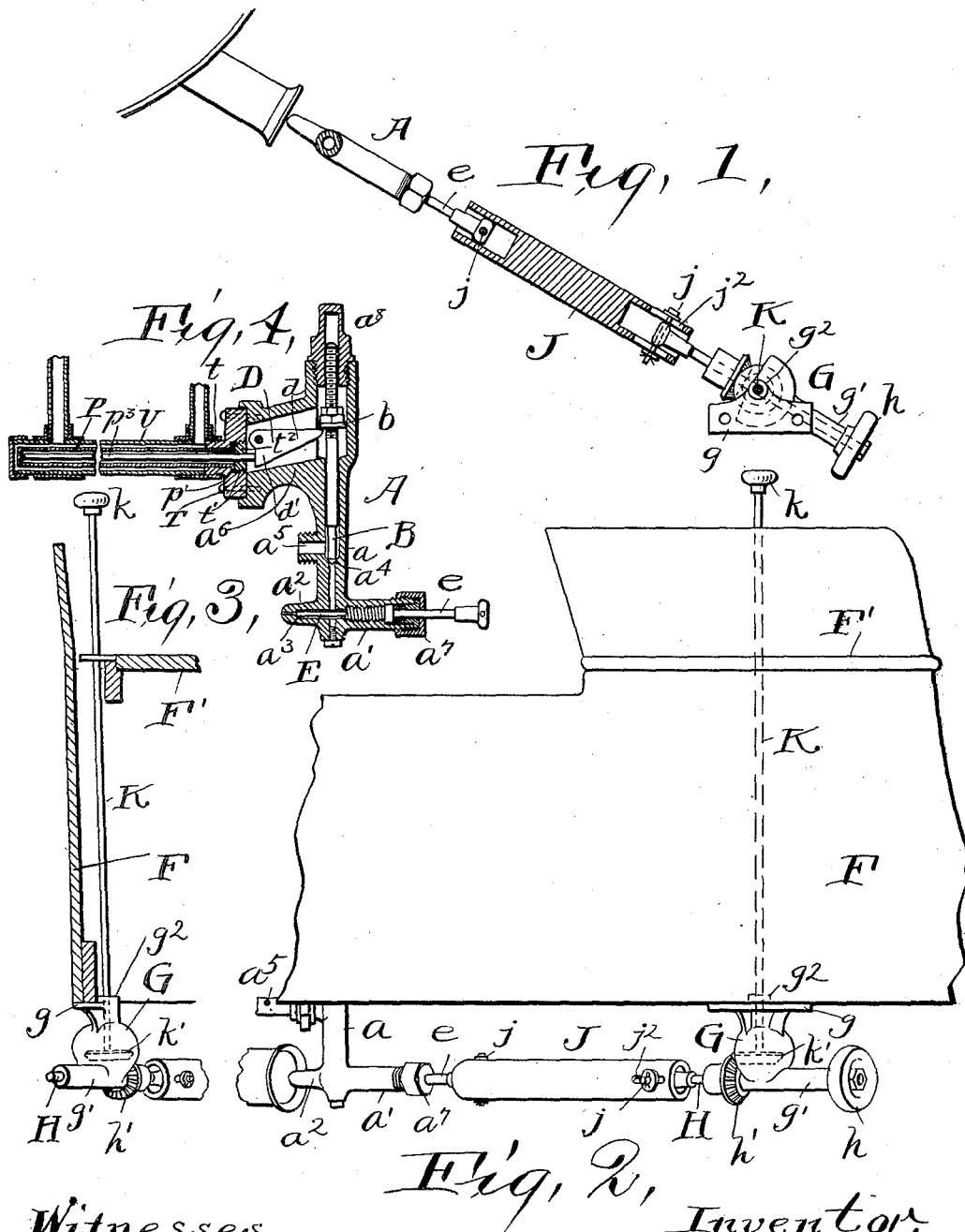


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VALVE MECHANISM FOR STEAM CARRIAGE BURNERS.

