

(No Model.)

J. PETITT.
PLUMB LEVEL.

No. 506,934.

Patented Oct. 17, 1893.

Fig. 1.

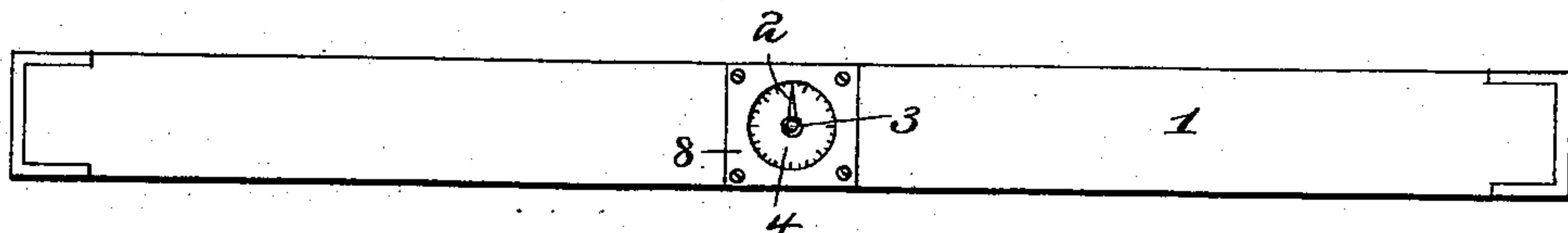


Fig. 2.

