A. C. WOLF.

AMUSEMENT APPARATUS.

APPLICATION FILED MAR. 31, 1909.

942,230.

Patented Dec. 7, 1909.

2 SHEETS—SHEET 1.

Fig. 3.

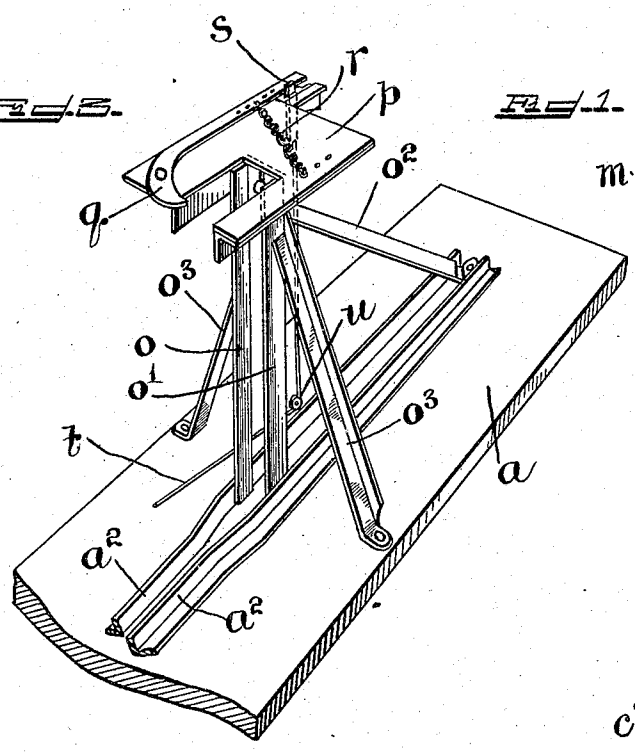


Fig. 1.

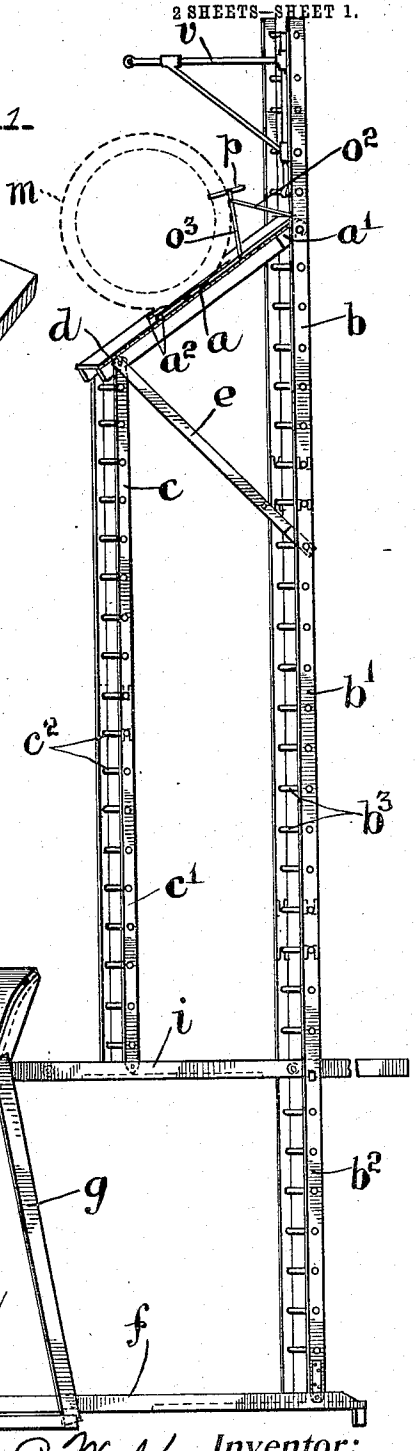
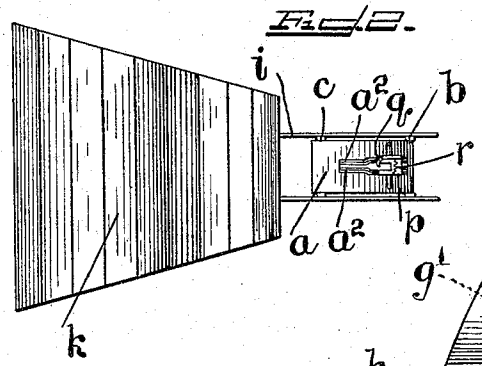


Fig. 2.



