

No. 693,483.

Patented Feb. 18, 1902.

A. M. ACKLIN.
CAR HAUL.

(Application filed Oct. 21, 1901.)

(No Model.)

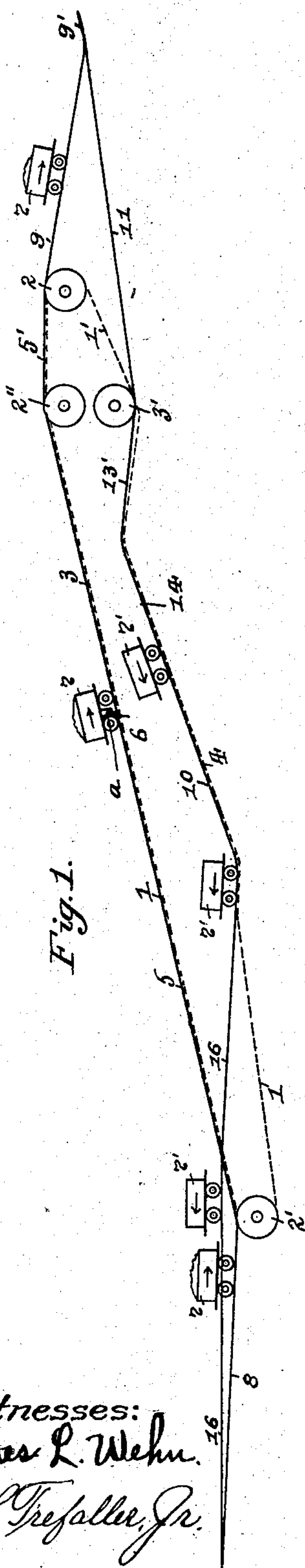


Fig. 1.

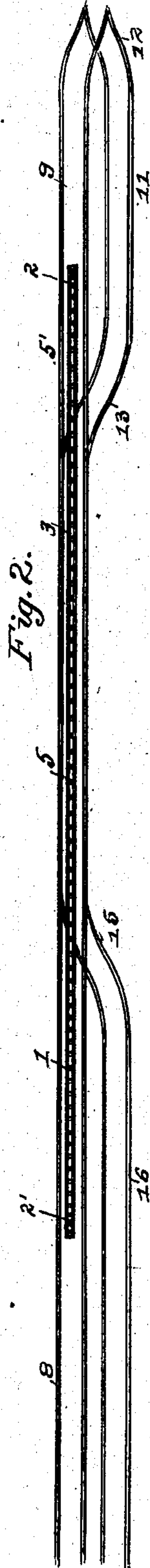


Fig. 2.

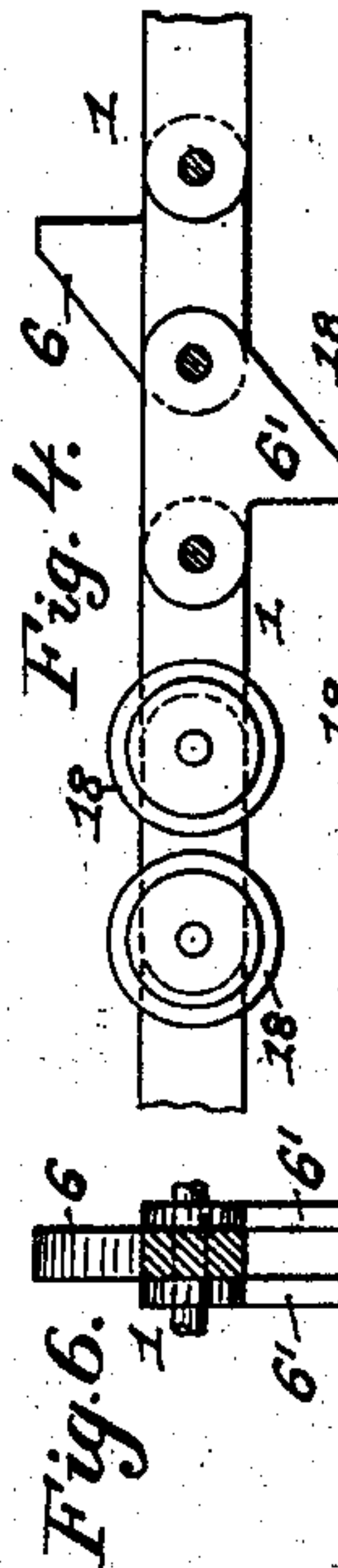


Fig. 3.

