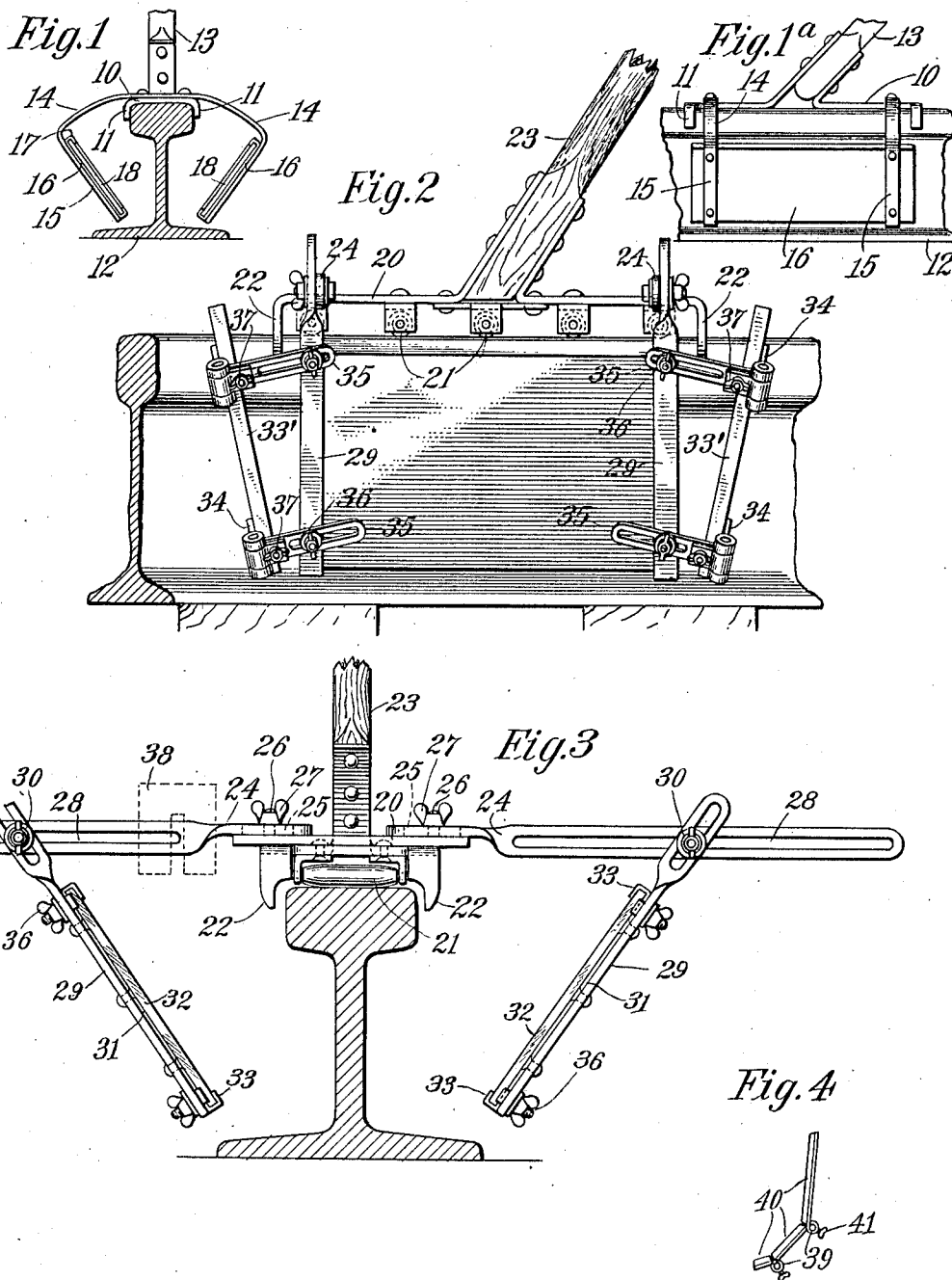


J. S. TYLER.
 TRACK INSPECTING DEVICE.
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Patented May 21, 1912.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN S. TYLER, OF BOONE, IOWA.

TRACK-INSPECTING DEVICE.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN S. TYLER, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented certain new and useful Improvements in Track-Inspecting Devices, of which the following is a full, clear, and exact description.

In inspecting railway tracks the top of the "ball" of the rail and the flanges by which the rail is spiked to the ties are readily examined by a person walking in upright position, but to examine the web and the underside of the ball is a slow and laborious operation requiring the inspector every few feet to assume a stooping posture which is extremely fatiguing and hence is apt to induce the inspector to shirk or to make a less careful and painstaking examination than he should.

I have accordingly been led to devise my present invention, which has for its chief object to provide a device which can be passed along the track by a person walking in upright position or but slightly stooping, and which will by reflection reveal to view the side or sides of the web and the underside of the ball on one or both sides of the web.

To this and other ends the invention in its preferred form consists of one or more mirrors suitably mounted on a handled carrier by which it can be conveniently moved along the track with the mirror or mirrors in such position with respect to the web and the underside of the ball as to send the reflection thereof to the eye of the user. Various embodiments of this idea are illustrated in the accompanying drawings, in which—

Figure 1 is a front view of a simple form of the invention in the position of use, with the track in cross section. Fig. 1^a is a side view of the same. Fig. 2 is a side view of a more complicated form, shown on a larger scale, with provision for various adjustments of the mirror or mirrors. Fig. 3 is a front view of the device shown in Fig. 2, with the rail in cross section. Fig. 4 is a detail view of another form in which the side mirror or mirrors are made in sections capable of angular adjustment with respect to each other.

