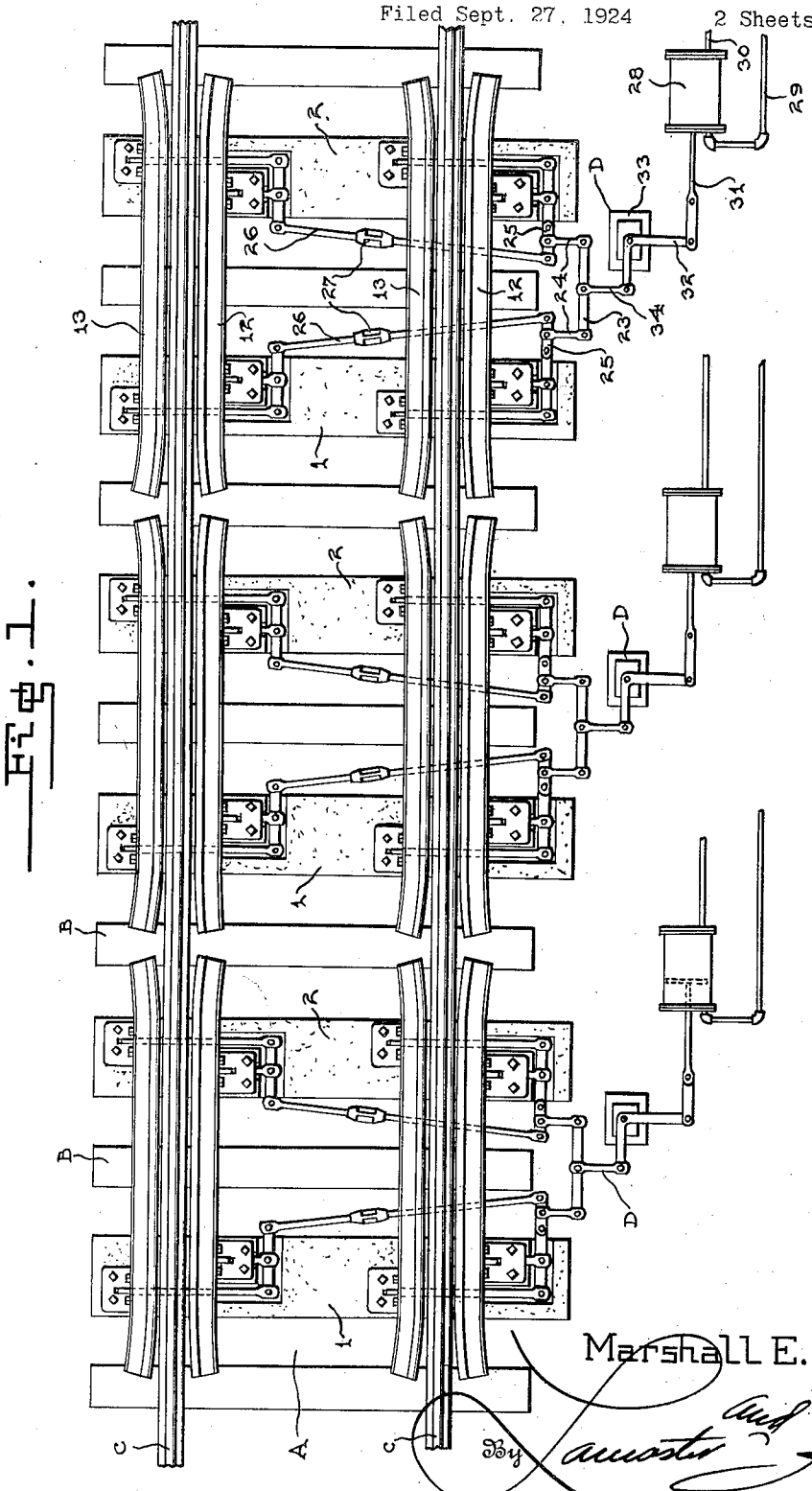
March 16, 1926. **1,576,623**

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TRACK BRAKE FOR RAILWAYS

Filed Sept. 27, 1924 2 Sheets-Sheet 1



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Fig. 2.

