

(No Model.)

C. W. SIVER.
PRESSURE GAGE INDICATOR.

No. 533,614.

Patented Feb. 5, 1895.

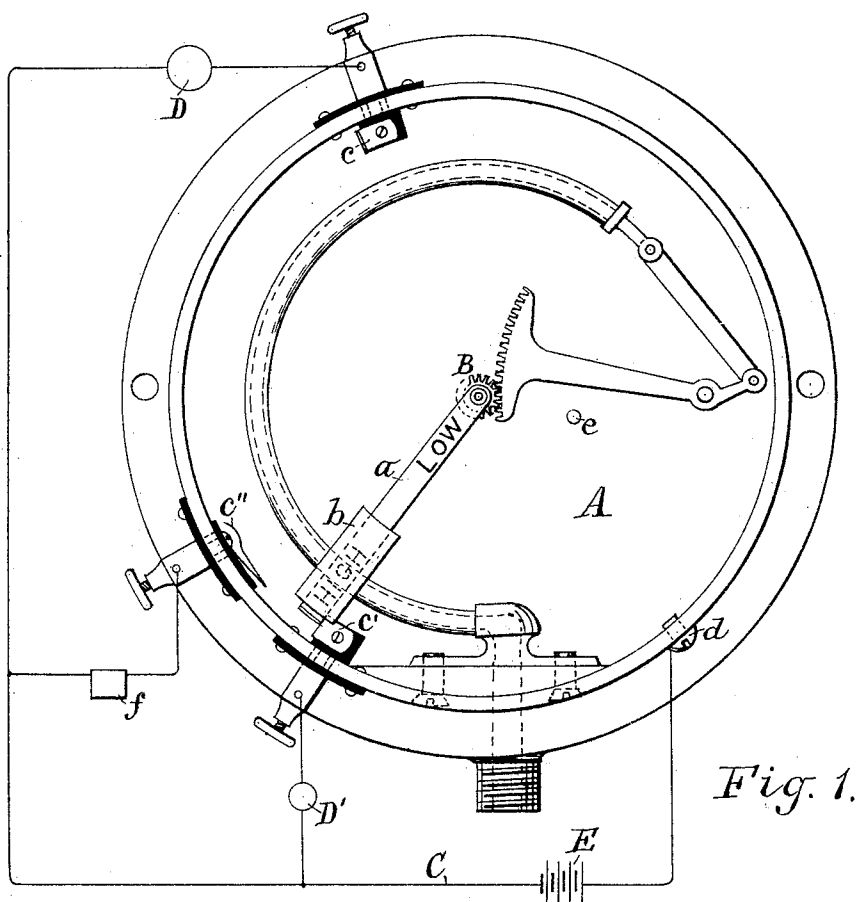


Fig. 1.

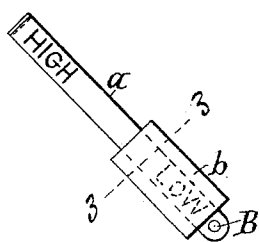


Fig. 2.



Fig. 3.

Witnesses:

Mark W. Dewey
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Inventor.

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UNITED STATES PATENT OFFICE.

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PRESSURE-GAGE INDICATOR.

SPECIFICATION forming part of Letters Patent No. 533,614, dated February 5, 1895.

Application filed May 28, 1894. Serial No. 512,603. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. SIVER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Pressure-Gages, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to certain appliances designed to be employed in connection with apparatus responding to variations in pressure and especially to high and low pressure, for the purpose of controlling an electric current in circuits provided with audible signal devices.

The object of my invention is to provide simple and efficient means in connection with a pressure-gage for showing the pressure both visibly and audibly.

To this end my invention consists in the combination with a pressure-gage, of an oscillating circuit closing arm, electric contacts between which the said arm vibrates, signs carried by the arm, and a slide on the arm adapted to move automatically with the movement of the arm to cover one and expose to view the other of said signs; and my invention consists in certain other combinations of parts hereinafter described and specifically set forth in the claims.

In the drawings hereto annexed and forming a part of this specification, Figure 1 is a front view of the gage with a diagram of the electric circuits connected thereto. Fig. 2 shows the circuit closer in its opposite position and with the slide thereon moved to its opposite position, and Fig. 3 is an enlarged sectional view on line 3-3, of Fig. 2.

Referring specifically to the drawings, A represents a pressure gage of any suitable character and well known construction, whether operated by air, water or steam. The arbor, B, of this gage carries instead of the usual form of pointer or indicator an arm *a*. This arm is formed of a thin strip of metal the sides of which are parallel. On the face of this arm is engraved or lettered at one end the word "High" and at the other end the word "Low." On this arm is carried a metal slide, *b*, which is of a size to cover one of the words or signs on the arm and this cover may

slide on the arm lengthwise of the same to cover either word thereon. The slide moves by gravity so that when the arm is moved to the upper electric contact, *c*, indicating high pressure, the slide drops down toward the arbor, B, covering the word "Low" and exposing the word "High" on the opposite end of the arm; and when the pressure is low the free end of said arm falls down to the electric contact, *c'*, which position of the arm, *a*, allows the slide, *b*, to slide to the free end of the arm covering the word "High" and exposing the word "Low" on the arm.

The gage shown in the drawings is that having a hollow curved spring called a Bourdon tube linked at its free end to the arm of a pivoted lever provided with a segmental gear which meshes with a pinion on the arbor B. The said hollow curved spring is connected with the air or steam inlet where it is secured to the case. In the path of the arm or rather at the ends of the path are the electric contacts, *c*, and *c'*. These contacts are provided with binding posts on the outer side of the case and are insulated from said case. One terminal of an electric circuit, C, is connected directly to the case at *d* and the other pole of the battery, E, is connected with a divided circuit, one branch being connected with the high pressure contact, *c*, and the other branch with the low pressure contact. These branches are provided with electro magnetic bells, D, D', of different size so that the different pressures may be distinguished without looking at the visual indicator on the arm. Should it be desired a third electric contact may be secured to and insulated from the case between the other contacts, and connected in a separate branch circuit provided with another bell or a buzzer, *f*, to indicate an intermediate pressure, say, of five pounds, so that the operator will be notified before the lowest pressure is reached. To accomplish this, I provide a very light flexible contact, *c''*, which extends slightly into the path of the arm and will not interfere perceptibly with the movement of the arm. The free end of the arm, *a*, is bent back so that the slide cannot drop off and so that a larger surface will make contact with the stationary contacts, *c*, *c'* and *c''*. A stop, *e*, projects for-

ward from the back of the case below the lever carrying the segmental gear to relieve the arm from strain should the pressure be raised higher than is necessary to move the arm to the high pressure contact, or stop *c*.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a pressure-gage, of an oscillatory circuit closing arm, signs on said arm, and a cover for the signs adapted to slide on said arm and to cover one of the signs at a time, as set forth.

2. The combination with a pressure-gage having an oscillatory arbor, of an arm carried by said arbor, a sign on each end of the arm, a slide adapted to move by gravity on said

arm to cover one or the other of said signs, and stops to limit the movement of said arm, as set forth.

3. The combination with a pressure-gage, having an oscillatory arbor and an arm having its side edges parallel, of signs on the face of said arm, one near each end thereof, a cover for the signs carried on said arm and adapted to slide thereon by gravity and cover the said signs alternately, and a stop to limit the movement of the arbor as set forth.

In testimony whereof I have hereunto signed my name.

CHARLES W. SIVER. [L. S.]

Witnesses:

MARK W. DEWEY,

H. M. SEAMANS.