

L. A. COLEMAN & H. ABRAMES.

CAR REPLACER.

APPLICATION FILED APR. 10, 1909.

945,755.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

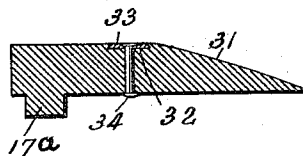
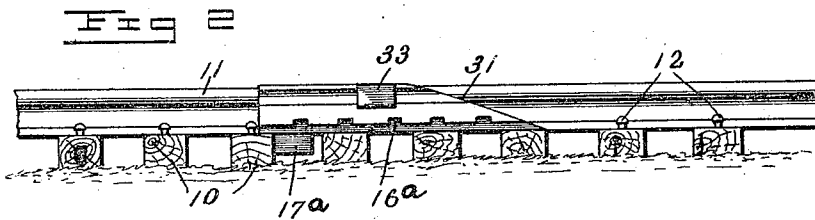
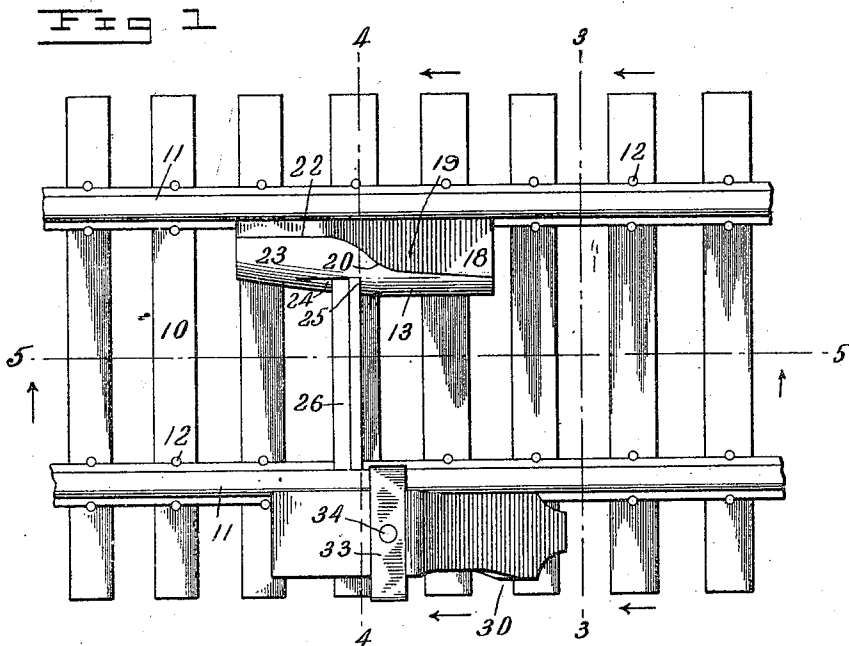


Fig 3

Witnesses

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Fig 3

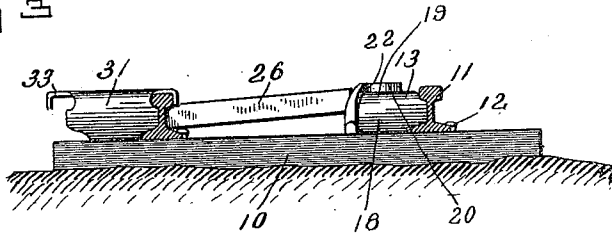


Fig 4

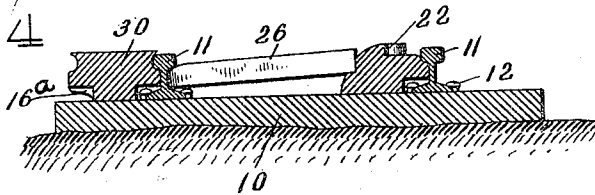


Fig 5

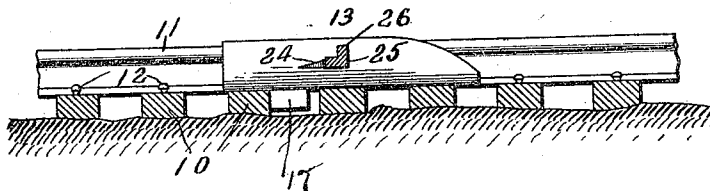


Fig 7

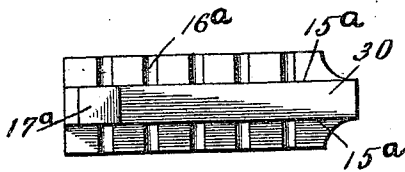
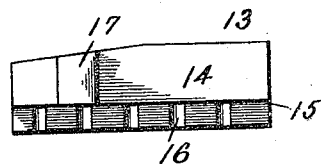


Fig 8



Witnesses

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UNITED STATES PATENT OFFICE.

