

C. F. GERLINGER.

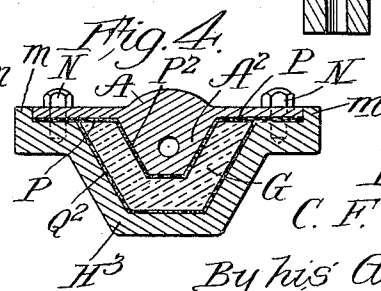
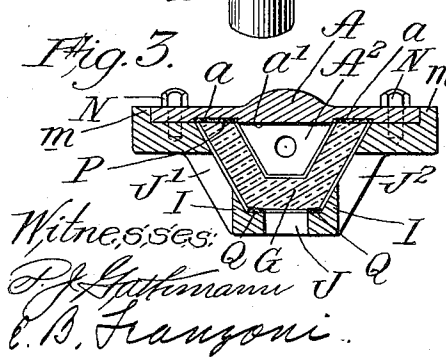
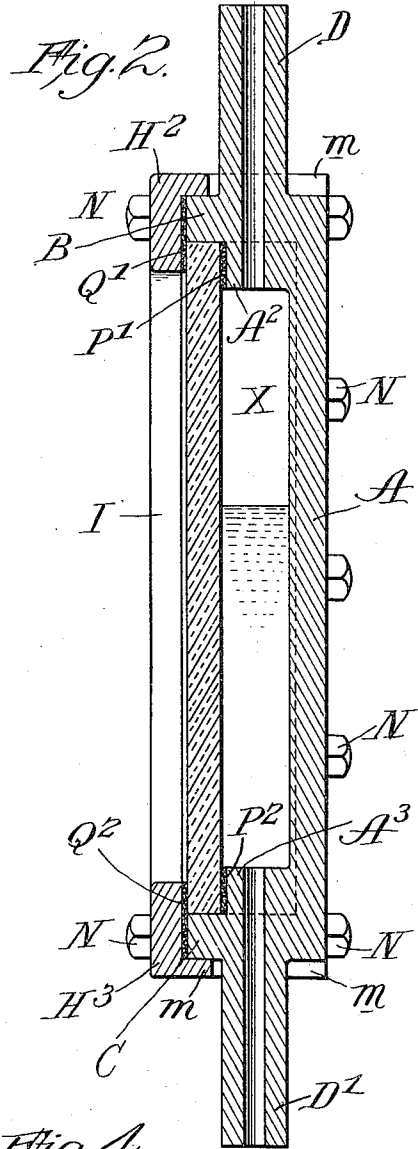
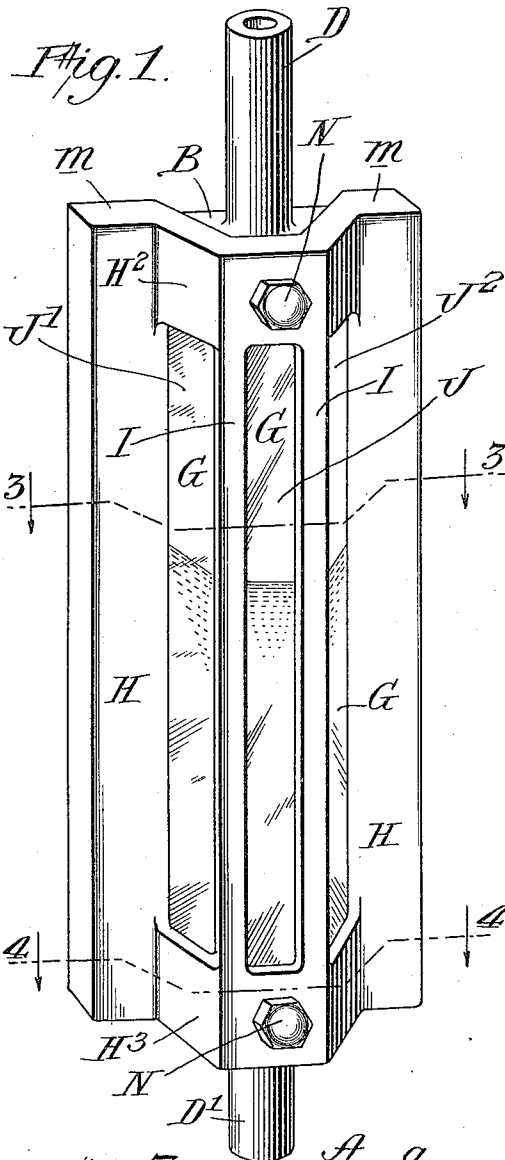
WATER GAGE.

