

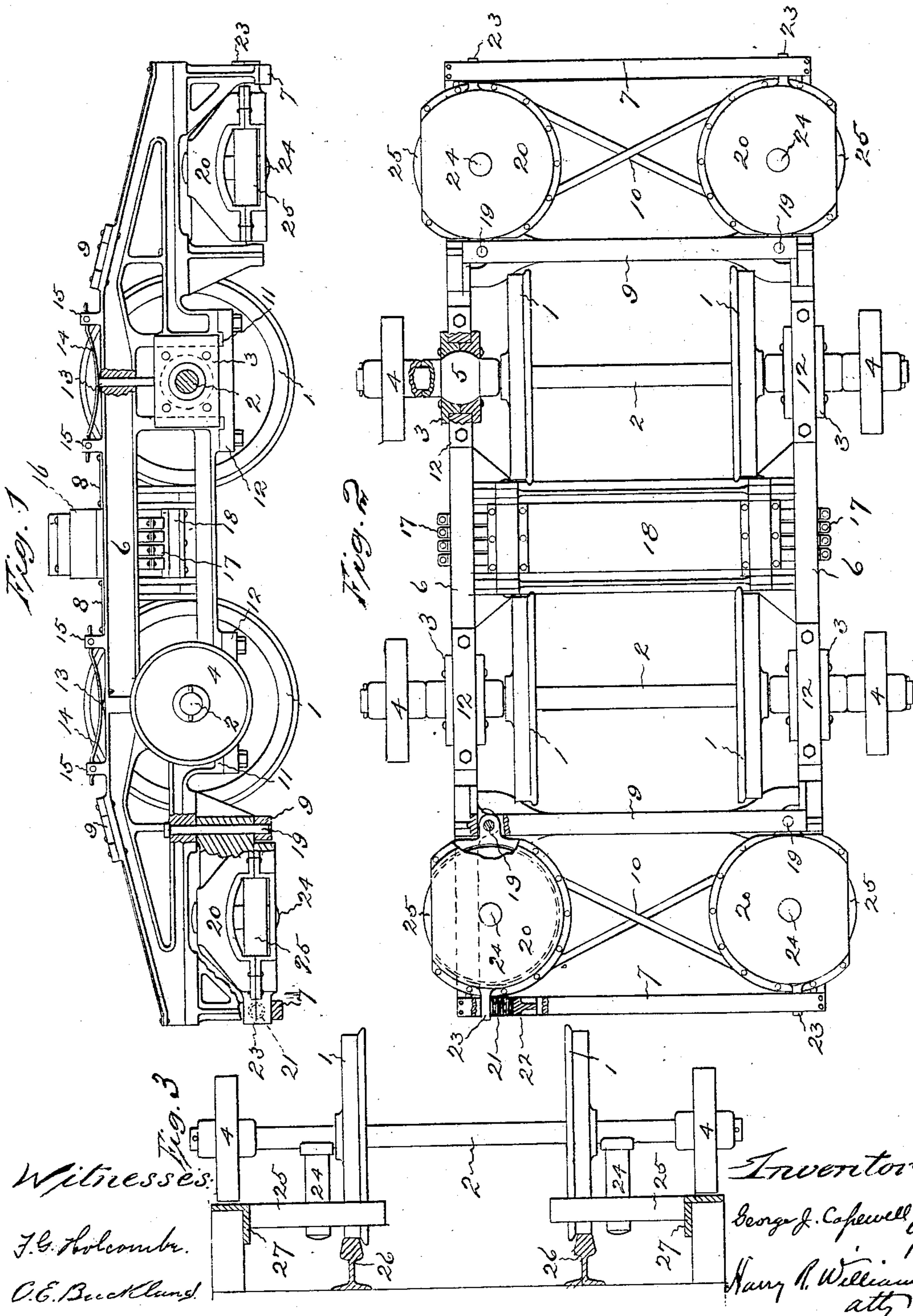
No. 677,016.

Patented June 25, 1901.

G. J. CAPEWELL.
RAILWAY CAR TRUCK.

(Application filed Feb. 20, 1900. Renewed Nov. 16, 1900.)

(No Model.)



UNITED STATES PATENT OFFICE.

GEORGE J. CAPEWELL, OF HARTFORD, CONNECTICUT.

RAILWAY-CAR TRUCK.

SPECIFICATION forming part of Letters Patent No. 677,016, dated June 25, 1901.

Application filed February 20, 1900. Renewed November 16, 1900. Serial No. 36,777. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. CAPEWELL, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Railway-Car Trucks, of which the following is a specification.

This invention relates to a truck which is designed to travel at ordinary speeds upon the rails of the common track laid in the usual manner and also to travel upon the rails of a common track provided with additional rails arranged in such manner that high speed may be attained without danger of accident.

The object of the invention is to provide a truck of this nature with the traction-wheels so arranged that they will run upon the common track and depend upon the customary flanges for keeping the rails and that has means which may be used in connection with special rails to eliminate the flange-friction of the traction-wheels and positively hold the traction-wheels upon the traction-rails.

The embodiment of the invention illustrated by the accompanying drawings has traction-wheels of standard size and gage with the usual flanges for keeping the wheels upon the rails of the common track, also vertically-arranged wheels which may make contact with the upper surfaces of the guiding-rails for preventing the truck from tipping over when taking curves at very high speed, and a truck-frame that is supported by the axles of the traction-wheels and provided with horizontally-arranged guiding-wheels which are adapted to bear outwardly against guiding-rails for guiding the truck and preventing the engagement of the flanges of the traction-wheels with the sides of the traction-rails.

