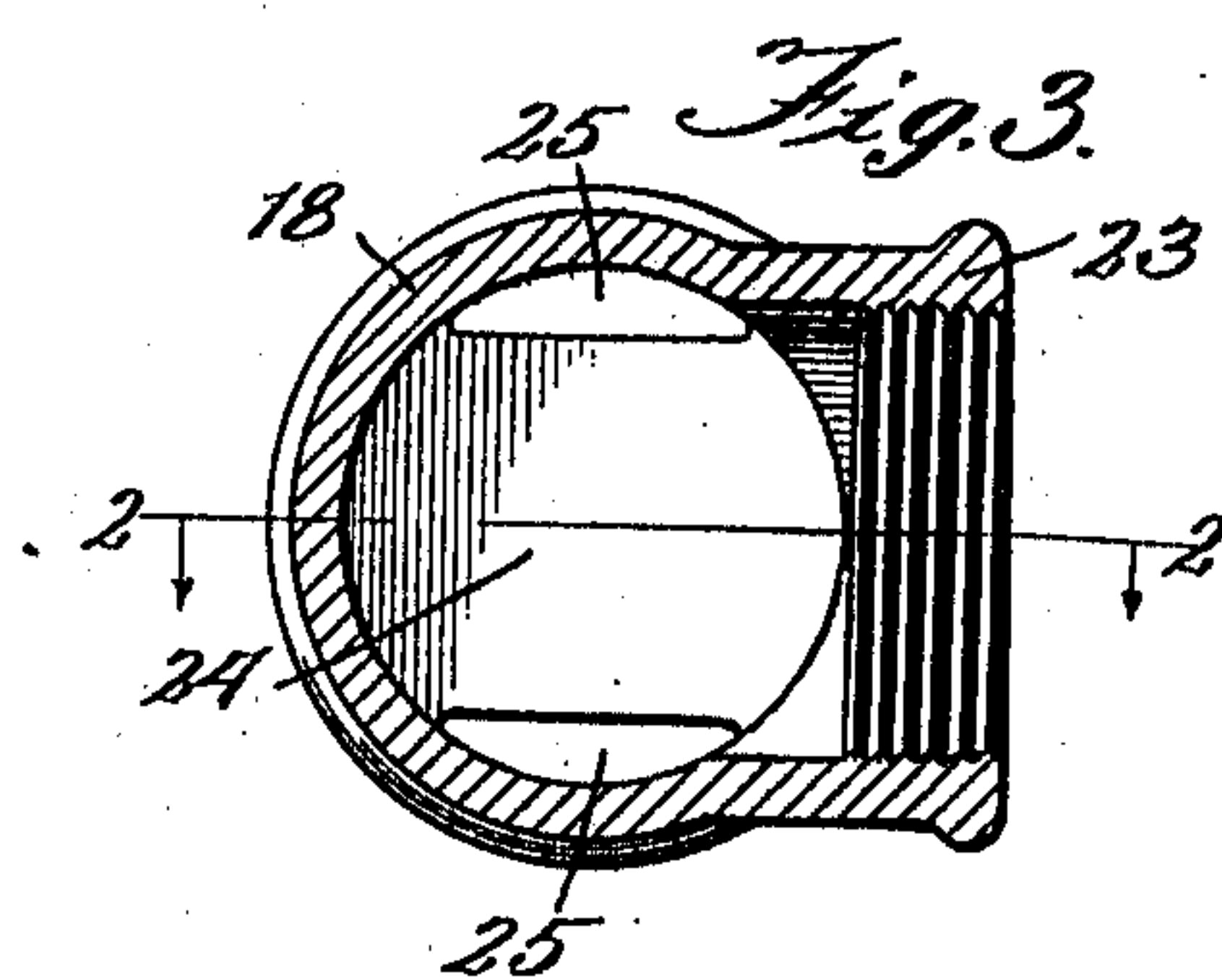
