

C. S. PARKER.

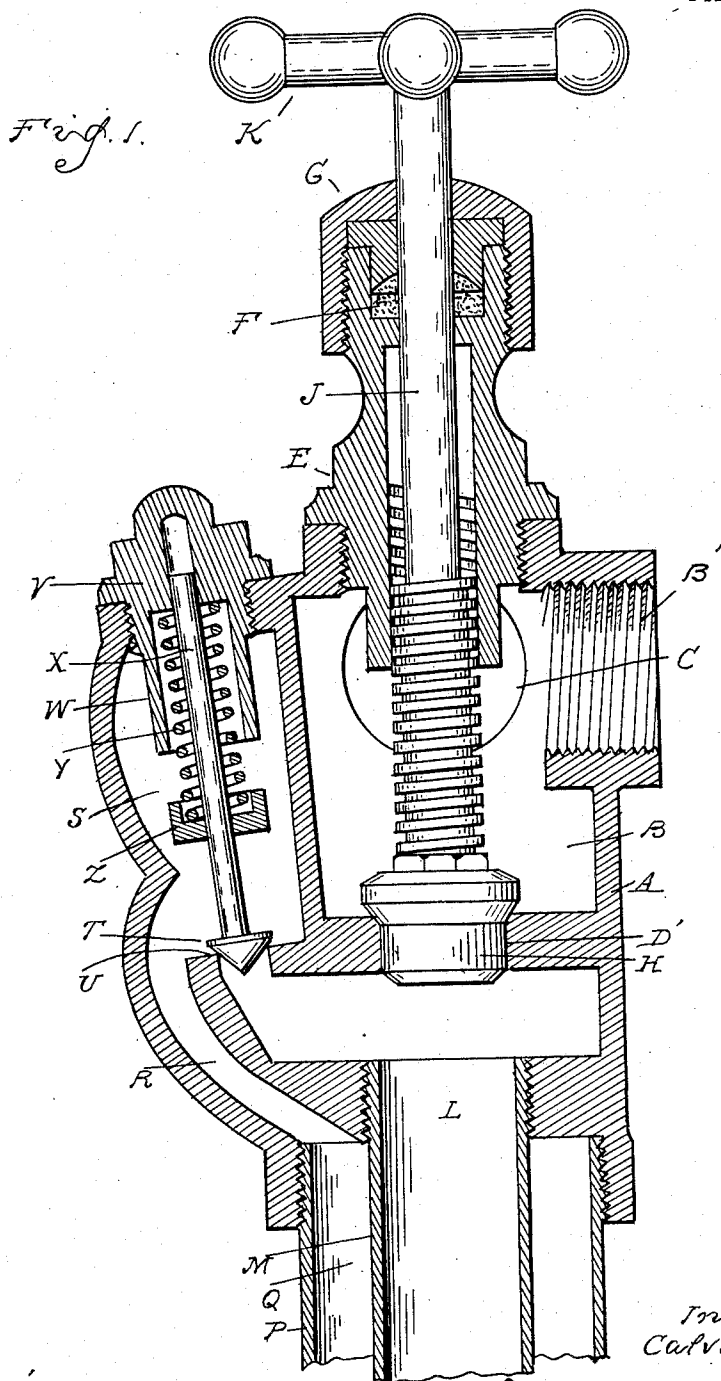
TRAP.

APPLICATION FILED JULY 9, 1909.

Patented Jan. 16, 1912.

2 SHEETS-SHEET 1.

1,015,243.