The form shown in Fig. 1 comprises a supporting element or saddle 10 having depending lugs or flanges 11 to fit loosely the top of the rail 12, and provided with an up-

wardly extending rearwardly inclined handle 13 by which the saddle is pushed along the rail. Extending laterally from the saddle are four arms 14, two on each side, having inwardly and downwardly extending portions 15 on which are mounted backing-plates 16 of block tin. At the upper and lower edges of the backing-plates are clips 17, in which are fitted two mirrors 18.

In use the device is placed astride of the rail in the manner shown and is pushed along the rail by means of the handle in the hand of the track-walker. The underside of the ball and the sides of the web are then seen by reflection in the mirrors, which can be adjusted to proper position by slightly bending the arms 14.

In the form shown in Figs. 2 and 3 the supporting element or saddle 20 is provided with rollers 21 by which it is supported on the rail, thereby reducing friction and making the device easier to propel. At the front and rear the saddle is provided on each side with downwardly projecting guide lugs 22 which serve to prevent sidewise displacement as the device is moved along the rail by the handle 23. Extending laterally from the saddle are four arms 24, two on each side, having at their inner ends slots 25 engaging upwardly extending screw studs 26 having thumb-nuts 27, by which the arms may be securely clamped in any position of angular and lateral adjustment. The outer portions of the arms are twisted into a vertical plane, as shown, and are provided with slots 28. Extending downwardly from the arms on each side are two supporting members 29 having their slotted upper ends secured to the slotted outer ends of the arms by suitable thumbscrew devices 30. Riveted to these supporting members is a plate of block tin 31, the rivet holes being countersunk so that when the rivets are headed the rivet heads will be drawn down into the countersinks in the plate of block tin as shown at 31, to keep the rivets from contact with the backs of the mirrors 32 and leave the same to rest only on the tin. The mirrors are removably secured in place by means of clips 33 at top and bottom. At the ends of each side mirror frame, end mirrors 33' are provided, mounted on inwardly extending strips 34 which at their outer ends are hingedly attached to slotted members 35 adjustably mounted on the supporting members 24 by means of thumbscrews 36. The

hinge connection between the strips 34 and the members 35 can be tightened to secure the end mirrors in adjusted position, by means of thumbscrews 37, as will be readily understood.

The various adjustments afforded in the device illustrated in Figs. 2 and 3 enable the mirrors to be placed in the most advantageous positions for revealing the parts of the rail which would otherwise be hidden from view. The end mirrors are chiefly useful for throwing light on these hidden parts, which without this additional light might be difficult to see, especially on a dark or cloudy day.

If the two sides of the rail are to be inspected on separate trips of the track-walker the mirrors on one side may be omitted, in which case one or more counterweights 38, shown in dotted lines in Fig. 3, may be employed to balance the mirrors which are retained.

In Fig. 4 is illustrated a form of side mirror which can be used in lieu of the type already described. In this form the mirror is jointed longitudinally, the hinges 39 between the mirror sections 40 being provided with set screws 41 by which the sections can be secured in adjusted position.

From the foregoing it will be seen that my invention provides a highly useful device for the purpose, wholly eliminating the more arduous portion of the work of track-inspection, namely, the constant stooping required by the prior methods when a thorough examination of the track is to be made. Instead, the track-walker simply moves the reflecting device along the rail, and observes in the mirrors the parts of the rail which without the device are hidden from view when he is walking in upright position.

It is to be understood that the invention is not confined to the forms herein specifically shown and described but can be embodied in many other devices without departure from its proper spirit and scope as defined by the following claims.

I claim:

1. In a track-inspecting device, a supporting element adapted to be moved along the rail and reflecting means arranged to show by reflection hidden portions of the rail.

2. In a track-inspecting device, a supporting element adapted to be moved along the rail and provided with one or more rollers to engage the rail, and carrying reflecting means arranged to show by reflection hidden portions of the rail.

3. In a track-inspecting device, a supporting element adapted to rest upon and be moved along the top of the rail, and a

mirror carried by the supporting element and arranged to occupy a position below the top of the rail to show adjacent side portions thereof by reflection.

4. In a track-inspecting device, a supporting element adapted to be moved along the rail, adjustable supporting means extending laterally from said element, and a mirror carried by said means to show by reflection hidden portions of the rail.

5. In a track-inspecting device, a supporting element adapted to be moved along the rail, an arm extending laterally from said element, and a mirror adjustably mounted on said arm.

6. In a track-inspecting device, a supporting element adapted to be moved along the rail, an arm extending laterally from said element and having its outer end slotted, a supporting member depending from said arm and having its upper end slotted, means cooperating with the slotted ends of said arm and member to secure the latter in adjusted position, and a mirror mounted on said member.

7. In a track-inspecting device, a supporting element adapted to be moved along the rail, a mirror carried laterally by said element, and an inwardly extending mirror at the end of the first named mirror.

8. In a track-inspecting device, a supporting element adapted to be moved along the rail, laterally extending arms adjustably mounted on said element, and mirrors adjustably mounted on said arms, adapted to be positioned to show by reflection hidden portions of the rail.

9. In a track-inspecting device, a supporting element adapted to be moved along the top of the rail, means for preventing lateral displacement of the said element with respect to the rail, and reflecting means carried by said element to show by reflection hidden portions of the rail.

10. In a track-inspecting device, a saddle adapted to be moved along the rail, a handle for moving the saddle, and reflecting means arranged to show by reflection hidden portions of the rail.

11. In a track-inspecting device, a saddle adapted to be moved along and upon the rail and provided with one or more supporting rollers, a handle for moving the saddle, and reflecting means arranged to show by reflection hidden portions of the rail.

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

JOHN S. TYLER.

Witnesses:

PIERS A. RICE,
W. E. DONER.