APPLICATION FILED JUNE 7, 1912.

1,042,427.

Patented Oct. 29, 1912.

2 SHEETS—SHEET 1.



Witnesses:
P. J. Luthmann
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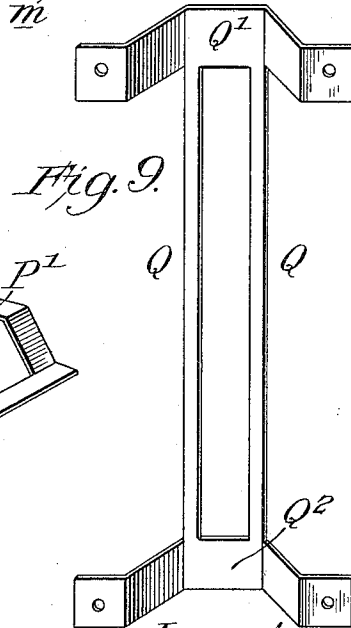
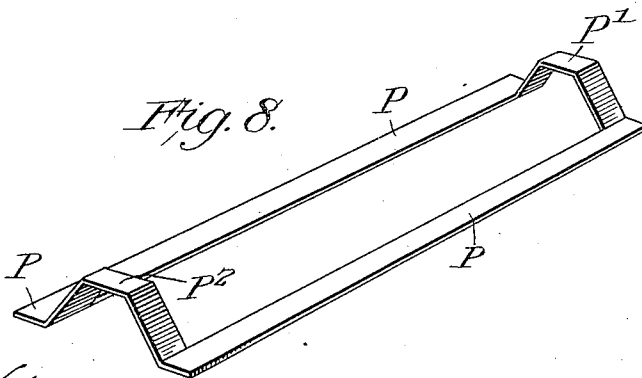
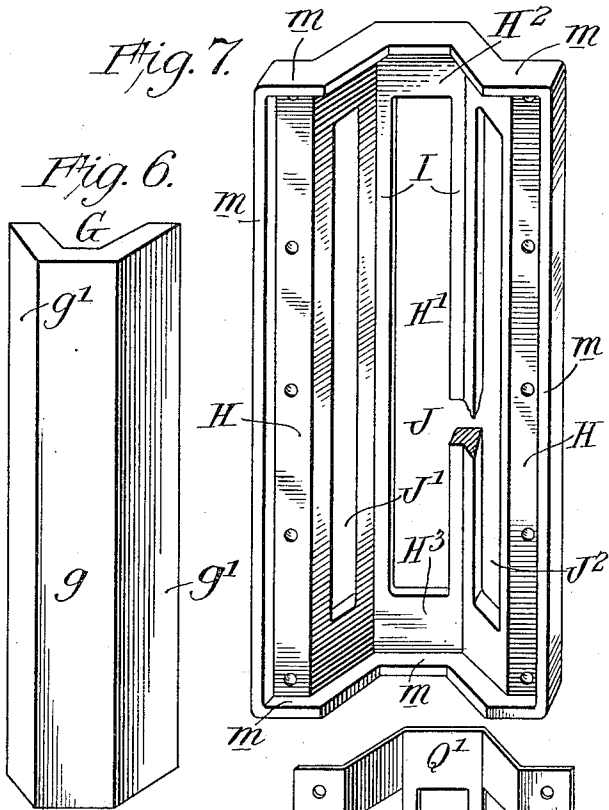
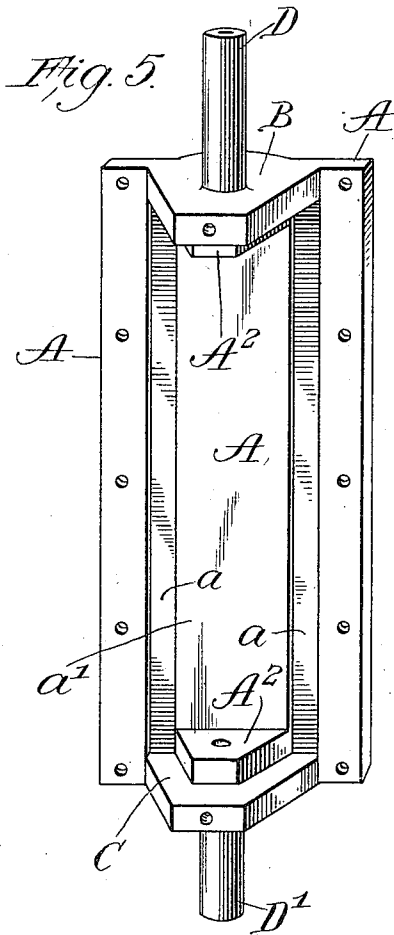
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WATER GAGE.