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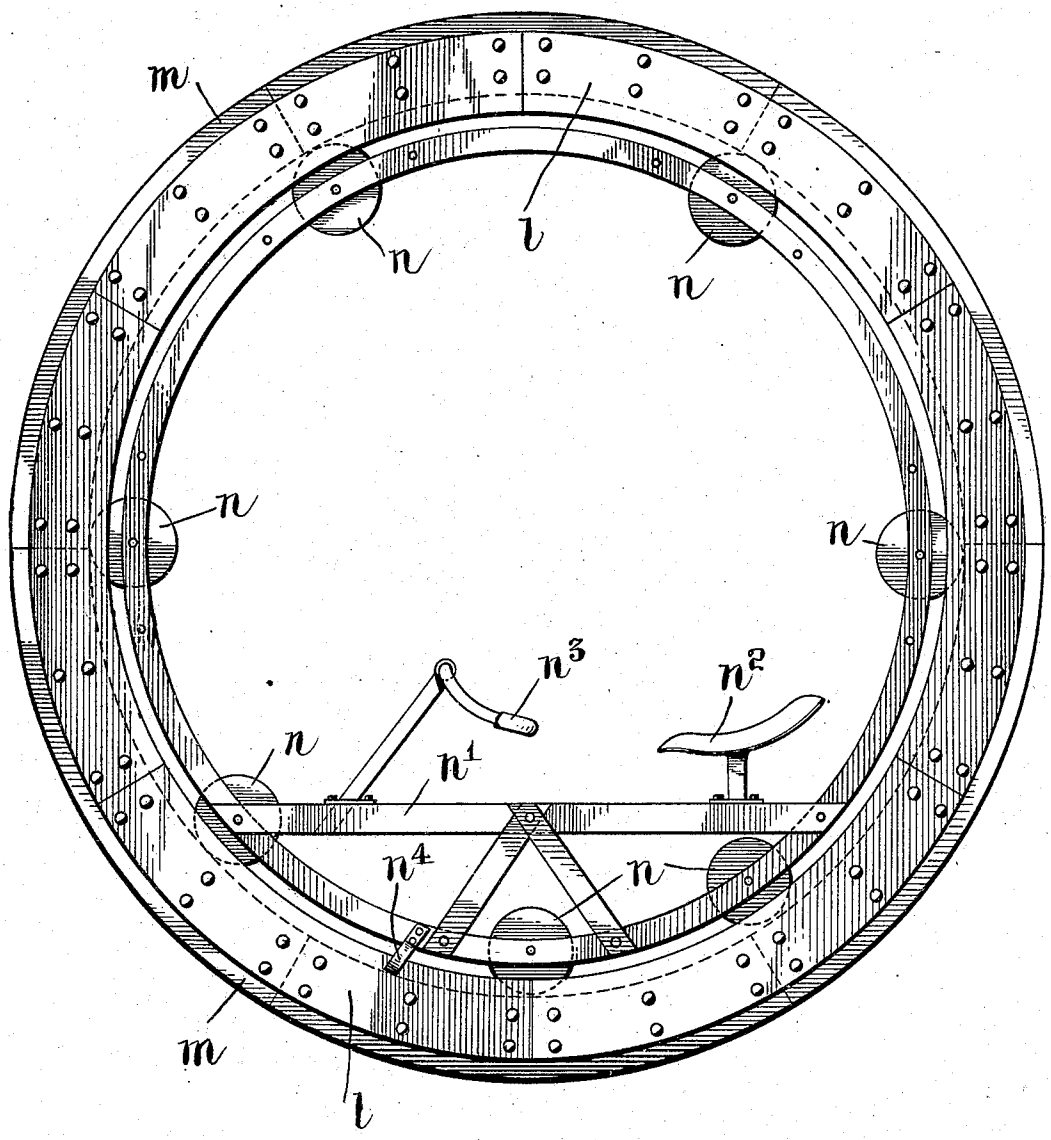
2 SHEETS—SHEET 2.

Fig. 4.



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UNITED STATES PATENT OFFICE.

ARTHUR C. WOLF, OF NEW YORK, N. Y., ASSIGNOR TO ARTHUR T. PRESCOTT, OF EAST ORANGE, NEW JERSEY.

