

1,352,969.

J. KALIX.
CARRIER.
APPLICATION FILED MAY 29, 1920.

Patented Sept. 14, 1920.
2 SHEETS—SHEET I.

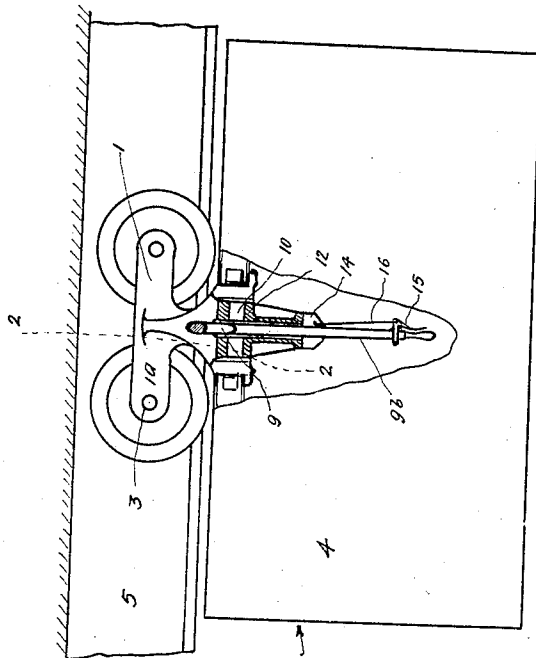


Fig. 1.

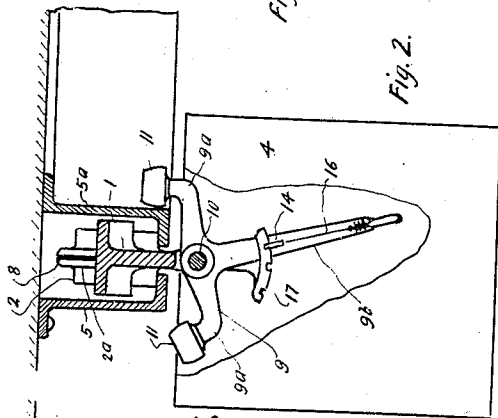
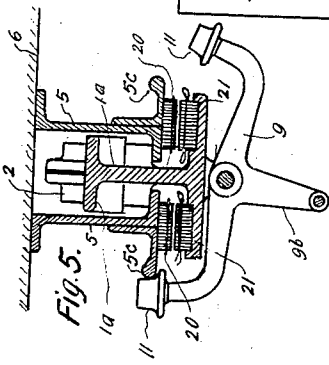


Fig. 2.



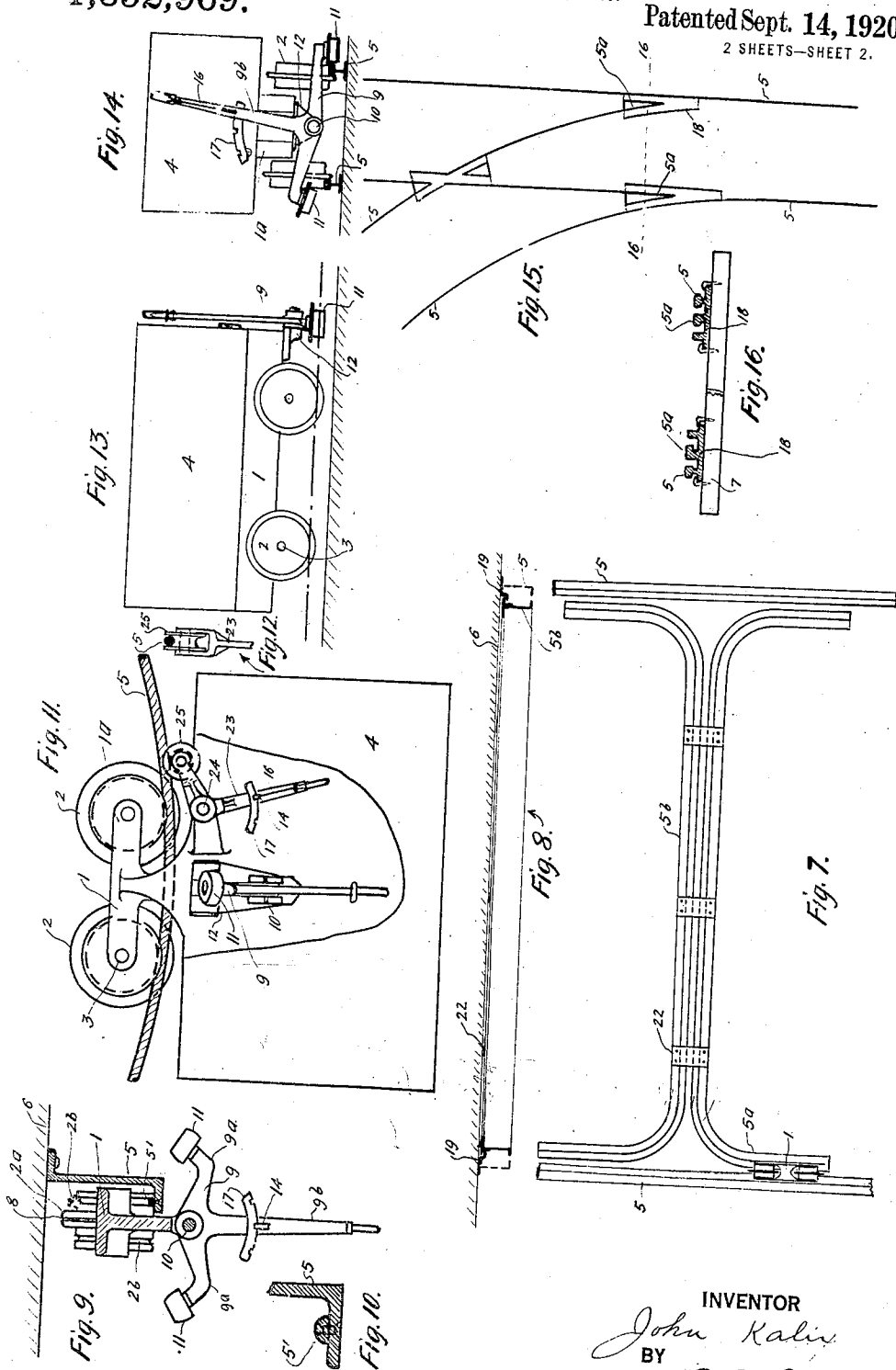
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2 SHEETS—SHEET 2.



