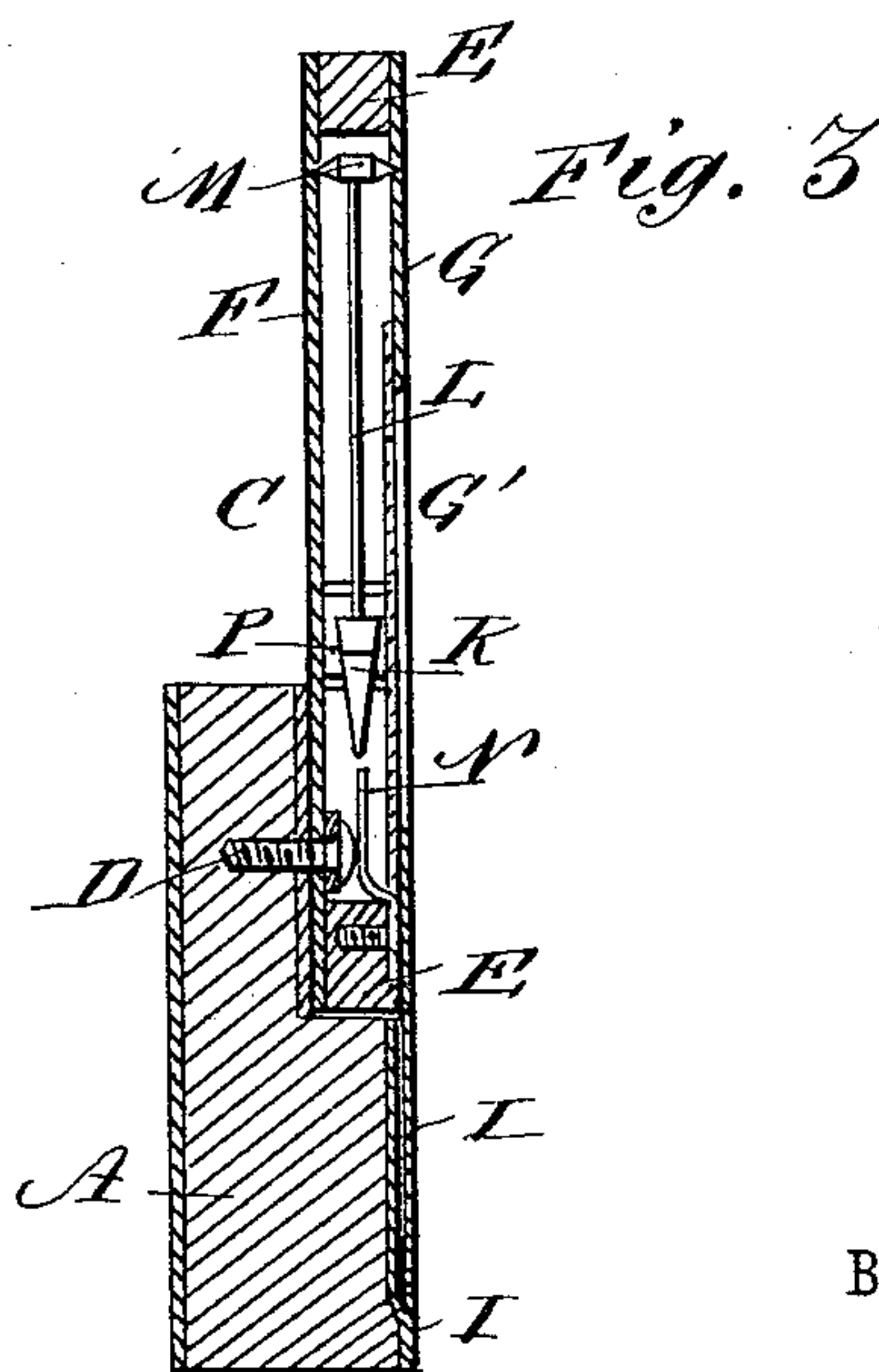
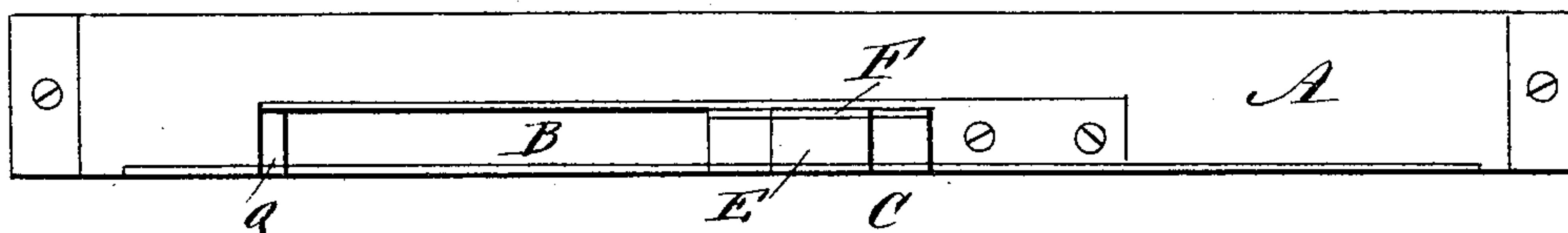
