M. U. BERNHEIM.

SYSTEM OF TRANSFERRING FREIGHT AND BAGGAGE.

APPLICATION FILED JUNE 1, 1909. RENEWED JUNE 4, 1914.

1,124,271. Patented Jan. 12, 1915.

3 SHEETS—SHEET 1.

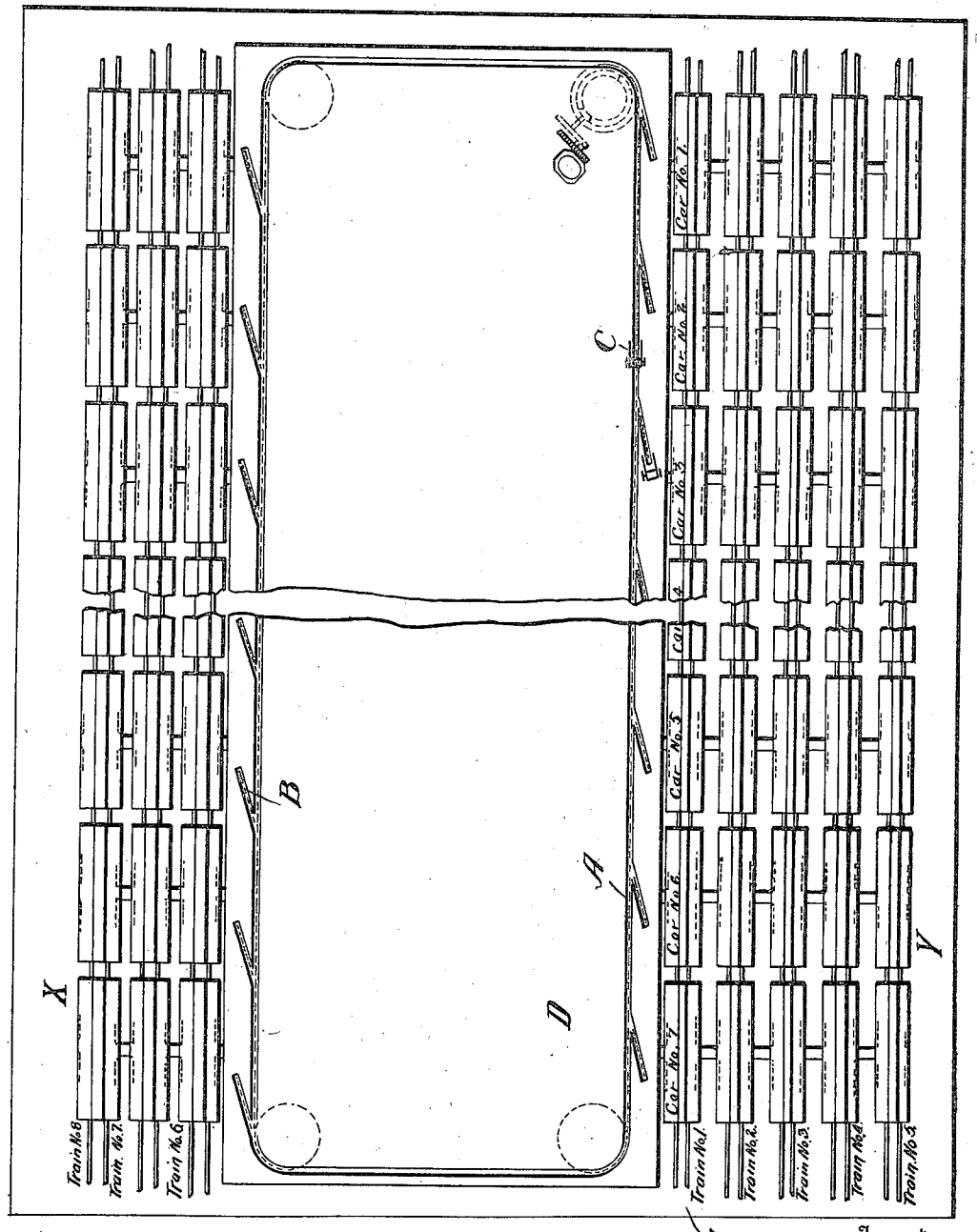


Fig. 1.

