Nov. 22, 1938. P. HULTGREN 2,137,804

NIPPLE ORIFICE

Filed March 8, 1937

Fig. 1

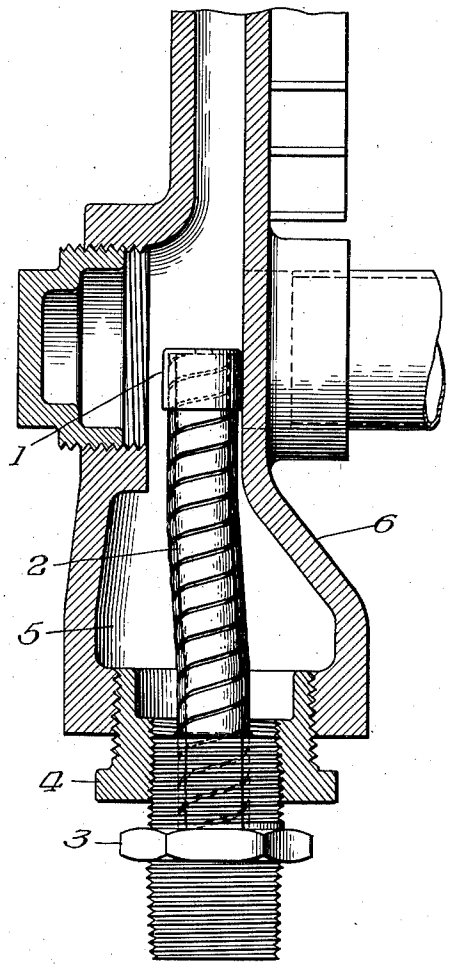
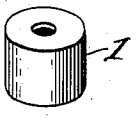


Fig. 2



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NIPPLE ORIFICE

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2 Claims. (Cl. 237—67)

This invention relates to nipple orifice elements for use in reducing the flow of steam, for example, to steam heating appliances.

The purpose of this invention is to provide a flexible orifice element for convenience of application thereof to irregular hollow forms such as some radiators wherein the casting of the first unit of the radiator is of such form that a straight, rigid orifice tube cannot be conveniently applied.

The object of the invention is accomplished by means of construction as illustrated in the drawing.

Figure 1 of the drawing shows in elevation the orifice element and in section a fragment of a radiator to which the element is attached.

Figure 2 is a perspective view of a perforated flow-restricting cap used in the construction illustrated by Fig. 1.

In steam heating systems, for the purpose of reducing the flow of steam to one radiator relative to others resort is frequently made to various types of orifice elements, in addition to other flow or temperature regulating means. For example, these devices are used when it is desired for some reason to reduce the heat output of some particular radiator or perhaps sometimes to increase its output, in case there is an orifice element therein which unduly restricts the flow of steam to the radiator. The nipple or tubular type of orifice element is particularly desirable when the steam supply enters at the bottom of the radiator and it is necessary to have the orifice above the level of water which may collect where the steam conduit is connected with the radiator. Some radiator castings are of such irregular form that it is not practical to use a rigid tube carried by screw fittings. In order to overcome this difficulty and to provide an orifice element which may be applied with ease, applicant has provided the one herein described.

The orifice element includes a support in the form of a threaded nipple for fitting a radiator bushing. Sweated to the inside of the nipple is a flexible metallic tube, the free end of which has sweated thereover an orifice cap. These caps are made with numerous standard sizes of outlet perforations so as to meet any requirement with reference to steam pressure and the desired restricted flow.

As shown in the drawing, the three parts of the orifice element are a perforated cap 1, flexible steam tube 2, and the threaded fitting 3, in which one end of the tube is sweated or otherwise rigidly secured. The cap 1 is also permanently sweated into place.

When the element is applied to an irregular form such as the radiator section illustrated, the tube may flex when the fitting 3 with which it is rigidly connected is turned into the bushing 4. Replacements of the orifice element may likewise be made without difficulty. This construction also brings the orifice above the level of water which may collect in the space 5 of the radiator casting 6.

I claim:

1. A steam radiator having a steam inlet opening with an orifice element secured to the radiator at said opening and comprising a hollow supporting and attaching member having extending therefrom a flexible tubular member, and carrying at its end away from the support a perforated flow restricting element.

2. A steam radiator having a steam inlet opening at its bottom and a tubular flexible flow restricting means attached to the radiator at said opening and extending upwardly therefrom to reach above a normal condensate level in the radiator, and constructed to include a definite flow restriction means with an opening therein of less diameter than the internal diameter of the flexible tube.

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