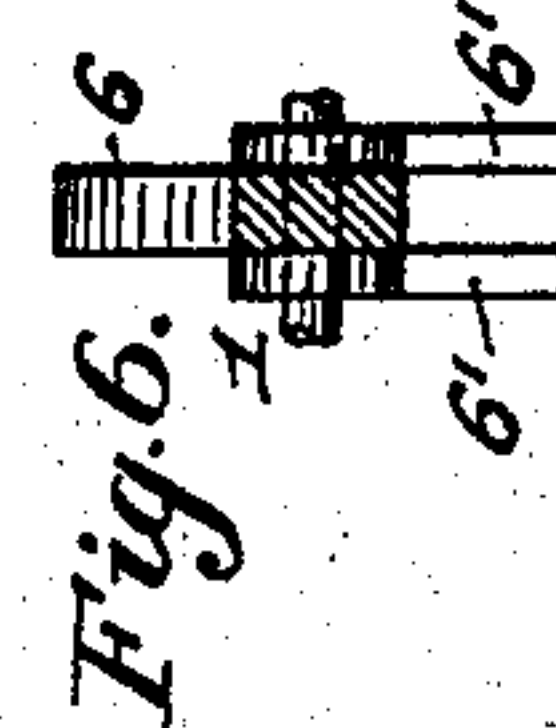


Fig. 4.

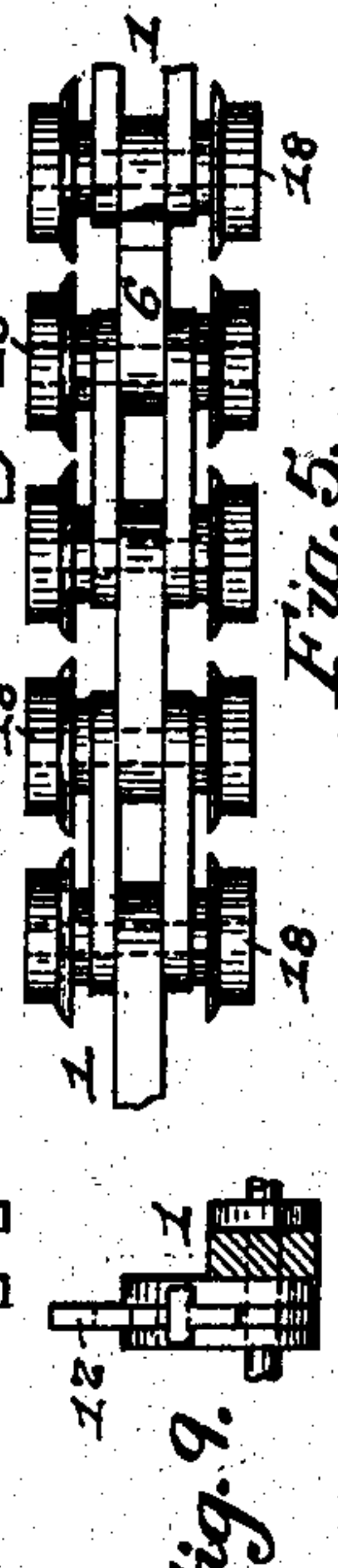


Fig. 5.