AMUSEMENT APPARATUS.

942,230. Specification of Letters Patent. Patented Dec. 7, 1909.

Application filed March 31, 1909. Serial No. 486,851.

To all whom it may concern:

Be it known that I, ARTHUR C. WOLF, a citizen of the United States, and a resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Amusement Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings, which form a part thereof.

My invention relates to amusement apparatus and more particularly to a class of apparatus used for exhibition purposes.

The main object of the invention is to provide an apparatus wherein the exhibitor may drop from an elevated platform to another on a much lower level while seated in a suitable conveyance, in a manner which will be spectacular; the arrangement of the apparatus being such, however, as to permit the use thereof without actual, although with apparent, danger to the exhibitor.

A further object is to provide an apparatus wherein a conveyance and its occupant will have a sheer drop from a considerable height, and will be received upon a landing platform, the line of projection of which will be such as to minimize the jar of the first impact and at the same time impart a horizontal component of motion to the vehicle in a manner to cause it to traverse a run-off in a substantially straight line without likelihood of the conveyance being overturned with resultant injury to the exhibitor.

A still further object is to provide an apparatus of this character wherein the conveyance may be maintained upon an elevated starting platform, and the maintaining means or lock will be under the control of the exhibitor in order that he or she may control the start of the conveyance, and may fix it at the moment when the act will excite the greatest interest.

A still further object is to provide an apparatus of this character which may be readily taken apart, while permitting it to be quickly erected and taken down, a requirement important to a device when used in circus or other show work.

A still further object is to provide an apparatus, the structure of which is such as to adapt it to use with a conveyance embodying therein a single traction wheel, or any other traction means adapted to impact with the lower of landing platform without materially affecting the equilibrium of the rider, and have the capability of righting itself if slightly deflected and of changing its direction of movement along said platform without likelihood of overbalancing the conveyance or a double impact thereof with the landing platform, by reason of a loss of equilibrium throughout said conveyance. And a still further object is to provide an apparatus which will be simple in construction, and which will be especially designed to withstand the stresses peculiar to its use when giving exhibitions, while eliminating likelihood of injury resulting from the use thereof.

The invention consists primarily in the combination in an amusement apparatus, of an elevated starting platform, and a receiving platform located substantially vertically below the forward end of said starting platform, said receiving platform having a line of projection relative to said starting platform downwardly and forwardly; and in such other novel features of construction and combination of parts as are hereinafter set forth and described and more particularly pointed out in the claims hereto appended.

Referring to the drawings:— Figure 1 is a side view in perspective of an apparatus embodying my invention. Fig. 2 is a plan view thereof, on a smaller scale; Fig. 3 is a perspective view of the starting platform and the parts appurtenant thereto, and Fig. 4 is a side elevation of the preferred form of conveyance.

Like letters refer to like parts throughout the several views.

In the embodiment of my invention shown in the drawings, the starting platform a is shown as being elevated by means of a suitable supporting structure, the said structure as shown consisting of two parallel extension ladders, comprising respectively the sections b, b' and b^2, and c and c', the said ladders containing a series of rungs b^3 c^2, and the various sections of each ladder being united by means of sockets at the ends thereof, adapted to pass over and engage projecting ends of the top rung of the lower ladder, and the lowermost rung of the upper ladder, a structure which is well known in extension ladders. The starting platform a is provided with a fitting a' having a hook

adapted to pass over and engage one of the rungs of the ladder sections b, and the lower ends of the stringers of said platform carry a cross bar d, adapted to enter a socket in the top of the uppermost section c of the other ladder.

To brace the supporting structure, or ladders, as well as the starting platform a, I pivot to the bar d, braces e, the lower ends of which are notched and adapted to pass over a ladder rung b^3 in the section b' of the rear ladder. By pivoting the braces e' to the bar d on the platform a these two parts may be folded together for purposes of loading and transportation, and may be raised together in setting up or assembling the structure. The platform a consists of parallel stringers as shown, having a traction surface consisting of ordinary planks, and having along a portion of its length, tracks a^2 formed of angle irons, which tracks act as a guide in positioning the vehicle preparatory to giving an exhibition with the device.

