

No. 750,481.

PATENTED JAN. 26, 1904.

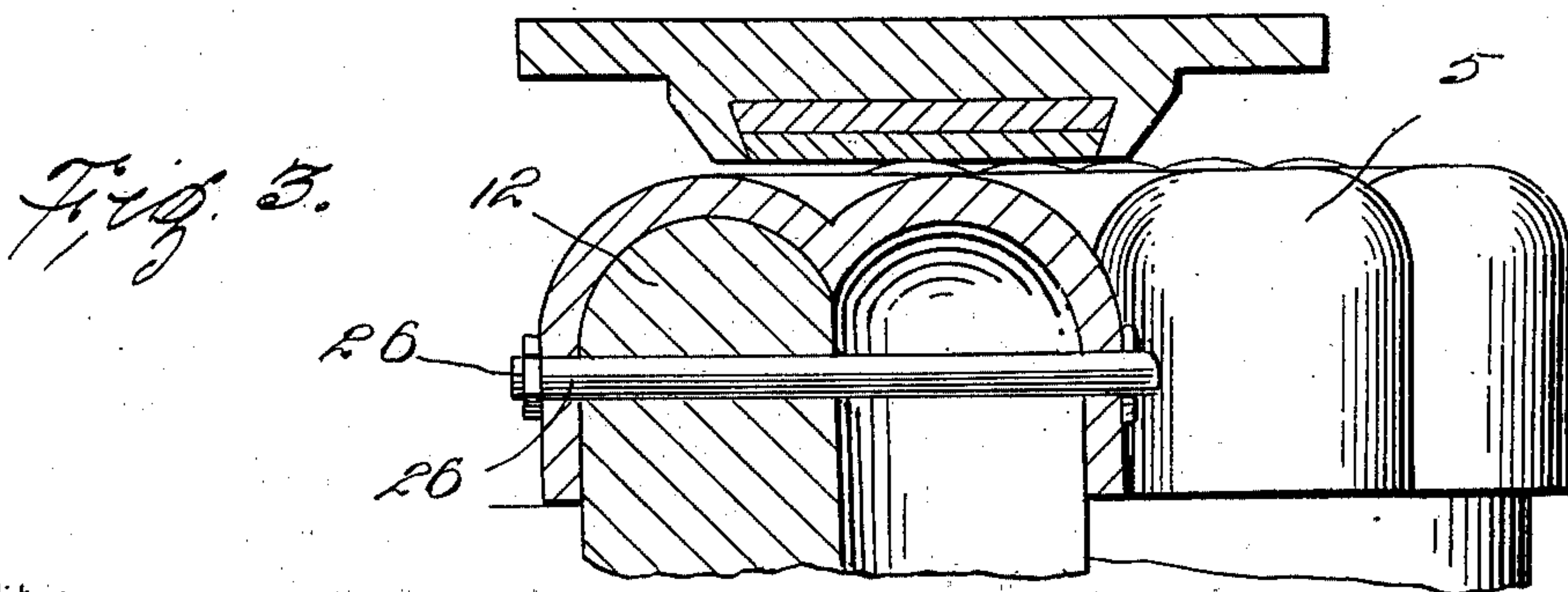
