A. S. CASH.

TRACK ALINING GAGE.

APPLICATION FILED OCT. 26, 1915.

1,237,748. Patented Aug. 21, 1917.

Fig. 1.

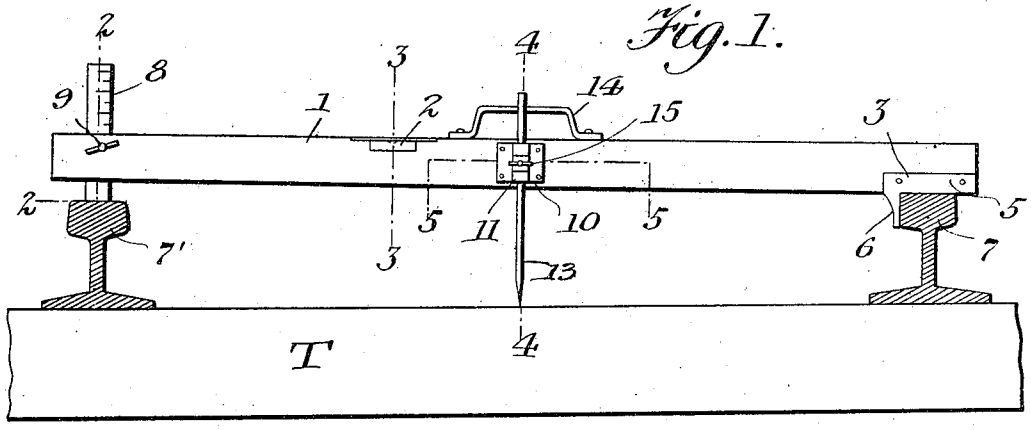


Fig. 2.

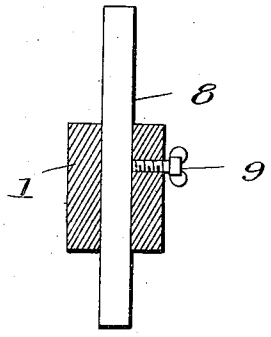


Fig. 3.

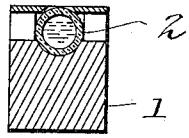


Fig. 4.

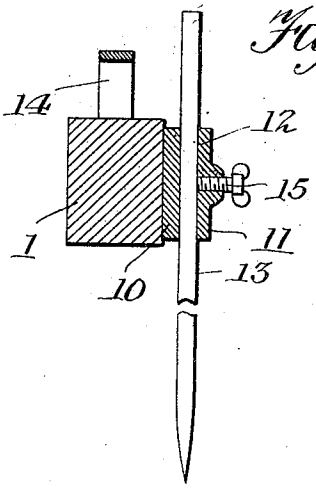
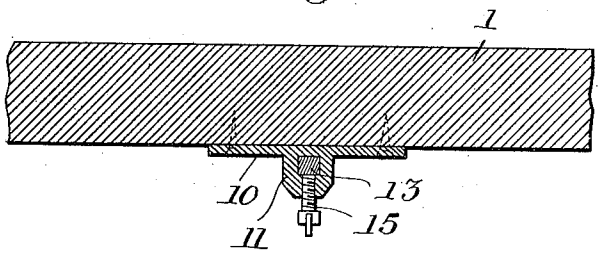


Fig. 5.



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UNITED STATES PATENT OFFICE.

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TRACK-ALINING GAGE.

1,237,748. Specification of Letters Patent. Patented Aug. 21, 1917.

Application filed October 26, 1915. Serial No. 57,976.

To all whom it may concern:

Be it known that I, ALBERT S. CASH, a citizen of the United States, residing at Elizabethtown, in the county of Hardin and State of Kentucky, have invented new and useful Improvements in Track-Alining Gages, of which the following is a specification.

This invention relates to inclinometers adapted for measuring and correcting the inclination or pitch given to the rails of a track where the latter passes a curve. It is assumed that the instrument is to be brought into use after the engineers have struck the curve and set a line of pegs to indicate the grade of the track midway between its rails, but the instrument may be used to the best advantage after the ties have been laid and even after the rails have been spiked thereto, or in other words, at the time that the road bed is to be tamped alongside and under the ties before it is finally filled in.

