

H. D. SINGER & H. VAN D. PRATT.

STEAM TRAP.

APPLICATION FILED OCT. 22, 1908.

939,450.

Patented Nov. 9, 1909.

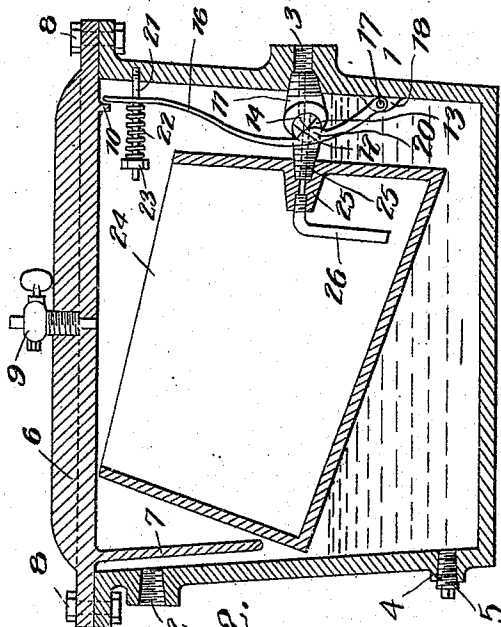


Fig. 1.

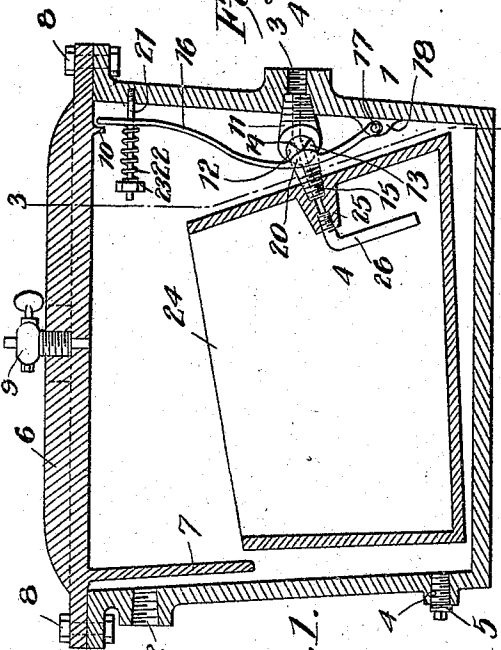


Fig. 2.

Fig. 3.

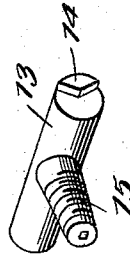


Fig. 4.

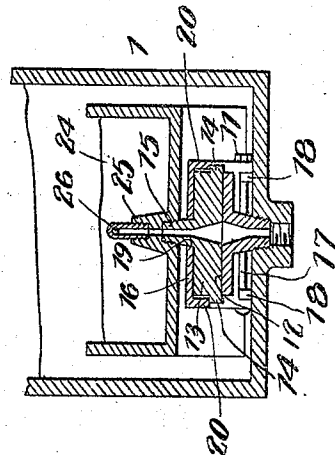
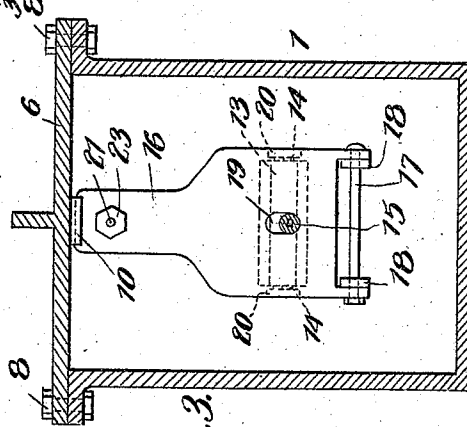


Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

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STEAM-TRAP.

939,450.

Specification of Letters Patent.

Patented Nov. 9, 1909.

Application filed October 22, 1908. Serial No. 458,994.

