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WHEEL SCRAPPING APPARATUS AND THE LIKE

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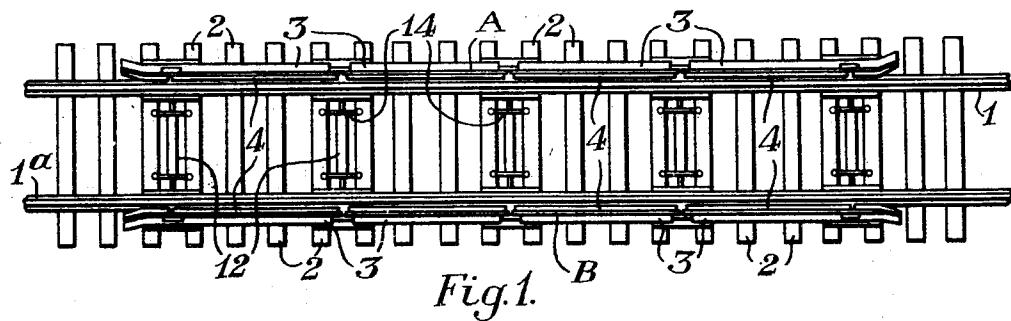


Fig. 1.

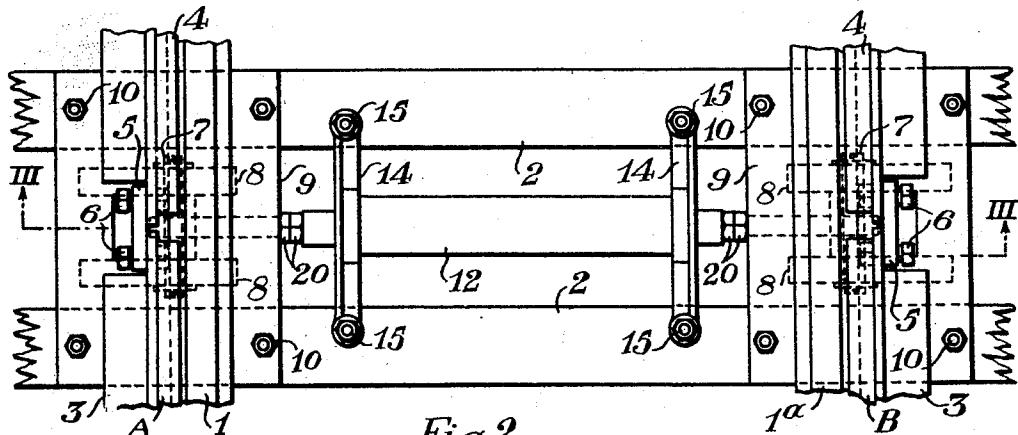


Fig. 2.

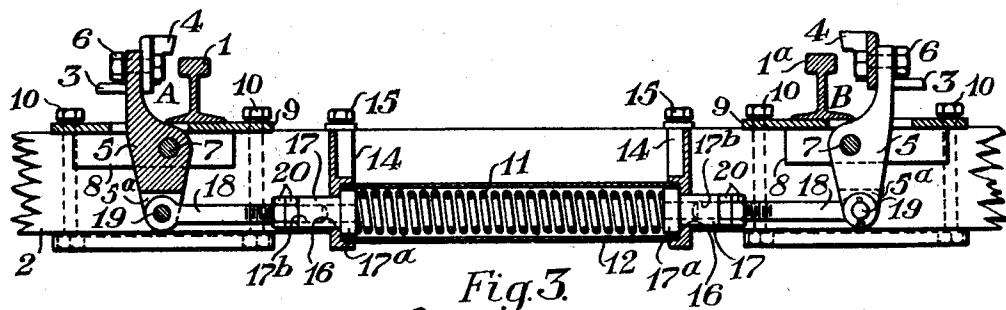


Fig. 3.

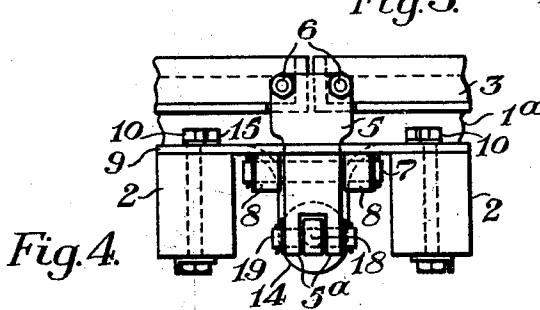


Fig. 4.

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## UNITED STATES PATENT OFFICE

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## WHEEL SCRAPING APPARATUS AND THE LIKE

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My invention relates to wheel scraping apparatus and the like, and is particularly suitable for, although in no way limited to, use for removing accumulations of grease and dirt from the wheels of freight cars which are to pass through a classification yard car retarder, thus preventing accumulation of grease and dirt on such car retarder.

