

No. 734,989.

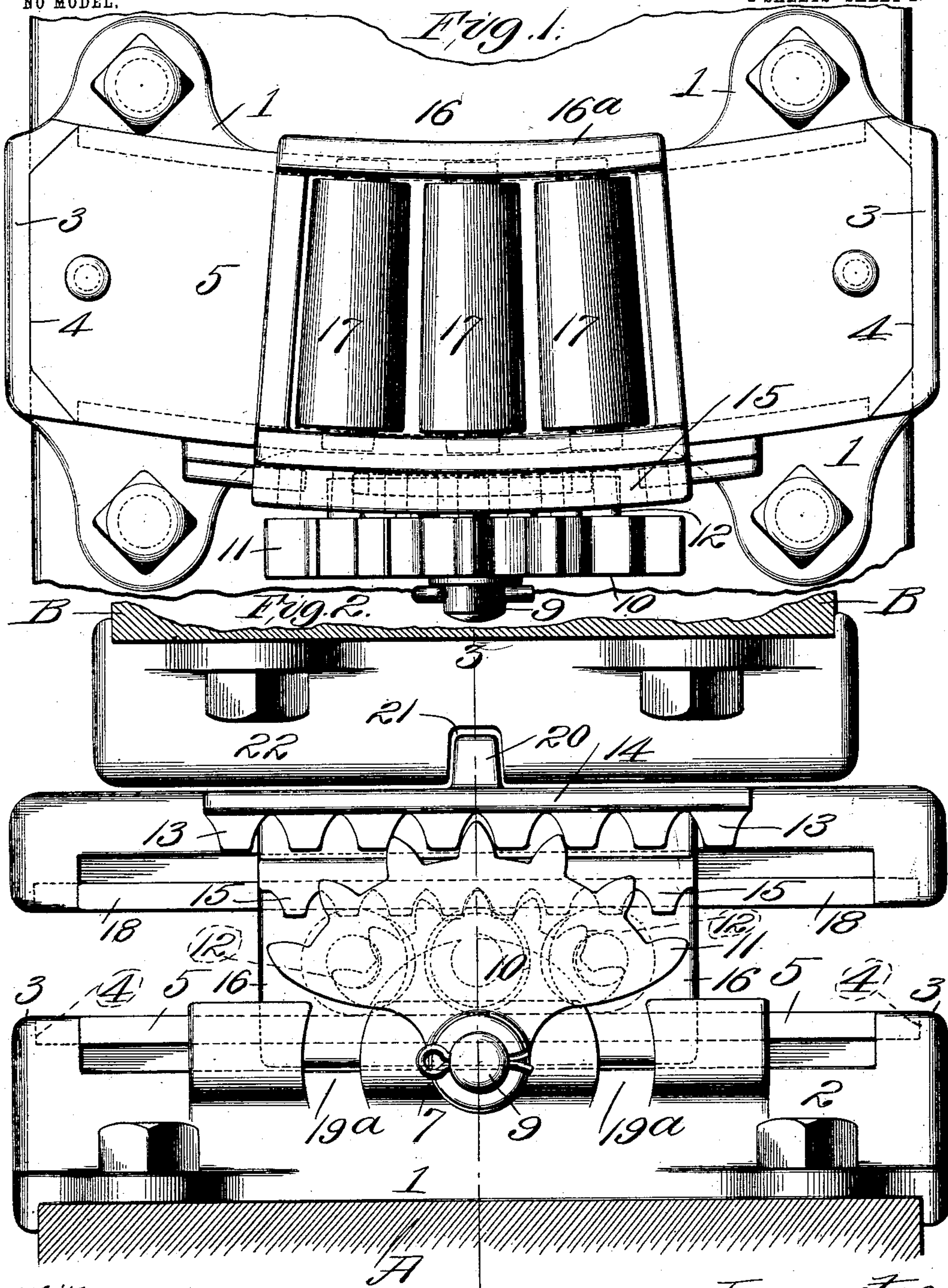
PATENTED JULY 28, 1903.

