

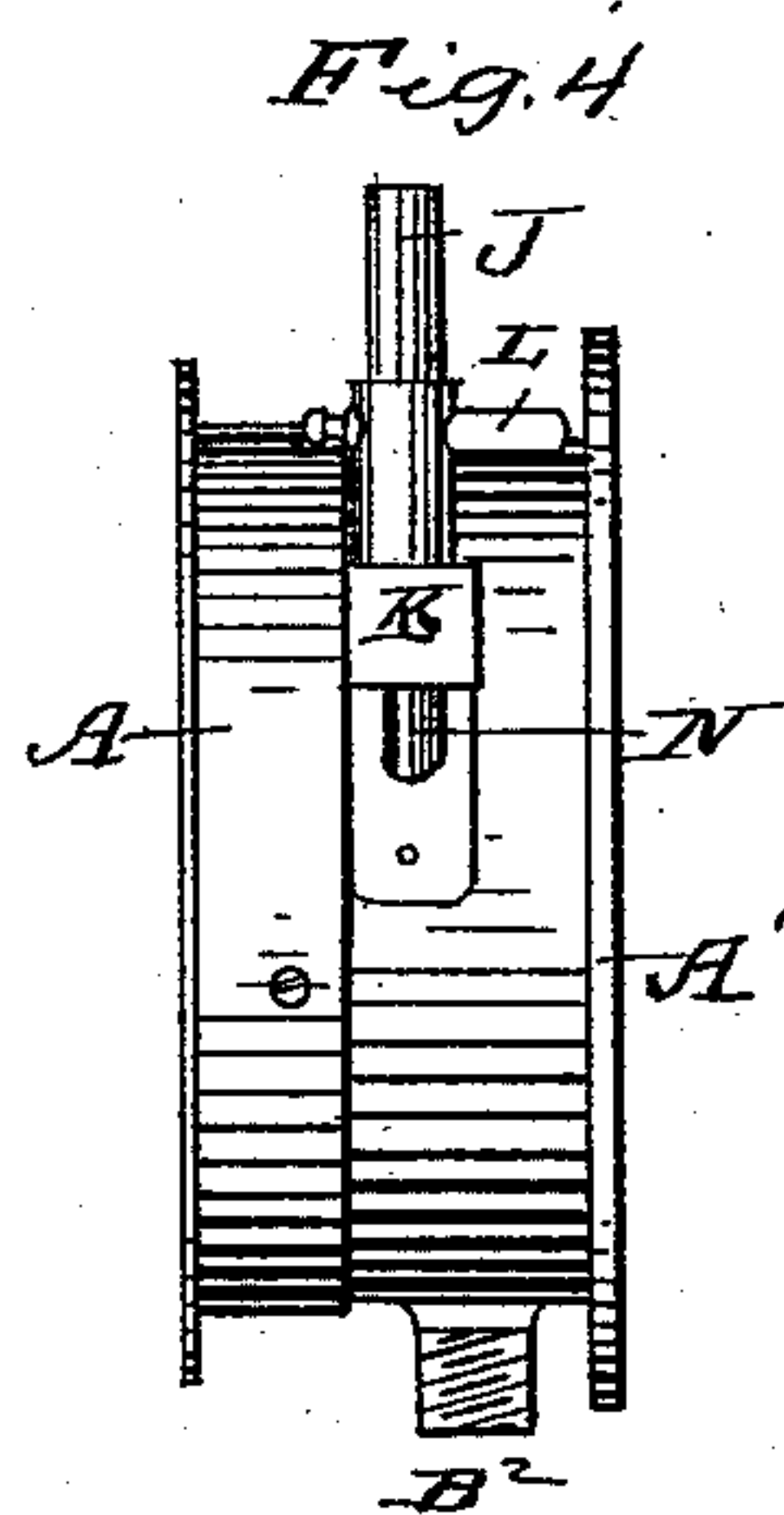
