(No Model.)

J. J. MEYRICK.

FIRE ENGINE HEATER CONNECTION.

No. 358,873. Patented Mar. 8, 1887.

Fig. 1.

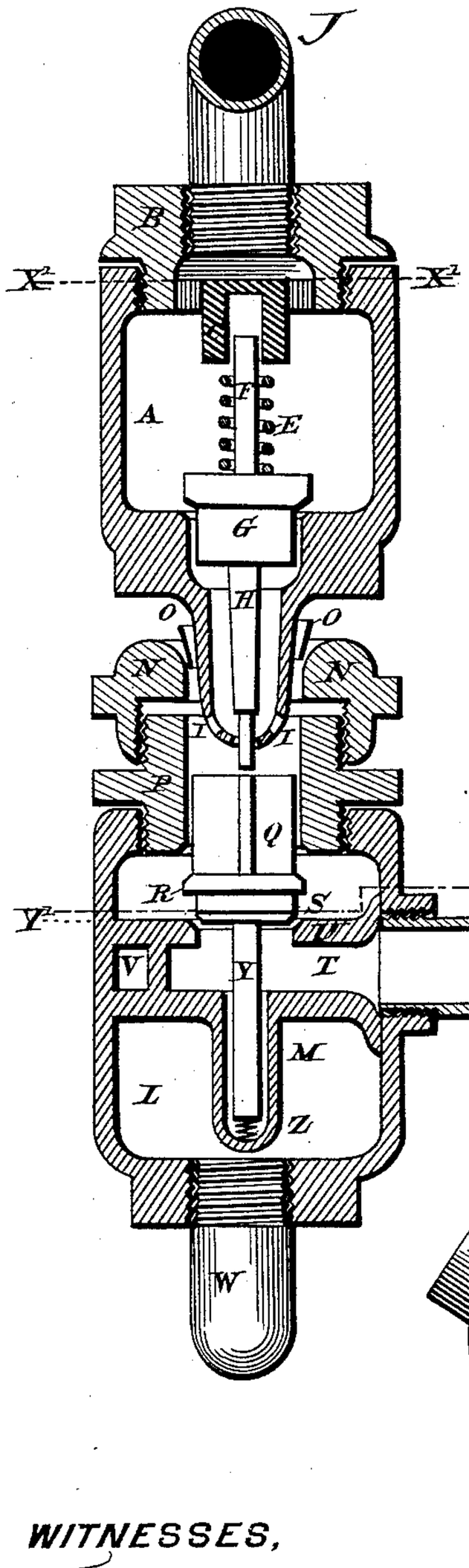


Fig. 2.

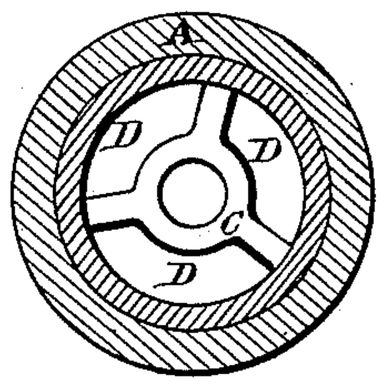
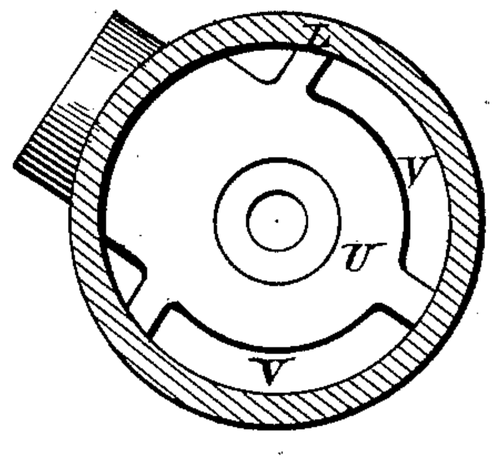


Fig. 3.



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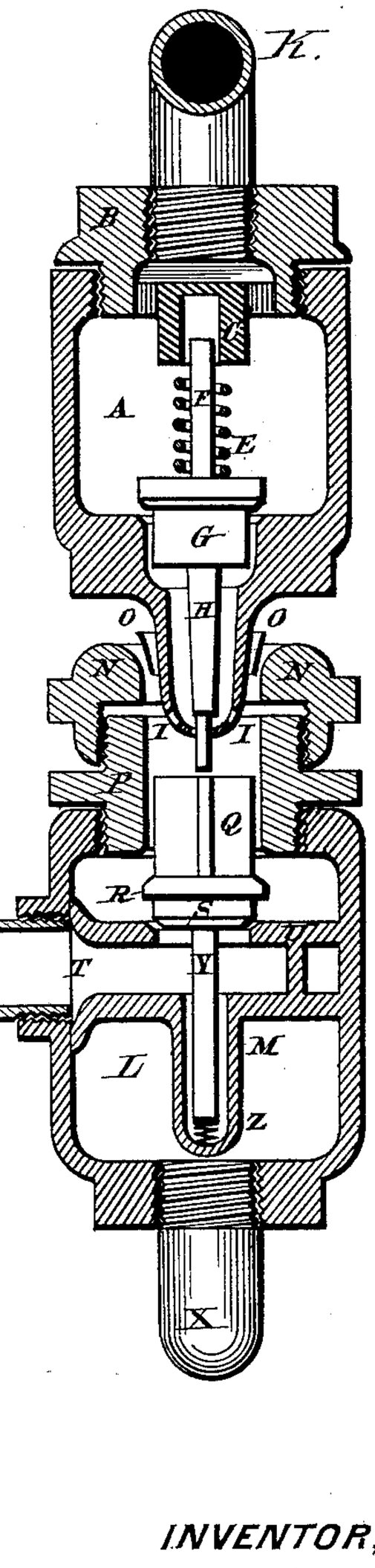

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JOSEPH J. MEYRICK, OF LOUISVILLE, KENTUCKY.

