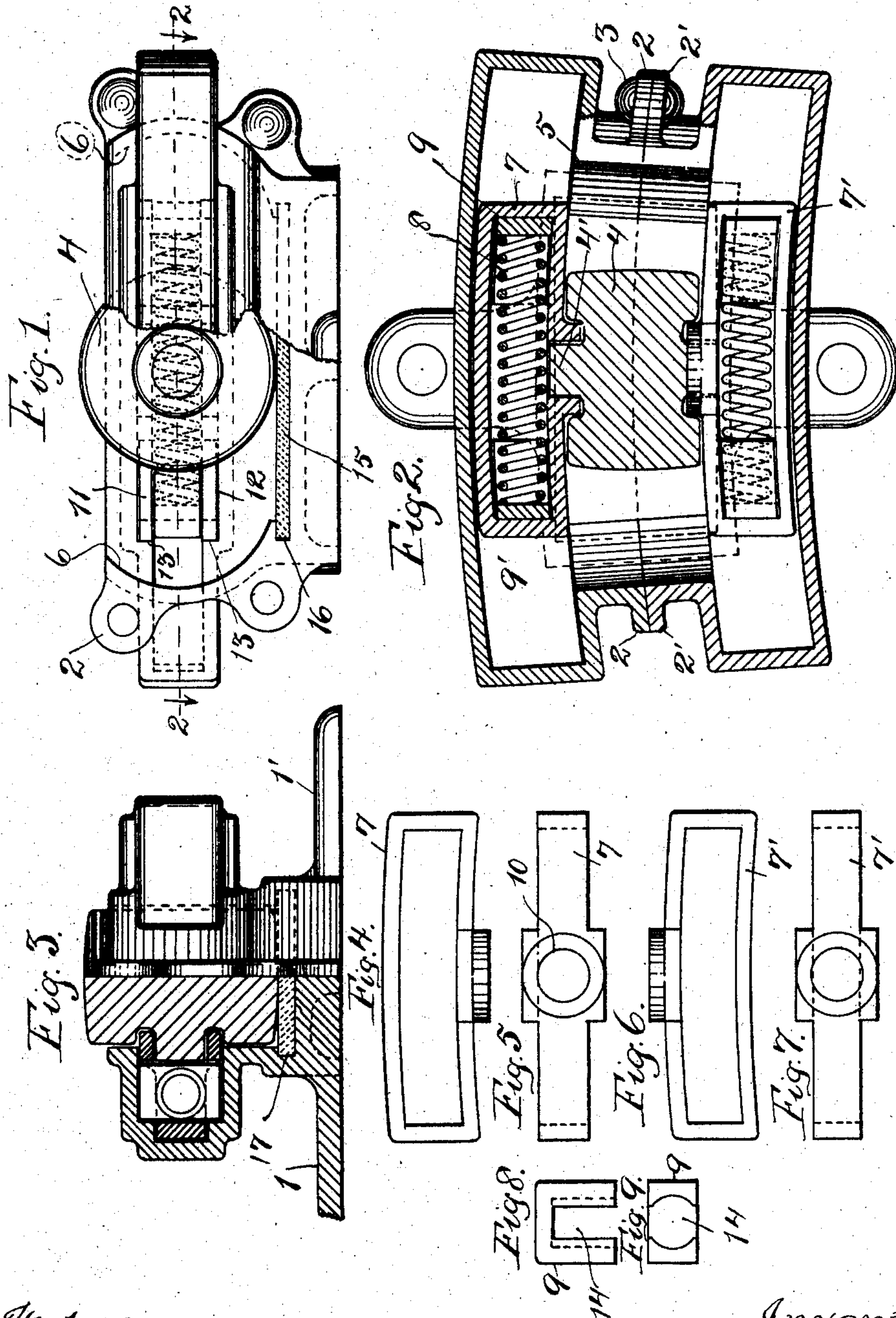


No. 846,610.

PATENTED MAR. 12, 1907.

