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FUSIBLE PLUG FOR BOILERS

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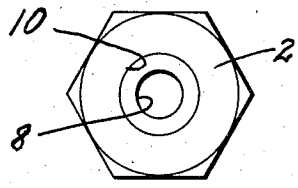


FIG. 1

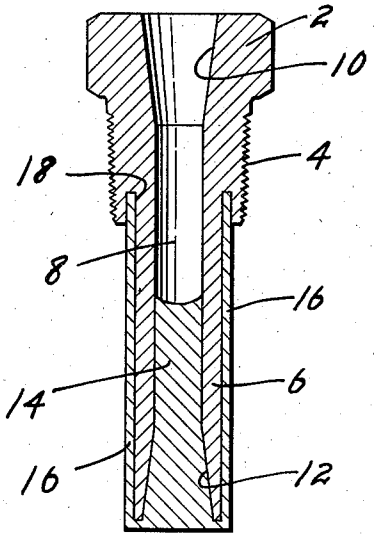


FIG. 2

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FUSIBLE PLUG FOR BOILERS

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3 Claims. (Cl. 122—504.1)

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This invention relates to improvements in a fusible plug for use in boilers, and has for its general object the provision of such a plug which will not become corroded along the part of the plug adapted to be extended within a boiler.

A more specific object of the invention is to provide a fusible plug having an internal core of suitable fusible, non-corrosive or corrosion resistant material of desired mechanical strength, which core has a part extending around the outer surface of the elongated body portion of the plug and to a point beneath the screw-threads provided in the head of the plug, to protect the body from corrosion.

A still further object is to provide a core in the central bore of the plug, which core is adapted also to form a sheathing around the elongated body portion of the said plug.

In the accompanying drawings:

Fig. 1 is a plan view of my improved fusible plug; and

Fig. 2 is a longitudinal cross-section through the plug.

Fusible plugs have been utilized in boilers and the like primarily to provide a plug which will permit excess pressure to escape from the boiler if conditions under which the boiler is being used are such that excess heat is produced, resulting in internal pressure being greater than the boiler per se is adapted to withstand safely.

My invention is an improvement in such safety or fusible plugs, and is provided with a conventional head 2, which in the drawings is disclosed as being a conventional hexagonal shape, so that it can be conveniently screwed into position by use of a conventional wrench. The head 2 is provided with conventional screw-threads 4, which are adapted to be screwed into a drilled and tapped hole in the wall or crown sheet of the boiler into which the plug is to be inserted. The plug 2 is provided with an elongated body 6, which is a continuation, either integral or otherwise, of the head 2 and extends any desired and substantial distance beyond the screw-threads 4 of the plug. A central bore 8 is provided through the head 2 and the elongated body 6, and is enlarged at its ends within the head and at the end of the elongated body remote from the head, with tapering side walls 10 and 12, respectively.

In the head 2 and beneath the screw-threads 4, I provide an annular undercut recess which is adapted to underlie the end portion of the screw-threads 4 extending out from the main portion of the head 2.

With the plug thus prepared, the central bore

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8 is filled with a suitable fusible material 14, such as lead or alloy which is non-corrosive or corrosion resistant and of a mechanical strength low enough for its intended purpose, and the same fusible material also extends around the ends of the elongated body portion remote from the head 2 to form a sheathing 16 completely covering the outer surface of the elongated body 6. This sheathing 16 extends into the annular undercut recess 18 cut in the head 2 under the screw-threads 4.

In this manner, I have been able to provide a highly satisfactory fusible plug having a central bore provided with enlarged tapering end portions, and which bore may be filled with a suitable lead or alloy or other metal to fill entirely the end of the central bore remote from the head and extend circumferentially around the elongated tube portion of the plug and into an annular undercut recess extending beneath the screw-threads of the fusible plug. The purpose of this sheathing 16 around the elongated tubular portion of the plug is to prevent corrosion of the main metal of which the plug is made, and, therefore, is adapted to extend to beneath the screw-threads of the plug, because it has been learned from experience that in the usual fusible plug, corrosion is greatest immediately adjacent the last screw-threads, and that plugs constructed as just described very effectively avoid such corrosion.

In this manner, I have been able to provide a fusible boiler plug which is durable, but which may be melted or blown out under conditions of excess heat or pressure, but which will not readily deteriorate from normal corrosion invariably resulting in a boiler.

I claim:

1. A fusible plug including a screw-threaded head, an elongated body extending from said head beyond the screw-threads thereof, said head and body being non-fusible, a central bore through the said head and body, and a fusible core within the said bore and forming a sheathing around the said body, the said sheathing terminating in an annular undercut recess beneath at least some of the screw-threads of the said head.

2. A fusible plug including a screw-threaded head, an elongated body integral with said head and extending past the said screw-threads, said head and body being non-fusible, a central bore through the said head and body, and a fusible core filling a substantial portion of said bore, covering the end of the elongated body remote from the head, the outer surface of said elongated body, terminating in an annular undercut recess

beneath at least a portion of the said screw-threads.

3. A fusible plug including a screw-threaded head, an elongated body extending from the screw-threaded portion of said head, said head and body being non-fusible, a central bore extending through the said head and body, the said bore having substantially parallel side walls in the area where the head and elongated body are integrally attached together, and having outwardly flaring side walls extending to the outer face of the head and to the end of the body remote from the head, and a fusible core of a corrosion resistant material closing the end of said bore remote from said head and having an annular sheathing part covering and protecting the outer surface of said body and terminating in a position underlying a portion of said screw-threads.

LOUIS C. CLAIR.

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