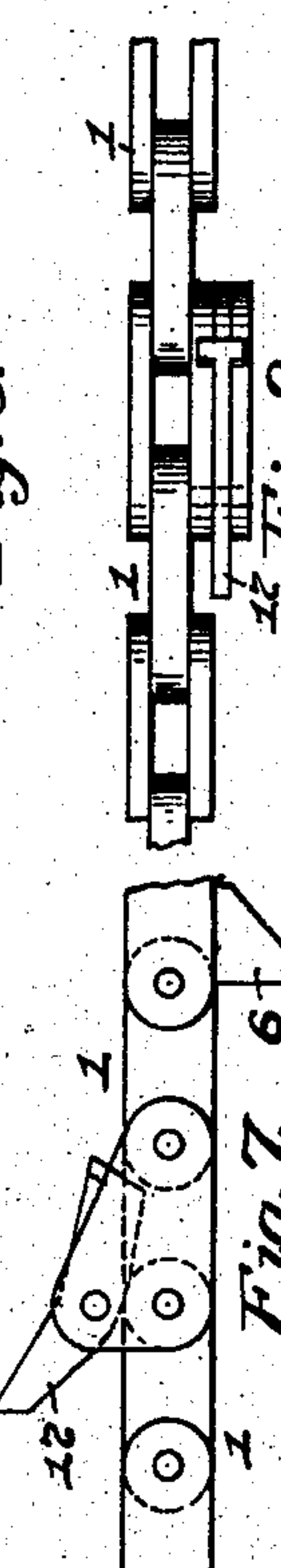


Fig. 6.



Fig. 7.



Fig. 8.

Witnesses:
James L. Wehn.
J. L. Trefaller, Jr.

Inventor:
A. M. Acklin,
By J. M. Cooke,
Attorney.

UNITED STATES PATENT OFFICE.

ALFRED M. ACKLIN, OF PITTSBURG, PENNSYLVANIA.

CAR-HAUL.

SPECIFICATION forming part of Letters Patent No. 693,483, dated February 18, 1902.

Application filed October 21, 1901. Serial No. 79,332. (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 such car-hauls as are used for moving loaded cars to a point near which the contents are discharged and returning the empty car toward the point of loading.

The object of my invention is to do away with the separate chain usually employed for controlling or moving the empty cars, and thereby provide a cheaper, simpler, and more effective apparatus.

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 top or plan view of the same. Fig. 3 is an enlarged side view of a portion of the car-haul. Fig. 4 is an enlarged side view of a portion of the chain. Fig. 5 is a plan view of the same. Fig. 6 is a cross-section of the chain, and Figs. 7, 8, and 9 are views of another form of chain.

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

In the greater number of cases where this class of apparatus is applied the loaded cars are moved up an inclined plane and the empty cars are let down the inclined plane to be re-filled, so I will therefore describe the invention as applied to such conditions.

As illustrated in said drawings, the endless chain 1 passes over the guide-wheel 2'', around the upper and lower wheels 2 2' and wheel 3', and is composed of the uphaul portion 3 and downhaul portion 4. The uphaul portion 3 of the chain 1 is located between the uphaul-tracks 5, and such chain 1 is provided with

the rigid hooks 6 on one side thereof for carrying the loaded car 7 up the uphaul-tracks 5 in the direction of the arrows from the tracks 5 8, up the tracks 5, and onto the tracks 9. These tracks 9 preferably run downward from a straight portion 5' on the tracks 5 and are provided with the curved grade 9' at their ends, the inclined tracks 9 having located therein 60 suitable mechanism for engaging with the loaded cars 7 to dump or discharge the contents thereof at any convenient point desired. The endless chain 1 is also provided with the rigid hooks 6' on the opposite side from the 65 hooks 6, and the downhaul portion 4 of said chain 1 carries the empty cars 7' down the downhaul-tracks 10 in the direction of the arrows, between which the portion 4 of the chain 1 is located, and the chain 1 leads from the 70 wheel 2 at the upper end of the uphaul portion 3 down to the downhaul portion 4 and around the wheel 3' by means of the inclined portion 1' of said chain 1. The downhaul-tracks 10 have the tracks 11, which are connected to the tracks 9 by the throw-out tracks 75 12 and extend downward on one side of the tracks 9 and at an incline from the tracks 9 to the wheel 3', where they are connected to the tracks 10. The downhaul-tracks 10 are 80 provided with the curved portions 13 thereon, which extend toward the uphaul-tracks 5 and are connected to the tracks 13', which are in turn connected to the downwardly-inclined portions 14 on said tracks 10. Both these 85 tracks 13 and 14 extend under the uphaul-tracks 5, and the tracks 14 are connected at their lower ends by the curved portions 15 to the straight portions 16, which extend above and are at one side of the tracks 5 and 8. 90

