

O. H. TOLLEY & J. T. TAYLOR.
 TRACK SURFACING LEVEL.
 APPLICATION FILED JUNE 25, 1908.

931,973.

Patented Aug. 24, 1909.

Fig. 1.

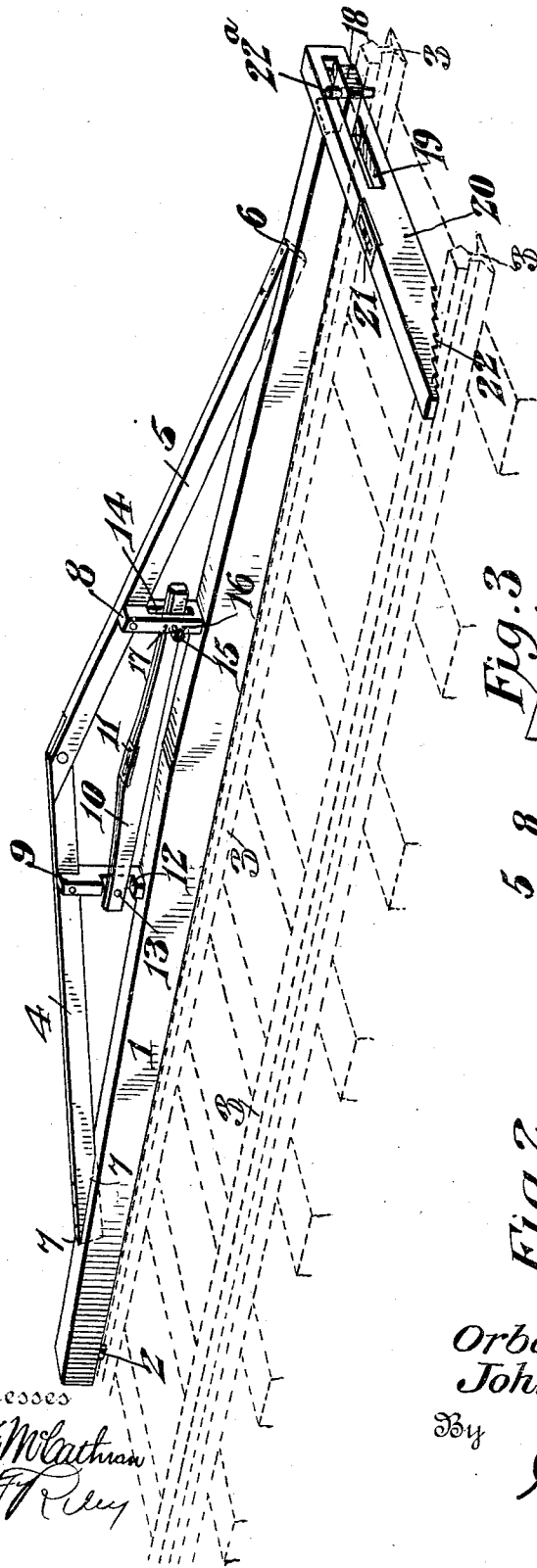


Fig. 3.

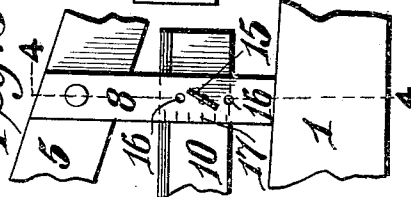


Fig. 4.

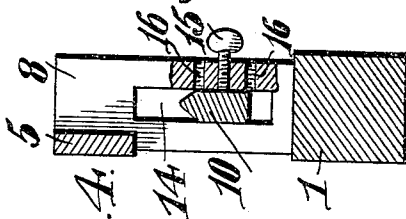


Fig. 2.

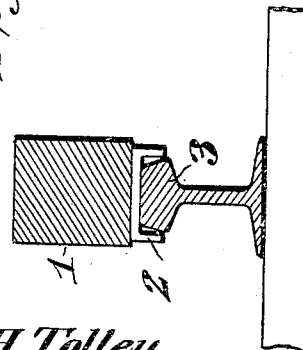
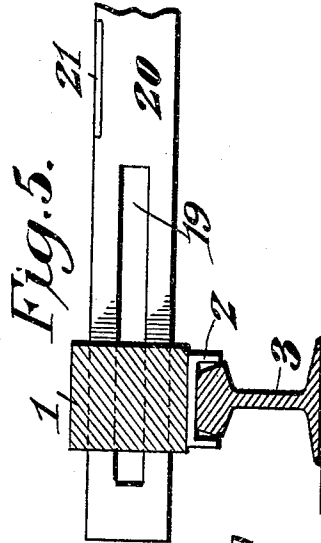


Fig. 5.



Witnesses
Jack McLaughlin
H. J. Riley

Orbey H. Tolley, John T. Taylor, Inventors
 By *C. G. Siggers*, Attorney

UNITED STATES PATENT OFFICE.