The entire supporting structure for the starting platform is a base frame f consisting of longitudinal sills and cross sills temporarily united in any desired or approved manner, so as to permit the dismemberment of the frame for packing and transportation. A second base frame f' consisting of longitudinal and cross sills is provided for the landing platform or run-off to secure the desired length of base line and also to permit the supporting structure for the landing platform or run-off to be made wider than the other and to be assembled separately therefrom. Carried by the base frames f f' at the forward end thereof are uprights g h carrying braces and supports for the landing platform or run-off. These braces are secured to the cross sills by means of removable studs or bolts so as to permit their being removed when the structure is not in use. The uprights g have a cross rod g' upon which is hooked one end of the horizontal brace i, toward the other end of which is carried means as a socket whereby the said brace may be attached to a rung of the ladder section b^2. This brace i forms the bottom support for the ladder section c' and also acts as a tie between the supporting structures for the starting and the landing platform, imparting rigidity to the entire structure. It will be observed that the braces i may readily be removed. The ladder section b^2 is secured directly to the longitudinal sills of the base frame, a removable cross rod being used at this point.

The upper end of the upright h is curved toward the support for the starting platform, and secured to and suitably braced from said upright, and projecting forwardly thereof, is a curved stringer j adapted to support the traction surface of the landing platform, or run-off, which consists of a plurality of planks grouped in sections so as to permit the said traction surface to be readily assembled and knocked down with a minimum of labor, a number of planks being permanently united in each section. The landing platform or run-off in its entirety is designated by the letter k. This platform, in its entirety, is positioned forwardly of the starting platform, the curve at the top thereof being merely a curved guard to prevent any impact of the conveyance with a sharp edge, in case the momentum is not sufficient to carry it forwardly of this point or in case a head wind should retard its forward movement. From this top point the landing platform extends in a graduated curve to its foremost point which will discharge upon the ground; or if desired, upon a run-off platform. The curve of the said platform is for the purpose of preventing jars to the rider, due to obstructions at any point of the landing platform in the course of the vehicle. Angles in said landing platform or a continuous curve might result in the overturning of the conveyance or a side deflection from a straight course and thus result in injury to the exhibitor.

While I have described the apparatus, as involving a knock down structure, it is not my intention to limit the invention to a structure of this character, many conditions of use permitting the erection of a special structure intended for temporary use only. The invention contemplates in its broader aspects merely an elevated starting platform positioned below and forwardly of said starting platform whereby a conveyance dropping from said starting platform will be received upon and have its subsequent movement controlled by said landing or run-off platform, the construction of the latter being such as to minimize the impact and prevent the overturning of the conveyance.

A wheel conveyance being that used as the movable part of the apparatus, it is apparent that the nature of this conveyance must be such as to have a low center of gravity, and an arrangement of traction wheels which will cause a point of impact substantially in the line of movement of the conveyance. The weight of the rider should be utilized for giving stability to the conveyance both while it is passing through the air and after it has alighted upon the landing platform or run-off.

I have found the most effective conveyance to be a mono-cycle, such as is illustrated in Fig. 4 of the drawings, consisting of an outer rim l having a wooden tread m, the side plates of said rim forming a double-flanged track for the rollers n carried by the inner rim supporting the frame n' for the seat n^2 and the handles n^3. This inner

rim also carries stirrups n^4 for the feet of the exhibitor. The handles n^3 act merely as a brace for the exhibitor, having no control over the direction of movement of the mono-cycle. I use a wooden tread m in order to deaden the impact, a spring tread being undesirable as causing the conveyance to rebound from the landing platform or run-off, which would not only destroy the effectiveness of the exhibition, but might result in injury to the exhibitor. In order to place the conveyance while on the starting platform, entirely within the control of the rider, I provide a wheel rack adapted to be released from the conveyance itself. This wheel rack consists of parallel uprights o o' having suitable longitudinal and lateral braces o^2 o^3, said uprights carrying a forked head plate p. Pivotally mounted on said head plate is a locking hook, or latch member q the head of which is adapted to partially close the forked end of the head plate and engage the rim of the conveyance wheel. The shank of the hook q is acted on by an expansion spring r adapted to normally release the hook or latch q, the action of said spring being overcome by a spring bolt s normally projected into the path of movement of the shank of said hook or latch. A lanyard t extends from said bolt about a pulley u carried on the starting platform, the end of said lanyard being conveniently accessible to the exhibitor. Carried above the starting platform a is a revolving derrick v, adapted to support tackle for raising the conveyance to the said platform.

