

Kafer & DeLacy.

Water-Heater for Fire-Engine.

N<sup>o</sup> 73015

Patented Jan. 7, 1868.

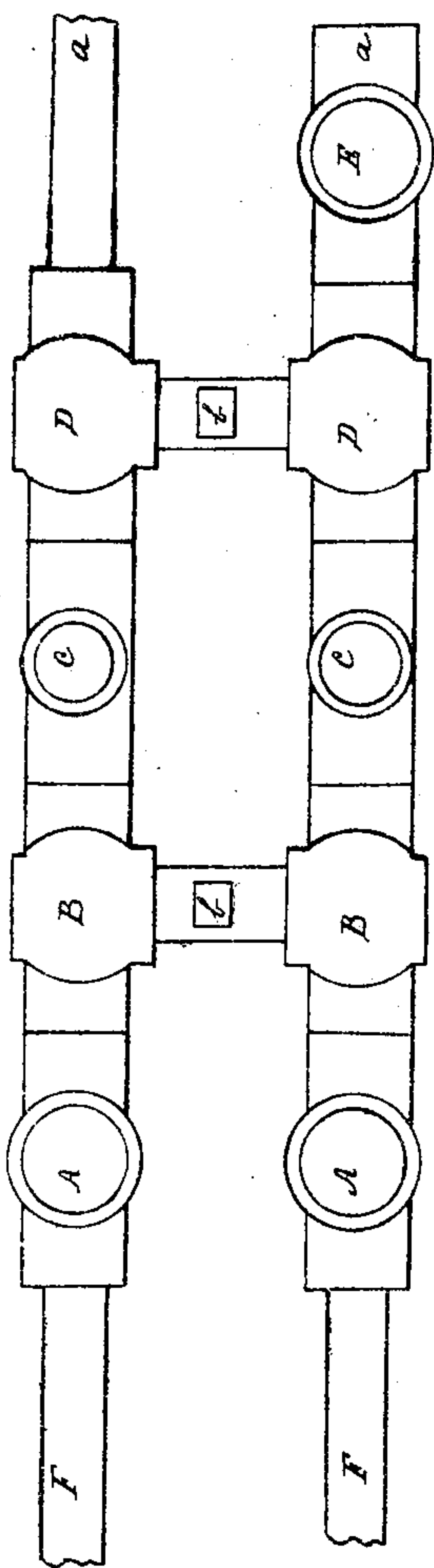


Fig. 2.

