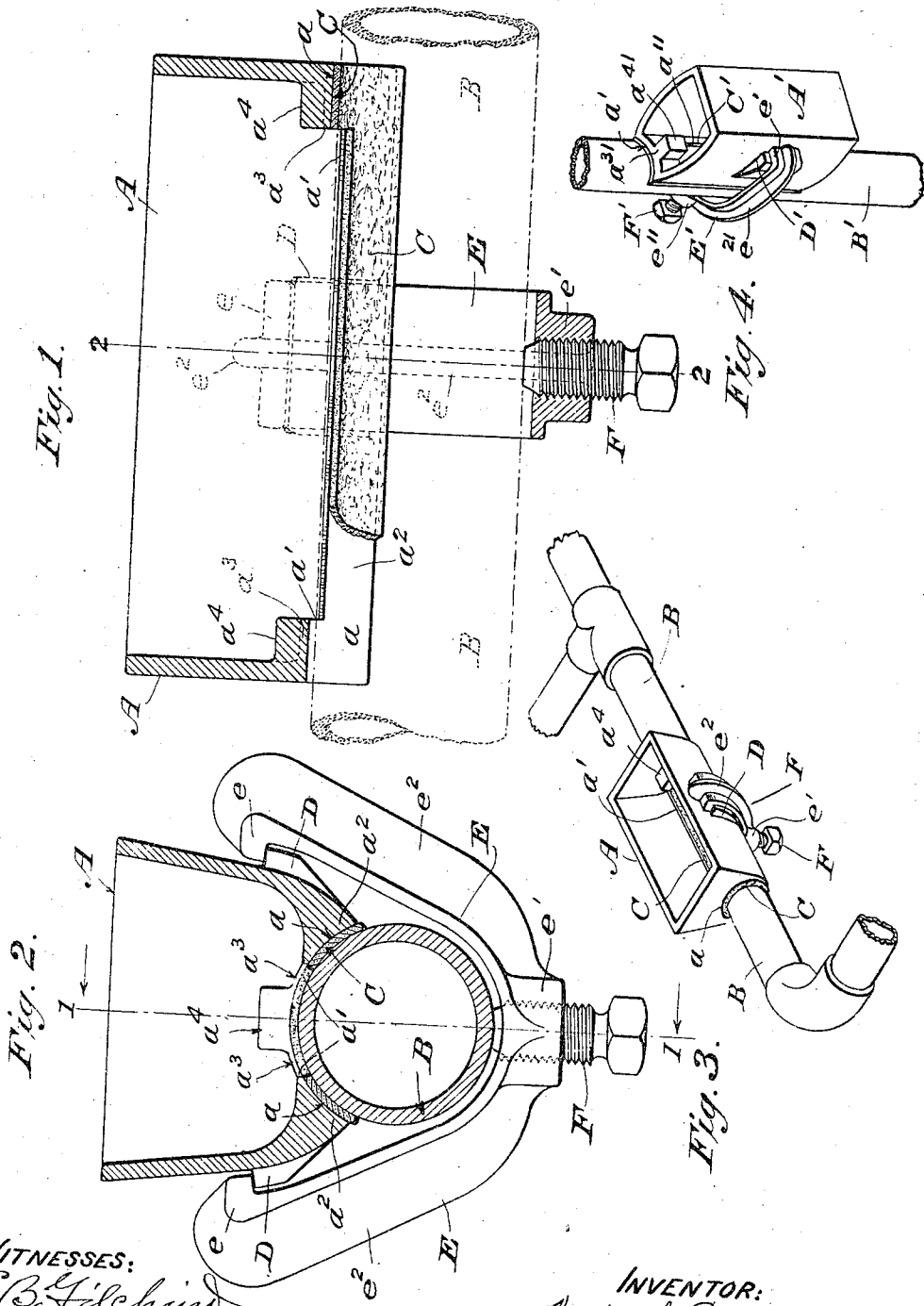


996,047.

Patented June 27, 1911.



WITNESSES:
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UNITED STATES PATENT OFFICE.

WARWICK G. BATE, OF CLEVELAND, OHIO.

EVAPORATING VESSEL.

996,047.

Specification of Letters Patent. Patented June 27, 1911.

Application filed November 14, 1910. Serial No. 592,204.

To all whom it may concern:

Be it known that I, WARWICK GUY BATE, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Evaporating Vessels, of which the following is a full, clear, and exact description.

This invention relates to evaporating vessels adapted for use in connection with pipe systems of heating by steam, hot water, etc., such as are in common use, particularly in hot houses or places of like nature where the humidity of the air or the diffusion of chemicals, etc., may be effectively carried on and controlled through evaporation.

The invention consists of a vessel adapted to be clamped to a heating pipe at any desired place in the length thereof, one side being recessed to snugly fit the exterior surface of the pipe and this side provided with a longitudinal slot or aperture through which the surface of the heating pipe is exposed to the interior of the vessel, the surfaces of which adjacent to the aperture conform closely to the periphery of the heating pipe, due allowance being made for the preferable use of sheet asbestos or other suitable packing material to form a tight joint all around the aperture.

