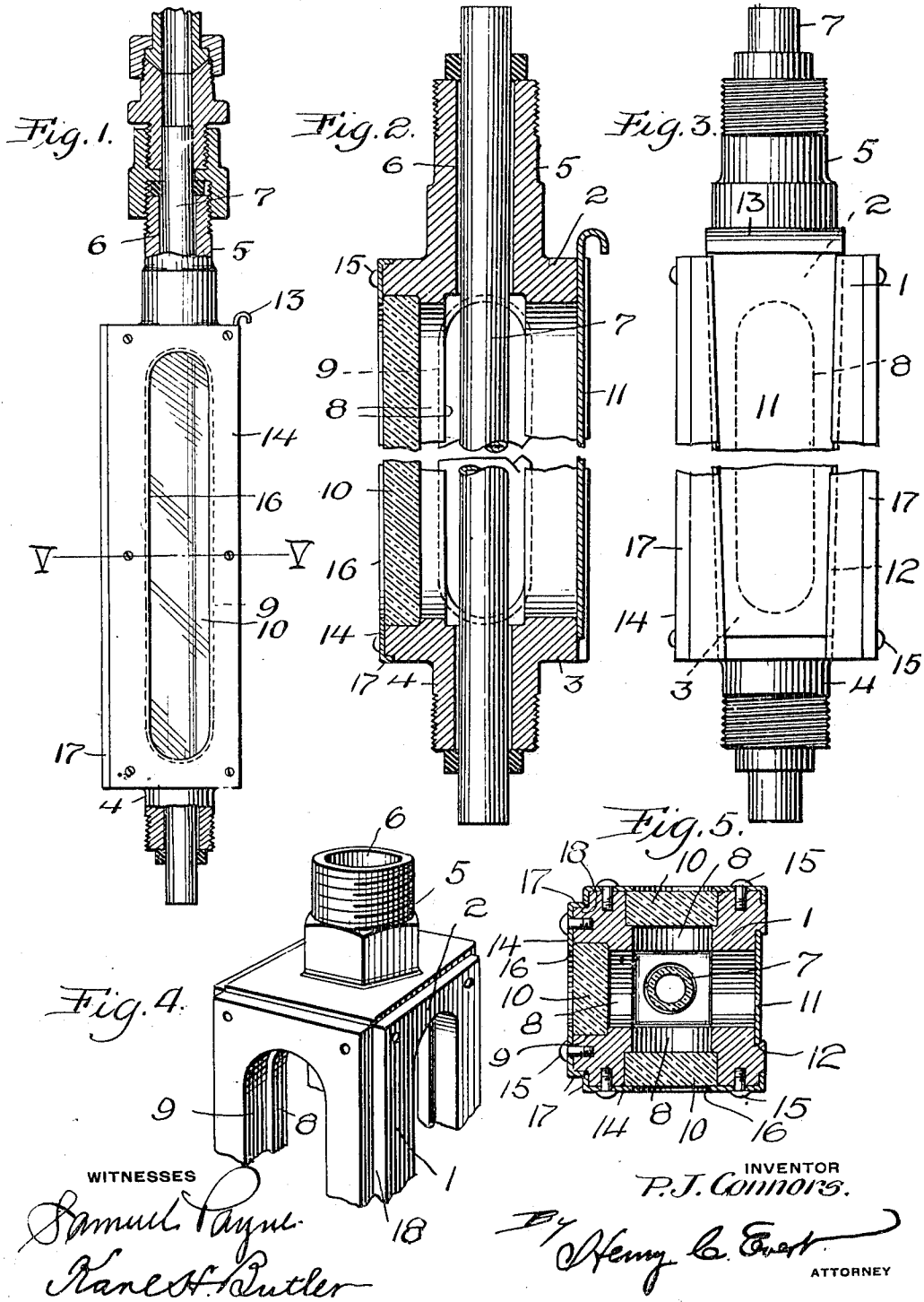


P. J. CONNORS.  
SAFETY DEVICE FOR WATER GAGES.  
APPLICATION FILED FEB. 10, 1913.

1,107,902.

Patented Aug. 18, 1914.



# UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR WATER-GAGES.

1,107,902.

Specification of Letters Patent. Patented Aug. 18, 1914.

Application filed February 10, 1913. Serial No. 747,410.

*To all whom it may concern:*

Be it known that I, PATRICK J. CONNORS, a citizen of the United States of America, residing at Greenville, in the county of Mercer and State of Pennsylvania, have invented certain new and useful Improvements in Safety Devices for Water-Gages, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a safety device for water gages, and the primary object of my invention is the provision of positive and reliable means, in a manner as hereinafter set forth, for housing a water gage whereby it can be safely used, without any danger to persons in the vicinity of the gage being injured by hot water and pieces of glass when the gage glass bursts.

