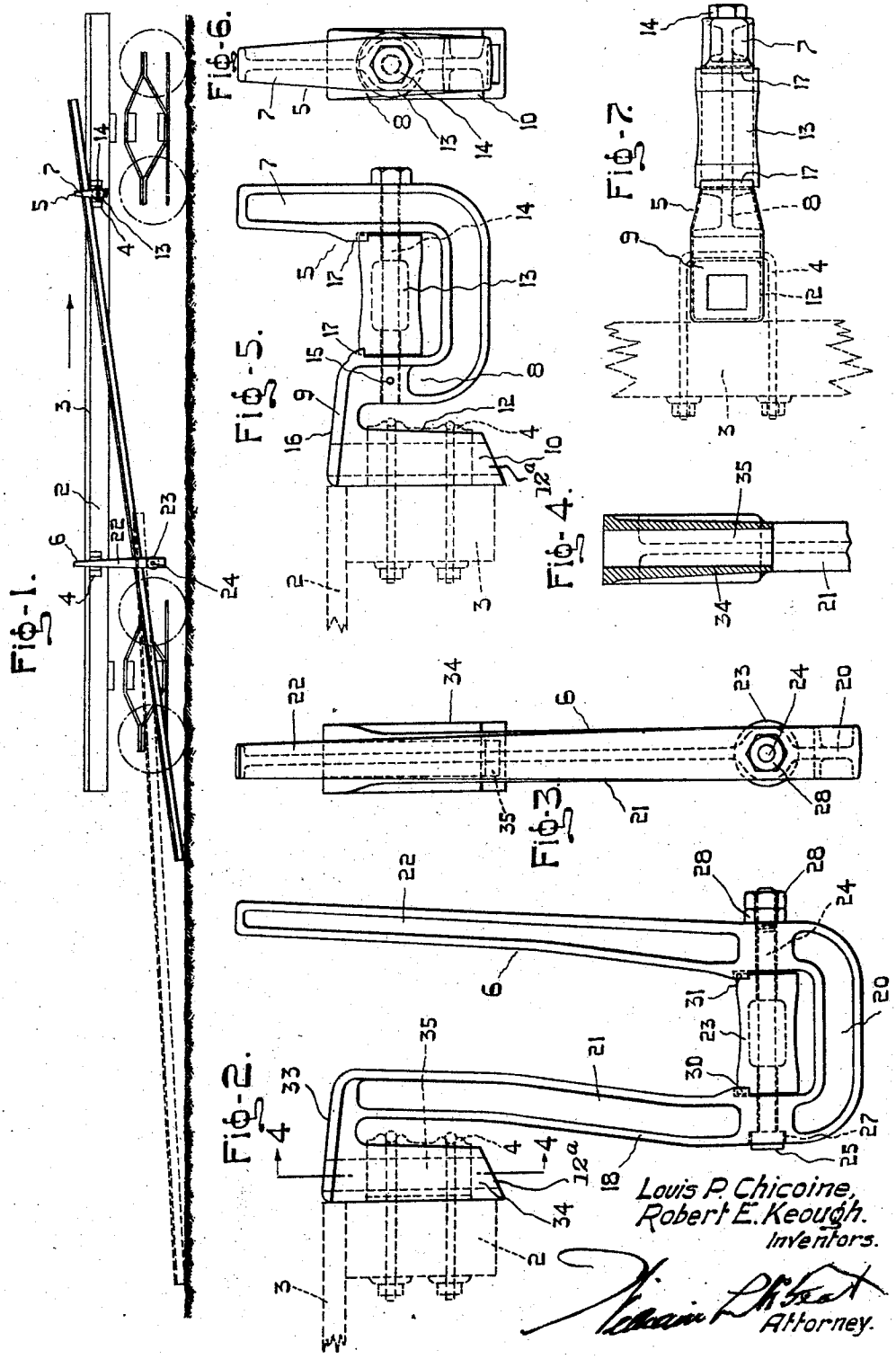
Mar 3, 1925. 1,528,529

L. P. CHICOINE ET AL

RAIL UNLOADING AND DISTRIBUTING MEANS

Filed Aug. 2. 1924



Patented Mar. 3, 1925. 1,528,529

UNITED STATES PATENT OFFICE.

LOUIS P. CHICOINE, OF VAUDREUIL, AND ROBERT E. KEOUGH, OF MONTREAL, QUEBEC, CANADA.

RAIL UNLOADING AND DISTRIBUTING MEANS.

Application filed August 2, 1924. Serial No. 729,844.

To all whom it may concern:

Be it known that we, LOUIS P. CHICOINE and ROBERT E. KEOUGH, subjects of the King of Great Britain, and residents of the town of Vaudreuil and city of Montreal, respectively, in the Province of Quebec, Dominion of Canada, have invented certain new and useful Improvements in Rail Unloading and Distributing Means; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention relates particularly to apparatus for unloading railway rails from flat cars while the latter are in motion and for distributing the rails along the road bed as they are unloaded.

