

No. 669,III.

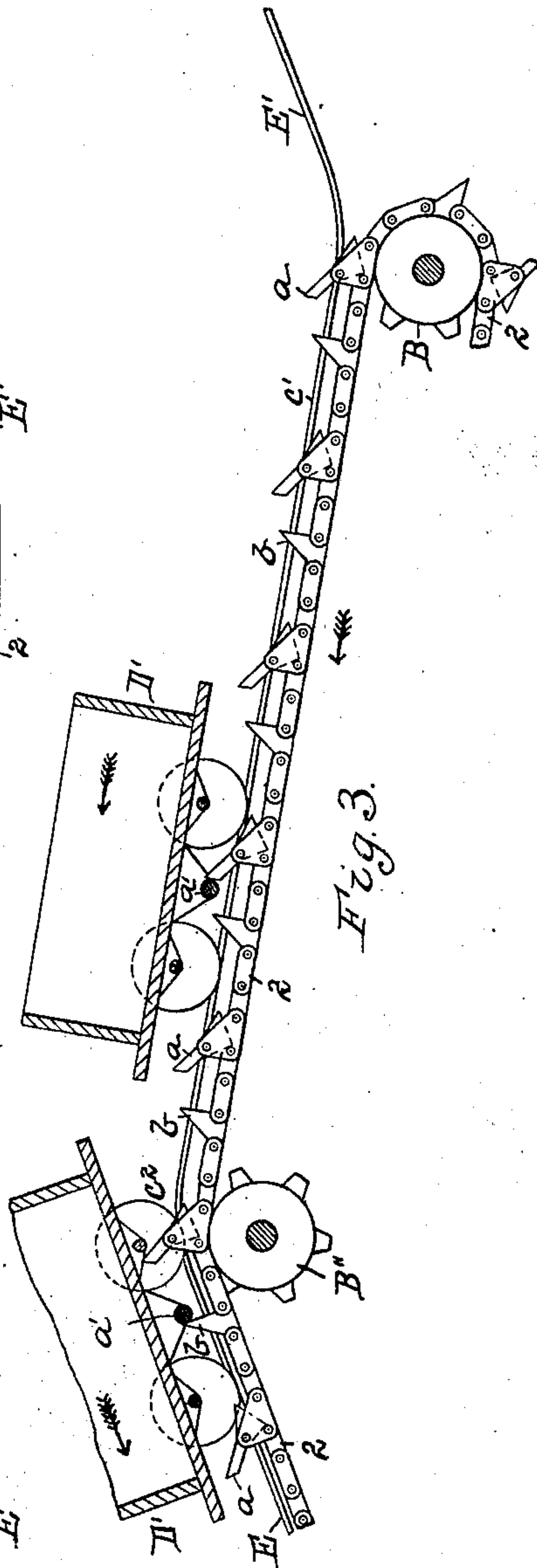
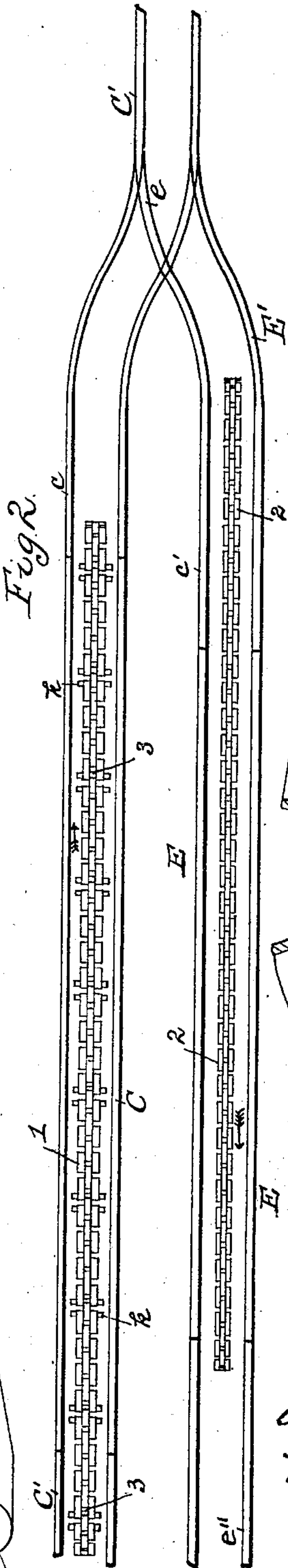
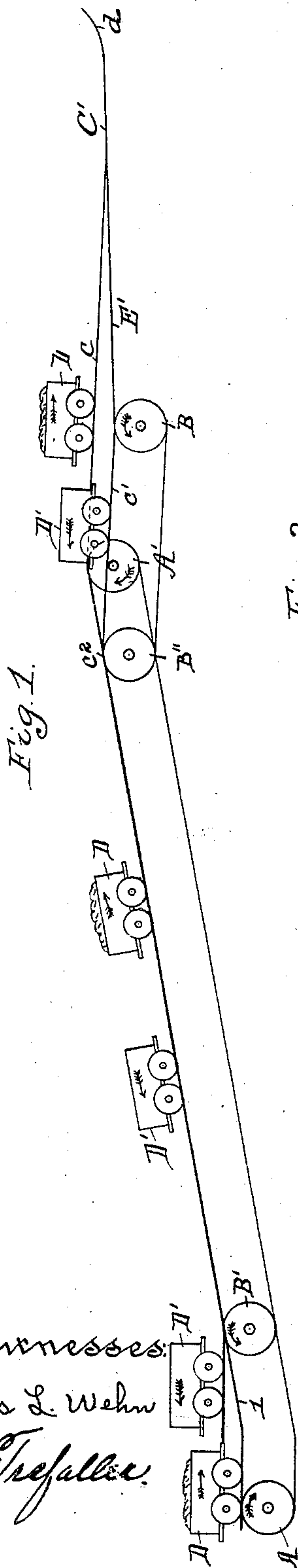
Patented Mar. 5, 1901.