INVENTOR
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UNITED STATES PATENT OFFICE.

JOHN KALIX, OF WHITE PLAINS, NEW YORK.

CARRIER.

1,352,969.

Specification of Letters Patent. Patented Sept. 14, 1920.

Application filed May 29, 1920. Serial No. 385,234.

To all whom it may concern:

Be it known that I, JOHN KALIX, a citizen of Hungary, and resident of White Plains, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Carriers, of which the following is a specification.

The object of my invention is to cause a carrier, that is adapted to travel upon a track, rail, cable or other support, to travel in any desired direction, either straight ahead or to be switched to the right or left, without requiring the operation of switches included in the trackage system, means being provided upon the carrier to cause it to be switched or directed as required and to guide the carrier while traveling, particularly upon a hanging track or the like.

My invention comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming part hereof, wherein—

Figure 1 is a side elevation illustrating my improvements in connection with an overhead track, the view being partly in section substantially on the line 1, 1 in Fig. 2; Fig. 2 is a cross section substantially on line 2, 2 in Fig. 1; Fig. 3 is a partly sectional plan view; Fig. 4 is a cross section illustrating the carrier on a single track. Fig. 5 is a cross section illustrating my improvements in connection with magnetic means for propelling the carrier; Fig. 6 is a diagrammatic plan view of a system of trackage adapted for use with my improvements; Fig. 7 is an enlarged plan view illustrating part of the trackage of Fig. 6; Fig. 8 is a cross section of Fig. 7; Fig. 9 is a cross section illustrating a modification; Fig. 10 is an enlarged detail of Fig. 9; Fig. 11 is a side elevation illustrating the carrier upon an overhead cable including means to retain the carrier on the cable; Fig. 12 is a detail of part of Fig. 11; Fig. 13 is a side elevation of a carrier in the form of a car over the track; Fig. 14 is an end view of Fig. 13; Fig. 15 is a diagrammatic plan view of trackage for the carrier of Figs. 13 and 14, and Fig. 16 is an enlarged cross section substantially on the line 16, 16 in Fig. 15.

Similar numerals of reference indicate corresponding parts in the several views.