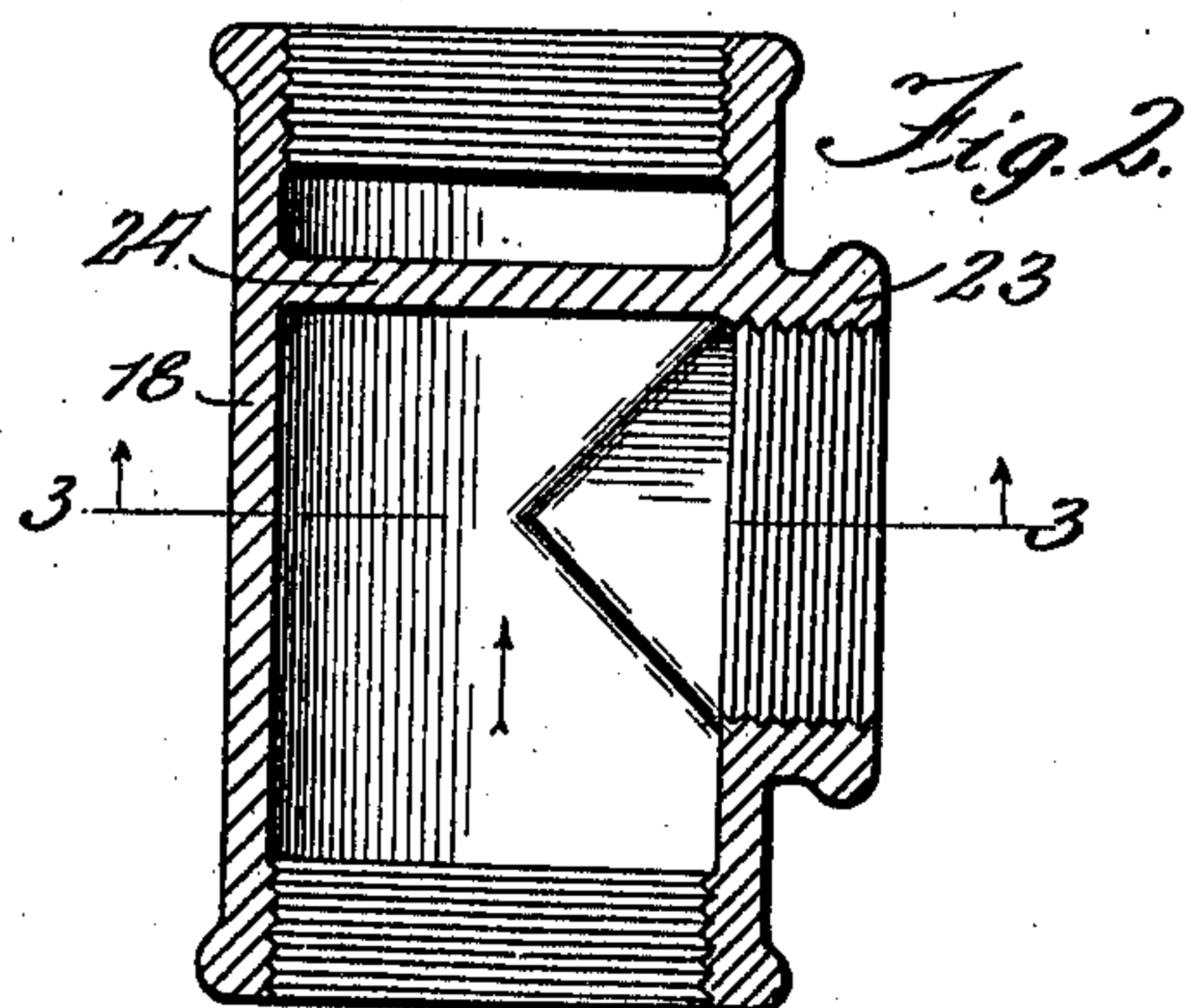