LEWIS A. COLEMAN AND HARVEY ABRAMES, OF NORFOLK, VIRGINIA.

CAR-REPLACER.

945,755.

Specification of Letters Patent.

Patented Jan. 11, 1910.

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To all whom it may concern:

Be it known that we, LEWIS A. COLEMAN and HARVEY ABRAMES, citizens of the United States, residing at Norfolk, in the county of Norfolk and State of Virginia, have invented new and useful Improvements in Car-Replacers, of which the following is a specification.

Our invention relates to improvements in car replacing devices.

A principal object of the invention is to provide a set of separate members two of which are right and left handed, respectively, each serving as one of the members of a two-member replacing structure, one member of the set being formed to be used complemental with either of said two members.

A further object of the invention is to provide a replacing device having its opposite sides right and left handed, respectively to permit of its use on either side of a track rail.

A further object is to provide a replacing device having a wheel-sliding surface of different material from the remainder of the device and having a laterally extending portion adapted to extend over and partially embrace a track rail.

A further object is to provide a replacing device having a positioning projection adapted to extend between adjacent ties and a plurality of recesses adapted to receive the exposed heads of the rail spikes, the projection and recesses retaining the device against movement in a direction longitudinally of the track rail.

A further object is to provide a member of a replacing device adapted to be mounted on the inner side of the track rail, with means coöperating with the opposite rail for retaining the device in contact with such inner face of the rail, said means being of a form to provide an increasing resistance against lateral movement of the device by the pressure exerted in moving the car into proper position relative to the track.

A further object is to provide complementary replacing devices having actuating and supporting surfaces arranged in such manner as to provide for a wheel-contact of one member prior to similar contact with the other member.

Further objects of the invention are to provide a device which is simple and efficient in operation, durable in construction,

and which can be manufactured at a relatively low cost.

To these and other ends, the nature of which will be readily understood as the invention is hereinafter disclosed, said invention consists in the improved construction and combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

In the accompanying drawings, in which similar reference characters indicate similar parts in each of the views, Figure 1 is a plan view of a portion of a track-way showing two active members of our improved replacing device in position thereon. Fig. 2 is a side elevation of the same. Fig. 3 is a cross sectional view taken on line 3—3 of Fig. 1. Fig. 4 is a similar view taken on line 4—4 of Fig. 1. Fig. 5 is a sectional view taken on line 5—5 of Fig. 1. Fig. 6 is a longitudinal sectional view of one of the members of the replacing device. Fig. 7 is a bottom plan view of the device shown in Fig. 6. Fig. 8 is a bottom plan view of the member complementary to the member shown in Fig. 7.

For the purpose of illustrating our invention we have shown a portion of a track-way, the ties being indicated as 10, the rails as 11, and the rail spikes as 12.

A complete replacing device contemplated by our invention comprises a wheel-raising and shifting member, two of which are to be carried and being formed right and left handed, respectively, either one being used in the car replacing operation, dependent upon which direction the wheel is to be shifted on to the track, these members having their operating spheres entirely on the inner side of the track-rail, said members having a removable fastening bar and a wheel-raising member usable with either of the raising and shiftable members.

The raising and shifting members, one of which is shown at 13, each embody the same features, these features however being arranged oppositely in the two members, these members being right and left handed. As the same features are employed, a description of one of these members will be sufficient. The member 13 is formed of suitable material, preferably metallic, said member having a flat face 14 adapted to rest upon the ties, said face being recessed longitudinally as at 15 to permit the member to ex-