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Witnesses

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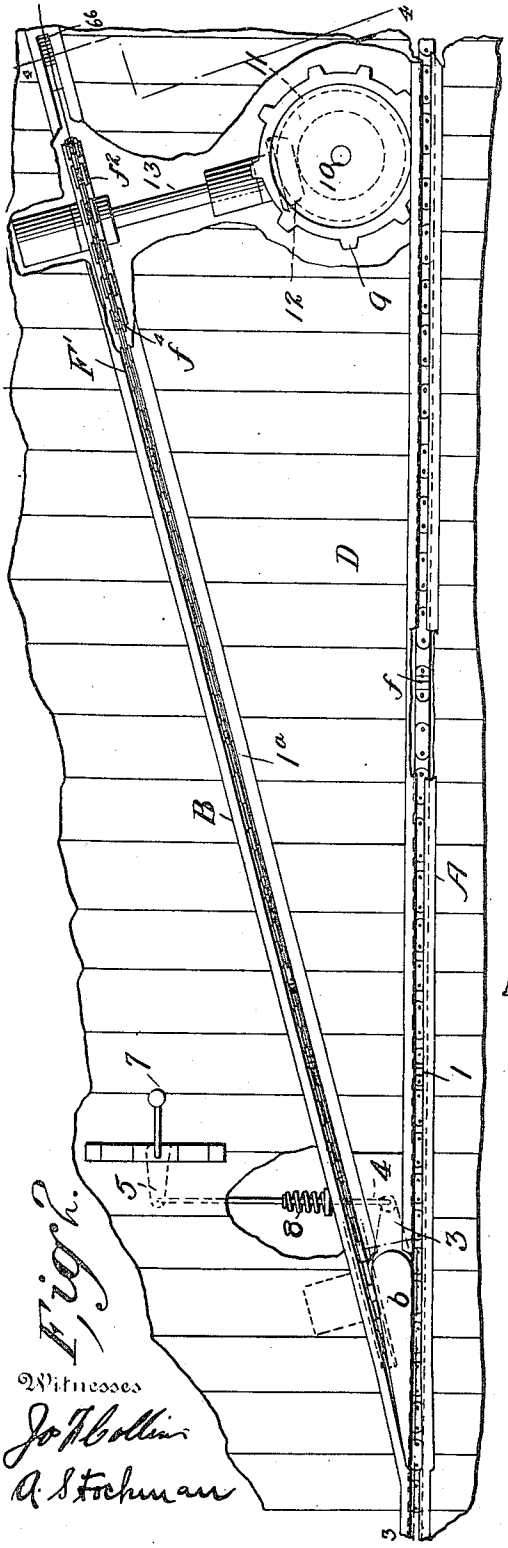


Fig. 2.

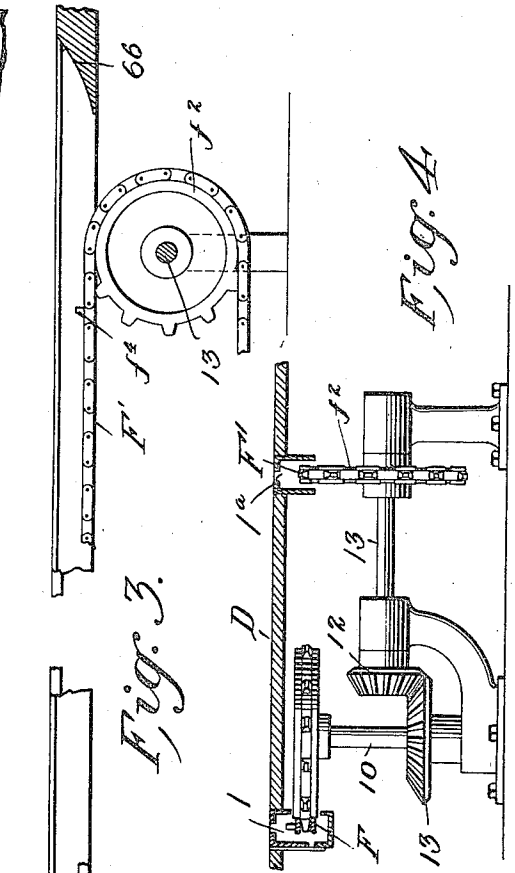


Fig. 4.

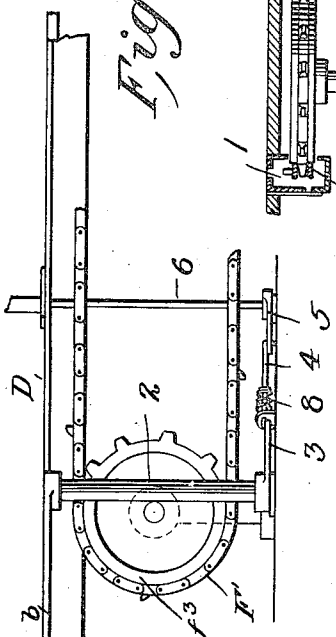


Fig. 3.