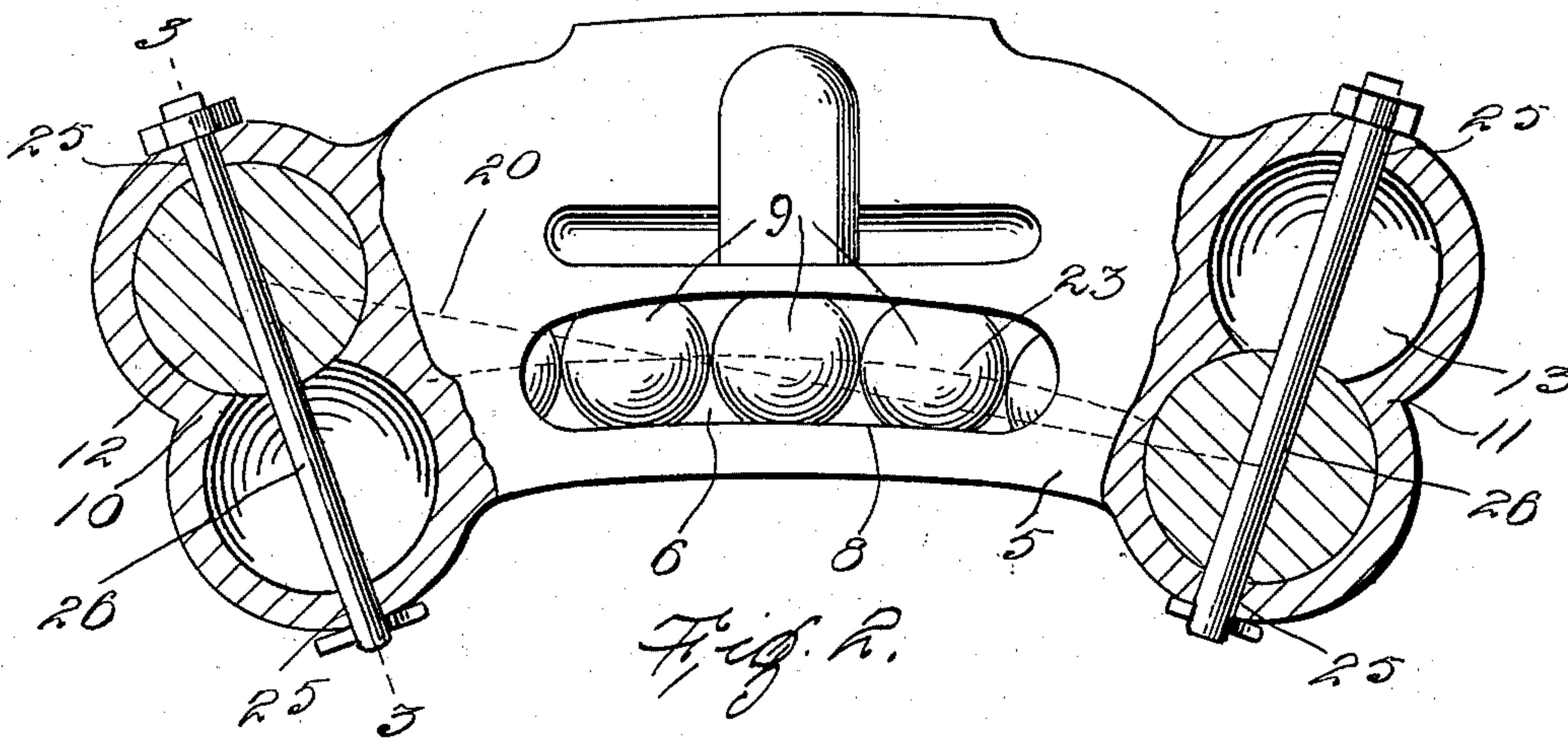
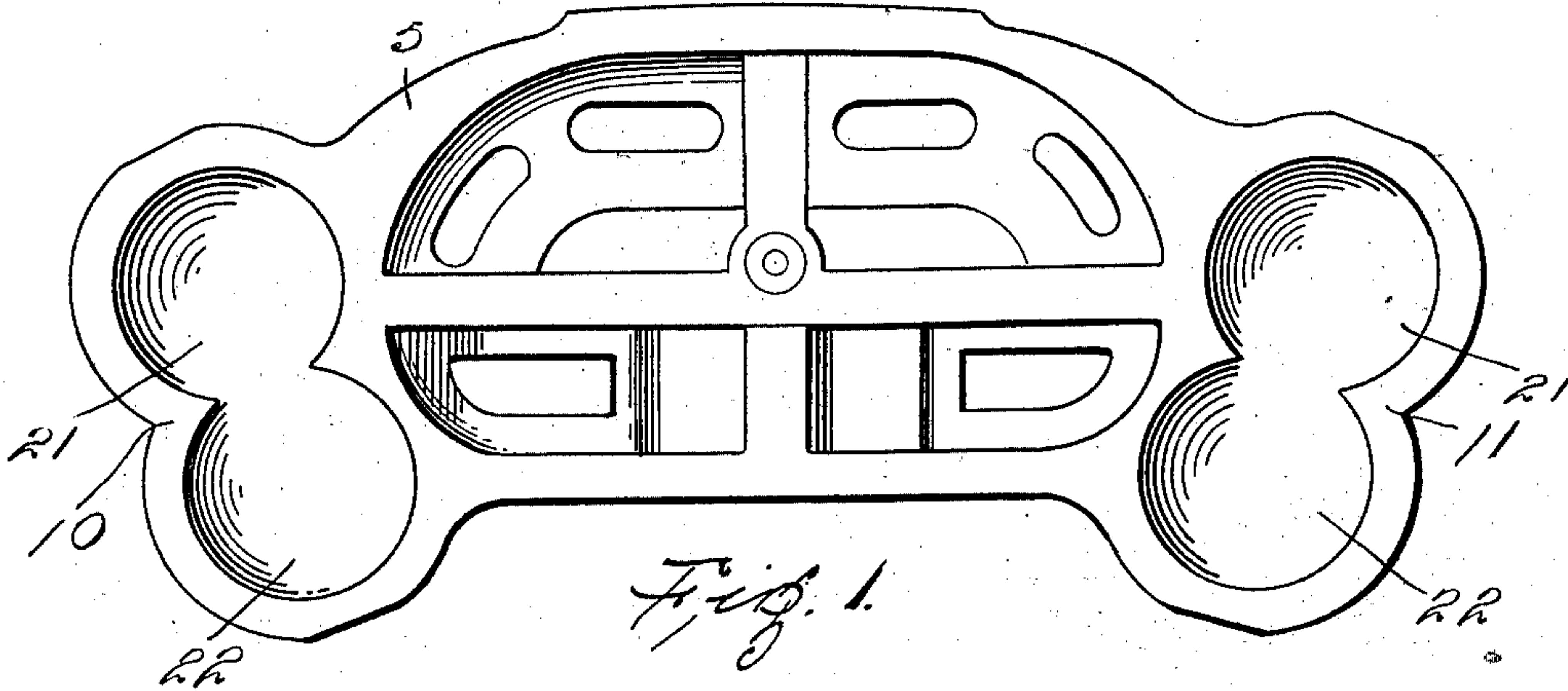
J. E. NORWOOD.

