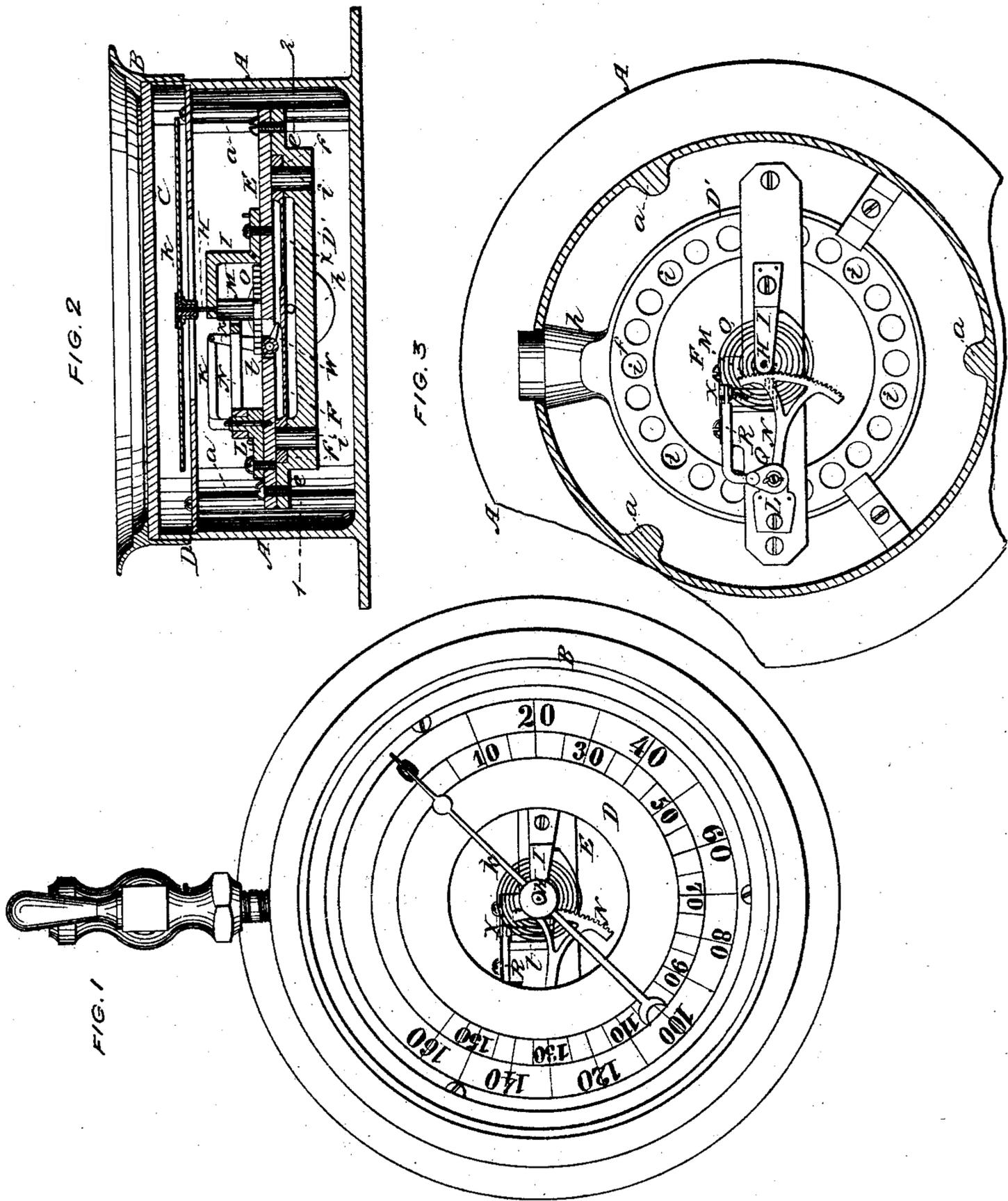


P. SCHOFIELD.

Steam Gage.

No. 62,568.

Patented March 5, 1867.



WITNESSES:
H. A. Steel
H. H. H.

INVENTOR:
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United States Patent Office.

PETER SCHOFIELD, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 62,568, dated March 5, 1867.

IMPROVEMENT IN STEAM GAUGES.

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, PETER SCHOFIELD, of Philadelphia, Pennsylvania, have invented an Improvement in Steam Gauges; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists in constructing a steam gauge in the peculiar manner fully described hereafter, so that the usual fitting of separate parts into the interior of the casing may be dispensed with, and so that the efficiency of the gauge will not be impaired in case of injury merely to the outer casing.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation. On reference to the accompanying drawing, which forms a part of this specification—

Figure 1 is a plan view of my improved steam gauge.

Figure 2, a transverse section of the same; and

Figure 3, a plan view, partly in section, on the line 1-2, fig. 2.

Similar letters refer to similar parts throughout the several views.

A is the exterior casing of the gauge; B the annular cap, by means of which the glass plate C is secured to the casing, as usual; and D is the graduated dial plate, secured to lugs or projections, *a*, in the casing, as seen in fig. 2. To the inside of the casing A is secured a disk, D', in the manner shown in fig. 3, this disk having two projections, *e e*, to which is secured a cross-bar, E, between which and the disk intervenes an elastic diaphragm, F. An annular recess is formed in the disk for the reception of the thick annular edge *f* of the diaphragm, and is further recessed so that there may be a space, *x*, between the diaphragm and disk, to which steam can gain access through a branch, *h*, fig. 3, which projects through the casing. The disk D' is made so thick and strong as to be incapable of yielding to the pressure of steam, and the diaphragm is permanently secured to the disk by a number of rivets, *i i*, no rubber packing being used, but the surface of the rivet, as well as the edge of the diaphragm, where it meets the disk, being so coated with solder that leakage is rendered impossible. In the cross-bar E turns the lower end of the spindle H, which, near its upper end, turns in a bracket, I, secured to the said cross-bar, the spindle being provided with the usual pointer *k*. A pinion, M, on the spindle H gears into a segment, N, which is arranged to turn on a pin projecting from a plate, L, secured to the cross-bar E. An arm, Q, projecting from the segment N, is connected by a rod, R, to an arm, X, on a spindle, *t*, which turns in the cross-bar E, and another arm, W, on which bears on the elastic diaphragm F, so that when the latter yields the pointer must turn to an extent commensurate with the pressure of steam against the diaphragm. The usual coiled hair spring O is applied to restore the pointer to its normal position after the pressure of steam is withdrawn.

In gauges having single diaphragms the steam chamber *x* has heretofore been made in the back of the outer casing, so that in case of injury to the latter the gauge would be rendered inefficient. By securing the diaphragm to a disk altogether disconnected from the outer casing any injury to the latter will not impair the efficiency of the gauge, while access may be more readily obtained to the operating parts.

I claim as my invention, and desire to secure by Letters Patent—

The detachable disk D', its elastic diaphragm F, and cross-piece E, in combination with the outer casing A, the whole being constructed and arranged as described.

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

PETER SCHOFIELD.

Witnesses:

C. B. PRICE,

CHARLES E. FOSTER.