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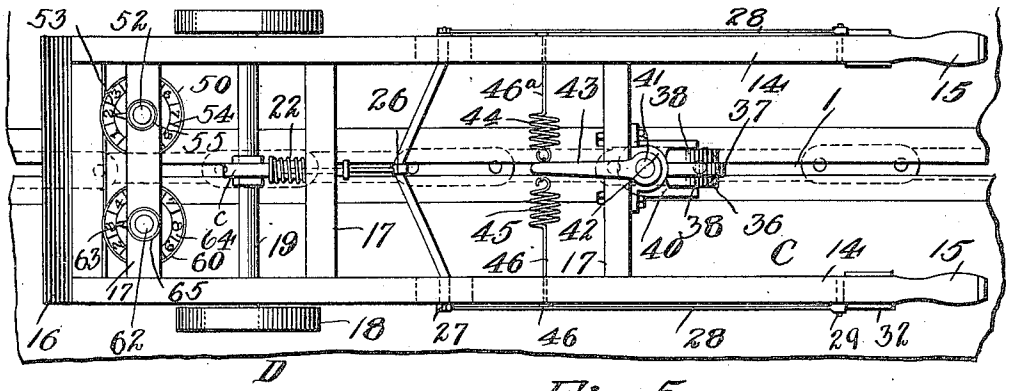


Fig. 5.

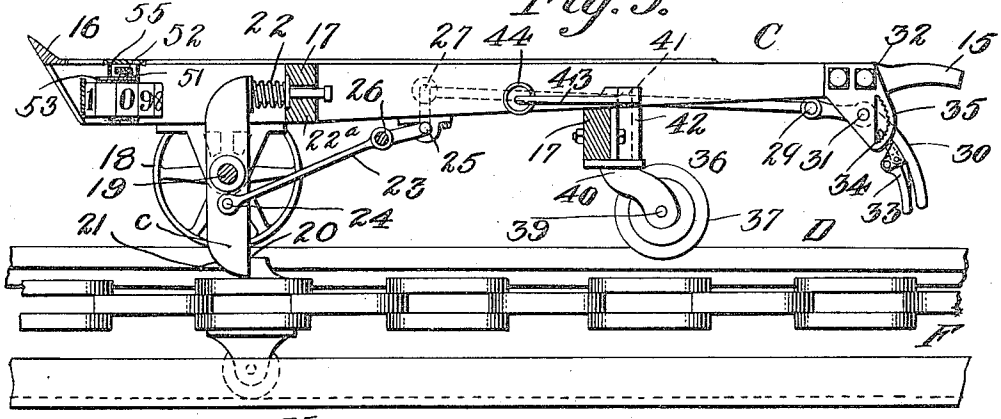


Fig. 6.

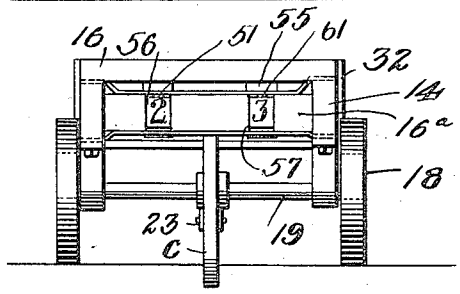


Fig. 7.

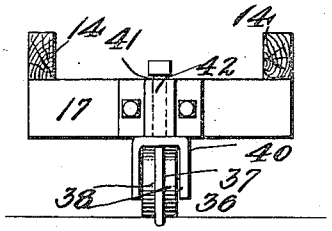


Fig. 8.

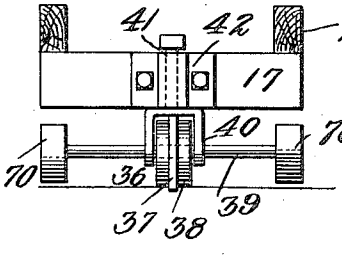


Fig. 9.

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UNITED STATES PATENT OFFICE.

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SYSTEM OF TRANSFERRING FREIGHT AND BAGGAGE.

1,124,271. Specification of Letters Patent. Patented Jan. 12, 1915.

Application filed June 1, 1909, Serial No. 499,337. Renewed June 4, 1914. Serial No. 843,091.

To all whom it may concern:

Be it known that I, MORRIS U. BERNHEIM, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Systems of Transferring Freight and Baggage, of which the following is a specification.

This invention has most particular reference to certain improvements in the hitherto-proposed systems of transferring freight or baggage from one car or train to another by means of trucks which are moved by an endless traveling propelling device.

The object of the present invention is to provide a system of this kind which will be free from objectionable features apparent in those hitherto proposed, and will be highly efficient and in every way practicable for the purpose intended. This object is secured by the construction illustrated in the accompanying drawings, exemplifying what I at present regard as the best forms of the several new and useful features of my present invention.

In the drawings:—Figure 1 is a diagrammatic view of the system, as embodied to transfer baggage or freight around a platform, from a train on one side of the platform to a train on the other side thereof. Fig. 2 is a detail plan view of one of the switch sections and a part of the main line, with portions of the platform broken away to disclose parts which otherwise would be concealed. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a cross section on the line 4—4 of Fig. 2. Fig. 5 is a plan view of one of the trucks and a part of the platform. Fig. 6 is a longitudinal section of one of the trucks and a side view of a portion of its propelling chain. Fig. 7 is a front view of the truck. Fig. 8 is a transverse section on the line 8—8 of Fig. 5; and Fig. 9 is a similar section of a truck embodying three rear wheels.

