

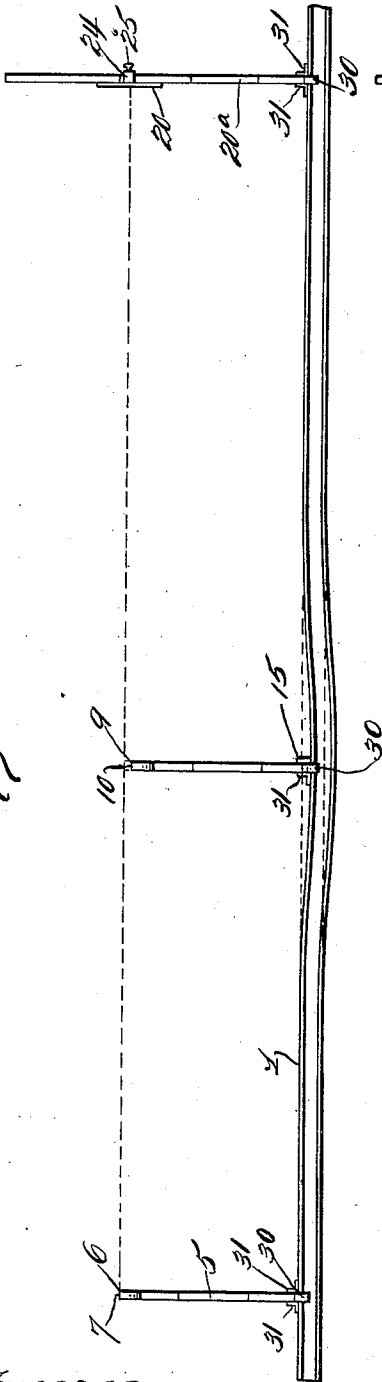
F. E. LEE.
 SPOT BOARD DEVICE FOR TRACK SURFACING.
 APPLICATION FILED JUNE 20, 1911.

1,057,001.

Patented Mar. 25, 1913.

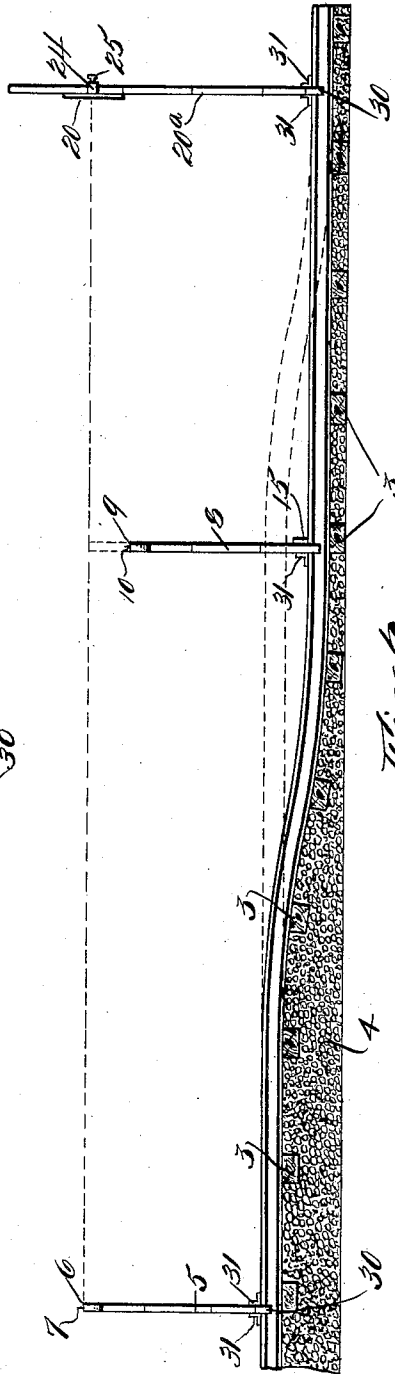
2 SHEETS—SHEET 1.

Fig. 1.



