No. 666,772. Patented Jan. 29, 1901.

E. H. McHENRY.

TRACK LEVEL AND GAGE.

(Application filed Mar. 28, 1898.)

(No Model.) 2 Sheets—Sheet 1.

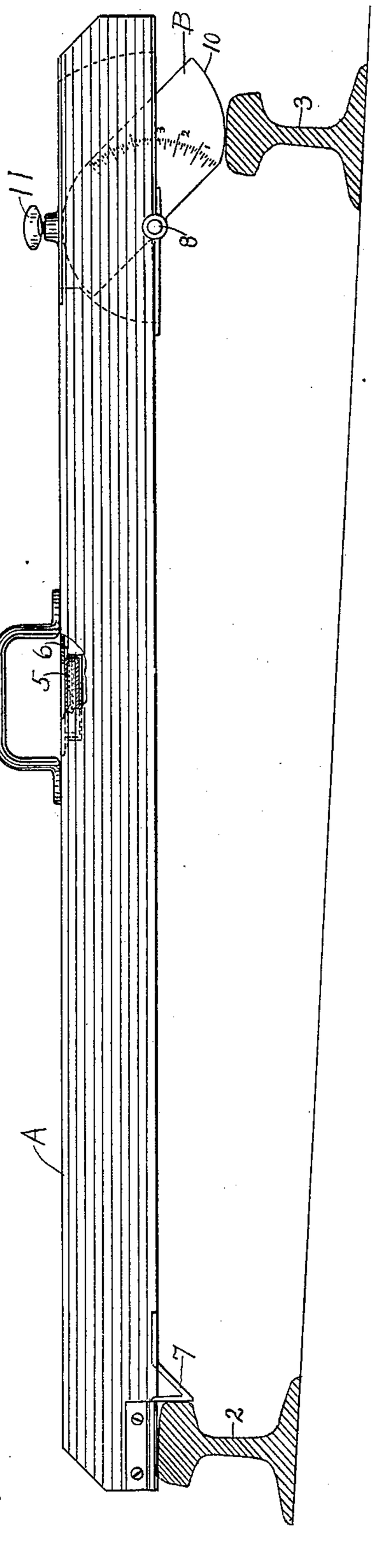

Fig. 1.

Fig. 2.

Witnesses.
A. H. Opsahl.
M. L. Thanwald

Inventor
Edwin H. McHenry.
By his Attorneys.
Merwin, Lothrop & Johnson

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Fig. 4.

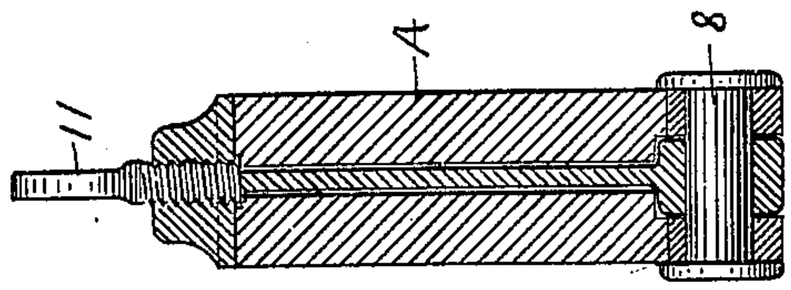


Fig. 3.