In the type of systems to which the present invention has relation there is embodied what may be arbitrarily termed a main line A tapped at intervals by lateral openings, herein shown as prolonged to form switches B, and including a movable switch point *b*, which may be set to interrupt the continuity of the main line and thus divert a truck C from the latter, at a place adjacent to a car of a train X or Y, for which it contains baggage or freight or from which baggage or freight is to be removed. The main line and the switches are operatively related to a way or floor upon which the trucks hereinafter described are propelled, the way or floor being preferably provided by a platform D, and in the present exemplification of my invention I have shown this platform as extending around a freight shed E, upon both sides of which are located the trains to be served by the systems. There are a series of trains on each of two sides of the platform, those on one side being designated X while those on the other side are designated Y. The platform is provided with a groove 1, within or adjacent to which travels an endless propeller F, having projections *f* which engage suitable devices *c* projecting from the trucks C. This endless propeller preferably is of the roller chain type.

Instead of arranging the switch points *b*, in, and as a part of, rails upon which the wheels of the trucks C travel, it is proposed in the present invention to arrange them contiguous to the groove, so as to interrupt the continuity of the same and act upon the element *c* (hereinafter described) which projects from the truck into engagement with the propeller. With this new arrangement, it becomes unnecessary to utilize grooved or flanged rails as tracks for the wheels of the trucks, and I have, accordingly, shown my system as unprovided with such rails. Again, it is proposed in the present system, to form each branch or switch section B by means of a groove 1^a within or adjacent to which travels a propeller F′, which preferably derives motion from the main propeller F. This propeller F′ is preferably of the roller-chain type running over sprockets f^2 and f^3 and provided at intervals with projections f^4 to engage the element *c* of the truck. It may be here stated that this element *c* in the herein exemplified form of my invention, is arranged at the forward end of the truck, instead of at the rear end thereof. The truck is by the means described, positively withdrawn from the main line onto the predetermined branch line, instead of being diverted under the influence of its own momentum, when it reaches a switch point which has been set to divert it.

Each switch point *b* is here shown as a bar, narrower at one end than the other, and

having its wider end provided with a vertical shaft or pivot 2, the lower end of which has an arm 3, connected by a link 4 with an arm or crank 5 projecting from the lower end of a shaft 6 which rises through the platform D and has its upper end provided with a handle 7 for operating it to turn the switch point. The parts described are normally held in one position by a spring 8, which is herein shown as mounted on the link 4. This normal position is preferably that in which the switch point crosses, and thereby closes, the mouth of the groove 1^a and hence does not interrupt the continuity of the main groove 1.

It will, of course, be understood that there is one switch point at the junction of each groove 1^a with the main groove 1, and that each of these switch points is provided with an actuating mechanism, such, for example, as that described, whereby it is controllable independently of every other, but all the switch points can be controlled from a central station if desired.

In order that the propellers F′ may derive motion from the main propeller F and be driven at a greater speed than the latter, so as quickly to withdraw trucks therefrom, I have herein shown a horizontally disposed gear 9 which meshes with the chain *f* of the main propeller F and is mounted upon a shaft 10 provided with a beveled gear 11 engaging a similar gear 12 mounted on a shaft 13, to which is fixed the driving sprocket f^2 engaged with the chain of the branch propeller F′. By driving the branch propellers at a greater speed than the main propeller the capacity of the system is increased as it becomes possible thereby to run the trucks at shorter intervals than otherwise, and, moreover, a sufficient impetus is given to the trucks to cause them with certainty to pass beyond the discharging end of the branch lines over which they have, respectively, been diverted. Hence, the diverting of a truck onto a branch line will not interfere with the continued passage on the main line of a truck at a short interval behind the same, nor will a truck on the branch line interfere with another truck on the same branch line.

It will be observed that the propellers and their actuating means, as well as the actuating means of the switch points (except the upper portion of the shaft 6 and the handle 7) are arranged below the plane of the upper surface of the platform, and that there are no elements rising above the floor, and no depressed rails, which in any wise interfere with the use of the platform, by persons, or in ordinary hand trucking across the platform.

As already stated, the trucks themselves also are of peculiar construction to adapt them to present purposes. These peculiarities consist in part in the arrangement of the propeller-engaging element *c* in the forward instead of the rear portion of the truck, with means accessible at the rear for adjusting it into and out of operative position; in part, in the provision of a rotative support and guide for the rear end of the truck, which travels in the grooves of the main and branch line and is laterally movable so as to follow the curvatures of the latter; in part, in the provision of the truck with an indicator which is set at the loading station to disclose to the attendants at the several unloading stations whether or not the truck contains packages destined for them, and, in part, in peculiarities in the details and in novel combinations of elements, all as will now be set forth.