UNIVERSAL STREET CAR SIDE BEARING.

APPLICATION FILED AUG. 5, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
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By *Charles F. Chandler* Attorney

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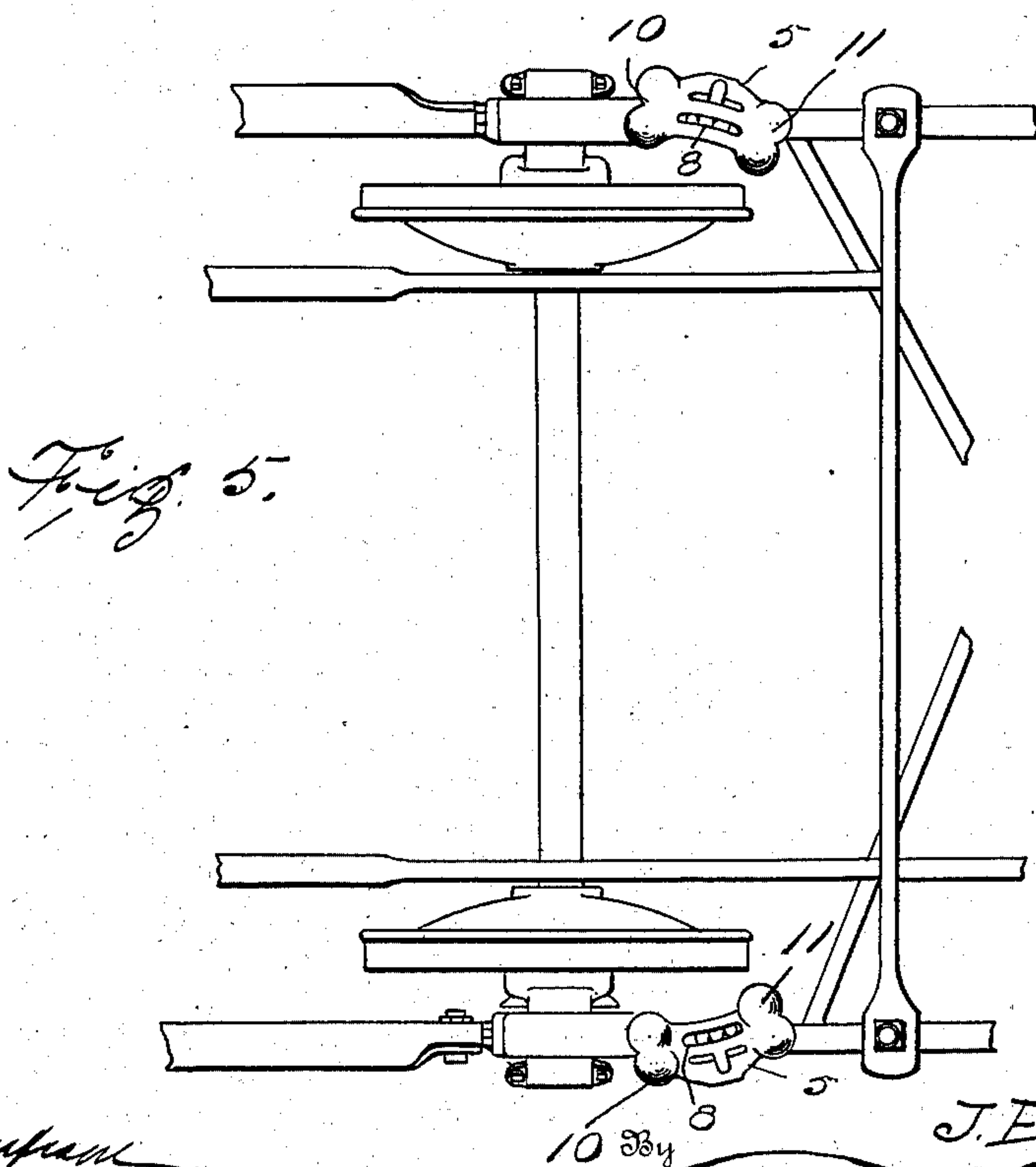
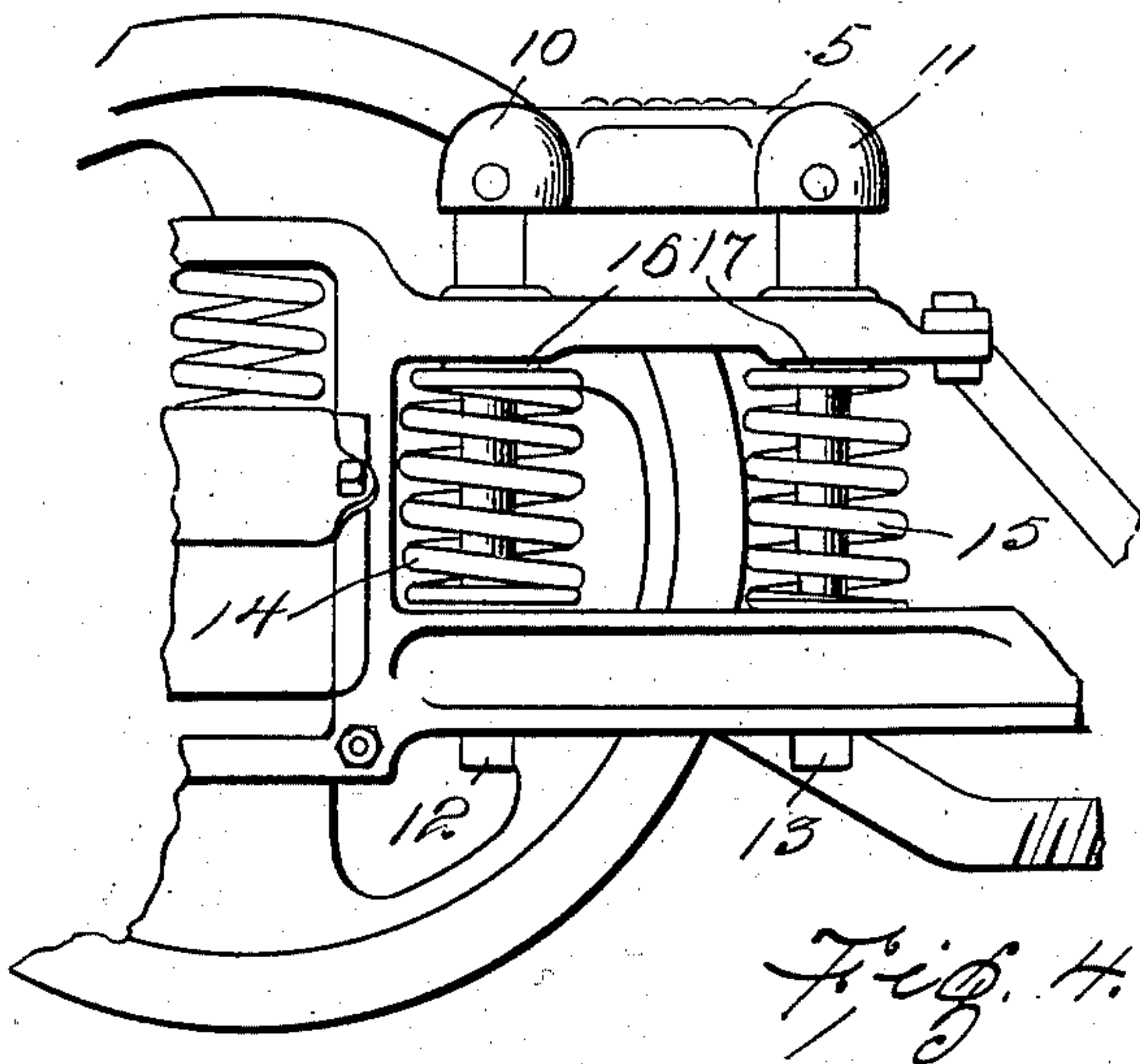
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UNITED STATES PATENT OFFICE.

