No. 692,496. Patented Feb. 4, 1902.

A. M. ACKLIN.

CAR HAUL.

(Application filed Oct. 4, 1901.)

(No Model.)

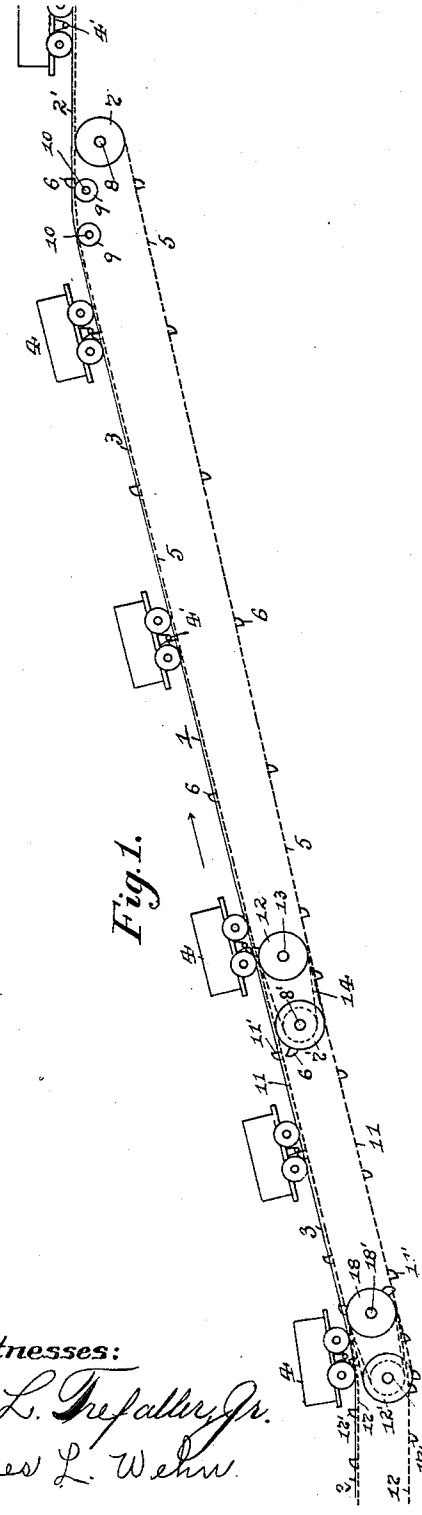


Fig. 1.

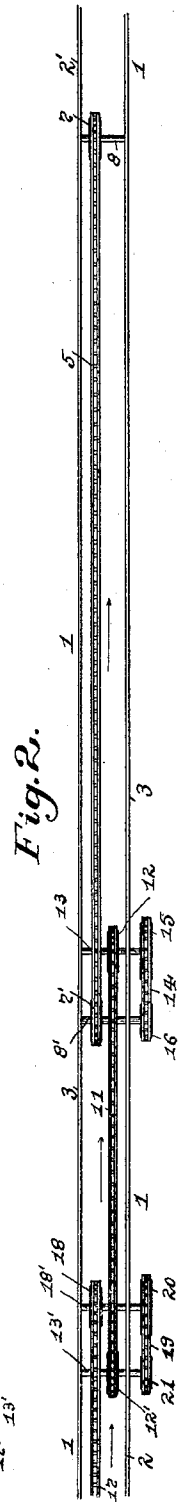


Fig. 2.

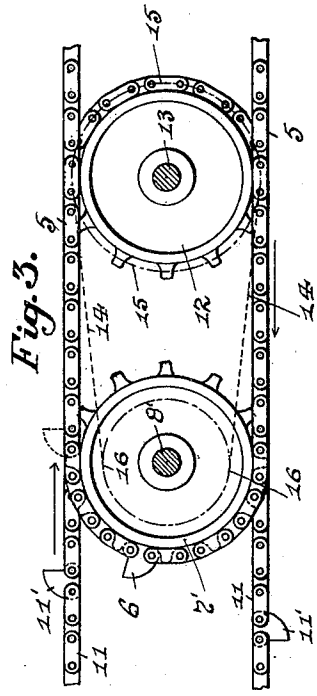


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALFRED M. ACKLIN, OF PITTSBURG, PENNSYLVANIA.

CAR-HAUL.

SPECIFICATION forming part of Letters Patent No. 692,496, dated February 4, 1902.

Application filed October 4, 1901. Serial No. 77,555. (No model.)

To all whom it may concern:

Be it known that I, ALFRED M. ACKLIN, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Car-Hauls; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to car-hauls, and has special reference to the "uphaul-chain" for engaging and moving the car.

The object of my invention is to provide a cheap and simple form of a car-haul which will have a much greater capacity than ordinary chain car-hauls which have equal weight and strength of chain, shafting, gearing, &c.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use my improved car-haul, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of my improved car-haul. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged detail view of the connecting portion of the car-haul chains.

Like symbols of reference herein indicate like parts in each of the figures of the drawings.