In the accompanying drawings numeral 1

indicates a carrier, which may be of any suitable construction adapted to support a load hanging from the carrier or located upon the carrier. The carrier illustrated comprises a suitable frame 1^a which may have one or more wheels 2 supported upon axles 3 on the carrier in any well known manner. At 4 is indicated supporting means for a load, which may be in the nature of a compartment, box or the like, to contain goods or people to be transported, either hanging from the carrier, or mounted thereon in the nature of a car, as in Figs. 13 and 14, although the load may be supported from the carrier in other well known manner, such as by ropes, cables or the like. At 5 is indicated a track for the wheels of the carrier which may be of any suitable character, such as Z-bars illustrated in Figs. 1 to 10, or in the form of an overhead cable or the like illustrated in Fig. 11, or the form of ordinary railroad rails as indicated in Figs. 13 to 16. The track may be supported from an overhead support 6 suspended in any suitable manner, or may be carried upon cross ties 7 or upon stringers, or in any other suitable manner according to the character of transportation to be carried out. I have shown the wheels 2 arranged in pairs on a corresponding axle 3, said wheels being individually rotative and having their flanges 2^a opposing with anti-friction disks 8 between and engaging the wheels, whereby the treads of the corresponding wheels may ride upon the track or a switch, or upon the track and switch, as occasion may require. The track may comprise a single Z-bar or two spaced tracks 5 such as Z-bars, illustrated in Fig. 5. When the spaced tracks are used all of the wheels of the carrier may run on the same. The wheels of the carrier will run upon the switch 5^a when directed thereto by my improvements. When the carrier runs upon spaced rails as in Figs. 13 to 16, the outer wheels 2 will run upon the straight rails, and the appropriate wheels 2 will follow the switch rails 5^a to the left or to the right.

The carrier is provided with means to cause it to travel upon the switch 5^a, or to pass the switch and continue on the straight track, as required. At 9 is a controlling member, shown in the form of a lever pivotally supported at 10 upon the carrier, and provided with a roller 11 to cooperate with the track. The carrier may support the

pivot 10 of member 9 in any suitable manner such as upon frame 12 suitably supported upon the carrier. Member 9 is shown provided with oppositely disposed arms 9^a, each of which arms carries a roller 11 upon a pivot 13 on the arm, so that such rollers may operate upon opposite sides along the track and switch, as occasion may require. Member 9 is shown provided with a handle portion 9^b for its manipulation. Means are provided to retain member 9 in set position. I have shown a latch dog 14 upon member 9 operable by a lever 15 pivotally supported upon handle 9^b and connected with dog 14 by wire or rod 16, said dog being cooperative with a notched segment 17 supported upon the carrier, which parts may be of any well known construction for retaining levers in set position. In the form shown in Figs. 1 to 9 the member 9 is supported below the wheels of the carrier, since the carrier depends from the track, and the operator in the car may manipulate member 9, whereas in Figs. 13 and 14 the member 9 is supported upon the carrier above the tracks in position to operate upon either track. The arrangement is such that either of the rollers 11 of member 9 may be placed against the track as shown in Figs. 4 and 5, to retain the carrier thereon, or against the switch 5^a to retain the wheels thereon and cause the carrier to travel from the track upon the switch, as in Figs. 2 and 3. When one roller 11 is against the track the other roller will be depressed so that said roller may pass under the track and switch as in Figs. 2, 4 and 5, or such roller may pass over the tracks and switch as in Figs. 13 and 14.

The switch 5^a is so related to the track that the wheels 2 may readily pass from one to the other without requiring a switch-tongue in the trackage to cause travel of the carrier to and from a switch, since the bearing of a roller 11 against the side of the track or switch will cause the carrier to travel in the desired direction. When the switch 5^a is reached by the carrier the member 9 will be set so that the appropriate roller 11 will be against the switch if it is desired to cause the carrier to travel on the switch, whereby the carrier will be caused to follow the switch and the other roller will pass under the track without contact therewith.

In Figs. 2 and 9 a single overhead track 5 is used, and the roller 11 may be used against the track or switch as in Fig. 4, to retain the carrier.

In Fig. 9 I have illustrated the track as provided with a longitudinal rib 5' to receive the groove 2^b of the carrier wheel to guide the latter along the track without requiring the cooperation of rollers 11 with the track until the switch is reached.

By having the member 9 provided with two spaced rollers 11 said member may be swung to either side desired by the operator on the carrier to present the corresponding roller 11 against the track or switch according to the direction travel desired for the carrier, so that the travel of the carrier need not be stopped for operating a switch or switch-tongue. In forms shown in Figs. 13, 14, where the carrier is provided with spaced pairs of wheels to travel on two spaced tracks or rails 5 and corresponding switches for divergent track lines 5^a, there is no requirement for tongues to be adjusted since the corresponding roller 11 may be set by member 9 against the outside of the rail corresponding to the direction to which the car is to be switched. The switch plates 18 carrying an appropriate portion of the track and switch rails according to whether the turn is to be toward the left or the right, so that if the car is to continue straight on the track the roller 11 will be set against the outside of the outer rail 5 to cause the car to continue on a straight course, and if the switch is to be utilized the roller 11 on the other side will be placed against the outside of the track of the switch to cause the car to travel along the latter.

