

No. 764,015.

PATENTED JULY 5, 1904.

case of socket

G. SPENCER.
PRESSURE GAGE.

APPLICATION FILED NOV. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 2.

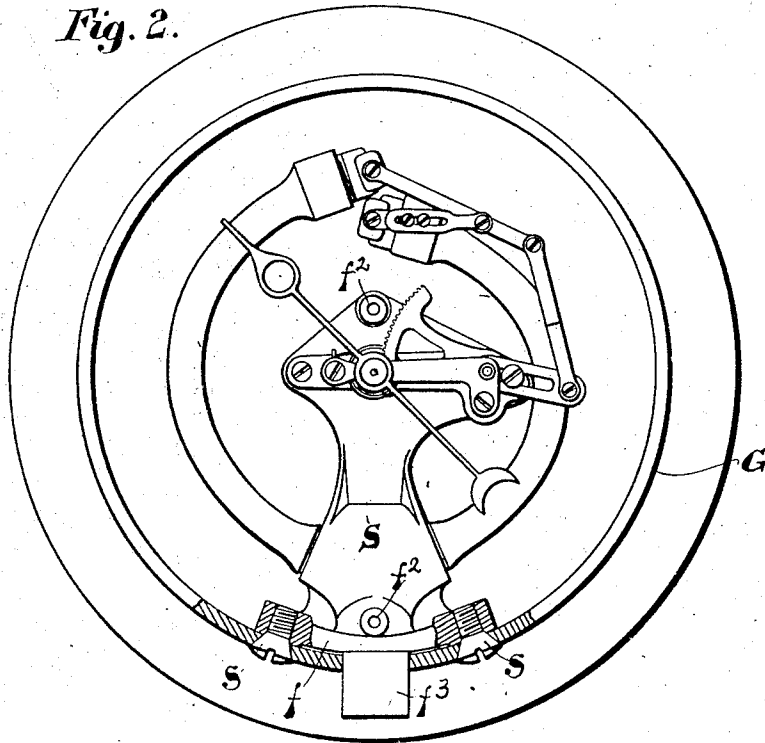
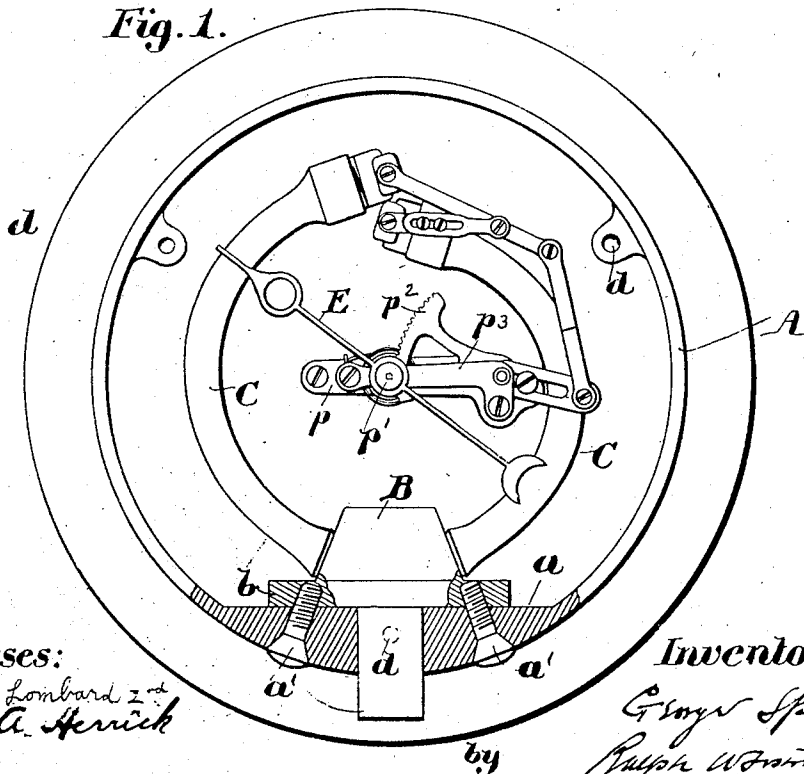


Fig. 1.



Witnesses:

Nathan C. Lombard 2nd
Sara A. Herrick

Inventor:

G. Spencer
Ralph W. Smith, Wm.

by

No. 764,015.

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PATENTED JULY 5, 1904.

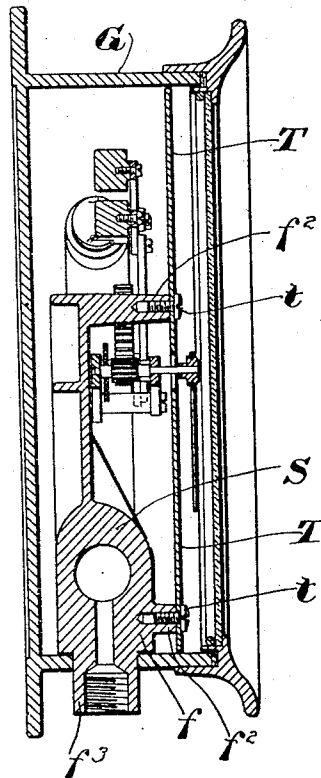
G. SPENCER.
PRESSURE GAGE.

