

F. H. VAN SWERINGEN.
CAR TRUCK.
APPLICATION FILED JULY 17, 1911.

1,029,325.

Patented June 11, 1912.

3 SHEETS-SHEET 1.

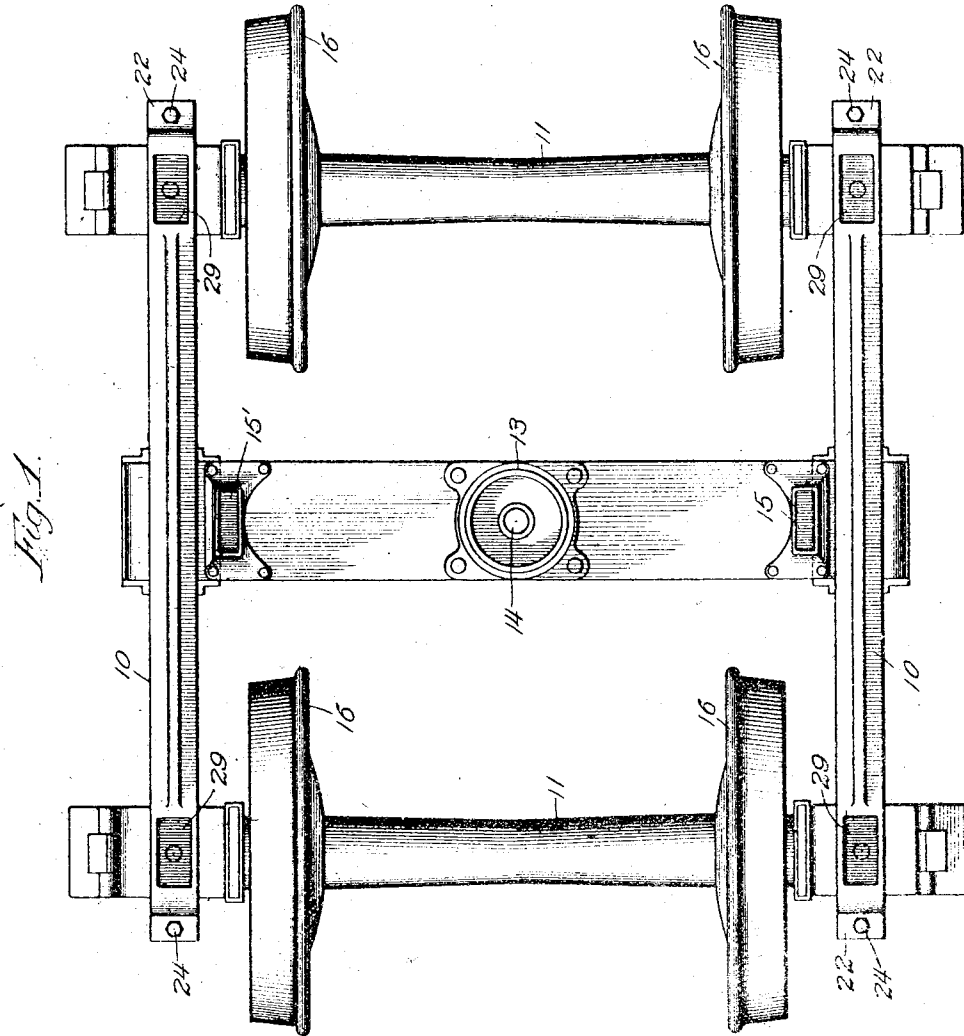


Fig. 1.

Witnesses:
Robert H. Merri
A. H. Dabney

Inventor:
Frank H. Van Sweringen,
by J. J. Bain May
Att'y

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3 SHEETS-SHEET 2.

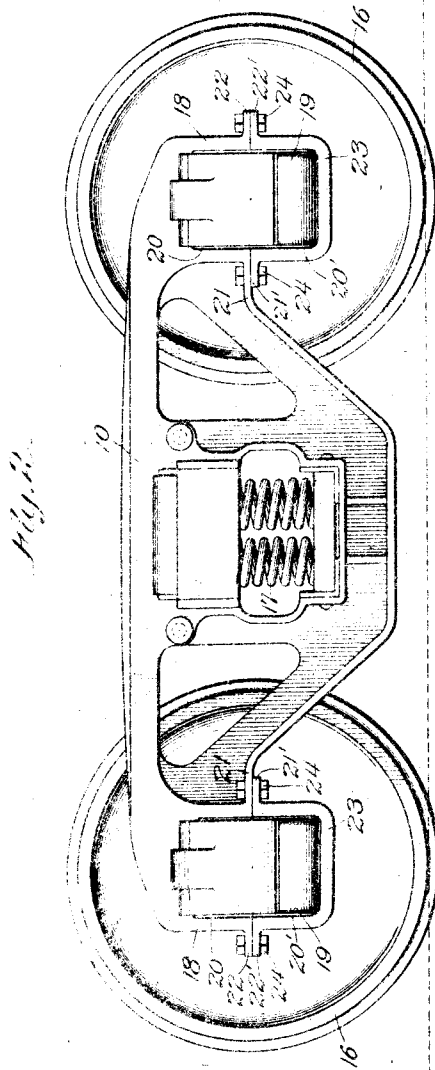


Fig. 2.