The use and operation of my improved car-haul are as follows: The loaded cars 7 are brought to the foot of the uphaul-tracks 5 by the tracks 8, where a pin or bar *a* on each of the cars 7 is caught by the rigid hooks 6 on the uphaul portion 3 of the endless chain 1, 95 which moves continuously around the wheels 2 2' through the medium of power preferably applied to the upper wheel 2 in any suitable manner, and the chain moves in the direction 100 of the arrows shown in Fig. 1. As the bar *a* on the car 7 is thus engaged by the hooks 6 on the chain 1 the car so caught will travel with the uphaul portion 3 of the chain 1 up

the uphaul-tracks 5, and when the loaded car 7 is hauled up such inclined or uphaul tracks 5 and over the guide-wheel 2' and straight tracks 5' it is automatically disengaged from said chain 1 at a point over the upper wheel 2, after which the car 7 can travel by gravity down the inclined tracks 9 to some suitable point thereon and the contents of such car discharged therefrom. The car 7' after having its contents discharged can then travel by gravity down the inclined tracks 9 toward the inclined bumper or curved grade 9' and in doing so acquire a sufficient momentum to ascend the grade 9' some slight distance, which will cause said empty car 7' to drop back and give it sufficient momentum to travel along said tracks 9' and pass a suitable automatic switch located therein, so as to guide said car 7' down onto the throwout-tracks 12 and onto the downhaul-tracks 10, located at one side of the tracks 9. As the empty car 7' thus travels down the downhaul-tracks 10 by gravity it will travel along the curved portions 13 on said tracks 10 to the portions 13' and downwardly-inclined portions 14 on said tracks 10, located under the uphaul-tracks 5, where it will be engaged by the hooks 6' on the downhaul portion 4 of said chain 1 between the inclined portions 14, located under the uphaul-chain 3 and tracks 5. The empty car 7' can then travel down the inclined portions 14 on said downhaul-tracks 10 by means of the hooks 6' engaging with the bar *a* on the car 7' until it reaches the curved portions 15 on said tracks 10, where the car 7' will be disengaged from the hooks 6' on the downhaul-chain 1 and travel out said curved portions 15 on the straight portions 16 of said downhaul-tracks 10, located at one side of and above the tracks 8 and the lower end of the uphaul-tracks 5. The empty car 7' will then be free to pass along the tracks 16 to the point where it is to be loaded or any other point desired.

It will be obvious under some conditions that the endless chain 1 be provided with a series of pivoted hooks 17 on the side of the chain 1 containing the hooks 6', such as is illustrated in Figs. 6 and 7 and shown and described in Letters Patent No. 669,111, granted to me on March 5, 1901, which pivoted hooks 17 project beyond the rigid hooks 6' and will engage the empty cars 7' traveling down the downhaul-tracks 10 to the downhaul portion 4 of the chain 1 as such empty cars 7' come to a state of rest or are checked by any suitable braking mechanism in the tracks 13' engaging with the cars 7' before they reach the downwardly-inclined portions 14 on the downhaul-tracks 10, which will cause the empty cars 7' to be moved by the pivoted hooks 17 to the upper end of the inclined portion 14, where they are caught by the rigid hooks 6' on said downhaul portion 4. The downhaul portion 4 of the chain 1 is lower at the commencement of the tracks 13' in relation to such tracks 13' adjacent to the wheel 3' than at the commencement of the inclined tracks

14, so that the cars 7' cannot strike the hooks 6' on the chain 1 while the cars are on the tracks 13'. Wheels or rollers 18 can also be journaled on the chain 1 for traveling on tracks or guideways located adjacent to the tracks 5 and 10 to assist in supporting said chain 1, such as is illustrated in Fig. 4 of the drawings and shown and described in the above patent.