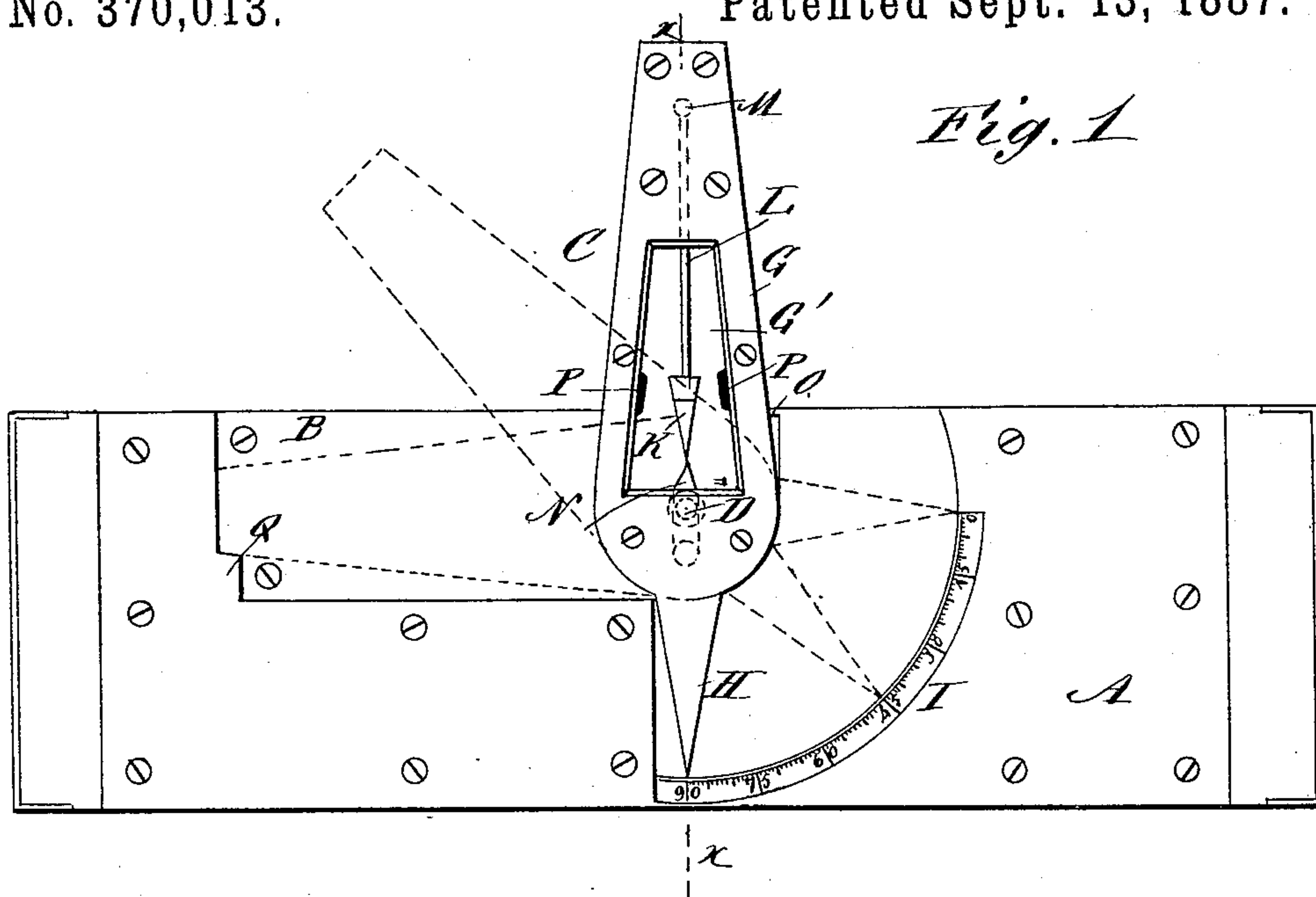