A. M. ACKLIN.
CAR HAUL.

(No Model.)

(Application filed June 15, 1900.)

2 Sheets—Sheet 1.



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CAR HAUL.

Application filed June 15, 1900

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2 Sheets—Sheet 2

Fig. 4.

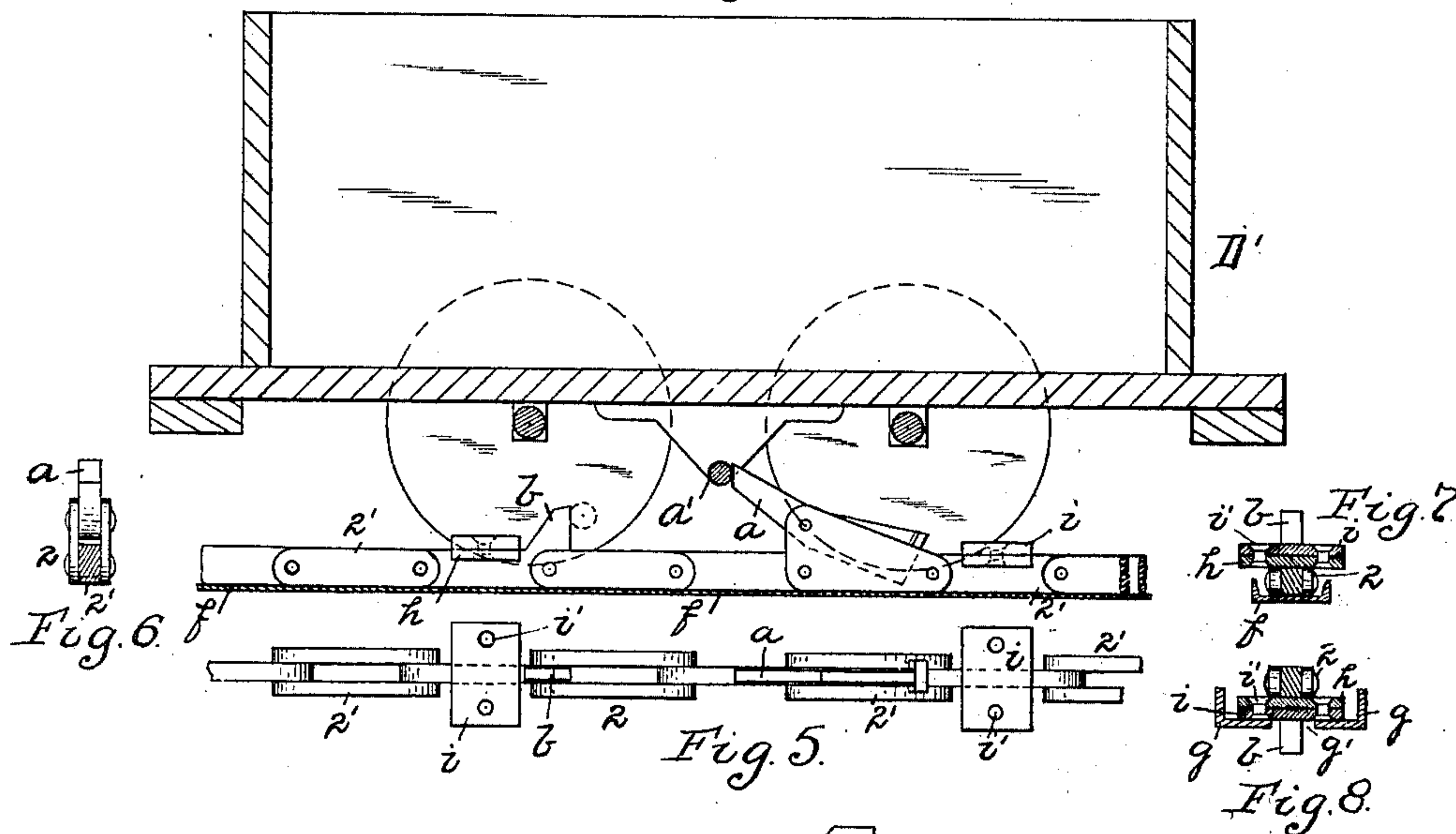
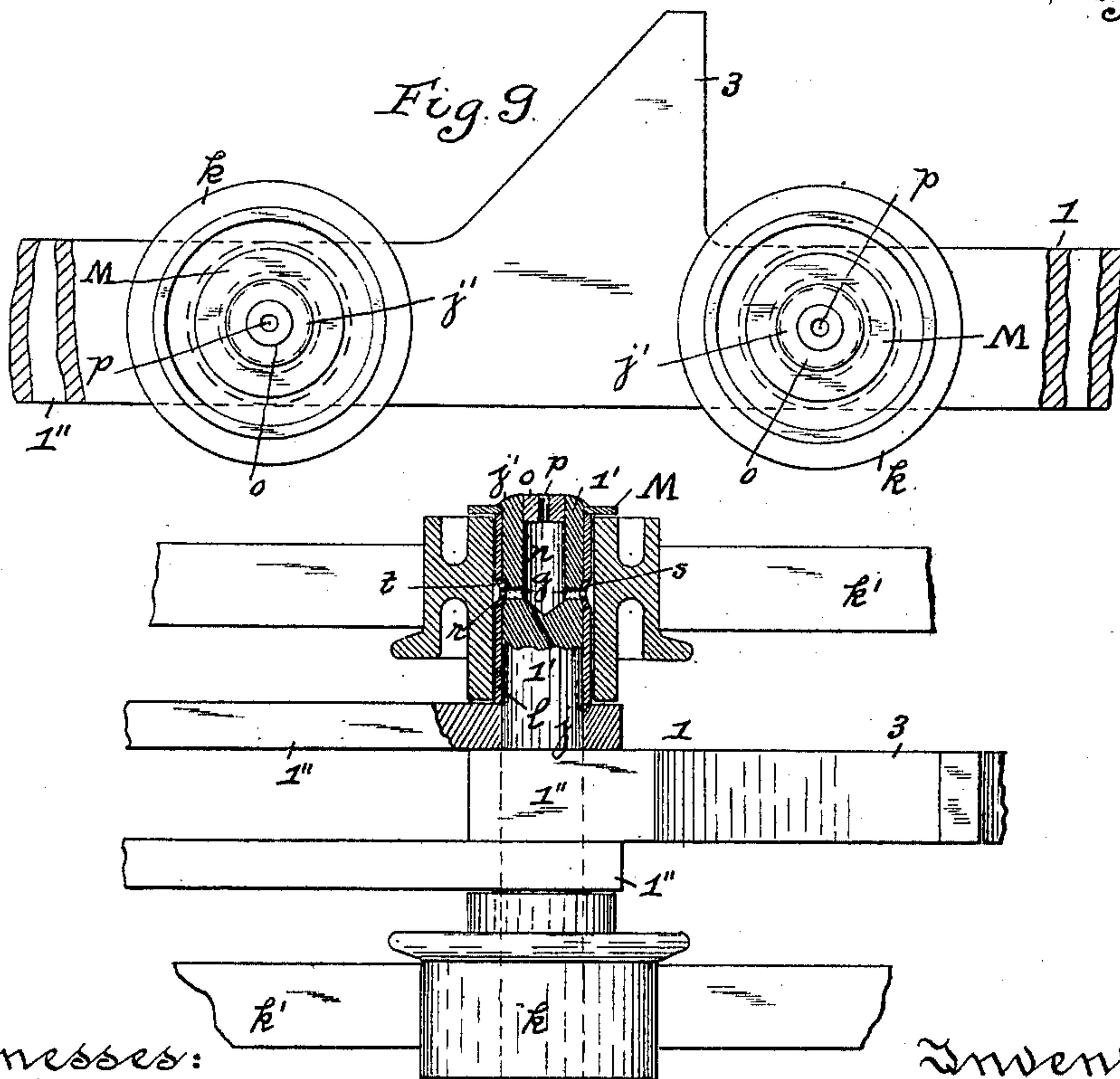