It will be obvious that under some conditions the hooks on the chain can engage with the axles of the cars, the tops of the cars, or any other point or part on said cars and that various other modifications in the construction, design, and operation of the various parts may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. A device for moving or controlling the movement of cars, comprising an endless chain, so arranged that a portion of said chain will move cars in one direction, while another portion is moving or controlling the movement of other cars in the opposite direction, and the portion of said chain traveling in one direction being substantially beneath that portion traveling in the opposite direction.

2. A device for moving or controlling the movement of cars, comprising a continuously-running endless chain, so arranged that a portion of said chain will move cars in one direction, while another portion is moving or controlling the movement of other cars in the opposite direction, said cars having automatic and temporary connection or engagement with said chain.

3. A device for moving or controlling the movement of cars, comprising an endless chain, so arranged that a portion of said chain will automatically move the cars in one direction, while another portion is automatically moving or controlling the movement of other cars in the opposite direction, and the portions of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

4. A device for moving or controlling the movement of cars, comprising an endless chain, so arranged that a portion of said chain will automatically move the cars in one direction, while another portion is moving or controlling the movement of other cars in the opposite direction, and hooks on each side of said chain for engaging the cars moving in both directions.

5. A device for moving or controlling the movement of cars, consisting of a single chain adapted to engage the cars for moving the same along an uphaul-track and for moving or controlling the movement of the cars along a downhaul-track, and the portion of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

6. A device for moving or controlling the

movement of cars, consisting of a single chain having hooks thereon adapted to engage with the cars for moving the same along an uphaul-track and for moving or controlling the movement of the same along a downhaul-track, and the portion of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

7. A device for moving or controlling the movements of cars, consisting of a single chain having rigid hooks thereon adapted to engage with the cars for moving the same along an uphaul-track and for moving or controlling the movement of the car along a downhaul-track, and the portion of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

8. A device for moving or controlling the movements of cars, consisting of a single chain having hooks on one side thereof for engaging with the cars to move the same along an uphaul-track, and hooks upon the opposite side of said chain for engaging with the cars to move or control the movement of the same along a downhaul-track, and the portion of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

9. A device for moving or controlling the movements of cars, consisting of a single chain having rigid hooks on one side thereof for engaging with the cars to move the same along an uphaul-track, and rigid hooks on the opposite side of said chain for engaging with the cars to move or control the movement of the same along a downhaul-track, and the portion of said chain carrying the last-named cars being substantially beneath the portion carrying the first-named cars.

10. A device for moving or controlling the movements of cars, consisting of a single chain having rigid hooks thereon adapted to engage with the car for moving the same along an uphaul-track and for moving or controlling the movement of the car along a downhaul-track, and pivoted hooks on said chain adapted to extend beyond the rigid hooks and engage with the car to control the movement of the same along the downhaul-track.

11. A device for moving or controlling the movements of cars, consisting of a single chain having rigid hooks on one side thereof for engaging with the car to move the same along an uphaul-track, rigid hooks on the opposite side of said chain for engaging with the cars to move or control the movement of the same along a downhaul-track, and pivoted hooks on the side of said chain containing the second-named rigid hooks adapted to extend beyond second-named rigid hooks for engaging with the car to control the movement of the same along the downhaul-track.

12. As a new article of manufacture, a chain having rigid hooks extending beyond both sides of the same, and pivoted hooks extending on one side of said chain extending beyond said rigid hooks.

13. As a new article of manufacture, a chain having rigid hooks on one side thereof, and pivoted hooks on the opposite side thereof.

14. As a new article of manufacture, a chain having rigid hooks on both sides of the same, and pivoted hooks on one side thereof.

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.