JOHN E. NORWOOD, OF BALTIMORE, MARYLAND, ASSIGNOR TO BALTIMORE RAILWAY SPECIALTY COMPANY, OF BALTIMORE, MARYLAND, A CORPORATION.

UNIVERSAL STREET-CAR SIDE BEARING.

SPECIFICATION forming part of Letters Patent No. 750,481, dated January 26, 1904.

Application filed August 5, 1903. Serial No. 168,346. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. NORWOOD, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Universal Street-Car Side Bearings; 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.

This invention relates to roller side bearings for cars, and particularly for street-cars, the structure shown being designed for use in connection with what is known as the "Brill" truck, although it will be of course understood that the principles involved may be employed in a bearing for use in connection with any other form of truck and in connection with cars other than street-cars.

In a prior application filed by me on the 14th day of April, 1902, Serial No. 102,867, there is described and claimed a side bearing for Brill trucks wherein the bearing-casing is provided with terminal lugs that are deflected laterally in opposite directions and have each a socket in which is received the upper end of a spring-sustained supporting-post. The bearing-casing and the path of action of the antifriction devices or balls in the bearing in question are of arc shape, and owing to peculiar structure of the Brill truck the supporting lugs or bosses of the casing must be deflected laterally in opposite directions in order to hold the casing and the path of active movement of the balls concentric with the truck. This lateral deflection of the bosses necessitates the bearing-casing being made in sets or pairs including a right-hand casing and a left-hand casing. There are numerous disadvantages in the use of different specific casings for the right and left hand bearings, among which is the necessity for marking the casings, as also the necessity for exercising great care in filling orders for shipment to see that the same number and the proper number of each style of casing is gotten out.

Furthermore, two sets of patterns are required, which necessitates great care at the foundry, and there are numerous other disadvantages well known to those skilled in the art.

The object of this invention is to provide what may be termed a "universal" side bearing, for the reason that it may be properly disposed upon the spring-supported posts at either side of the truck.

In the drawings forming a portion of this specification, in which like numerals of reference indicate similar parts in the several views, Figure 1 is a bottom plan view showing a bearing-casing embodying the present invention. Fig. 2 is a view showing the central portion of the bearing-casing in top plan with the end supporting-lugs in horizontal section, as also the spring-sustained posts on which the casing is mounted. Fig. 3 is a section on line 3 3 of Fig. 2. Fig. 4 is a side elevation showing a portion of a truck with a bearing-casing disposed thereon. Fig. 5 is a diagrammatical view of a truck with the bearing-casing thereon.

Referring now to the drawings, there is shown a bearing-casing comprising a body portion 5, which is similar in form to the central body portion of the bearing-casing in the application above referred to, said casing having a continuous ball-receiving passage 6 of substantially elliptical shape therein, with the major axis of the ellipse disposed longitudinally with the casing. At what may be termed the "inner" side of this casing the ball-passage opens through the top of the casing in the form of a slot 8, and this portion of the passage instead of curving outwardly is curved inwardly, so that when the casing is in position upon a truck said inwardly-curved portion of the passage will be concentric with the axis of oscillation of the truck. The ball-passage contains bearing-balls 9, which move through the passage into and out of the slotted portion of the passage, in which they are in active position. The balls in the slotted

portion of the passage project through the slot to receive the cooperating wear-plate on the car-body. At the ends of the body portion 5 of the casing are bosses 10 and 11, which are deflected laterally to a slight degree in the same direction, or, in other words, in the direction of the inner side of the casing, which is the side which when upon the truck is toward the center of the truck. This lateral deflection of both end bosses serves to give to the bearing-casing a substantially arc shape.