Another object of this invention is to furnish a water gage with a strong and durable housing having transparent plates that permit of the gage being easily observed, just as though the housing were not used.

A further object of this invention is to provide a transparent inclosure for a water gage that is inexpensive to manufacture, easy to install and highly efficient as a safety factor in connection with steam boilers.

With the above and other objects in view, the invention resides in a novel construction, combination and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawing, wherein:—

Figure 1 is a side elevation of a safety device in accordance with this invention. Fig. 2 is an enlarged vertical sectional view of the same partly broken away. Fig. 3 is a rear elevation of the device partly broken away. Fig. 4 is a perspective view of a portion of the housing forming part of the device, and Fig. 5 is a horizontal sectional view taken on the line V—V of Fig. 1.

Further describing my invention in detail reference will now be had to the drawing wherein like numerals denote corresponding parts throughout.

1 denotes an oblong hollow rectangular casing having the top and bottom walls 2 and 3 thereof provided with connections 4 and 5, said connections having longitudinally alining openings 6 to receive a transparent gage 7 in the form of a glass tube

adapted to receive hot water at the lower end thereof and discharge steam or hot water at the upper end thereof. Any suitable connections can be made with the upper and lower ends of the housing to insure non-leakable joints also to facilitate the installation of the device in connection with the steam boiler or fittings thereof.

8 denotes longitudinal openings formed in the side walls of the housing and extending from the bottom plate 3 to the top plate 2. These openings are of sufficient area whereby the gage 7 can be easily observed, and the walls of said openings, at the outer edges thereof, are provided with deep seats 9 for thick transparent plates 10, it being preferable to use only three transparent plates and to use a shutter or slide 11 in connection with the other of the openings 8. The shutter or slide 11 is made of metal and is dove-tailed and tapered throughout its length. The shutter or slide is detachably mounted in a dove-tailed tapering seat 12 provided therefor in the rear side of a housing and the upper end of said shutter or slide is bent to form a handle 13 whereby said shutter or slide can be easily removed.

14 denotes face plates secured to the front and side walls of the housing by a plurality of screws 15 or other fastening means. The screws 15 do not tightly clamp the face plates of the housing. The face plates 14 have oblong openings 16 of less area than the transparent plates 10, whereby said face plates will retain the transparent plates upon the seats 9 of the housing. The edges of the face plates 14 are provided with flanges 17 engaging shoulders 18 of the housing 1 to establish a substantial seal between said face plates and said housing, whereby broken glass cannot escape from the housing when the gage glass bursts. This seal, however, is not such as will prevent steam and hot water from escaping around the edges of the flanges, consequently it is not necessary for me to provide a drain pipe or drain opening for the escape of steam and hot water. It is in this connection that I am aware of protecting devices of the above type that have special means for the escape of steam and hot water and further, that such means do not meet with the approval of the Interstate Commerce Commission and are expensive to install in a great many instances. For this

reason, I attach considerable importance to the fact that my invention eliminates such construction and provides a complete housing from which glass cannot escape except by a predetermined operation on the part of a repair man.

To remove broken glass and install a new gage it is only necessary to remove the shutter or slide 11. Of course, this is accomplished after communication with the broken gage has been shut off to facilitate repairs. Connections with the housing can then be disconnected and a new gage installed.

Since it is a well known fact that many firemen, engineers and others are injured by flying glass and steam, when a water gage bursts, it is the main object of my invention to eliminate such injury and danger by providing a gage with a transparent inclosure, and with this object in view, I desire it to be understood that my invention is susceptible to such changes, as in the size, shape and manner of assembling the structural elements, as fall within the scope of the appended claim.

What I claim is:--

A safety device for water gages comprising a housing adapted to inclose a water gage including an upper and a lower end and a series of side walls integral with said ends, said ends and side walls formed with openings, a hollow tubular extension integral with each of said ends and communicating with the opening of the latter and through which extends the gage glass, shiftable means connected to one of the sides of said housing for closing the opening therein, transparent plates mounted in the other sides of said housing for closing the openings therein, said plates substantially flushed with the outer faces of those sides of the housing in which they are mounted, and flat retaining plates secured to the housing for maintaining the transparent plates in position.

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

PATRICK J. CONNORS.

Witnesses:

J. P. TAPPLEMAN,  
MAX H. SROLOVITZ.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."