J. E. KEAN.

SECTIONAL WATER GAGE GLASS.

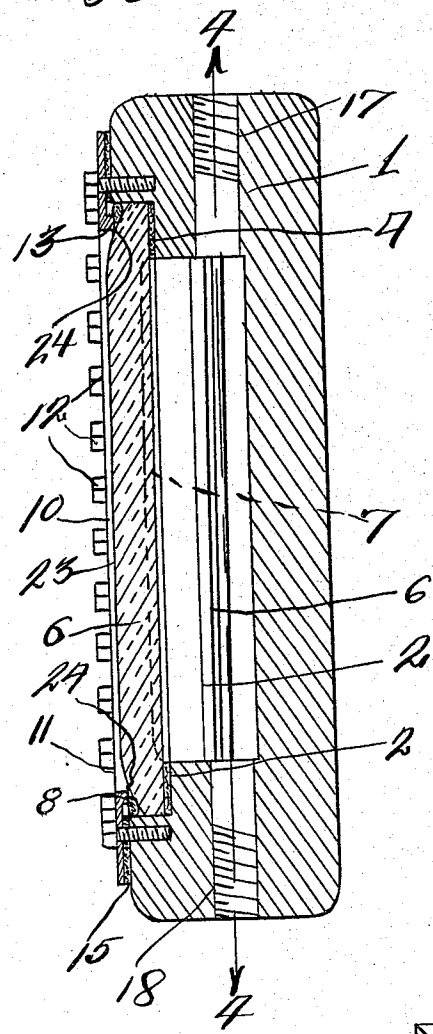
APPLICATION FILED JUNE 30, 1915.

1,170,910.

Patented Feb. 8, 1916.

2 SHEETS—SHEET 1.

Fig. 2.



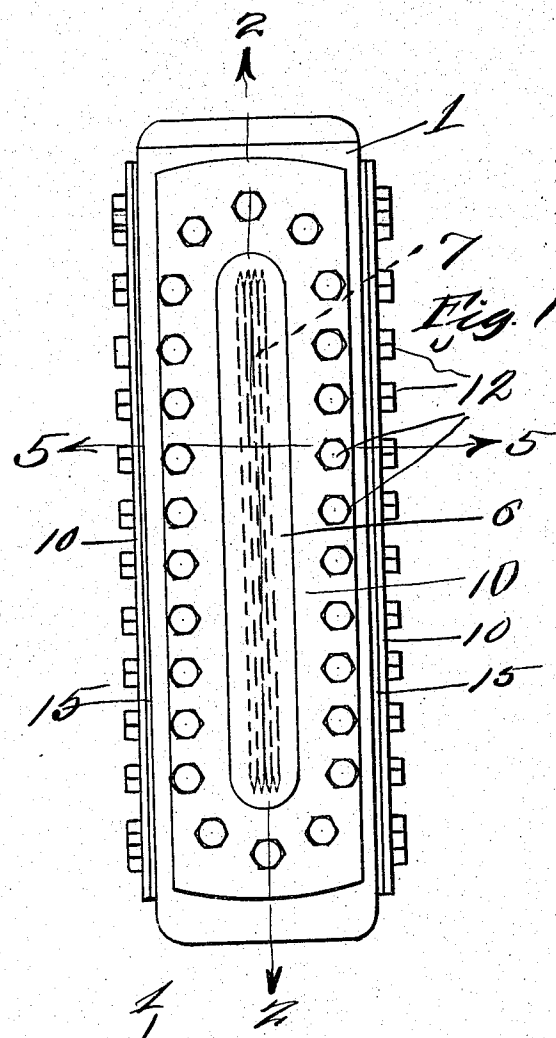


Fig. 1.

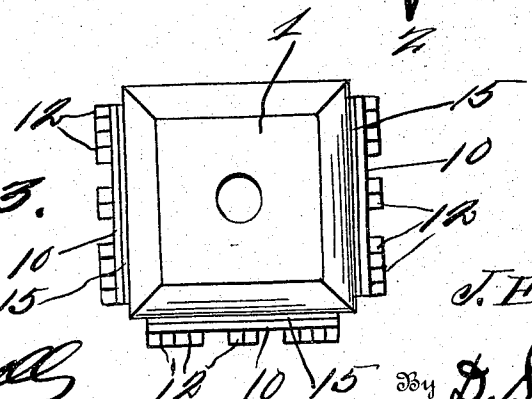


Fig. 3.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 5.

