F. C. GREENE.

CAR HAUL.

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943,874. Patented Dec. 21, 1909.

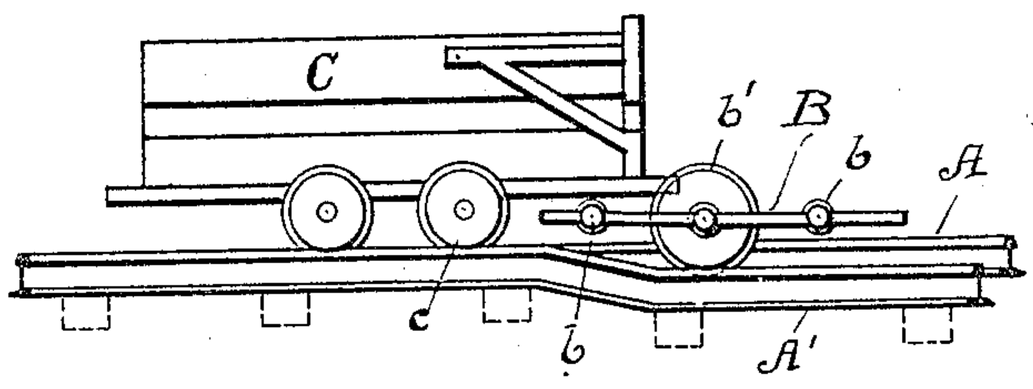

Fig. 1

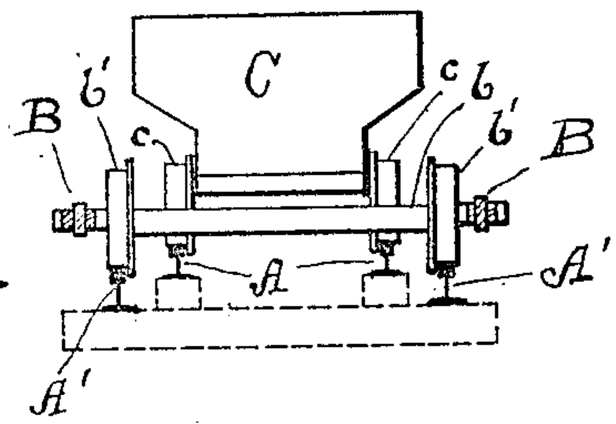

Fig. 2

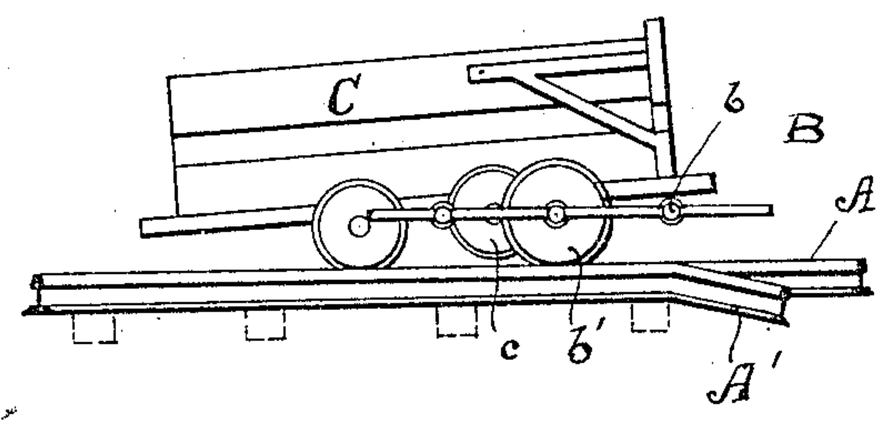

Fig. 3

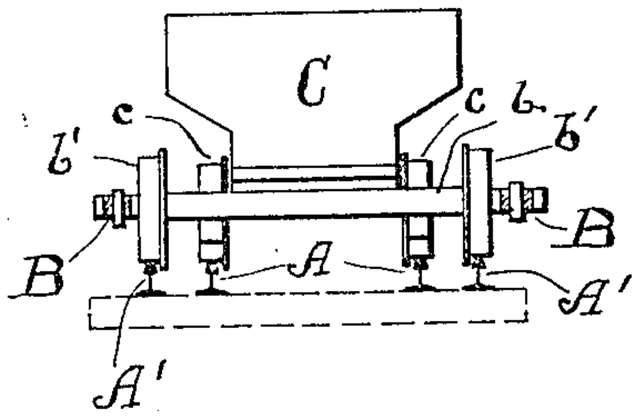

Fig. 4

WITNESSES:

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CAR-HAUL.

