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M. CONLEY.

STEAM OR HOT WATER TRAP.

APPLICATION FILED MAR. 15, 1900.

NO MODEL.

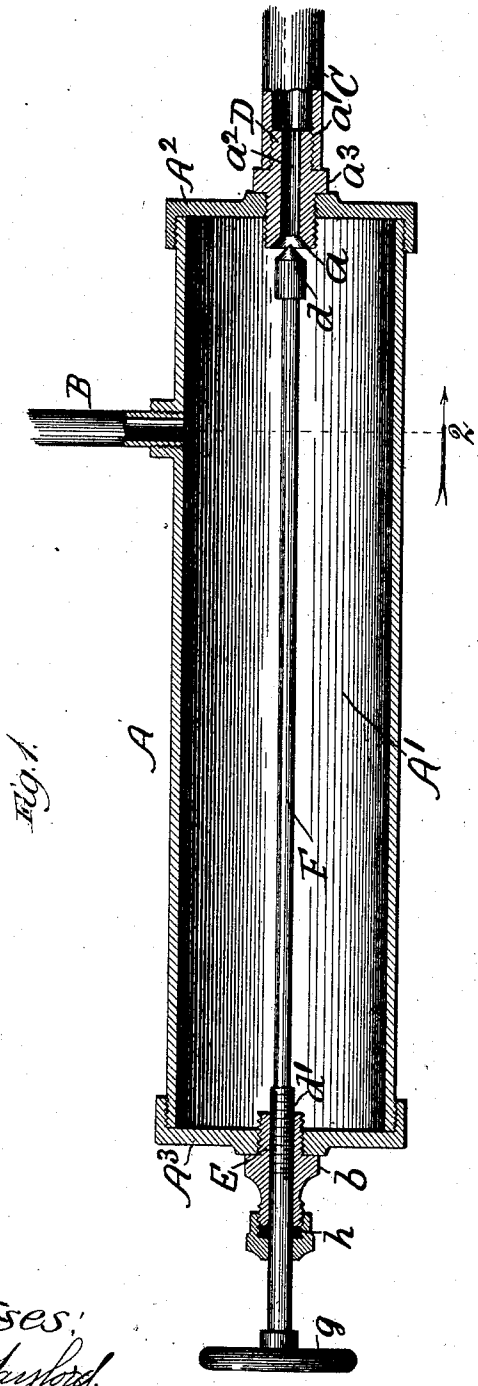


Fig. 1.

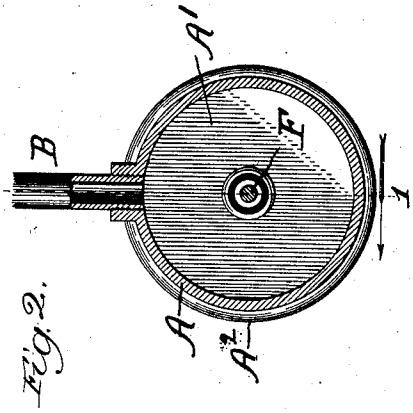


Fig. 2.

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UNITED STATES PATENT OFFICE.

MICHAEL CONLEY, OF CHICAGO, ILLINOIS.

STEAM OR HOT-WATER TRAP.

SPECIFICATION forming part of Letters Patent No. 719,568, dated February 3, 1903.

Application filed March 15, 1900. Serial No. 8,752. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL CONLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steam or Hot-Water Traps; and I do hereby 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 more especially of the automatic expansion type, and has for its object to provide a device of this character that is simple in construction, very sensitive in action, not liable to get out of order, and convenient of access in making repairs.

In the accompanying drawings, Figure 1 is a longitudinal section on line 1, Fig. 2, looking in the direction indicated by the arrow; and Fig. 2 is a transverse section on line 2, Fig. 1.

A represents the casing inclosing the trap or condensing-chamber A′, which is preferably of a cylindrical form, as shown. This trap-receptacle consists of a section of pipe of any suitable material and has its respective ends closed by removable companion cap ends A^2 and A^3. The dimensions of the casing shown are approximately three feet in length by three inches in diameter. These dimensions and proportions will of course be varied in accordance with the capacity of the heating apparatus or other connection from which the return or exhaust product is to be trapped and condensed.

B is the return or receiving inlet-pipe connecting with the trap-receptacle, and C the discharge or waste pipe therefrom.

A tubular nipple D is screw-threaded in the cap end A^2 of the casing and extends inside thereof, as shown. This nipple is provided on its inner end with a conical valve-seat *a* and is screw-threaded on the outer end, as at *a′*, for the connection of the discharge-pipe C. This nipple is also provided with a discharge-passage a^2 therethrough, which is proportionately of a small diameter with reference to the inlet-pipe. The enlarged square shoulder a^3 is an integral part of the nipple and provides for the engagement of an ordinary wrench in inserting or taking out the nipple. This shoulder part will abut and come to a stop against the exterior surface of the removable cap end A^2, and by interposing some suitable packing a steam-tight joint is formed.

A nipple E is inserted in the cap end A^3, closing the opposite end of the trap-casing. This nipple is provided with the stop-shoulder *b*, which comes to a bearing against the exterior surface of the cap end and forms a tight joint. An expansion valve-rod F is inserted through the nipple E and extends through the longitudinal center of the condensing-chamber. This rod is provided on its inner terminating end with a conical valve *d*, adapted to engage the valve-seat in the adjacent end of the nipple D. The valve-rod has a threaded engagement in the nipple E, as at *d′*, and provides for the longitudinal adjustment of the same, as may be necessary in practical working. A hand-wheel *g* is mounted on the outer extended end of the valve-rod for convenient manipulation of the same. The stuffing-box *h*, formed on the outer end of the nipple E, provides for the packing of the valve-rod. The valve-rod will be made of any suitable metal possessing proper expansion qualities, brass being preferred, however, as it is found by practical working to be rather the best adapted for the purpose in effecting the required automatic action governed by the increasing or diminishing temperature of the condensing-chamber.

When the trap is connected up for use, the valve should be adjusted with reference to its seat, so as to leave the required opening into the escape-passage. When the valve is once properly set, the expansion and contraction will increase or lessen the space between the valve and its seat by shortening or lengthening the rod, and thus automatically regulate the action.

One of the greatest objections to this class of devices has been the inconvenience of access in making repairs and especially with reference to the grinding in of the valve and seat when they become leaky.

By this arrangement access may be had to either end of the trap with facility, and by disconnecting the waste-pipe the nipple is easily removed and the valve-rod run through

far enough to be reached from the same end and the parts ground in with the least possible inconvenience.

The device as a whole is very simple, is cheaply made, and the different parts easily assembled or separated in cleaning and making repairs.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination in a steam-trap, of a casing having cap ends and provided with inlet and outlet passages, a tubular nipple D inserted in the outlet-cap end and provided with a valve-seat, a nipple E inserted in the opposite cap end and provided with a stop-shoulder *b*, a rod F inserted through the nipple E and having a valve mounted on the inner end thereof and positioned to control the discharge therethrough, and means for manually imparting a longitudinal movement to said rod, substantially as set forth.

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

MICHAEL CONLEY.

Witnesses:

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