The carrier may be propelled by any suitable means, such as by cable propulsion, electric traction or trolley, or by gravity. In Fig. 5 I have illustrated a well known form of magnetic propulsion comprising magnets carried by the track and magnets upon the carrier, to be supplied with electric current in a usual way. The track is shown provided with laterally extending flanges 5^c to cooperate with the rollers 11 of member 9. One advantage of my invention is that the carrier or car may be caused to travel to any part of a region for depositing loaded goods or material by first adjusting a switch section 5^b between tracks to desired position as illustrated, in Figs. 6, 7 and 8. The switch section 5^b may comprise Z-bars or rails attached together and set between spaced tracks of the switching system, which Z-bars may be supported upon hangers secured to overhead support 6, so that the section 5^b of the switch may be set to a desired position before the carrier reaches such switch section. The Z-bars may be connected together by clamps 22, (Figs. 7 and 8), so that the carrier may run upon the lower webs thereof. In Fig. 6 the track is shown in a general form covering a region, with switches 5^a associated therewith, and switch section 5^b between the tracks, whereby the switch section may be set in different position, as shown in full and dotted lines in Fig. 6. The carrier may travel on a track until the desired switch is reached and then member 9 will be set to cause its

roller 11 to cooperate with the switch, to travel along the latter to the desired point, or to be diverted to the switch section 5^b, so that the carrier may be sent to different parts of the region, as may be required, for dumping or raising loads at such places.

In Fig. 11 the wheels 2 are grooved to travel upon an overhead cable or the like and the member 9 with its rollers 11 may be operated, as before stated, to cause the carrier to travel on a switch. For greater safety I provide an arm 23 pivotally supported at 24 upon the carrier and having a grooved roller or pulley 25 to engage cable 5 to aid in preventing the wheels of the carrier from jumping off the cable. The same character of dog 14 and operating device with segment 17, as before described, may be used in connection with arm 23 to retain pulley 25 against the cable.

Having now described my invention what I claim is:

1. A carrier having one or more supporting wheels and provided with a movable member having means on opposite sides to cooperate with the outer sides of supporting means for said carrier in different positions of said member.

2. A carrier having one or more supporting wheels and provided with a movable member having oppositely extending arms to cooperate with the outer sides of a support to retain said carrier upon said support, one of said arms being adapted to pass said support while the other arm retains the carrier upon said support.

3. A carrier having one or more supporting wheels and provided with a movable member having oppositely extending arms to cooperate with the outer sides of a support to retain said carrier upon said support, one of said arms being adapted to pass said support while the other arm retains the carrier upon said support, and means to retain said member in different positions with respect to said support.

4. The combination of a track and a switch-track associated therewith with a carrier having one or more wheels to travel on said track and switch, and a movable member on the carrier to cooperate with the outer sides of said track and switch to guide the carrier therealong.

5. The combination of spaced tracks with a carrier having wheels to travel on said tracks, a member movably supported by said carrier and having arms on opposite sides to cooperate with either track, and means to retain said member in set position with one

arm cooperative with one track and the other arm out of operative relation to either track.

6. The combination of spaced tracks and a switch-track movably supported between said tracks to receive and deliver a carrier, with a carrier having wheels to travel on said tracks, and means upon the carrier to cooperate with the outer sides of said tracks to guide the carrier along either of said tracks.

7. The combination of spaced tracks and a switch-track movably supported between said tracks to receive and deliver a carrier, with a carrier having wheels to travel on said tracks, and a member movably carried by said carrier and having arms on opposite sides to cooperate with either side of said tracks to guide the carrier along said tracks, and means to retain said member in set position.

8. A carrier having a pair of wheels supported side by side upon the same axis to simultaneously travel upon spaced tracks and upon either track separately.

9. A carrier having a pair of wheels supported side by side upon the same axis to simultaneously travel upon spaced tracks and upon either track separately, said wheels having inner opposed flanges.

10. A carrier having a pair of wheels supported side by side upon the same axis to simultaneously travel upon spaced tracks and upon either track separately, said wheels having inner opposed flanges, and a friction disk between said wheels.

11. The combination of a track in the form of a Z-bar and a switch in the form of a Z-bar, the inner lateral webs of said bars being spaced apart and opposing, with a carrier having wheels to travel simultaneously upon said Z-bars and upon either separately, and a member movably carried by said carrier to engage either of said Z-bars separately to retain the carrier thereon.

12. The combination of a track in the form of a Z-bar and a switch in the form of a Z-bar, the inner lateral webs of said bars being spaced apart and opposing, with a carrier having wheels to travel simultaneously upon said Z-bars and upon either separately, and a member movably carried by said carrier, and provided with arms extending in opposite directions, whereby one arm may engage either of said Z-bars while the other arm is free from said bars.

Signed at 2 Rector street, New York city, in the county of New York, and State of New York, this 27th day of May, A. D. 1920.

JOHN KALIX.