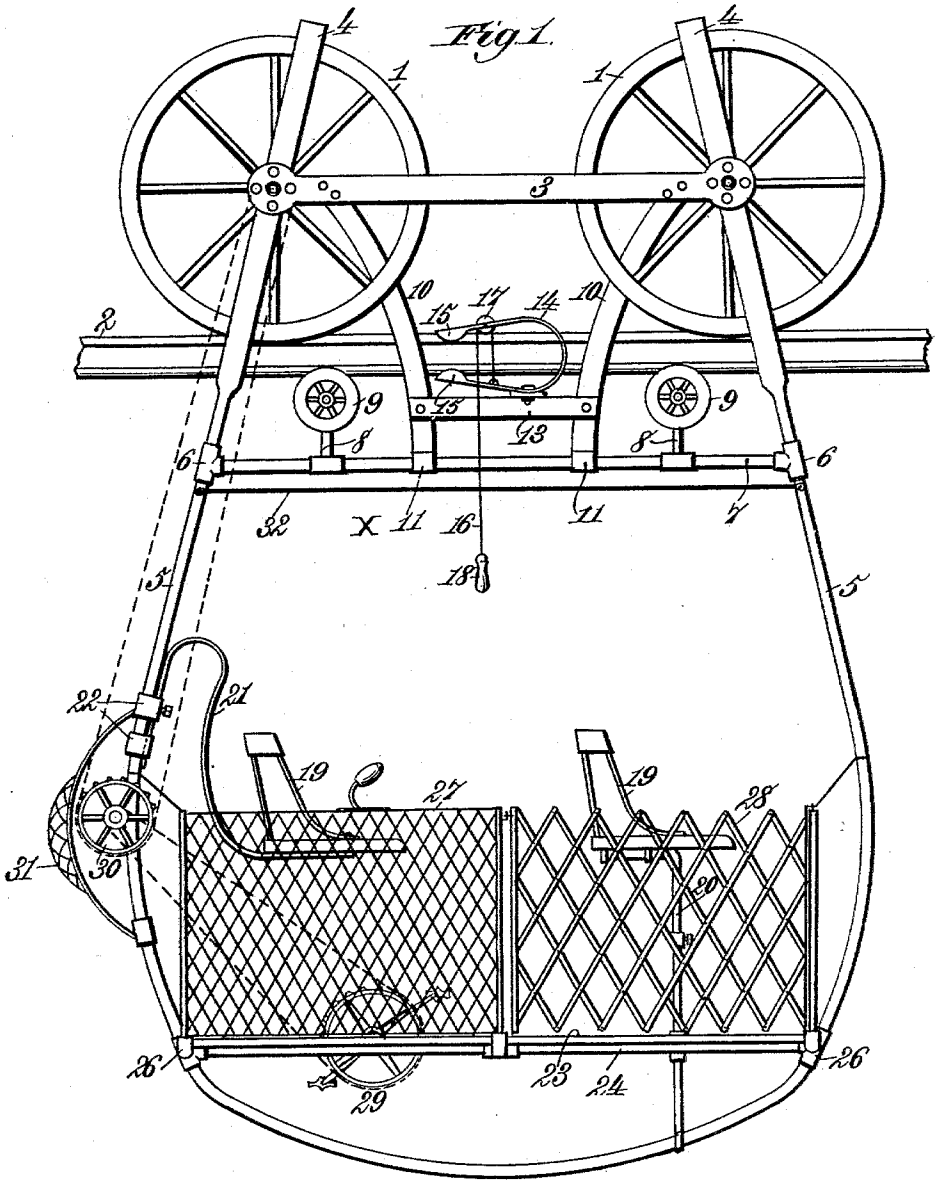
(No Model.) 2 Sheets—Sheet 1.

W. H. MARTIN.

ELEVATED CYCLE RAILWAY.

No. 596,895. Patented Jan. 4, 1898.

