

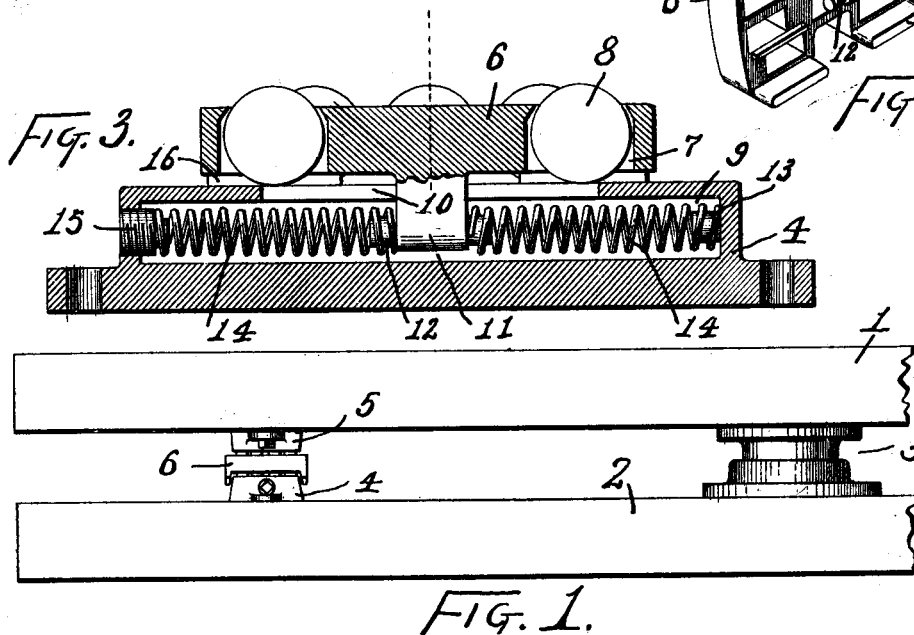
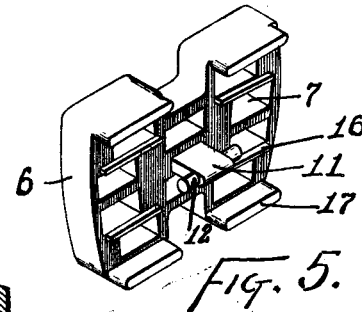
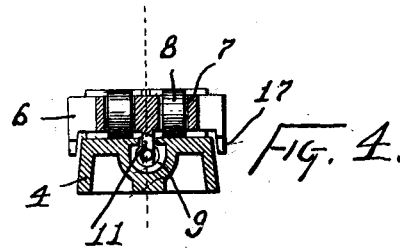
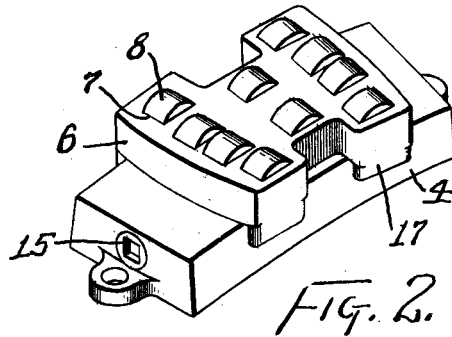
No. 675,977.

Patented June 11, 1901.

W. S. ROGERS.
SIDE BEARING FOR CARS.

(Application filed Feb. 14, 1901.)

(No Model.)



Witnesses:
E. R. Shipley
M. S. Belden

Winfield S. Rogers Inventor
by James W. See Attorney

UNITED STATES PATENT OFFICE.

WINFIELD S. ROGERS, OF BOSTON, MASSACHUSETTS.

SIDE BEARING FOR CARS.

SPECIFICATION forming part of Letters Patent No. 675,977, dated June 11, 1901.

Application filed February 14, 1901. Serial No. 47,217. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD S. ROGERS, of Boston, Suffolk county, Massachusetts, (post-office address Care Ball Bearing Co., Boston, Massachusetts,) have invented certain new and useful Improvements in Side Bearings for Cars, of which the following is a specification.

This invention pertains to improvements in that class of side bearings for railway-cars in which a roll-cage and a group of rollers are interposed between the body side bearing and the truck side bearing, the cage of rolls being held in neutral position of traverse by means of springs.

My improvements will be readily understood from the following description, taken in connection with the accompanying drawing, in which—

Figure 1 is a front elevation of my improved side bearing shown in connection with the bolsters; Fig. 2, a perspective view of the truck side bearing and cage of rolls; Fig. 3, a vertical longitudinal section of the same; Fig. 4, a vertical transverse section of the same; and Fig. 5, a perspective view of the under side of the roll-cage.

