

J. L. FATE.
 INDICATOR FOR VACUUM JACKETS.
 APPLICATION FILED DEC. 16, 1908.

932,008.

Patented Aug. 24, 1909.

Fig. 1.

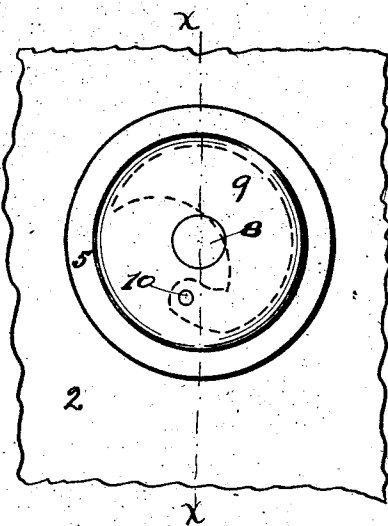


Fig. 2.

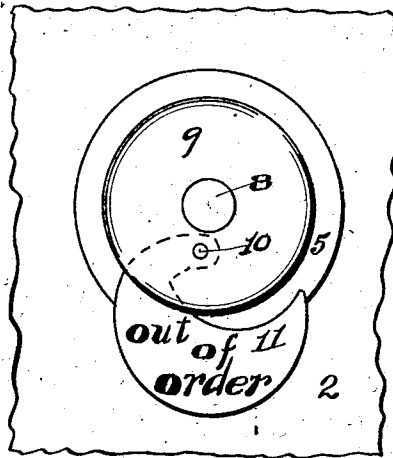
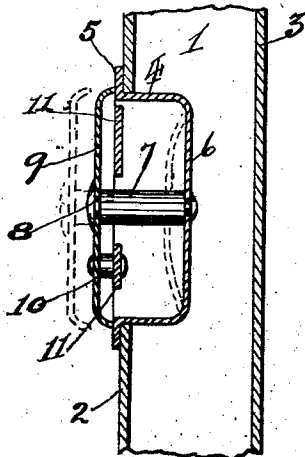


Fig. 3.



WITNESSES:

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INDICATOR FOR VACUUM-JACKETS.

932,008.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed December 16, 1908. Serial No. 467,891.

To all whom it may concern:

Be it known that I, JOHN L. FATE, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented a certain new and useful Improvement in Indicators for Vacuum-Jackets, of which the following is a specification.

My invention has for its object to provide an improved indicator for vacuum jackets, and to this end the invention consists of the novel device and combinations of devices hereinafter described and defined in the claim.

The invention is illustrated in the accompanying drawings, wherein like references refer to like parts throughout the several views.

In said drawings, Figure 1 is a view in elevation, showing a portion of a vacuum jacket equipped with my improved indicator, with the signal piece thereof in its uppermost or concealed position; or the position which it normally keeps so long as the vacuum is intact; Fig. 2 is a similar view of the same parts, but with the signal piece shown in its exposed position or the one to which it drops under the action of gravity as soon as the vacuum is broken; Fig. 3 is a vertical section on the line $x^3 x^3$ of Fig. 1.

In the said drawings, the numerals 2 and 3 represent the walls of the vacuum jacket inclosing a chamber 1 adapted to afford a vacuum chamber when the air is exhausted therefrom. In the external wall 2 of this jacket is mounted a flanged cup 4 with its flange 5 brazed fast to the said wall with an air tight joint. The inner end 6 of this cup 4 is adapted to serve as a diaphragm subject to the atmospheric pressure on its external face and to whatever pressure may be within the chamber 1 on its internal face. To the diaphragm 6 is fixed a stud 7 which carries, at its outer end, a concave shield or cover 8 of slightly greater diameter than the cup 4. This cover 8 has a stud 9 below the center of the cup 4 and the stud 7 to which is pivoted an eccentric signal piece 10 of hook shape on its inner edge. This signal piece 10 is made of this shape so that it may be turned up into the position shown in Fig. 1 and is of such size that it can be embraced by the cover or shield 8 and be held up by the cup and the inwardly projecting

edge flanges of the cover 8 when the parts are in the position shown in Figs. 1 and 2. The parts take this position under the effect of the atmosphere on the diaphragm 6 as long as the vacuum in the chamber 1 remains intact; and, hence, as long as this condition continues, the signal piece 10 will be concealed by the cover 8. If, for any reason, the vacuum in the chamber 1 should become broken, then the air pressure will equalize on the opposite sides of the diaphragm 6 and the latter, together with all parts carried or operated thereby, will move outward into the dotted line positions shown in Fig. 3; and thereupon, the signal piece 10 will drop into its exposed position, as best shown in Fig. 2. The signal piece 10 thus drops under the action of gravity, for the reason that the inturned flanged portion of the cover 8 will have moved outward far enough to permit the signal piece to drop between the cover and the outer wall 2 of the jacket. In practice, it is preferable to have on the face of the signal piece 10 the words "Out of order" so as to attract attention.

The advantage of such an indicator for use on vacuum jacketed storage and shipping receptacles is obvious.

Of course, it must be understood that the details of the construction can be changed within the scope of the appended claim without departing from the spirit of the invention.

What I claim is:

A vacuum jacket having an indicator diaphragm supported in its outer wall to move inwardly and outwardly as a vacuum is maintained or lost, a cover spaced apart from and movable with said diaphragm and a signal piece or indicator mounted in the space between the cover and diaphragm, the said parts being so arranged that said cover will keep the signal piece concealed as long as the diaphragm is in its innermost position or while the vacuum is maintained and that the signal piece will move into an exposed position as soon as the cover moves outwardly or the vacuum is lost, substantially as described.

JOHN LAMPSON FATE.

Witnesses:

C. M. BAUMEISTER,
G. GOLDSMITH.