Inventor
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Witnesses
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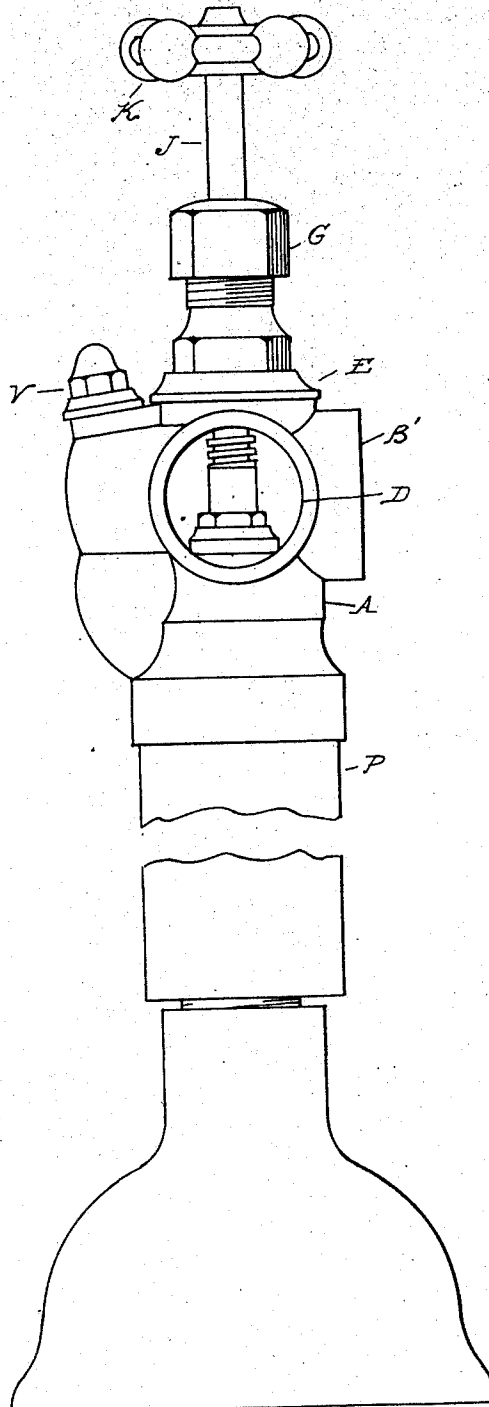
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Fig. 2.



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UNITED STATES PATENT OFFICE.

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TRAP.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CALVIN S. PARKER, a subject of the King of Great Britain and Ireland, residing at London, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Traps, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to a drainage trap for use in connection with car heating apparatus through which air and water of condensation may be discharged from the system, and has for its primary object the production of a device of this character capable of being readily and quickly thawed out in the event of the freezing of the condensation, and this while the car is in motion, and has for a further object a construction wherein the trap may be controlled in its entirety by a single manually operated valve, thus simplifying the operation and construction.

With the objects enumerated in view, the invention consists in the peculiar construction of the drainage trap, in the novel arrangement and combination of its parts, and in various details of construction as will be more fully hereinafter set forth.

In the drawings, Figure 1 is a vertical central section through a trap embodying my invention; and Fig. 2 is an elevation thereof.

In construction, the trap comprises an inclosing casing A, formed with a main steam chamber B therein, and preferably with a plurality of lateral ports B' C D and with a main discharge port D'.

E represents a bonnet screwed within the casing top.

F is the usual gland, and G the gland nut.

H is a main operating valve controlling the discharge port D', provided with a stem J having a screw-threaded engagement with the bonnet and with a suitable operating member or handle K.

L designates a main discharge passage formed by a pipe or conduit M, screwed within the casing bottom in registration with the main discharge port D'.

P designates a tubular casing or pipe section inclosing the discharge pipe M and spaced therefrom, forming a surrounding passage Q, which in connection with a port or passage R formed within the valve casing constitutes an auxiliary discharge pas-

sage leading within the main chamber B through the main discharge port D', as plainly shown in Fig. 1.

S designates an auxiliary valve chamber adjoining the main chamber B.

T is the auxiliary valve adapted to engage a seat U and acting to control the auxiliary passage.

V is a cap member screwed within an opening formed within the upper wall of the auxiliary chamber S, and provided with a tubular extension W, and X is a stem for the auxiliary valve having a sliding bearing within the cap, as shown. This valve is adapted to be held normally to its seat, and for this purpose a coil spring Y is employed housed within the extension W, the lower end of the spring abutting against a cross member Z upon the valve stem.