tend over the base of the rail, suitable laterally extending depressions 16 being provided to receive the heads of the rail spikes 12. Said face is also provided, at a proper point thereon, with a projection 17 which, when the member is being used, extends within the space between adjacent ties and serves, with the spike heads and the depressions, to prevent longitudinal movement or creeping of the member during the wheel raising and shifting operation. The inner face of the member is of a height to substantially accord with the height of the web of the rail excepting at the forward end of the member, the height of said face gradually decreasing toward the forward or initial wheel contacting portion of the member. The upper face of the member is provided with a wheel-contacting surface 18 which, in plan view, is of greatest width at the forward end of the member, said width gradually decreasing to a point 19 adjacent the longitudinal center of the member but from which point an abrupt narrowing of the surface, as at 20, is provided, followed by a relatively narrow surface extending throughout the remainder of the length of the member, one edge of said surface 18 being straight and conforming approximately to the edge of the tread of the rail, the opposite edge of said portion 18 being formed by a vertical wall 22 against which the wheel flange rides and which serves to control the shifting movements of the wheel relative to the track. The surface 18 is beveled from the forward edge of the member to approximately the point 19, the beveling being preferably slightly convex. The exposed face 23 of the member 13 is provided with a recess 24 having one end formed with a wall 25, said recess being adapted to receive one end of a channel bar 26, the opposite end of which is adapted to abut against the web of the opposite rail. The bar 26 is preferably formed angular in cross-section to provide a member capable of great resisting strength, said member being required to withstand the resistance of the car during the shifting of the wheels; this is further aided by the fact that the wall 25 is located at the forward end of the recess and with the remaining walls of the recess extends in directions approximately at right angles to that of the wall 25, the end of the bar 26 cooperating with these walls to resist the effect of the pressure exerted by the movements of the wheel in traveling over the forward portion of the member.

In placing one of the members in position it is necessary only that its inner face be placed in contact with the inner face of the web of the rail with the projection 17 (which is adapted to loosely fit between adjacent ties) extending between adjacent ties and with the depressions 16 in position where

they receive the heads of the spikes 12. The bar 26 is then placed in position by placing one end in the recess 24, the opposite end being in rear of the plane which said end occupies when the bar is in proper position. By exerting pressure on this rearwardly positioned end, the two ends may be placed in a position to extend in a direction approximately at right angles to the direction of the length of the rail, at which time the member 13 will be firmly locked in position against the rail. In this position the two flanges of the bar serve as reinforcing elements to each other to prevent liability of a bending during the shifting movement of the wheels.

The wheel-raising member, designated as 30 is, unlike the member 13, formed to be used on either side of a rail, the two sides of the member each being formed to fit the rail. As shown in the drawing the member 30 is formed with an upper surface substantially free from projections, said surface being inclined downwardly toward the front or forward end of the member as at 31, said inclined face also being slightly convex, if desired. The bottom face of the member 30 is provided with a projection 17^a; said face is also provided with longitudinally extending recesses 15^a located on opposite sides of the plane of the projection 17^a, said recessed portions being provided with depressions 16^a, the function of the projection 17^a and recesses 16^a being the same as in the member 13. The upper surface of the member 30 is provided with a dove-tail recess 32 having its direction of length extending laterally of said face, said recess being adapted to receive a plate 33 of greater length than the length of the recess, the projecting ends of the plate being bent to extend over and partially embrace the tread of a rail when the member is placed in position. The plate 33 is held from lateral movement by a suitable bolt 34 or other fastening means extending vertically through the plate; it will be obvious that instead of using a bolt for this purpose, the parts may be arranged to provide for the use of any other form of connection, it being necessary only that the plate 33 be held from movement in the direction of its length relative to the member. The member 31 and plate 33 are preferably made of different material, the plate 33 being of maximum hardness and wear resisting material, the material of which the remainder of the member 30 is formed not requiring the great resisting strength required by the plate 33, since said plate practically forms the surface on which the wheel slides under the action of the wall or flange 20 of the member 13.

To place the member 30 in position it is necessary only to place the embracing end of the plate 33 over the tread of the rail, the

main portion of the member being raised, and moving said member along the rail until the projection 17 on the member is in position over the proper space between adjacent ties; upon releasing the member, the latter will drop to position, remaining in that position during the raising movement of the car, there being substantially no liability of lateral shifting of the member (due to the fact that the movement of the car wheel thereon is entirely in a direction to more firmly bind the member and rail together), and the projection 17^a and depressions 16^a, in connection with the portion of the member lying in contact with the web of the rail, preventing a creeping movement of the member.

As will be seen, when the member 30 is in position, the plate 33 will have a resting place on the top of the tread of the rail. This insures that the flange of the wheel, which is being raised by said member, will be carried onto or over the tread of the rail, preventing any liability of the flange passing between the member and the rail, in which case the work of replacing would necessarily have to be repeated, since it is necessary that the flange of the wheel, which is moving in connection with this member, must find its resting place on the opposite side of the rail from that on which the member is located.

