S. W. TAYLOR.

WATER GAGE GLASS.

APPLICATION FILED MAR. 4, 1914.

1,130,857. Patented Mar. 9, 1915.

Fig. 1.

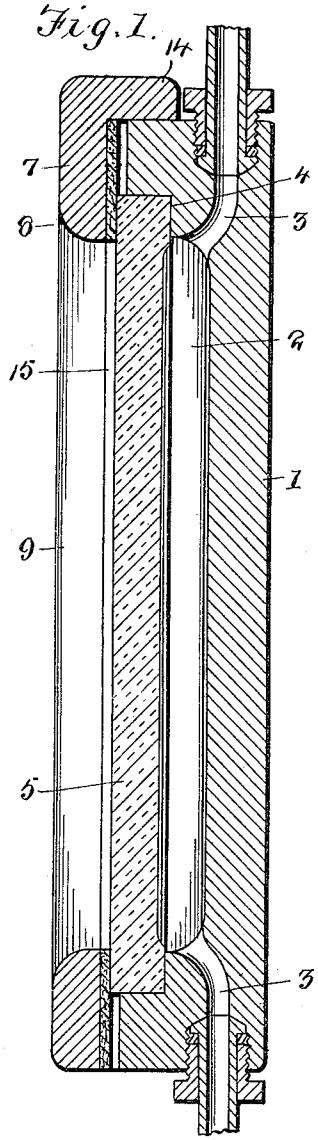


Fig. 2.

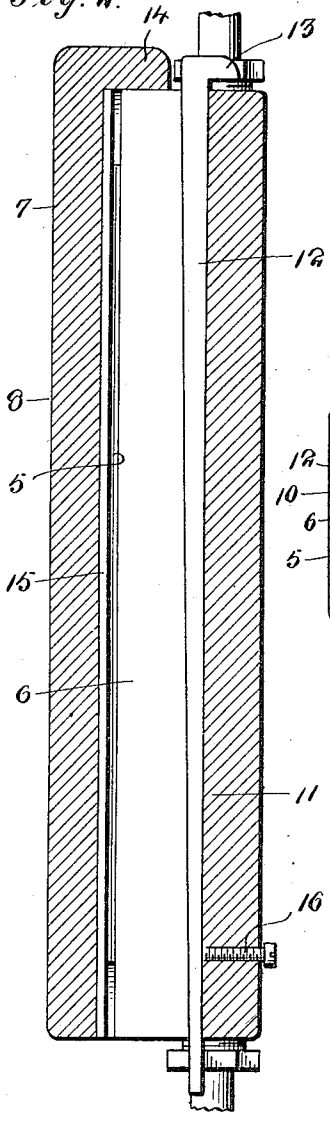


Fig. 3.

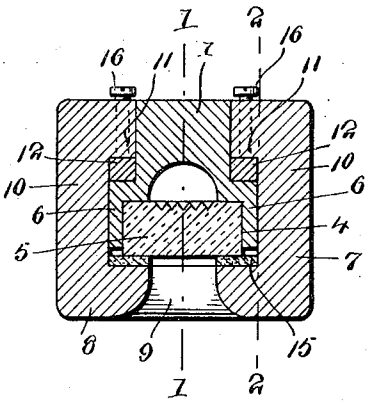
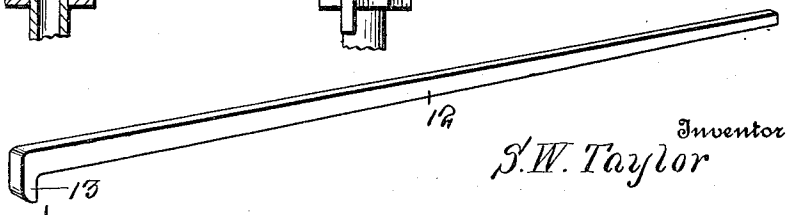


Fig. 4.



Witnesses

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WATER-GAGE GLASS.

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1,130,857.

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To all whom it may concern:

Be it known that I, SAMUEL W. TAYLOR, a citizen of the United States, residing at South Richmond, in the county of Chesterfield and State of Virginia, have invented new and useful Improvements in Water-Gage Glasses, of which the following is a specification.

This invention relates to improvements in water gage glasses and has particular application to a water glass for use in conjunction with steam boilers.

In carrying out the present invention, it is my purpose to provide a water gage glass which will be entirely devoid of bolts and nuts and similar fastening devices and wherein the component parts of the structure may be readily and quickly assembled and dissembled when such is desired or necessary.

It is also my purpose to provide a device of the class described wherein the component parts may be readily taken down or dissembled without disturbing the connections between the gage glass and the boiler thereby enabling a broken or fractured sight glass to be replaced quickly and conveniently and without the use of tools.

