

(No Model.)

T. J. KIELEY.
STEAM REGULATOR.

No. 389,227.

Patented Sept. 11, 1888.

Fig. 1.

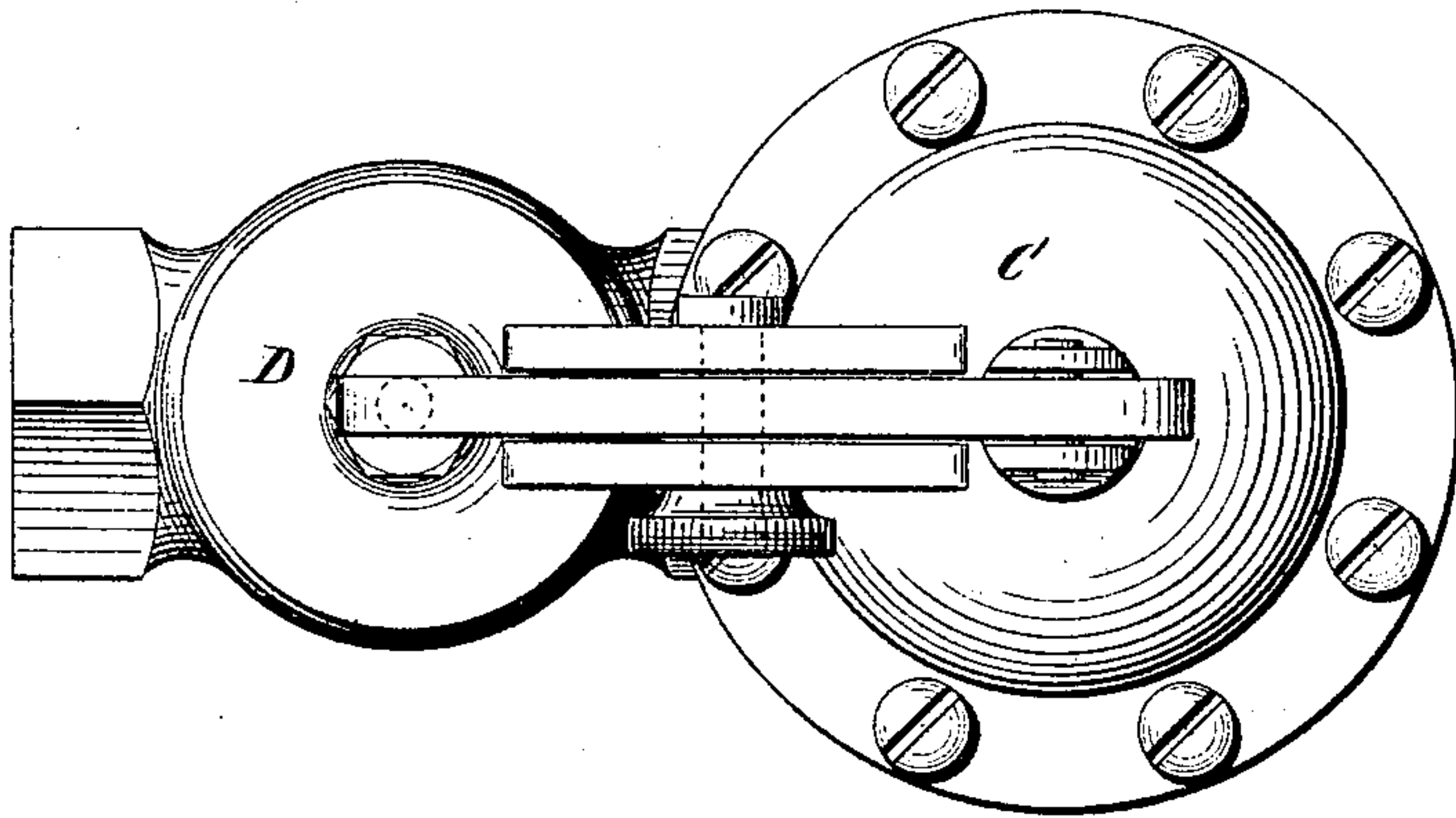
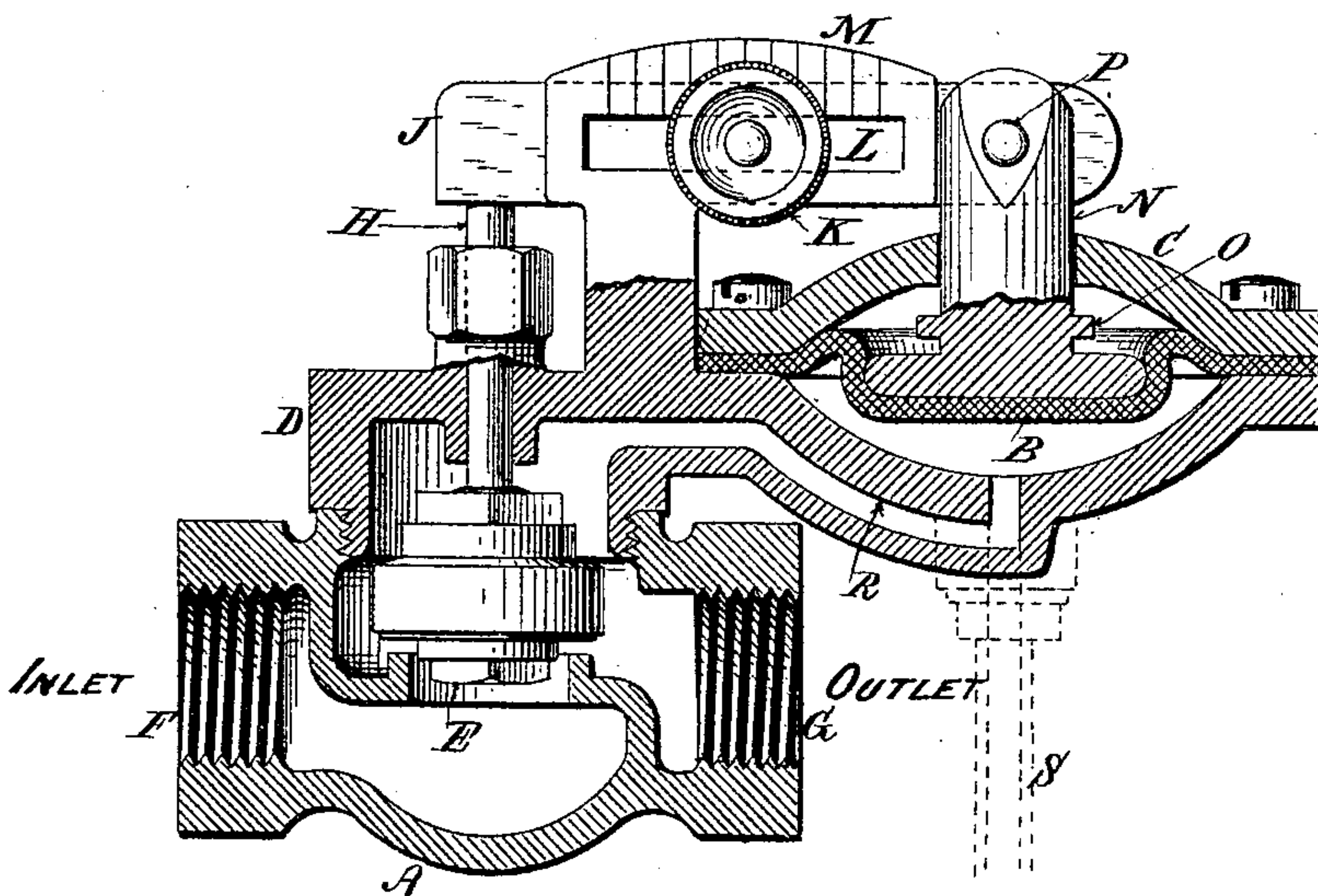


