Dec. 30, 1924. 1,520,928

W. P. BROWN ET AL

DEVICE FOR GRADING RAILWAY TRACKS

Filed July 8, 1922

Fig. 1.

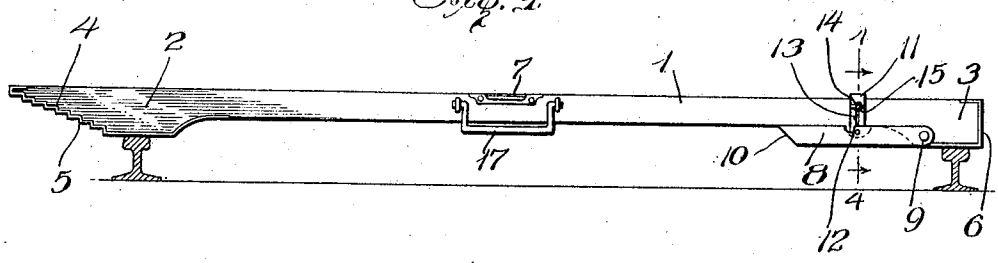


Fig. 2.

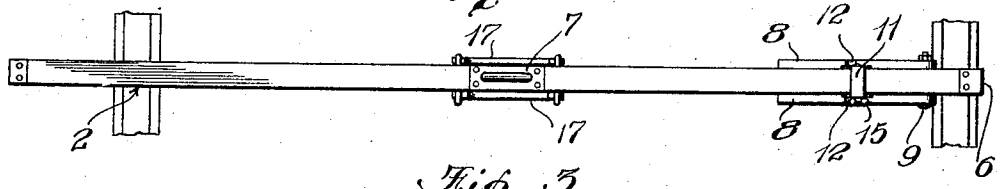


Fig. 3.

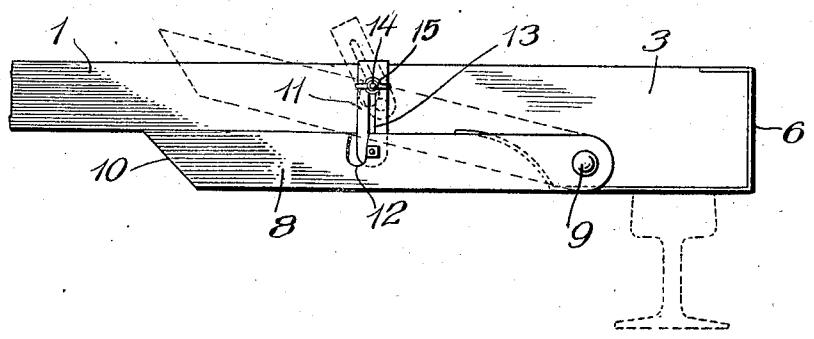
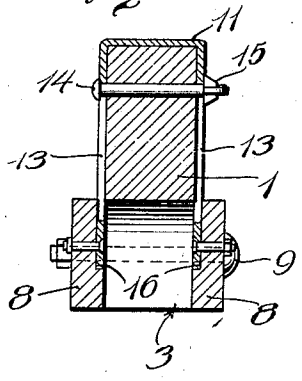


Fig. 4.



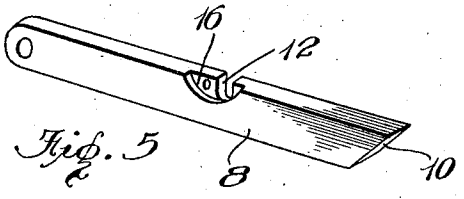


Fig. 5.

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UNITED STATES PATENT OFFICE.

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DEVICE FOR GRADING RAILWAY TRACKS.

Application filed July 8, 1922. Serial No. 573,670.

To all whom it may concern:

Be it known that we, WALTER P. BROWN and CLARENCE A. COOK, citizens of the United States of America, residing at Piedmont, in the county of Calhoun and State of Alabama, have invented certain new and useful Improvements in Devices for Grading Railway Tracks; and we do hereby declare that the following is a full, clear, concise, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in devices for grading and surfacing railway tracks, having for an object to provide a device of such character as will facilitate the proper grading and surfacing of railways tracks, enabling a user of the same to effect accurate banking and surfacing of the usual ballast or rail beds as well as the sleepers or cross ties therefor.

It is likewise an object of the invention to provide a device of the character mentioned employing a novel arrangement of adjustable arms which may be moved to different positions in use and temporarily secured in such positions in order that positive results may be secured with the device.

Other objects will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by persons skilled in the art, we have in the accompanying illustrative drawings and in the detailed following description based thereon, set forth one possible embodiment of the same.

In these drawings:

Figure 1 is a side elevation of the improved device showing it arranged upon the tread portions of a pair of railway tracks;

Figure 2 is a top plan view of the same;

Figure 3 is an enlarged fragmentary detail in elevation showing the mounting of the adjustable arms upon one end portion of the device;

Figure 4 is a vertical transverse section through the device showing the means for adjustably securing the arms in positions; and,

Figure 5 is a detail in perspective of one of the arms employed in connection with the beam of the device.

Having more particular reference to the drawings, in connection with which like characters of reference will designate corresponding parts throughout, the improved device may be stated to comprise a beam designated by the numeral 1 having the opposite end portions thereof enlarged, as indicated at 2 and 3, the enlarged end portion 2 being formed with a series of steps 4 of uniform depth throughout and adapted to function as effectual gauge elements, such steps being faced by wear resisting material, as indicated at 5, such as a metal strip or the like, bent into corresponding shape or configuration and passing over the bottom or lower side of the enlarged end portion 2, as clearly shown in the Figure 1. The opposite end portion 3 of the beam is likewise provided with a wear resisting strip or guard 6, also formed of metal or other suitable material.