The operation of the heretofore described apparatus is substantially as follows: The manner of erecting and taking down the starting platform a and the run-off platform k, is apparent from the foregoing description and will not now be entered into. The structure having been erected, the derrick v is used to raise the conveyance to the starting platform, the rear ladder providing means whereby the exhibitor may have access to said platform, although if desired, the lifting tackle may be used to raise him to said platform. The forward and downward pitch of the starting platform a is such as to make it impossible for the conveyance to remain thereon alone, and to avoid the presence of assistants upon this platform, the holding rack heretofore described is used. The rim of the conveyance is inserted in the jaws of the top plate p, the locking hook or latch member q being forced over to engage the inner periphery of said rim and thus lock the conveyance fixedly on the starting platform a. This movement of the hook or latch q is against the tension of the spring r which, as the hook is forced into operative position, will spring up in the path of its shank, and thus lock the said hook against a return movement. The exhibitor will then take his seat upon the seat n^2, grasping the handles n^3, and placing his feet in the stirrups n^4. When he has assumed the proper position, by pulling the lanyard t, he will withdraw the bolt s thus permitting the spring r to withdraw the hook or latch member q from its engagement with the rim of the conveyance wheel, opening the jaws of the plate p and permitting gravity to impart movement to said wheel. As in the ordinary mono-cycle, as the conveyance moves down the starting platform a, the outer rim l and its tread m will rotate, the frame n' remains stationary relative to the said rim l. The starting platform being comparatively short, but little momentum will be acquired before the conveyance leaves said platform, thus giving a very small component of horizontal movement to the conveyance in its drop from the starting platform to the landing platform. This slight movement, however, is compensated for by the positioning of the landing platform slightly in advance of the discharge end of the starting platform, and the easement curve of the said landing platform. As the mono-cycle and its occupant land upon the said landing platform, it will ordinarily be at a point considerably below the top thereof, although, if for any reason the extent of forward movement of the conveyance while in the air should be less than contemplated, the reversely curved top of the landing platform k will receive the impact and thus avoid a dead impact, which might result in the demolition of the conveyance and serious injury to the exhibitor.

The wooden tread m will not only prevent a rebound of the conveyance after its first impact with the landing platform k, but will minimize the friction so as to give the conveyance opportunity to right itself after said impact and before it begins to traverse by a rolling movement the said landing platform. The first impact will be on a surface of the landing platform having a long radius, and a very slight forward projection, thus causing the forward traverse of the conveyance to be initiated at a comparatively slow rate of speed with subsequent rapid acceleration. This construction will also avoid any obstructions to the travel of the mono-cycle, however slight, which might be caused by the presence of an angle at this point, or the impact of said mono-cycle on a curve of short radius.

I have found in actual use that when a mono-cycle is used, the first impact is at a point of the rim l substantially directly below the seat for the exhibitor thus causing the point of impact to be substantially alined with the center of gravity of the said mono-cycle. I have also found that irrespective of any slight lateral deflection of the mono-

cycle and its occupant, the impact thereof with the landing platform and its subsequent movement thereover, will not only right the mono-cycle, but will cause it to traverse a line substantially alined with the ordinary position of the conveyance on the supporting platform. There is no tendency for the conveyance to spin, or to topple over, which results in an exhibition which is both remarkable and startling. This condition also precludes any necessity for steering apparatus and the mono-cycle is never under the control of its occupant until it has passed from the landing platform, to the ground or other run-off, at which time, by shifting his weight, the occupant would have some control over his conveyance.

The landing platform being wider at the bottom than at the top as shown in Fig. 1, and being at the top much wider than the starting platform, allows for sufficient side movement of the mono-cycle to prevent its dropping upon the ground in case side winds or a slight overbalancing of the apparatus should cause it to depart from a perfectly straight line; and the outward flare toward the bottom of said landing platform will compensate for any slight variance in the line of travel of the mono-cycle while on this platform. This precaution is taken in order to insure the landing of the mono-cycle upon the platform *k* and its continued movement along same. The curve of the landing platform will occasionally fail to cause the mono-cycle to start with sufficient rapidity and particularly so when the altitude from which the mono-cycle drops is great, to prevent the inner rim and the occupant from describing one or more complete circles within the outer rim, but this is not attended with material danger and enhances the value of the apparatus as an exhibition device.