As illustrated in the drawings, the tracks are shown at 1 and are provided with the portions 2 2′ thereon, with inclined portion 3 between them, and upon these tracks 1 the cars 4 are adapted to travel. Between the inclined portion 3 of the tracks 1 is preferably located the main uphaul-chain 5, which is provided with a series of hooks or projections 6 thereon for engaging with a bar 4′ on the cars 4 and passes around sprocket-wheels 7 7′, which are mounted on shafts 8 8′, and said chain being guided by the guide-rollers 9′, which are located adjacent to the upper sprocket-wheel 7 and are mounted on shafts 10. Extending preferably between the inclined portion 3 of the tracks 1 and below the main uphaul-chain 5 is another uphaul or secondary chain 11, which is provided with the hooks 11′ thereon and passes around sprocket-wheels 12 12′, mounted on shafts 13 13′. The chain 11 is operated by means of a sprocket-chain 14, which passes around a sprocket-wheel 15, mounted on the shaft 13, and a smaller sprocket-wheel 16, mounted on the shaft 8′, located below the sprocket-wheel 12 and shaft 13. Extending preferably between the portions 2 of the tracks 1 and for a short distance up the inclined portion 3 thereof is the auxiliary chain 17, which passes around a sprocket-wheel 18, located above the sprocket-wheel 12′ and shaft 13′ and mounted on a shaft 18′, and around another sprocket-wheel (not shown) located at the front of the chain 17. The chain 17 is provided with the hooks 17′ thereon and is operated by means of a sprocket-chain 19, passing around a sprocket-wheel 20, mounted on the shaft 18′, and around a smaller sprocket-wheel 21, mounted on the shaft 13′, located below the sprocket-wheel 18 and shaft 18′.

The use and operation of my improved car-haul is as follows: Power being preferably applied to the upper shaft 8 in any suitable manner will act to turn said shaft 8, and with it the main uphaul-chain 5, which passes around the sprocket-wheels 7 7′ on the shafts 8 8′, respectively, and as the chain 5 is thus moved it will act to move the other uphaul-chain 11, which passes around the sprocket-wheels 12 12′ on the shafts 13 13′, respectively, at a slower rate of speed than the chain 5 on account of having the sprocket-wheel 16 on the shaft 8′ smaller than the sprocket-wheel 15 on the shaft 13 and connected by the sprocket-chain 14. The movement of the secondary uphaul-chain 11 also acts to move the auxiliary chain 17, passing around the sprocket-wheel 18 on the shaft 18′ and around the sprocket-wheel, (not shown, but mounted at the front of the chain 17,) at a still slower rate of speed than the chain 11 on account of having the sprocket-wheel 21 on the shaft 13′ smaller than the sprocket-wheel 20 on the shaft 18′ and connected by the sprocket-chain 19. The cars 4 are brought at a slow rate of speed to the foot of the lower uphaul-chain 11 on the portions 2 of the tracks 1 through the medium of the chain 17 and by means of the hooks 17′ on said chain 17 engaging with the bars 4′ on said cars 4, and as the chains 11 and 17 overlap each other at this point the hooks 11′ on the lower uphaul-chain 11

will catch or engage with the bars 4′ on the cars 4 at about the time hooks 17′ on the chain 17 are disengaged from said bars 4′ on the cars 4 and cause said cars to travel up the inclined portion 3 of the tracks 1 by means of the lower uphaul-chain 11 and at a somewhat faster rate of speed than that at which they were brought to the uphaul-chain 11 by the chain 17. The uphaul-chain 11 and the main uphaul-chain 5 overlap each other at the point where they meet, and when the cars 4 are brought up to the foot of the main uphaul-chain 5 by the hooks 11′ on the chain 11 engaging with the bars 4′ on the cars 4 the hooks 6 on said chain 5 will catch or engage with the bars 4′ on the cars 4 at about the time the hooks 11′ on the chain 11 are disengaged from said bars 4′ on the cars 4 and cause said cars to travel up the portion 3 of the tracks 1 by means of the main uphaul-chain 5 and at a still somewhat faster rate of speed than that at which they were brought to the chain 5 by the chain 11. After the cars 4 have traveled up the inclined portion 3 of the tracks 1 by means of the main uphaul-chain 5 and have reached the point adjacent to the sprocket-wheel 7 the hooks 6 on said chain 5 will become disengaged from the bars 4′ on said cars 4, and said cars can pass along the portion 2′ of the tracks 1 to any place desired.

It will be evident that under some conditions the hooks on the several chains can engage with the axles of the cars or any other point or object thereon, and so do away with the engaging bar, and that any number of chains operated at different speeds can be employed. It will also be evident that the chains can be placed outside of the tracks, if desired, and various other modifications in the construction, design, and operation of the car-haul may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

It will thus be seen that my improved car-haul is cheap and simple in its construction and operation, and by its use the heavy strain and jolting to a single uphaul-chain is overcome, while the device will permit as many cars to be hauled up the car-haul as in ordinary cases by the employment of much lighter chains and of the different speed of such chains. By the use of a high speed on the main chain the cars may be spaced a long distance apart and still get the required number of cars delivered at the head of the incline in a given space of time; but since it is impractical to start the cars suddenly from a state of rest to a high speed one or more supplementary slower-speeded chains are used in order that the cars may be brought gradually from the state of rest to the high speed referred to.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, and a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the first-named chain.