(Application filed Apr. 19, 1901.)

(No Model.)



Witnesses.  
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# UNITED STATES PATENT OFFICE.

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## VALVE MECHANISM FOR STEAM-CARRIAGE BURNERS.

SPECIFICATION forming part of Letters Patent No. 707,478, dated August 19, 1902.

Application filed April 19, 1901. Serial No. 56,542. (No model.)

*To all whom it may concern:*

Be it known that I, ROLLIN H. WHITE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Valve Mechanism for Steam-Carriage Burners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

Fluid fuel is used on nearly all steam-carriages. Such carriages usually, if not always, have a main burner for heating the generator and a pilot-burner for igniting the main burner.

The object of my invention is to provide novel means for controlling the flow of fuel to the main burner. It is desirable that a valve which controls such flow shall be operable either by a person standing on the ground, but stooping down, so as to be able to look beneath the carriage and see the burner, or by a driver sitting on the seat of the carriage. It is also desirable to provide means for automatically controlling the flow of the fuel, to the end that the heat from the burner shall be automatically regulated in accordance with demand for steam, and it is also desirable to make the mechanism as simple and inexpensive as possible. The invention relates to the valve mechanism whereby these results are attained; and it consists in the construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view, partly in section, of the mechanism embodying my invention. Fig. 2 is a side elevation of a steam-carriage and my invention applied thereto. Fig. 3 is a front elevation of a part of the said mechanism, and Fig. 4 is a vertical sectional view of the valve-casing and some associated parts.

Referring to the parts by letters, A represents a valve-casing having, as shown, the following construction, viz: It has a vertical tube  $a$  and a horizontal tube  $a'$ , crossing the lower end of said vertical tube and integral with it. This horizontal tube terminates at one end in a discharge-nozzle  $a^2$  and contains a valve-seat  $a^3$ , located between said dis-

charge-nozzle and the point at which the combustible is admitted to said tube  $a'$ —viz., the point where the tube  $a$  connects with it. The tube  $a$  also contains a valve-seat  $a^4$ , and the combustible which has been previously vaporized is admitted to the tube  $a$  above said valve-seat through an inlet-opening  $a^5$ , which is connected with a supply-tank. In the vertical tube is a valve B, whose lower end is fitted to the valve-seat  $a^4$ , and the valve is moved by gravity preferably against said seat. On one side of the tube  $a$  of valve-casing is a housing  $a^6$ , in which a bell-crank lever D is pivoted. The substantially horizontal arm  $d$  of this lever engages beneath collar  $b$ , which is adjustably secured to by being screwed upon the stem of the valve B. There is a hole in the top of the tube  $a$ , through which the valve B may be introduced, and this hole is closed by a screw-plug  $a^8$ . The vertical arm  $d'$  of this lever is engaged by an endwise-movable horizontal rod  $p^3$ , which enters said housing. As shown, this rod is a part of a thermostat P, the specific construction of which is described and claimed in the Ruud patent, No. 610,281. The means for fastening the outer tube  $p$  of this thermostat are specifically new and consist of a plate T, which is secured to the valve-casing, so as to close the open end of the housing  $a^6$ , which plate has an external boss  $t$  with a hole through it and a concentric rabbet  $t'$  on the inner face of this plate. The tube  $p$  of the thermostat passes through the hole in this plate and has an external flange  $p'$ , which lies on said rabbet and is held by a screw-plug  $t^2$ , through which the rod  $p^3$  passes. This thermostat is inclosed in a tube U, through which the steam passes.

In the tube  $a'$  is a horizontal valve E, which is screwed into it and is moved against or from its seat  $a^3$  by turning it. The valve-stem  $e$  extends out of said tube  $a'$  through a stuffing-box  $a^7$  on its end.

G represents a bracket having a wing  $g$ , by which it may be secured to the under side of one of the lower-frame members on one side of the vehicle-body F. This bracket has a horizontal sleeve  $g'$ , in which a valve-operating shaft H is rotatably mounted. This operating-