

No. 628,577.

Patented July 11, 1899.

F. E. CANDA.
CAR TRUCK.

(Application filed May 6, 1899.)

(No Model.)

Fig. 1,

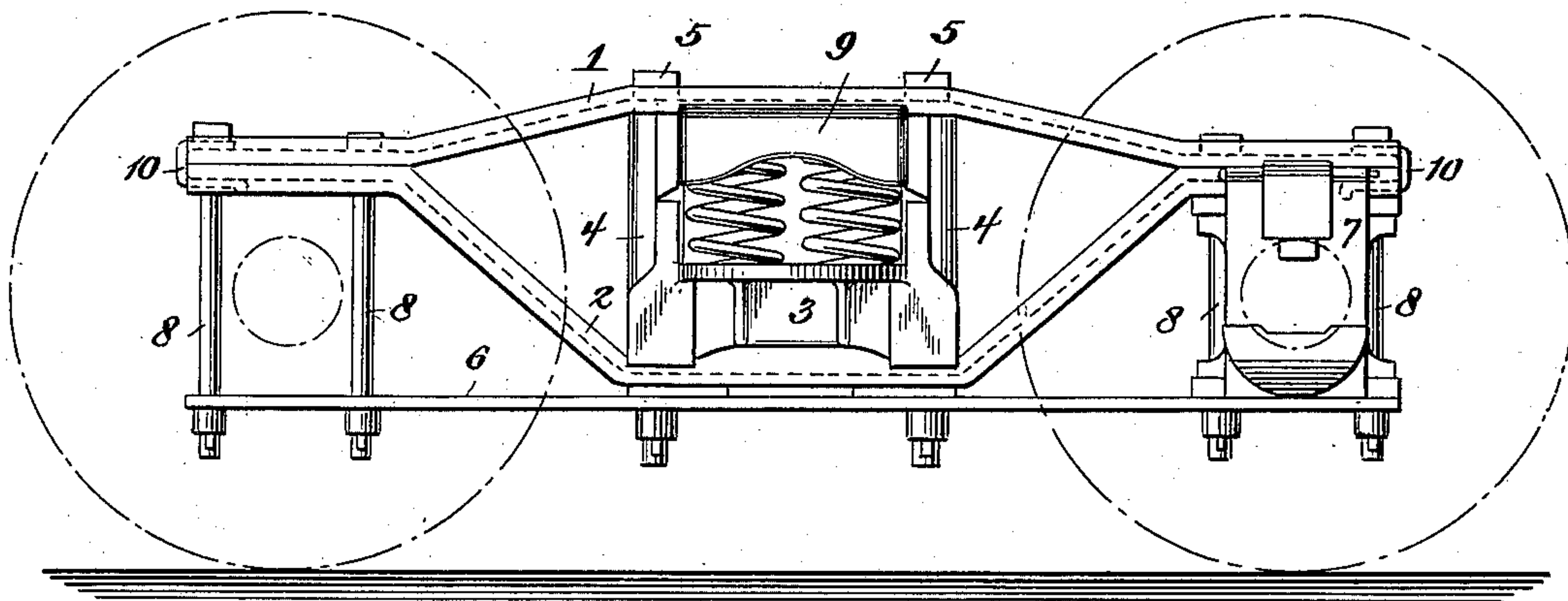


Fig. 2,

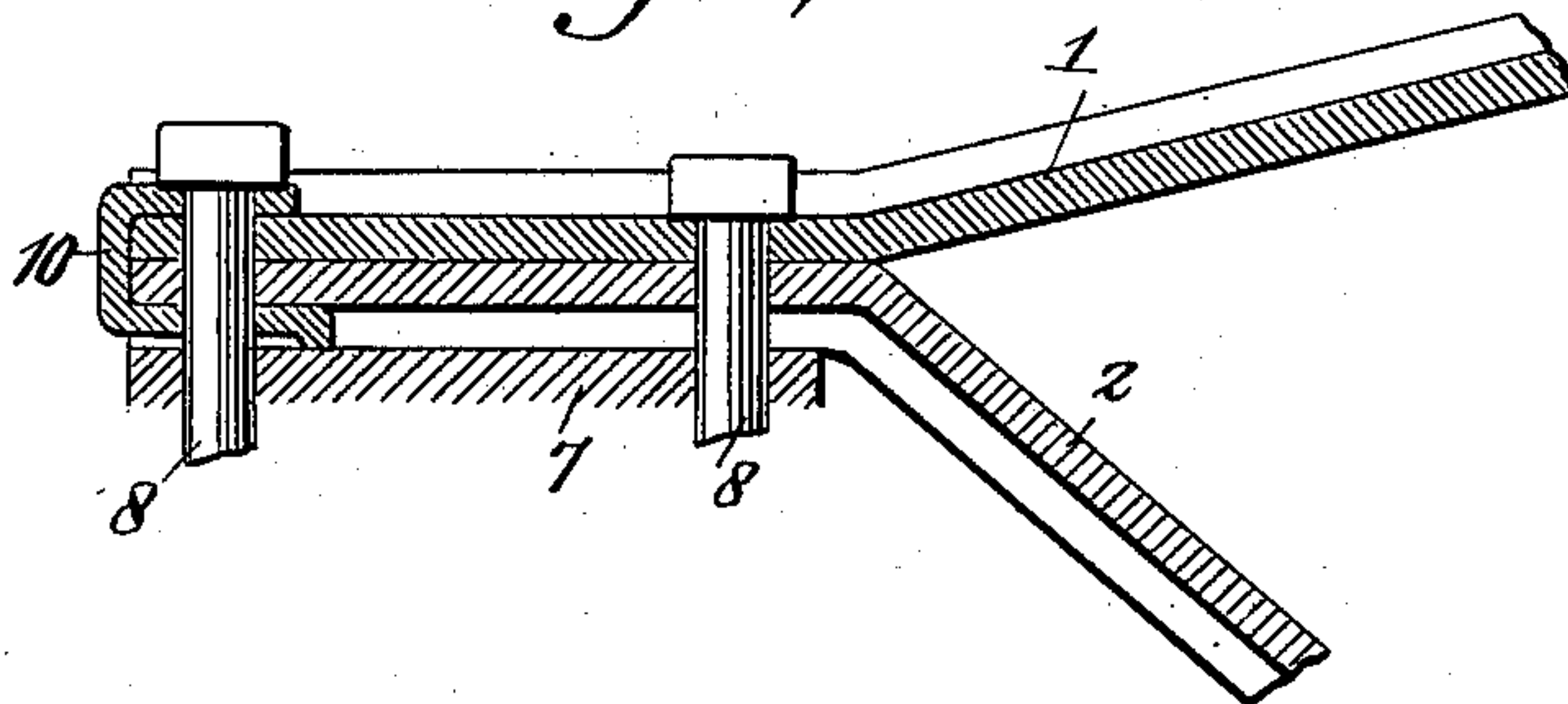


Fig. 3,

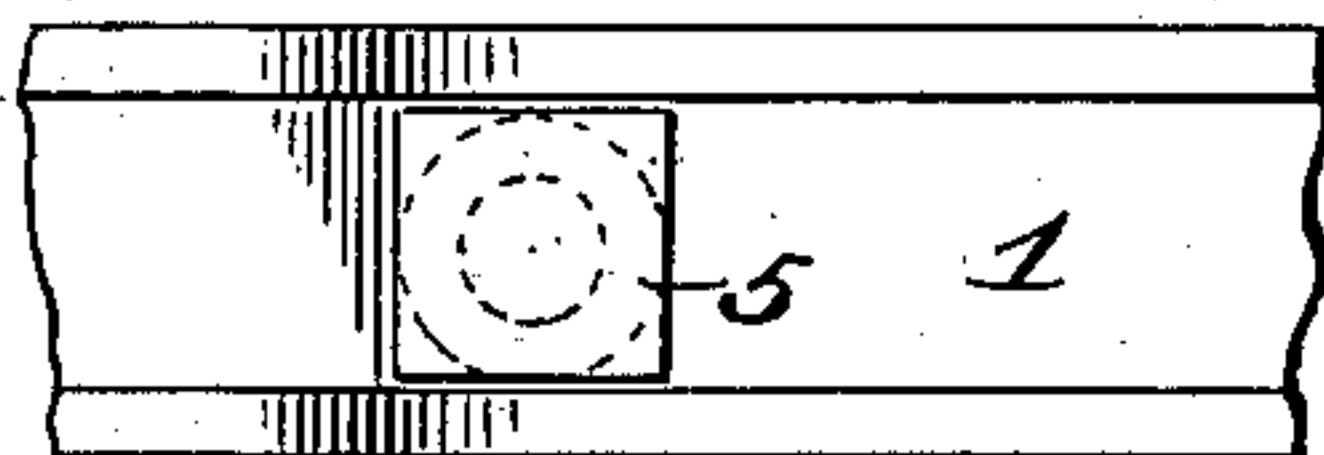
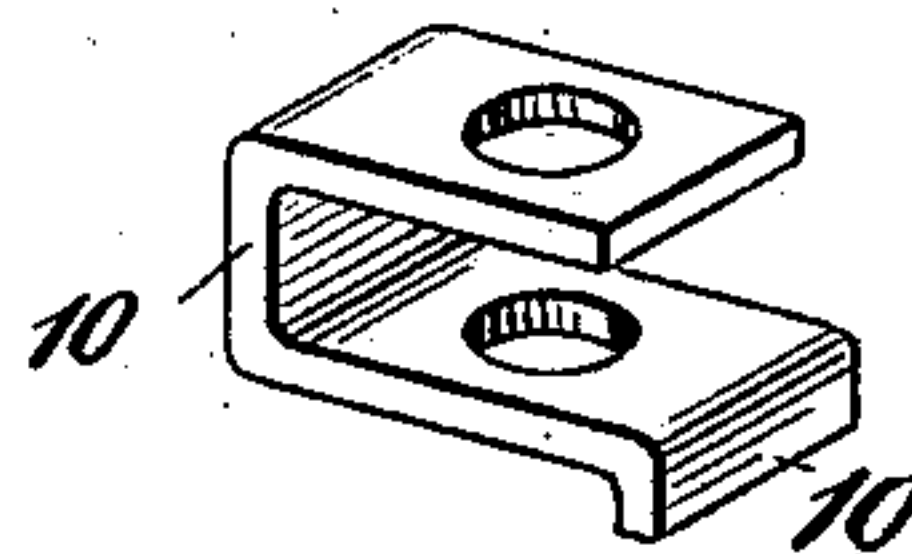


Fig. 4,



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CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 628,577, dated July 11, 1899.

Application filed May 6, 1899. Serial No. 715,865. (No model.)

To all whom it may concern:

Be it known that I, FERDINAND E. CANDA, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Car-Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates generally to improvements in car-trucks, and particularly to improvements in car-trucks of the diamond type; and it consists in the novel gib employed for strengthening the frames of the truck.

