This invention relates to an improved device for tacking loose and removing railway tracks which are spiked or otherwise secured to cross-ties. Heretofore, various devices have been brought forth and employed for loosening tracks from cross-ties. These devices range from special lifting jacks to individual spike removers. Use of such devices in tearing up any considerable quantity of rails necessarily entailed considerable manual labor and excessive costs.

Consequently, the tracks of abandoned railways were, for the most part, left on the road beds. Even in cities where street railway systems or parts thereof were abandoned and discontinued, excessive costs prevented the removal of the rails. In various places, the streets were resurfaced without removing the rails. In other places, the rails were left in the streets.

The present invention has to do with providing a device which will economically loosen and separate the joined rails from the cross-ties and place the joined rails on the surface of the street or road bed in position for disassembly and removal.

One of the principal objects of advantage and importance of the invention resides in the production of a rugged and sturdy device which is adapted to economically tear up a single or double line of joined rails in a single forward movement.

The present invention operates on the inclined plane or wedge principle. The roller or rotatable fulcrum is adapted to lessen friction and wear.

Another object of advantage and importance of the improved device of this invention resides in the provision of means for employing a fulcrum in such a manner that the weight of a portion of a rail which has passed thereover is utilized to assist in loosening and withdrawing the spikes or other rail securing means which are still in place ahead of the device.

Another object of advantage and importance resides in the provision of means for preventing excessive lateral movement of rails on the fulcrum when the device is in operation.

A still further object of advantage and importance of the improved device of this invention resides in the provision of means for forcing the cross-ties downwardly as rails secured thereupon are raised upwardly.

An additional object of advantage and importance resides in the provision of means for controlling the direction of travel of the improved device when in operation.

Additional objects of importance and advantage will become apparent as the following detailed description progresses, reference being had to the accompanying drawings, wherein—

Fig. 1 is a side elevational view of a device for taking up rails which embodies the invention.

Fig. 2 is a top plan view thereof.

Fig. 3 is a vertical section taken on line 3—3 of Fig. 1, looking in the direction indicated by the arrows.

Fig. 4 is a slightly modified form of the invention.

Fig. 5 is a perspective view of the device in operation.

As shown in the drawings:

The reference numeral 10 indicates generally a plurality of spaced parallel runners. In the preferred embodiment of the invention, the runners 10 are constructed of I-beams, as is best shown in Fig. 2. However, it will be apparent that any suitable slideable or rotatable supporting or ground engaging means may be employed.

In the preferred embodiment of the invention, the forward ends of the runners 10 are turned upwardly, as is indicated by the reference numeral 12. This construction facilitates travel over obstacles such as switches or the like.

Secured to the parallel runners, preferably closely adjacent the front and rear thereof, are cross-members 14 which are adapted to maintain the runners in operable parallel relation. Suitable bracing members 16 are employed to add rigidity to the structure.

Secured to each runner 10 intermediate the ends thereof is a bearing member 18. The bearing members 18 are in alignment, as is best shown in Figs. 2 and 4. The bearing members 18 are preferably two-piece bearings which may be removed. However, it will be apparent that any suitable bearings may be employed.

Operably journaled in the bearings 18 is a roller 20. The roller 20 preferably spans the entire distance between two of the aligned bearings 18. It will be apparent that a plurality of anti-friction rollers may be positioned in parallel association and on an inclined plane to engage the bottom surface of a rail 21 passing thereover.

In the preferred embodiment of the invention, but a single roller is incorporated in the structure. The device shown in Figs. 1, 2, and 3 is adapted to be employed for taking up a single line of rails. However, it will be apparent that the device shown in Fig. 2 may be of sufficient width to straddle a double line of rails and thus
be successfully operated in taking up the entire track at one operation.

In the modified form of the invention, as shown in Fig. 4, a center runner, indicated by the reference numeral 10c, may be employed to add rigidity to the device and also to support the central portion of the roller 28. Where it is so desired, a pair of rollers 22, 22, may be employed in the modified construction.

It will be apparent that a non-rotatable fulcrum member may be substituted for the rollers 20 or 22, where it is so desired.

Secured to the upper portion of each runner slightly forward of the bearing member 18, is a guide member 24. The guide members 24 are adapted to maintain a rail passing over the roller in association with the peripheral surface of said roller and to direct the rail as it leaves the fulcrum.

Suitable means 26 are provided for attaching the improved device of this invention to motive means.

The improved device of this invention is preferably operated in the following manner: The device is positioned astraddle the rails to be removed. The line of rails to be removed is loosened at one end. This end is then jacked up or raised sufficiently to allow the roller to be placed thereunder. The rail is then lowered onto the roller. The device, thus positioned, has the forward cross-member above the rail and the rear cross-member and the roller beneath the rail.

Suitable motive power such as a truck, tractor, locomotive, or the like is then hitched to the forward end of the improved device. As the device is moved forward, the bottom surface of the runners forces the cross-ties downwardly and the roller or other fulcrum member means raises the rails upwardly.

It will be apparent that as the device moves forwardly under the joined rails, the rails are lifted from the cross-ties and then lowered onto the cross-ties or surface of the road bed where they may be readily taken apart for removal.