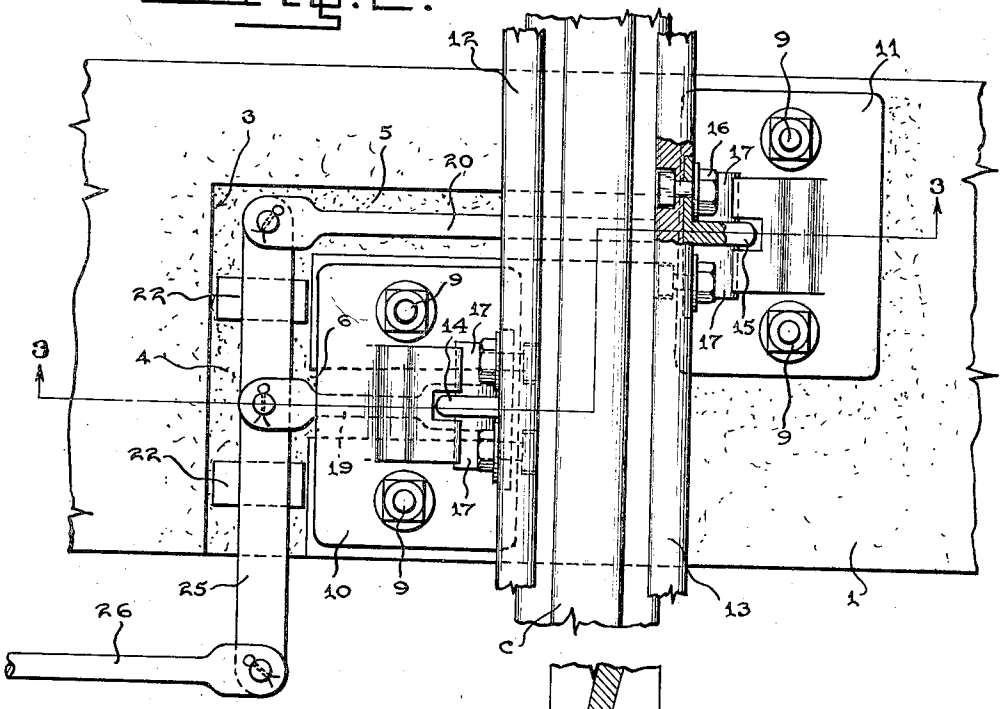
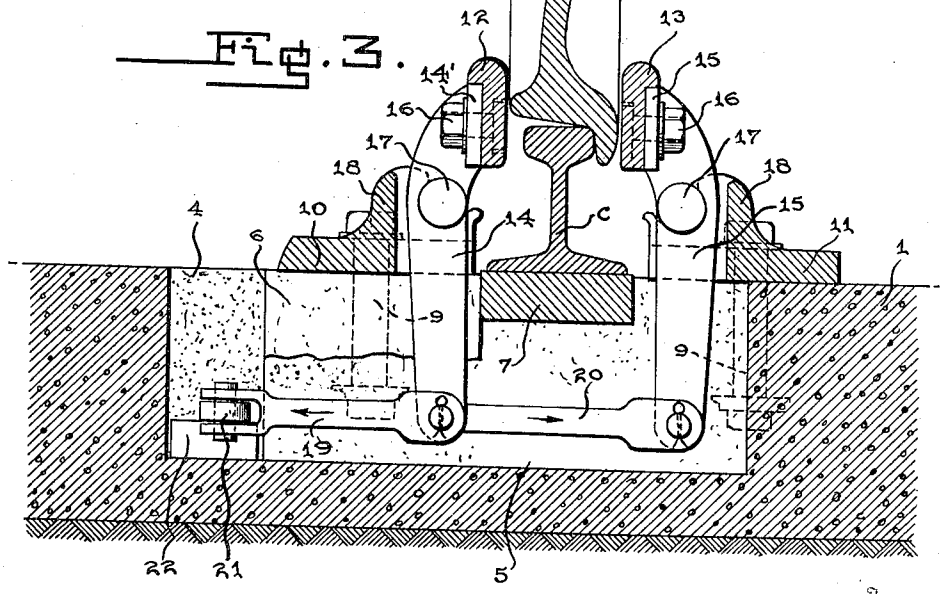


Fig. 3.



