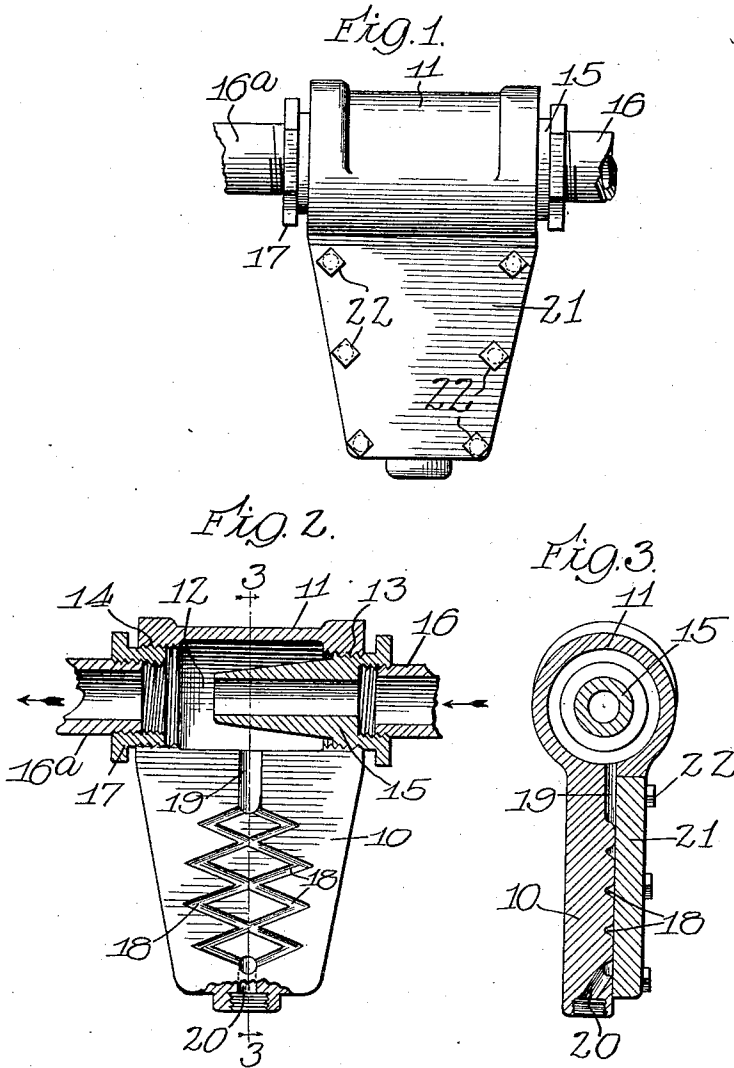


E. H. GOLD.
DRAINAGE FITTING.
APPLICATION FILED MAR. 2, 1912.

1,061,064.

Patented May 6, 1913.



Witnesses:
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UNITED STATES PATENT OFFICE.

EGBERT H. GOLD, OF CHICAGO, ILLINOIS.

DRAINAGE-FITTING.

1,061,064.

Specification of Letters Patent.

Patented May 6, 1913.

Application filed March 2, 1912. Serial No. 681,183.

To all whom it may concern:

Be it known that I, EGBERT H. GOLD, 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 Drainage-Fittings, of which the following is a specification.

My invention relates to drainage fittings for steam pipes, and the invention has for its object to provide a simple and economical device suitable for use with steam pressures which are not very great, for ridding the pipe in which the device is located of water of condensation without allowing the escape of steam in appreciable quantities, and the characteristic feature of the invention is that it provides a water outlet which is constantly open so as to do away with valves, thermostats and water seals which, in some circumstances, are undesirable for reasons that will be apparent.

My invention is illustrated, in a preferred embodiment, in the accompanying drawings, wherein—
Figure 1 is a side elevation of the device, Fig. 2, a longitudinal sectional elevation, and Fig. 3, a section taken on line 3—3 of Fig. 2, looking in the direction of the arrows.

Like letters of reference indicate like parts in the several figures of the drawing.

Referring to the drawing, 10 designates a plate formed at its upper end with the hollow cylindrical part 11 providing the chamber or steam passageway 12. The cylindrical member 11 has the threaded openings 13 and 14 at opposite ends. In the opening 13 is secured the nozzle 15 which preferably projects for some distance into the steam passageway 12. One section 16 of the steam pipe in which the device is employed, is threaded into the nozzle 15. The other section 16^a is secured to the fitting at the opposite side by means of the union 17.

The face of plate 10 is formed with two circuitous preferably zigzag grooves 18 which intersect at intervals. The plate is also formed with a port 19 leading from the passageway 12 to the upper end of the grooves 18 and with a port 20 which leads from the lower ends of the grooves to the bottom edge of the plate. A cover plate 21 is secured to the plate 10 by bolts 22.

I have found that a fitting like that above described will effectually retain the steam while permitting the outflow of water of

condensation even when the pressure is considerably above atmospheric pressure. The steam, it would seem, is baffled by the configuration of the passages 18.

The introduction of the steam into the steam passage or chamber 12 through the nozzle 15 (the direction of flow of the steam being indicated by the arrows in Fig. 2) apparently tends to exhaust the air in the chamber 12 on the principle of a jet exhauster and this results in air being sucked up through the water outlets 18, 19, 20, which counteracts the tendency of the steam to escape through the outside. It is possible that the escape of the steam is hindered by the velocity imparted to it by the restricted cross sectional area of the nozzle 15 compared with the cross sectional areas of the pipe sections 16, 16^a and by the fact that as the cross sectional area of the chamber or passageway 12 is considerable the pressure in said chamber is reduced. Whatever the causes may be, I have found that the device when constructed as shown, will operate to successfully rid a steam pipe of water of condensation without permitting the escape of steam even when the pressure is quite a good deal above atmospheric pressure.

I claim:

1. A drainage fitting for a steam pipe consisting of a plate formed with a hollow cylindrical part having openings at opposite ends, said plate being also formed with two zigzag grooves which intersect each other at intervals with a port leading from the interior of the cylinder to said grooves and with a port leading from the opposite ends of the grooves to the edge of the plate; a nozzle fitted into one of the openings in the cylindrical part and a cover plate secured to the first named plate over the grooved portion thereof.

2. A drainage fitting for a steam system formed with a steam passageway there-through and with a nozzle projecting thereinto from the inlet end, said fitting being formed with a water outlet communicating with the steam passageway comprising two circuitous channels which intersect at intervals.

3. A drainage fitting for steam pipes formed with a steam passageway of greater cross sectional area than the cross sectional area of the sections of pipe connected thereby and provided with a nozzle extending into said passageway pointing in the direc-

tion of the flow of the steam, the cross sectional area of which is smaller than that of the pipe sections, said fitting being formed with a water outlet, the cross sectional area
5 of which is small relative to that of the said pipe sections.

4. A drainage fitting adapted to be interposed in a steam conduit formed with a steam passageway therethrough and with a
10 water outlet leading from the bottom of said

passageway comprising circuitous channels which intersect at intervals, and means for directing the steam through the passageway in a stream of relatively small cross sectional area in comparison to the cross section of the steam passageway. 15

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."