

J. S. Griffith.

Steam Boiler Water Gauge.

N^o 86,531.

Patented Feb. 2, 1869.

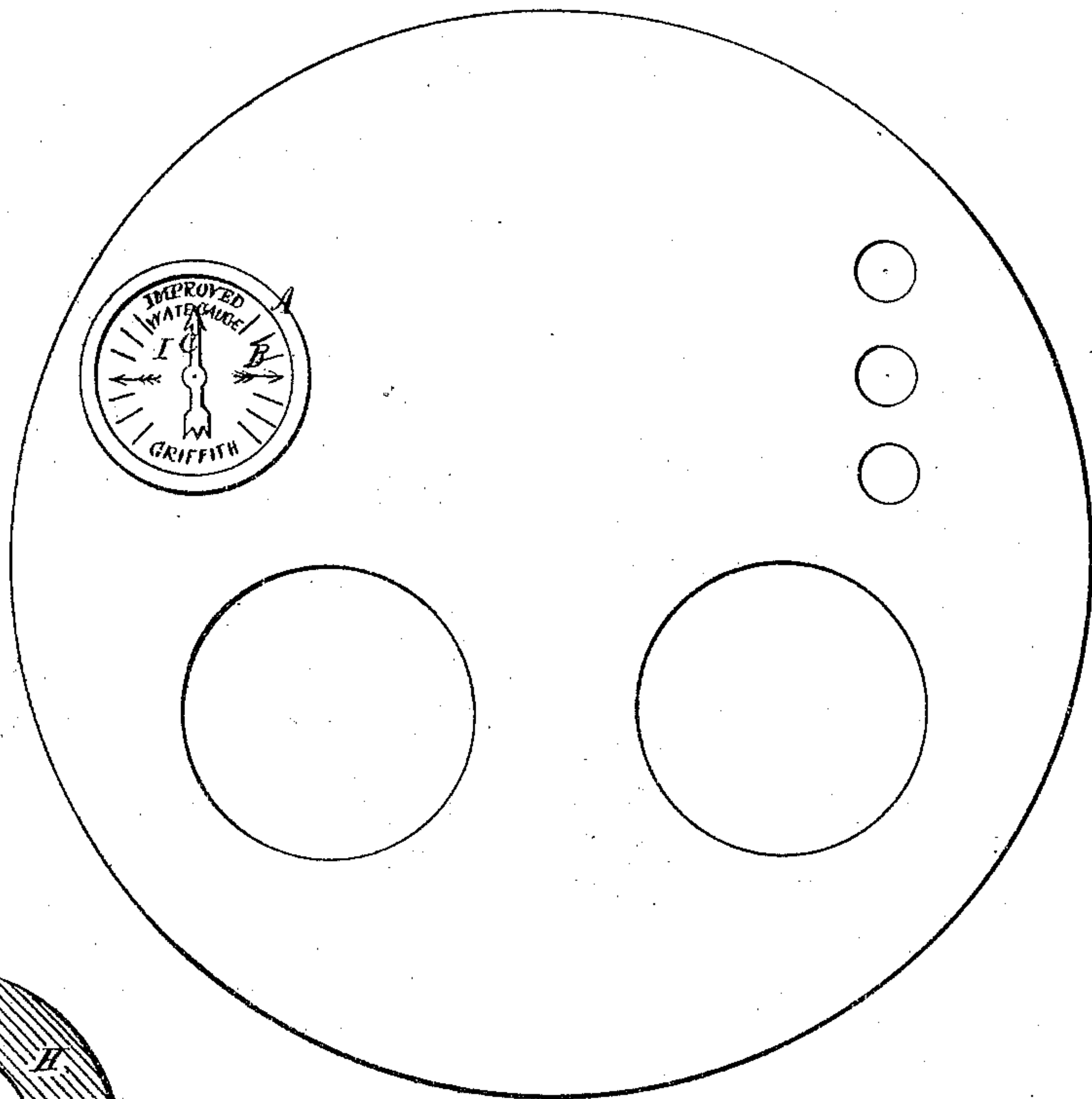


Fig. 1.

