

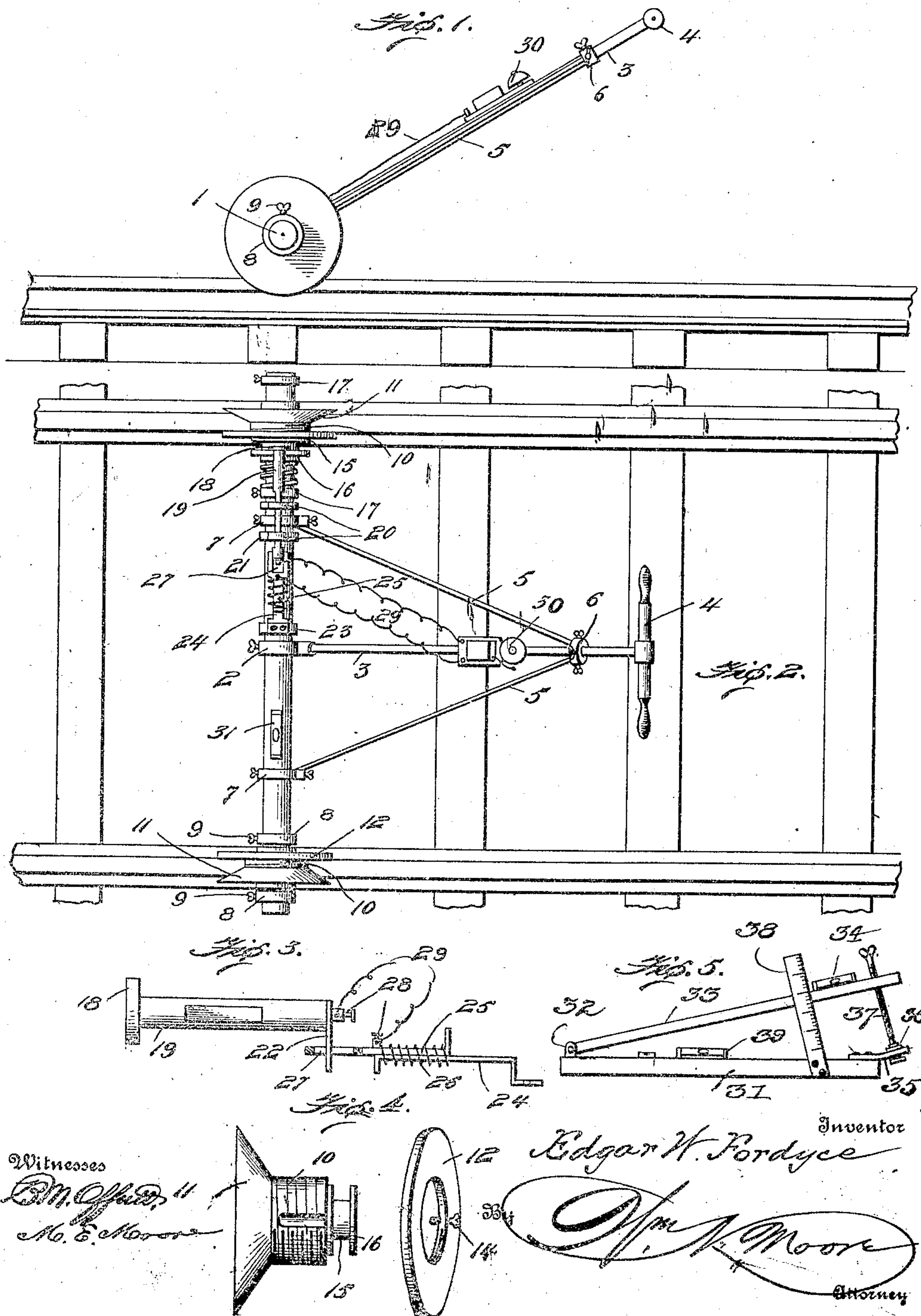
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PATENTED DEC. 17, 1907.

E. W. FORDYCE.

TRACK GAGE.

APPLICATION FILED APR. 8, 1907.



UNITED STATES PATENT OFFICE.

EDGAR WALTER FORDYCE, OF ANNISTON, ALABAMA

TRACK-GAGE.

No. 874,373.

Specification of Letters Patent.

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Application filed April 8, 1907. Serial No. 367,027.

To all whom it may concern:

Be it known that I, EDGAR WALTER FORDYCE, a citizen of the United States, residing at Anniston, in the county of Calhoun and State of Alabama, have invented certain new and useful Improvements in Track-Gages, of which the following is a specification.