To all whom it may concern:

Be it known that we, HAROLD D. SINGER, a subject of the King of Great Britain, and HOWARD VAN D. PRATT, a citizen of the United States, residing at Hospital, in the county of Kankakee and State of Illinois, have invented certain new and useful Improvements in Steam-Traps; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in steam traps and comprises the construction of a steam trap provided with a floatable bucket arranged to operate an outlet valve under the influence of steam condensation.

One of the objects of the invention is the production of a simple automatic steam trap provided with a simple rotary valve and a bucket arranged to be elevated by the condensation of the steam and close the valve, and to be depressed to open the valve when the condensate rises sufficiently.

With this and other objects in view, the invention consists of certain novel features of construction, combination, and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a central vertical section of our improved steam trap showing the valve in an open position; Fig. 2 is a similar view showing the valve in closed position and the bucket elevated; Fig. 3 is a transverse section taken on line 3—3 of Fig. 1; Fig. 4 is a horizontal section taken through the valve mechanism; Fig. 5 is a detail perspective view of the valve.

In the embodiment illustrated, 1 designates a box or casing which is formed with an entrance port 2 and with a discharge port 3 and provided with a bottom opening 4 which is normally closed by a plug 5.

A cover 6, formed with a downwardly projecting baffle plate 7 which adjoins the entrance port 2, is secured to the casing 1 by means of bolts 8. The cover 6 is preferably provided with an air valve 9 and also formed with a lug 10 which is positioned on the opposite end to the baffle plate 7.

A plug 11 is threaded in the opening 3 and is formed with a valve seat 12 and is

longitudinally bored to permit condensation to flow therethrough. A rotary valve 13 formed with lateral lugs 14 and a threaded stem 15 is normally held on the valve seat 12 by means of a strap 16 which is pivoted at 17 to a lug 18 formed on the box or casing 1. The strap 16 is formed with an opening 19 adapted to receive the stem 15 of the valve 13. The ends of the valve are provided with offsets, 14, and the stem thereof is provided with a longitudinal passage. A rod 21, which is threaded to the interior of the box or casing 1 and projects in a horizontal plane through the upper end of the strap 16, is provided with a spring 22 which normally presses against the upper end of said strap and a nut 23 which is adapted to hold said spring on the rod 21.

A float bucket 24 which is formed with an off-set 25 is adapted to receive the stem 15 of the valve 13 and an angular pipe 26 screws into the off-set 25. The valve 13 is bored so that the condensation may pass through the pipe 26 and through said valve to be discharged from the trap by means of the plug 11.

Steam and condensation entering the port 2 will contact with the baffle plate 7 and the condensation will drip from said baffle into the box or casing 1 and on the outside of the bucket 24. As the condensation accumulates in the box or casing 1, the float bucket 24 will be elevated and in so doing will close the valve 13. When the water level in the box or casing rises high enough it will overflow into the float bucket 24 and cause the said bucket to fall to its lowest position, indicated in Fig. 1 thereby opening the valve 13 and thus allowing the condensation to escape through pipe 26, port 15, plug 11 and through outlet 3 under the influence of the steam. When the condensation in the float bucket 24 has been removed said bucket will again be gradually floated upward by the pressure of the condensation in the box or casing 1.

Having thus described and ascertained the nature of our invention, what we claim as new and desire to secure by Letters-Patent is:

1. A steam trap comprising a box formed with an entrance port and a discharge port, a longitudinally bored plug screwing to and in the discharge port, a valve seated on the

plug for controlling the discharge port, a strap pivotally mounted on the box for holding the valve to its seat, and a float bucket connected to the valve and arranged to close
5 the same.

2. A steam trap comprising a casing having steam entrance and discharge ports, a cover arranged over the casing, a plug screwing in the discharge port of the casing, a
10 valve mounted on the plug and having a threaded stem, a float bucket having screwed connection with said stem and provided with an interiorly threaded off-set, a discharge pipe having a downwardly bent portion
15 screwed in the off-set of said bucket, off-sets

formed at the ends of the valve body, a resilient yoke pivoted to the inner face of one of the end walls of the casing and having off-sets to engage those of the valve body, and resilient means for holding the free end
20 of said yoke in position.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

HAROLD DOUGLAS SINGER.
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Witnesses:

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