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UNITED STATES PATENT OFFICE.

MARSHALL E. BARR, OF FRANKLIN PARK, ILLINOIS.

TRACK BRAKE FOR RAILWAYS.

Application filed September 27, 1924. Serial No. 740,327.

To all whom it may concern:

Be it known that I, MARSHALL E. BARR, a citizen of the United States, residing at Franklin Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Track Brake for Railways, of which the following is a specification.

This invention relates to an improved track brake for railways and one object of the same is to provide a brake mechanism which may be applied to the tracks in a freight yard so that cars coasting along the track may have their speed reduced and be readily brought to a stop at the desired point without it being necessary for a brakeman to ride the car and apply the hand brake.

Another object of the invention is to provide a track brake having improved car wheel engaging means which are mounted upon opposite sides of the rails for movement into and out of position for gripping the car wheels, these wheel grippers being mounted in a special manner and having a specially constructed operating means.

Another object of this invention is to so mount the wheel grippers and so construct the operating means for the grippers that grippers upon opposite sides of a pair of rails may be all moved to a gripping position when a draw bar or yoke forming part of the operating mechanism is moved in one direction.

Another object of this invention is to so construct the brake device that the operating means for the wheel grippers may be controlled by a device actuated by compressed air or any other suitable agency and located at a proper point along the track.

Another object of this invention is to so construct the brake device that a suitable member may be located along the track and successively made use of to gradually bring a car to a stop at the desired point.

Other objects and advantages will be brought out in the following description of the preferred form of the brake structure which is illustrated in the accompanying drawings and wherein:—

Figure 1 is a top plan view of a track section having the improved brake mechanism applied thereto.

Figure 2 is an enlarged top plan view showing a fragment of the brake mechanism, and

Figure 3 is a transverse sectional view taken along the line 3—3 of Figure 2.

This improved brake mechanism is for use in connection with railroad tracks and will be principally used in freight yards where cars are to be run onto side tracks and made up into trains. These cars are shoved onto an inclined track leading to the side tracks and as these cars coast rapidly down the incline and onto the side tracks they must be checked so that their speed is reduced and they do not collide with other cars upon the side tracks with too great a force. A section of track has been shown in Figure 1 and indicated in general by the letter A and is provided with the usual ties B and rails C. This track will be of any length desired and any desired number of the brake structures may be associated with the track. In Figure 1 three of the brake structures have been shown in connection with the track and each is indicated in general by the letter D. These are of a duplicate construction and therefore only one will be described in detail.

When putting the brake structure in place certain of the usual ties B will be removed and brake supporting 1 and 2 substituted. These ties 1 and 2 are formed of cement and adjacent each end is provided with an F-shaped pocket 3 having a portion 4 extending transversely of the tie and arms 5 and 6 extending longitudinally of the tie. The transversely disposed portions 4 of the pockets 3 open through the sides of the ties 1 and 2 but the pockets of the tie 1 open through the one side of the tie and the pockets of the tie 2 open through the opposite side of the tie and therefore when the two ties are in place as shown in Figure

1 the pockets of the two ties will be open to the space between these ties so that portions of the operating means for the wheel grippers carried by these ties may be disposed between the ties. Seats 7 are carried by these ties in crossed relation to the arms 5 and 6 of the pockets 3 and serve to support the rails as shown in Figure 3 and bolts 9 are embedded in the tie and extend above it so that saddle plates 10 and 11 can be firmly secured upon the tie upon opposite sides of the rail seats 7.

In order to grip the wheels of a car and apply pressure which will retard movement of the car along the track there has been provided wheel grippers 12 and 13 upon opposite sides of each rail. These grippers are in the form of steel bars which extend longitudinally of the rails and have their end portions extending in diverging relation to the rails so that there will be no danger of the car wheels striking the ends of these bars and causing the wheels to leave the rails.