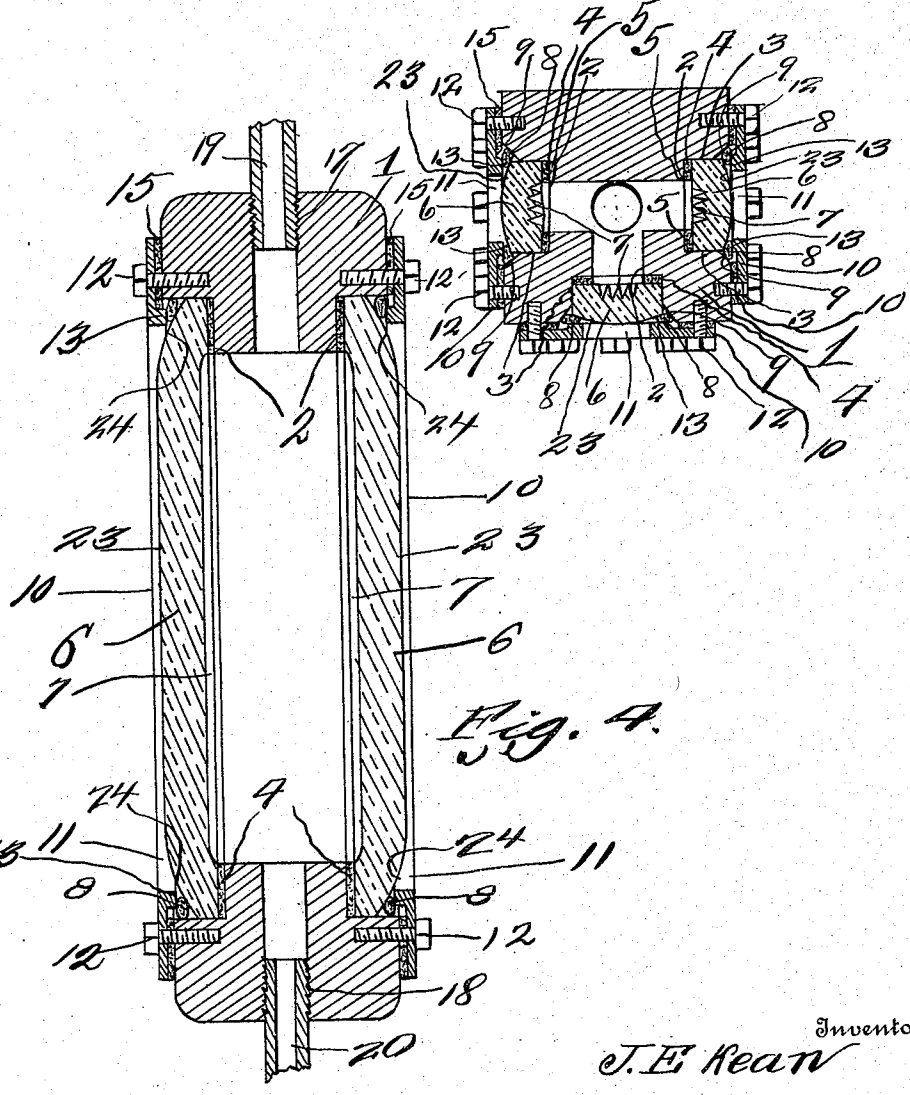


Fig. 4.

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JAMES E. KEAN, OF WOBURN, MASSACHUSETTS.

SECTIONAL WATER-GAGE GLASS.

1,170,910. Specification of Letters Patent. Patented Feb. 8, 1916.

Application filed June 30, 1915. Serial No. 37,211.

To all whom it may concern:

Be it known that I, JAMES E. KEAN, a citizen of the United States, residing at Woburn, in the county of Middlesex and State of Massachusetts, have invented a new and useful Sectional Water-Gage Glass; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a sectional water gage glass particularly adapted for all high pressure boilers, especially those of locomotives, where the water level may be seen from all positions, by the engineer or fireman, while attending to their other duties.

Another object of the invention is to provide a sectional non-leakable gage glass.