Each truck here shown has its body of the ordinary and well known construction, consisting of longitudinal side pieces 14 terminating at the rear in handles 15 and connected at the front by a transverse member 16 the upper edges of which extend above the plane of the upper surfaces of the longitudinal members, and also connected with each other at different places along their lengths, by transverse members 17 which are suitably spaced apart. The truck is mounted upon wheels 18, arranged near the front end thereof upon an axle 19. Upon the axle 19 is pivotally mounted the chain-engaging element *c* hereinbefore referred to. This element is preferably an arm or bar having a plane rear edge 20 and a beveled forward edge 21. It projects below the axle 19 into the groove 1 or 1^a and above said axle to a place where it may be engaged by a suitably supported spring-pressed rod, or other suitable device, 22, which will hold it against the projection *f* of the propeller and absorb any shock to which it may be subjected in use. In the exemplified form of the invention the rod 22 is shown as borne by a beam 22^a mounted under and in engagement with one of the transverse members 17. A suitable adjusting means extends from this element to a position where the same may be conveniently actuated to raise or lower said element from or into its operative position. An advantageous means for this purpose consists of a link or lever 23 which is pivoted at 24 to the portion of the element *c* below the fulcrum of the latter and extends thence rearward to a cranked portion 25 of a transverse shaft, to which its rear end is connected at 26. This transverse shaft is journaled in the side pieces 14 of the truck body, and its ends are provided with short arms or cranks 27 to which are pivoted links 28 the rear ends of which are pivoted at 29 to bent handles or grip pieces 30, which in turn are pivoted, between their ends, at 31, to plates 32 which extend from the side

members of the truck frame. These handles or grip pieces are, as shown, so located with respect to the handles 15 of the truck frame that an attendant when grasping the latter to raise the truck, may at the same time grasp said handles or grip pieces 30 and raise the same, thereby raising the lower end of the element *c* out of the groove, or above the level of the platform. To hold the parts in the latter position, I have herein shown suitable pawl and ratchet mechanisms, composed of pivoted grips 33 having lugs or dogs 34 to engage arcal teeth 35 formed in the plates 32.

The supporting and guiding roller for the rear end of the truck is shown at 36. It is provided with a flange 37 which runs in the grooves of the main and branch lines and with plane portions 38 to run on the portions of the platform on opposite sides of and contiguous to said grooves. It is mounted on an axle 39 borne by a yoke 40 which carries a vertical pivot 41 journaled in a socket 42 secured to one of the cross pieces of the truck-frame. From the upper end of the pivot an arm 43 extends into engagement with cross springs 44 and 45 which preferably are adjustable as to their tension, the adjustment being here shown as effected by means of nuts 46 threaded on the ends of rods 46[a] which extend from the springs and are supported by the longitudinal members of the truck frame.

In the operation of loading and unloading railroad trains, it is common to arrange a series of trains side by side and frequently on each side of a train shed or platform, as I have herein shown. Each of these trains has a particular designation and each car also has a particular designation. Thus, in a system of four tracks on each side of the platform, for example, each track would have a particular number and the train thereon, takes its designation therefrom, thus train No. 1; train No. 2, and so on. The cars of each train are numbered from 1 upward. When more than one train are side by side, cars bearing corresponding numbers are side by side; as shown in Fig. 1. Baggage or freight intended for any particular car is loaded upon a truck and is taken to the same by an attendant who, in order to reach car No. 3 of train No. 3 for example, goes through cars numbered 3 of trains numbered 1 and 2. Subject possibly to certain modifications as to designations, such systems are in universal use. One of the purposes of the present automatic system of baggage and freight conveyance, is to adapt it for use without requiring any change in the foregoing or any other well known car and train designations. Inasmuch however, as an attendant does not go with the truck, some means should be provided by which each loading attendant may indicate to each unloading attendant, whether or not the truck is intended for him. This patricular part of the invention is not herein claimed but for the sake of completeness of disclosure I have herein shown a suitable indicating means. This indicating means comprises a plurality of drums 50 and 60 rotatably mounted side by side on a portion of the truck permitting exposure of the predetermined indicating characters of the drawings. Each of these drums is here shown as mounted on the front of the truck, below the platform or floor of the latter, and is provided with a vertical shaft (51—61) having a knurled head (52—62) for convenience in turning it, and also provided with a pointer (53—63) coöperating with an indicating disk or dial (54—64) for indicating when the drum has been turned to expose the proper number. One of these drums may relate to the train, and the other to the car of that train; thus, the indication shown in Fig. 7 may be assumed to disclose to the attendants that the packages on that truck are intended for car No. 3 of train No. 2, for example. The proper attendant observing this indication will set his switch to divert the truck from the main line to the branch line which leads toward the several cars numbered 3, and at a proper time, which may be immediately upon the delivery of the truck by the switch, or later according to circumstances, said truck will be taken to car numbered 3 of train 2 and emptied. The truck when emptied is then returned to the main line, which returns it to a loading station. If the car referred to contains packages to be delivered to another train, in waiting, or to any other unloading station, such packages are placed thereon and the indicator is properly set, before the truck is returned to the main line. Again, an attendant may divert an empty truck from the main line, when he has packages to be delivered to another car or the station or shed, or may divert a truck containing packages when he has others intended for the same destination.

