

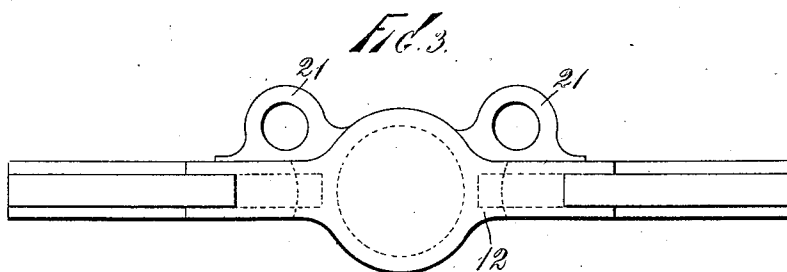
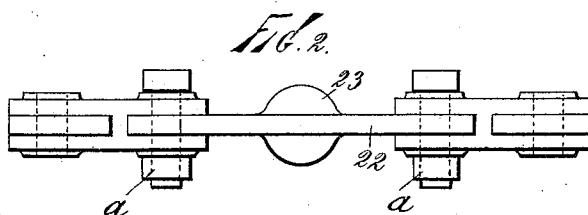
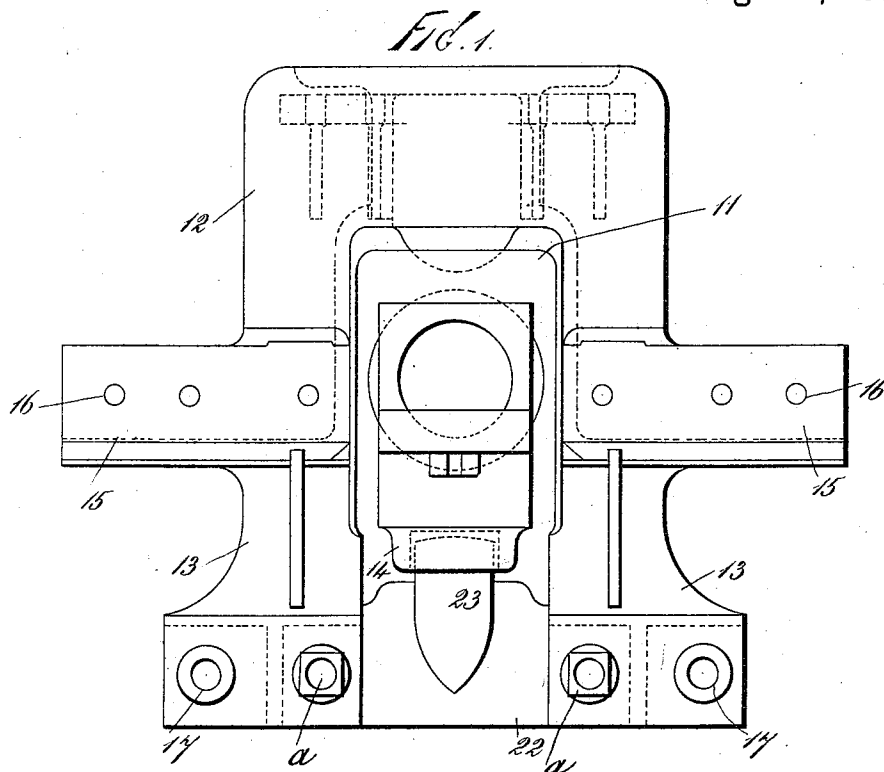
(No Model.)

2 Sheets—Sheet 1.

E. PECKHAM.
CAR TRUCK GEAR.

No. 481,704.

Patented Aug. 30, 1892.



WITNESSES:

John Buckler
A. E. Butler

Edgar Peckham

INVENTOR

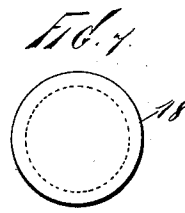
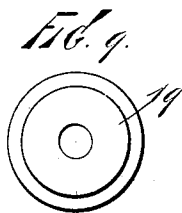
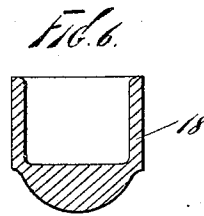
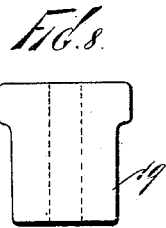
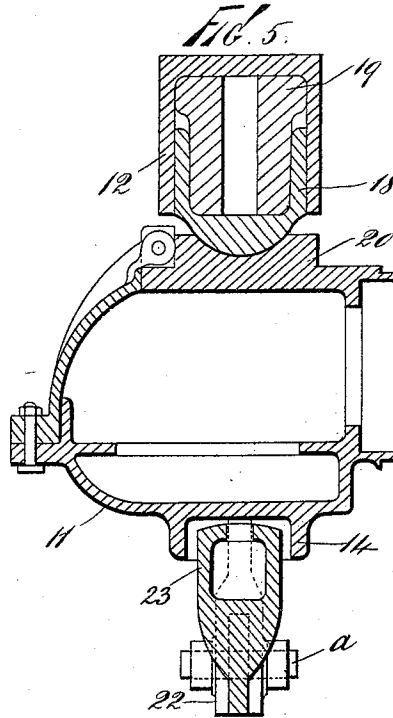
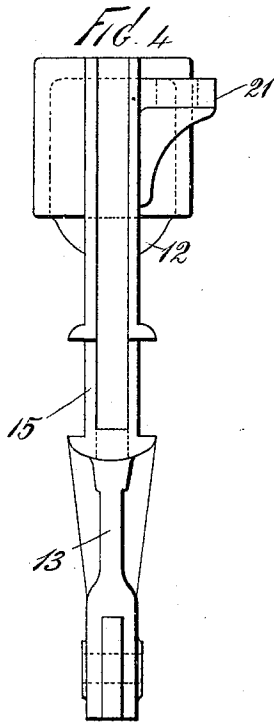
(No Model.)