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

TIMOTHY J. KIELEY, OF NEW YORK, N. Y.

STEAM-REGULATOR.

SPECIFICATION forming part of Letters Patent No. 389,227, dated September 11, 1888.

Application filed June 29, 1887. Serial No. 242,886. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY J. KIELEY, of the city, county, and State of New York, have invented a new and useful Improvement in Steam-Regulators, of which the following is a full, true, and exact description, reference being had to the accompanying drawing.

My invention relates to an improvement in steam-regulators in which the flow of the steam is regulated by the pressure on the delivery side of the apparatus; and it is specially designed as a steam-regulator useful in cars or similar moving structures in which springs or weights might be disadvantageous.

In my apparatus no springs or weights are required, though it is adjustable. Its details of construction will be readily understood from the accompanying drawing.

A represents the valve-box, in which the valve E is located. This controls the passage of steam from the inlet F to the outlet G. It is closed by a valve-stem, H, which passes upward through a stuffing-box and rests on the bottom of the lever J. This lever is supported in the adjustable fulcrum K, which can be moved longitudinally in the slot L in the fulcrum-support, as shown. The other end of the lever J is fast in the pivot P, which connects by the arm N with the diaphragm B. This diaphragm is connected with the delivery side of the apparatus by the channel R, as shown. The fulcrum K is adjustable, and may be locked in the supporting-frame by means of a set-screw, as shown, and it may be adjusted longitudinally, so as to vary the distance between itself and the rods H and N. Graduations may be employed to aid in the setting of this fulcrum at the right place. Upon the rod N is placed the ring O, having a ground joint upon it which will seat upon the under side of the casing C.

The operation of my apparatus can now be understood.

The steam enters by the inlet F. Its pressure tends to raise the valve E. It therefore flows past this valve and fills the chamber be-

neath the diaphragm B. This pressure tends to close the valve E, and will do so when it becomes sufficiently great to overcome the resistance of the valve E. This point is determined by the position of the fulcrum K. Instead of taking the pressure to close the valve E directly from the outlet G, the passage R may be closed and the closing pressure taken through the pipe S, (shown in the dotted lines.) In case of the breakage of the diaphragm B the steam would tend to escape upward around the arm N, which is not packed. In this case the attendant removes the fulcrum K, and by raising the lever J closes the joint at O against the top of the chamber, which prevents the escape there. If desired, an additional screw may be employed to insure the closure of this valve.

Of course this apparatus is useful for other regulators besides that of steam.

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

1. The combination, in a regulating-valve, of valve E, regulating-diaphragm B, lever J, pivoted in post N and provided with a longitudinal slot, and fixed fulcrum M, provided with a corresponding longitudinal slot, and adjustable pivot L, substantially as described.

2. The combination of the valve E, lever J, having adjustable fulcrum K, diaphragm B, and stem N, provided with ground valve-seat O, substantially as described.

3. The combination of the valve E, the diaphragm B, the lever J, fixed against longitudinal motion, and a fulcrum, K, and an opening or openings in lever J, whereby it can be set at different points in the length of the lever, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

TIMOTHY J. KIELEY.

Witnesses:

ANTHONY GREF,
H. CONTANT.