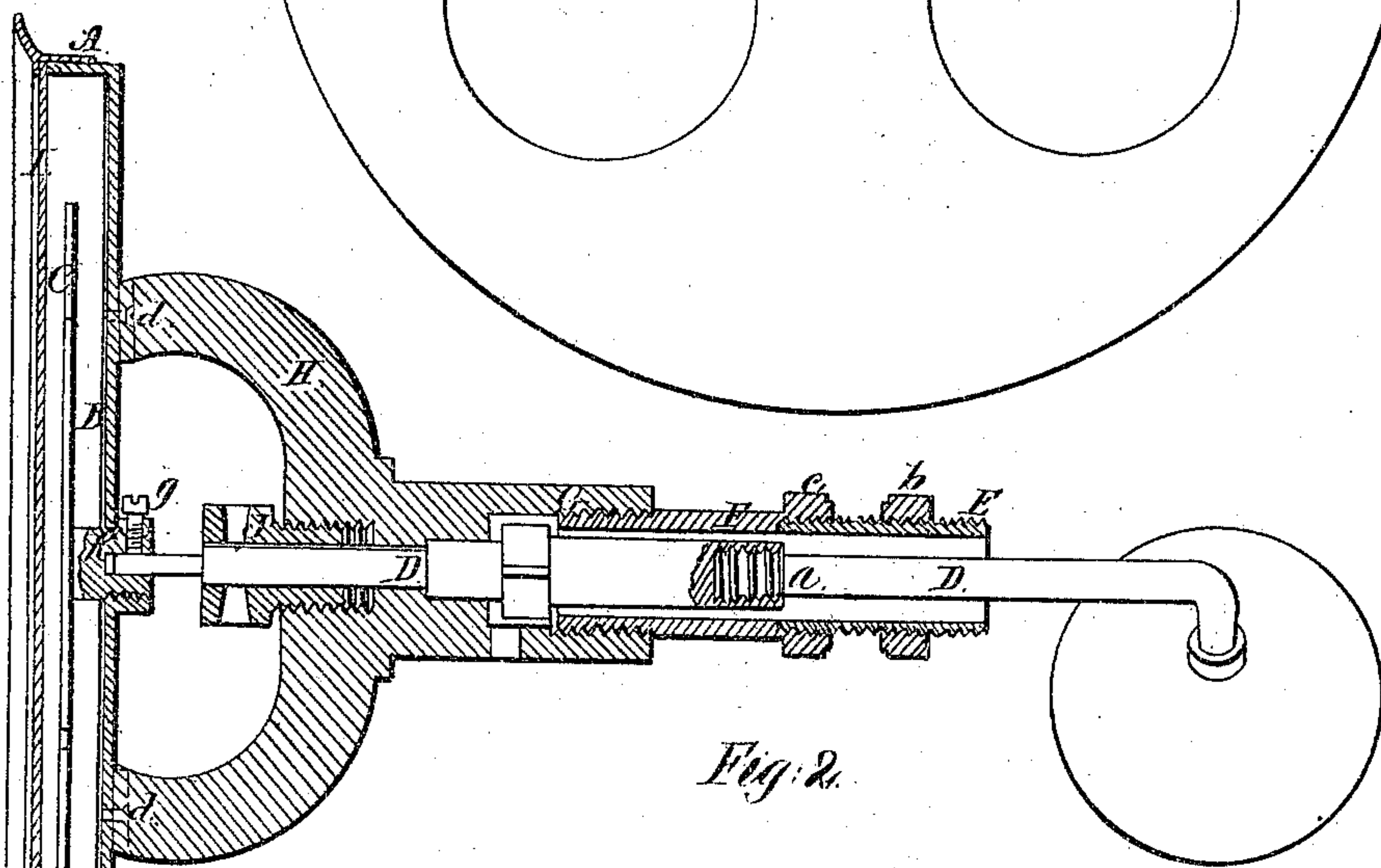


Fig. 2.

Witnesses:

*McCormick
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Inventor:

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JAMES S. GRIFFITH, OF ST. LOUIS, MISSOURI.

Letters Patent No. 86,531, dated February 2, 1869.

IMPROVEMENT IN LOW-WATER INDICATORS FOR BOILERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JAMES S. GRIFFITH, of the city and county of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Water-Gauges for Steam-Boilers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming part of this specification, and in which—

Figure 1 represents an end view of a boiler with my improved water-gauge applied thereto, and

Figure 2, a sectional view at right angles to fig. 1, and on an enlarged scale, of said gauge.