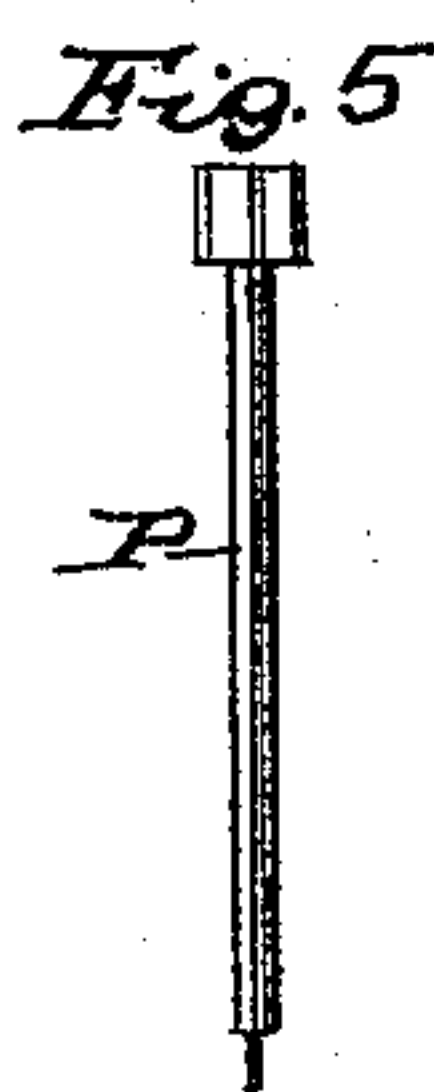
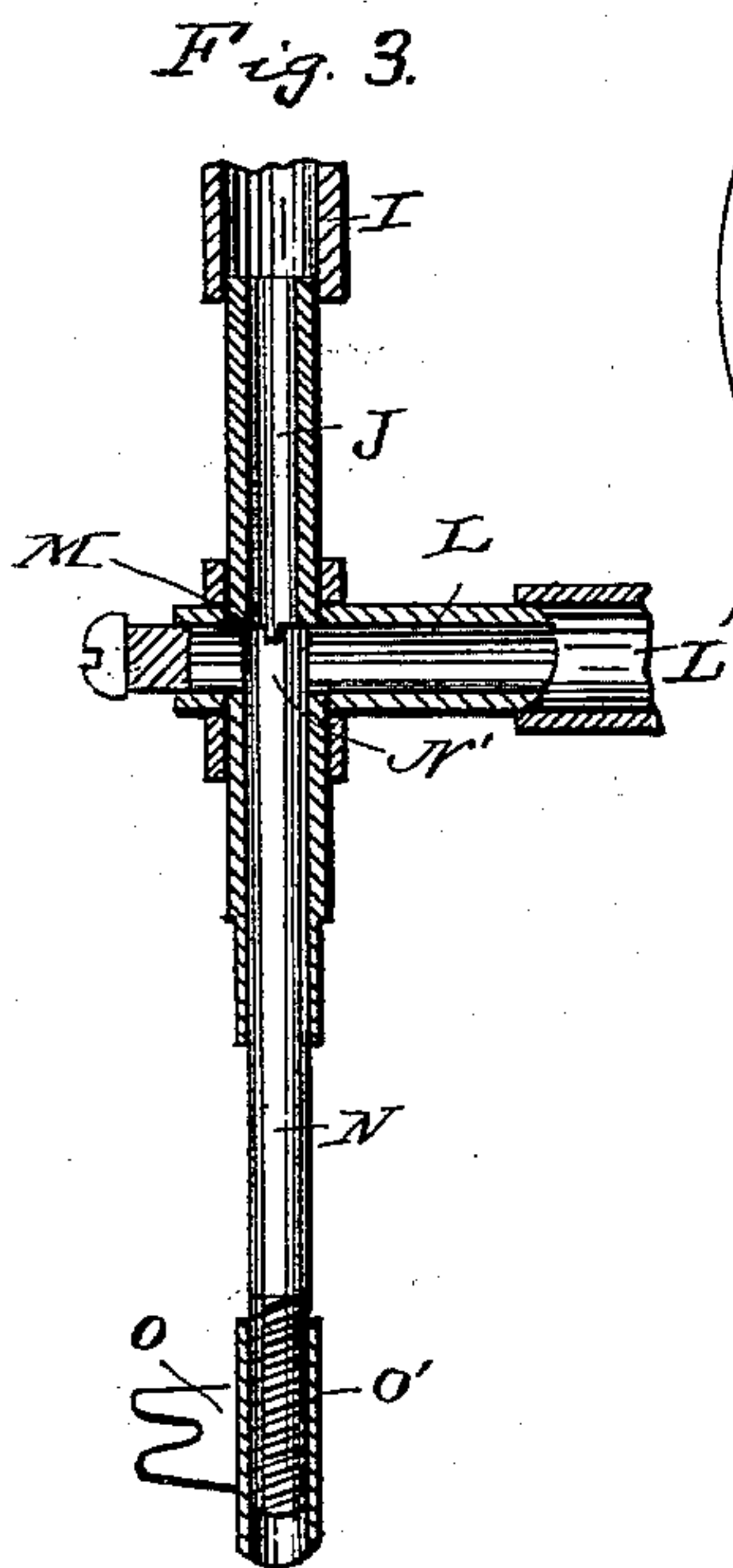