2. A device for moving cars up an incline, consisting of a secondary traveling chain having hooks thereon for engaging with the car, and a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the first-named chain.

3. A device for moving cars up an incline, consisting of a secondary traveling chain having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the first-named chain, and an auxiliary traveling chain having hooks thereon for engaging with the car and adapted to travel at a less speed than the secondary chain.

4. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the first-named chain, and a power-transmission device between the main chain and the first-named chain to operate the same.

5. A device for moving cars, consisting of a secondary traveling chain mounted on wheels and having hooks thereon for engaging with the car, a main traveling chain mounted on wheels and having hooks thereon for engaging with the car and adapted to travel at a greater speed than the first-named chain, and a driving-chain connected to wheels mounted on the wheel-shafts of both of said first-named chains for operating the same.

6. A device for moving cars, consisting of a secondary traveling chain mounted on wheels and having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the secondary chain, a power-transmission device between the main chain and the secondary chain to operate the same, an auxiliary chain having hooks thereon for engaging with the car and adapted to travel at a less speed than the secondary chain, and a power-transmission device between the secondary chain and auxiliary chain to operate the same.

7. A device for moving cars, consisting of a secondary traveling chain mounted on wheels and having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the secondary chain, a power-transmission device between the main chain and secondary chain to operate the same, an auxiliary traveling chain having hooks thereon for engaging with the car and adapted to travel at a less speed than the secondary chain, and a driving-chain con-

nected to wheels mounted on the wheel-shafts of the secondary and auxiliary chains to operate the same.

8. A device for moving cars, consisting of a secondary traveling chain mounted on wheels and having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car and adapted to travel at a greater speed than the secondary chain, a driving-chain connected to wheels mounted on the wheel-shafts of the secondary and main chains, an auxiliary traveling chain mounted on wheels and having hooks thereon for engaging with the car and adapted to travel at a less speed than the secondary chain, and a driving-chain connected to wheels mounted in the wheel-shafts of the secondary and auxiliary chains to operate the same.

9. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, and a main traveling chain having hooks thereon adapted to engage with the car, said chains being so positioned that when the hooks on the secondary chain disengage with the car, the hooks on the main chain will engage the same, and said main chain being adapted to travel at a faster speed than the secondary chain.

10. A device for moving cars, consisting of a secondary traveling chain having hooks thereon adapted to engage with the car, a main traveling chain having hooks thereon adapted to engage with the car, and an auxiliary traveling chain having hooks thereon adapted to engage with the car, said chains being so positioned that when the hooks on the auxiliary and secondary chains disengage with the cars, the hooks on the secondary and main chains will engage the same.

11. A device for moving cars, consisting of a secondary traveling chain having hooks thereon adapted to engage with the car, a main traveling chain having hooks thereon adapted to engage with the car, said main chain being adapted to travel at a faster speed than the secondary chain, and an auxiliary traveling chain having hooks thereon adapted to engage with the car, said chains being so positioned that when the hooks on the auxiliary and secondary chains disengage with the cars, the hooks on the secondary and main chains will engage the same.

12. A device for moving cars, consisting of a secondary traveling chain having hooks thereon adapted to engage with the car, a main traveling chain having hooks thereon adapted to engage with the car, said main chain being adapted to travel at a faster speed than the secondary chain, and an auxiliary traveling chain having hooks thereon adapted to engage with the car, said chains being so positioned that when the hooks on the auxiliary and secondary chains disengage with the cars, the hooks on the secondary and main chains will engage the same, and said secondary chain being adapted to travel at a greater speed than the auxiliary chain.

13. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, and a main traveling chain having hooks thereon for engaging with the car, said hooks on the main chain being spaced at a greater distance apart than the hooks on the secondary chain.

14. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car, and an auxiliary traveling chain having hooks thereon for engaging with the car, said hooks on the secondary chain being spaced at a greater distance apart than the hooks on the auxiliary chain.

15. A device for moving cars, consisting of a secondary traveling chain having hooks thereon for engaging with the car, a main traveling chain having hooks thereon for engaging with the car, said hooks on the main chain being spaced at a greater distance apart than the hooks on the secondary chain, and an auxiliary traveling chain having hooks thereon for engaging with the car, said hooks on the secondary chain being spaced at a greater distance apart than the hooks on the auxiliary chain.

In testimony whereof I, the said ALFRED M. ACKLIN, have hereunto set my hand.

ALFRED M. ACKLIN.

Witnesses:
J. N. COOKE,
J. L. TREFALLER, Jr.