Witnesses:
 C. A. Jarvis
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Fig. 2.



Inventor:
 Floyd Ernest Lee
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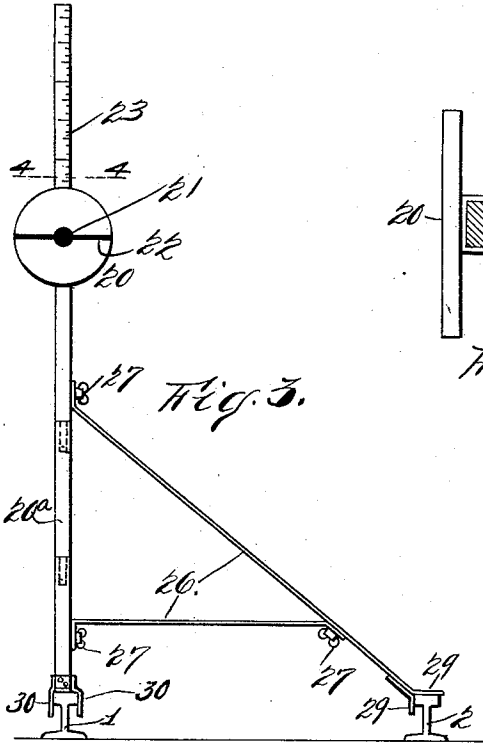


Fig. 3.

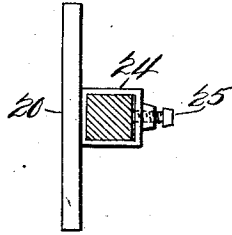


Fig. 4.

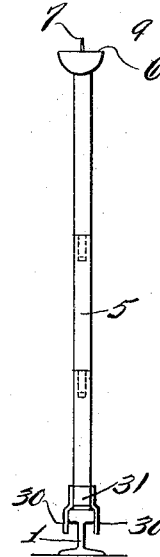


Fig. 5.

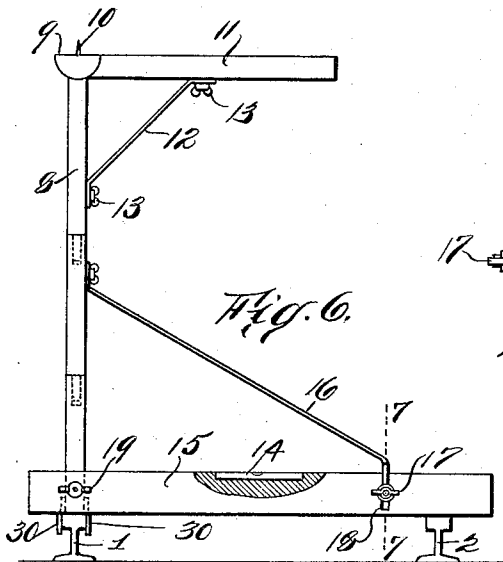


Fig. 6.

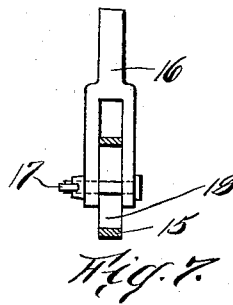


Fig. 7.

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UNITED STATES PATENT OFFICE.

FLOYD EARNEST LEE, OF PUEBLO, COLORADO, ASSIGNOR OF ONE-HALF TO STANLEY VINCENT MEIGS, OF PUEBLO, COLORADO.

SPOT-BOARD DEVICE FOR TRACK-SURFACING.

1,057,001.

Specification of Letters Patent.

Patented Mar. 25, 1913.

Application filed June 20, 1911. Serial No. 634,271.

To all whom it may concern:

Be it known that I, FLOYD EARNEST LEE, a citizen of the United States, residing at Pueblo, in the State of Colorado, have invented certain new and useful Improvements in Spot-Board Devices for Track-Surfacing, of which the following is a clear, full, and exact description.