A. G. STEINBRENNER.
SIDE BEARING.

APPLICATION FILED MAY 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:
J. H. Scott
J. H. Gibbs

Inventor:
Andrew G. Steinbrenner
by Bakerwell & Cornwall
attys.

No. 734,989.

PATENTED JULY 28, 1903.

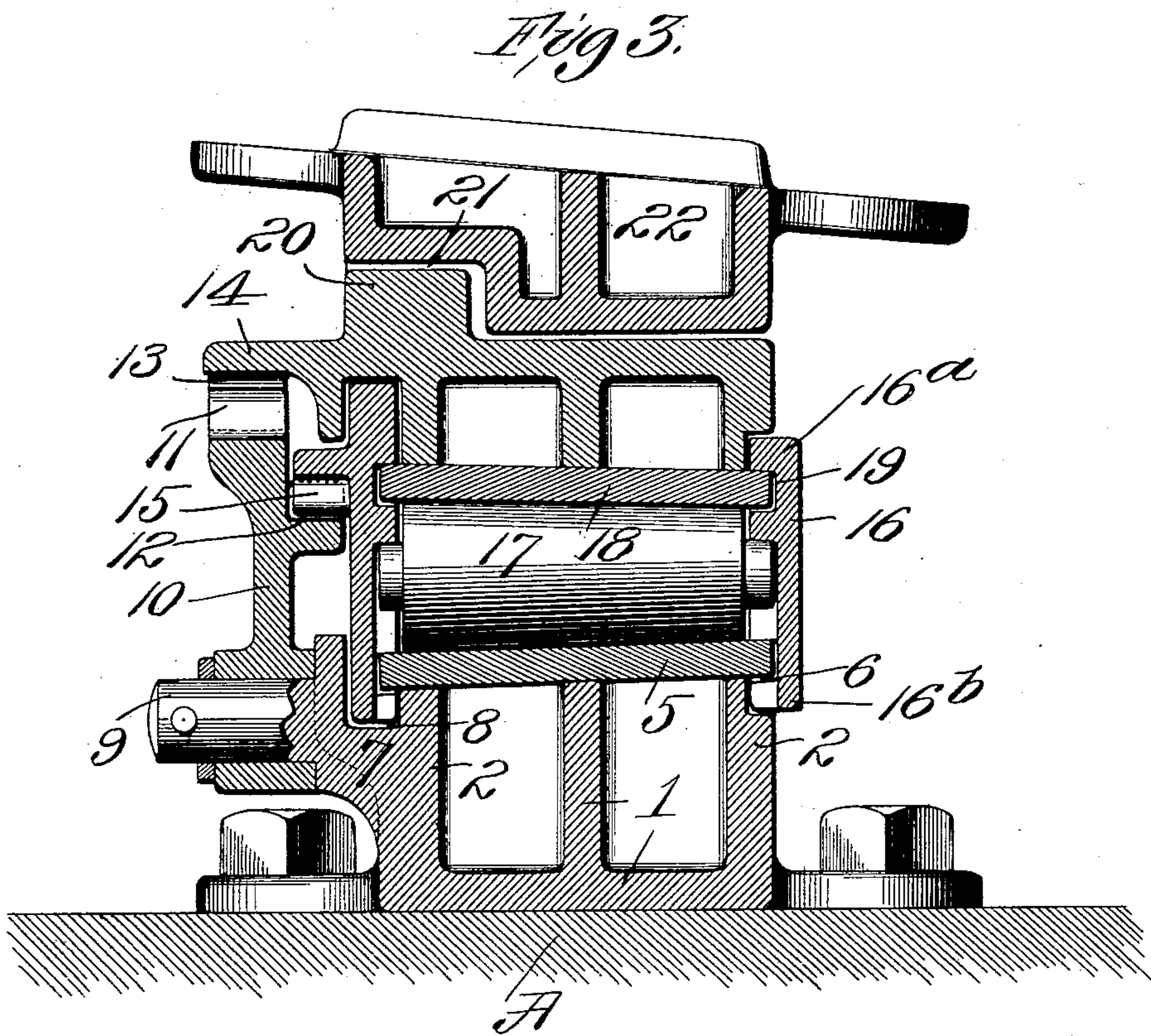
A. G. STEINBRENNER.