One of the features of the invention is to provide a skeleton frame in the form of a one piece casting being slotted on three of its faces, the walls of each slot being rabbeted to receive a heavy glass plate, there being a special combination rubber, asbestos and copper wire packing in the rabbets to prevent leakage, in combination with metal plates, each of which are secured to a face of the casting to bear against additional packing on an oval face of the glass, thereby acting as additional means to prevent leakage.

In practical fields the details of construction may necessitate alterations, falling within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a view in side elevation of the improved water gage glass constructed in accordance with the invention. Fig. 2 is a vertical sectional view on line 2—2 of Fig. 1. Fig. 3 is a top plan view. Fig. 4 is a sectional view on line 4—4 of Fig. 2. Fig. 5 is a sectional view transversely on line 5—5 of Fig. 1.

Referring more especially to the drawings, 1 designates a metal frame, which is rectangular in cross section, and is in the form of a casting. Three of the faces of this rectangular casting are slotted, thereby forming a skeleton frame. The walls of each of the slots 2 are rabbeted, as shown at 3, and engaging the shoulders of which is a gasket 4, the shoulder being designated by the numeral 5. Each of the gaskets 4 is constructed of rubber, asbestos and copper wire interwoven, in order to prevent leakage between the heavy glass plates 6, which seat against the gasket 4. The inner faces of the heavy glass plates 6 are corrugated vertically, as shown at 7, said corrugations being shown in dotted lines in Fig. 1, which corrugations are designed for the usual purpose. The outer faces of the glasses 6 are substantially oval shaped.

Engaging the corner edges of the oval faces are gaskets 8, which are constructed of asbestos or the like, and in the form of ropes. The gaskets 8 also engage the bevel faces 9 adjacent the walls of the slots, and which gaskets 8 are held in place by the plates 10, which are also provided with slots 11 substantially corresponding to and registering with the slots of the casting. These plates 10 are fastened securely in place by the bolts 12, so that the ribs 13 of said plate will bear against the gaskets 8, thereby jamming the same against the corner edges of the glasses 6 and the bevel faces 9, thereby insuring a fluid tight joint. Interposed between the plates 10 and the three faces of the skeleton casting are packings 15, in the form of gaskets, constructed similarly to the gaskets 4, which constitute additional means to insure a fluid tight joint. The upper end portions as well as the lower end portions are provided with threaded openings 17 and 18, into which the tubular extensions 19 and 20 of the boiler are threaded, so that the water from the boiler may flow into the gage glass, and the level of which can be seen through the heavy glass plates 6. The oval faces of the glass plates 6 are designated by the numerals 23, that is, the oval faces in cross section. The oval or convexed portions 24 at the upper and lower ends of the glass plates in Figs. 2 and 4 are engaged by the upper parts of the gaskets 8.

The invention having been set forth, what is clamed as new and useful is:—

1. In combination, a skeleton casting rectangular in cross section and having three of its faces slotted, the slots of two of the opposite faces joining each other and joining the slot of the other face, the walls of each slot being rabbeted and having a composition asbestos packing, a glass plate in the rabbets of each slot against the packing, the outer face of each glass plate in cross section being oval, the outer face of each glass plate at its ends being oval, an as-

bestos gasket engaging the oval portions adjacent the corner edges of the glass plates, and slotted metal plates bolted to the slotted faces of the casting to hold the last mentioned gaskets in place, and means for holding the slotted plates in position.

2. In combination, a skeleton casting rectangular in cross section and having three of its faces slotted, the slots of two of the opposite faces joining each other and joining the slot of the other face, the walls of each slot being rabbeted and having a composition asbestos packing, a glass plate in the rabbets of each slot against the packing, the outer face of each glass plate in cross section being oval, the outer face of each glass plate at its ends being oval, an asbestos gasket engaging the oval portions adjacent the corner edges of the glass plate, the three faces which are slotted having bevels adjoining the rabbeted portions of the walls of the slots, which bevels are engaged by the last mentioned gaskets, slotted metal plates having ribs adjacent their slots to bear against the last mentioned gaskets to hold them firmly in contact with the bevels and the oval portions, a composition asbestos packing between the slotted plates and the three faces of said casting, and means for holding the slotted plates in position.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES E. KEAN.

Witnesses:
CLARENCE H. KEAN,
EDWARD JOHNSON.

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