ORBEY H. TOLLEY AND JOHN THOMAS TAYLOR, OF SOUTH BOSTON, VIRGINIA.

TRACK-SURFACING LEVEL.

931,973.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed June 25, 1908. Serial No. 440,346.

To all whom it may concern:

Be it known that we, ORBEY H. TOLLEY and JOHN T. TAYLOR, citizens of the United States, residing at South Boston, in the county of Halifax and State of Virginia, have invented a new and useful Track-Surfacing Level, of which the following is a specification.

The invention relates to a track surfacing level.

The object of the present invention is to provide a simple, inexpensive and efficient track surfacing level, adapted to take the dips out of a track without requiring a civil engineer to set stakes for such operation, and capable of accurately surfacing tracks both on a level and on a grade.

A further object of the invention is to provide an instrument of this character, adapted to be used on any per cent. grade and capable of enabling the proper elevation to be given to curves.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims here-to appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a perspective view of a track surfacing level, constructed in accordance with this invention. Fig. 2 is a transverse sectional view, illustrating the construction of the track-engaging clips of the longitudinal level bar. Fig. 3 is a detail elevation, illustrating the means for securing the pivoted level bar in its adjustment. Fig. 4 is a vertical sectional view, taken substantially on the line 4—4 of Fig. 3. Fig. 5 is a detail sectional view of the front end of the longitudinal level bar, illustrating the front track-engaging clip and the adjustable end of the transverse level bar.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a longitudinal level bar, designed in practice to be a rod in length, and adapted to be arranged upon a rail lengthwise thereof, as clearly illustrated in Fig. 1 of the drawing. The longitudinal level bar 1

is provided at its front and rear ends with approximately inverted U-shaped rail-engaging clips 2, consisting of a pair of depending spaced lugs or projections, and a horizontal connecting portion. The horizontal connecting portion is secured to the lower face of the longitudinal level bar, and the depending lugs or projections are adapted to engage a rail 3 at opposite sides thereof, as clearly shown in Fig. 2 of the drawing. The rail-engaging clips enable the longitudinal level bar to be quickly placed on a rail in proper position.

The longitudinal level bar is braced by oppositely inclined bars or braces 4 and 5, having their lower ends let into recesses 6 and 7 of the outer face of the bar 1. The inclined braces 4 and 5 stiffen the bar 1 and prevent the same from breaking, and they also resist any tendency of the bar to warp or bend. The inclined braces are supported at intermediate points by vertical bars 8 and 9, connecting the braces with the bar 1 and cooperating with the said braces and the bar to form a truss. The vertical connecting bars 8 and 9 operate in the nature of struts, and they also serve to support a pivoted level bar 10. The level bar 10, which is equipped at the center with a spirit level 11, is pivoted at its rear end in a recess 12 of the rear vertical bar 9 by a pin 13, or other suitable fastening device, and its front portion operates in a vertical slot 14 of the front vertical bar 8, and it is secured in its adjustment by means of set screw 15. The front vertical bar 8 is provided with a plurality of threaded perforations 16 for the reception of the set screw to increase the range of adjustment of the pivoted level bar, which is adapted to be arranged either in a horizontal position, or at an inclination to adapt the instrument for surfacing either a level track or a track having a grade. The pivoted level bar operates as an inclinometer, and it is adapted to be arranged at different angles or inclinations, a suitable scale 17 being provided to facilitate the adjustment of the level bar. The front end of the pivoted level bar is raised and lowered in the slot to adjust the said bar 10 with relation to the bar 1.

The front end of the longitudinal bar 1 is reduced to form a tongue 18, which is secured in a slot 19 of a transverse level bar 20, arranged to extend across the track, and equipped at the center with a spirit level 21. The outer end of the transverse level bar 20

is provided at its lower face with an inclined series of horizontally disposed shoulders 22, arranged at different elevations and adapted to enable the outer end of the transverse level bar to be raised and lowered with relation to the rail upon which it is placed. This will enable the rail, upon which the outer end of the transverse bar is placed, to be arranged at different elevations with relation to the other rail. The adjustment of the level bar 20 transversely of the front end of the longitudinal bar 1 enables any one of the notches of the bar 20 to be placed in position to rest upon the contiguous rail. This adjustment also enables the device to be employed for surfacing tracks of different gages. The slotted end of the transverse level bar 20 is secured on the front end of the longitudinal level bar by means of a vertical pin 22^a, piercing the tongue and engaging the front face of the transverse level bar. This permits the transverse level bar to be readily shifted transversely of the instrument, but any suitable means may be employed for positively securing the transverse level bar in its adjustment with relation to the longitudinal level bar.

