H. WARE.

RAILWAY TIE SURFACER AND TIE PLATE GAGE.

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1,019,936.

Patented Mar. 12, 1912.

Fig. 1.

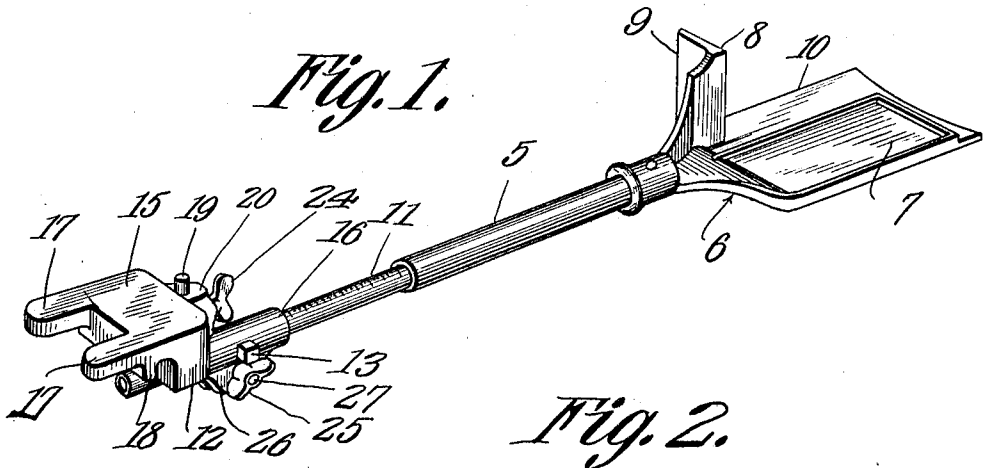


Fig. 2.

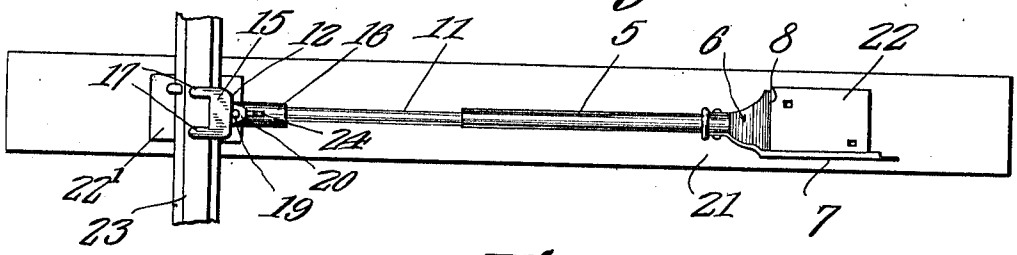
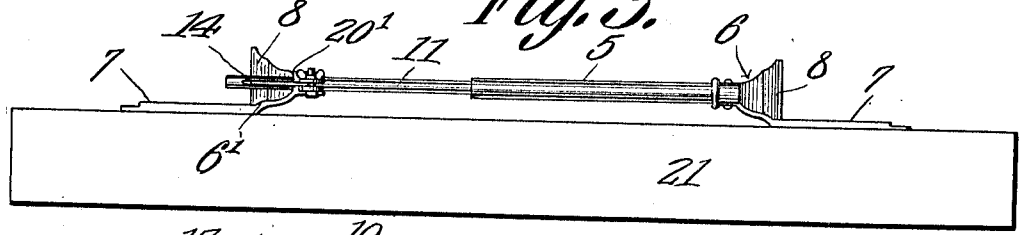


Fig. 3.



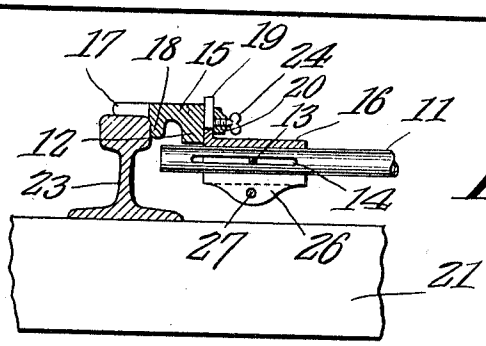


Fig. 4.

Witnesses

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RAILWAY-TIE SURFACER AND TIE-PLATE GAGE.

1,019,936. Specification of Letters Patent. Patented Mar. 12, 1912.

Application filed December 19, 1911. Serial No. 666,710.

To all whom it may concern:

Be it known that I, HENRY WARE, a citizen of the United States, residing at Springville, in the county of Erie and State of New York, have invented a new and useful Railway-Tie Surfacer and Tie-Plate Gage, of which the following is a specification.