Fig. 1.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

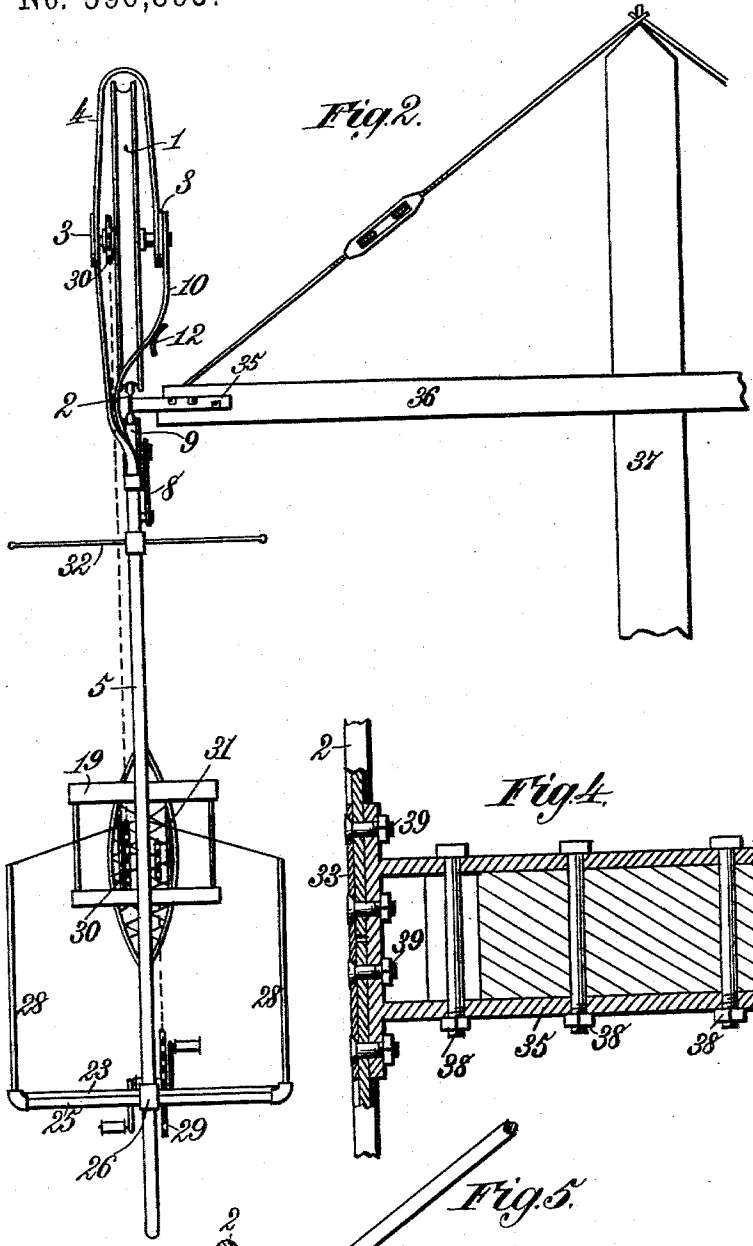


Fig. 3.

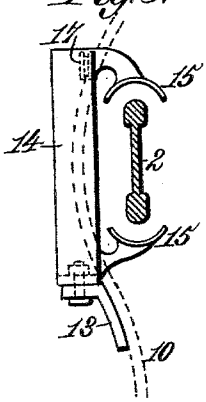


Fig. 4.

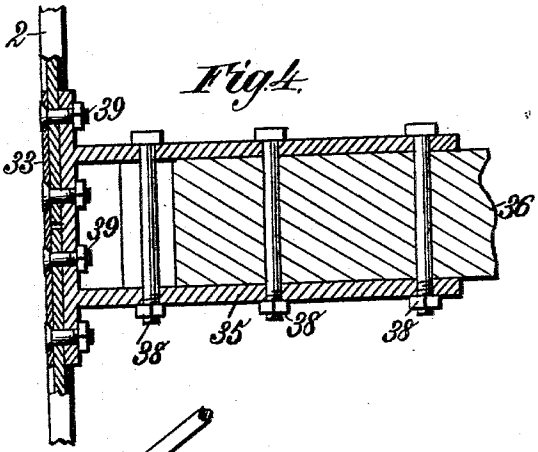


Fig. 6.

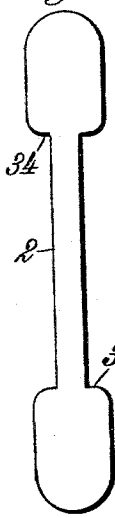
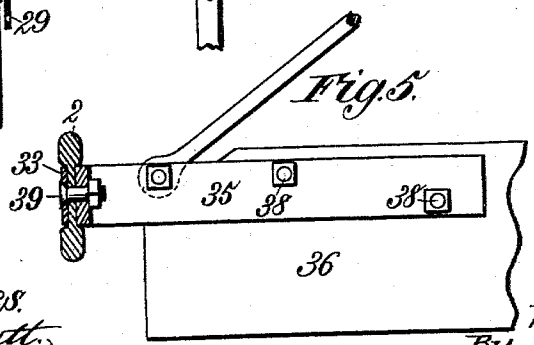


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM H. MARTIN, OF MOBILE, ALABAMA.

ELEVATED CYCLE-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 596,895, dated January 4, 1898.

Application filed June 29, 1897. Serial No. 642,826. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. MARTIN, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented new and useful Improvements in Elevated Cycle-Railways, of which the following is a specification.

This invention relates to elevated cycle-railways, and has for one of its objects to strengthen the frame or truck of the cycle or carriage and equalize the distribution of weight, and also to provide a simple safety device for preventing fall of the velocipede from the elevated track.