Fig. 9.



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UNITED STATES PATENT OFFICE.

ALFRED M. ACKLIN, OF PITTSBURG, PENNSYLVANIA.

CAR-HAUL.

SPECIFICATION forming part of Letters Patent No. 669,111, dated March 5, 1901.

Application filed June 15, 1900. Serial No. 20,421. (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 for one object to provide a cheap, simple, and effective means for automatically engaging the cars on the "downhaul-track" for the purpose of moving and controlling the movements of the car.

A further object of my invention is to provide attachments or parts for the hauling-chains which will carry said chains along more easily and smoothly.

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 side view of a portion of the downhaul. Fig. 4 is a side elevation of the downhaul-chain and attachments, showing the car engaging therewith. Fig. 5 is a plan view of said chain. Fig. 6 is a cross-section of said chain, showing the pivoted hook. Fig. 7 is a like view showing the rigid hook. Fig. 8 is a like view of the chain, showing the same in its inverted or return position. Fig. 9 is a side elevation of the "uphaul-chain;" and Fig. 10 is a plan view of the same, showing some of the parts in section.

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

As illustrated in the drawings, the uphaul-chain 1 passes around wheels A A' and the downhaul-chain 2 passes around the wheels B B'. The uphaul-chain 1 has the rigid hooks 3 thereon to carry the loaded cars D in the direction of the arrows thereon from the tracks C' up the tracks C onto the tracks c, and these tracks c preferably run downward at a light grade toward the straight tracks C', having

the curved grade d at their ends. The downhaul-chain 2 carries the empty cars D' and is located on the downhaul-tracks E, which have the tracks E', connected to the tracks C' by the throwout-tracks e, extending downward at a slight grade from the tracks C' to the wheel B, where they are connected to the tracks c', which extend upward at a slight grade to a point c² and are connected to the downhaul-tracks E. The empty cars travel down the downhaul-tracks E in the direction of the arrows onto the tracks e' and are governed by the chain 2, which is provided with the pivoted hooks a thereon, adapted to engage with a pin or rod a', located on the cars D D', and the chain 2 is also provided with the rigid hooks b, which are somewhat lower than the pivoted hooks a and are adapted to come in contact and engage with the pin or bar a', located on the cars D D'. The chain 2 when in its erect or working position is supported on a bar f, preferably of channel shape, such as shown in Fig. 7, and when the chain 2 is in its inverted or return position it is supported on two plates g, so as to provide a space g' between them for the passage of the hooks a and b. A portion of the links 2' of the chain 2 have projections or wings h, on which the plates i are secured by means of rivets i', and these plates i travel on the guides g in the return position of the chain 2 to support and sustain the weight of the chain 2 and the hooks a and b thereon.