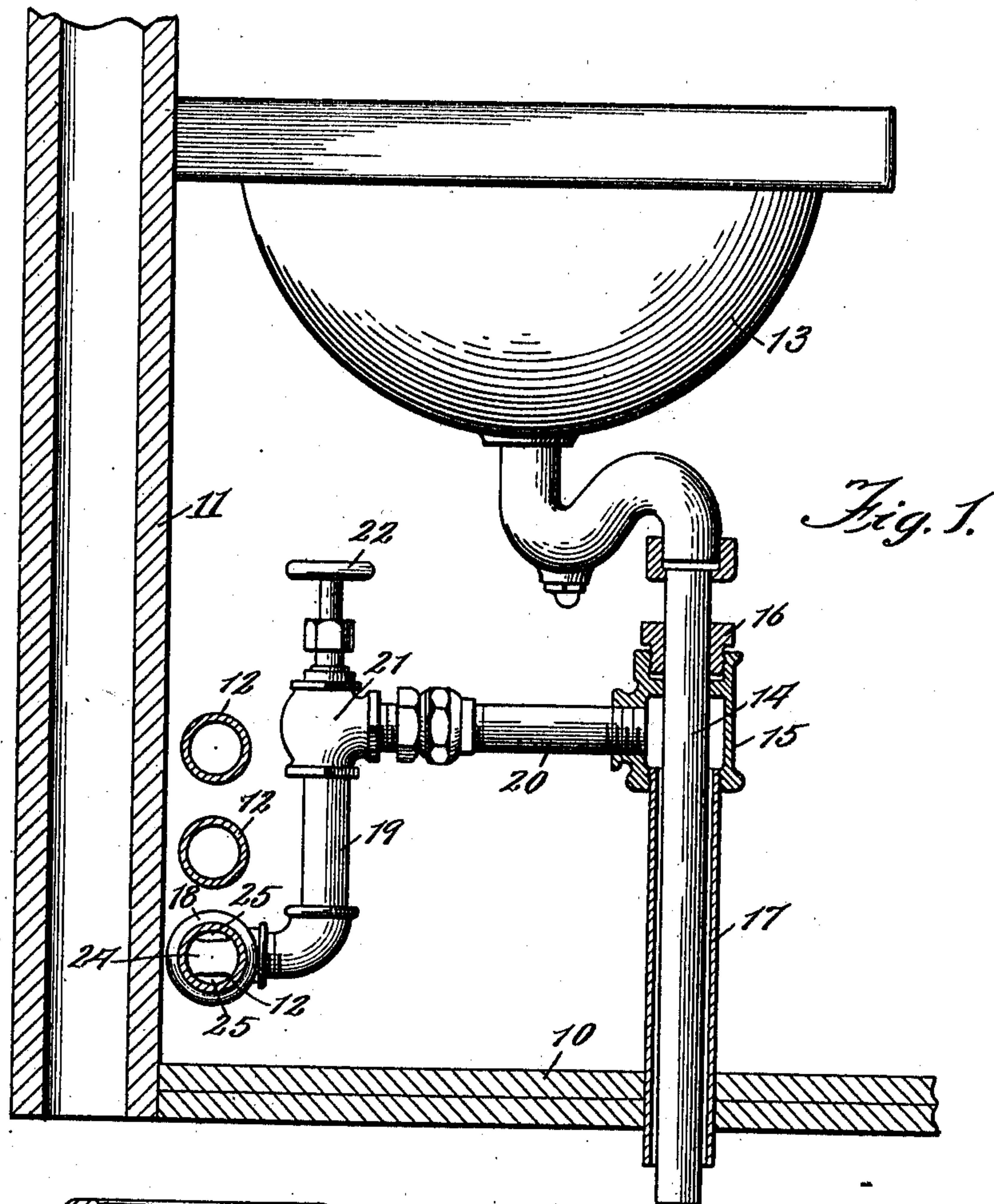