The mono-cycle has peculiar advantages in a device of this character as permitting a low center of gravity and possessing the characteristic of readily righting itself and having a single impact point. It is not my intention, however, to limit the invention to the particular construction of the conveyance as other conveyances having the desired characteristics may be designed which would be the full equivalent of that described.

While a knock down structure has its advantages in any apparatus designed for circus, theatrical or other show work, it is not my intention to limit the invention to such a structure, the invention being applicable to permanent structures erected for temporary use.

It is not my intention to limit the invention in its broader aspects to the locking device for retaining the conveyance upon the starting platform, it being apparent that such may be dispensed with if desired. I prefer, however, to use this mechanism and consider it of considerable importance in making an exhibition.

Having described the invention, what I claim as new and desire to have protected by Letters Patent, is:—

1. In an amusement apparatus, the combination of an elevated starting platform, and a landing platform located on a lower level and on substantially the same vertical plane as the discharge end of said starting platform whereby a vehicle will drop substantially vertically from said starting platform to said landing platform.

2. In an amusement apparatus, a forwardly and downwardly inclined elevated starting platform and a landing platform located on a lower level and on substantially the same vertical plane as the discharge end of said starting platform whereby a vehicle will drop subtantially vertically from said starting platform to said landing platform.

3. In an amusement apparatus, the combination with an elevated starting platform, of a landing platform located on a lower level and on substantially the same vertical plane as the discharge end of said starting platform whereby a vehicle will drop substantially vertically from said starting platform to said landing platform, the traction surface of said landing platform being curved downwardly and forwardly whereby the impact of a conveyance therewith will be reduced.

4. In an amusement apparatus an elevated starting platform and a landing platform having a downwardly and forwardly curved traction surface, the downward curved portion being on substantially the same vertical plane as the discharge end of said starting platform whereby a vehicle will drop from said starting platform substantially vertically to said landing platform, and a reverse curve at the top of said landing platform upwardly and toward said starting platform.

5. In an amusement apparatus, an elevated starting platform and a landing platform located on a lower level than, and on substantially the same vertical plane as said starting platform whereby a vehicle will drop substantially vertically from said starting platform to said landing platform, said landing platform having a continuous traction surface formed in an easement curve, extending downwardly and forwardly relative to said starting platform.

6. In an amusement apparatus the combination of a downwardly and forwardly inclined elevated starting platform and a landing platform located on a lower level than, and on substantially the same vertical plane as said starting platform whereby a vehicle will drop substantially vertically from said starting platform to said landing platform, said landing platform having a continuous

traction surface formed in an easement curve, extending downwardly and forwardly relative to said starting platform.

7. In an amusement apparatus, a forwardly and downwardly inclined starting platform, a wheel rack mounted thereon, a movable locking member carried by said rack whereby the rim of a vehicle may be locked in said rack and maintain said vehicle in said rack, means extending from said locking means adjacent to the conveyance whereby said conveyance may be released while the occupant is therein, and a landing platform located on a lower level than, and substantially beneath said starting platform.

8. In an amusement apparatus an elevated starting platform, a landing platform located on a lower level and substantially below said starting platform, and a conveyance having, when occupied, a low center of gravity whereby when said conveyance drops from said starting platform and lands upon said landing platform it will automatically right itself and traverse said landing platform.

9. In an amusement apparatus an elevated starting platform, a landing platform located on a lower level and substantially below said starting platform, and a conveyance having, when occupied, a low center of gravity whereby when said conveyance drops from said starting platform and lands upon said landing platform it will automatically right itself and traverse said landing platform, said conveyance having an impact surface of slight resiliency, whereby a rebound thereof from said platform, is prevented, and the friction between said impact surface and said landing platform is minimized.

10. In an amusement apparatus, an elevated starting platform, a landing platform located on a lower level and substantially below said starting platform and a conveyance having a continuous impact and traction rim, and a seat for the occupant supported within and rotatable independently of said rim.

In witness whereof I have hereunto affixed my signature this 27th day of March, 1909, in the presence of two witnesses.

ARTHUR C. WOLF.

Witnesses:
P. V. WENING,
P. FRANK SONNEK.