To protect the indicators and at the same time avoid the disadvantage of their occupancy of floor space, each is arranged as stated below the floor space of the truck, and their heads, marked 52 and 62, are mounted in sleeves, marked 55 and 65, through which they are accessible from above, the dials being below and projecting beyond the edges of the contiguous transverse member 17 of the truck-frame, while the designations of the indicating drum are exposed through openings, marked 56 and 57, in a plate 16[a] extending across the front of the truck, rearward of the front member 16 of said frame, said member 16 being open, as shown.

Attention is called to the fact that the

groove 1^a of each switch line extends beyond the delivery end of the propelling means therein. This is preferably such that the propeller-lug will be disengaged from the element *c* sufficiently before the latter reaches the end of the groove, to permit said element to turn out of the groove, and at the same time the forward wall 66 of the groove is sufficiently close to the discharge end of the propeller that it will engage the beveled edge 21 of said element and cause the same to turn, and also will engage the flange of the rear wheel and guide the same out of the groove, before the truck has lost momentum sufficient for such operation. The wall 66 is preferably beveled or inclined to induce said operation, and if considered to be expedient to do so, the platform may be inclined in order that the momentum given to the truck by the propeller may be assisted by gravity, or the latter alone be relied upon. By thus freeing the truck automatically from the branch line, the danger of the latter being jammed by, or crowded with trucks, is avoided, even when it is of inconsiderable length and the diverted truck cannot be immediately handled by the attendant.

If desired, the truck may be provided with supporting wheels additional to those herein set forth. As an example of this, I have shown, in Fig. 9, a pair of wheels 70—70 mounted on the axle 39. In this particular exemplification the wheels 70 are immediately above the floor so as to be normally free from contact therewith, that is to say, when the truck is properly loaded. When, however, the truck is more heavily loaded on one side than the other, the heavier side will be depressed until the wheel 70 at that side engages the floor and supports said side. It will be noted that the yieldability of the wheel 36, lends itself to this operation.

The construction, operation and advantages of my present invention will be readily seen from the foregoing description.

While I would have it understood that I regard the detail construction as advantageous, and as being the best means now known for accomplishing the purposes in view, yet the invention in its broadest aspect is not to be regarded as restricted to such details, as, they are in many respects, merely exemplary, and may be varied without departing from the spirit of the invention, or the scope of the subjoined claims.

Having now described the invention what I believe to be new and desire to secure by Letters Patent is:—

1. In a system of the class described, the combination of a way having a groove, traveling propelling means in operative relation to said groove, a truck having supporting devices which engage the way adjacent to said groove, said truck having a device which travels in said groove and operates to drive the truck and direct its motion, and means for disengaging said device from the groove and propelling means.

2. In a system of the class described, the combination of a way having a groove, traveling propelling means in operative relation to said groove, a truck having supporting devices which engage the way adjacent to said groove, said truck having a device which travels in said groove and operates to drive the truck and direct its motion, and means acting upon said device for disengaging the same from the groove and propelling means.

3. In a system of the class described, a way having a groove with a lateral opening, a traveling propelling means in operative relation to said groove, an element arranged at the junction of the groove and opening and adjustable to interrupt the continuity of the former, and a truck having supporting devices which engage the way and also having means adapted to travel in said groove and engage said propelling means and also to engage said element and guide the truck from the groove when said element is set to interrupt the continuity of the groove.

4. In a system of the kind described, a floor having a groove with a lateral opening therefrom, a traveling propelling means in said groove, an element arranged at the junction of the groove and opening and adjustable to interrupt the continuity of the former, and a truck having supporting devices which engage the floor at opposite sides of the groove, said truck also having means which travel in said groove, and whereby it is driven by the propeller, and is diverted by said element when the latter is set to interrupt the continuity of the groove.

5. In a system of the kind described, a floor having a groove with a lateral opening, an endless traveling propelling means contiguous to the groove, a truck provided with a propeller-engaging device which travels in the groove, and a truck-diverting element contiguous to said lateral opening, adjustable to interrupt the continuity of the groove and into the path of the impeller-engaging device.

6. In a system of the kind described, a floor having a groove with a lateral opening, an endless traveling propelling means contiguous to the groove, a truck provided at its forward end with a propeller-engaging device which travels in the groove and at its rear end with a supporting wheel having a flange to travel in the groove, and a truck-diverting element contiguous to said lateral opening, adjustable to interrupt the continuity of the groove and into the path of said device and flange.