E. H. GOLD.
THAWING DEVICE FOR DRIP PIPES.
APPLICATION FILED MAY 18, 1910.

978,150.

Patented Dec. 13, 1910.



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UNITED STATES PATENT OFFICE.

EGBERT H. GOLD, OF CHICAGO, ILLINOIS.

THAWING DEVICE FOR DRIP-PIPES.

978,150.

Specification of Letters Patent.

Patented Dec. 13, 1910.

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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 Thawing Devices for Drip-Pipes, of which the following is a specification.

My invention relates to a thawing device for drip pipes or other pipes, conduits, fixtures or parts which are located so as to be liable to become frozen up or to which it may be desirable to apply steam for the purpose of thawing the same out, keeping them from freezing or for any other purpose; the device being particularly designed for use on a railway car in connection with a drain or drip pipe which extends through the floor of the car.

The invention has for its object to provide certain new and improved constructions and arrangements in a device of this character which will be hereinafter described and claimed.

More specifically, one of the primary objects of the invention is to provide a thawing device which may be used with a body of steam at relatively low pressure, as for example, which can be used in connection with the steam coil of an atmospheric pressure heating system.

The device is shown in a preferred embodiment as being employed for the protection of the drip pipe of a wash basin such as is used in railway cars, although, obviously the invention is capable of use in other and very different situations.

In the drawings Figure 1 is a side elevation of a wash basin and drip pipe with the thawing device of my invention attached to the latter; certain parts of the attachment being shown in section, as are also the flooring and side of the car and the heating coils; Fig. 2 is a longitudinal section taken through a preferred form of fitting used in carrying out my invention, being a section taken on line 2—2 of Fig. 3 and Fig. 3 is a sectional view taken on line 3—3 of Fig. 2.

Like characters of reference indicate like parts in the several figures of the drawings.

Referring to the drawings, 10 designates the flooring of the car, 11 the side wall thereof and 12 the pipe coils used for heating the

car. These pipes carry steam, it will be supposed, at a relatively low pressure, for example, at a pressure which is approximately that of the atmosphere.

The wash basin 13 is provided with a drip pipe 14 which extends through the floor of the car. In very cold weather this drip pipe is likely to become frozen up, particularly if the outlet from the basin is for any reason clogged so that the outflow of water is gradual. To prevent this or to thaw the pipe out when it has become frozen, I surround it with a steam jacket consisting, as shown, of the fitting 15, preferably provided with packing nut 16 and of the sleeve 17, the latter preferably projecting through the flooring of the car but terminating a little above the end of the drip pipe 14 as shown. A fitting 18 is interposed in one of the pipes 12, from which a pipe leads to the fitting 15 of the steam jacket. Preferably, this pipe consists of the sections 19 and 20, between which is interposed a valve, for example, an ordinary globe valve, the casing of which is indicated by numeral 21 and its hand wheel by 22.

While the arrangement, so far as the same has been described, would be operative if there were any considerable pressure in the heating pipes 12, it obviously will not operate with the steam in the radiating pipes at a pressure little, if any, above atmospheric pressure, since there is nothing to compel the steam to flow from the comparatively warm circulating pipes 12 into the cold jacket 15, 17. In any event, it would not be possible with a low pressure of steam in the radiating coils to obtain a sufficient amount of steam in the jacket to thaw out the drip pipe 14, if it were solidly frozen. I, therefore, provide the heating pipe from which pipe 19 leads, with what I have termed a dam, the dam being located just beyond the pipe 19 (with relation to the direction of flow of the steam as shown by the arrow in Fig. 2) and being constructed so as to impede the flow of steam pressure in the heating pipe at this point, without, of course, entirely closing the passage way through the coil. For example, the fitting 18 may be constructed at one side of the nipple 23 into which pipe 19 is screwed, with a partition 24 which extends across the

fitting, but so as to leave openings 25, 25 at the top and bottom. It is, of course, necessary to have an opening at the bottom of the partition for drainage. It is preferable to have one at the other side also so that there shall be no rights and lefts to the fitting. Therefore, when the valve between pipes 19 and 20 is opened, the increase of pressure due to the dam will cause steam to flow into the steam jacket 15, 17 so as to thaw out the drip pipe 14.

