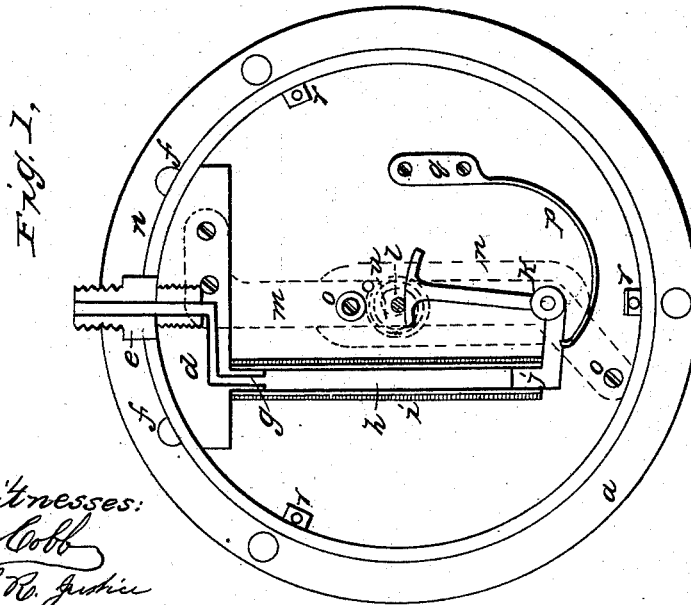
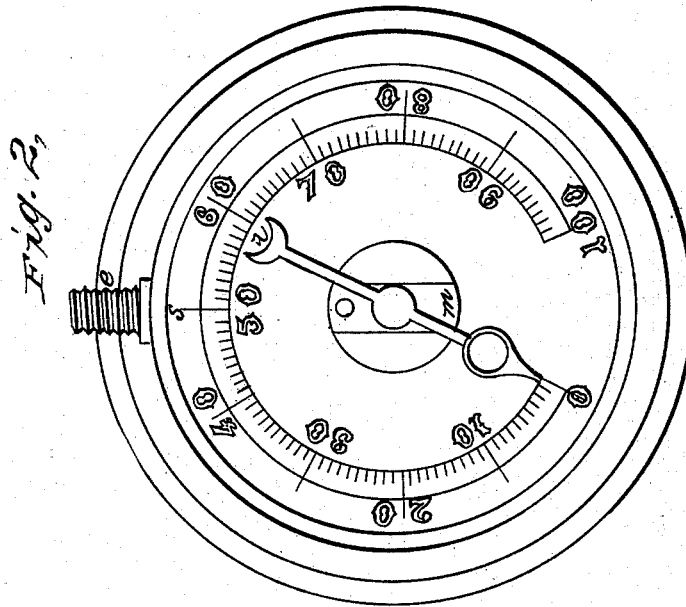


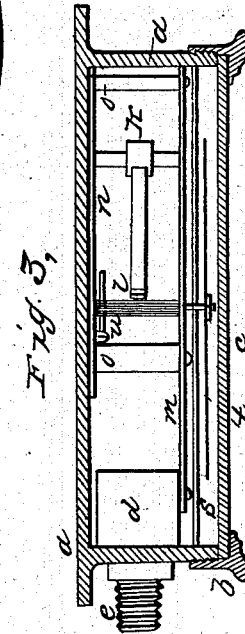
T. SHAW.
Steam Gage.

No. 47,578.

Patented May 2, 1865.



Witnesses:
E. Cobb
H. R. Justice



Inventor.
Thomas Shaw

UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STEAM-GAGES.

Specification forming part of Letters Patent No. 47,578, dated May 2, 1865.

To all whom it may concern:

Be it known that I, THOMAS SHAW, of the city and county of Philadelphia, Pennsylvania, have invented a new and Improved Mode of Constructing Steam-Gages; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists in the employment of rubber tubes in the manner and for the purpose as hereinafter described.

In order to enable others to use and practice my invention, I will proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of the specification, Figure 1 represents the gage with the dial removed. Fig. 2 represents a front view of the same. Fig. 3 represents a section, for the purpose of showing location of pinion, &c., as hereinafter described.

a represents a brass case, to which is attached a cast-iron block, *d*, by means of screws *ff*; *e*, an iron plug screwed into said block, to which steam-connection is made; *g*, a nipple projecting from block *d*, to which is attached india-rubber tube *h*, the lower end of which is united to bell-crank *k*; *i i*, a wire surrounding gum tube *h* for the purpose of supporting the tube under pressure. The bell-crank is pivoted at *k* to strips of brass *m* and *n*. *l* is a pinion gearing into the arc on end of said bell-

crank. Said pinion is pivoted to strips *m* and *n* and carries the hand *t*, and is provided with a hair-spring, *u*, all for the purpose as hereinafter described. The strips *m* and *n* are supported by pillars *o o*, and by screws into the block *d*. *p* is a spring secured to the case at *q*, and presses in one side of bell-crank *k*; *r r*, supports for the dial, which is held to same by means of screws. It is intended that the interior of the tube shall be filled with mercury in order to protect it against the corrosive action of steam, grease, &c.

It will be observed that when pressure is applied on the interior of tube *h* said tube is free to elongate, which operation imparts motion to the bell crank, pinion, &c. The spring *p* offers resistance in proportion to the strength of the spring. The combination of the tube and spring form a gage of pressures in proportion to their size and strength.

It is intended in high pressures to use a metal tube surrounding the gum and wire, for the purpose of preventing the bending of the same under heavy pressures.

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

The employment of a gum tube in the manner specified, for the purpose set forth.

THOMAS SHAW.

Witnesses:

E. COBB,

H. R. JUSTICE.