In applying the trap to the system, any one of the several ports B' C or D may be employed as the steam inlet, according to the position of the trap in relation to the piping of the system, while the remaining ports may be closed by suitable plugs (not herein shown); or, in the event that the trap is to be used in a "dripless" system, wherein preferably a continuous radiator circuit is employed, two of the ports may be used,—one as an inlet and the other as an outlet,—to permit the passage of the steam through the trap, while the third may be closed in the manner heretofore set forth.

Assuming that the trap is to be used in the type of heating system last described, the main operating valve H is normally seated, preventing the discharge of the water of condensation which is adapted to collect within the system, and acting in conjunction with the steam to form a combination steam and hot water apparatus.

To discharge air or the water of condensation from the system, the main operating valve H is raised from its seat, allowing the discharge to be effected through the main discharge passage L. In the event that this passage is clogged by the freezing of condensation, the steam passes automatically through the auxiliary discharge passage Q, the steam pressure being sufficient to raise the valve T from its seat. The discharge of live steam around the frozen section of the discharge conduit quickly thaws the latter and relieves the main passage from the obstruction.

It will be apparent from the foregoing de-

scription that the thawing out of the trap is effected automatically; that the entire trap is controlled by a single valve, namely the main operating valve, thus simplifying the construction; and, finally, that, owing to the peculiar formation of the inclosing valve casing, the trap may be readily applied to any form of heating system.

What I claim as my invention is,—

10 1. In a drainage trap, the combination with an inclosing casing, of a main steam chamber therein provided with inlet and outlet openings, a valve-controlled discharge port, and with adjoining main and auxiliary discharge passages having communication with the steam chamber through the discharge port, and a spring-pressed valve controlling the auxiliary passage operable automatically by the discharge of steam through the discharge port.

20 2. In a drainage trap, the combination with an inclosing casing provided with an inlet and a main discharge port, a main discharge passage communicating with said port, and with auxiliary passage leading from the discharge port to one side of the main passage and extending in operative relation thereto, and a spring-pressed valve controlling the auxiliary passage.

30 3. In a drainage trap, the combination with an inclosing casing formed with a main steam chamber having normally open inlet and outlet ports, a normally closed discharge port, a main discharge passage leading from said discharge port, and having an auxiliary discharge passage communicating with the main chamber through the discharge port and surrounding the main passage, an auxiliary valve chamber adjoining the main chamber, and a spring-pressed valve within the auxiliary chamber controlling the auxiliary passage.

40 4. In a trap, the combination with a casing provided with an inlet port, a main discharge port, and with an auxiliary discharge port at one side of and communicating with the casing through the main discharge port, of separate and independently operable valves respectively controlling the main and

auxiliary discharge ports, one of said valves being adapted to be automatically operated by the heating fluid.

5. In a trap, the combination with a casing provided with an inlet port, a main discharge port, and with an auxiliary discharge port at one side of and communicating with the casing through the main discharge port, of a valve controlling the main discharge port and a valve controlling the auxiliary discharge port adapted to be automatically operated independently of the main valve by the heating fluid.

6. In a trap, the combination with a casing provided with inlet and discharge ports, a main discharge passage leading from the discharge port, and with an auxiliary discharge passage surrounding the main discharge passage, a connection between the auxiliary discharge passage and the casing and a valve controlling said connection automatically operated by the heating fluid.

7. In a trap, the combination with a casing provided with inlet and discharge ports, a main discharge passage leading from the discharge port, and with an auxiliary discharge passage surrounding the main discharge passage, a connection between the main and auxiliary discharge passages, and a valve controlling said connection automatically operated by the heating fluid.

8. In a drainage trap, the combination with an inclosing casing, of a main steam chamber therein provided with inlet and outlet openings, a valve controlled discharge port and with adjoining main and auxiliary discharge passages having communication with the steam chamber through the discharge port, and separate and independently operable valves respectively controlling the main and auxiliary discharge ports, one of said valves being adapted to be automatically operated by the heating fluid.

In testimony whereof I affix my signature in presence of two witnesses.

CALVIN S. PARKER.

Witnesses:

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