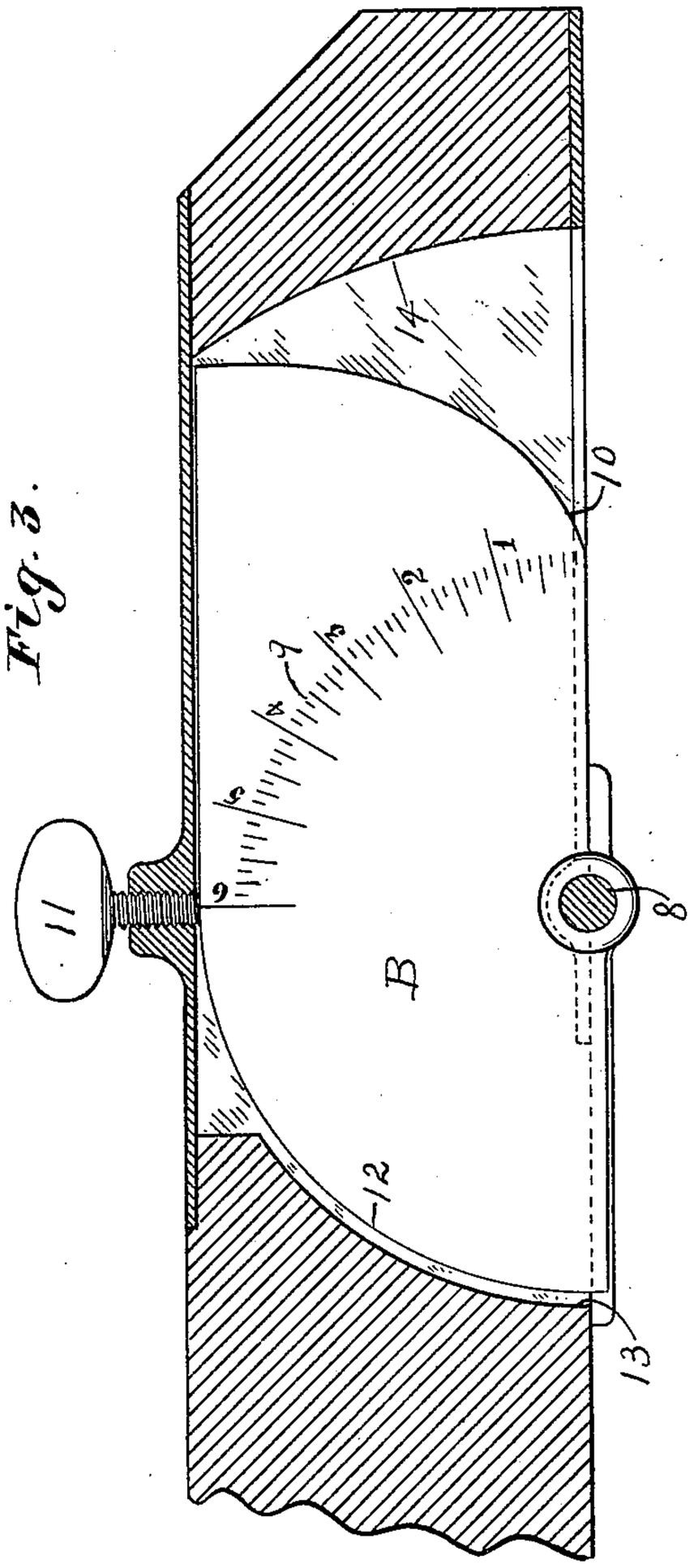
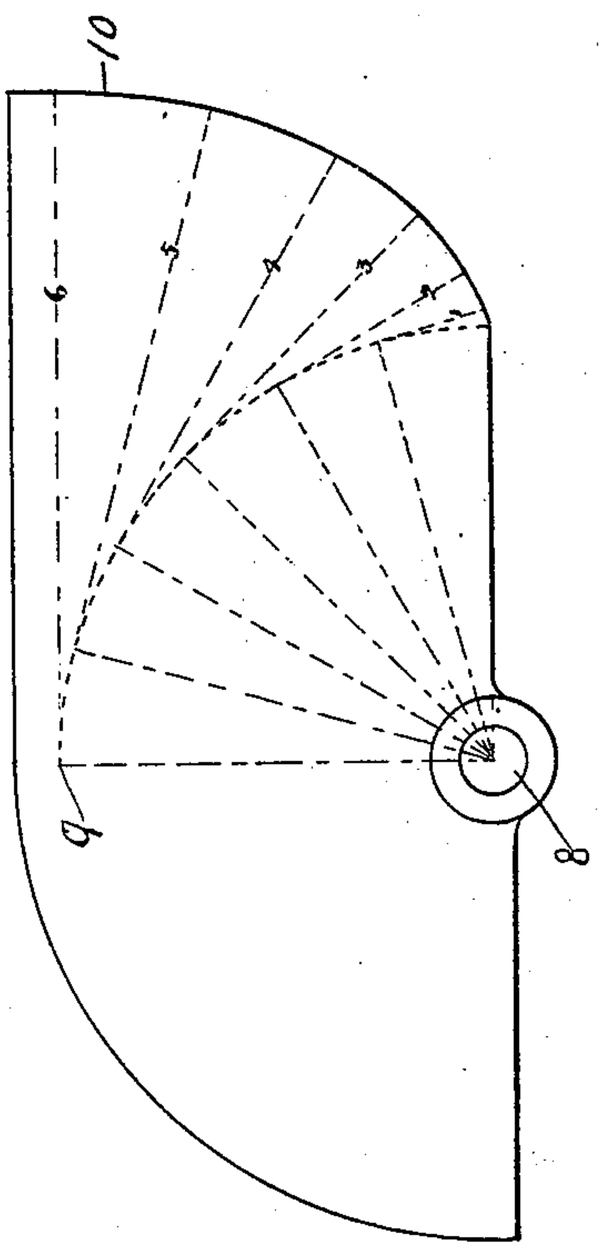


Fig. 5.



