

No. 682,927.

Patented Sept. 17, 1901.

J. GOGEL.
FIFTH WHEEL.

(Application filed Sept. 10, 1900.)

(No Model.)

Fig. 1.

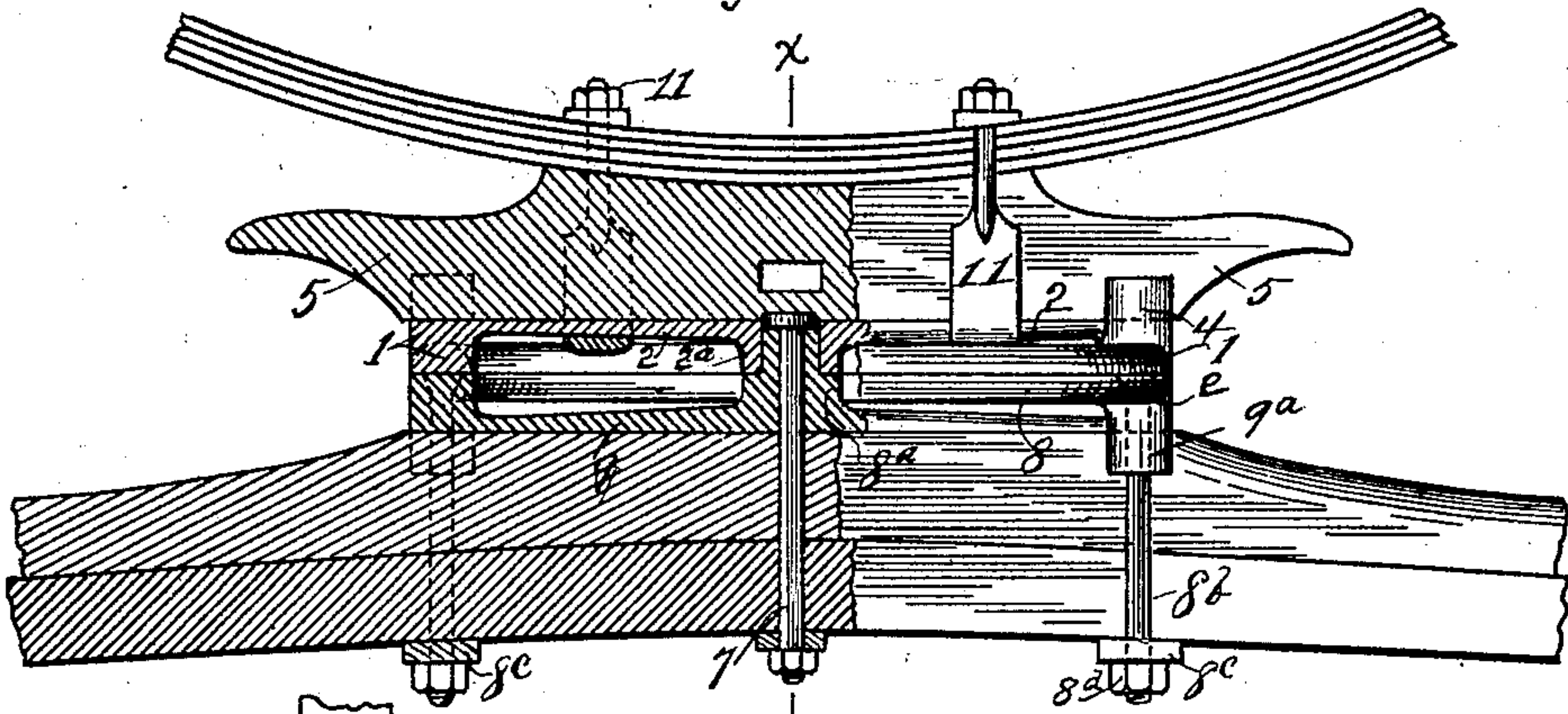


Fig. 2.

