

UNITED STATES PATENT OFFICE.

JAMES P. MARSH, OF CHICAGO, ILLINOIS.

PRESSURE-GAGE.

SPECIFICATION forming part of Letters Patent No. 448,449, dated March 17, 1891.

Application filed September 16, 1890. Serial No. 365,130. (No model.)

To all whom it may concern:

Be it known that I, JAMES P. MARSH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Steam-Gage Cases, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front view of a gage the case of which embodies the features of my invention, and Fig. 2 is a central vertical sectional view thereof.

Corresponding letters of reference in the different figures designate like parts.

Heretofore it has been customary to attach steam-gages, especially those of a comparatively large size, directly to the boiler-front; and they have been made with an enlarged rim or flange at the back especially for this purpose. Small sizes are often supported upon the steam-pipe with which they are connected; but as this is not practicable for large ones they are supported as described, in order to insure stability. This manner of constructing the case and attaching it to the boiler-front renders it liable to become overheated and its action to be uncertain.

The object of my invention is to overcome these objections and to so construct and support a steam-gage case as to prevent it from becoming overheated, while the cost of manufacture may be materially lessened in the saving of metal employed therein; all of which I accomplish in the manner hereinafter described and claimed.

Referring to the drawings, *a* indicates the body of the case, which is preferably made of cast-iron or other metal. The diameter and depth of the main part of said case is sufficient to enable the usual expansion-tube *b* and the other mechanism of a steam-gage for actuating the indicator *c* to be inserted therein. A flange *d* is formed upon the part *a*, which is arranged in a plane parallel with the back, to the face of which flange is attached a dial *e*. An annular flange or rim *f* is formed upon the part *d*, which serves as a

rest for the glass face *g*, which is retained in position by means of a removable molding *h*. Legs *j'* are attached to the flange *d* and are of sufficient length to hold the back of the case well away from the boiler-front *k*, Fig. 2, to which they are attached by means of bolts or screws *j'*. The expansion-tube *b* is connected with the steam-pipe *m* by means of a nipple *a'*, formed upon the back of the case.

A facing of asbestos packing *n*, or other suitable non-conducting material, is placed upon the back and around the main body *a* of the casing, while a like facing *o* is placed within the casing in a corresponding manner, as clearly shown in Fig. 2, the latter being placed between said casing and said operative mechanism in order more fully to protect the latter from the action of heat.

The offset formed by the flange *d* enables a large dial to be employed, while it is obvious that the main body of the case may be comparatively small. By substituting the legs in lieu of a large base I am not only enabled to place the case away from the boiler-front, thereby permitting a free circulation of air behind it, but to save metal as well. The employment of the legs in connection with the insulating material prevents any unnecessary variation of the gage resulting from undue change of temperature, and causes it to register at all times with great accuracy.

Having thus described my invention, I claim—

1. The combination, with the case of a steam-gage, of legs for sustaining the same upon the boiler-front or other support, and a facing of insulating material interposed between the case and said front, substantially as shown and described.

2. The combination, with the case of a steam-gage, of means for supporting the same away from the boiler-front or other support, and a covering of insulating material upon the outside and inside of said case, substantially as shown and described.

3. The combination, with the case of a steam-gage, of a covering of insulating mate-

rial upon the outside and inside of said case, substantially as shown and described.

4. A case for steam-gages, consisting of the main body *a*, a flange *d*, annular flange *f*, and
5 legs *j*, of a greater length than the depth of the main body of the case, substantially as shown and described.

In testimony whereof I have signed this

specification, in the presence of two subscribing witnesses, this 11th day of September, 1890.

JAMES P. MARSH.

Witnesses:

D. H. FLETCHER,

J. B. HALPENNY.