2 Sheets—Sheet 2.

E. PECKHAM.
CAR TRUCK GEAR.

No. 481,704.

Patented Aug. 30, 1892.



WITNESSES:

Wm. Buckler,
A. E. Butts

Edgar Peckham INVENTOR

UNITED STATES PATENT OFFICE.

EDGAR PECKHAM, OF NEW YORK, N. Y.

CAR-TRUCK GEAR.

SPECIFICATION forming part of Letters Patent No. 481,704, dated August 30, 1892.

Application filed August 18, 1891. Serial No. 403,000. (No model.)

To all whom it may concern:

Be it known that I, EDGAR PECKHAM, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Car-Truck Gears, of which the following is a specification.

My invention relates to improvements in railroad truck-gears, and particularly to means for transferring the weight of the truck-frame to the axles and the axle-boxes.

The object of my invention is to provide an effective connecting device between the axle-box and parts or members of the main truck-frame and in such manner that said device may be readily detached from the truck-frame, and to so adjust said connecting device with reference to the axle-box as to secure at all times proper contact between them, while practically neutralizing the sudden shocks and irregular movements of the axle and axle-box which are caused by roughness of the track and sharp curves of the way.

In the accompanying drawings, forming part of this specification, Figure 1 shows a front view of the connecting device above referred to, and hereinafter termed the "yoke," combined with an axle-box, the lid of said box and the axle to which the box is adjusted being omitted. Fig. 2 shows a bottom view of said connecting device with the detachable lower part of said yoke, which I term the "repairing-piece," in position. Fig. 3 is a top view of the yoke; Fig. 4, a side view of the same; Fig. 5, a vertical cross-section through Fig. 1; and Figs. 6, 7, 8, and 9, details of a ball-joint and rubber cushion for the same, interposed between the axle-box and yoke, Fig. 6 being a vertical section, and Fig. 7 a ground plan, of the bearing-piece forming part of said joint, and Fig. 8 a side view, and Fig. 9 a ground plan, of the rubber cushion referred to, which may be of any other form than that shown, or it may consist of a suitably-constructed spring.

Corresponding figures and letters throughout the different views refer to corresponding parts.

11 is an axle-box constructed in the usual form, except as indicated below, and 12 is the upper part of the yoke, which yoke is constructed in the form of a saddle, its hori-

zontal top part being placed in close proximity to the top of the axle-box and its vertical legs 13 extending parallel with and at slight distances from the sides of said box.

14 is a socket provided at the bottom of the axle-box, for purposes mentioned hereinafter, and 15 horizontal arms extending side-wise from legs 13. The socket 14 is preferably elongated in the direction of the width of the truck, so as to permit lateral play between the parts. Said horizontal arms 15 are provided with bolt-holes 16 and the lower outer corners of the yoke with bolt-holes 17, for the purpose of attaching thereto any suitable parts of the truck-frame desired. The horizontal upper part of yoke 12, directly over the central part of the axle-box, is hollowed out on its under side, and the socket so formed has inserted within it a metal bearing-piece 18, the lower end of which is formed as a part of a sphere, while its upper end is provided with a recess for receiving a headed rubber cushion 19, which cushion counteracts and neutralizes in a measure any sudden shocks imparted to bearing-piece 18 by the axle-box 11 and transfers the weight of the truck-frame resting on the yoke to said bearing-piece. On the top of axle-box a projection 20 is provided with a hollow recess on its upper surface conforming to the under surface of bearing-piece 18, a ball-joint being thus formed between the axle-box and the upper part of the yoke, whereby it is possible to maintain the truck-frame in its position while the axle-box assumes various inclinations, lengthwise as well as crosswise, owing to roughness of the track or other causes.

Instead of rubber cushion 19, there may be employed a spring of suitable form and the same result produced. The recess in metal bearing-piece 18 is made of such depth that when the cushion 19 is inserted therein there is a space left between the inner end of the bearing-piece 18 and the enlarged portion or head of cushion 19, as seen in Fig. 5. This arrangement affords greater freedom and elasticity than would be the case if the bearing-piece and cushion were of such proportions as to normally bring the two parts together at the point indicated.