I will describe one form of apparatus embodying my invention, and will then point out the novel features thereof in claims.

In the accompanying drawings, Fig. 1 is a top plan view showing a section of railway track provided with wheel scraping apparatus embodying my invention. Fig. 2 is a top plan view showing a portion of the apparatus illustrated in Fig. 1 on a somewhat larger scale. Fig. 3 is a sectional view along the line III—III of Fig. 2. Fig. 4 is an end view of the apparatus shown in Fig. 2 as it appears when viewed from the right in Fig. 2.

Similar reference characters refer to similar parts in all four views.

Referring first to Figs. 1, 2 and 3, the reference characters 1 and 1<sup>a</sup> designate the track rails of a stretch of railway track, which track rails are mounted upon crossties 2 in the usual and well known manner. Extending parallel with rail 1 along the outside of the rail is a scraper bar A, and extending parallel with rail 1<sup>a</sup> along the outside of the rail is a similar scraper bar B. Each scraper bar is made up of a plurality of sections, and as here shown, each section comprises an L-shaped beam or angle iron 3 provided with a removable wheel engaging shoe 4.

The scraper bars are supported by a plurality of vertical arms 5, one of which extends downwardly from the bars at the junction of each two adjoining intermediate sections, and at the outer end of each end section. The top of each arm 5 is fastened to the associated beam section 3 and to the associated shoe 4 by means of bolts 6, and each arm is pivotally supported intermediate its ends on a longitudinally extending pivot pin 7 carried by a pair of depending lugs 8 formed on a support 9 which is fastened to the adjacent ties 2 by means of bolts 10, as best seen in

Fig. 4. It will be apparent, therefore, that the scraper bars are free to swing in an arc of a circle about an axis which passes through the pivot pins 7, and may therefore be moved into engagement with the outer side faces of the wheels of a car passing through the apparatus.

The arms 5 are so disposed that each of the arms which support the scraper bar A is directly opposite a corresponding one of the arms which support the scraper bar B, and associated with each pair of oppositely disposed arms 5 is suitable mechanism for biasing the arms to a position in which the scraper bars will engage the outside faces of the wheels of a car as it passes through the apparatus. These biasing mechanisms, in the form here shown, are all similar to the biasing mechanism illustrated in detail in Figs. 2, 3 and 4, and a description of this mechanism will suffice for all. The reference character 11 designates a compression spring located in a cylindrical housing 12. The housing 12 extends transversely to the rails between an adjacent pair of ties 2, and is rigidly held in place by two support brackets 14 which are secured to the ties by bolts 15. Extending through each bracket 14 is a hole 16 (see Fig. 3) which communicates with the interior of the associated housing 12 at the corresponding end of the housing. A spring follower 17 is slidably mounted in each of these holes, and each spring follower is provided at its inner end with an annular flange 17<sup>a</sup> which cooperates with the associated end of the compression spring 11. Each spring follower 17 is also provided with a threaded axial bore 17<sup>b</sup> which receives the threaded end of an eyebolt 18. The free end of each eyebolt 18 is connected with the adjacent arm 5 by means of a pin 19 which extends through the eye of the bolt and through bifurcations 5<sup>a</sup> formed on the lower end of the arm 5 (see Fig. 4). Lock nuts 20 are provided on the eyebolts for locking them in the desired adjusted positions.

It will be noted from an inspection of Fig. 1 that the outer end of each end section of each scraper bar is flared outwardly, that is, bent away from the associated rail. These

flares are so designed and so proportioned that it is possible for freight car wheels as well as locomotive wheels having wide tires to push back the scraper bars upon entering 5 the apparatus rather than run against the ends of the scraper bars.

The operation of the apparatus as a whole is as follows: The eyebolts 18 are normally so adjusted and the parts are so proportioned 10 that, when the apparatus is unoccupied by a car, the distance between the wheel engaging shoes will be somewhat less (for example, one inch) than the distance between the outside faces of a pair of standard car wheels on the 15 same axle. As a result, when a car enters the scraping apparatus, the scraper bars are forced apart, and as the car passes through the apparatus the scraper bars become converged in front of, and behind the car wheels. 20 The separation of the scraper bars compresses the springs 11 of the biasing mechanisms, thus exerting a force on the sides of the wheels, so that as the wheels pass through the scraping apparatus, any grease and dirt which 25 has accumulated on the wheels is scraped from the sides of the wheels. The wheel engaging shoes are attached to the L beams in such positions that they will engage the sides of the wheels at about the same relative locations 30 as the brake shoes of the usual car retarders in the classification yard, and it will be apparent, therefore, that the scraper bars will remove all of the grease and dirt from the car wheels which would otherwise accumulate 35 on the car retarders.