H. M. PERRY.
SIDE BEARING FOR CARS.
APPLICATION FILED DEC. 18, 1906.

2 SHEETS—SHEET 1.



Witnesses:
Frank L. Belknap
K. M. Emboden

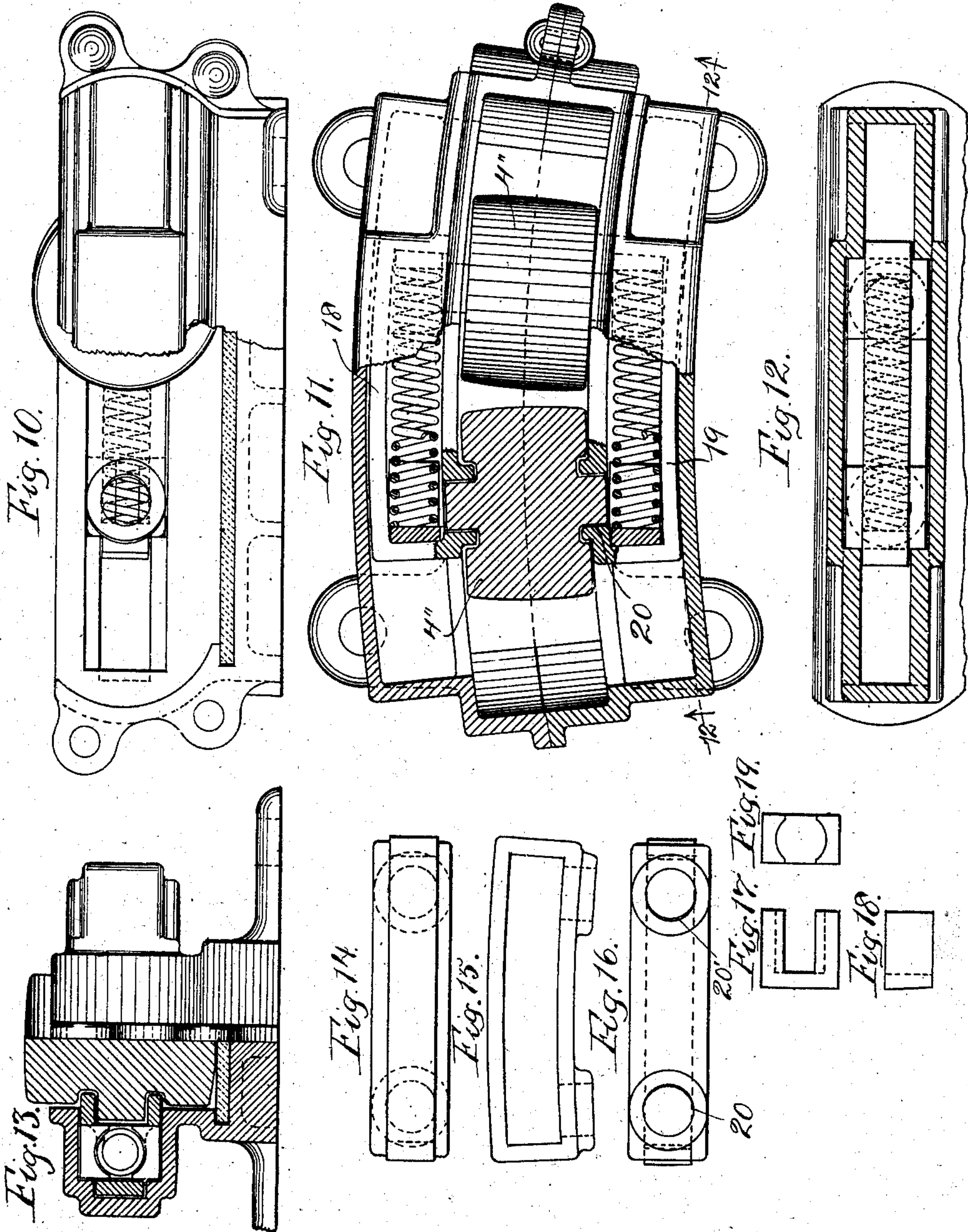
Inventor:
Hubert M. Perry.
By Albert N. Graves,
Attorney

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UNITED STATES PATENT OFFICE.

HUBERT M. PERRY, OF CHICAGO, ILLINOIS, ASSIGNOR TO HENRY D. LAUGHLIN, OF CHICAGO, ILLINOIS.

SIDE BEARING FOR CARS.

No. 846,610.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed December 18, 1906. Serial No. 348,415.

To all whom it may concern:

Be it known that I, HUBERT M. PERRY, 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 Side Bearings for Cars, of which the following is a specification.