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2 SHEETS—SHEET 2.

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UNITED STATES PATENT OFFICE.

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WATER-GAGE.

1,042,427.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed June 7, 1912. Serial No. 702,217.

To all whom it may concern:

Be it known that I, CARL F. GERLINGER, a citizen of the United States, residing in Dallas, in the county of Polk and State of Oregon, have invented certain new and useful improvements in Water-Gages, of which the following is a specification.

My invention relates to water gages of the kind commonly employed to indicate the water level in steam boilers. There are several kinds of such gages in general use but my invention more particularly relates to the kind in which the gage comprises a casing or frame supporting a piece of glass constituting the front wall of a chamber which communicates with the boiler and in which the water rises and falls correspondingly with the water level in the boiler.

The object of my invention is to provide a gage of this general type which is simple in construction, may be easily put together and taken apart, is leak-proof, may be easily inspected or observed from various sides and may be easily cleaned or repaired.

In carrying out my invention I provide a main frame constituting the back, top and bottom of the casing or frame and form integrally with the top and bottom parts of this main frame nipples to which suitable pipes may be easily connected. Between the top and bottom of the main frame I interpose the glass front wall of the water chamber and then apply the front frame which has front and side openings to expose the glass, and upper and lower covers for the front portions of the top and bottom parts of the main frame, also side portions which cover those portions of the main frame on opposite sides of the glass. The front frame is provided with flanges at top and bottom and on opposite sides which overlap the edges of the main frame. The gage thus comprises three main parts and these are so shaped that they may be very readily assembled and the glass front secured in the back frame between the top and bottom parts by merely applying the front frame.

The top and bottom parts of the main frame are formed on their inner sides with seats for the glass which aid in positioning it, and suitable packing is applied in an improved way to prevent leakage and to insure a tight and firm connection. The front and back parts of the frame are secured together by screws and may be easily separated for repairs or cleaning purposes.

In the accompanying drawings, Figure 1 is a perspective view of a water gage embodying my improvements. Fig. 2 shows a vertical central section thereof. Fig. 3 shows a transverse section on the line 3—3 of Fig. 1. Fig. 4 shows a transverse section on the line 4—4 of Fig. 1. Fig. 5 is a perspective view of the main frame. Fig. 6 is a perspective view of the glass front piece of the water chamber. Fig. 7 is a perspective view of the front frame viewed from the rear. Fig. 8 is a perspective view of packing which may be employed to form a water tight-joint between the glass front and the back frame. Fig. 9 is a perspective view of packing which may be employed between the front frame, the glass and the back frame.