This invention relates to railway tie surfacers and tie plate gages, and in particularly an improvement of my former Patent, Serial No. 606,851, issued July 5, 1898.

This invention contemplates the provision of a rod having a head at one end and embodying a surfacer and a tie plate gage, such as shown in the said patent, and a head at the other end adapted to coöperate with the tread of one of the rails of a track whereby the ends of the ties opposite the rail may be leveled and the tie plate set according to the tread of the rail, this invention being adapted especially for use in leveling ties and setting tie plates in railway tracks already laid.

This invention also has for its object to provide means for adjusting the heads for various track gages and for various heights of rails.

In the structure disclosed in the aforementioned patent, when used in connection with tracks already laid and to adapt tie plates to such tracks, one of the heads is adapted to engage the web of one of the rails whereby the ends of the ties opposite the said rail may be leveled and the tie plates set in proper position. This has been found objectionable in a number of instances, for the reason that the treads of various rails differ in width and the treads also in becoming worn would prevent the accurate adjustment of the tie plates with respect to the treads, as is necessary to properly set the tie plates in order that the other rail when placed thereon will assume the proper track gage with respect to the aforesaid rail.

In the customary constructions of rails, the webs are generally concaved and the corners rounded, this also raising an objection for the reason that if the head bearing against the said web is swung slightly it would cause the rod to assume an improper angle relative to the rail, or an angle other than a right angle. These objections have been overcome by the substitution of a head at one end of the rod which is adapted to seat upon the tread of the rail and to engage the edge thereof, whereby the head at the other end of the rod embodying the surfacer and square can be accurately manipulated to level the ties at the end opposite the said rail and to set the tie plates in proper position.

This invention resides in the novel construction and combination of parts hereinafter described and claimed, reference being had to the accompanying drawings, wherein similar reference characters indicate similar parts, and wherein—

Figure 1 is a perspective view of the device. Fig. 2 is a plan view thereof, as in use. Fig. 3 is an elevation of the device with the improved head removed and a supplemental head substituted therefor. Fig. 4 is an enlarged longitudinal section taken through the end of the tool bearing the improved head, the head being shown as applied to the tread of a rail.

Referring specifically to the drawings, 5 designates the bar, the same being preferably tubular, and 6 designates generally the head mounted upon one end thereof and constituting the surfacer 7 and the straight edge 8 at right angles to the surfacer to form therewith a square. This rod 5 may be conveniently constructed of gas pipe, in which event the end thereof opposite the head 6 is turned upon a lathe, as designated by the numeral 11 to provide a smooth surface. A split sleeve 16 is arranged on the end of the rod 5 opposite the head 6 and is adapted to slide upon the reduced portion 11 of the said rod. The rod in the end thereof opposite the head 6 is provided with a transverse elongated slot 14, and a bolt 13 is passed through the sleeve 16 and through the said slot to constrain the sleeve against rotation relative to the rod. The split portion of the sleeve 16 is arranged at the bottom of the rod 5 and ears 26 project outwardly or depend from the edges formed by the said split. The bolt 27 is passed through the ears 26 and has a wing nut 25 screw-threaded upon the same to clamp the ears 26 together and thereby contract the sleeve 16 to bind same securely on the rod 5. The sleeve 16 is also provided with an upstanding or radial finger 19 projecting therefrom at the outer end thereof, and the head 12 is adjustably mounted upon the said finger. This head 12 is provided on its inner side with an eye 20 through which the finger 19 passes, and a wing or set bolt 24 is engaged through the said eye to engage

the finger 19 and retain the head in any adjusted position to which it is set. The head 12 is provided with an angular portion 15 projecting outwardly from the upper end thereof, which angular portion has its outer end bifurcated or forked forming the tines or arms 17, and the said portion is provided with a transverse depending rib 18 at the inner end of the arms 17.

