combining a hose, or pipe, conducting said water, with the receiving tubes of an engine, or pump, operated by animal or mechanical power, the same being constructed substantially in the manner set forth," is too broad, including more than your petitioners intended to claim.

Your petitioners therefore, hereby enter this their disclaimer to so much of the said claim as extends the "employing the pressure of a column of falling water, or the

tendency of the hydraulic pressure on water at rest, to pumps, other than movable fire engines, and by means of an inflexible pipe," that their said claim may be thereby limited to employing the pressure of a column of falling water or the tendency of the hydraulic pressure on water at rest, to assist in the working of movable fire engines, by combining a hose conducting said water, with the receiving tubes of a movable fire engine, operated by animal or mechanical power, substantially in the manner set forth in the said patent, which said disclaimer is to operate to the extent of the whole interest in the said letters from the date of its grant until the 31st day of May 1856, and from that date to the extent of an undivided third part of the said Letters Patent. The remaining two thirds interest having, on the said 31st day of May 1856 been assigned your petitioners, having paid ten dollars into the Treasury of the United States, agreeably to the requirements of the act of Congress in that case made and provided.

Dated at New York August 14th, 1860.

FRANKLIN RANSOM.  
UZZIAH WENMAN.

In presence of—

LEWIS STEVENS,

ROBT. H. McMILLAN as to U. W.