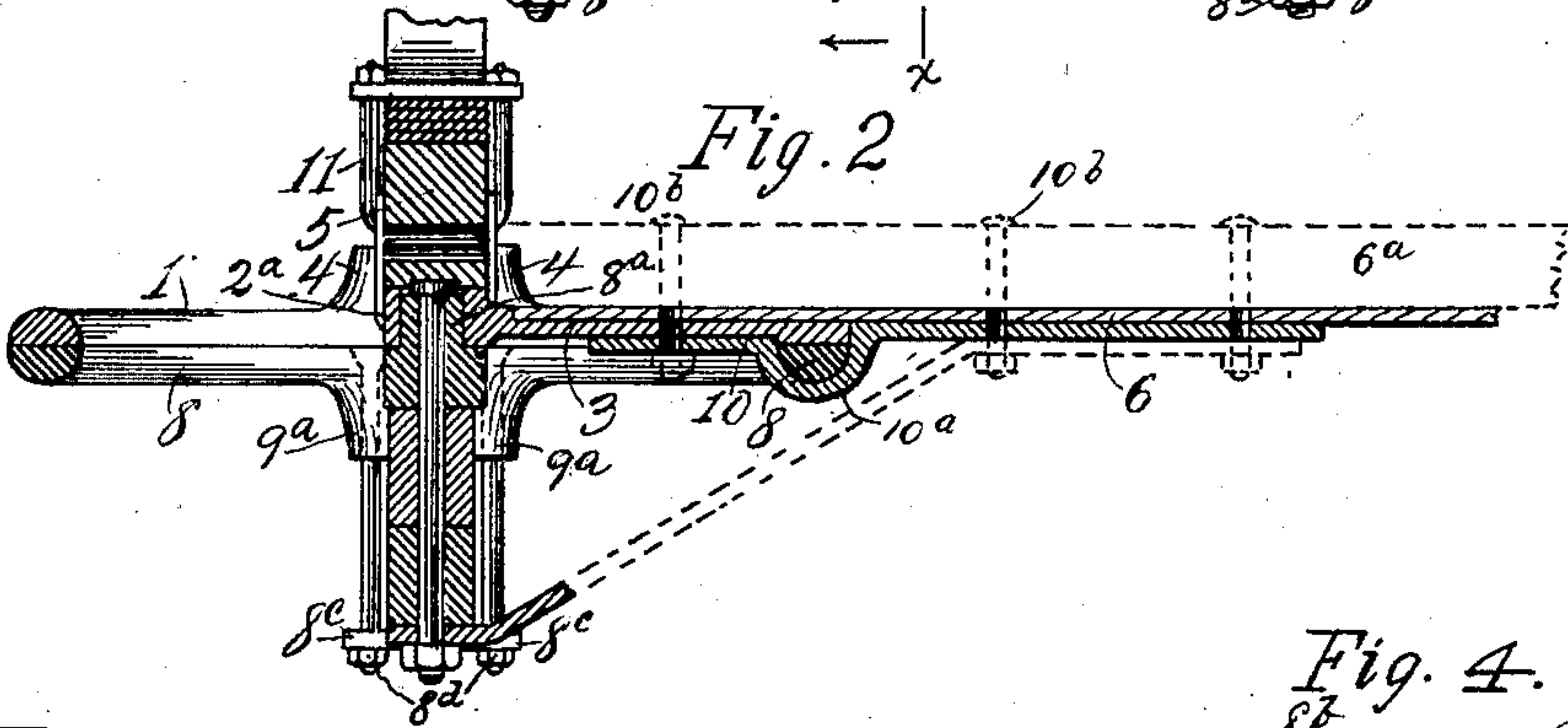


Fig. 3.