The object of my invention is to improve the construction of the frames of diamond car-trucks. This object is attained in the car-truck herein described and illustrated in the drawings which accompany and form a part of this specification, in which the same reference-numerals indicate the same or corresponding parts, and in which—

Figure 1 is a side elevation of a diamond car-truck constructed in accordance with my invention. Fig. 2 is a detail section of one end of one side frame of the truck, showing the gib in place therein. Fig. 3 is a detail plan view showing how the column-bolts are held against turning by the inverted bars of the channel-section, and Fig. 4 is a detail view of the gib.

In the construction of diamond car-truck frames it is common to turn up the ends of the inverted bars so as to form what are termed "gibs," between which the arch-bars fit. The arch-bars are subjected to downward stresses, tending to spread them out—that is to say, to increase their length—whereas the stresses upon the inverted bars tend to draw the ends of such bars together. If therefore the arch-bars fit accurately and closely into the space between the gibs at the ends of the corresponding inverted bars, the tendency of the arch-bars to extend under the load will be balanced by the tendency of the ends of the inverted bars to draw together when under load; but in practice it is found that since the gibs on the inverted bars are formed by forging and are not machined the distance between them varies in different

bars, and there is frequently considerable clearance between the gibs and the ends of the arch-bar, thus rendering the gibs ineffective.