21 are lugs or brackets, shown to be attached to the rear side of the upper horizon-

tal part of the yoke, said lugs being provided with round or oblong holes for receiving bolts or plungers attached to a sill forming part of the truck-frame or car-body, which is placed directly on top of or in close proximity to the upper surface of the yoke. The object of this connection between the top truck-frame or car-sill by means of the steel plungers is to prevent the side oscillation of the car-body and to relieve the commonly-employed spring-bolts of such structures of all side strains.

I do not wish to confine myself to the exact form of the yoke structure shown, and it will be seen that parts of the truck-frame may be attached to the yoke at any suitable points, either by inserting such parts into proper sockets to be provided on said yoke or by bolting or riveting the same to its outer surfaces.

22 is the detachable repairing-piece forming the lower central horizontal part of the yoke structure. The outer ends of this repairing-piece are shown to be inserted in suitable sockets in the lower ends of legs 13 and secured in place by bolts *a*, while the central part of said piece 22 extends upward in the form of a pin 23, which enters into and loosely fits the socket at the bottom of the axle-box. The upper surface of pin 23 is slightly curved, so as to provide a perfect bearing where it comes in contact with the inner horizontal surface of the socket; or the socket 14 may be of oblong shape to permit lateral play of the parts, as before stated.

It will readily be seen that by means of the ball-joint on top of the axle-box and the connection between pin 23 and the inner surfaces of socket 14 the axle-box will at all times be properly connected to the truck-frame, there being, however, ample provision made in said joints for neutralizing and overcoming any shocks imparted by the axle to the axle-box. It will also be seen that in case it is desired to remove the axle-box for purposes of repair it is only necessary to remove the bolts *a*, which secure the repairing-piece to the remaining part of the yoke structure. The bearing-pieces forming the spherical joint may then be separated, which will permit the withdrawal of the axle-box from the axle, the space between the vertical legs of the yoke being sufficiently wide to permit of this being done with ease.

The hollow recess on the top of the axle-box coacting with the semi-spherical part on the under surface of the horizontal part of yoke 12 provides a joint between these parts, which permits a universal or radial movement to the gear, as will be readily understood from an inspection of the drawings.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-truck gear, the combination, with an axle-box, of a yoke comprising two members detachably connected together, the

upper member having a bearing in the top of the axle-box and the lower member having a bearing in the bottom of said axle-box, substantially as set forth.

2. In a car-truck gear, the combination, with an axle-box, of a yoke comprising an upper and a lower member detachably connected together and in contact, respectively, with said axle-box at top and bottom thereof by suitably-adjustable bearings, spaces being provided between the vertical sides of the axle-box and the yoke to facilitate the removal of the axle-box, substantially as set forth.

3. In a car-truck gear, the combination, with an axle-box, of a yoke comprising two members detachably connected together, the upper member having a bearing in and coacting with the top of the axle-box and the lower member having a bearing in and coacting with the bottom of the axle-box, the bearing-surface in the bottom of said axle-box elongated in the direction of the width of the truck, substantially as set forth.

4. In a car-truck gear, the combination, with an axle-box provided in its top with a semi-spherical bearing-surface, of a yoke provided on the under side of its upper horizontal portion with a bearing-surface the complement of the bearing-surface on the axle-box, the legs of said yoke equipped with lateral arms, as 15, for securing the same to the truck-frame, substantially as set forth.

5. In a car-truck gear, the combination, with an axle-box provided with a recess on its under side, of a yoke supported by said box and provided with a vertical projection extending upward into said recess, substantially as set forth.

6. In a car-truck gear, the combination, with an axle-box, of a yoke supported by said box and provided with vertical legs extending downward along the sides of said box, and a cross connection between said legs, detachably joined thereto and co-operating with the under side of the axle-box, substantially as set forth.

7. In a car-truck gear, the combination, with an axle-box, of a yoke supported on top of said box and provided with vertical legs having a detachable connection underneath said box inserted into sockets provided on said legs, substantially as set forth.

8. The combination, with an axle-box provided with an elongated socket in its bottom and a yoke supported on top of said axle-box, of a detachable retaining-piece coacting with the lower part of the yoke and having a pin or stud operating within said socket of the axle-box, substantially as set forth.

9. In a car-truck gear, the combination, with an axle-box, of a yoke supported on top of said box and a bearing-piece with curved surface detachably connected with said yoke and engaging with a corresponding bearing-surface on top of the axle-box, substantially as set forth.

10. In a car-truck gear, the combination,
with an axle-box, of a yoke supported by said
box and provided with a recess for receiving
an elastic cushion and a bearing-piece sup-
5 porting said cushion in the yoke and engag-
ing with a bearing-surface on top of the axle-
box, substantially as set forth.

11. In a car-truck gear, the combination,
with an axle-box, of a yoke supported by said
10 box and provided with a cylindrical recess in
the under surface of its upper horizontal
member, a hollow metallic bearing-piece fitted

to slide within said recess, and a suitably-
formed elastic cushion or spring inserted in
said bearing-piece within the recess of the 15
yoke, substantially as set forth.

Signed at New York, in the county of New
York and State of New York, this 7th day of
of August, A. D. 1891.

EDGAR PECKHAM.

Witnesses:

M. D. PECKHAM,

A. E. BUTTS.