My invention relates to improvements in track gages, and has particular reference to a device for indicating the gage of the railway track, and at the same time to indicate the condition of the track as regards its level.

The object of my invention is the provision of a gage for the inspection of railway track which will automatically indicate or announce any variation or irregularity in the width of the track, and also to provide a leveling attachment for the gage by means of which the level of the track may be readily ascertained.

Another object of my invention, is to provide in combination with a track gage, a self adjusting alarm mechanism, either electrical or mechanical, for making known immediately any irregularity or defect in the track.

A further object of my invention, is to provide such a gage having suitable alarm mechanism, which shall be of convenient size and form so that it may be operated either manually or by any suitable motive power, and a still further object of the invention, is the provision of a device embodying all these attributes, which shall be of simple and durable construction, and practical and efficient for the uses intended.

With these and other objects in view, my invention consists of a suitable frame, gage wheels mounted in the frame so as to be acted upon by any variation in the track, suitable alarm mechanism supported on the frame and connected through suitable means to the gage wheels so that any variation in the track acts through the gage wheels and connections to cause a sounding of the alarm, and one or a number of levels may also be supported in the frame.

The invention further consists of a track gage embodying certain other novel features of construction, combination and arrangement of parts, substantially as herein disclosed and claimed, and as illustrated in the accompanying drawings, in which:

Figure 1, is a side elevation of my complete and improved track gage in position upon a track as in actual use. Fig. 2, is a

plan view of the same. Fig. 3, is an enlarged detail view of the contact mechanism. Fig. 4, is a detail view of one of the adjustable flanged gage wheels. Fig. 5, is a side elevation of a level attachment adapted to be applied to the gage.

My invention is primarily designed to be used by track walkers or inspectors, as the gage being of light construction, may be placed upon the rails and with very little exertion, be either pushed or drawn along by the operator walking upon the track bed, and when the gage gives notice of a defect in the track, the exact location and extent of the defect may be ascertained with precision.

The device consists of a shaft or axle 1, centrally to which is secured by means of the clamping socket collar 2, the handle staff or rod 3, to the outer end of which is secured the operating handle bar 4. Brace rods 5, are clamped in a collar 6, near the outer end of the handle, and extend to the collars 7, located near the ends of the axle, thereby serving to prevent lateral movement or strain on the handle staff. A pair of abutment collars 8, are adjustably secured upon one end of the shaft by means of set screws 9, and closely confined upon the shaft between the collars 8, is one of the gage wheels. These gage wheels are two in number, each consisting of a tread portion 10, tapering from which is the flaring flange 11, the tread being preferably threaded as shown to receive the straight retaining flange or collar 12, which is secured in the proper adjusted position upon the tread by means of a set screw 14. The gage wheels are placed upon the axle with their straight flanges innermost, and one of the wheels, in this case, the one to the left in Fig. 2, is formed on the inner side with a hub extension 15, terminating in an abutment collar 16. This last-named gage wheel is loosely confined upon its end of the axle between the adjustable spacing collars 17, which are similar in form to the collars 8, already described. A washer 18, is loosely confined upon the hub extension 15, of the laterally movable gage wheel, and connected at one end to said washer, is a rod 19, slidably supported in bearings 20, the bearings in turn being carried upon the spaced collars 21, which are adjustably mounted upon the axle. The rod 19, is thus supported parallel to the axle and carries at its inner end, the depending contact point 22. The inclined

flanges of the gage wheels cause the wheels to grip the rails more securely so that they respond to any irregularity in the track.

Adjustably secured near the center portion of the axle, is a supporting collar 23, to which is secured the offset bracket plate 24. A contact plate 25 is slidably and resiliently confined upon the bracket plate by means of the coiled spring 26, and this contact plate is formed with an enlarged end having an elongated opening 27 therethrough, for the passage of the contact point 22. Terminal binding posts 28, are mounted upon the contact point and the contact plate, and leading therefrom are the conductors 29, which extend to the electrical alarm bell 30, carried upon the handle staff. I do not wish to limit myself however, to the use of an electrical alarm bell, as a spring actuated alarm or other suitable signal may be mounted upon the frame and through suitable connections, be operated by the lateral movement of the gage wheel.

In order to readily ascertain the level condition of the track, it is generally advantageous to mount a level 31, upon the axle. This level may be mounted in a cavity in the axle as shown, or it may be mounted in any suitable manner or position so as to indicate the difference in level between the two ends of the axle, and more than one level may be employed if so desired.