7. In a system of the kind described, a floor having grooves so disposed as to be in

a main line and a branch line relationship to each other, a traveling propelling means adjacent to each of the grooves, a truck provided with a device which travels in said grooves and is engaged by said propelling means, and an element arranged at the junction of said grooves and adjustable into the path of said device, to interrupt the continuity of one of the grooves and divert the truck from the line thereof to the other line.

8. In a system of the class described, a way provided with means forming a main line and a branch line, each of said lines comprising traveling propelling means located below the way and a groove in the way for giving access to the traveling propelling means; a truck, having supporting means which engage the way and a device which travels in said grooves and engages said propelling means and transmits movement of the latter to the truck, and a switching element, arranged in the way at the junction of the main line and branch line, said switching element being adjustable and acting upon said device of the truck to divert the truck from one line to the other.

9. In a system of the class described, a way provided with means forming a main line and a branch line, each of said lines comprising traveling propelling means located below the way and a groove in the way for giving access to the traveling propelling means; driving connections between said propelling means; a truck having supporting means which engage the way and a device which travels in said grooves and engages said propelling means and transmits movement of the latter to the truck, and a switching element, arranged in the way at the junction of the main line and branch line, said switching element being adjustable and acting upon said device of the truck to divert the truck from one line to the other.

10. In a system of the kind described, a floor having grooves arranged at an angle with each other, a traveling propeller, a truck having means at its opposite ends which travel in said groove, the forward one of the same engaging the propeller, and an element arranged at the junction of the grooves and adjustable across the same into the path of said means and adapted to act thereon to divert the truck.

11. In a system of the kind described, a floor having grooves so disposed as to be in a main line and a branch line relationship to each other, propellers in said lines, a truck having an arm and a flanged wheel arranged at its opposite ends, said arm and the flange of the wheel traveling in said grooves and the former engaging the propellers, and an element arranged at the junction of the grooves and adjustable across one of the same into the path of said arm and flange and adapted to act thereon to divert the truck.

12. In a system of the kind described, a floor having grooves so disposed as to be in a main line and a branch line relationship to each other, traveling propellers contiguous to said grooves, means whereby one of said propellers derives motion from the other, a truck having propeller-engaging means which travel in the grooves, and an element arranged at the junction of the grooves and adjustable into the path of the propeller-engaging means and acting thereon to divert the truck from one line to the other.

13. In a system of the kind described, a floor having grooves so disposed as to be in a main line and a branch line relationship to each other, traveling propellers contiguous to said grooves, one of said propellers traveling at a higher rate of speed than the other, a truck having propeller-engaging means which travel in the grooves, and an element arranged at the junction of the grooves and adjustable into the path of the propeller-engaging means and acting thereon to divert the truck from one line to the other.

14. In a system of the kind described, a floor having grooves so disposed as to be in a main line and a branch line relationship to each other, traveling propellers contiguous to said grooves, means whereby the propeller of the branch line derives from the propeller of the main line, motion at a higher rate of speed than that of the latter, a truck having propeller-engaging means which travel in the grooves, and an element arranged at the junction of the grooves and adjustable into the path of the propeller-engaging means and acting thereon to divert the truck from one line to the other.

15. In a system of the kind described, a floor having grooves so disposed as to be in a main line and a branch line relationship to each other traveling propellers contiguous to said grooves, the propeller of the branch line traveling at a higher rate of speed than the other and the groove of said line extending beyond the discharge end of said propeller, and having an end wall, a truck having a pivoted device which travels in the grooves and engages the propellers and is adapted to be turned out of the groove of the branch line by said end wall of the latter, and means at the junction of the grooves adjustable to divert the truck from one to the other.

16. In a system of the kind described, having main and branch lines; a truck, means for positively moving the truck over each of said lines, comprising parts in said lines and on the truck adapted to engage each other, and means whereby said engagement is automatically interrupted at the discharging end of the branch line.

17. In a system of the kind described, having main and branch lines; a truck, means for positively moving the truck over each of said lines, comprising traveling parts in said lines and an element projecting from the truck and adapted to engage said traveling parts, and means whereby the lower end of said element is automatically raised at the discharging end of the branch line.

18. In a system of the kind described, a floor having grooves disposed in a main line and a branch line relationship to each other, a traveling propelling means in each of said lines, a switching element at the junction of the grooves, and a truck having means for engaging the propellers, the groove of the branch line extending beyond the discharge end of the propeller and provided with an element which acts upon said means to free the same from the groove.

19. In a system of the kind described, having main and branch lines; said system comprising traveling propellers, a truck having means to engage the propellers, a floor having grooves which receive said means and the propellers, and means whereby the propeller-engaging means of the truck are raised to the plane of the floor at the discharging end of a propeller.

20. In a sysetm of the kind described, the combination of a grooved floor, a traveling propeller below the upper surface of the same, and a suitably supported truck having an element which projects into the groove and engages the propeller, said element being so mounted as to be movable out of the groove, and said groove having at its discharge end a means adapted to disengage said element from the groove.