The main frame comprises a back part A, a top part B and a bottom part C. The back part is of a general rectangular form and is provided with shallow vertical grooves or recesses *a* to receive the edges of the glass G or the packing strips hereinafter described. The top and bottom parts are frustum shape and are arranged above and below the panel *a'* formed between the grooves *a*. At the top and bottom of the panel there are seats *A*², *A*³ for the glass G. These are of smaller dimensions than the top and bottom B and C, so that the glass may bear against the seats and be arranged within the limits of the top and bottom pieces. The top and bottom pieces B, C, are formed integrally with nipples D, D', and openings or channels extend through the nipples and through the top and bottom pieces and the seats into the chamber X.

The glass G, as shown in Fig. 6, is three-sided, having a front *g* and inclined sides *g'*. This glass is of such length as to fit easily between the top and bottom pieces B and C and its vertical rear edges lie opposite the grooves *a*, while its upper and lower parts rest against the seats *A*², *A*³. Packing is interposed between the glass, the seats and the grooved portions of the back frame in the manner hereinafter described.

The front frame comprises side pieces H, a middle part H', and top and bottom parts H². The top and bottom parts of the frame cover the front portions of the top and bottom parts B, C, and also parts of the upper and lower ends of the glass. These parts H², H³ are connected by strips or bars I which are so arranged as to leave three ob-

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servation openings J, J', J². Flanges *m* extend around the outer edges of the sides and the top and bottom portions of the main frame, and also around the edges of the sides of this frame, and when the front frame is thus applied the glass is held in place, screws N being employed to securely fasten the parts together. In this way a chamber X is formed which connects with the nipples at the top and bottom of the gage and these nipples may be suitably connected with the boiler in any usual way.

In order to render the gage leak-proof, packing of suitable construction may be employed. I preferably employ packing like that shown in Fig. 8, which comprises side portions P and upper and lower portions P', P². When the packing is shaped in the manner indicated in Fig. 8, it will fit in the grooves *a* and around the top and bottom seats A² of the main frame and when the glass G is applied, a packed joint is provided which prevents leakage from the chamber X.

In order that the front frame may be secured without undue pressure on the glass, or rather to keep the front frame from direct contact with the glass while connecting it with the back frame, I preferably employ packing of the kind indicated in Fig. 9 which comprises side parts Q and upper and lower parts Q', Q². The side portions Q are interposed between the front *g* of the glass and the connecting strips or bars I, while the upper and lower parts Q', Q² are interposed between the glass and the upper and lower parts H², H³ of the front frame. In this way the screws may be tightly driven so as to press the glass tightly against the packing and the latter is tightly pressed to its seats in the main frame. The packing shown in Fig. 9 also serves to supplement the packing shown in Fig. 8 as an additional protection against leakage.

I claim as my invention:

1. A water-gage, comprising a main frame having a back part, top and bottom portions formed integrally with nipples for pipe connections and with seats for the glass front of the gage, a glass front arranged be-

tween the top and bottom portions of the main frame and inclosing said seats, and a front frame covering the side portions of the main frame and the top and bottom portions thereof and which is provided with front and side observation openings.

2. A water-gage, comprising a main frame formed with top and bottom portions and with vertical grooves in its front face, a glass arranged between the top and bottom portions of the frame, seats on the main frame covered by the glass, packing interposed between the seats and the glass and arranged in the grooves of the back frame, and a front frame attached to the main frame and having front and side observation openings.

3. A water-gage, comprising a back frame formed with top and bottom portions and with seats for the glass of smaller area, a glass interposed between the top and bottom portions of the frame and covering said seats, packing interposed between the glass and the seats and the vertical edges of the glass and the back frame, a front frame covering the exposed parts of the back frame and having front and side observation openings, and means for securely fastening the front frame to the back frame.

4. A water-gage, comprising a back frame formed integrally with top and bottom portions having integrally formed nipples and integrally formed seats for the glass front, a glass front interposed between the top and bottom portions of the frame and covering said seats thus forming a water chamber, packing interposed between the seats, the back frame and the glass, a front frame covering the glass and the main frame having front and side observation openings, and packing interposed between the front frame, the glass and the back frame.

In testimony whereof, I have hereunto subscribed my name.

CARL F. GERLINGER.

Witnesses:

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OSCAR HAYTER.