APPLICATION FILED NOV. 10, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

Fig. 3.



Witnesses:

Francis M. Shepherd

Edwin Luce

Inventor:

George Spencer

by Ralph W. Foster
Atty.

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UNITED STATES PATENT OFFICE.

GEORGE SPENCER, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO
CROSBY STEAM GAGE & VALVE CO., OF BOSTON, MASSACHUSETTS,
A CORPORATION OF MASSACHUSETTS.

PRESSURE-GAGE.

SPECIFICATION forming part of Letters Patent No. 764,015, dated July 5, 1904.

Application filed November 10, 1903. Serial No. 180,593. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SPENCER, of Somerville, in the county of Middlesex and State of Massachusetts, have invented certain
5 new and useful Improvements in Pressure-Gages, of which the following is a specification.

My invention relates to certain improvements in pressure-gages, and more particularly to the form and combination of the
10 parts—namely, the gage-case, the gage-socket, the dial, and the mechanism or movement of the gage—and its object is to secure economy, simplicity, lightness, and strength in the combination and to greatly reduce the labor necessary in assembling the various parts.

The invention is illustrated by the accompanying drawings, in which—

Figure 1 is the view of a gage as now made.
20 Fig. 2 is the view of a gage embodying my improvements. Fig. 3 is a central vertical section through Fig. 2, showing in addition the dial T and screws *t t*.

Similar letters refer to similar parts in the
25 two drawings.

Heretofore the pressure-gage case A has been made cylindrical with an inner flattened section *a*, to which is affixed by screws *a' a'* the flattened middle portion *b* of the gage-socket B. To this socket B are attached the
30 springs (Bourdon tube-springs) C C, and to the gage-case A is attached the plate *p*, to which in turn are attached the pinion *p'*, the toothed sector *p''*, and the plate *p'''*, and also
35 the dial, which is attached thereto by screws at the points *d d d*. In this arrangement some of the parts are fastened to the gage-case and some to the gage-socket, and it is necessary to make the gage-case strong and heavy enough
40 to support the parts attached to it. It is also necessary to fit most carefully and accurately the flattened portion *b* of the gage-socket to the flattened section *a* of the gage-case in order to have the center of the case register with
45 the center of the movement or pinion *p'*, to which is fixed the index-hand E, and the center of the dial, which is circular, fits in the gage-case and has a central opening through

which extends the pinion *p'*. This fitting together of the flattened portions *a* and *b* requires a great deal of time and labor. To
50 avoid these difficulties, to provide for the use of a case materially lighter in weight, and to provide for the speedy and accurate assembling of the several parts, I affix all of the parts
55 to the gage-socket S and attach the gage-case G itself to the socket by a curvilinear contact, which insures the speedy and accurate assembling of the parts. This curvilinear contact is secured by making the gage-case cylindrical
60 throughout its inner surface (without the flattened portion *a*) and turning that surface smoothly and curving and turning smoothly the middle portion *f* of the gage-socket S, forming it into an arc having the same radius
65 as that of the gage-case. These parts are fastened together by the screws *s s*. The socket is furnished with studs *f'' f''*, to which the dial T is affixed by screws *t t*. By placing
70 these studs *f'' f''* in perpendicular alinement with the vertical axis of the gage-case I secure an arrangement that is desirable, though not essential. The weight of the gage is thus all
75 placed upon the socket, which has a threaded projection *f'''*, by which it is attached to the pipe leading to the steam-boiler or other reservoir for the storage of power. The case
80 being relieved of all weight may be made of materially lighter proportions than formerly, thus reducing the weight of the gage and making it much more convenient to handle and to mount and less expensive. With this form
85 of gage-case and gage-socket one can easily and economically repair broken gages, as the parts are interchangeable, a thing not heretofore possible. All the parts being fastened
90 to the gage-socket as I have described there is also this advantage over the old form that no springing of the case affects the index-hand.

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

1. In a pressure-gage the combination, with the operative parts of the gage mechanism including the dial, of a cup-shaped gage-case and a gage-socket, the latter contacting with the
95 curved wall only of the case and in curvilinear

contact therewith; all the said operative parts being supported by the gage-socket independently of the gage-case; substantially as described.

- 5 2. In a pressure-gage the combination, with the operative parts of the gage mechanism including the dial, of the cup-shaped gage-case G and the gage-socket S, the latter contacting with the curved wall only of the case and in
10 curvilinear contact therewith, all the said op-

erative parts being supported by the gage-socket independently of the gage-case; substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

GEORGE SPENCER.

Witnesses:

SARA A. HERRICK,
RALPH W. FOSTER.