As will be seen in Fig. 1, the member 30 is positioned with its forward end in advance of the similar end of the member 13. This arrangement is preferred for the reason that one of the wheels of the truck will thereby be raised preliminary to a raising of its complemental wheel, providing for a sufficient gradual raising movement of the wheel traveling over the member 30 to place it in position where its raising movement is practically completed at the time when the shifting movement caused by the wall or flange 20 takes place, the distance which the two wheels are required to be raised being different owing to the fact that the wheel traveling over the member 13 does not have its flange passed over the rail. To insure that the two members will be placed in their proper relative positions, the projections 17 and 17^a and depressions 16 and 16^a are arranged in such manner as to prevent the positioning of the member in an undesired relation.

Among the advantages resulting from the construction herein described, are to be found the following: A requirement of but a single wheel raising member; the provision of a wheel raising member having an especially prepared surface on which the wheel flange has its sliding movement during the replacing of the car; the provision of the sliding surface for the wheel flange extending above and over the tread surface of the

rail; the provision of means carried by each member for preventing a creeping movement of the members under the pressure exerted during the raising and shifting movements of the wheels; and placing of the wheel raising member in position to be operated upon in advance of the shifting member. Another particular advantage lies in the fact that the raising and shifting member is locked on the inner side of the rail and consequently presents the shifting wall on the inner side flange of the wheel, and at the same time requires that the actual shifting surface need not operate to shift the flange on to or over the rail, the wheel flange having this movement operating entirely on the complemental member in which special provision is made to permit of a free sliding of the member. A further advantage lies in the fact that by the use of the plate 33 of a material which is of exceeding hardness thereby forming a surface presenting a minimum amount of resistance against the sliding of the wheel flange thereacross, the shifting wall of the complemental member may be so shaped as to provide for a rapid shifting movement.

Having thus described our invention what we claim as new is:—

1. In car replacing devices, a member having a face adapted to contact with the web of a track rail throughout substantially the length of the member, a portion of said face being formed to fit the web intermediate the juncture of the base and tread of the rail to prevent vertical movement of the member, said member having its bottom face longitudinally recessed, said recessed portion having laterally extending depressions, said bottom face having a downwardly extending projection adapted to lie between adjacent ties of the track, said recessed portion and the depressions thereof being adapted to receive the base of the rail and the heads of the spikes, said spike heads and said projection retaining the member against movement longitudinally of the rail.

2. In car replacing devices, a member having its under face formed with a projection adapted to extend between adjacent track ties and also with means coöperating with the rail spike heads for combinedly preventing a creeping movement longitudinally of the rail.

3. In car replacing devices, an independent member for each rail, each of said members having means coöperating with the track ties and rail spike heads for preventing a creeping movement of the members longitudinally of the rails, said means being positioned on said members to cause the members to be seated relatively to the rail in such manner as to provide a wheel-contact with one member in advance of the other member.

4. In car replacing devices, an independent member for each rail, each of said members having means cooperating with the track ties and rail spike heads for preventing a creeping movement of the members longitudinally of the rails, said means being positioned on said members to cause the members to be seated relatively to the rail in such manner as to provide a wheel-contact with the wheel raising member in advance of the wheel raising and shifting member.

5. In car replacing devices, a member having a wheel raising surface and a wheel sliding surface of a material of greater hardness than the material of the raising surface, said sliding surface being extended over the tread of the rail.

6. In car replacing devices, a member having a wheel raising surface and a wheel sliding surface of a material of greater hardness than the material of the raising surface, said sliding surface being extended over the tread of the rail, said surface projecting beyond the opposite sides of the member, each projected surface being adapted to partially embrace the rail tread.

7. In car replacing devices, a wheel raising member and a wheel raising and shifting member, said raising member having a

wheel-sliding surface, said shifting member having a shifting face varied in general continuity to provide a normal shifting movement of the wheel during the raising movement of the latter on the raising member and a shifting movement of increased rapidity during the period of contact of said sliding surface and the wheel.

8. In car replacing devices, a wheel raising member and a wheel raising and shifting member, said raising member having a wheel-sliding surface, formed of a material of greater hardness than the remainder of the member, said shifting member having a shifting face varied in general continuity to provide a normal shifting movement of the wheel during the raising movement of the latter on the raising member, and a shifting movement of increased rapidity during the period of contact of said sliding surface and the wheel.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

LEWIS A. COLEMAN.
HARVEY ABRAMES.

Witnesses:

R. W. PEATROSS,
HARRY WALL.