SIDE BEARING.

APPLICATION FILED MAY 8, 1903.

NO MODEL.

2 SHEETS--SHEET 2.



Witnesses:

Wm. A. Scott.
J. W. Gibbs

Inventor:

Andrew G. Steimbrenner
by Bakewell & Cornwall
Attys.

UNITED STATES PATENT OFFICE.

ANDREW G. STEINBRENNER, OF ST. LOUIS, MISSOURI.

SIDE BEARING.

SPECIFICATION forming part of Letters Patent No. 734,989, dated July 28, 1903.

Application filed May 8, 1903. Serial No. 156,201. (No model.)

To all whom it may concern:

Be it known that I, ANDREW G. STEINBRENNER, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Side Bearings, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a plan view. Fig. 2 is a side elevational view, and Fig. 3 is a transverse section on line 3 3 of Fig. 2.

This invention relates to a new and useful improvement in side bearings designed for use particularly with rolling-stock.

The bearing shown in the accompanying drawings is of that type known as roller side bearing, and in practice is arranged near the ends of the truck-bolster and on each side of the center plate or bearing, said truck-bolster side bearings cooperating with means on the transom or body-bolster, which forms the support for one end of the car.

The object of the invention is to arrange the cooperating parts in such manner that the greatest possible amount of play between the parts is permitted within the limits of safety, whereby the bearing and associated parts will readily adjust themselves to all conditions of practical railway use, at the same time be strong, durable, and economical.

As is well understood, there are two side bearings at each end of the car, but as they are alike in all essential details I will confine my description of details to one bearing with its correlated parts in the following description of the invention.

In my bearings I employ a base-plate 1, which is bolted or otherwise secured to the truck-bolster A, so as to be rigidly connected thereto and movable therewith, as in rounding curves, &c. Integral with the base-plate 1 is a central raised portion 2, provided at its ends with flanges 3, which have the shoulders 4, forming stops for the plate 5. Secured upon the raised portion 2 is a hardened-steel bearing-plate 5, which plate is wider than the upper main body portion 2, whereby channels 6 are provided between the lower face of said

plate 5 and the upper edges of the portion 2. Projecting laterally from the raised portion 2 is a pintle bearing-section 7, formed integral therewith, between which section 7 and the raised central portion 2 is the channel 8. Integral with the pintle-section 7 is a pintle 9, upon which is hung the segment 10, which segment is provided with the gear-teeth 11 and 12, the teeth 11 meshing with a rack 13 upon the lower face of the cap-plate 14 and the teeth 12 meshing with a laterally-extended downwardly-projecting rack 15, integral with or secured to the roller-frame 16, in which are held the bearing-rollers 17. This roller-frame is constructed, except for the rack 15, substantially like that shown in my application Serial No. 135,385, and it is only necessary to here state that it is provided with means for holding therein said rollers 17, which are common to this class of side bearings, upon which rollers rest the upper bearing-plate 18, which is connected with the cap-plate 14 and slides in channels 19 in the inner face of the roller-frame 16.

In a companion application, Serial No. 156,202, is shown a side bearing wherein the carriage is connected with a gear or segment similar to 10 by means of a pivoted link instead of the rack herein shown, though in many other respects the construction shown in said application is very similar to the one herein shown and described.

In the present construction the pintle-section 7 rises at one side of the roller-frame sufficiently high to provide thereat a very strong guard member adapted to resist lateral thrust of the roller-frame against the same and with the upwardly and downwardly extended portions 16^a and 16^b of the roller-frame cooperating with the bolster-plate and transom-plate at the opposite side forms a stop for effectually preventing any undue lateral thrust of said frame and its rollers 17 upon the plate 5.