The uphaul-chain 1 for the loaded cars D is required to be much heavier than the downhaul-chain 2, and in order to form a rolling contact with the tracks C the pins 1' for connecting the links 1'' of the chain 1 can extend beyond the links 1'' to form an axle or shaft j, around which are journaled the wheels k, which travel on the separate tracks k', and the axle j is provided with the sleeve l to form a spacer between the links 1'' and a collar or washer M, which washer is secured in place by riveting the ends of the axle j beyond the wheels k and washer M, as at j', for holding said wheels k in place. An oil-reservoir n is formed within the axle j, which is partly closed by a plug o, having a hole p therein for the insertion of the oil into said reservoir n. Holes g are formed in the axle j and sleeve l for the oil to pass from the reservoir n to the

outer surface of the sleeve l , and this sleeve is prevented from turning by forming a depression r in the axle j and swaging or bending the sleeve l at s , which also forms an annular space t for the oil to flow around the sleeve l .

The use and operation of my improved car-haul are as follows: The loaded cars D are brought to the foot of the uptracks C by the tracks C' , where the pin or bar a' on each of the cars D is caught by the rigid hooks 3 on the uphaul-chain 1 , which moves continuously through the medium of power applied to either of the axles of the wheels $A A'$ in any suitable manner and the chain moves in the direction of the arrows shown on said wheels $A A'$ in Fig. 1. As the bar a' on the cars D is thus engaged by the hooks 3 on the chain 1 the car so caught will travel with the chain 1 up the tracks C , while the wheels k on said chain 1 will travel along the said tracks k' , and when the loaded car D is hauled up such inclined tracks C it is automatically disengaged from said chain 1 at a point over the wheel A' , after which the car D can travel down the tracks c to some suitable point thereon and the contents of such car discharged therefrom. The car D after having its contents discharged can then travel by gravity down the tracks c , along the tracks C' , toward the incline bumper or curved track d , and in doing so acquire a sufficient momentum to ascend the same some slight distance, which will cause said empty car D' to drop back and give it sufficient momentum to travel along said tracks C' and pass a suitable automatic switch located therein, so as to guide said car D' down onto the throwout-track e and onto the tracks E' . As the empty car D' travels down along the tracks E' by gravity it will be engaged by the downhaul-chain 2 at point over or beyond the wheel B , and as the pivoted hooks a on said chain 2 project or extend normally out beyond the rigid hooks b on said chain 2 the said pivoted hooks a will be depressed by the bar a' on said car D' striking the same if said car is traveling faster than said chain 2 , and so pass over a portion of said chain 2 . The downhaul-chain 2 is moved continuously by power applied to either of the axles of the wheels $B B'$, and as the tracks E' are sufficiently low at the point over wheel B to insure the empty car D' reaching said point by gravity from the tracks c while at such point the chain 2 is placed below the tracks E' , so that the bar a' on said car D' will not strike against the rigid hooks b on said chain 2 . The tracks C' , connected to said tracks E' , rise at a grade toward the point c^2 , which point is sufficiently high to prevent the empty car D' passing the same while propelled by the momentum given it in traveling down the tracks E' , and as the chain 2 at the point c^2 is higher with relation to the tracks E' the rigid hooks b will be at a level sufficiently high to engage with the bar