The object of this invention is to provide a device for use on railroads in connection with ballasting work, track, frog or switch surfacing, or in any work in which it is required to raise the track or a portion of the track to a new grade, or to an old established grade, from which the track has sunk. It is adapted to aid in the raising of low points in the rail, and to aid in depressing high points. It is for use in such a way that the track foreman may surface his track with the same or greater accuracy than is now done without unduly stooping from the vertical position, and thus at all times keep his eyes upon his gang in order to secure more efficiency from the gang.

In carrying out my invention I provide three measuring rods, two of them provided with sighting planes at the same height from their base, one of which is attached to a level board, and one of them provided with a target which is preferably movable along the rod in connection with the scale thereon. I may provide any means for securing them to the rails of a railroad track, which is to be raised to grade, for example, in the following order: The sighting rod with its sighting plane is fastened in vertical position on the track where it is raised to the proper grade. The rod with level board of the same height is secured to the track near the sighting rod, but to the part of the track which is to be raised. The target rod is placed a sufficient distance from the sighting rod upon the rail to insure that it will not be lifted during the lifting operation of the level rod, with the target set a distance above the sighting planes on the sighting and level rods equal to the distance it is desired that the track be raised, and when in such position the track foreman takes a position in front of the sighting rod. The gang raises the rail and ties beneath the level rod until it is raised so that its sighting plane is brought in line with the sighting plane of

the sighting rod and target. Ballast having been previously dumped on the portion just raised, now falls under the ties and is tamped in to maintain the grade. The rods are then moved along in the same manner, so that the sighting rod occupies approximately the previous position of the level rod, the level rod occupies approximately the position of the target, and the target is passed along on the depressed part of the track.

The device may be used for raising low or lowering high joints or centers in the rail, in which case the sighting rod and the target rod are mounted on the rail, so that the center of the target will be in line with and at the same height as the sighting plane of the sighting rod, the level rod secured to the low or high joint or center and raised or lowered as the case may be, until its sighting plane is brought into line with the sighting plane of the sighting rod, and the center of the target. If desired, both sighting rod and level rod may be provided with a vertical sight such as a pin to aid in alining and straightening the track as well.

The scope of my invention will be pointed out in the claims.

In the accompanying drawings: Figure 1 is a side elevation of a railroad rail having a low joint to be raised by means of my improved sighting rods. Fig. 2 is a side elevation of a track showing the ties and ballast, in which the entire track is to be brought up to grade by the use of my improved device. Fig. 3 is a face view of the target rod shown in place upon the rails. Fig. 4 is a section on line 4—4, Fig. 3, showing the adjustment of the target on its rod. Fig. 5 is a view showing the sighting rod in place upon the rail. Fig. 6 is a view similar to Fig. 3, but showing the level rod. Fig. 7 is a section on line 7—7 Fig. 6.

As shown in the drawings 1, 2, are the rails of the railroad track.

3 are the ties and 4 is the ballast.

As shown in Fig. 2 in exaggerated form, the center portion of the track is to be raised to the grade of the left hand portion, and after such raising the right hand portion is to be raised. In order to accomplish this purpose a sighting rod 5 is provided, having a sighting plane 6 preferably at its upper

end, which may be provided with a vertical sighting pin 7. I prefer that this sighting rod and all the rods of the device be made in sections for easy transportation. On the center portion of the track, that part to be immediately raised I secure a vertical level rod 8, also preferably sectional, having a sighting plane 9 at its top, and a vertical sighting pin 10. For use on curves I prefer to provide an extension 11 of the sighting plane 9 which may be secured by a bracket 12, and thumb screws 13 to the rod 8 in order that the same may extend over and between the tracks, and come into line between the sighting plane of the sighting rod 5 and the target 20. I prefer to provide the intermediate or level rod 8 with a spirit level 14 in a level board 15 secured by a bracket 16 to the vertical rod 8. I prefer that one end of the bracket 16 be secured by a thumb nut 17, to the level board 15, so that proper vertical adjustment may be gotten for the rod 8 on the curve where one rail is lower than the other, and where a device for raising the end of the level board which is on the low rail is not used. For this purpose a slot 18 is provided to permit vertical adjustment of the bracket 16. The level board 15 is secured by a thumb nut 19 to the vertical rod 8 to allow any desired pivotal adjustment between the level board and vertical rod.

