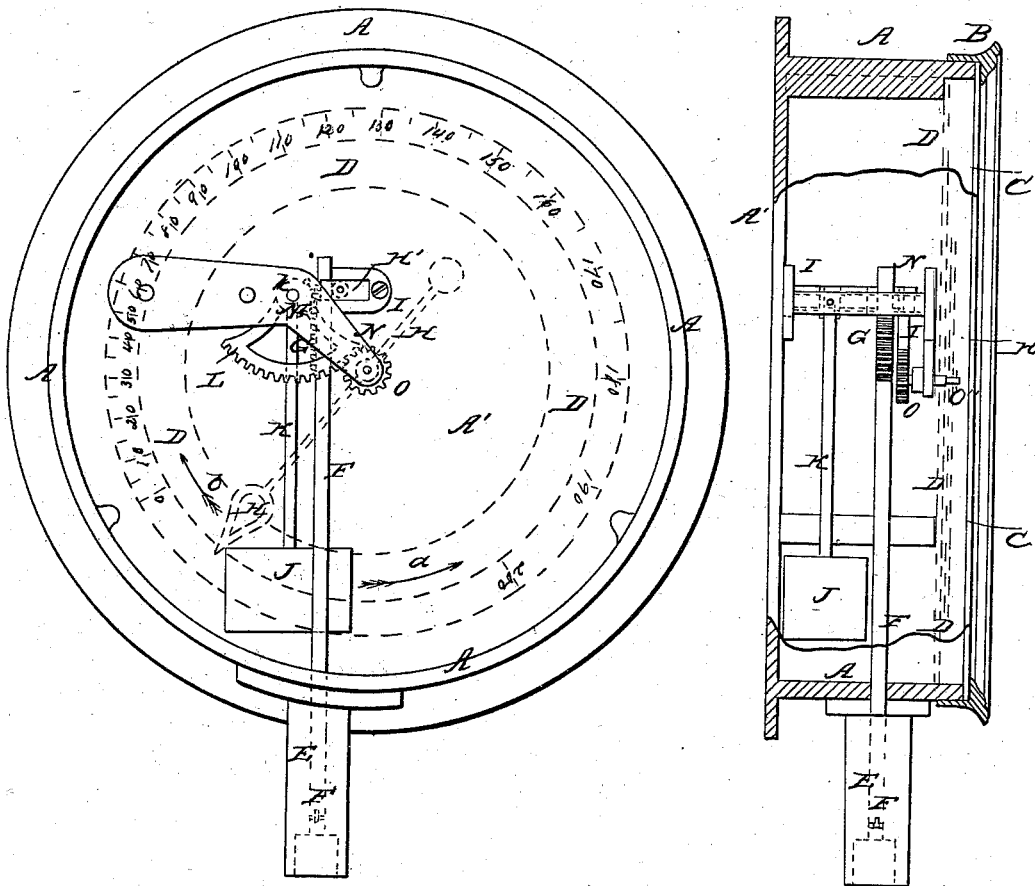


J. DAVIS.

Steam Pressure Gage.

No. 47,936.

Patented May 30, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN DAVIS, OF ALEXANDRIA, VIRGINIA.

IMPROVEMENT IN STEAM-PRESSURE GAGES.

Specification forming part of Letters Patent No. 47,936, dated May 30, 1865.

To all whom it may concern:

Be it known that I, JOHN DAVIS, of the city and county of Alexandria, and State of Virginia, have invented a new and Improved Steam-Pressure Gage; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the adaptation of a pendulous weight, whereby to dispense with springs in steam-pressure gages.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, Figure 1 represents a front elevation of my gage, and Fig. 2 a side view, showing the interior works, part of the case being cut away.

A represents the cylindrical metallic case, with back A' and B, the front part fitting or screwing upon A, having a glass covering-plate, C.

D is a dial or face-plate graduated or indexed to suit a variable pressure.

E is the pipe connecting the gage with the usual parts below, bringing the steam-pressure to bear on the piston F, which, by operating certain parts, to be described, indicates the pressure on dial-face by a hand or pointer, H. The expansion or pressure of the steam being brought to bear in the usual way on the piston F, pushes it up. On its upper extremity there is a rack, G, on the left-hand side, its opposite side passing along a friction-roller, H', in bracket I.

J is a pendulous weight, having an arm, K, pivoted at *k* and attached to a toothed sector, L, and cog-wheel M, all three turning on said pivot *k*. These are properly secured between a bracket, N, and the back of the case. This bracket also serves for a support to the toothed wheel O, which carries a stud, O', and the pointer H, fitting on said stud. In its normal condition the arm K of the pendulous weight J is vertical, and the hand points to

the zero-mark on the dial. When the piston F is pushed upward by the pressure of the steam, the toothed sector and wheel M (whose teeth take in those of the piston) is moved to the right, and the weight is also lifted or moved in that direction, as seen by arrow *a*, while the teeth of the sector, taking into those of cog-wheel O, carrying the pointer H, are moved to the left, as indicated by arrow *b*, and this hand will traverse the entire dial before the weight J is raised through an arc of ninety degrees.

It will thus be seen the steam serves as its own cushion or spring, and a weight to be raised, or overcoming gravitation, is the means by which is indicated the pressure of the steam, sensitive springs more or less affected by a variable or high temperature being dispensed with.

The graduation on the dial is quite irregular, for reasons which must be well understood by those understanding the principle of gravitation.

The lower end of piston F is suitably packed to prevent steam or water passing up along the same and getting into the gage, the method being unnecessary to describe, it being a well-known one adopted in all similar cases. There will be seen at the lower end indications of such packing.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The pendulum-weight J, when used in combination with a steam-pressure gage.

2. The combination and arrangement of the pendulous weight J, piston F, rack G, cog-wheel M, sector L, toothed wheel O, bracket N, and friction-roller H', substantially upon the principle and in the manner as herein set forth.

JOHN DAVIS.

Witnesses:

S. S. FAHNESTOCK,
JOHN S. HOLLINGSHEAD.