The primary object of the invention is to provide an apparatus of this type which will deposit the rails on the ends of the ties on top of the ballast section thereby guarding against the hazard of the rails rolling down the embankment and making it possible to unload and distribute the rails across bridges, trestles and similar points where there is only a limited area to receive them.

The arduous labour of carrying the rails to the point at which they are to be laid upon the ties is consequently eliminated.

A further object is to prevent any possibility of the rails becoming accidentally displaced during the unloading operation.

A further object is to prevent damage to the rails by reducing the extent of the drop during the unloading operation to a minimum.

Further objects are to provide an apparatus which may be applied to flat cars of M. C. B. standard, which will possess great durability, and which owing to its simplified construction may be manufactured at a comparatively low cost.

To this end my invention consists of the combination, construction and particular arrangement of the parts hereinafter described and illustrated and pointed out in the claims.

For full comprehension, however, of our invention, reference must be had to the accompanying drawings in which similar reference characters indicate the same parts, and wherein:

Figure 1 is a side elevation of a flat car equipped with our invention and illustrating a rail in the act of being unloaded;

Figure 2 is a detail side elevation of the large unloading hook which forms a part of our unloading apparatus;

Figure 3 is a view taken at right angles thereto;

Figure 4 is a sectional view taken on line 4—4 Figure 2;

Figure 5 is a side elevation of the small hook forming a part of our unloading apparatus;

Figure 6 is a view taken at right angles thereto; and

Figure 7 is a plan view of the hook shown in Figures 5 and 6.

Referring to the accompanying drawings which illustrate the preferred embodiment of our invention, the side sill of a flat car is indicated at 2, the floor thereof at 3 and the usual stake pockets which are secured to outside faces of the side sills at 4.

Our improved unloading apparatus is adapted to be detachably mounted in these pockets and consists of preferably two supporting hook members 5 and 6, one being mounted on the car adjacent the front end thereof as indicated in Figure 1, and the other adjacent the rear.

The front hook 5 consists of a unitary casting of U-form, the outer arm 7 of which is extended upwardly above the level of the car floor to form a guard arm for preventing lateral displacement of the rail during the unloading operation, and the inner arm 8 is extended laterally towards the car side as at 9 and downwardly as at 10, and the downwardly extending portion is tapered and of square cross-section as at 12 to fit the stake pocket which is correspondingly shaped; and its extreme lower end is inclined downwardly towards its side-sill bearing face as at 12^a. This inclined face facilitates the insertion of the member into the pocket and also permits of a reduction in the weight of the member, while maintaining a comparatively large side-sill bearing surface.

The hook in the main is of I cross-section and extends laterally from the car at right angles thereto. A roller 13 having a concaved periphery is rotatably mounted between the arms of the hook upon a horizontally disposed bolt 14 secured by a key or cotter pin 15, that portion of the hook between the side of the car and the roller pre-

senting a downwardly inclined surface 16 to facilitate the unloading movement of each rail from the car floor to the roller.

In order to prevent the base flanges of the rails from jamming between the arms of the hook and the roller the former are provided with lips 17 which overhang the adjacent ends of the latter.

The large rear hook 6 is of substantially the same construction as the front hook with the principal exception that the arms of the U are of greater length and are extended inwardly as at 18 to locate the crotch of the hook above the ties adjacent the ends thereof so that as each rail is unloaded it will be deposited thereon in close proximity to the point at which it is to be permanently fixed.

This arrangement enables the unloading and distribution of the rails across bridges, trestles, and the like which has not been possible with equipment heretofore in use on the railroads.

The rear hook consists of a unitary casting of U-form and in the main of I-cross-section comprising a crotch 20 and arms 21 and 22, a roller 23 rotatably mounted therebetween on a horizontal bolt 24 the head 25 of which is seated with a snug fit in a socket 27 in the arm 21, the walls of the socket preventing the bolt turning and becoming displaced. The opposite end of the bolt protrudes beyond the other arm and is threaded to receive nuts 28.

Both arms are provided with lips 30 and 31 respectively which overhang the adjacent ends of the roller and function in a similar way to the lips on the front hook.

The outer guard arm 22 extends above the floor level of the car the same distance as the guard arm of the front hook while the upper end of the other arm 21 is upwardly inclined towards the car as at 33 and is provided with a downward extension 34 which corresponds with the portion 10 and which is detachably mounted in one of the stake pockets. This extension and the corresponding extension on the front hook have a vertical opening 35 therethrough to accommodate a stake, if required, and to provide a lighter construction.

Operation.

