(No Model.)

# H. OCHWADT.

## WATER GAGE.

No. 318,284. Patented May 19, 1885.

*Fig. 1.*

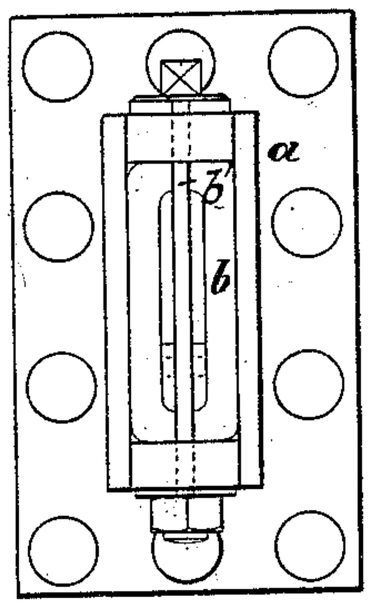



*Fig. 2.*

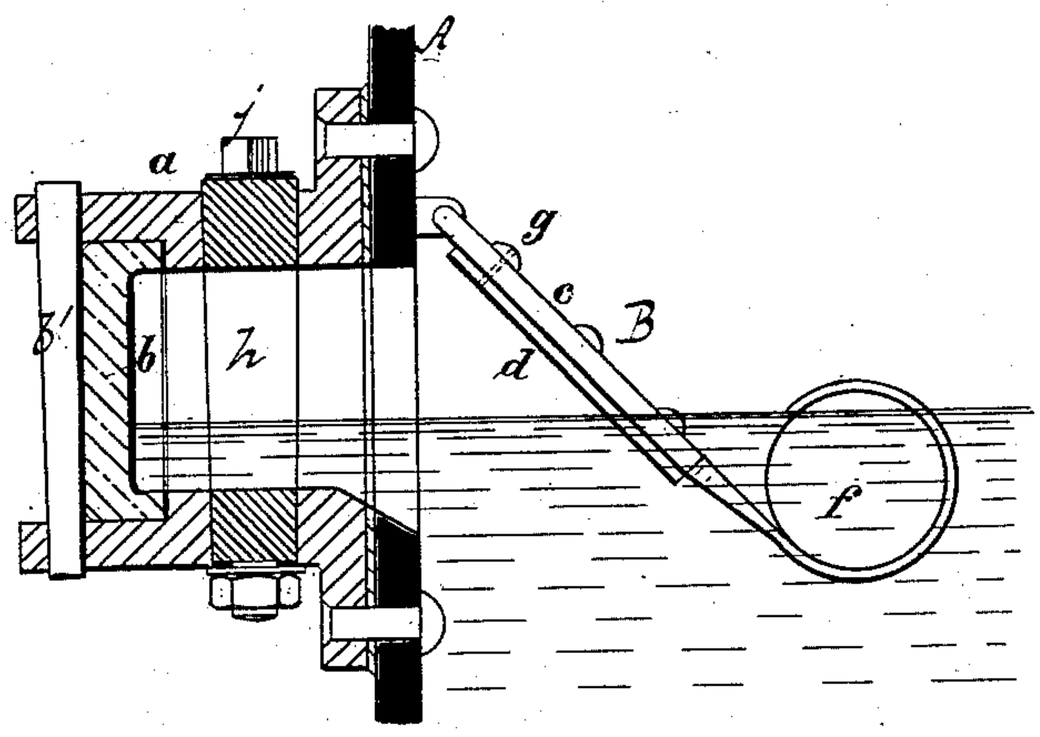



*Fig. 4.*

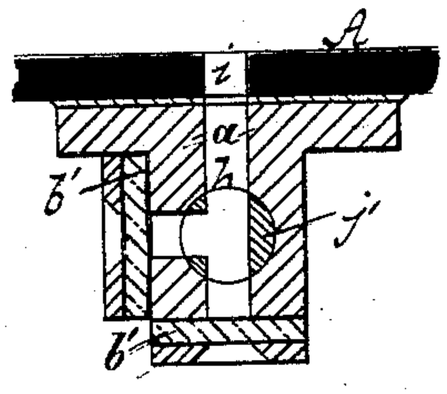
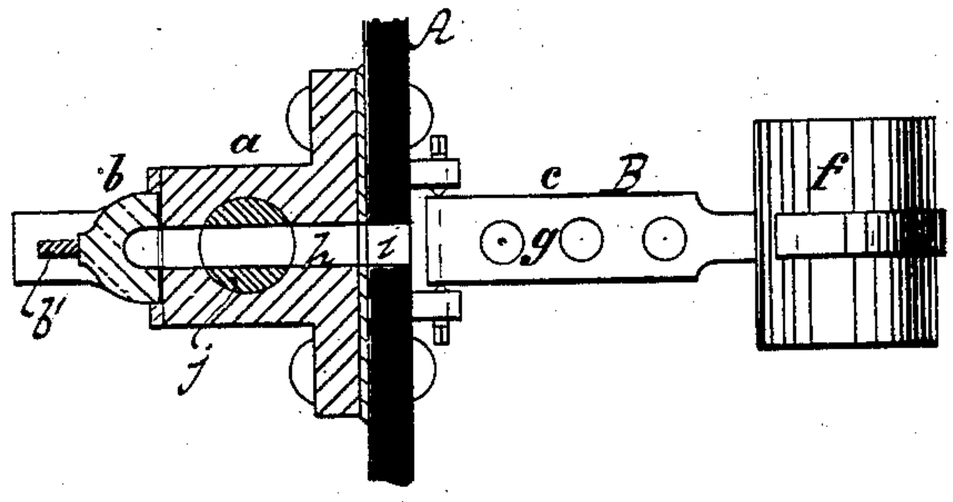