Starting with the well-known rule that the outer rail of a curve is higher than the inner rail, it is the purpose of the present invention to produce an instrument by means of which these two rails may be accurately spaced an equal distance on either side of the row of pegs, and also by means of which the face of one rail may be raised and the face of the other rail depressed equal distances with respect to the general level indicated by the line of pegs, thereby avoiding the objectionable results often following the use of these instruments that most of the pitch is given to one rail, rather than that it is equally distributed between them. The invention also comprises a mechanism for bringing out this result by means of a stock and bubble-glass or spirit-level fast thereon so that the stock in its correct working position, is always absolutely level.

For carrying out these general and specific purposes, the invention consists in a structure, the details of which are set forth below and shown in the accompanying drawings wherein,

Figure 1 is a section through a track whose rails are set at different heights, and a side elevation of the instrument at work.

Fig. 2 is a sectional view approximately on the line 2—2 of Fig. 1.

Fig. 3 is a sectional view approximately on the line 3—3 of Fig. 1.

Fig. 4 is a sectional view approximately on the line 4—4 of Fig. 1, and

Fig. 5 is a longitudinal sectional view approximately on the line 5—5 of Fig. 1.

In carrying out the invention I employ an ordinary level stock 1, of the desired length, the said stock being provided with the usual bubble glass or spirit level 2. Secured to one end of the stock is a rail engaging member or foot 3, the same having its body channeled to provide a base 4, and parallel sides 5. The sides 5 are spaced to snugly contact with the opposite sides of the stock 1, the lower edge of the stock 1 resting upon the base 4. The inner end of the foot is formed with a downturned flange or toe 6 which contacts with the head of the higher rail 7.

The stock 1 at its opposite end is provided with a substantially rectangular opening through which is passed a graduated slide 8 constituting a movable foot. This member is held in adjusted position by a set screw 9 having its shank engaging a threaded orifice in the side of the stock 1, and the lower end of the slide is adapted to rest upon the tread of the lower rail 7′ of a track.

Secured centrally upon one side of the stock 1 is a plate or casting 10 the same being centrally formed with an enlargement or boss 11, having an upright passage 12 in which is arranged an adjustable pin 13. This pin has its lower end pointed, and is adapted to contact with the engineer's center on a stake or peg or upon the tie T upon which the rails rest.

The pin 13 is held in adjusted position by a thumb screw 15 carried by the boss 11. At its center and the stock 1 is provided with a handle 14 whereby the same may be readily transported to desired places upon the railroad track.

In the use of this instrument for adjusting the ties and rails on a curve so as to impart the proper pitch to the track and yet have the face of one rail raised as much as the face of the other rail is depressed, the slide 8, is adjusted to the total difference in the grade of the two rails, say one inch, and the pin 13 is adjusted to exactly one-half of that extent, or one-half inch. Now when the point of the pin is placed on the engineer's stake or peg, the fixed foot 3 must rest on the face of the higher rail and its toe 6 must

rest inside said rail so that the height of this rail is accurate and its distance from the line of pegs is measured. Also simultaneously, the movable foot or slide 8 must rest on the face of the lower rail 7'. The ground around and beneath the tie supporting the rails at this point is suitably tamped to adjust the rails exactly to the position mentioned at a time when the stock 1, stands strictly level or horizontal, as can readily be seen by inspecting the bubble in the glass; and at this time the pin 13 is vertical and the distance of the stock from the head of the peg is equal exactly to the height of the rails being laid.

Having thus described the invention what I claim is:—

An instrument of the class described comprising a stock, a foot and depending toe fixed to one end thereof, a boss fixed to the midlength thereof, means on the stock for indicating when it stands level, the boss and other end of the stock having openings which are vertical when the stock stands horizontal, a foot adjustable through the opening in the stock, a pin adjustable through the opening in the boss, and means for holding such foot and pin in their adjusted positions.

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

ALBERT S. CASH.

Witnesses:
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."