UNITED STATES PATENT OFFICE

2,042,309

PLUGGED TELTTALE HOLE

Sam Fennelle Henry, Guntersville, Ala.

Application October 26, 1934, Serial No. 750,160

1 Claim. (Cl. 137—77)

The herewith disclosed invention relates to plugged tell tale holes, and has for its principal object a means whereby excessive corrosion on the inside of a boiler or other pressure vessel can be instantly detected.

It is common practice in installations, where pressure vessels of any character are used, to make a periodic inspection of such vessels. At such periodic inspections it is customary to shut down the boiler or other pressure vessel and to enter said vessel through a manhole or other opening and determine, either by visual inspection, by tapping with a hammer, or by other means, at what point the said vessel has corroded, or otherwise deteriorated, and to what extent, and particularly to what depth, the said corrosion and/or deterioration has extended. It will be obvious from the preceding discussion that such means of inspection are slow, costly, and hazardous to the inspectors, and in many other respects inefficient. It is the purpose of my invention to eliminate the difficulties above referred to, by providing a plugged tell tale hole complete with a petcock, valve, or other device, such that when corrosion and/or deterioration has extended to, or beyond, a specified depth in the wall of the pressure vessel, that the defective condition, at the point in question, may be determined by simply opening the said petcock or valve and noting whether or not any of the fluid or gaseous contents of the vessel escapes, drips, or are otherwise expelled therefrom. It will be obvious from the further description of my device that in case deterioration and/or corrosion has occurred at any point to such a depth that the wall of the boiler or other pressure vessel is weakened thereby, that such condition will be instantly detected when the valve in the plugged tell tale hole, located at the affected point, is opened, or in case only a plug is used, when the plug is removed.

It should be noted that individuals familiar with the operation and inspection of boilers and other pressure vessels know the points at which corrosion and/or deterioration are likely to occur and as a result can so adapt, locate, and use my invention, that visual inspection of the interior of a boiler or other pressure vessel will no longer be necessary except after much longer periods of use than is now the practice.

In the accompanying drawing in which like characters of reference refer to like parts throughout the several views:

Fig. 1 is an oblique view of a boiler or other pressure vessel.
inspection would be made by simply removing the plug.

It should be noted that the hole 5 may be drilled at any suitable location in the boiler or pressure vessel 1. Said location varying with different types of pressure vessels and with different operating conditions, and also with the character of the fluid contents which might be contained in said pressure vessels. In certain cases it will be found expedient to locate the aforementioned tell tale holes at or near the bottom of the vessels, and below the normal surface level of the liquid contents, while in other cases it will be more expedient to locate the device higher up in the vessel, and above the surface level of the liquid contents. In the former case when excessive corrosion occurs the dangerous condition will be indicated by a fluid flow when the valve 8 is opened, or the plug 7 removed, and in the latter case gas or steam will escape when the valve is open thus indicating that the vessel has been corroded away, at the point in question, until the hole 8 is in direct connection with the inside of the vessel. It should be noted that in the claim as appended hereto the invention is neither limited in its use to any particular type of vessel, nor to any specified location. Neither do the contents, nor the pressure, nor the lack of pressure in a vessel in any way affect the breadth of the invention as covered by the attached claim.

Having thus described my invention what I claim and desire to secure by Letters Patent is—

A closed unlined pressure vessel of unitary wall construction having an opening therein extending partially through the same from the exterior thereof, means for reinforcing the wall of said vessel at the point adjacent the opening 10 aforementioned, said means comprising a patch with a tapped hole formed therethrough, and welded to said vessel at a point such that the hole through the patch and the opening in the pressure vessel are in substantial alignment, a nipple inserted in said tapped hole and a manually operable valve inserted in said nipple so that when the interior surface of the vessel adjacent the aforementioned reinforcing patch has worn or corroded away to a predetermined extent the pressure in the vessel will cause fluid to escape into the aforementioned opening and thus through said nipple and into said valve, thereby providing means for indicating upon a subsequent opening of said valve the presence of a dangerous condition.

SAM FENNELLE HENRY.