It should be noted that with the apparatus constructed in the manner described, the wheel engaging shoes are positively held in alignment and in the proper position relative 40 to the rail when the apparatus is unoccupied by a car, and that when the apparatus is occupied by a car the pressure against the car wheels exerted by both scraper bars is equalized.

45 Although the scraping apparatus embodying my invention is intended primarily for removing accumulation of grease and dirt from the sides of car wheels, it will be observed that the apparatus also exerts a certain amount of retarding force on the car 50 as the car passes through the apparatus, and it follows that by properly proportioning the parts, a similar structure might, under some conditions, be employed as a car retarder.

55 One advantage of wheel scraping apparatus embodying my invention is that since it removes the accumulation of grease and dirt from the wheels of a car before the car enters a car retarder, the effective braking action 60 of the car retarder is therefore increased.

Another advantage of wheel scraping apparatus embodying my invention is that wear of the wheel engaging shoes may be compensated for by adjusting the eyebolts 18.

65 Although I have herein shown and de-

scribed only one form of wheel scraping apparatus embodying my invention, it is understood that various changes and modifications may be made therein within the scope of the appended claims without departing from the 70 spirit and scope of my invention.

Having thus described my invention, what I claim is:

1. The combination with a pair of track rails, of two bars one extending parallel to each rail, pivoted supporting arms extending downwardly from and attached to the bars, and biasing means including a single spring connected with the lower ends of each pair of arms for biasing the bars to a position in 80 which they will engage the sides of the wheels of cars traversing said rails.

2. The combination with a pair of track rails, of two scraper bars one extending parallel with each track rail, supporting arms 85 extending downwardly from the bars and attached at their upper ends to the bars, said arms being pivotally supported intermediate their ends, a compression spring located between the arms, and means pivotally connected with each arm and engaging the opposite ends of said spring in such manner that said bars upon engagement by the wheels of a car will be urged away from the rails against a force which depends upon the 95 amount of compression of said spring.

3. The combination with a pair of track rails, of two scraper bars one extending parallel with each rail along the outer side of the rail, two supporting arms one extending 100 downwardly from each bar and attached at its upper end to the bar, said arms being pivotally supported intermediate their ends in such manner that said bars are free to rotate toward and away from the associated rail, and a compression spring connected with the lower ends of the arms in such manner that the arms are constantly biased to a position in which said bars will engage the outer side 105 faces of the wheels of a car traversing said rails and remove accumulations of grease and dirt therefrom.

4. The combination of a pair of track rails supported on crossties in the usual manner, of two scraper bars one extending parallel with each rail along the outer side of the rail, two supporting arms one extending downwardly from each bar, said arms being secured at their upper ends to said bars and being pivotally supported intermediate their 115 ends on pivot pins in such manner that rotation of the arms about the pivot pins will move the bars toward and away from the adjacent track rail, a spring housing extending at right angles to the rails adjacent the lower ends of said arms, two brackets for supporting said spring housing one secured to the ties adjacent each end of the housing and each provided with a hole which communicates with the adjacent end of the housing, a 120

compression spring in said housing, two spring followers one slidably mounted in the hole in each bracket and each provided at its outer end with a threaded bore, and two eyebolts one adjustably screwed into the threaded bore in each spring follower and pivotally connected with the lower end of the adjacent arm, the parts being so proportioned that said arms are normally biased by said spring to a position in which said bars will engage the sides of the wheels of a car traversing said track rails.

5. The combination with a pair of track rails supported on crossties in the usual manner, of two scraper bars one extending parallel with each rail in a position to engage the outer side faces of the wheels of a car traversing the rails, each scraper bar comprising a plurality of L beams each provided with a 10 wheel engaging shoe, supporting arms extending downwardly from the bars at the junction of the sections and at the outer end of each end section, said arms being secured at their upper ends to the L beams of the 15 adjacent section and being pivotally supported intermediate their ends on longitudinally extending pivot pins carried by brackets secured to the ties, a spring housing extending transversely to the rails at each pair of arms, 20 supporting brackets for each housing, said brackets being secured to the ties and being provided with holes which communicate with the opposite ends of the associated housing, a compression spring in each housing, a 25 spring follower slidably mounted in the hole in each bracket and provided at its inner end with a circumferential flange which cooperates with the adjacent end of the associated spring, each said spring follower being provided with a threaded bore, an eyebolt 30 screwed into the threaded bore in each spring follower and pivotally connected with the lower end of the adjacent arm, and lock nuts on each eyebolt for locking the eyebolt in an 35 adjusted position, the parts being so proportioned that said bars are normally held by the force of said compression springs in a 40 position to engage the outer side faces of the wheels of a car as it passes through said bars.

50 In testimony whereof I affix my signature.  
HERBERT L. BONE.

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