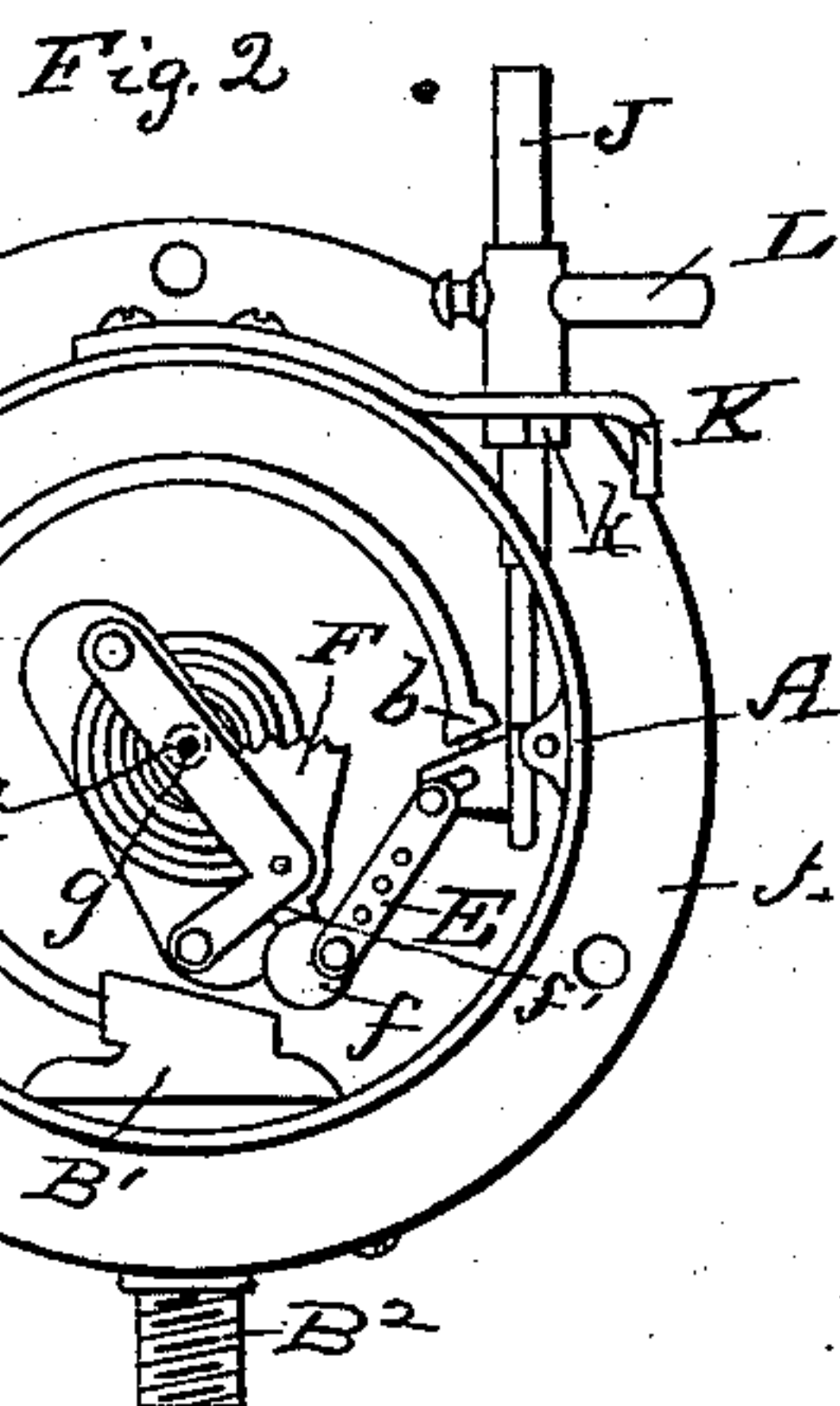