(No Model.)

O. B. FULLER.
PENDULUM LEVEL.

No. 370,013.

Patented Sept. 13, 1887.



WITNESSES:
C. Neveux
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UNITED STATES PATENT OFFICE.

OSCAR B. FULLER, OF BURLINGTON, KANSAS, ASSIGNOR TO HIMSELF AND
JOHN A. ELLSWORTH, OF SAME PLACE.

PENDULUM-LEVEL.

SPECIFICATION forming part of Letters Patent No. 370,013, dated September 13, 1887.

Application filed May 3, 1887. Serial No. 236,954. (No model.)

To all whom it may concern:

Be it known that I, OSCAR B. FULLER, of Burlington, in the county of Coffey and State of Kansas, have invented a new and Improved
5 Pendulum-Level, of which the following is a full, clear, and exact description.

My invention has reference to that class of leveling, plumbing, and angle-measuring instruments wherein a pendulous bob deter-
10 mines the vertical line which forms the basis of the various indications; and it has for its object to simplify and improve their construction, to increase their sensitiveness and accuracy, and to render them more convenient in
15 use.

The invention consists in certain novel features of construction and combinations of parts, as hereinafter fully described, and specifically defined by the claims.

20 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a face view of the instrument, showing it in full lines adjusted as a level and in dotted lines as a plumb and angle-measuring instrument, respectively. Fig. 2 is an edge view; and Fig. 3 is a section on the line
25 *x, x*, Fig. 1.

30 The straight-edged block A is faced with metal and formed with a recess, B, extending inward from one side, and from near one end to a short distance beyond the middle of its length. In the inner end of the recess B is
35 pivoted a box, C, within which the pendulous bob is suspended. The box C has a circular inner end, tapers off equally on both sides to its outer end, and is formed of a central wooden frame, E, to opposite sides of which are
40 screwed the corresponding metal plates, F G, the pivotal screw D of the box being passed through the inner plate, F, into the block A. The upper plate, G, is extended from its inner end to form a pointer, H, which swings over
45 the face of the block A and registers with a segmental scale, I, produced thereon, and graduated from 0° to 90°.

The pivotal screw D is at the center of the inner circular end of the box C, also of the
50 segmental scale I.

A double pivot-bearing, M, is held loosely

in and between the plates F and G in the outer end of the box C, and supports the pendulous rod L, which carries the pointed plumb-bob K.

55 The bob K is adapted to register with an index, N, projecting inward from the bottom of the frame E, and fixed between the same and the outer plate, G, such registration being visible through a glazed opening, G', in
60 the plate G.

Rubber or other elastic buffers P are attached to the inner sides of the frame E, at opposite sides of the bob K, so as to prevent the
65 same from sticking or from injury.

The index N is arranged in line with the pivot-bearing M and pointer H, so that when the bob is in register with the index such
"index-line" will be exactly vertical.

A projecting lug, O, at the inner end of the
70 recess B, is arranged to stop the tapering box C when its index-line is exactly at right angles with the straight edges of the block A, and a shoulder, Q, at the outer end of the
75 recess B, similarly stops the box C when the index-line is parallel with the straight edges of the block. In the former case the pointer H will indicate 90°, and the instrument can be
used as a level. In the latter case the pointer H will indicate 0°, and the instrument can be
80 used as a plumb.

The deviation of a line from the vertical is easily determined on applying the instrument by swinging the box C until the bob K is in register with its index N, when the pointer H
85 will indicate the required angle.

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

1. The straight-edged block A, formed with
90 a recess, B, extending inward from one side, in combination with the pivotal box C and the pendulous bob suspended therein, substantially as shown and described.

2. The combination, with the straight-edged
95 block A, having a recess, B, and a segmental scale, I, of a box, C, pivoted in the recess B, a pointer, H, fixed to the box C and registering with the scale I, and an indicating plumb-bob in the box C, substantially as shown and
100 described.

3. The combination, with the block A, hav-

ing a recess, B, the projecting lug O, and the shoulder Q, of the tapering box C, pivoted in the recess B, and the indicating plumb-bob in the box C, substantially as shown and described.

5 4. The pivotal pendulum-supporting box C, formed of a central wooden frame, E, and metal plates F G, secured to opposite sides

thereof, the upper plate, G, being extended to form a pointer, H, and both plates F G having bearings for the double pivot of the pendulum, substantially as described.

OSCAR B. FULLER.

Witnesses:

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