This invention relates to improvements in side bearings for cars, and refers more specifically to bearings of that type in which one or more rollers are supported within a casing-frame in such manner as to project at their peripheries beyond the frame, and the latter is secured to the truck-bolster or car-body, as the case may be, in such manner that the peripheries of the rollers are adapted to engage the opposed member of the car structure. The rollers are mounted to travel within the casing-frame and are returned to the normal central position by springs.

Among the salient objects of the present invention are to provide a construction in which the rollers are operatively connected with centering-frames, one at each side of the rollers, and these centering-frames are so constructed as to constitute spring-cages centered by springs; to provide in a device characterized as above a simple and improved construction of the parts which contribute to the cheapness and reliability of the device and secures the combined centering effect of springs acting on each end of each roller; to provide a construction which may be made but little thicker or higher than the diameter of the rollers, but, nevertheless, affords ample room for housing the spring-actuated centering devices; to provide a construction the parts of which are secured in properly-assembled and working relation by the simple act of uniting the two halves of the casing-frame, and in general to provide a simple and improved construction of the character referred to.

To the above ends the invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view, partly in side elevation and partly in section, taken in the plane of separation, of a device embodying my invention. Fig. 2 is a horizontal sectional view taken approximately on line 2 2 of Fig. 1 and looking downwardly. Fig. 3 is a view, partly in end elevation and

partly in transverse section, of the device. Figs. 4, 5, 6, and 7 are details of the pair of centering-frames. Figs. 8 and 9 are details of one of the movable abutments. Fig. 10 is a view similar to Fig. 1, showing a modified construction. Fig. 11 is a view, partly in plan and partly in horizontal section, taken in the plane of the axes of the centering-springs. Fig. 12 is a view, in longitudinal vertical section, taken approximately on line 12 12 of Fig. 11 and looking in the direction of the arrows. Fig. 13 is a view, partly in end elevation and partly in transverse vertical section, of the construction shown in Fig. 10. Figs. 14, 15, and 16 are detail views of one of the centering-frames. Figs. 17, 18, and 19 are details of one of the movable abutments.

Referring to the drawings, 1 and 1', respectively, designate the two halves, which together form the casing-frame, these members being constructed to meet face to face along a line extending centrally and longitudinally through the device and preferably curved approximately concentric with the axis of the truck-bolster upon which the device is to be mounted. At each end adjacent to the union joint each member is provided with a plurality of lugs, as 2 2', through which are inserted and secured rivets 3, whereby the parts are rigidly united. The two members thus united are so constructed as to form a box adapted to receive one or more antifriction-rollers 4 (one in the construction now being described) and housed over by the top of the casing-frame, except for a central opening or slot coinciding in width with and axial length of the main body of the roller and in length with the maximum distance of travel permitted to the roller. This opening 5, as well also as all other structural parts of the bearing, is preferably curved concentric with an arc struck on a radius from the center of the car-bolster.

The central part of the casing in which the roller 4 travels is shorter than the lateral parts of the chamber, and the end walls of this shorter portion are preferably interiorly curved, as indicated at 6. The lateral portions of the chamber take the form of approximately rectangular elongated subchambers, within which are mounted the centering mechanisms of the bearing. These centering mechanisms comprise a centering-frame, as 7 and 7', arranged in each lateral

chamber, a coiled expansion-spring 8, arranged in each centering-frame, and a pair of movable abutments, as 9 and 9', operatively connected with each centering-frame. Describing these parts more specifically, each centering-frame conveniently takes the form of an open approximately rectangular skeleton frame, (see Figs. 4, 5, 6, and 7,) provided at one side with a journal-bearing 10, which fits upon a corresponding trunnion or journal extension 4' of the roller. In horizontal dimensions the centering-frame corresponds to the internal dimensions of the lateral chambers within which they respectively move; but in vertical dimensions the centering-frames are of less height or thickness than the central portions of the lateral chambers—that is to say, each lateral chamber as to its end portions corresponds to the vertical depth of the centering-frame; but in its intermediate portions it is undercut or recessed above and below, as indicated at 11 and 12, (see Figs. 1 and 3,) and the ends of these recessed portions terminate in abrupt abutment-shoulders 13. The movable abutments 9 and 9' (see detail, Figs. 8 and 9) are arranged within the opposed ends of each centering-frame, are socketed, as indicated at 14, to receive the corresponding ends of the spring, and at their upper and lower edges protrude through and beyond the centering-frame (see sectional part of Fig. 3) in position to encounter and rest against the abutment-shoulders 13.