*Fig. 3.*




Witnesses
William Miller
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by Van Santvoord & Hauff
his atty's

# UNITED STATES PATENT OFFICE.

HEINRICH OCHWADT, OF VON DER HEYDT, NEAR SAARBRÜCKEN-ON-THE-SAAR, PRUSSIA, GERMANY.

## WATER-GAGE.

SPECIFICATION forming part of Letters Patent No. 318,284, dated May 19, 1885.

Application filed January 8, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, HEINRICH OCHWADT, a subject of the King of Prussia, residing at the mine called Von der Heydt, near Saarbrücken-on-the-Saar, in the Kingdom of Prussia, have invented new and useful Improvements in Water-Gages, of which the following is a specification.

This invention relates to improvements in water-gages; and it consists in the novel construction and arrangement of parts, which are more fully described hereinafter in the specification and illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of my improved gage. Fig. 2 is a vertical section of the same. Fig. 3 is a horizontal section. Fig. 4 is a horizontal section of a modification of my invention.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the head of a steam-boiler, to which is riveted or secured by screws the water-chamber *a*, which is cast with a channel, *h*, which passes entirely through the same, and connects with a corresponding slot or opening, *i*, in the boiler-head A. The outer end of the channel *h* is closed by a glass, *b*, which is secured to the face of the chamber *a* by a key or keys, *b'*, and the same is best made of a semi-annular cross-section. The chamber *a* is drilled for the reception of a plug or cock, *j*, by means of which the water can be shut off from the glass *b* when desired.

The glass *b* is made of sufficient thickness to withstand the boiler-pressure; but in order to furnish means for preventing the escape of steam or water in case of breakage I provide a stuffing-plate, B, which consists of a metallic plate, *c*, to which is secured, by rivets *g* or in any other suitable manner, a lining of leather or india-rubber, *d*, and said stuffing-plate B is suspended at its upper end from the inside of the boiler-head A, and at its lower end it is connected with a float, *f*, which maintains the stuffing-plate in such a position that the water in the boiler can enter the water-chamber *a* without difficulty, Fig. 2. If, in case the glass *b* should burst, the stuffing-plate B will be thrown by the escaping steam and water against the head of the boiler and close the slot or opening *i* in the same, whereby the further escape of water and steam is prevented. In order to cause the stuffing-plate to leave the boiler-head as soon as the broken glass is replaced by another, a fine hole is pierced through the upper rivet, which, if it is obstructed, must be reopened before putting in the new glass. The pressure on the stuffing-plate will be compensated through this hole, whereby the float will be enabled to lift up the plate B.

In Fig. 4 I have shown my water-gage provided with a channel leading to the face of the gage, and also with one leading to the side of the same, which channels are closed by flat plates of glass *b'*, and the opening or closing of both channels is controlled by a two-way plug or cock, *j'*.

My improved water-gage offers the advantage that the water-level in the boiler can be directly observed through the glass, which communicates through its whole length with the water in the boiler, and therefore it can never give false indications, nor is there any danger of the same becoming obstructed or stuffed up, as is the case in the ordinary water-tube.

In case the glass should burst there will be but a slight escape of steam and water, as the stuffing-plate automatically and promptly shuts off the escape of the contents of the boiler, and since the float continually rises and falls with the level of the water in the boiler there is no danger to be feared from a possibility of the joints rusting in, and consequently the stuffing-plate will always act promptly and reliably.

What I claim as new, and desire to secure by Letters Patent, is—

1. A water-gage consisting of the water-chamber *a*, which is provided with a channel, *h*, the glass *b*, secured to the face of the water-chamber and closing said channel, and the plug or cock *j*.

2. A water-gage consisting of the water-chamber *a*, which is provided with two or more channels, *h*, the glass plates *b'*, secured to the water-chamber and closing said channel or channels, and a plug or cock, *j*, which opens or closes both channels.

3. The combination, substantially as herein-

before described, with a steam-boiler, of a water-gage consisting of a water-chamber, *a*, secured to the boiler-head and provided with a channel or with channels *h*, connecting with a slot or opening in the boiler-head, the glass or glasses *b*, secured to the water-chamber and closing the channel or channels, a plug or cock, *j*, for controlling the opening or closing of the channel or channels, a stuffing-plate, B, pivoted to the boiler-head and adapted to close the opening in the boiler-head, and a float, *f*, which controls the motion of the stuffing-plate.

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

HEINRICH OCHWADT.

Witnesses:
J. T. ZORLLENBON,
PH PEITMANN.