The sleeve 17 is preferably made to terminate above the end of drip pipe 14 because, if this were not the case, the formation of an icicle at the end of the drip would seal the steam jacket with the result that the steam could not escape therefrom but would condense, fill the steam jacket with water and so prevent the direct contact of any more steam to the drip pipe.

While I have illustrated my invention in connection with the drip pipe of a wash basin, it will be understood that the device might be used in other and very different situations where similar conditions prevail. The particular mechanical embodiment which is shown and described might also be varied without departure from the invention. Therefore, I do not limit myself to the forms, constructions and exact arrangement of parts shown.

I claim:

1. The combination with a drip pipe, of a conduit carrying a supply of steam, means constituting a passage-way for steam from said conduit to said drip pipe, and a dam in said conduit at a point beyond, relative to the flow of the steam therethrough, the opening from said conduit of said passageway.

2. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, and a dam in said conduit at a point beyond, relative to the flow of the steam therethrough, the opening from said conduit of said passageway.

3. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, a dam in said conduit, and a valve in said connecting pipe.

4. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a connecting pipe leading from said conduit to said jacket, and a dam in said conduit, said jacket terminating above the end of said drip pipe for the purpose specified.

5. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a fitting in said

conduit, a connecting pipe leading from said fitting to said jacket, and a partition which extends across said fitting but does not entirely close the passage-way therethrough.

6. The combination with a drip pipe, of a conduit carrying a supply of steam, a jacket surrounding said drip pipe, a fitting in said conduit, a connecting pipe leading from said fitting to said jacket, a partition which extends across said fitting but does not entirely close the passage-way therethrough, and a valve in said connecting pipe.

7. The combination with a railway car, of a drip pipe which extends through the floor of said car, a radiator in said car in which steam is maintained at low pressure, a jacket surrounding said drip pipe, a connecting pipe leading from said radiator to said jacket, and a dam in said radiator at a point in the fluid passageway of said radiator beyond, relative to the flow of steam therethrough, said connecting pipe.

8. The combination with a railway car, of a drip pipe extending through the floor of said car, a jacket surrounding said drip pipe and extending through the floor of a car but terminating above the end of the drip pipe, a radiator in said car in which steam is maintained at a low pressure, a connecting pipe from said radiator to said steam jacket, and a dam in said radiator at a point in the fluid passageway of said radiator beyond, relative to the flow of steam therethrough, said connecting pipe.

9. The combination with a conduit carrying a supply of steam at relatively low pressure, of a thawing device comprising means constituting a passage-way from said conduit to the device which is to be thawed, and a dam in said conduit at a point beyond, relative to the flow of steam therethrough, the opening of said passageway therefrom.

10. The combination with a conduit carrying a supply of steam at relatively low pressure, of a thawing device comprising a jacket which surrounds the device to be thawed, a connecting pipe leading from said conduit to said jacket, and a dam in said conduit at a point beyond, relative to the flow of steam therethrough, the opening of said connecting pipe therefrom.

11. The combination with a conduit carrying a supply of steam at relatively low pressure, of a thawing device comprising a jacket which surrounds the device to be thawed, a connecting pipe leading from said conduit to said jacket, a dam in said conduit, and a valve in said connecting pipe.

12. The combination with a conduit carrying a supply of steam at relatively low pressure, of a thawing device comprising a fitting in said conduit having a partition which extends across without closing the

passage-way through said fitting, and a pipe which leads from said fitting to the device to be thawed.

13. The combination with a conduit carrying a supply of steam at relatively low pressure, of a thawing device comprising a fitting in said conduit having a partition which extends across without closing the passageway through said fitting, and a pipe

which leads from said fitting to the device to be thawed, said partition having an opening at the top and at the bottom for the purpose described.

EGBERT H. GOLD.

Witnesses:

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