In the drawings, 1 indicates the body-bolster; 2, the truck-bolster; 3, the center plates; 4, the truck side bearing, the same being secured to the truck-bolster as usual; 5, the body side bearing, secured to the body-bolster as usual, except that the pair of side bearings instead of being disposed for direct contact are vertically separated, so as to receive rolls between them; 6, the roll-cage, the same being a plate resting upon the truck side bearing and adapted to move along the same, the upper surface of the cage being near but free from the body side bearing; 7, a group of mortises extending vertically through the roll-cage, their upper ends being contracted in the direction of length of the side bearings, these mortises being arranged in three groups, one group of two mortises at the longitudinal center of the cage and a group of four mortises near each end of the cage, the several mortises being so disposed that the mortises of the central group will break joint with those of the outer groups, and the two central mortises of each side group being disposed farther outwardly than

the end mortises of the groups, and the axes of the groups transverse to the length of the side bearings instead of being parallel with each other being radial to the center of the center plates; 8, a cylindrical roll disposed in each mortise, the length of each roll being such as to loosely fill its mortise and the diameter of the roll being less than the general length of its mortise, but greater than the length at the contracted top of the mortise, the rolls resting upon the truck side bearing and projecting above the top of the roll-cage and adapted to be engaged by the under surface of the body side bearing; 9, a chamber disposed longitudinally in the center of the truck side bearing and closed at each end; 10, a longitudinal slot in the roof of this chamber; 11, a lug projecting from the under side of the roll-cage and loosely fitting slot 10 sidewise; 12, bosses projecting from opposite faces of lug 10 in the axis of chamber 9; 13, similar bosses projecting inwardly from the end wall of the chamber; 14, a pair of helical springs disposed within chamber 9 and engaging under compression the bosses 12 and 13 and serving to centralize the roll-cage upon the truck side bearing, while permitting the cage and rolls to shift endwise of the side bearing; 15, a plug screwed through one end wall of chamber 9 and carrying one of bosses 13 and serving at the same time to close a hole provided in an end wall of the chamber to permit the insertion of the springs; 16, feet projecting from the lower surface of the roll-cage and resting upon the upper surface of the truck side bearing, thus keeping the general lower surface of the roll-cage free of the upper surface of the truck side bearing; and 17, ears projecting downwardly from each side edge of the roll-cage and loosely engaging the side edges of the truck side bearing.

In assembling the parts one spring is first inserted into chamber 9 through the opening at plug 15. The roll-cage, with its assembled rolls, is then placed in position in engagement with the spring, after which the second spring is inserted, followed by the plug 15, the screwing in of which plug puts the springs under proper tension. The springs serve not only in centralizing the cage, but in uniting the cage and rolls to the truck

side bearing, the rising motion of the cage away from the truck side bearing being limited by the engagement of the springs up against the slotted roof of the chamber. At the same time the lug 11, while shifting freely in slot 10, prevents transverse displacement of the inner ends of the springs.

When the body side bearing imposes its load vertically upon the truck side bearing, it does so through the medium of the rolls, and during the relative shifting of the two side bearings while thus cooperating the friction of shifting is that of rolling friction instead of sliding friction. The rolls have a trifle of diametrical freedom in the mortises of the cage, and consequently any individual roll may at times partake of a slight rolling motion independent of its fellows, a slight shifting of the body side bearing relative to the truck side bearing while the two are under the strain of cooperation thus being possible without any shifting of the cage or of all of the rolls in case all of the rolls are not at the instant pinched between the two side bearings. Lug 11 fits somewhat freely in slot 10, thus permitting the cage to partake of more or less pivotal motion relative to the truck side bearing, this pivotal motion being limited by ears 17 coming in contact with the side edges of the truck side bearing. The mortised-cage arrangement permits of most any desired grouping of the rolls and also permits the axes of all of the rolls to be arranged radial to the axis of the center plates.

I claim as my invention—

1. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing engaging said rolls, and elastic means loosely uniting said side bearing and cage.

2. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing engaging said rolls, elastic means loosely uniting said side bearing and cage, and feet interposed between the contiguous surfaces of said cage and side bearing and serving to separate their general faces.

3. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise

and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing formed with a longitudinal chamber and with a slot extending from such chamber to the face of the side bearing, a lug projecting from said roll-cage through said slot and into said chamber, and helical springs disposed in said chamber and engaging the end walls thereof and the opposite faces of said lug.

4. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing provided with a longitudinal chamber and with a slot extending from such chamber to the face of the side bearing, a lug projecting from the said cage through said slot and into said chamber, bosses projecting from the end walls of said chamber and from the opposite faces of said lug, and helical springs disposed within said chamber and engaging said bosses.

5. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing provided with a longitudinal chamber and with a slot extending from said chamber to the face of the bearing, a lug projecting from said cage through said slot and into said chamber, a plug screwed into one end wall of said chamber, bosses formed upon said plug and said lug and on the end wall of said chamber opposite said plug, and helical springs disposed within said chamber and engaging said bosses.

6. In a side bearing, the combination, substantially as set forth, of a roll-cage consisting of a plate having through it a series of mortises contracted at one face of the plate, a cylindrical roll disposed in each mortise and having a diameter greater than the thickness of said plate and greater than the contracted dimension of the mortise containing the roll, a side bearing provided with a longitudinal facial slot, a lug projecting from said cage into said slot and adapted for sliding and pivotal motion therein, and ears projecting from said cage and loosely engaging the side edges of said bearing and serving to limit said pivotal motion.

WINFIELD S. ROGERS.

Witnesses:

H. L. DUERNER, Jr.,
MARY L. HASKELL.