It will also be apparent from the foregoing that as the rail passes over the roller or fulcrum point, its weight tends to lift a portion of the rail forward of the fulcrum point. Thus a free portion of the rail is utilized to assist in loosening a secured portion of the rail from engagement with the cross-ties.

It will be apparent from the foregoing that herein is provided a rugged and sturdy device which may be economically employed for removing joined rails from a road bed. Moreover, the improved device of this invention may be employed to remove either a single line of joined rails or a double line of joined rails.

It will also be apparent from the foregoing that rails removed from a road bed and separated from the cross-ties are entirely free from and above any ballast, pavement, or the like, which forms a part of the road bed.

It will also be apparent from the foregoing that herein is provided an improved device which functions on the inclined plane or wedge principle but in which may be incorporated a rotatable or a non-rotatable fulcrum over which rails are adapted to pass and that the rails passing over the fulcrum member improve a lever. And also that the weight of the rail to the rear of the fulcrum member assists in loosening the spikes holding the rail forward of the fulcrum member.

It will be apparent to those skilled in the art to which the device appertains, that numerous changes and alterations in construction and design may be made all without departing from the spirit or scope of this invention. Accordingly, it is understood that the patent granted hereon is not to be limited to the preferred embodiment here disclosed nor in any other manner except as necessitated by the terminology of the appended claims when given the range of equivalents to which they may be entitled.

I claim as my invention:

1. In a device for lifting joined rails from a road bed, a plurality of runners in spaced parallel association, means for maintaining said runners in spaced relation, said means including a cross-member joined to said runners near the front end thereof, said cross-member being adapted to pass above the rail being lifted and providing means for preventing the forward end of the device from tilting downwardly, and means for lifting said joined rails from a road bed as said means pass therealong, said means including a roller journaled transversely of said parallel runners.

2. In a device for lifting rails from cross-ties, supporting means adapted to be moved over said cross-ties in a direction paralleling said rails, and cross-members in association with said supporting means, one of said cross-members being adapted to engage the bottom surface of said rails and one of said cross-members being positioned to pass above said rails and be moved therealong.

3. In a device for removing a line of joined rails from supporting cross-ties, a rail supporting member adapted to engage the bottom surface of said rails, a member positioned forwardly of said rail supporting member which member may contact the upper surface of said joined rails to prevent a downward tilting of the front end of the device, and means for supporting said rail supporting member as it is moved along the bottom surface of said rails.

4. In a device for removing a line of joined rails from a supporting road bed, a rail lifting member adapted to engage and be moved along a lower portion of said raised rail, a member near the front end of the device which may engage the upper surface of said rails to prevent said front end from dipping, and means for supporting said rail-lifting and said front members as the device is moved in a direction paralleling the line of rails being removed.

5. In a device for taking up joined rails from a road bed, a pair of runners in spaced parallel relation one to the other whereby to pass a rail between them and to bear on the rail ties, means for maintaining said runners in spaced relation, and a cross-member by which rails are adapted to be lifted journaled transversely of said runners.

6. In a device for taking up joined rails from a road bed, a plurality of runners in spaced relation one to the other, means for maintaining said runners in spaced relation, and means in association with said plurality of runners for lifting a line of joined rails from its road bed, said last named means including a rotatable cross-member positioned intermediate the ends of said spaced runners.

7. In a device for taking up joined rails from a road bed, comprising a movable road bed engaging member, the bottom surface of said member being adapted in operation to maintain the cross-ties of said road bed in position, and means
on the upper portion of said device adapted to engage and lift the joined rails from said road bed as the device is moved therealong, the rail engaging portion of said device being located intermediate the ends thereof to provide a support on a relatively constant plane for the rail being removed regardless of the normal vertical movement of the front end of the device.

8. In a device for removing joined rails from a road bed, a road bed engaging member, supporting members secured to said road bed engaging member, and a rail engaging member removably secured to said supporting members, said supporting members and said rail engaging member being located intermediate the ends of said device.

9. In a device for lifting rails from cross-ties, supporting means adapted to be moved over said cross-ties in a direction paralleling said rails, a cross-member positioned intermediate the ends of said supporting means, said cross-member providing the only portion of said device for engaging and supporting said rails, said cross-member being located to form a constant centralized load supporting means for said rails, and guide means positioned near each outer end of said cross-member.

10. In a device for removing joined rails from supporting cross-ties, a supporting member having a rail receiving opening therein, and a fulcrum member in operable association with said supporting member, said fulcrum member being positioned near the rear end of said opening.

11. In a device for removing rails from a road bed, a pair of spaced supporting members, a roller shaped cross-member intermediate the ends of said supporting members, said device being adapted to be moved in a direction paralleling the rails to be removed, said cross-member being engagable with the under portion of said raised rail and continuously movable therealong.

12. In a device for taking up joined rails, a supporting frame adapted to be moved in a direction paralleling the rail being removed, and a rail lifting member journalled in said frame transverse its normal direction of travel, said member being adapted to engage the lower surface of a rail and be moved continuously therealong.

13. In a rail pulling device, a frame having a rail receiving opening therein, a rail engaging member positioned transversely of said frame and forming the rear end of said opening.

14. In a rail pulling device, a frame having a rail receiving opening therein, a cross-member secured to the frame and forming the front end of said rail receiving opening, and a cross-member positioned transversely of the frame and forming the back end of said opening.

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