Furthermore, I aim to provide a device of the type set forth which will embrace the desired features of simplicity, efficiency and durability, which may be installed and maintained at a minimum expense and which may be manufactured and marketed at small cost and which will embody few parts and these so correlated and arranged as to reduce the possibility of derangement to a minimum and enable the device to be taken apart in a minimum time.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the claim.

In the accompanying drawing: Figure 1 is a vertical central sectional view through a water gage glass constructed in accordance with the present invention, such section being taken on the line 1—1 of Fig. 3. Fig. 2 is a similar view taken on the line 2—2 of Fig. 3. Fig. 3 is a transverse sectional view through the gage glass. Fig. 4 is a perspective view of one of the wedges employed.

Referring now to the accompanying drawing in detail, 1 designates the body of my improved water gage glass, such body being composed of suitable material such, for instance, as metal. Formed in the body 1 longitudinally thereof is a channel 2 having the opposite ends thereof opening onto the outer extremities of the body by way of ports 3, 3. Formed in the front face of the body 1 contiguous the channel 2 is a recess 4 and seated within the recess is a sight glass 5 constructed in any suitable manner. In the present instance, the body is substantially rectangular in contour and formed integral with the opposite side walls of such body adjacent to the front wall thereof are flanges 6, 6 projecting outwardly from the body and having the rear faces thereof inclined.

7 designates a retainer comprising, in this instance, a front wall 8 having a longitudinal sight opening 9 formed therein and side walls 10, 10 projecting rearwardly from the front wall and spaced apart in parallelism and having the rear edges thereof formed with inwardly extending flanges 11, 11. This retainer is adapted to slide over the body 1 and the inner faces of the flange 11, 11 confront the rear faces of the flanges 6, 6 on the body to form wedge-shaped pockets extending throughout the length of the gage glass and into these pockets work wedge-shaped keys 12 adapted to be driven home to bind the retainer to the body whereby displacement of the sight glass is avoided. The upper ends of the keys 12 are bent upon themselves to provide gripping fingers 13, while extending across the upper end of the retainer and having the opposite extremities thereof secured to the side walls 10, 10 is a stop block 14 designed to limit the movement of the retainer onto the body.

In practice, the ports 3, 3 are connected up, through suitable piping, with the steam and water spaces respectively of the boiler, while the glass 5 is seated within the recess 4. The retainer 7 is now slid onto the body 1 longitudinally of the latter and the front wall of such retainer engages the glass 5 with the effect to hold the latter seated within the recess, while the inner faces of the flanges 11, 11 are disposed in proximity to the rear inclined faces of the flanges 6, 6 on the body. The stop block 14 limits the movement of the retainer onto the body and when the movement of the retainer is arrested by such block the keys 12, 12 are driven into the wedge-shaped pockets

formed by the confronting walls of the flanges 6 and 11 and these keys bind the retainer to the body and at the same time clamp the packing between the front wall of the retainer and the sight glass 5 whereby the latter is held in position under pressure so that outward movement thereof incident to the fluid pressure within the channel 2 will be eliminated.

A packing gasket 15 is preferably interposed between the confronting surfaces of the front wall and the retainer and the sight glass 5 so as to effect a fluid tight joint between the parts.

If desired, set screws 16, 16 may be threaded through the flanges 11, 11 on the rear edges of the side walls 10, 10 of the retainer to engage the wedge keys and hold the latter against accidental movement incident to shock or vibration, although these set screws are not absolutely necessary.

From the foregoing description taken in connection with the accompanying drawing, the construction and manner of assembling my improved water gage glass will be readily apparent. It will be seen that I have provided a water gage glass wherein the sight glass may be readily and quickly replaced, in the event of the same being fractured or broken, without disturbing the connections between the gage and the boiler, while the component parts of the device are held together without the use of bolts and nuts and similar devices thereby eliminating the necessity of employing special tools to disconnect the parts.

While I have herein shown and described one preferred form of my invention by way of illustration, I wish it to be understood that I do not limit or confine myself to the precise details of construction herein described and delineated, as modification and variations may be made within the scope of the claim without departing from the spirit of the invention.

I claim:

A water gage glass comprising a body having a channel formed therein and a recess contiguous the channel, a sight glass seated within said recess, flanges formed on the opposite sides of said body at the front side thereof and projecting outwardly therefrom and having the rear faces thereof inclined, a retainer surrounding said body and adapted to slide onto and off of the same and comprising a front wall having a sight opening therein and side walls projecting rearwardly from said front wall and having the rear edges thereof formed with inwardly extending flanges, the inner faces of said flanges confronting the rear faces of said first flanges and coöperating therewith to form wedge-shaped pockets, and wedge-shaped keys slidably disposed within said pockets to lock the retainer to the body.

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

SAMUEL W. TAYLOR.

Witnesses:
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W. K. RENNER.

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