943,874. Specification of Letters Patent. **Patented Dec. 21, 1909.**

Application filed June 10, 1907. Serial No. 378,160.

To all whom it may concern:

Be it known that I, FRANK C. GREENE, a citizen of the United States, resident of Cleveland, county of Cuyahoga, State of Ohio, have invented a new and useful Improvement in Car-Hauls, of which the following is a specification, the principle of the invention being herein explained and the best mode in which I have contemplated applying that principle so as to distinguish it from other inventions.

My invention relates to mechanism for handling cars, particularly to that type of such mechanism known as car hauls, which are used for transferring cars from one point to another, either on the same or different levels, and removed a greater or less distance from each other. Such car hauls are largely employed in connection with tipples of coal mines as well as in excavating operations in general and comprise ordinarily an inclined track leading from the one point to the other whereon the cars are moved by an endless cable, one lap of which passes along contiguously to such track and is adapted in any one of a number of approved fashions to engage the car on such track.

The object of my present invention is the provision of a car haul of this sort that will not require the use of engaging lugs or the like on the car and that will possess various other operative advantages later to be pointed out.

To the accomplishment of the above objects, said invention consists of the means hereinafter fully described and particularly pointed out in the claims.

The annexed drawing and the following description set forth in detail certain mechanism embodying the invention, such disclosed means constituting, however, but one of various mechanical forms in which the principle of the invention may be used.

In said annexed drawing: Figure 1 represents a side elevation of a broken section of track constituting a portion of the car haul, a single car being shown upon such track section, and, in connection therewith, a portion of the modified form of propelling cable constituting a feature of my invention, such cable being shown in position just prior to operative engagement with such car; Fig. 2 is an end elevation and partial cross section corresponding to the view in Fig. 1; Fig. 3 is a side elevation, corresponding with that in Fig. 1 but with the cable element shown in full operative connection with the car; and Fig. 4 is an end elevation and partial cross section corresponding with the view shown in Fig. 3.

In the figures just described A represents the main track of the car haul upon which the cars are designed to move. The means for moving such cars along said track comprise, briefly stated, a cable, (such term being used generically here, as subsequently in the claims,) that runs along said track and is adapted to engage and move cars placed thereon, the construction and arrangement of such cable being further such as to enable it upon such engagement to raise one end of the car off said track.

In the particular embodiment of my invention as shown, said cable comprises two parallel cables, or, more specifically, linked chains B, disposed to run along the track A, one on each side thereof, such chains being connected at intervals by means of transverse bars *b*. The general features of such cable construction, consisting thus of parallel chains connected by transversely disposed bars, it should be explained, are described and claimed in a co-pending application of myself and Charles G. Palmer, filed January 19, 1906, Serial No. 296,764, and the present invention is to be regarded as an improvement of such general structure. Upon the latter near their respective ends are mounted flanged wheels *b'* adapted to travel on supplementary rails A' running alongside the rails of the main car track. Such supplementary rails are designed to have a variable elevation, with respect to the rails of the car track proper. Thus, Figs. 1 and 2, wherein the broken section of the device there appearing represents the commencement or foot of the haul, such supplementary rails are shown as being depressed below the level of the car track. The rear end of the car, with which engagement is to be had by the cable, being positioned so as to lie adjacent to such depressed rail section, and the diameter of the flanged wheels on the ends of the cross bars being properly proportioned, it will be evident that upon the advance of the parallel chains constituting the cable, the cross bar *b* borne by any two particular flanged wheels *b'* is adapted to pass beneath the bottom of the car positioned as aforesaid, and to engage with the rear wheels *c* thereof. Upon the further advance

of the cable, the flanged wheels at the ends of the bar being raised on to the upper level of the supplementary rails, such rear end of the car is bodily lifted off the car track as shown in Figs. 3 and 4. Further movement of the cable will accordingly advance the car along the incline of the car haul, the car now resting upon its forward pair of wheels and upon the wheels borne by the bar and running on the supplementary track. To release the car from engagement with the cable at the upper end or any intermediate station along the car haul it is merely necessary to depress the lateral, or supplementary, track rails, whereupon the car is again allowed to rest wholly upon its own trucks.

The advantages residing in the employment of car actuating means of the character described in connection with a car haul, should be obvious from the preceding description of the construction of my haul and incidentally therewith of its operation. The elimination of any lugs or special engaging devices in connection with the car is in itself quite a feature, but has the further advantage that, whereas, where a cable of the construction herein shown is employed to engage with such lug or like device, unless the car is hit squarely and the cable run smoothly, the rear end of the car is apt to jump the track and to run askew of the same leading to frequent accidents either to the car or to the car haul. By bodily lifting the rear end of the car and wheels off the track and supporting the same upon the supplementary track, such car is caused to run evenly and squarely up the car track. Furthermore where the incline of the car track is steep, as is not infrequently the case, and the cars are topped out in the usual fashion, a part of the load is apt to be shaken off and lost in the prevailing construction of car haul; but by elevating the rear end of the car in the fashion here contemplated the car may be carried along in a substantially horizontal position as will be obvious, and the effect just referred to, hence entirely obviated.