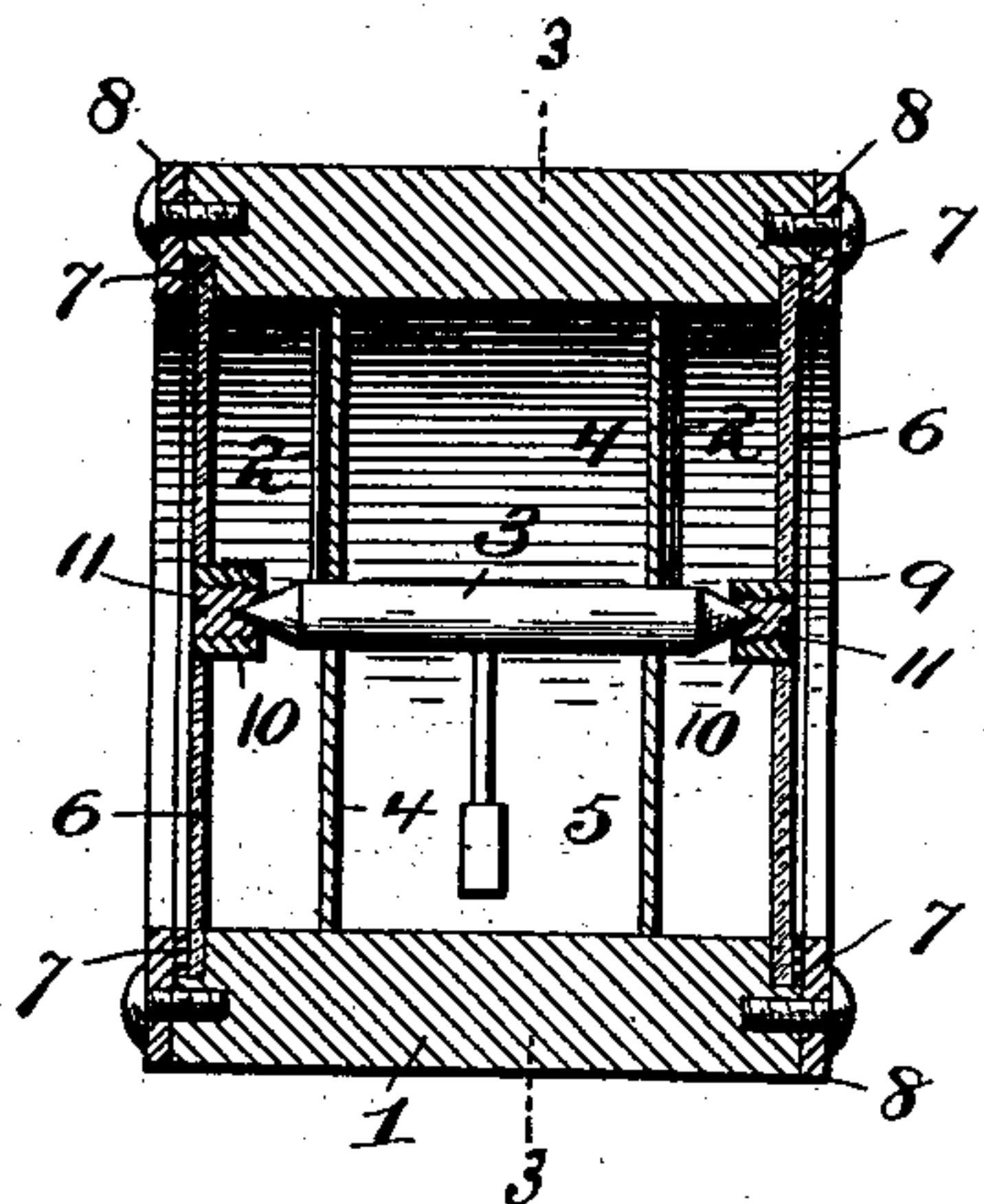


Fig. 3.

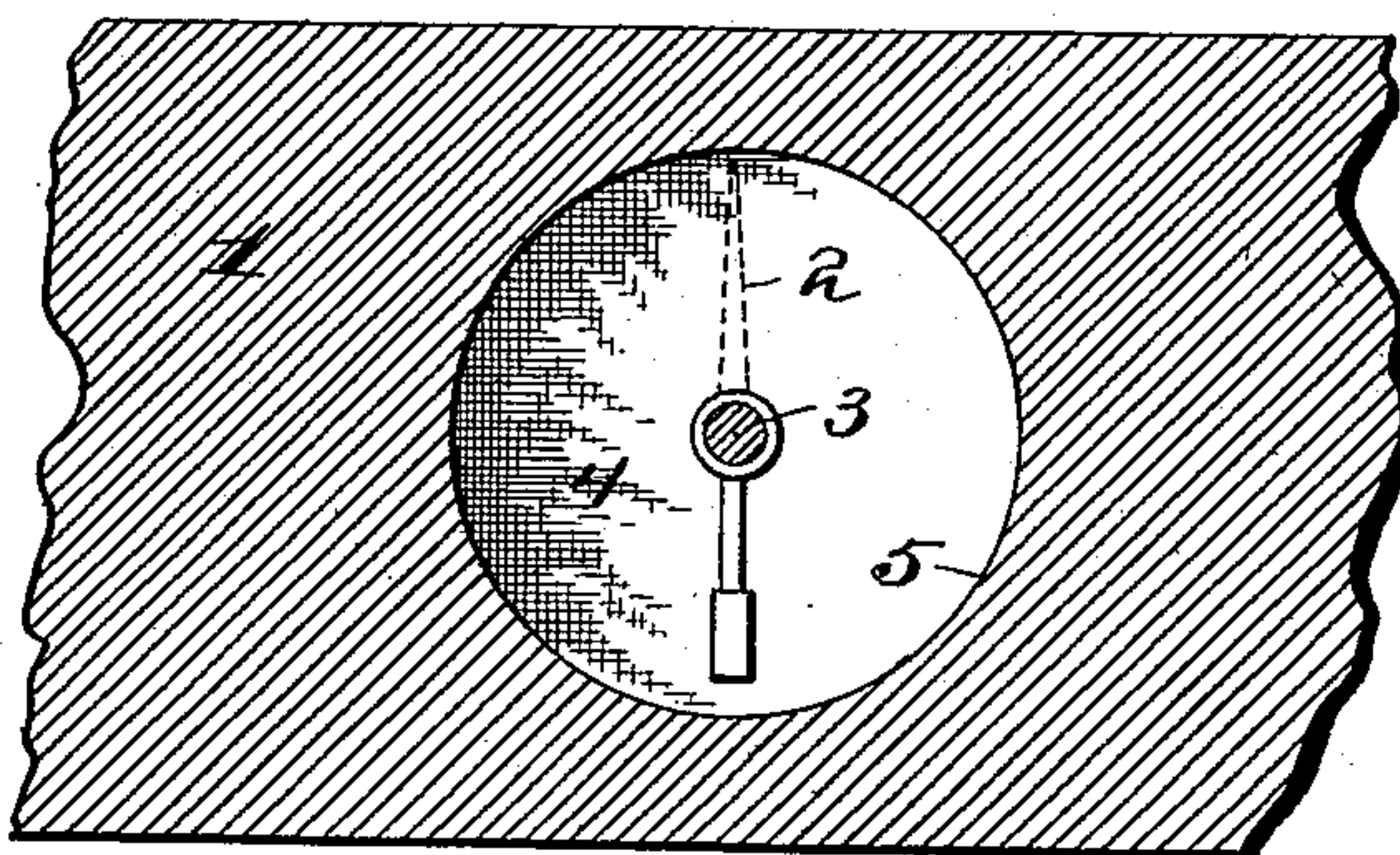


Fig. 4.