With the foregoing description and illustration, the operation of the device will be readily understood, and it will be seen that lateral movement of the slidable gage wheel, causes corresponding movement of the rod carrying the contact point, which in turn makes contact with the walls of the opening in the contact plate, thereby establishing a complete electric circuit which rings the alarm wherever a variation in the gage of the track occurs. The straight flange and flaring angular flange of the gage wheels, form a combination to closely grip the rails, so that the wheels respond to the slightest variation in the regularity of the track. As the different parts of the device are adjustable, the proper adjustment and co-action of the members is thereby assured. By means of the level or levels, any low places in the track may be ascertained, or by slight modifications in the details of structure the levels may be arranged so as to show the angle or curvature of the track.

From the above description taken in connection with the drawings, the many advantages of my invention over the present system of track inspection will be readily appreciated, and it will be evident that I have accomplished all the results herein set forth as the objects of my invention.

The level attachment shown in Fig. 5, consists of a base board 31, adapted to be secured

upon the axle or other convenient part of the gage, and to one end of the base board is pivoted by means of the hinge connection 32, the angular supporting bar 33, at the upper end of which is mounted the level 34. An outstanding bracket plate 35, is secured to the end of the base board opposite to hinge connection. A double flanged collar 36, is loosely confined in an opening in said bracket plate, and a threaded hand screw 37, has its lower end secured to said collar. The hand screw passes through the end of the angular support and has threaded engagement therewith, so that by rotating said hand screw, the hand screw may be raised or lowered at will. An upstanding scale 38, is secured upon the base board and is adapted to act as a gage for the angular support, and a level 39, may also be mounted upon the base board.

In determining the inclination between two tracks, the angular support is raised or lowered by the hand screw until the level carried by said support is perfectly balanced, and then by reference to the gage member, the degree of angle or inclination between the tracks may be ascertained.

The horizontal level serves to indicate any variation in the supposedly level track, and the angularly supported level serves to indicate the difference in level between the two tracks on curves and such places.

The level attachment is particularly useful in constructing new track to assist in laying the tracks perfectly level, and at curves or inclines, the angular support is set at the required degree of incline and the tracks are then laid accordingly. By pivotally mounting the base board of the level attachment, the level attachment as a whole may thus be swung around at right angles to the axle of the gage, and by adjusting the angular support, the rise or grade of the track may be ascertained.

I claim:

1. A track gage comprising an axle and a frame carried thereby, gage wheels on the axle, said wheels each having straight and inclined flanges for gripping engagement with the rails.

2. The combination with a track gage, of gage wheels having a tread portion, an inclined flange tapering therefrom, and a straight flange.

3. A track gage comprising a frame and axle, gage wheels on the axle having inclined flanges for gripping engagement with the rails, suitable connections, and an alarm mechanism actuated by the gage wheels through the said connections.

4. A track gage comprising a frame and axle, relatively stationary and slidable gage wheels mounted on the axle, said wheels having inclined flanges for gripping engagement

with the rails, and an alarm mechanism actuated through suitable connections by the movable gage wheel.

- 5 5. A track gage comprising a frame and axle, gage wheels on the axle having inclined flanges for gripping engagement with the rails, an alarm mechanism and suitable connections therefor so as to be actuated by the gage wheels, and a level attachment.
- 10 6. The combination with an axle and frame, relatively stationary and slidable gage wheels mounted on the axle adapted to make gripping engagement with the rails, adjustable abutments to limit the lateral
- 15 movement of the gage wheels, a spring tending to force the relatively slidable gage wheel outward on the axle a laterally slidable plunger actuated by the movements of the slidable gage wheel carrying an electric contact,
- 20 a stationary contact adapted to be engaged by the contact on the plunger and an electrical circuit including alarm mechanism, having as its terminals, the movable and stationary contacts.
- 25 7. The combination with an axle, of a frame mounted thereon, alarm mechanism carried by the frame, abutment collars ad-

justably mounted on the axle, a relatively stationary gage wheel confined on the axle between two of said collars, a relatively slid- 30 able gage wheel loosely confined between two of the abutment collars at the opposite end of the axle, a coil spring on the axle between one of the abutment collars and the movable gage wheel to normally force the 35 wheel outward on the axle, and mechanism on the axle actuated by the movable gage wheel to operate the alarm mechanism.

8. The combination with an axle, of a frame mounted thereon, an operating handle 40 carried by the frame and alarm mechanism carried thereby, abutments adjustably mounted on the axle, relatively stationary and slidable gage wheels confined on the axle between the abutments, mechanism on 45 the axle actuated by the movable gage wheel to operate the alarm mechanism, and one or more levels carried by the device.

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

EDGAR WALTER FORDYCE.

Witnesses:

A. J. GOODWIN,
W. S. COLEMAN.