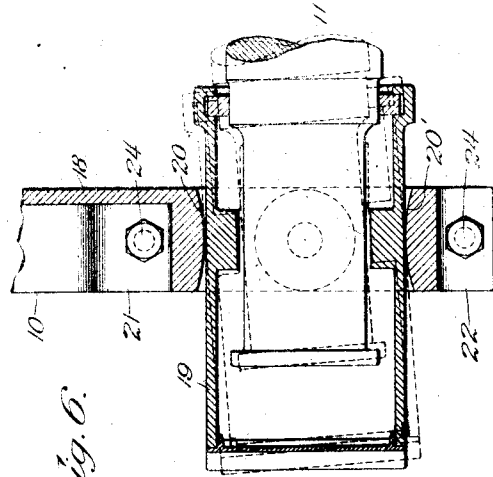


Fig. 6.

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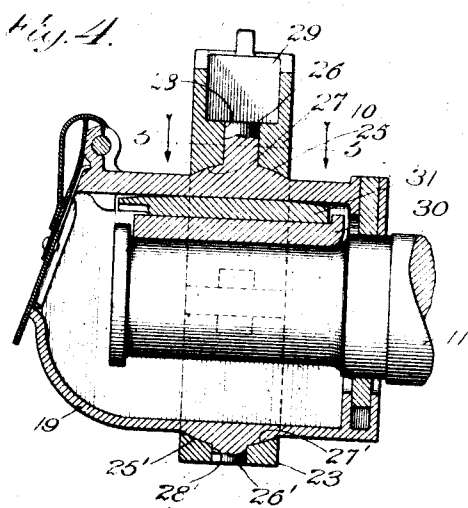
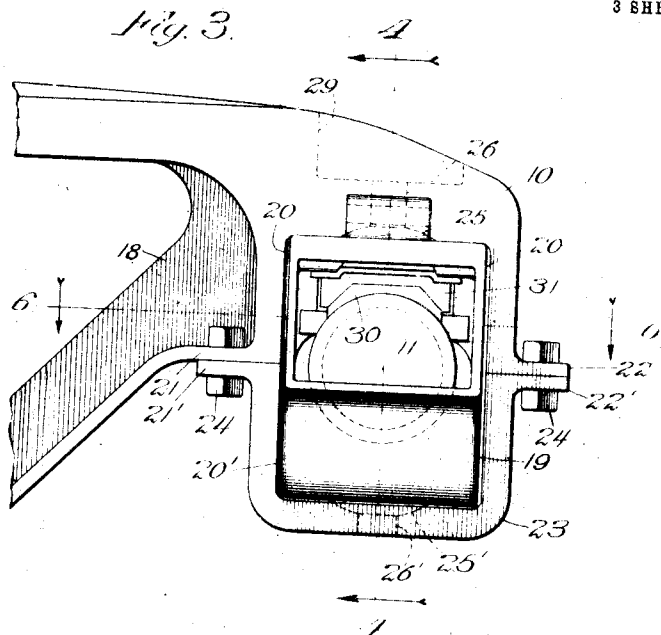
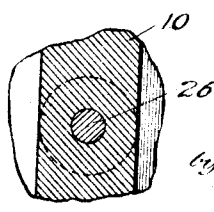


Fig. 5.



Witnesses:
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A. H. Robinson

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UNITED STATES PATENT OFFICE.

FRANK H. VAN SWERINGEN, OF CHICAGO, ILLINOIS.

CAR-TRUCK.

1,029,325.

Specification of Letters Patent Patented June 11, 1912.

Application filed July 17, 1911. Serial No. 638,824.

To all whom it may concern:

Be it known that I, FRANK H. VAN SWERINGEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

My invention relates to improvements in car trucks, and has especial reference to trucks of the non-rigid type.

One of the objects of my invention is to provide, in a truck, self-adjusting bearings, that will accommodate themselves to the axis of the journal when the truck is running out of square, without any undue clamping of these parts in resisting the readjustment of the respective parts when the angularity of the side frames and journals is being changed.

Another object of my invention is to provide side frames and journal boxes of particular form, that are well adapted for carrying my invention into effect.