Other modes of applying the principle of my invention may be employed instead of the one explained, change being made as regards the mechanism herein disclosed, provided the means stated by any of the following claims or the equivalent of such stated means be employed.

I therefore particularly point out and distinctly claim as my invention:—

1. In a car haul, the combination with a track, of means for moving a car therealong, said means being arranged and constructed positively to raise one end of such car off of such track.

2. In a car haul, the combination with a track, of cable means for moving a car therealong, said means being arranged and constructed to engage and sustain one end of such car.

3. In a car haul, the combination with a track, of means for moving a car therealong, comprising a supplementary track, and means, apart from such car, movable upon said supplementary track and adapted to engage and sustain one end of such car.

4. In a car haul, the combination with a track, of means for moving a car therealong, comprising a car engaging member movable along said track and upwardly with respect to the same, and means adapted to move said member upwardly upon engagement with such car to raise one end of the latter off said track.

5. In a car haul, the combination with a track, of a cable running along said track and adapted to engage and move a car placed thereon, said cable being arranged and constructed to raise one end of such car off said track pending such engagement.

6. In a car haul, the combination with a track, of means for moving a car therealong comprising a cable running along said track, a member borne by said cable and adapted to engage a car on said track, and means adapted to elevate said member pending its movement along said track to raise off the latter the end of the car when engaged by said member.

7. In a car haul, the combination with a track, of a cable disposed to run along said track, a transverse bar borne by said cable and adapted to engage a car on said track, and means adapted to elevate said bar pending its movement along said track to raise off the latter the end of the car engaged by said bar.

8. In a car haul, the combination with a track, of a cable disposed to run along said track, a transverse bar borne by said cable and adapted to engage a car on said track, and wheels mounted upon said transverse bar and adapted to sustain the latter at a sufficient height to raise the end of the car engaged thereby off said track.

9. In a car haul, the combination with a track, of a cable disposed to run along said track, a transverse bar borne by said cable and adapted to engage a car on said track, supplementary rails alongside the rails of said track, and wheels mounted on said transverse bar and adapted to run on said supplementary rails, said wheels sustaining said bar at a sufficient height to raise the end of the car engaged thereby off said track.

10. In a car haul, the combination with a track, of a cable disposed to run along said track, a transverse bar borne by said cable and adapted to engage a car on said track, supplementary rails alongside said track, and wheels mounted on said transverse bar

and adapted to run on said supplementary rails, the latter being of varying elevation relatively to the rails of said track, the higher portions sustaining said bar at a sufficient height to raise the end of the car engaged thereby off said track.

11. In a car haul, the combination with a track, of means for moving a car therealong, comprising parallel cables disposed to run along said track, a transverse bar connecting said cables and adapted to engage a car on said track, and means adapted to elevate said bar pending its movement along said track to raise off the latter the end of the car when engaged by said bar.

12. In a car haul, the combination with a track, of means for moving a car therealong, comprising two parallel cables disposed to run along said track, a transverse bar connecting said cables, and means adapted to elevate said bar with respect to said track pending its movement along the latter, said bar being adapted in its normal position to pass beneath the bottom of a car on said track and to engage with the rear wheels thereof, and in its elevated position to raise such wheels off said track.

13. In a car haul, the combination with a track, of means for moving cars therealong, comprising two parallel cables disposed to run along said track, one on each side thereof, transverse bars connecting said cables and adapted to engage a car on said track, supplementary rails alongside the rails of said track, and wheels mounted on said transverse bars and adapted to run on said supplementary rails, the latter being of varying elevation relatively to the rails of said track.

14. In a car haul, the combination with a track, of means for moving cars therealong, comprising two parallel cables disposed to run along said track, one on each side thereof, transverse bars connecting said cables, supplementary rails alongside the rails of said track, and wheels mounted on the ends of said transverse bars and adapted to run on said supplementary rails, the latter being of varying elevation relatively to the rails of said track, whereby each of said bars is adapted in one position thereon to pass beneath the bottom of a car on said track and to engage with the rear wheels thereof and in another position to raise said wheels off said track.

Signed by me this 6th day of June, 1907.

FRANK C. GREENE.

Attested by—

E. R. Rodd,

Jno. F. Oberlin.