Similar letters of reference indicate corresponding parts.

This improvement has reference to that description of water-gauges or water-level indicators for steam-boilers, in which the rise and fall of a float within the boiler or chamber connected therewith, is caused to indicate, by means of an index, or hand and dial, on the outside of the boiler, the level of the water in the latter.

In water-gauges of this description there have heretofore been two serious defects, namely:

First, the connection of the float-arm or rod, and arrangement of the usual packing at such joint or connection, on the inside of the gauge or indicator proper, which is inconvenient, on account of the inaccessibility of such connection, by its being under cover of the glass lying outside the face of the dial, and which is also attendant with the disadvantage of collecting water, produced by the leakage of steam at and past said connection, within the gauge or between the dial and glass.

Another, or second, defect, under previous constructions, has been that the gauge or its index has been so connected with the float-arm or rod, as that it has not been adjustable in relation thereto, or at least not without detachment, and taking off the glass to the gauge, and which provision is often desirable to adjust the index or hand relatively to the float, in case of the float-arm having become accidentally or unduly bent, as not unfrequently occurs in cleaning out the boiler.

My invention obviates both these defects, and consists—

First, in such a construction of parts, as that the joint or connection between the float-arm, or rod, and index, or hand, also bearing to the rod and packing, or stuffing-box thereto, if a packing or stuffing-box be needed, is or are arranged on the outside of the gauge.

Secondly, the invention consists in an adjustable connection, outside of the gauge, of the index, or hand, with the float-arm, or rod, whereby said hand may be readily adjusted, relatively to the float, without disturbance of the gauge.

Referring to the accompanying drawing—

A represents the box or case of the gauge, containing the dial B, and index, or hand C.

D is the bent float-arm or rod, which serves to work the index. Said rod, for convenience of construction and putting together of parts, is here shown as made in sections, or divided into separate lengths outside of

the boiler, the one section screwing into the other, as at *a*.

E is a hollow plug, fitted through the head of the boiler, and which serves to establish connection of the gauge with the boiler, the head or end of the latter being clamped between an inside nut, *b*, screwing on said plug, and a nut or head, *c*, of a sleeve, F, that screws at its outer end into a socket or box, G, which forms a projection from a bracket, H, that is fastened by screws *d d*, and serves to carry the dial-box or case A of the gauge.

I is the glass in front of the dial and index.

The float-arm, or rod, D passes, with freedom to turn, through the plug E, sleeve F, and socket G, where it is made to take its bearing, and may be suitably packed by or through a gland, J, screwing into the forward end of the socket G, which, by reason of the bracket H, lies at some little distance from the back of the case A.

In the space thus established between the socket G, or gland J, and back of the case A, I make the connection of the float-arm or rod D with the index-socket or arbor K, that is run out through the back of the case A, for the purpose.

In this way the joint or connection of the float-arm, or rod, and index is arranged outside of the gauge, with every facility for inserting or tightening up the packing if necessary, in or to the bearing-box or socket G, without disturbance of the gauge, and with perfect protection against steam leaking past the rod D, passing into and condensing within the gauge, inasmuch as steam passing said rod has free escape to the atmosphere between the box G or gland J, and back of the case A, or socket K, to the index.

To provide for the separate adjustability of the index, or hand, C relatively to the float, should the arm or rod of the latter have become accidentally or unduly bent, or whenever such adjustment is necessary, I cause the forward end of the float-rod to enter, with freedom of turning, a cavity in the back of the index or arbor K, that thus may be turned or set on the float-rod from the outside, and without disturbance of the gauge, and, when set, be secured by a set-screw, *g*, to the rod, so as to be moved by the latter in the rise and fall of the float.

By simply slackening the set-screw *g*, and taking out the screws *d d*, which unite the bracket H to the case A, the gauge may be removed from all connection with the float, for the purpose of repair or otherwise, while the boiler is at work, without establishing an escape for the steam.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination with the gauge-case A of the bracket H, with its socket G, substantially as specified.
2. The combination of the protruding index-arbor K with the float-rod D, substantially as herein described.

Witnesses:

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