The invention further consists of a detachable device for clamping the vessel to the heating pipe of such nature as to admit of the attachment or removal of the vessel to any existing pipe section, of suitable length, without its having to be slipped over or off the end of the pipe section, and regardless of the presence of other fittings or connections affecting the longitudinal surface of the pipe. The preferred form of this clamping device consists of lugs on the sides of the vessel, engaged by hooks on the free ends of a U-shaped clamping yoke which passes around the pipe and is provided with a set screw or other suitable device, at its closed central portion, which bears against the heating pipe and draws the vessel into close contact therewith.

Many different kinds of evaporating vessels are now in use to effect the purpose of this invention, but all have more or less objectionable features which it is sought in this to overcome. For instance there is one form in which the vessel and pipe are cast integral. This is very effective in permitting the contents of the vessel to come into

direct contact with the heating surface of the pipe, but it has the disadvantage of having to be built directly into the pipe system and when so placed may not readily be changed to another position, however desirable, without expensive alterations of the system and the discontinuance of its use during such alterations. Another form of vessel is removably connected to the pipes, but it has a closed or tight bottom which prevents direct contact of the contents of the vessel with the surface of the pipe and is a less effective evaporator because of the interposition of an additional thickness of metal between said contents and the surface of the heating pipe.

In the accompanying drawing which illustrates a general form and relative assemblage of the details of the invention preferred at this time, Figure 1 is a vertical longitudinal section through the evaporating vessel and clamping device on the line 1—1 of Fig. 1, the heating pipe being shown by dotted lines. Fig. 2 is a view of the same partly in vertical transverse section on the line 2—2 of Fig. 1, the clamping yoke being shown in full side elevation. Fig. 3 is a perspective view of the evaporating vessel attached to a line of heating pipe. Fig. 4 illustrates a modified form of the invention.

A is the evaporating vessel, preferably rectangular, and of cast metal, with a rounded depression along one side to fit snugly upon the surface of a heating pipe B, and having a longitudinal aperture a' through the depressed side to expose the surface of said pipe inside the vessel. The side walls are thickened along the edges of the aperture to form broad bearing surfaces a^2 and the inner end flanges a^3 are reinforced by lugs a^4 at the ends of the aperture.

C is a sheet of asbestos cardboard or other suitable packing used between the vessel's base flanges and the pipe to form a tight joint, this packing being longitudinally apertured to correspond with the open side of the vessel next the pipe.

D, D are lugs on the sides of the vessel, and E the clamping yoke engaging said lugs, with the hooks e at its free ends. This yoke has a central boss e' and at each side of this boss it is reinforced by ribs e^2 .

F is a clamping screw which passing through the boss e' and bearing against the pipe holds the vessel securely in position thereon. The preferable form of the vessel

is that adapted for horizontal pipes, as shown in Figs. 1, 2 and 3, and previously described, but it may also be adapted for vertical or otherwise positioned pipes, as illustrated by the modified form of Fig. 4.

Having thus described my invention, what I claim is:

1. A vessel adapted to be secured to the side of a heating pipe and provided with an aperture through that side adjacent to said pipe whereby the surface of the pipe is exposed inside the vessel.
2. A vessel adapted to be secured to the side of a heating pipe having a longitudinal recess adapted to snugly embrace the surface of said pipe, and an aperture through said recessed side whereby the surface of the pipe is exposed inside the vessel.
3. The combination of a vessel adapted to fit against the surface of a heating pipe and having an aperture through its side adjacent to said pipe whereby the surface of the pipe is exposed within the vessel, and means for detachably securing the vessel to the pipe.
4. The combination of a vessel adapted to fit against the surface of a heating pipe and having projecting lugs formed on the sides thereof, with a U-shaped clamping yoke adapted to embrace the pipe, and provided with hooks at its free ends to engage the lugs on the sides of the vessel, with means for tightening the clamping yoke to draw the vessel into close contact with the pipe.
5. The combination of a vessel adapted to fit against the surface of a heating pipe and having an aperture through the side adjacent to said pipe, projecting lugs on the sides of the vessel, and a clamping yoke passing

around the opposite side of the pipe and having hooks which engage the lugs on the vessel, with means for regulating the clamping pressure of the yoke on the vessel and heating pipe.

6. The combination of a vessel recessed at one side to fit against the surface of a heating pipe, and apertured through said side, projecting lugs on the sides of the vessel, and a U-shaped clamping yoke passing around the opposite side of said pipe and having hooks at its free extremities which engage the lugs on the vessel and provided with a set screw which bears on said pipe.

7. The combination of a vessel adapted to fit against the surface of a heating pipe, with a U-shaped yoke adapted to pass around the opposite side of said pipe and engage the vessel with its free ends, with means whereby pressure may be exerted by the yoke upon the pipe to clamp the vessel and pipe securely together.

8. The combination of a heating pipe, a vessel recessed at one side to fit upon the surface of the heating pipe, and apertured through said side whereby the surface of said pipe is exposed within the vessel, a strip of packing between the abutting edges of the vessel and said pipe apertured to correspond with the side of the vessel, with means for detachably clamping the vessel and pipe securely upon the packing strip.

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

WARWICK G. BATE.

Witnesses:

E. L. THURSTON,
H. R. SULLIVAN.