Arranged intermediately of the beam 1 and preferably located at a point adjacent the upper side thereof is a liquid or so-called spirit level indicated in its entirety by the numeral 7, it being noted in this connection, that the level is inset with respect to said intermediate portions of the beam and disposed longitudinally thereof whereby to afford means for accurately ascertaining the positioning of the device when arranged upon a railway bed or tracks, such for example, as shown in the Figures 1 and 2.

Upon that portion of the beam 1 formed with the enlarged extremity 3, we arrange arms 8, said arms being pivoted to the lower portion of the enlargement 3 as indicated by the numeral 9 and having their opposite ends bevelled or cut at a bias as at 10. To inter-connect the pivoted arms 8 and thus ensure collective movement of the same, a sheet metal substantially U-shaped yoke 11 embraces portions of said beam 1 in proximity to its enlarged extremity 3 and

has its opposite ends pivotally connected to the intermediate portions of the arms 8 as indicated at 12, longitudinally disposed slots 13 being formed in the opposite sides of said yoke adapted to receive the shank of an adjusting bolt 14 fixedly mounted in and extending from the opposite sides of an adjacent portion of the beam 1. Wing nut 15 or other suitable locking or clamping device are preferably arranged upon a screw threaded extremity of the bolt 14 and as will be understood, and afford effectual means for securing the U-shaped yoke 11 in an adjusted position of the arms 8 with relation to the beam 1 so that the same may be arranged in positions as indicated in dotted lines in the Figure 3, notches 12 are formed in the intermediate portions of each of the same and as will be understood, will engage the opposite portions of said bolt 14 therein when said arms are swung to their uppermost angular positions, as above noted.

To facilitate carrying or portage of the grading device, handles 17 are pivotally secured to the opposite sides of the intermediate portion of the beam 1, preferably at points adjacent the location of the spirit level 7 upon the upper side thereof. In this way, the device may be readily carried from place to place or lifted or adjusted to such positions as may become necessary during usage of the same.

In using the improved device, the opposite end portions of the same, that is, the enlarged extremities 2 and 3 are arranged upon the tread portions of a railway track in the manner indicated in the Figure 1. The level 7 is then observed in order that a user may ascertain whether or not the railway tracks are arranged at the proper level or grade. Prior to anchoring the several tracks, the tread portions of one of the same is engaged by the proper step 4 while the opposite end of the beam having the enlargement 3 thereon is arranged upon the tread portion of the opposite track. By properly selecting the particular gauge step 4 and then observing the position of the spirit level 7, a user of the device will be enabled to ascertain when the proper grade has been built or made. The base portion of the enlarged extremity 3 which is shown in the drawings as resting upon the right hand or inner rail of the track section is provided with an adjustable extension such as the arms 8 so that in ascertaining the elevation of the outer or guide rail of this track section at a curve or any other point the beam may be moved to the right until the desired step 4 may rest upon this outer rail and when so moved to the right this adjustable extension or the arms 8 will rest upon the inner rail. When grading or levelling a switch section or any portion of a track where the rails of several track sections lie closely adjacent the arms 8 may be elevated as is shown in dotted lines in Figure 3, so as to prevent these arms from resting upon or coming in contact with the rails of the adjacent or intersecting track section which are not being gaged and which in some cases are on a higher level. The enlarged extremities of the beam 1, form an arched lower face of the beam which will straddle any rails of a track section which may lie between the two rails as is shown in drawings and therefore the beam may be moved to the right in ascertaining the level of the two rails as is shown and the desired step 4 fall upon the outer rail without the medial lower arched portion of the beam resting upon the rails of the adjacent track section which may lie between two rails as shown in the drawings. If the outer or guide rail of an adjacent track section should lie between the rails and adjacent the inner rail, the arms 8 may be elevated or adjusted to a position that will prevent them from coming in contact with said guide rail.

Manifestly, the construction shown is capable of considerable modification and such modification as is within the scope of our claims, we consider within the spirit of our invention.

We claim:

1. A device of the character described comprising a beam having a plurality of steps of uniform depth formed in one end portion thereof, a level arranged upon the intermediate portion of the beam adjacent its upper side, an arm pivoted to the opposite end portion of the beam adjacent its lower side, a yoke member pivoted to the intermediate portion of said arm and slidably engaged over the adjacent portion of said beam and means engaging said yoke carried upon the beam adapted to secure the yoke in adjusted position with respect to the beam.

2. A device of the character described comprising a beam having a plurality of gauge steps of uniform depth formed in one end thereof, a level arranged upon the upper side of the intermediate portion of said beam, collectively movable arms pivoted upon opposite sides of the other end of the beam in proximity to its lower side, a substantially U-shaped yoke slidably embracing the adjacent portion of said beam and having pivotal connection with the intermediate portions of said arms, and means engaging said yoke carried upon the beam adapted to secure the yoke in adjusted position with respect to the beam.

3. A device of the character described comprising a beam having the opposite end portions thereof enlarged, one of said end portions being formed with a plurality of

gauge steps of uniform depth, collectively movable arms pivoted to opposite sides of the other enlarged extremity of said beam in proximity to its lower side, a substantially U-shaped yoke slidably embracing the adjacent portion of said beam and pivotally connected at its lower ends respectively to the intermediate portions of said arms, the sides of said yoke having longitudinally disposed slots therein, a bolt passing transversely through the adjacent portion of said beam and received in said slots, a locking nut engaging the screw threaded extremity of the bolt for securing the U-shaped yoke in adjusted position with respect to the beam, and a level arranged upon the upper side of the intermediate portion of said beam.

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