The truck to which the bearing is to be applied is provided at each side with two spring-sustained supporting-posts 12 and 13, the sustaining-springs for which are shown at 14 and 15 resting with their lower ends upon the truck-frame and with their upper ends against the shoulders 16 and 17 of the posts. The supporting-posts 12 and 13 at each side of the truck are arranged fore and aft of the truck, and owing to the peculiar build of the truck the posts at each side of the truck are not arranged at opposite sides of and equidistant from a transverse line passing through the axis of oscillation of the truck. On the contrary, they are displaced to some extent longitudinally of the truck. This arrangement of the posts necessitates the mounting of each casing upon its posts so that a line connecting the centers of the posts will pass diagonally through the path of active movement of the bearing-balls, such a line being indicated at 20. The end bosses 10 and 11 of the casing are each of such width as to accommodate two sockets 21 and 22 in its lower face side by side transversely of the boss, these sockets being substantially hemispherical. The sockets 21 and 22 are so positioned that lines connecting the sockets 21 with the sockets 22 at the opposite ends of the casing will intersect the medial longitudinal line of the path of the bearing-balls at the same point, said medial line being indicated at 23. The sockets of the end bosses are the support-receiving or support-securing portions of the structure, and with the arrangement of the end bosses with their sockets as above described when the bearing-casing is to be used at one side of the truck the supporting-posts are engaged with their upper rounded ends in one pair of sockets 21 and 22, one at either end of the casing, and when the casing is to be used at the other side of the truck it is disposed to receive the supporting-posts at that side in the other pair of sockets 21 and 22, one at either end of the casing.

With the present construction and arrangement it will be seen that there is provided the casing which may be termed "universal" in that it may be arranged at either side of the truck, this casing eliminating all necessity of making the casings in pairs, as heretofore, the

numerous advantages far outweighing the slight additional expense of material in the broader bosses. It will be noted that the sockets 21 and 22 communicate at each end of the casing, although this is not always necessary, as when smaller posts are employed. Through the outer side walls of the bosses are formed alining perforations 25, which receive pins 26, that hold the casing upon the posts with sufficient looseness to permit of rocking movement due to changes in relative positions of the truck and body.

What is claimed is—

1. In a bearing for railway-cars, a main body portion having means for receiving the weight of the car-body and having at each end a plurality of sockets disposed side by side transversely of the body portion and adapted to receive in diagonally opposite pairs, supporting-posts.

2. In a side bearing for railway-cars, a main body portion having means for receiving the weight of a car-body and having at each end, a plurality of support-securing portions arranged side by side transversely of the body portion and adapted in diagonally opposite pairs, to receive supporting-posts.

3. The combination with a truck having supporting-posts at each side thereof located at different distances from the center of oscillation of the truck, of a bearing member at each side of the truck, each of the bearing members having a pair of sockets at each end, disposed side by side transversely of the member adapted for engagement in diagonally opposite pairs with the posts at opposite sides of the truck interchangeably.

4. In a side bearing for railway-cars, the combination with a casing, of antifriction devices carried thereby and having an arc-shaped active path of movement, and projections at the ends of the casing, said projections each having a pair of sockets for receiving the ends of supporting-posts, said sockets being disposed side by side transversely of the direction of movement of the antifriction devices and in such positions that lines connecting the diagonally opposite sockets will intersect the active path of movement of the antifriction devices.

5. In a side bearing for railway-cars, the combination with a casing, of antifriction devices carried thereby and projections at the ends of the casing, said projections each having a plurality of sockets disposed side by side transversely of the casing and adapted to receive in diagonally opposite pairs, supporting-posts.

6. The combination with a truck having at each side supporting-posts displaced longitudinally of the truck from the center of oscillation of the latter, of a bearing for each side of the truck having a curved active portion

adapted to lie concentric with the center of
oscillation of the truck, each of said bearings
having at its ends a separate means for recep-
tion of said supporting-posts, said means be-
5 ing so positioned that when engaged with the
posts, the bearing will be concentric with the
axis of oscillation of the truck

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

JOHN E. NORWOOD.

Witnesses:

MURRAY HANSON,
BENJ. W. BERRY.