These gripping bars are to be mounted for movement towards and away from the rails and therefore there has been provided rocker arms 14 and 15 disposed vertically and having their upper ends provided with cross heads 14′ and 15′ secured to the bars 12 and 13 by fastener bolts 16. These bolts 16 have their heads countersunk in the bars as shown in Figure 2 so that they will be prevented from striking the wheels and the cross heads of the rocker bars are embedded in the gripping bars so that they support the gripping bars and remove strain from the bolts 16. The lower end portions of these rocker bars extend into the arms of the pockets 3 and each rocker arm is provided with side pins 17 constituting pivot pins for these rocker arms. These pivot pins 17 are seated in the bearings 18 of the saddle plates 10 and 11 and the grippers will therefore be mounted so that they can be moved towards a rail and grip the wheels of a car from opposite sides thereof to retard rotation of the car wheels and movement of the car along the track.

In order to move the wheel gripping bars towards each other there have been provided links 19 and 20 which are disposed in the arms of the pockets 3 and are pivotally connected with the lower ends of the rocker arms 14 and 15 and at their other ends pivotally connected with lever bars 21 resting upon blocks 22 in the open ended portions 4 of the pockets 3 and extending through the open ends of these pockets. It should be noted that each link 20 is connected with the inner end of its lever bar 21 and that the link 19 is connected with the lever bar intermediate its length and preferably between the blocks 22.

All of the lever bars are to be moved at the same time so that the wheels at both sides of a car will be gripped at the same time and in order to impart movement to these lever bars there has been provided a yoke or draw bar 23 disposed longitudinally of the track and having links 24 connected with its ends and extending between the ties 1 and 2. These links 24 are pivotally connected with short strips 25 pivotally connected with the outer ends of the lever bars 21 at one side of the track and these strips extend beyond their connection with the links 24 and are pivotally connected with the rods 26 which extend across the track between the ties 1 and 2 and are pivotally connected with the lever bars disposed between the rails. These rods 26 are preferably provided with turnbuckles 27 so that they may be longitudinally adjusted and the lever bars all caused to move at the same time.

When this brake mechanism is in use it is put in place in operative relation to the rails. The yoke or draw bar is to be moved away from the track when it is desired to check the movement of a car and in order to do so there has been provided compressed air operated means including a cylinder 28 having supply and exhaust pipes 29 and 30 which may be of any suitable length and provided with suitable control valves so that operation of all of the brake means may be controlled from a central station. A piston is provided in the cylinder 28 and its rod or stem 31 extends through one end of the cylinder and is pivotally connected with a bell crank lever 32. This bell crank lever is mounted upon a block 33 and is pivotally connected with a link 34 leading from the draw bar or yoke 23.

It will be readily seen that when the piston is moved in the proper direction in the cylinder a pull will be exerted upon the draw bar 23 and this will cause the lever bars 21 to be all drawn upon at the same time. When these lever bars are moved in an operative direction each will first swing upon its pivotal connection with the link 20 and draw upon the link 19 so that the rocker bar 14 will be moved to swing the wheel gripping bar 12 into engagement with the wheels of the car. The lever bar will then swing upon its pivotal connection with the link 19 and a pushing action will be exerted upon the link 20 so that the rocker bar 15 will be moved to swing the wheel gripper 13 towards the wheels of the car. The car wheels will therefore be gripped between the gripping bars 12 and 13 and rotation of the wheels and movement of the car along the track retarded. This gripping action will be controlled by the amount of pressure in the cylinder and therefore it is apparent that the car can be gradually brought to a stop by the successive action of the brake

devices or the car may be quickly stopped or reduced in speed by a heavy application of air pressure in the cylinders. After the car has been stopped the air pressure in the cylinder will be relieved and the parts returned to the normal car releasing position.

While the form specifically illustrated and described is the preferred form it is to be understood that changes may be found desirable when installing the brake mechanism and therefore the right is reserved to make such changes as come within the scope of the appended claims.