21. In a system of the kind described, the combination of a grooved floor, a traveling propeller below the upper surface of the same, the groove of the floor extending beyond the discharge end of the propeller, and a suitably supported truck having an element which projects into the groove and engages the propeller, said element being pivoted and said groove having an end wall so disposed as to turn said element out of said groove when the same is disengaged from the propeller.

22. In a system of the kind described, the combination of a grooved floor, a traveling propeller below the upper surface of the same, a truck having means at its opposite ends for traveling in said groove, the forward one of said means engaging the propeller and being movable, said propeller terminating short of the end of the groove and the latter having an element which acts upon each of said means and guides the same out of the groove and to the plane of the floor.

23. In a system of the kind described, the combination of a grooved floor, a traveling propeller below the upper surface of the same, a truck provided near one end with a depending movable arm and near its other end with a flanged wheel, said arm and the flange of the wheel extending into the groove and the former engaging the propeller, said groove extending beyond the discharge end of the propeller and provided with a means which engages the arm and the flange and guides the same out of the groove.

24. In a system of the kind described, a traveling propeller, a truck having a pivoted element to engage the propeller, means for adjusting the element relatively to its operative position, and a buffer acting upon said element.

25. In a system of the kind described, a traveling propeller, a truck, a propeller-engaging device carried by the truck and pivoted intermediate of its end, a yieldable buffer acting upon one end of said device, and means for adjusting said device, connected with the other end thereof.

26. In a system of the kind described, a traveling propeller, a truck, a propeller-engaging device carried thereby, and means extending from said device to the handle of the truck, for adjusting the same.

27. In a system of the kind described, a traveling propeller, a truck having a handle, a pivoted propeller-engaging device, carried by the truck, and a lever-mechanism extending from said device to the handle of the truck, for adjusting the same.

28. In a system of the kind described, a traveling propeller, a truck having a handle, a pivoted propeller-engaging device depending from the forward end thereof, a crank shaft, connections between the same and said device, and actuating levers for said shaft, extending thence to the rear end of the truck.

29. In a system of the kind described, a traveling propeller, a truck having a handle, a pivoted propeller-engaging device depending from the forward end thereof, a crank shaft, connections between the same and said device, and actuating levers for said shaft, extending thence to the rear end of the truck and terminating in handles arranged contiguous to the handles of the trucks and disposed in position to be actuated by the attendant when he also grips said truck handles.

30. In a system of the kind described, a traveling propeller, a truck having a handle at its rear end, a propeller-engaging device adjustably connected with the forward portion of the truck and depending therefrom, and an adjusting means for said device having its actuating portion at the rear end of the truck.

31. In a system of the kind described, a traveling propeller, a truck having suitable supporting devices, including a wheel having a flange adapted to run in a groove, said wheel being pivoted to follow variations in the lines of the groove and having means for pressing it yieldably against the walls thereof.

32. In a system of the kind described, a way having a groove, a truck having suitable supporting devices, including a wheel having a flange adapted to run in the groove, said wheel having its bearing provided with a vertical pivot, an arm extending from the free end thereof and springs connected to opposite sides of the arms.

33. In a system of the kind described, a way having a groove, a truck having suitable supporting devices, including a wheel having a flange adapted to run in the groove, said wheel having its bearing provided with a vertical pivot, an arm extending from the free end thereof and springs connected to opposite sides of the arms and provided with means for connecting them to the body of the truck, said means adjustable to regulate the tension of the springs.

34. In a system of the kind described, a way having a groove, a traveling propeller in operative relation with the groove, a truck having a supporting wheel at one end, a second supporting wheel at its other end, provided with a flange adapted to run in the groove, and other supporting wheels arranged to engage the way at opposite sides of the groove, said truck also having a means projecting therefrom for engagement with the traveling propeller.

35. In a system of the kind described, a way having a groove, a traveling propeller in operative relation with the groove, a truck having a supporting wheel at one end, a second supporting wheel at its other end, provided with a flange adapted to run in a groove, and other supporting wheels, the last mentioned wheels being arranged to engage the way at opposite sides of the groove and normally free from engagement with said way, said truck also having a means projecting therefrom for engagement with the traveling propeller.

36. In a system of the kind described, a way having a groove, a traveling propeller in operative relation with the groove, a truck having a supporting wheel at one end, a second supporting wheel at its other end, provided with a flange adapted to run in the groove and means for yieldably pressing the flange against the wall of the groove, and other supporting wheels, the last mentioned wheels being arranged to engage the way at opposite sides of the groove and being normally free from engagement with said way, said truck also having a means projecting therefrom for engagement with the traveling propeller.

In testimony whereof I affix my signature in presence of two witnesses.

MORRIS U. BERNHEIM.

Witnesses:

E. PALMER BERNHEIM,

LEO B. ROSE.