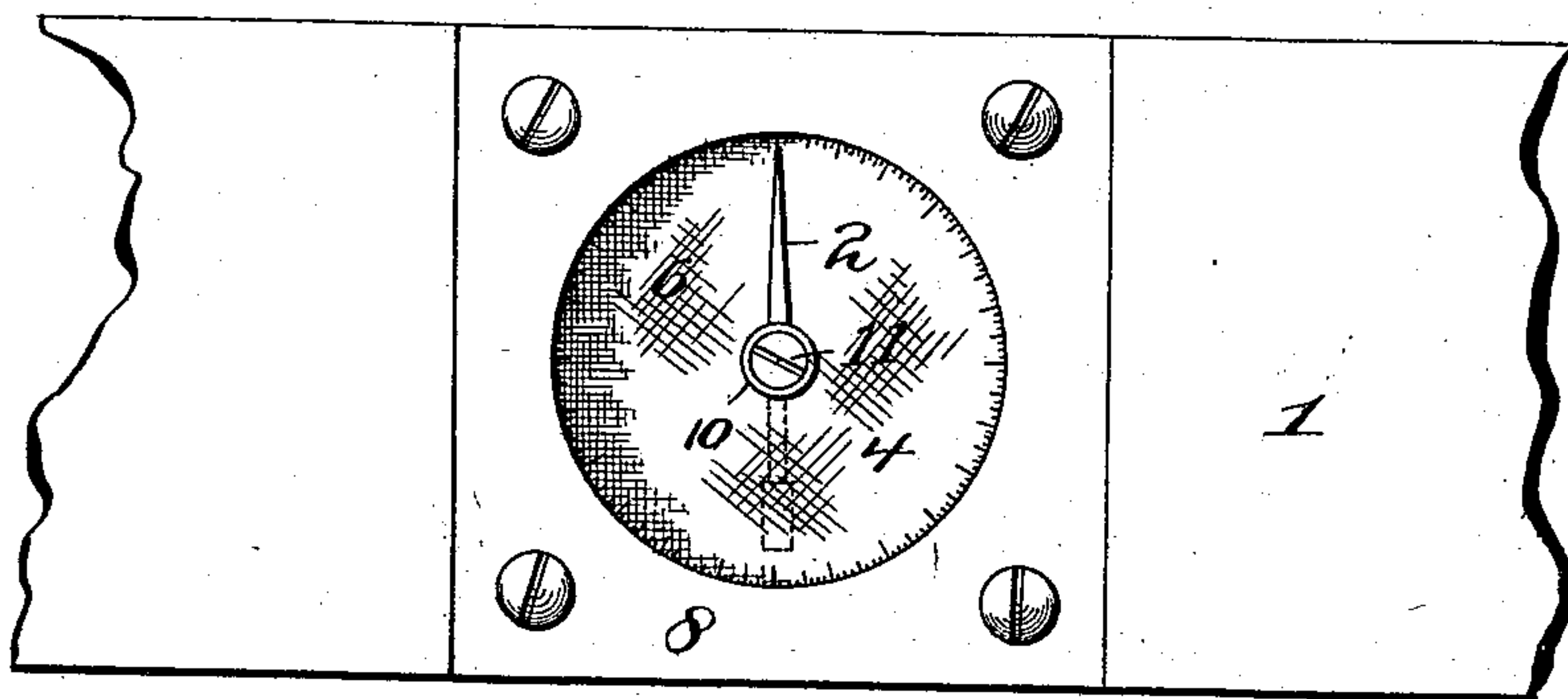


Fig. 5.



Witnesses:

J. B. McGirr.
M. L. Moran.

Inventor:

John Pettitt.

By N. W. Feltz Gerald & Co.

Attys.

UNITED STATES PATENT OFFICE.

JOHN PETITT, OF SAN DIEGO, CALIFORNIA.

PLUMB-LEVEL.

SPECIFICATION forming part of Letters Patent No. 506,934, dated October 17, 1893.

Application filed May 10, 1893. Serial No. 473,649. (No model.)