In the car-truck herein described both arch and inverted bars are formed from rolled beams of channel-section placed back to back. No gibs are formed on the inverted bars themselves, the gibs being separate U-shaped pieces of metal adapted to lie within the channels of both the arch-bars and inverted bars and to embrace the ends of such bars and to be held in place by the oil-box bolts. It is a comparatively simple matter to cut the arch and inverted bars to the correct length accurately and also to bore accurately the holes in the gib for the passage of the oil-box bolts, and hence by this construction the effectiveness of the gib is insured.

In the drawings, 1 is an arch-bar of one side frame of a diamond truck; 2, an inverted bar; 3, the end transom; 4 4, the columns; 5 5, the column-bolts; 6, the tie-bar; 7, an oil-box (the oil-box at the other end of the truck being omitted); 8 8, the oil-box bolts, and 9 the truck-bolster.

The arch-bar and inverted bar are of customary form except as to section. In section they are channel-bars, as shown particularly in Figs. 2 and 3 and as indicated in dotted lines in Fig. 1. The flanges of the arch-bar project upward and the flanges of the inverted bar project downward, the two bars being thus placed back to back, so that the adjacent surfaces of said bars where they come together over the oil-boxes and the surface presented by the inverted bar to the end transom are flat.

The holes for the column-bolt 5 and oil-box bolts 8 are situated in the webs of the bars, and hence absorb only a very small portion of the sectional area of the bars. The flanges also stiffen the arch-bar against buckling under compression produced by the load on the car.

10 10 are the gibs above mentioned. As shown, particularly in Fig. 4, each gib is a U-shaped piece of metal adapted to embrace the ends of the arch and inverted bars and to lie within the channels of said bars. The thickness of the metal of which said gibs are composed is such that the upper surfaces of

the gibs are not quite level with the tops of the flanges of the arch-bar, and the width of the channel of the arch-bar is such that the heads of the oil-box bolts and column-bolts, which bolts are of the standard Master Car-Builders' Association sizes, are unable to revolve within the channels. Both the oil-box bolts and the column-bolts are therefore locked against turning. Each gib is provided on its under side with a downwardly-turned flange 11, extending downward to the level of the flanges of the inverted bar, and therefore serving to support the gib.

When the truck is under load, the tendency of the arch-bars to extend is counterbalanced (by means of the gibs) by the tendency of the inverted bars to contact.

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

1. In a car-truck, the combination, with arch and inverted bars, of a gib consisting of a U-shaped piece embracing the arch and inverted bars at one end thereof, and secured to said bars, substantially as described.

2. In a car-truck, the combination, with arch and inverted bars, of a gib consisting of a U-shaped piece embracing the arch and inverted bars at one end thereof, and provided with holes for the passage of an oil-box bolt, whereby the gib is secured to the arch and inverted bars, substantially as described.

3. In a car-truck, the combination, with

arch and inverted bars of channel-section, placed back to back, of a gib consisting of a U-shaped piece lying within the channels of the arch and inverted bars, embracing said bars at one end thereof, and secured to said bars, substantially as described. 35

4. In a car-truck, the combination, with arch and inverted bars of channel-section, placed back to back, the width of the channel of the arch-bar being greater than the width of the heads of the oil-box bolts but less than the diagonals of said heads, of a gib consisting of a U-shaped piece lying within the channels of the arch and inverted bars, embracing the bars at one end thereof, and provided with holes for the passage of an oil-box bolt, the upper surface of the gib being below the flanges of the arch-bar, and oil-box bolts, whereby the gib is secured to the arch and inverted bars and the oil-box bolts are held against rotation, substantially as described. 40 45 50 55

5. A gib adapted to embrace the ends of arch and inverted bars, consisting of a U-shaped piece of metal having upon its lower side a downwardly-projecting lip adapted to rest upon the oil-box, substantially as described. 60

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

FERDINAND E. CANDA.

Witnesses:

ALPHONSE KLOH,
H. M. MARBLE.