The lateral chambers within which the centering mechanisms operate are as much longer than the centering-frame as the throw or length of travel of the roller 4 in each direction, and it follows that with the parts constructed and arranged as described whenever the antifriction-roller is shifted in either direction it carries with it the attached centering-frames, and they in turn move forwardly those abutments engaged with the rear ends (considered with reference to the direction of movement) on the centering-frames, thereby compressing the centering-springs against the opposed abutments, which are at this time held immovable by the abutment-shoulders 13 at the forward ends of the frames. These relations are of course reversed when the roller is shifted in the opposite direction, from which it follows that whichever way the antifriction-roller is shifted it is immediately returned when released to its normal central position by the centering mechanisms, which act in conjunction with each other upon the two ends of the roller. I have shown the bottom or floor surface of the bearing as provided with a wear-plate 15, which is seated in grooves 16 and 17, formed in the main casing members and engaging the ends and sides, respectively, of the plate, so that the latter is secured in position by the simple act of as-

sembling the casing and parts therein. This feature is, however, made the subject of claims in a copending application.

In the modification shown in Figs. 10 to 19, inclusive, the construction is in all respects strictly analogous to that just described, except that in lieu of a single antifriction-roller two rollers 4' and 4'' are provided, the casing-frame is correspondingly lengthened, and the centering-frames 18 and 19 correspondingly lengthened and each provided with two journal-bearings, as 20 and 20', adapted to engage with the two trunnions of the pair of rollers. Further description of this mechanism would be in substance a repetition of that already given.

I claim as my invention—

1. A side bearing comprising a casing-frame having a central longitudinally-extending bottom-way and longitudinally-disposed guideways arranged parallel with said central way and at each side thereof, one or more antifriction-rollers mounted to traverse said central way, a centering-frame mounted to reciprocate in each of said laterally-disposed parallel ways and operatively connected with the trunnions of said rollers, centering-springs arranged within said centering-frames and movable abutments arranged one in each end of each centering-frame, and cooperating with said springs and with abutment-stops upon the casing-frame.

2. A side bearing comprising a casing-frame having a central, longitudinally-extending bottom-way and longitudinally-disposed guideways arranged parallel with said central way and at each side thereof, one or more antifriction-rollers mounted to traverse said central way, a centering-frame guided to reciprocate in each of said laterally-disposed parallel ways, and having journal connections with said rollers, and centering-springs arranged within said lateral ways and operating upon the respective centering-frames to center the latter.

3. A side bearing comprising a casing-frame having a central longitudinally-extending bottom-way and longitudinally-disposed undercut guideways or chambers arranged parallel with said central way at each side of the latter and in horizontal register with the axis or axes of the antifriction roller or rollers, one or more antifriction-rollers mounted to traverse said central way, a centering-frame having journal connections with said roller or rollers, at each end of the latter, each centering-frame having a cage portion fitting and reciprocating within the corresponding lateral guideway, a coiled expansion-spring arranged within the cage portion of each centering-frame; a movable abutment arranged in each end of each cage portion, and having lateral projections extending beyond the sides of said cage portion, and stop-shoulders arranged within said lateral

ways and operating to limit the movement of each abutment in a direction away from the transverse center of the side bearing, while leaving it free to move with the centering-frame in the opposite direction.

5 4. A side bearing comprising a casing-frame formed of two members rigidly united with each other along a joint extending longitudinally and vertically throughout the
10 length of the casing, and having a central longitudinally-extending bottom-way and longitudinally-disposed guideways arranged parallel with said central way and at each side thereof, one or more antifriction-rollers
15 mounted to traverse said central way, a centering-frame mounted to reciprocate in each of said laterally-disposed parallel ways and operatively connected with the correspond-

ing trunnion or trunnions of the roller or rollers, centering-springs arranged within 20 said centering-frames, and movable abutments arranged one in each end of each centering-frame, and cooperating with said springs and with abutment-shoulders upon the casing-frame, said laterally-disposed par- 25 allel ways being of undercut form in cross-section and open at the side through which the roller-trunnions enter, only, whereby the whole structure is held in assembled and proper cooperative relation by the union of 30 the two main casing members.

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Witnesses:

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