Preparatory to the use of the surfacing level, the track at one point is raised as high as it is wished to surface the track. Then the surfacing level is placed on the track with the longitudinal level bar, extending lengthwise of one of the rails and the outer end of the transverse level bar resting upon the other rail. The track jacks are then placed one on each side of the track at the front end of the instrument to which bar 20 is attached, and the track is raised until it is level or at the proper inclination. The instrument is then moved sixteen and a half feet ahead, the rear end of the longitudinal level bar being placed at the point previously occupied by the front end of the same, and the operation is repeated. If the track foreman should not know the per cent. of a grade to be surfaced, it can be easily ascertained by sighting over the level to a point ahead, and setting the level accordingly.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A track surfacing level including a longitudinal level bar designed to be arranged upon one of the rails of a track lengthwise of the same and carrying leveling means, and a transverse level bar secured at right angles to the longitudinal level bar and extending across the track and adjustable transversely thereof and adapted to rest upon the other rail and provided with a level.

2. A track surfacing level including a longitudinal level bar designed to be placed upon one of the rails of a track lengthwise of the same, a transverse level bar secured at right angles to the longitudinal level bar and

arranged to rest upon the other rail of the track, and an adjustable level bar carried by and extending along the longitudinal level bar and adapted to be arranged in different positions for enabling a track to be surfaced either at a level or at a grade.

3. A track surfacing level including a longitudinal bar adapted to be arranged lengthwise of one of the rails of a track, a transverse level bar secured at right angles to the longitudinal level bar and provided at its outer end with means located at different elevations for engaging the other rail of the track, and a pivoted level bar carried by the longitudinal level bar and adapted to enable the horizontal level bar to operate either in a level or an inclined position.

4. A track surfacing level including a longitudinal level bar, a transverse level bar secured at right angles to the longitudinal level bar, an adjustable level bar pivotally mounted at one end to and carried by the longitudinal level bar, and means also carried by the longitudinal level bar for adjustably securing the other end of the pivoted level bar.

5. A track surfacing level including a longitudinal bar adapted to be placed lengthwise upon one of the rails of a track, a transverse level bar extending from the longitudinal bar and arranged to rest upon the other rail of the track, oppositely inclined longitudinal braces connected at their outer ends to the longitudinal bar, upright bars mounted on the longitudinal bar and supporting the inclined braces, and an adjustable level bar pivotally mounted on one of the upright bars and adjustably secured to the other.

6. A track surfacing level including a longitudinal bar adapted to be placed lengthwise upon one of the rails of a track, a transverse level bar extending from the longitudinal bar and arranged to rest upon the other rail of the track, oppositely inclined longitudinal braces connected at their outer ends to the longitudinal bar, upright bars mounted on the longitudinal bar and supporting the inclined braces, one of the upright bars being provided with a recess and the other having a slot, an adjustable level bar pivoted at one end in the said recess and having its other end operating in the said slot, and fastening means mounted on the slotted upright bar and engaging the pivoted level bar for securing the same in its adjustment.

7. A track surfacing level including a longitudinal bar adapted to be placed lengthwise upon one of the rails of a track and provided with means for engaging the same, oppositely inclined braces connected together at their adjacent ends and secured at their outer ends to the longitudinal bar, connecting bars mounted on the longitudinal bar and supporting the inclined braces

at intermediate points, a level bar supported by the connecting bars, and a transverse level bar extending from the longitudinal bar and arranged to rest upon the other rail of the track.

8. A track surfacing level including a longitudinal bar adapted to be placed on one of the rails of a track and provided with a level, and a transverse level bar arranged at right angles to the longitudinal bar and provided at its outer end with means located at different elevations for engaging the other rail of the track, said transverse level bar having its inner end adjustably secured to the longitudinal bar for arranging the said means at different distances from the said longitudinal bar.

9. A track surfacing level including a longitudinal bar adapted to be placed on one of the rails of the track and provided with a level, and a transverse level bar arranged at right angles to the longitudinal level bar and provided at the outer end with an inclined series of recesses forming track-engaging shoulders, said transverse bar being adjustably secured to the longitudinal bar to arrange the series of recesses at different distances from the longitudinal bar.

10. A track surfacing level including a

longitudinal bar adapted to be arranged lengthwise upon one of the rails of a track and provided with a level, said longitudinal bar being also provided at one of its ends with a tongue, and a transverse level bar provided at one end with a slot to receive the tongue and adjustably secured to the same at right angles thereto, said transverse bar having track-engaging means located at its other end at different elevations.

11. A track surfacing level including a longitudinal bar designed to be arranged lengthwise upon one of the rails of a track, an adjustable leveling device mounted on the longitudinal bar, and a transversely disposed level bar extending from the longitudinal bar at one end thereof and adjustably secured to the same at right angles thereto and provided with means located at different elevations for engaging the other rail of the track.

In testimony, that we claim the foregoing as our own, we have hereto affixed our signatures in the presence of two witnesses.

ORBEY H. TOLLEY.

JOHN THOMAS TAYLOR.

Witnesses:

J. M. EAST,

D. L. TRAYNHAM.