FIRE-ENGINE HEATER-CONNECTION.

SPECIFICATION forming part of Letters Patent No. 358,873, dated March 8, 1887.

Application filed July 29, 1886. Serial No. 209,489. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH J. MEYRICK, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Fire-Engine Heater-Connections; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, forming part of this specification.

This my invention relates to certain new and useful improvements in heater-connections for fire-engines, consisting in a series of valves arranged in chambers, four in number, inserted in the connecting-pipes between the engine-boiler and heater in such manner as to produce a constant circulation of water and steam between the heater and engine-boiler. Two of these chambers are attached to the engine-boiler by means of pipes, with the pointed ends projecting in the rear of the fire-box near the floor, while the other two open-ended chambers are permanently secured to the floor on a line with the points of the first-named chambers, and connected with the heater below by means of pipes, one of which enters the heater near the bottom, while the other enters near the top of both heater and boiler, and when necessary to connect the engine with the heater it is backed until the pointed chambers enter the open ends of the stationary chambers near the floor, which operation opens the valves and forms a direct connection between the boiler and heater, with the points of the chambers rendered water-tight by means of gum gaskets between the nuts on the ends and the points of the chambers.

The object of this my invention is to provide a series of devices for the purpose of keeping the water in the boilers of steam fire-engines constantly up to the boiling-point without raising steam-pressure, in order to facilitate the process of generating steam when the engine is suddenly called into requisition, and also to prevent freezing in cold weather.

I attain the above object by the mechanism illustrated in the drawings, in which—

Figure 1 is a sectional view of the chambers, showing the arrangement of the valves therein. Fig. 2 is a sectional view of part of the end nuts, taken as indicated by X′ X′, showing the openings around the valve-guides. Fig. 3 is a sectional view of the main chamber, taken as indicated by Y′, showing the valve-seat of the supply-valve and the openings around it.

Similar letters refer to similar parts throughout the several views.

In the drawings, A represents the chambers attached to the engine-boiler, which are made of metal and in form as shown in the drawings.

B is the end nut for attaching the connecting-pipes, and C is the valve-stem guide, and D D are the openings around it.

E is a spiral spring around the stem F.

G is the main valve for shutting off water or steam when the engine is removed for service, and H is a long stem extending out through the point of the chambers A, to answer as a trigger for opening up the water-connection between the heater and boiler when the engine is backed up against the stationary chambers.

I I are the water-passage holes in the ends of the chambers A, and J is the pipe which connects chambers A with engine-boiler near the bottom, and K is the pipe which connects the chamber A near the top of the boiler.

L L are the stationary valve-chambers, which are made of metal and in form as shown in the drawings.

N N are the adjustable nuts for rendering the points of the chambers A water-tight when backed up against the chambers L by means of the gum ring O between the parts.

P P are also adjustable nuts, the upper parts of which answer as a guide for the wings Q Q of the valve R R, which seats on the lower end of the nuts P, and S S are valves seated upon the upper side of the water-supply openings T T, which is closed while the engine is in the house, thereby causing a free circulation of hot water and slight steam between the boiler and heater through the openings V V; but as soon as it leaves the house again the valve S opens and valve R is closed by the pressure of water and spring Z, thereby causing the water to flow in through the valve S down into the heater through the discharge-pipe W, which enters the heater near the top, while the pipe X enters it near the bottom.

Y is the stem of the valve R and S, which

extends down into the guide M, with a spiral spring, Z, under it to assist the water in raising the valve when the engine leaves, to admit a fresh supply of water to the heater, which consists of a small cylinder-boiler placed in a vertical position in the basement.

A′ is the connecting-pipe for the cold-water supply, which may be taken from the city hydrant or other source.

In order that others skilled in the art may understand its operation, it is only necessary, after the heater is set in position in the basement and the chambers L L secured to the floor above and the chambers A A secured in position in the rear of the engine, with pipes J and K connecting them with the boiler, and pipes W and X connecting them with the heater below, as above described, to back the engine up until the points of the chambers A A enter the open ends of the chambers L L, when the nuts N N are screwed up against the gum rings O O until a water-tight joint is secured between the chambers, thereby forming a direct communication between the heater and engine-boiler, both at the top and bottom of each, by which the hot water and slight steam generated in the heater below may circulate freely from one to the other.

Therefore, what I claim as my invention, and desire to secure by Letters Patent, in heater-connections for fire-engines, is—

1. The chambers A A and nuts B B, pipes J and K, with valve-stem guides C C, and water-openings D D around them, substantially as herein described.

2. Combined with the chambers L L and A A, provided with extensions having openings I I and nuts B B, the valves G G, having stems F F and spiral springs E E around them, with stems H H extending down through the ends of the chambers, to open the valve G when the engine is backed up against the stationary chambers L, as above described.

3. In heater-connections for fire-engines, the chambers L L and supply-openings T T, forming valve-seats U U in the interior, with the water-openings V V around them, in combination with the pipe A′, by which the chambers are connected, substantially as described, and for the purpose set forth.

4. Combined with the chambers L L and supply-openings T T, the winged valves R and S, having seats U and stems Y, with guides M and spiral springs Z, the nuts P P and N N, gum rings O O, and pipes W and X, substantially as described, and for the purpose set forth.

JOSEPH J. MEYRICK.

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