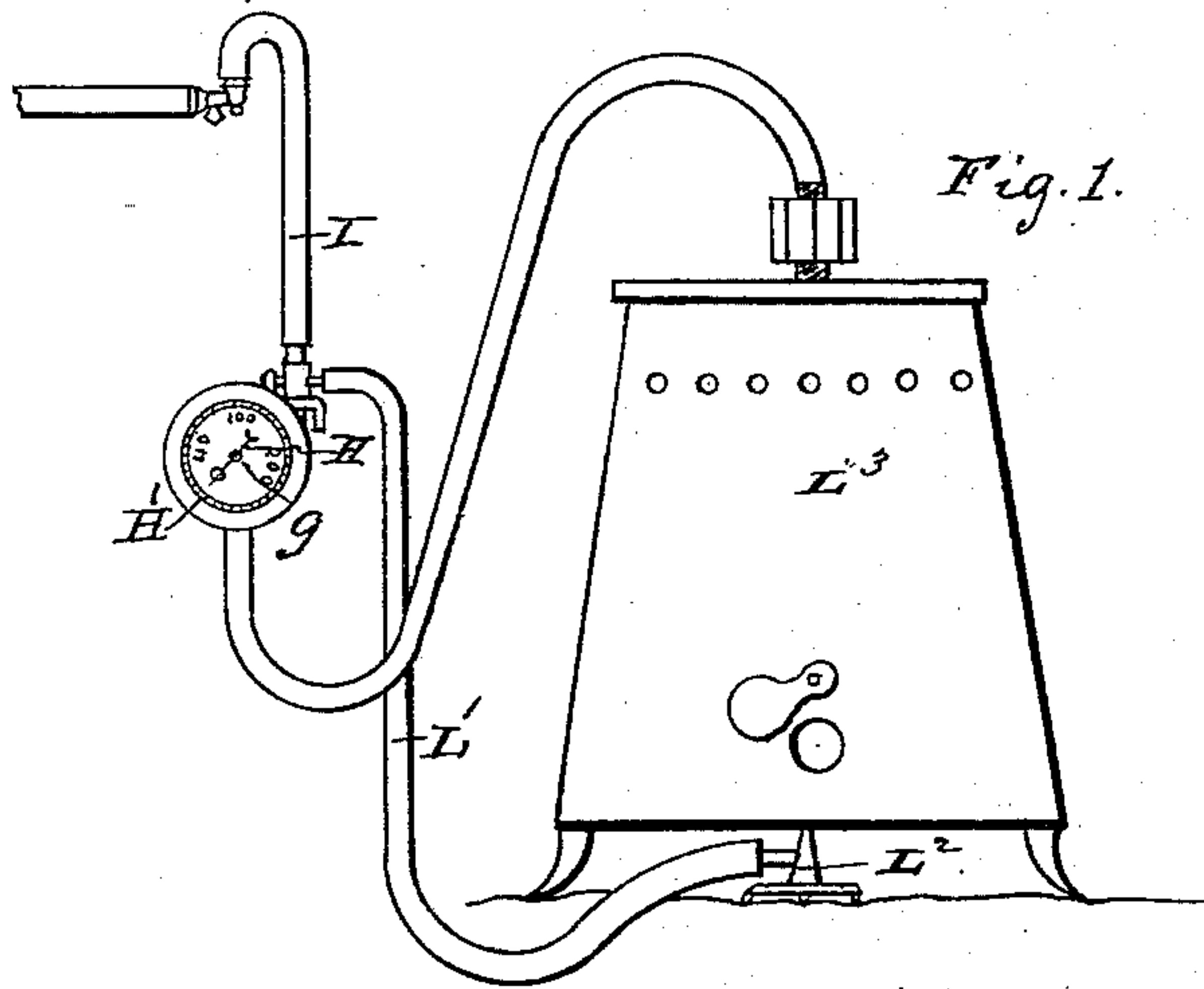
(No Model.)