The rod 20^a is preferably made of sectional pieces as before described, and is provided with a bull's eye 20 and an intersecting horizontal line 22. A scale 23 preferably in feet is marked on the rod 20^a, and a bracket 24 secured to the bull's-eye or target 20 is adapted to slide on the rod and to be secured in adjusted position by a thumb screw 25. The target is kept in vertical position on the two tracks by aid of a bracket 26, which may be secured by wing nuts 27—27 to the rod 20^a. The rod of the bracket 26 terminates in right angle plates 29 to fit against the top and inside of one rail. Each rod is preferably held in its position by bifurcated jaws 30 straddling the rail and by leveling plates 31 extending along the rail and secured at the end of each rod.

In carrying out this invention, details of construction may be varied from those shown, and yet the essence of the invention be retained; some parts might be employed without others, and new features thereof might be combined with elements old in the art in diverse ways, although the herein described type is regarded as embodying substantial improvements over such modifications.

As many changes could be made in the above construction, and many apparently widely different embodiments of the invention could be made without departing from

the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted in an illustrative and not in a limiting sense.

It is furthermore desired to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

I claim as my invention:

1. In a track surfacing level, a level-board adapted to rest across the track, a vertically extending rod hinged upon the level-board and having on its upper end a sighting-plane and a rigid extension, and adjusting means associated with the rod and the level-board whereby the sighting-plane and the extension are moved in unison into various adjusted positions with respect to the level-board.

2. A track surfacing level comprising a level-board adapted for positioning across a track, a vertical rod upstanding from one end of the level-board, a sighting-plane fixed on the upper end of the rod, an extension also fixed upon the upper end of the rod and lying in the plane of the sighting-plane, and adjustable clamping means connecting the rod to the level-board whereby the level-board may be adjusted into various angles with respect to the rod and the sighting-plane.

3. A track surfacing level comprising a jointed rod having a sighting-plane on its upper end, a lateral extension at the top of the rod having its upper face flush with the sighting-plane, a rigid bracket on the rod engaging the extension to hold the latter permanently in place, a level-board hingedly connected at one end to the lower end of the rod, clamping means for binding the level-board to the rod when adjusted, a second bracket carried on the rod and adjustably engaging the level-board, and a second clamping means engaging the second bracket and the level-board and adapted to hold the same firmly together when adjusted.

4. A track surfacing level comprising a sectional jointed vertical rod rising from one rail of the track and having a sighting-plane on its upper end and a vertical sighting-pin rising from the central portion of the sighting-plane, a lateral extension on the upper end of the rod overhanging the track and having its upper face flush with the sighting-plane, a bracket disposed between the rod and the extension to hold the latter in place, a level-board hingedly connected at one end to the lower end of the rod and adapted to rest near its ends upon the rails of the track, means for clamping the level-board at its hinged end to the rod to hold

the latter rigid when adjusted, a second
bracket fixed at one end upon the rod and
being forked at its opposite end for slidable
engagement over the free end of the level-
5 board, the level-board having a vertical slot
in its free end, and a clamping device car-
ried in the fork end of the second bracket
and engaging through the slot, said clamp-
ing device being adapted for movement in
10 the slot whereby the level-board may be ad-
justed and to bind the arms of the fork

against the opposite sides of the level-board
when the latter is adjusted.

Signed at Pueblo in the county of Pueblo
and State of Colorado, this sixteenth day of 15
June, in the year one thousand nine hundred
and eleven.

FLOYD EARNEST LEE.

Witnesses:

S. V. MEIGS,
C. C. HELLMAN.

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