W. J. WADDELL.

TIE EXTRACTOR.

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1,137,682. Patented Apr. 27, 1915.

Fig. 1.

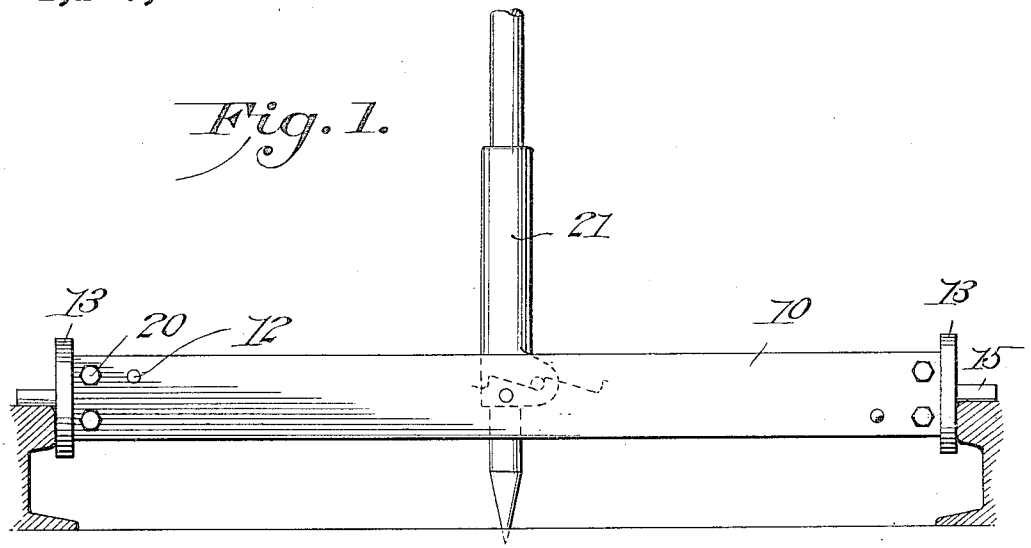


Fig. 2.

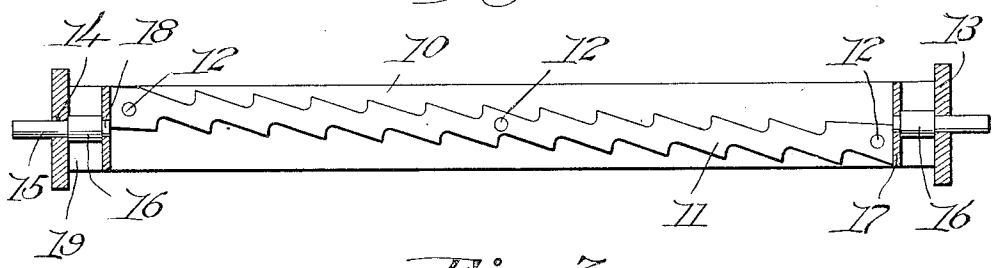
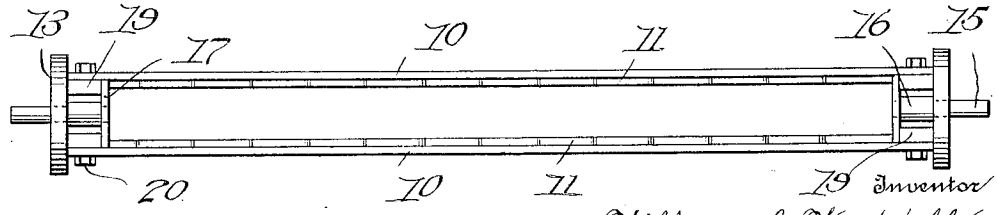


Fig. 3.



Witnesses

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TIE-EXTRACTOR.

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To all whom it may concern:

Be it known that I, WILLIAM J. WADDELL, a citizen of the United States, residing at Lillington, in the county of Harnett and State of North Carolina, have invented certain new and useful Improvements in Tie-Extractors, of which the following is a specification.

This invention relates to railroad tie extractors, and more particularly to that class in which the tie is removed transversely of the track.

The object of this invention is to provide a device for removing railroad ties that is supported by the rails and is so constructed that the ties can be moved in either direction relative to the track without removing the device from the rails.

Another object of this invention is the production of a tie removing device that comprises a rack bar having oppositely arranged ratchet teeth on its upper and lower faces, and means at the end of said rack bar whereby the rack bar can be so positioned as to bring either of the rows of ratchet teeth in engagement with the means for engaging the tie that moves the same.

A still further object of this invention is the production of a device of the kind above described that is simple in construction, efficient in operation and consists of the minimum number of parts.

With these and other objects in view, this invention consists of certain novel constructions, combinations and arrangement of parts as will be hereinafter fully described and claimed.

In the accompanying drawing:—Figure 1 is a view in elevation of the improved device mounted on a pair of rails and in engagement with a tie. Fig. 2 is a longitudinal sectional view of the rack bar and supporting means therefor. Fig. 3 is a top plan view of the rack bar and supporting means therefor.

Referring to the parts by reference numerals, the device consists of a rack bar supporting means that has a pair of side plates 10 having positioned on the inner faces thereof inclined rack bars 11. Suitable means, as indicated at 12, pass through the rack bars 11 adjacent the ends thereof and intermediate the length to hold the same in engagement with the side plates 10. It will be noted that ratchet teeth are formed on the upper and lower faces of the rack bar 11, and said teeth on the upper face are disposed opposite to those that are formed on the lower face of the rack bar.