Referring to Fig. 2, it will be observed that the pintle bearing-section 7 is divided into three parts by means of the arc-shaped channels 19^a, the purpose of such channels being to provide ways for the inner and smaller portion 12 of the segment 10, which rests nearer the roller-frame 16 than the outer and larger portion 11 thereof.

As in the application referred to, the verti-

cally-projecting elongated member 20 is provided, which member rests within a suitably-shaped seat 21, formed in the lower face of the transom-plate 22, which latter plate is rigidly bolted or otherwise secured to the transom B, a sufficient clearance being provided to permit of some torsional movement of said parts with relation to each other.

Owing to the fact that a bearing of this class is subjected to vertical, horizontal, and oblique pressure, which pressure, owing to various causes in practical railroad use, may be applied at any time no matter what the then present position of the parts, it is quite essential that means be provided incidental to the construction of the several parts which will restore them to normal operative relations, responding at all times positively to the thrust of the transom and bolsters with which they coöperate. Hence I prefer that within the limits of safety the parts shall be so connected as to speedily effect such restoration of normal conditions. Hence the importance of the racks respectively upon the roller-frame 16 and the cap-plate 14 engaging with the segment 10, which latter is pivotally connected with the base member which is secured to the bolster A. By providing the double rack and double-gear segment shown this restoration of parts is effected whether arranged as shown or if the racks are reversed and the segment connected to the cap-plate instead of the bearing-plate, as shown in the drawings, and either arrangement will be within the spirit of my invention.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a side bearing, a bolster-plate, a transom-plate, a carriage with a rack projecting therefrom, and a gear connecting said plates and said carriage; substantially as described.

2. In a side bearing, a bolster-plate, a transom-plate, a carriage slidable thereon, which carriage is interlocked with means on said plates, a guard extending longitudinally of one of said plates, and a double segment connecting said plates and said carriage; substantially as described.

3. In a side bearing, a bolster-plate, a transom-plate, a carriage, a rack on said carriage, a rack on one of said plates, and a segment

rockably connected with the other of said plates in engagement with said carriage and with the rack on said plate; substantially as described.

4. In a side bearing, a bolster-plate, a transom-plate, a carriage, a rack on said carriage, and a segment rockably supported on one of said plates in engagement with said carriage; substantially as described.

5. In a side bearing, a bolster-plate, a transom-plate, a carriage movable longitudinally thereof between said plates, and a segment with gear-teeth in a plurality of arcs connected with one of said plates and meshing with racks respectively on the other of said plates and with said carriage; substantially as described.

6. In a side bearing, a bolster-plate, a transom-plate, a carriage, and a double segment engaging one of said plates and said carriage; substantially as described.

7. In a side bearing, a bolster-plate, a transom-plate, a carriage, and a double segment engaging with racks on one of said plates and said carriage; substantially as described.

8. In a side bearing, a bolster-plate, a transom-plate, a carriage, and a double segment engaging with racks integral with one of said plates and said carriage; substantially as described.

9. In a side bearing, a bolster-plate, a transom-plate, a carriage, and a double segment supported by one of said plates, engaging the other of said plates and said carriage; substantially as described.

10. In a side bearing, a double segment rockable above the bolster, a carriage in engagement therewith, and a slidable plate above said carriage also in engagement with said segment; substantially as described.

11. In a side bearing, bearings connected respectively with a bolster and with a transom, a carriage slidable therebetween, and a double segment connecting said carriage with said bearings; substantially as described.

12. A side bearing comprising a bolster-plate, a transom-plate, a movable frame with friction-reducing means thereon, and a segmental gear pivotally supported on one of said plates, said gear being in engagement with the other of said plates and with said frame; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 5th day of May, 1903.

ANDREW G. STEINBRENNER.

Witnesses:

FREDERICK H. GIBBS,
GEORGE BAKEWELL.