Witnesses.
A. H. Opsahl.
M. L. Thauwald

Inventor.
Edwin H. McHenry
By his Attorneys.
Merwin, Lothrop & Johnson

UNITED STATES PATENT OFFICE.

EDWIN H. McHENRY, OF ST. PAUL, MINNESOTA.

TRACK LEVEL AND GAGE.

SPECIFICATION forming part of Letters Patent No. 666,772, dated January 29, 1901.

Application filed March 28, 1898. Serial No. 675,465. (No model.)

To all whom it may concern:

Be it known that I, EDWIN H. McHENRY, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Track-Levels, of which the following is a specification.

My invention relates to improvements in track-levels designed for use in laying rails upon curves and tangents to insure the outer rail being laid at the proper elevation.

To this end my invention consists in the use of an ordinary beam provided with a suitable indicating-bulb. Carried by one end of the beam is my improvement, which is adapted to be set to indicate the desired difference in level between the opposite rails. This improvement consists in the features of invention hereinafter more particularly described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation of a track-level fitted with my improvements and shown in working position. Fig. 2 is a top view of the same. Fig. 3 is a partial longitudinal section of the level-beam, showing my improvements. Fig. 4 is a vertical section; and Fig. 5 is a detail view of the scale-plate, constituting the essential feature of my invention.

In the drawings, 2 and 3 represent the rails of an ordinary railway-track.

A represents the leveling-beam, having a suitable handle 4 and an indicating-bulb 5, suitably secured in the depression 6 in the top of the beam. Secured to the under side of one end of the beam is a stop 7, adapted to bear against the side of the adjacent rail in use. Carried by the opposite end of the beam is my improvement. This consists of the plate B, having pivoted support 8 in the beam. The end 10 of the plate, which is intended to make contact with the inner rail, as shown in Fig. 1, is in the shape of an involute curve described from the arc 9, the same being the arc of a circle of which the pivot-point 8 is the center. The method of constructing said contact curve 10 will be evident from the dotted lines in Fig. 5. The scale is preferably inscribed upon the arc 9, although I may otherwise inscribe it upon the plate if desired.

In order to allow the pivotal movement of the plate B, the rear end 12 of the plate is curved, as shown, and the walls 13 and 14 at the opposite ends of the plate-holding recess are similarly shaped to accommodate said plate in its movement. By having the contact-surface 10 an involute curve described in the manner stated it will be apparent that the length of that portion of the arc which stands below the beam will always be equal to the length of the tangent which connects the arc with the contacting point of the plate, thus insuring accuracy of indication.

In use the plate B is turned upon its pivot sufficiently to indicate, by means of its scale, the desired difference in level between the rails and is secured in such position by the thumb-screw 11. The device is then used, as shown in Fig. 1, to indicate and insure the outer rail being set at the proper elevation.

I claim—

1. In a track-level of the class described, the combination with the beam, of a plate pivotally mounted in one end of the beam and adapted to be turned into contact with the adjacent rail, the contact edge of said plate being in the shape of an involute curve described from a circle of which the pivot-point of the plate is the center, as and for the purpose set forth.

2. In a track-level of the class described, the combination with the beam, of a plate pivotally mounted in one end of the beam, the contact edge of said plate being constructed in the shape of an involute curve described from an arc of a circle of which the pivot-point of the plate is the center, and a scale inscribed upon said plate for the purpose described.

3. In a track-level of the class described, the combination with the beam, of a plate pivotally mounted in one end of the beam, the contacting edge of the plate being constructed in the shape of an involute curve described from an arc of a circle of which the pivot-point of the plate is the center, a scale inscribed upon said plate, and a screw for holding said plate in set positions, substantially as described.

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

EDWIN H. McHENRY.

Witnesses:
H. S. JOHNSON,
M. L. THAUWALD.