Figure 1 of the drawings illustrates a side elevation of a truck that embodies the invention with parts broken away to show details of construction. Fig. 2 is a view looking at the bottom of the truck, and Fig. 3 is a view showing the relative arrangement of the traction, guiding, and retaining wheels and the regular and special track-rails.

The traction-wheels 1 are fixed in pairs to the axles 2, as usual, the standard distances apart. Boxes 3 are placed upon the axles

outside of the traction-wheels, and loosely held on the axles outside of the boxes are vertically-arranged retaining-wheels 4. The traction-wheels have flanges of common shape, so that the wheels may be run upon the rails of the track in use at the present time, while the retaining-wheels, which are smaller in diameter than the traction-wheels, are without flanges. Each axle-box preferably consists of a pair of plates put together with a spherical cavity in which is located a spherical journal-bearing 5, as shown in Fig. 2.

The truck-frame illustrated is built of two truss-shaped cast-steel sides 6, that are held together at each end by bars 7 at the top and bottom, at the middle by plates 8 on top, and each side of the middle at top and bottom by bars 9. The side parts of the frame are also tied together by cross-braces 10. Each side of the frame has a pair of yokes 11, which receive the axle-boxes 3, as shown in Fig. 1. The box-plates are arranged to embrace the inside and outside of each of the yoke-arms, so that the box has a vertical movement in the yoke. After the frame has been let down upon the boxes a plate 12 is secured across the lower end of each yoke.

Passing through a vertical opening in the side of the frame above each box is a post 13, the lower end of which bears upon the top of the box, while the upper end bears against the under side of a suitable spring 14, held by ears 15, formed on the upper edge of the frame. The weight of the truck-frame is transmitted through these springs and posts to the axle-boxes, and any jumping or bumping of the traction-wheels or any movement of the truck-frame relative to the traction-wheels is cushioned by these springs, the boxes moving up and down the yokes or the yokes moving down and up on the boxes, as permitted by the yielding of these springs.

The car-body rests in any suitable manner upon a transverse girder 16, which is mounted upon springs 17, that are supported by a girder 18, fastened to the frame of the truck.

Hinged near both ends of each side of the frame by a vertical pivot 19 is a circular housing 20. The free end of each of these housings is thrust horizontally outwardly by a spring 21, placed between a part 22 of the cross-bar 7 and an ear 23 of the housing. Each

housing has a portion of its outer edge cut away. On an axle 24, vertically held by each housing, is a horizontal guiding-wheel 25. The peripheries of the guiding-wheels on the outside extend beyond the housings; otherwise the housings entirely inclose these wheels.

When the truck is used upon the present track, the flanges of the traction-wheels are depended upon to keep the wheels upon the traction-rails 26. Along sections upon which it is desirable and feasible to run at very high speeds guiding-rails 27 may be placed a little above and outside of, but parallel with, the common rails. These guiding-rails are supported in any suitable manner such a distance apart that the horizontally-arranged guiding-wheels will run against their inside vertical faces, and so hold the truck that the flanges of the traction-wheels will not make contact with the side faces of the traction-rails. In rounding a curve or should there be any unevenness in the guiding-rails the springs which thrust the housings outwardly yield and allow the guiding-wheels to move inwardly; but they instantly return the housings, so that the guiding-wheels control the position of the frame, and consequently the traction-wheels. Where it is necessary to make a curve, the guiding-rails may be so arranged that the retaining-wheels, which are loosely placed on the ends of the axles of the traction-wheels, may run upon their upper surfaces, and thus widen the supporting-base and relieve the tendency of the truck to tip over under centrifugal action.

The guiding-wheels at each end in the pivoted housings guide the truck along the track in such manner that there is no danger of its running off and at the same time relieve the flange-friction of the traction-wheels, while the retaining-wheels may be brought into play to relieve the forces which tend to retard movement along a curve.

This truck is particularly adapted for supporting electric motors (although the motors are not shown) on account of its strength and such arrangement of the parts as allows the motors to be conveniently suspended.

I claim as my invention—

1. A car-truck having pairs of flanged traction-wheels of common gage, boxes mounted on the axles of the traction-wheels, a frame supported by the boxes, and an outwardly-facing horizontally-arranged guiding-wheel yieldingly supported on each side near each end of the frame, substantially as specified.

2. A car-truck having pairs of flanged traction-wheels of common gage, boxes mounted on the axles of the traction-wheels, retaining-wheels loosely mounted on the traction-wheel axles, a frame supported by the boxes, and an outwardly-facing horizontally-arranged guiding-wheel supported on each side near each end of the frame, substantially as specified.

3. A car-truck having pairs of flanged traction-wheels of common gage, boxes mounted on the axles of the traction-wheels, a frame supported by the boxes, a housing pivotally connected with the frame on each side near each end, a spring for thrusting each housing outwardly, and a horizontally-arranged outwardly-facing guiding-wheel held by each housing, substantially as specified.

4. A car-truck having pairs of flanged traction-wheels of common gage, spherical journals for the traction-wheel axles, boxes fitting the journals, a frame fitting the boxes, springs inserted between the boxes and the frame, and a horizontally-arranged outwardly-facing guiding-wheel supported on each side near each end of the frame, substantially as specified.

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Witnesses:

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