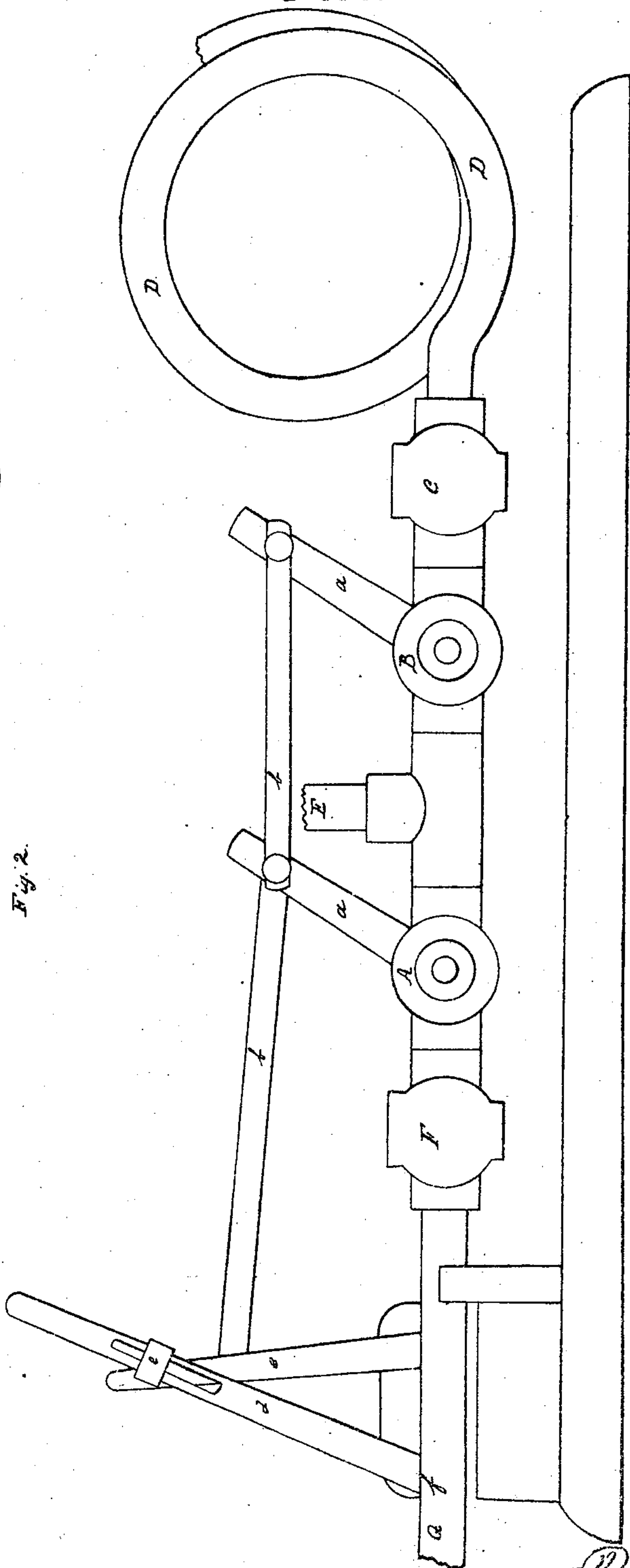


Fig. 1.

Witnesses

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# United States Patent Office.

PETER M. KAHER AND JOSEPH M. DE LACY, OF TRENTON, NEW JERSEY.

*Letters Patent No. 73,015, dated January 7, 1868.*

## IMPROVEMENT IN WATER-HEATERS FOR FIRE-ENGINES.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL WHOM IT MAY CONCERN:

Be it known that we, PETER M. KAHER and JOSEPH M. DE LACY, of Trenton, in the county of Mercer, and State of New Jersey, have invented a new and improved Water-Heater for Steam Fire-Engines; and we do hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The object of this invention is to effect more simple and ready means for the extinguishment of fires in cities and towns, by supplying the steam fire-engine boiler with water already heated to near the boiling point before it is started from the engine-house; and the invention consists in arranging a stationary heater and connecting it with pipes and water-tubes in such a manner that the water in the engine-boiler is made to pass through a heated coil of tubing placed in a fire-box, and thereby become charged with heat to such a degree that no time is lost in getting up steam, as is frequently the case; at the same time the apparatus, through the forward motion of the engine, going out of the house, and, by levers, cocks, &c., is made self-regulating, as will be hereinafter more fully described.

Figure 1 represents a side elevation of the apparatus, showing the water-pipes, cocks, checks, levers, wrenches, rubber or elastic pipe, condensing-coil, and attachment for heating coil.

Figure 2 shows a top view and the arrangements of the cocks and checks.

Similar letters of reference indicate like parts.

E represents the attachment for the heating-coil, D D the condensing-coil. When heating the water in the fire-engine boiler, the water passes through the heating-coil, which is placed in contact with fire or heated gases, and by means of the checks A A, fig. 2, the water is made to have a continuous circulation from the heating-coil and return after passing through the engine-boiler. *d c* represent levers, and, by the forward motion of the engine out of the house and through the compensating levers *b b* and wrenches *a a*, the cocks A B are reversed, thereby changing the circulation from passing through the engine-boiler to pass and circulate through the condensing-coil D D by means of the check C. The condensing-coil D D is submerged in a tank of cold water, and by this and the operation of the levers, cocks, and checks, the heater is made self-regulating. The levers *c d* are made to be tripped at any point by altering the centres *f* or slot-pin *e* at any point sufficient to reverse the cocks A B. The elastic or rubber pipes F F, fig. 2, are for the purpose of allowing the engine to have forward motion, and thereby having the cocks B B, fig. 2, closed, and the cocks D D, fig. 2, open before the connections are broken, not allowing any water to be discharged either from the engine-boiler or from the heater; also, to allow the engine to be placed in any position that may be desired in the engine-house.

What we claim as new, and desire to secure by United States Letters Patent, is—

The arrangement of the checks A A and E, elastic pipes F F, condensing-coil D, and with cocks B B and D D, levers *c d*, pin *e*, compensating levers *b b*, wrenches *a a*, constructed substantially as set forth.

PETER M. KAHER,  
JOS. M. DE LACY.

### Witnesses:

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FRANKLIN A. BOWEN.