F. H. CHIDESTER.

DEVICE FOR REGULATING HEAT IN VULCANIZERS.

No. 300,952.

Patented June 24, 1884.



Witnesses:

J. S. Barker.
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UNITED STATES PATENT OFFICE.

FRANK H. CHIDESTER, OF MASSILLON, OHIO.

DEVICE FOR REGULATING HEAT IN VULCANIZERS.

SPECIFICATION forming part of Letters Patent No. 300,952, dated June 24, 1884.

Application filed October 26, 1883. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. CHIDESTER, a citizen of the United States, residing at Massillon, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Devices for Regulating Heat in Vulcanizers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to improvements in devices for regulating the flow of gas to the burners employed in vulcanizers.

The object of the invention is to provide simply-constructed but efficient means for 15 regulating the gas, which can be readily secured to a steam-gage, and which shall have the parts thereof so arranged as that they can be delicately adjusted without inconvenience, these parts consisting of a valve-rod, ducts for 20 the gas, a valve therein, and a support for securing these parts to the steam-gage, all of which will be fully set forth hereinafter.

Figure 1 is a side view showing the general relations of the vulcanizer, the gas-feeding devices, and the regulator for the gas. Fig. 2 is 25 a face view of the steam-gage with the front plate thereof removed, this view showing the relation of the gage to the gas-regulator. Fig. 3 is a vertical section through the regulating device detached, and on a larger scale. Fig. 30 4 is a side view of Fig. 2. Fig. 5 is a detail view.

I have selected a form of steam-gage which is in detail well known, and therefore need not 35 be fully described herein, it being sufficient to say that A represents a casing-wall; A', the back piece; B, the curved steam-tube therein, which tends to straighten as the pressure of steam increases; B', the head of said tube, secured to the casing A; B², the tube by which 40 it is connected to the steam-tube from the generator; E, a link jointed to the end *b* of tube B; F, a toothed sector joined to the link E by a disk, *f*, and arm *f'*; G, a small wheel, 45 (in dotted lines;) *g*, the shaft of said wheel; H, the index or pointer secured to shaft *g*, and H' the scale over which moves the pointer, all of these parts, as said above, operating in the well-known manner.

I L' represent the tube through which the 50 gas is drawn from the main to the vulcanizer. The part I is fastened to the end of a metallic tube, J, which is firmly secured to the casing-wall in any suitable position, preferably in the manner shown—that is to say, by means 55 of a bent bracket-piece, K, it being held thereto by a nut at *k*.

L is the tube communicating with the tube J, and to it can be attached the hose or other tube L', which carries the gas to the burner 60 L² beneath the vulcanizer L³.

At M there is a valve-seat, against which a sliding valve, N', is adapted to rest more or less tightly to regulate the flow of gas from the tube J to the tube L. The valve N' has a 65 long stem, as at N, which passes through an aperture in the side wall of the casing. At the inner end it is connected with the curved steam-tube B by means of a plate, O, loosely connected to said steam-tube, and joined by a 70 nut, O', with the stem N of the valve. As the end *b* of the steam-tube moves to and fro, it carries with it the plate O and nut O', and therefore moves stem N and valve N' to and from seat M, and in this way the passage of 75 gas to the burner L² will be automatically regulated by the pressure of the steam in the vulcanizer, the steam varying according to the amount of gas which is delivered to the burner. The regulator may be set for any required 80 pressure by turning the valve-stem in one direction or another in the nut O'. This turning can be readily effected by withdrawing the hose or pipe I from the tube J, then inserting a key, P, engaging with the valve M, 85 the stem N, and imparting to the stem the necessary number of revolutions to the right or to the left to adjust the valve N' to such distance from the valve-seat as will correspond with the required pressure. 90

Although in the drawings I have, as said above, shown in detail a steam-gage of one form, yet I do not claim that portion of the device, broadly, as my invention; nor do I claim, broadly, the combination of a vulcan- 95 izer, a steam-gage, a gas-feed, and a valve mechanism operated by the steam-gage, as I am aware of the fact that combinations em-

bodying these elements, broadly considered, have been heretofore used in various ways; but I am not aware that use has been made of a device containing parts as simple in their construction and arrangement as are those in my regulator, or having parts the positions of each of which can be as readily adjusted as can those in mine which require adjustment.

What I claim is—

10 1. The combination of the steam-gage, the valve-rod N, which passes through the side of the gage, the elbow or connecting-tube, the support K, secured to the gage and clamped to the said elbow or connecting-tube, the gas-tubes J and L, secured to the connecting-tube, and the valve within the connecting-tube, operated by the valve-rod N, substantially as set forth.

20 2. The combination of the gas-tube J, the gas-tube L, the elbow or connecting-tube, the

support K, the valve within the connecting-tube, the valve-rod N, the slotted plate O, the threaded tube O', secured to said plate, and the devices within the steam-gage secured to said slotted plate O, substantially as set forth. 25

3. The combination of the gas-tube J, the gas-tube L, the elbow or connecting-tube, the support K, for said connecting-tube, the valve-rod N, having its outer end adapted to receive a key or adjusting device, the devices within the gage for moving the valve-rod, and the connecting-plate O, adjustably secured to the valve-rod, substantially as set forth. 30

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

FRANK H. CHIDESTER.

Witnesses:

SIMPSON J. HARMOUNT,
ISAAC ULMAN.