To all whom it may concern:

Be it known that I, JOHN PETITT, a citizen of the United States of America, residing at San Diego, in the county of San Diego and State of California, have invented certain new and useful Improvements in Plumbs and Levels, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to a combined plumb and level; and has for its object to provide adequate and efficient means for automatically and visually indicating the difference, if any, between a true horizontal or perpendicular plane and the plane undergoing test or measurement.

My invention has for its further object to produce an appliance of this class which will indicate the most inappreciable deviation or deflection, and which will be simple in construction, inexpensive in manufacture, and convenient and eminently serviceable in use.

For the attainment of these objects, and for other purposes hereinafter enumerated, this invention, comprises certain details of construction, arrangement and combination of parts, all of which will be more fully described hereinafter.

The novel features of the invention will be embraced in the appended claims.

Referring to the accompanying drawings forming a part of this specification:—Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a central cross section of the same. Fig. 3 is a transverse or cross section on the line 3—3, Fig. 2. Fig. 4 is a detail view of the dial-plate looking at the front of same. Fig. 5 is a detail enlarged view of one of the stationary bearings for the dial-arbor.

In all the views of the drawings, like numerals of reference indicate like or corresponding parts.

1 indicates the ordinary quadrilateral or rectangular level having its upper and lower plane edges formed into true planes, as is usual, and made of suitable wood or other material ornamented or finished in any approved manner according to the taste of the manufacturer.

In lieu of the ordinary mercurial indicator, I employ a gravitating dial pointer mounted

on a freely rotatable and truly balanced arbor shaft, which, in turn, is controlled by the gravity poise or counter-weight depending therefrom.

In the drawings, 2, is the dial-pointer rigidly secured at its lower end to the arbor, 3, and having its upper free end indicatively revoluble over the face of the dial, 4, which face is graduated by indices in the usual manner dividing up the three hundred and sixty degrees of the circle into as many small subdivisions as may be desired. In practice, I propose to make these subdivisions extremely small in order that the least deflection of the pointer may be clearly observable.

As will be seen, the center of the level, 1, is provided with a transverse slot or opening, 5, running clear through the same and designed to receive and accommodate the operating parts which are located therein. On each side, the mouth of the opening is closed and protected by the glass disk, 6, held in place in a countersunk annular recess, 7, by the square brass-plate, 8, screwed down thereon flush with the plane side of the level, and cut-away in a circular manner to expose the observation plate, 6, so that each dial-plate will be laterally exposed to view.

In the center of each observation-plate is cut a circular aperture, 9, in which is secured the ferrule, 10, preferably of brass, and having its body portion projecting horizontally into the opening, 5, in axial alignment with the arbor, 3. The interior bore of each ferrule is screw-threaded to engage the exteriorly screw-threaded surface of the round metal bearing-stud, 11, which is screwed into position in each ferrule, and has its rear end provided centrally with a conical recess, 12, adapted to receive the corresponding conical end of the arbor, 3. In this manner the arbor is delicately swiveled in a true axial plane.

Near each end of the arbor is a dial plate and pointer thus placed near each observation plate so that the the indicating mechanism is easily seen on either side of the level.

The operation of the device will be clear without further description.

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

1. In a device of the class described, the

combination with the level-bar provided with a transverse slot to receive the operating parts; of an observation plate covering the mouth of the slot on each side of the level
5 bar; a ferrule provided with a screw-threaded bore and secured in an opening in each observation plate; a bearing stud screwed in each ferrule and provided with a conical recess on its inner end; an arbor having at each
10 extremity a conical point seated in the conical recess of the adjacent stud; a counterweight or gravity poise controlling the arbor; and indicating mechanism controlled by said arbor.
15 2. A device of the class described comprising a level bar provided with a transverse central slot to receive the operating parts; a glass disk countersunk at each end over the mouth of the slot; a retaining plate on the
20 outside of each disk to hold same in position; a metal ferrule provided with a screw-thread-

ed axial bore and swaged in a central opening in each disk; a bearing stud for each ferrule, exteriorly screw-threaded to engage the screw-threaded bore of the adjacent ferrule, and provided with a conical recess in its inner end;
25 an arbor having at each extremity a conical point seated in the conical recess of the adjacent stud; a counterweight or gravity poise depending centrally from said arbor; a stationary dial-plate on each side of the counterweight and inside of the disks, and each dial
30 plate having a central orifice encircling the arbor loosely; and an indicator for each dial-plate carried by the arbor.

In testimony whereof I affix my signature in presence of two witnesses. 35

JOHN PETITT.

Witnesses:

T. J. JOHNSON,
N. W. FITZGERALD.