As stated above, this device is adapted particularly for leveling ties and setting the tie plates when it is desired to apply tie plates to tracks already laid, in which event, the rails are removed from their normal position by removing the spikes and the ties leveled at one end and the tie plates set on the said ends and then embedded in the usual manner by means of a beetle or sledge. The said ends of the ties may be readily leveled and the tie plates set by the assistance of the supplemental head 6′ shown in Fig. 3, which corresponds to the head 6 and embodies the surfacer 7 and the straight edge 8, the said head 6′ having the clamp 20 for securing it upon the end of the rod 5. This head 6′ is substituted for the head 12, and permits of the use of the implement in the manner fully described in the aforementioned patent, and not necessary to describe in detail in this application. The rail 23 is then laid upon the tie plate 22 embedded in the end of the tie 21, and the spikes then driven to secure the rail in position upon the tie plate. The head 6′ is then removed and the head 12 mounted upon the end of the rod 5, by inserting the end of the rod through the sleeve 16, the bolt 13 having been removed. The bolt 13 is then passed through the sleeve and through the slot 14 to constrain the head against rotation and to retain the head in proper position relative to the surfacer 7, but permitting the head to be adjusted longitudinally. This head 12 is then adjusted relative to the surfacer 7 according to the track gage and by the assistance of a series of graduations on the rod 5. The head 12 is then adjusted upon the finger 19 radially of the rod 5 to accommodate the height of the rail, and the arms 17 are then seated upon the tread of the rail to bring the rib 18 against the inner edge thereof, whereupon the surfacer 7 may be applied to the opposite end of the tie to assist in the end of the tie being properly leveled by means of an adze. After the said end of the tie has been leveled, the bolt 13 is removed and the head 6 swung to bring the edges 9 and 10 of the straight edge 8 and the surfacer 7, respectively, against the previously leveled portion of the tie. The tie plate 22 is then set by means of the square formed by the surfacer 7 and straight edge 8, and after removing the implement, the tie plate is embedded and the other rail may then be applied over the said tie plate and the spikes driven. In this manner, it will be seen that the ends of the ties opposite one rail secured upon the ties may be readily leveled and the tie plates set, using the tread of the rail as a standard, and therefore setting the tie plates with accuracy and precision.

If the implement is to be used for one standard height of rail, the head 12 may be made rigid relative to the finger 19, but for universal purposes it is essential that the head 12 is adjustable radially of the rod 5 to accommodate the various heights of rail. By the provision of the bolt 13 passed through the sleeve 16 and through the slot 14 in the rod 5, the surfacer 7 will be constrained against accidental displacement from its proper position when leveling the ties, due to carelessness on the part of the workmen, or other causes. It is also apparent that this implement may be used in connection with various rails having treads of different widths, and also in connection with rails that have been in use and the treads thereof partially worn away, to accurately set the tie plates at the opposite ends of the ties to bring the inner edge of the rail being set to the proper track gage relative to the tread of the rail already in position. The heads 12 and 6′ are also interchangeable to permit of the use of the implement for leveling ties of tracks which are being laid and for leveling the ties of tracks already laid and setting the tie plates.

The objects aimed at are in the above manner efficiently attained, and an implement constructed in accordance with the present invention is comparatively simple and inexpensive to manufacture, and in use is both serviceable and efficient, it being understood that the device is susceptible of alteration in its details within the scope of the appended claims, without departing from the spirit of the invention.

What is claimed as new is:

1. In a railway tie surfacer and tie plate gage, a rod, a head mounted on one end thereof including a surfacer and a square for setting the tie plates, and a head mounted on the other end of the rod and adapted to engage the top and edge of the tread of a rail.

2. In a railway tie surfacer and tie plate gage, a rod, a head mounted on one end thereof and having a surfacer for leveling the ties and a square for setting the tie plates, and a head mounted on the other end of the rod having an angular portion to set on the tread of a rail and a portion depending therefrom to engage the edge of the tread.

3. In a railway tie surfacer and tie plate gage, a rod, a head mounted on one end

thereof and having a surfacer for leveling the ties and a square for setting the tie plates, and a head mounted on the other end of the rod adapted to engage the top and edge of the tread of a rail, one of the heads being adjustable radially of the rod.

4. In a railway tie surfacer and tie plate gage, a rod, a head mounted on one end thereof and having a surfacer for leveling the ties and a square for setting the tie plates, and a head mounted on the other end of the rod adjustable radially and longitudinally of the rod and adapted to engage the top and edge of the tread of a rail.

5. In a railway tie surfacer and tie plate gage, a rod, a head mounted on one end thereof and having a surfacer for leveling the ties and a square for setting the tie plates, a member adjustably mounted on the other end of the rod, and a head carried by the said member and adjustable radially of the rod and adapted to engage the top and edge of the tread of a rail.

6. In a device of the character described, a sleeve having a radial finger projecting therefrom, and a head adjustably mounted on the said finger and having an angular portion to seat upon the tread of a rail and a portion depending therefrom to engage the edge of the tread.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

HENRY WARE.

Witnesses:
ARNOLD L. NEUBACH,
IRA H. VAIL.