I claim:

1. A car brake structure comprising ties positioned in spaced relation and having pockets opening through the upper faces of the ties and having open ends communicating with the space between the ties, wheel grippers extending transversely across the ties and positioned in spaced relation for disposition upon opposite sides of track rails, mounting members for said wheel grippers pivotally mounted and extending into said pockets, operating means for said mounting members positioned in said pockets with portions extending from the pockets into the space between said ties, and actuating means for said operating means extending between the ties and connected with the portions of the operating means extending from the ties.

2. A car brake structure comprising spaced ties having pockets opening into the space between the ties, saddle plates spaced longitudinally of the ties, rail seats between the saddle plates, wheel grippers upon opposite sides of said rail seats and having depending rocker arms pivotally mounted upon said saddle plates and extending into said pockets, links in said pockets extending longitudinally of the tie and pivotally connected with said rocker arms, and actuating means including draw bars extending longitudinally between the ties and having lever bars pivotally connected therewith and extending into said pockets and pivotally connected with said links, each lever bar having one link pivotally connected with its inner end and the other link pivotally mounted intermediate its length.

3. In a car brake structure, the combination with a track rail, of a wheel gripper bar extending longitudinally and adjacent to the side of said rail, and means for moving said bar toward and from said rail to grip and release a wheel passing over the rail, including a plurality of rocker arms pivotally mounted to swing about a horizontal axis intermediate their ends and parallel to said rail, said rocker arms operatively connected at their upper ends to said bar, and links connected to the lower ends of said rocker arms.

4. A car brake structure comprising spaced ties provided with pockets, each pocket having a shank portion opening through one side of the tie and having arms extending longitudinally of the tie, saddle plates carried by said ties in spaced relation longitudinally thereof, wheel grippers disposed transversely across the ties and having rocker arms pivotally engaged with the saddle plates and extending into the arms of said pockets, a lever extending into the shank portion of each pocket and having links pivotally connected therewith and extending in the side arms and pivotally connected with the rocker arms, and actuating means connected with said levers.

5. A car brake structure comprising a tie, a rail seat carried by said tie, saddle plates carried by said tie upon opposite sides of said rail seat and including bearing forming portion, the rail being provided with an F-shaped pocket having a shank portion extending transversely of the tie and opening through one side thereof and arms extending longitudinally of the tie, rail grippers disposed transversely of the tie upon opposite sides of the rail seat and having depending rocker arms extending into the arms of said pocket and above the tie provided with pivot pins engaging the bearing portions of said saddle plates to pivotally mount the rocker arms and permit movement of the wheel grippers towards and away from each other, links pivotally connected with said rocker arms and extending through the arms of said pocket into the shank portion thereof, a lever bar in the shank portion of said pocket pivotally connected with said links and having an end portion extending out of the pocket, and operating means connected with the outer end portion of said lever bar.

6. A car brake structure comprising spaced ties, sets of wheel grippers extending transversely of the ties, means carried by said ties for mounting said wheel grippers for movement into and out of a gripping position, and operating means including lever bars carried by said ties and connected with said grippers and extending from the ties into the space between the ties, a yoke, links extending from the ends of the yoke between the ties, cross heads pivotally connected with said links and pivotally connected with certain of said lever bars, draw bars pivotally connected with said cross heads and extending between the ties and pivotally connected with the remaining lever bars, and means for imparting movement to said yoke.

7. In a car brake structure, the combination with a track rail over which a car wheel is adapted to pass, of a pair of wheel gripper bars extending longitudinally of and spaced from the opposite sides of said rail, means for mounting each bar for movement toward and from said rail, including

a plurality of rocker arms pivotally mounted to swing about an axis parallel to said rail and intermediate the lengths of each rocker arm, each bar being operatively connected to the upper ends of its respective rocker arms, and means for moving the lower ends of the rocker arms of the wheel gripper bars away from each other to move the bars toward each other to bind the wheel on the rail between the bars, and the lower ends of said rocker arms toward each other to retract said bars and release the wheel.

MARSHALL E. BARR.