a' on said car D' , as shown in Fig. 3. As the car D' is driven some distance up the tracks c' by its momentum down the tracks E' and will stop at some point thereon, it will be overtaken by one of the pivoted hooks a on said chain 2 and be carried up to the point c^2 , where said car D' will begin to move by gravity down the inclined or downhaul-tracks E ; but as the chain 2 and hooks $a b$ at this point are placed at such height that the bar a' on said car will engage with the rigid hooks b on said chain 2 and as the rigid hooks b are only a short distance in advance of the pivoted hooks a the car D will be prevented from traveling faster than said chain 2 and will travel with the same down said tracks E to a point over the wheel B' where the particular engaging hook b will be released from engagement with the bar a' and the car be free to pass along the tracks e' to the point where it is to be loaded or any other point desired. Each of the loaded cars D is raised and emptied and each of the empty cars D' is lowered by the operations as above described, and as there is sufficient grade between the tracks C' and the beginning of the downhaul-chain 2 it insures the sluggishly-moving empty cars D' reaching said chain 2 by gravity and the bars a' on said cars D' engaging with said pivoted hooks b , and said hooks b will offer no resistance to the movement of the car, and therefore will act to prevent injury to the car and stopping the same too suddenly while said car is traveling up the inclined tracks c' until said cars are stopped and caught by one of the pivoted hooks b and carried to the point c^2 , where they will be caught by the rigid hooks a , and injury to such hooks a by the engaging bar a' striking the same in moving along the track c' is prevented.

It will be obvious that under some conditions the hooks a and b 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, if necessary, a guide-wheel B'' for the downhaul-chain can be located beneath the same at the point c^2 in case the grade of the downhaul-tracks E is very steep, such as is shown in Figs. 1 and 3. It will also be evident that while the uphaul-chain and downhaul are shown and described as used together the uphaul can be used without the downhaul-chain, and vice versa, and it is also clear that the wheel-and-axle device applied to the uphaul-chain can be used and operated in connection with a different form of chain, if desired. Various other modifications in the construction and design 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 movements of cars, consisting of a chain hav-

ing rigid and pivoted hooks thereon adapted to engage with the car, said pivoted hooks extending or projecting beyond said rigid hooks.

2. A device for moving or controlling the movements of cars, consisting of a chain having rigid and pivoted hooks thereon adapted to engage with the car and alternating with each other, said pivoted hooks extending or projecting beyond said rigid hooks.

3. A device for moving or controlling the movement of cars down an incline, consisting of a chain having rigid and pivoted hooks thereon adapted to engage with the car, said pivoted hooks extending or projecting beyond said rigid hooks, in combination with a car-track having ascending and descending portions thereon.

4. A device for moving or controlling the movement of cars down an incline, consisting of a chain having hooks thereon adapted to engage with the car, said chain being arranged on a lower level at the receiving end with relation to the car-track than for the balance of the distance.

5. A device for moving or controlling the movement of cars down an incline, consisting of a chain having hooks thereon adapted to engage with the car, in combination with a car-track having ascending and descending portions thereon, and said chain being arranged on a lower level at the receiving end with relation to the car-track than for the balance of the distance.

6. A device for moving or controlling the

movements of cars down an incline, consisting of a chain having rigid and pivoted hooks thereon adapted to engage with the car, and said chain being arranged on a lower level at the receiving end with relation to the car-track than for the balance of the distance.

7. A device for moving or controlling the movement of cars down an incline, consisting of a chain having rigid and pivoted hooks thereon adapted to engage with the car, in combination with a car-track having ascending and descending portions thereon, and said chain being arranged on a lower level at the receiving end with relation to the car-track than for the balance of the distance.

8. As a new article of manufacture, a chain having rigid and pivoted hooks thereon, said pivoted hooks extending or projecting beyond said rigid hooks.

9. As a new article of manufacture, a chain having rigid and pivoted hooks thereon alternating with each other, said pivoted hooks extending or projecting beyond said rigid hooks.

10. As a new article of manufacture, a chain having rigid and pivoted hooks thereon, lugs or wings projecting from the sides of said chain, and wearing-plates secured to said lugs or wings.

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

ALFRED M. ACKLIN.

Witnesses:

J. N. COOKE,

J. L. TREFALLER.