The unloading operation is carried out as follows:

While the car is in motion, travelling at a speed of from five to seven miles an hour the rail to be unloaded is carried to the edge of the car and when the desired unloading point is reached the rail is canted into the jaws of the hooks and is dropped to an inclined position with its lowermost end resting lightly upon the ballast and out of engagement with the rear roller and with its upper end resting on the roller of the front hook. As the movement of the car continues the ballast retards the forward movement of the rail so that the latter is caused to slide downwardly from the front to the rear roller and is finally laid prone upon the top of the ballast in parallelism with the track.

The drop from the rear roller is only approximately fifteen inches so that damage to the rail is avoided.

What we claim is as follows:—

1. In a railway car, the combination with a side sill and a stake pocket mounted thereon, of a rail unloading device consisting of a member of substantially U-form, the upper end of one arm of the member being hooked and fitting within the stake pocket.

2. In a railway car, the combination with a side sill and a stake pocket mounted thereon, of a rail unloading device consisting of a member of substantially U-form, the upper end of one arm of the member being hooked and fitting within the stake pocket, and a roller rotatably and horizontally mounted between the arms of the U.

3. In a railway car, the combination of a side sill, a pocket mounted thereon, and a rail unloading device mounted in the pocket, said device consisting of a member of substantially U-form having the upper end of one arm hooked and suspended from the pocket, said arm being offset inwardly relatively to the car side.

4. In a railway car, the combination of a side sill, a pocket mounted thereon, and a rail unloading device mounted in the pocket, said device consisting of a member of substantially U-form having the upper end of one arm hooked and suspended from the pocket, said arm being offset inwardly relatively to the car side, and a roller rotatably mounted between the arms of the U.

5. In a railway car, the combination of a side sill, a pocket mounted thereon, and a rail unloading device mounted in the pocket, said device consisting of a member of substantially U-form having the upper end of one arm hooked and suspended from the pocket, said arm being offset inwardly relatively to the car side, and a roller rotatably mounted between the arms of the U, said roller having a concaved periphery.

6. A rail unloading device consisting of a member of substantially U-form and a roller rotatably mounted between the arms of the U, the upper end of one of said arms being hooked downwardly and the other arm being straight and extending above the level of the first mentioned arm.

7. A rail unloading device consisting of a member of substantially U-form and a roller rotatably mounted between the arms of the U, the upper end of one of said arms being hooked downwardly and presenting an inclined top surface.

8. A rail unloading device consisting of a

member of substantially U-form and a roller rotatably mounted between the arms of the U, the upper end of one of said arms being hooked downwardly and presenting an inclined top surface, and the other arm being straight and extending above the level of the first-mentioned arm.

9. A rail unloading device consisting of a member of substantially U-form having a socket, a bolt extending across the arms of the U and having its head located within and snugly fitting the socket, and a roller rotatably mounted upon the bolt between the arms of the member.

10. A rail unloading device consisting of a member of substantially U-form having a socket, a bolt extending across the arms of the U and having its head located within and snugly fitting the socket, and a roller rotatably mounted upon the bolt between the arms of the member, said roller having a concaved periphery.

11. A rail unloading device consisting of a member of substantially U-form having a socket, a bolt extending across the arms of the U and having its head located within and snugly fitting the socket, and a roller rotatably mounted upon the bolt between the arms of the member, said roller having a concaved periphery, and inward projections on the arms of the member overhanging the adjacent portions of the roller.

12. A rail unloading device consisting of a member of U-form having laterally offset arms, the upper end of one of said arms being hooked downwardly and presenting an inclined top, and a roller rotatably mounted between the said arms.

13. In a railway flat car, the combination with a side sill having a plurality of spaced stake pockets mounted thereon, rail unloading means for discharging rails from the car during travel thereof, said means consisting of a plurality of separate and distinct members of substantially U-form having hooked portions adapted to be detachably mounted in the pockets of the car; rollers mounted upon the members and located at different elevations below the floor level of the car and adapted to support a rail in position inclined downwardly towards the rear of the car during the unloading operation.

14. In a railway flat car, rail unloading means for discharging rails from the car during travel thereof, said means consisting of a plurality of separate and distinct members mounted upon and spaced along the side of the car; rollers mounted upon the members and located at different elevations below the floor level of the car and adapted to support a rail in position inclined downwardly towards the rear of the car during the unloading operation, certain of said members being off-set inwardly relatively to the car side.

15. In a railway car, the combination with a side-sill and a stake pocket mounted thereon, of a rail unloading device consisting of a member of substantially U-form, the upper end of one arm of the member being hooked and fitting within the stake pocket, the lower end of the hooked portion being inclined to facilitate its insertion into the pocket.

In testimony whereof we have signed our names to this specification in the presence of two witnesses.

LOUIS P. CHICOINE.
ROBERT E. KEOUGH.

Witnesses:
GORDON G. COOKE,
MARRIETTE McDONALD.