No. 842,250. PATENTED JAN. 29, 1907.

H. SANDVOSS.

STEAM TRAP.

APPLICATION FILED FEB. 21, 1906.

Fig. 1.

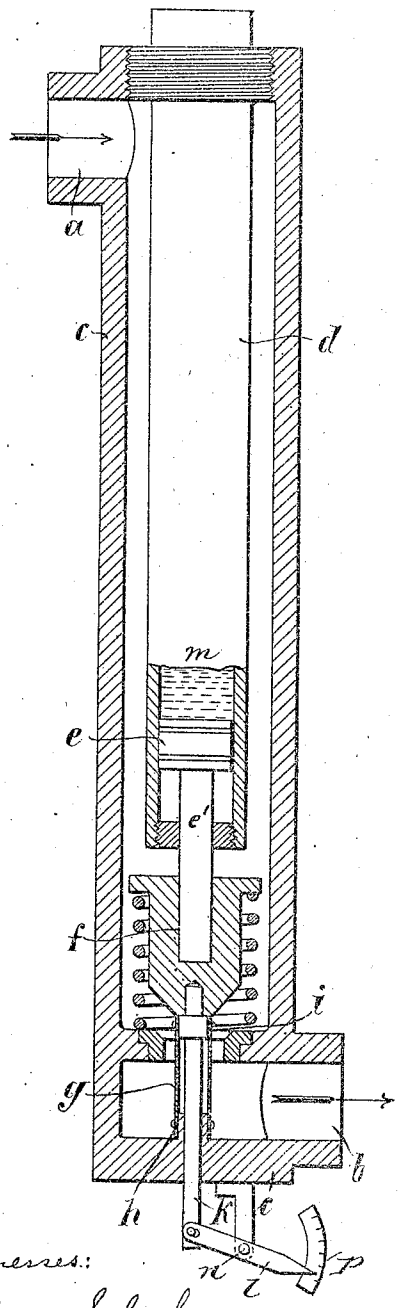
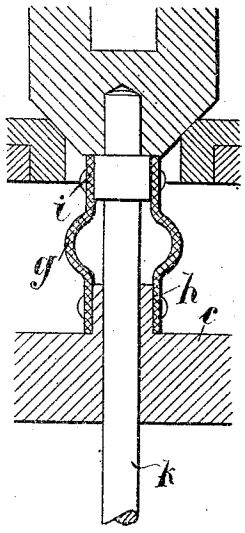


Fig. 2.



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UNITED STATES PATENT OFFICE.

HERMANN SANDVOSS, OF NEUSS, GERMANY.

STEAM-TRAP.

No. 842,250. Specification of Letters Patent. Patented Jan. 29, 1907.

Application filed February 21, 1906. Serial No. 302,181.

To all whom it may concern:

Be it known that I, HERMANN SANDVOSS, a citizen of Germany, residing at Neuss-on-the-Rhine, Germany, have invented new and useful Improvements in Steam-Traps, of which the following is a specification.

This invention relates to a steam-trap provided with means for indicating and regulating the discharge of the liquids of condensation in steam-pipes, heating apparatus, and similar devices.

In the accompanying drawings, Figure 1 is a longitudinal section of my improved steam-trap, showing the valve open; and Fig. 2, a detail of the lower part thereof, showing the valve closed.

The letter *c* indicates a tubular casing adapted to receive water of condensation at *a* and discharge the same at *b*. Within the casing is suspended a cylinder *d* of smaller diameter than the inner diameter of the casing. Cylinder *d* contains a piston *e*, the depending stem *e'* of which projects through the perforated bottom of the cylinder. The cylinder is filled above piston *e* with mercury or other suitable liquid *m*, which is of a nature to readily expand under the influence of heat. The stem *e'* acts upon a spring-influenced outlet-valve *f*, adapted to close against the water-outlet. From valve *f* depends a rod *k*, passing through an opening of casing *c* and adapted to actuate an alarm or indicator, which for the purposes of this invention are equivalents of each other. The indicator is shown to consist of a pointer *l*, turning on fulcrum *n* and pivotally connected to lower end of rod *k*, the pointer moving over scale *p*.

To permit an easy play of the valve and prevent the outflow of liquid along rod *k*, the latter is surrounded within casing *c* by a flexible hose secured to casing *c* at *h* and to the upper part of rod *k* at *i*. During the normal discharge of the condense-water valve *f* is opened, so that the water can escape through outlet *b*. If steam enters the casing, it expands liquid *m* to depress piston *e*, and thereby close valve *f* and operate the indicator.

I claim—

A steam-trap comprising a casing, an inclosed cylinder, a piston and a liquid within the cylinder, a valve controlled by the piston, a rod passing through the casing and connected to the valve, a flexible hose surrounding the rod, and an indicator operatively connected to the rod, substantially as specified.

Signed by me at Düsseldorf, Germany, this 2d day of February, 1906.

HERMANN SANDVOSS.

Witnesses:

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