Other and further objects of my invention will become apparent to persons skilled in the art from a consideration of the following description taken in conjunction with the drawings, wherein—

Figure 1 is a plan view of a truck embodying my invention; Fig. 2 is a side elevation of same; Fig. 3 is an enlarged broken-away portion of the side frame, showing one of the journal boxes in elevation with the lid removed; Fig. 4 is a transverse section thereof, taken on line 4—4 of Fig. 3; Fig. 5 is a section taken on line 5—5 of Fig. 4; and Fig. 6 is a section taken on line 6—6 of Fig. 3.

In all of the views, the same reference characters indicate similar parts.

If the rails of a railway track were laid in perfectly straight lines and were of uniform height in every instance, then a structure embodying my present invention would be of little, if any, value. It is a fact, however, that such ideal conditions seldom, if ever, exist, in practice. Trucks of the so-called rigid type have a tendency to, and as a matter of fact do, to some extent, run out of square when for gang curves. Recent experiments have shown that the total movement or some of the non-rigid trucks, that ran out of square, was as much as five and one-half inches, half of which repre-

sents the amount of angular variation of the truck when it ran out of square. In such so-called rigid trucks, as heretofore constructed, the journals, their brasses, the wedges, and the journal boxes have been but little displaced and are of such configuration and design as to interpose considerable resistance to the parts in their movements from true rectangular positions.

Hence, these parts became cramped and subject to excessive strain, wear, and breakage. It is to overcome these objections and to maintain at all times perpendicularity of the side frames to the journals of the truck that my invention is designed.

In the exemplification illustrative of my invention, 10—10' are side frames, 11—11' the journals, 12 the bolster, 13 the bolster plate having a central bore 14 for the king bolt, 15—15' are the side rests, 16 the wheels, and 17 the springs that are common in a general way, to all trucks. The particular side frame 10 is provided at its ends with down-turned open ends 18, for reception of the journal bearing boxes 19. The openings are flanked on each side by rounded side bearings, 20—20', to assist in maintaining the journal boxes in longitudinal position with reference to the side frames and to permit the journal box to swivel to some extent, as when the truck is running out of square.

On each side of the down-turned box receiving opening, I provide flanges 21—22, whereby to secure the box receiving stirrup 23. The stirrup is provided with corresponding flanges 21' and 22'. The parts are held together as by bolts 24. The stirrups are also provided with rounded side bearing, box-guiding members 20' in line with similar member 20, when the stirrup is secured in position. The stirrup is bored at the center of the yoke thereof to receive the trunnion of the journal box. The journal box 19 is provided on its upper surface with a parti-spherical bearing projection 25 from the center whereof a cylindrical trunnion 26 extends. Similar parts 25' and 26' are provided upon the bottom surface of said box. Receiving depressions 27—27' and perforations 28 and 28' are provided in the frame end 10 and the stirrup 23 for receiving the bearing surfaces and trunnions, respectively, of the box. This arrangement, in conjunction with the curved side bearing

members 20—20', holds the journal boxes rigidly in perpendicular position with the side frames, but permits free swiveling movement of the boxes within the frames. I prefer to provide a depression 29 in the end of the side frame into which the bore 28 enters within which cavity lubricating "dope" may be contained for properly lubricating the swiveling bearing surfaces. The corresponding lower surfaces do not bear much weight and special means for lubricating these latter surfaces is not necessary. The bearing brasses 30, the wedge 31, and other portions of the structure not referred to are not necessarily unlike corresponding parts of similar structures. The dotted lines, in Fig. 6, show the relative position of the parts when the truck is running out of square and illustrates the fact that while the angular relation of the journals and the side frames have been changed, the box and contained parts have freely followed the journal in its movements without interposing any resistance or effecting any cramping of the parts.

While I have shown and described a single embodiment of my invention it is obvious that many changes may be made in the specific structure illustrated without departure from the scope and spirit of the appended claims.

What I claim is:

1. In a car truck, a side frame having journal-box receiving apertures, said frame perforated in vertical alinement above and below said apertures and having parti-spherical depressions between said aperture and said perforations to provide bearing surfaces, and a swiveling journal-box in said aperture provided with parti-spherical projections and trunnions for engagement with said perforations and depressions respectively, in the side frame.

2. In a device of the character described, a side frame downwardly projecting at its ends and provided with a box receiving opening, a stirrup bolted to the side frame on each side of said opening for closing said opening, said stirrup and opening flanked on their sides by rounded side bearings, a journal box within the opening, closed by the stirrup, and trunnions projecting from the upper and lower wall of said box and receiving bearing support in said side frame and stirrup.

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

FRANK H. VAN SWERINGEN.

In the presence of—
W. LINN ALLEN,
MARY F. ALLEN.