It is another object of my invention to provide an improved brake appliance adapted to be forced against the elevated track-rail both at top and bottom to immediately and safely check the motion of the vehicle or truck.

Another purpose of my invention is to provide a safety-guard for the seat or seats carried by the suspended cycle-frame.

The invention consists in features of construction and novel combinations of devices in elevated cycle or car railways, as hereinafter described and claimed.

In the annexed drawings, illustrating my invention, Figure 1 is a side elevation of a track or rail and a cycle or carriage supported upon or suspended from the elevated track. Fig. 2 is an end elevation of my improved elevated-track cycle or carriage. Fig. 3 is an end elevation of a track-brake with which the cycle may be provided, the track or rail being shown in cross-section. Fig. 4 is a sectional plan of a portion of elevated track and one of its bracket-supports. Fig. 5 is an elevation of one of the track-supports with the rail in cross-section. Fig. 6 is an enlarged end elevation of the double-headed track-rail.

Referring to Figs. 1 and 2, the numeral 1 designates the traction-wheels of the elevated carriage or velocipede or truck. As shown in Fig. 2, the wheel-rims are circumferentially grooved to take onto the upper head or flange of the elevated track-rail 2, which is preferably of double-headed construction, as hereinafter described.

The frame of the cycle or truck comprises two parallel longitudinally-arranged bars 3, that connect the wheel-axles. It also comprises the yokes 4, one of which is mounted on each wheel-axle in position to straddle the wheel, as shown. One end of each yoke 4 is extended below the axle and beneath the track-rail and is preferably given a partly spiral twist at its lower extremity where it connects with a socket on a forwardly and rearwardly extended yoke-frame 5, that may support the propelling mechanism and accommodations for the cycle-operator and one or more passengers, if desired.

The cycle may be propelled by any suitable or convenient motor or power applied through any appropriate gearing.

To the upper part of the suspended yoke-frame 5 is connected, by sockets or couplings 6, a longitudinally-extended brace-rod 7, that occupies a position below and parallel with the track-rail. This brace-rod 7 supports brackets 8, to which are journaled guide-wheels 9, arranged to run along the lower surface of the double-headed track-rail 2, in such manner as to assist in holding the cycle on its elevated track.

For the purpose of strengthening the cycle-frame and equalizing the weight on the two ends of the traction-wheel axles there are provided two equalizing straps or braces 10, constructed from steel and arranged as shown in Figs. 1 and 2. At their upper ends these equalizing straps or braces 10 are riveted or otherwise secured to one of the upper longitudinal bars 3 on the side of the cycle opposite the depending arms of the yokes 4 to better equalize the weight on the two ends of the wheel-axles. The depending portions of the steel equalizing straps or braces 10 are curved laterally across the track-rail 2 at a point between the wheels 1, and at their lower ends they are secured by clips 11 or otherwise to the brace-rod 7 beneath the track. It will be obvious that by reason of the construction and arrangement of the equalizing straps or braces 10 the weight of the cycle will be more equally distributed throughout the cycle-frame, with the result of imparting a greater steadiness of movement to the velocipede in carrying heavy weights, besides greatly lessening any liability to derailment.

On one side of each equalizing strap or brace

10 is secured a safety device consisting of an outwardly-curved piece of metal forming a lug or stop 12, Fig. 2, that is so arranged as to catch onto the upper side of the track-rail and arrest the fall of the cycle in event of derailment.

At a point below the track-rail 2 there is carried on the straps 10 or brace-rod 7 a support 13, to which is secured the lower arm of a yoke-shaped brake appliance 14, which is constructed from spring metal. This spring-yoke 14 carries on the end of each arm a brake-shoe 15, one of which is adapted to clasp the top of the track-rail, while the other clasps onto the bottom of said rail. A cord 16 is secured to the lower brake-arm and then passed upward over a small pulley 17 on the upper arm, from which its free end depends. The normally-separated arms of the spring-yoke 14 hold the brake-shoes 15 away from the track; but by grasping the cord-handle 18 and drawing down the cord the spring-yoke 14 will be compressed and the shoes 15 thereby forced into clasping engagement with the track, so as to immediately check or arrest the movement of the cycle.

The suspended yoke-frame 5 of the cycle or velocipede may support one or more seats 19, arranged in any suitable or convenient manner. Where two seats are provided, the forward one may be supported by a vertically-adjustable standard 20 from the forward lower portion of the suspended cycle-frame. The rear seat may be carried by a bracket 21, adjustably connected to a rear upright portion of the yoke-frame 5 by means of clips 22, Fig. 1.

A platform 23 may be supported on a suitable frame composed of a longitudinal bar 24 and cross-bars 25, connected by socket-clips 26 with the suspended yoke-frame. This platform-frame supports a latticed safety-guard 27, provided with a folding gate 28 and surrounding the seats for the passengers and cycle-operator.