Secured on the ends of the side plates 10, are end members 13 that are preferably formed as disks, and are provided with openings 14 formed centrally thereof. Passing through the disks or end members 13, are pins having an elongated reduced outer portion 15 which together with the portion 16 form a shoulder that is positioned against the inner face of the end member or disk 13. As will be seen in the accompanying drawing, the reduced elongated portions 15 of the pins extend for a distance beyond the outer faces of the disks or end members 13 for the purpose of resting upon the tread of the rail.

Positioned at the ends of the rack bars 11 are end plates 17 that have positioned therein the reduced portions 18 of the pins, and interposed between the plates 17 and the disks 13 are spacing blocks 19 which are secured in position by the means 20 that pass through the side plates 10. It will thus be seen that the rack bars 11 are positioned in a very substantial manner, inasmuch as the means 12 pass through the ends and intermediate the length thereof and into engagement with the plates 10, and to further support and secure the rack bars 11 in a substantial manner, the end plates are provided that engage the ends of the rack bars, and said plates are substantially supported by the spacing blocks 19 that are interposed between said plates 17 and the disks 13. It will further be seen that the enlarged portion 16 of the pins that pass through the disks 13 also forms means for substantially holding the rack bars in the proper position, inasmuch as they have their inner ends positioned in the plates 17 and shoulders engaging the outer faces of said plates 17.

The rack bar and supporting means therefor having been described, the means that coöperate with said rack bar will be now specifically set forth.

A sleeve 21 is of such size as to receive the ordinary crow-bar or tool of like size, said sleeve having laterally extending ears as indicated in Fig. 1, and passing through said laterally extending ears are pins that are adapted for engagement with the ratchet teeth formed on the rack bars 11.

The operation of this device is as follows: The rack bar and supporting means therefor

are positioned upon the rails by means of the elongated reduced portions 15 of the pins resting upon the tread of the same and having the disks 13 in engagement with the sides of the rail adjacent the tie that is to be removed. A crow-bar or like tool is positioned in the sleeve 21, and said sleeve is positioned as shown in Fig. 1 with the pin carried thereby in engagement with some of the teeth of the rack bar. It will, of course, be understood that the face of the rack bar will be so positioned as to allow for the movement of the tie in the desired direction. The pin carried by the sleeve 21 being positioned as indicated in Fig. 1, a point of fulcrum is thus established, and by pressure being applied to the upper end of the crow-bar positioned in the sleeve, the tie and the lower end of the same being in engagement with the tie, said tie can then be removed in any desired direction. When the tie is being removed to such a distance that the crow-bar will not efficiently remove the same from its point of fulcrum, it is needless to say that the sleeve can be changed to any of the numerous teeth formed on the rack bar. If for any reason when the next tie to be removed can not be moved in the same direction as the one previously extracted, the rack bar and supporting means therefor will not necessarily have to be removed from the rails, all being necessary is to turn the same over so as to have the ratchets that are oppositely disposed to those that were used in the previous operation in an operable position.

It will be seen from the foregoing description that a railroad tie extractor has been formed that provides substantial supporting means for a rack bar and means that can be brought into engagement with said rack bar for moving the tie transversely of the track. The device is also very simple and can be manufactured and put on the market at the minimum cost.

It is obvious that minor changes may be made in the form and construction of this invention without departing from the material parts thereof. It is therefore not wished to confine the invention to the exact form herein shown and described, but it is wished to include all such as properly come within the scope claimed.

I claim—

1. In a device of the kind described, a pair of side plates having secured thereto rack bars having oppositely disposed teeth on their upper and lower edges, end plates in engagement with said rack bars, disks secured at the ends of said side plates, pins passing through said disks and having an enlarged portion engaging the inner faces of said disks, the inner ends of said pins positioned in said end plates, spacing blocks interposed between said disks and said end plates, a sleeve having laterally extending ears and a pin passing through said ears adapted for engagement with some of said teeth of said rack bar.

2. In a device of the kind described comprising a pair of side plates, end plates, rack bars positioned between said side plates and having their ends in engagement with said end plates, means at the ends of said side plates whereby the same can be supported on a pair of rails and a sleeve having means for engaging said rack bar, whereby a tie can be removed transversely of said rails.

3. In a tie extractor, a rack bar, means for holding said rack bar on a pair of rails and means adapted to engage said rack bar, whereby a tie can be moved in either direction relative to said rails while said rack bar is on said rails.

4. In a tie extractor comprising a member adapted to be supported by a pair of rails, a means carried by said member adapted to engage a tie and means whereby said tie can be removed in either direction transversely of said rails while said member is on said rails.

5. In a tie extractor, a frame slidable along the rail treads, a pair of rack bars on said frame having oppositely arranged ratchet teeth on the upper and lower faces, and means whereby said frame can be moved when on said rail treads to bring either set of said ratchet teeth into an operative position.

6. In a tie extractor, comprising a pair of rails, a tie engaging member, a series of abutment shoulders on said first-mentioned member adapted to receive a portion of said tie engaging member, and means whereby said shoulders can be so positioned as to cooperate with said tie engaging member in moving a tie in either direction transversely of said rails.

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

WILLIAM J. WADDELL.

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