The velocipede or cycle may be propelled by means of a pedal-gear 29, connecting by suitable sprocket-gearing 30 with the axle of one of the traction-wheels, as shown, or in lieu of this arrangement any suitable motor may be employed.

Either or both ends of the suspended cycle-frame may be provided with a cushion or buffer 31 to absorb the shock of impact in case of a collision.

If desired, an awning 32 may be supported above the seats 19 in any convenient manner.

The elevated track may be single or double or it may be made endless, according to the purposes or situation of the elevated railway, whether for traffic or amusement.

As before observed, the track-rails 2 are of the double-headed type or flanged both at their top and bottom edges. This construction of rail provides better bearing-surfaces for the traction-wheels 1 and guide-wheels 9 and for the upper and lower brake-shoes. It also affords facilities for the employment of fish bars or plates 33 in smoothly uniting the rail-joints and securing the track to its elevated supports. By reference to Fig. 6 it will be seen that the web and flanges of the rails 2 form with each other the right-angled shoulders 34, that firmly brace the fish-bars 33, which are of the same width as the rail-webs and consequently fit closely between the rail flanges or heads. The joints of the track are preferably made at the points where the rails 2 are connected with the metal brackets 35, Figs. 4 and 5, which are secured to the ends of cross-arms 36, projecting from uprights 37, that are securely planted at suitable intervals. The brackets 35 are secured to the cross-arms 36 by bolts and nuts 38 or otherwise, and other bolts and nuts 39 are employed to secure together the rails and fish-bars and to fasten them to the flanged end of the brackets. This track construction is simple, durable, and comparatively inexpensive and readily obviates all loose or rough joints that might obstruct a smooth running of the cycle or truck.

It will be observed that by means of the yokes 4 and equalizing-braces 10 the cycle is suspended from one side of the track, so that the track-supports will not be in the way of a free running of the machine or truck, which latter will carry suspended cars for passengers or freight traffic.

What I claim as my invention is—

1. In an elevated-track cycle, the combination with the cycle-frame, of the equalizing straps or braces extended from an upper portion of the cycle-frame, above the track, to a portion of said frame below the track and adapted to equalize the weight on both ends of the cycle-axles, enabling the truck to support heavy weights, substantially as described.

2. In an elevated-track cycle, the combination with the cycle frame or truck comprising upper and lower horizontal bars or rods, of the equalizing straps or braces extended from the upper bar on one side of the cycle downward and outward above the track and then to the lower bar or rod of said frame, beneath the track, and adapted to equalize the weight on both ends of the cycle-axles, and safety devices carried by said equalizing-braces to engage the track in event of derailment, substantially as described.

3. In an elevated-track cycle or truck, the combination with the traction-wheels and their axles, and the longitudinal bars connecting said axles, of the yokes mounted on said axles to straddle the wheels and each having an arm extended down on one side of and below the track, a yoke-frame suspended from the lower ends of said arms, a longitudinally-extended brace-rod connecting the front and rear upper portions of said suspended yoke-frame, guide-rollers supported by said brace-rod and engaged with the under side of the track, and equalizing straps or braces connecting said brace-rod with the

upper portion of the cycle-frame and adapted to equalize the weight on the ends of the cycle-axles, substantially as described.

4. In an elevated-track cycle or truck, the combination with the cycle-frame supported on the axle of the traction-wheels and suspended on one side of the track, of the equalizing braces or straps extended from an upper portion of said frame to a lower portion and adapted to equalize the weight on the ends of the axles, and safety-stops secured to and projecting from said braces to engage the track and arrest the fall of the cycle in event of derailment, substantially as described.

5. In an elevated-track cycle or truck, the combination with the cycle-frame and a track-rail flanged at top and bottom, of a spring-yoke supported by the cycle-frame and carrying a brake-shoe on one end of each arm, one of said brake-shoes being adapted to clasp the top of the track-rail and the other adapted to clasp the bottom of said rail, and a cord and pulley for actuating the yoke-arms to apply the brakes, substantially as described.

6. In an elevated-track cycle or truck, the combination of the traction-wheels, the cycle-frame suspended from the wheel-axles and provided with upper and lower longitudinal bars, the braces connecting said bars and adapted to equalize the weight on the ends of the axles, and the spring-yoke-shaped brake appliance carried by the cycle-frame and provided with operating mechanism whereby it is adapted to clasp the track-rail at top and bottom, substantially as described.

7. In an elevated-track cycle or truck the combination with the suspended yoke-shaped cycle-frame 5, the longitudinal bar 24 at the lower part of said frame, the cross-bars 25, and the platform 23 supported on said bars, of the latticed safety-guard 27 supported from said platform, and an awning 32 supported by the upper portion of the yoke-shaped cycle-frame, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. MARTIN.

Witnesses:
WM. P. BURGETT,
HENRY BARNEWALL.