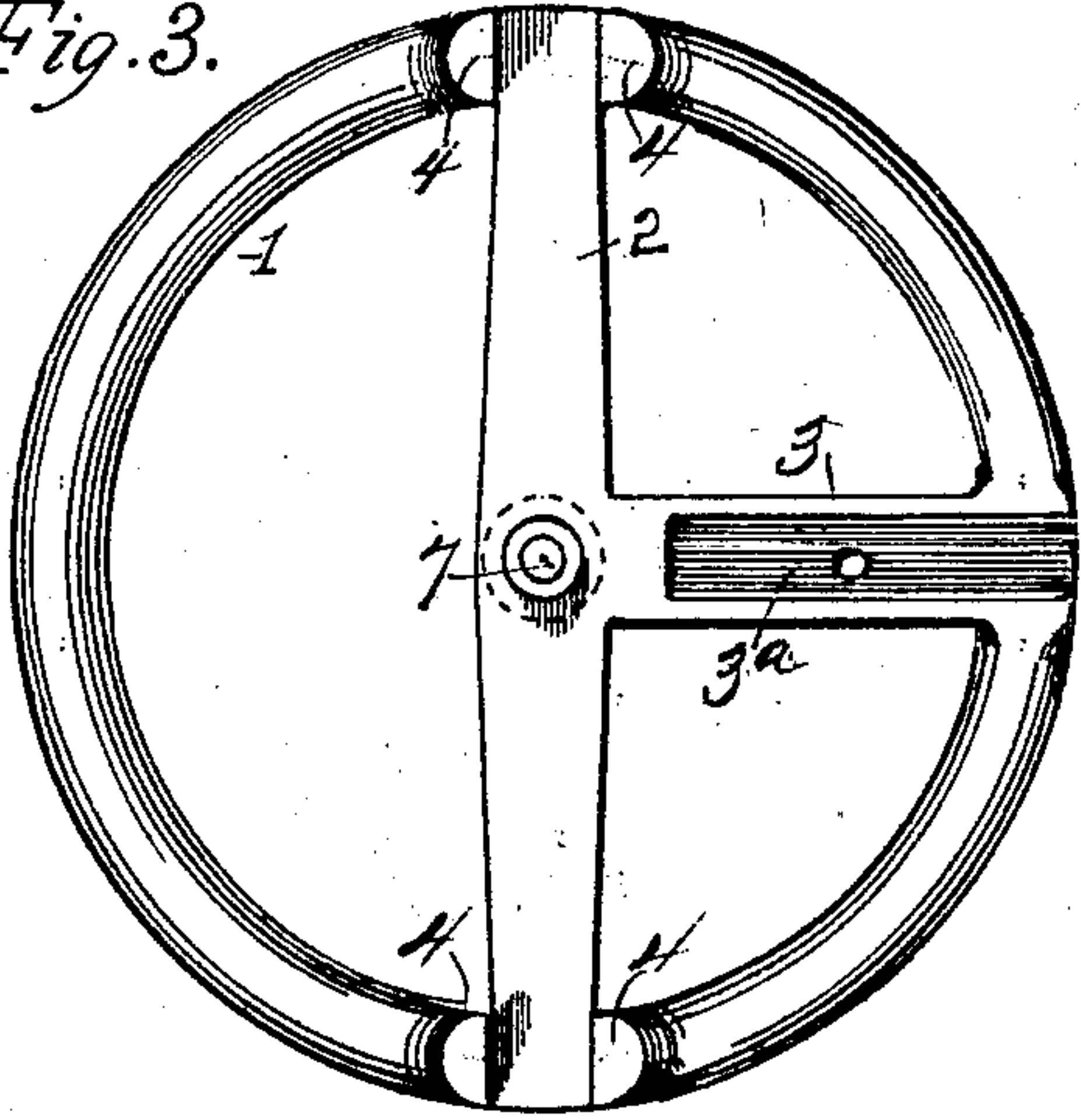
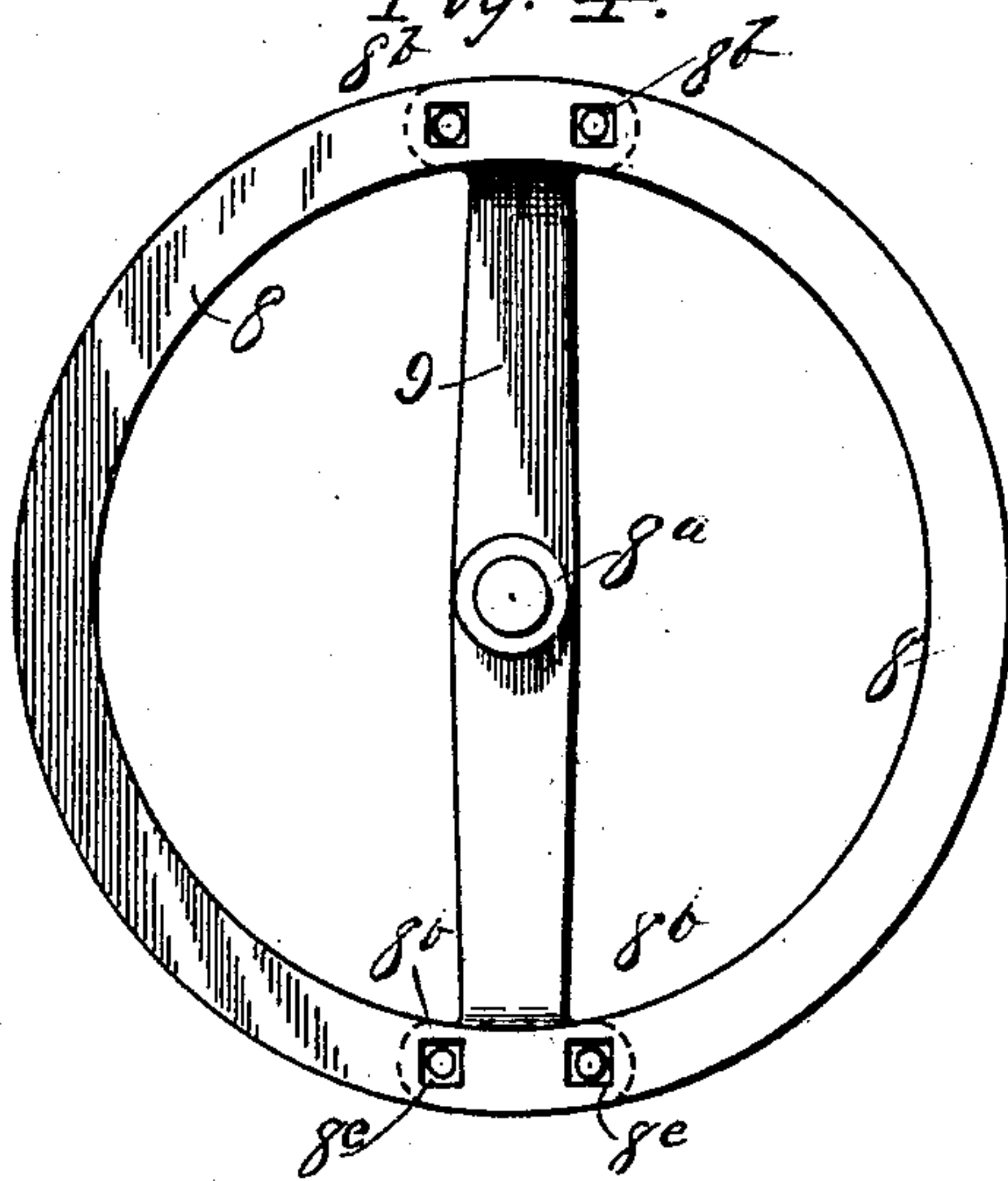


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 682,927, dated September 17, 1901.

Application filed September 10, 1900. Serial No. 29,494. (No model.)

To all whom it may concern:

Be it known that I, JACOB GOGEL, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have
5 invented certain new and useful Improvements in Fifth-Wheels; and I do 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
10 to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

My invention relates to and its object is to
15 provide a cheap, simple, light, strong, and durable fifth-wheel for vehicles, and more particularly to furnish a fifth-wheel which may be rigidly secured in place without weakening the parts by the usual numerous holes
20 therethrough and which shall furnish a maximum of bearing-surfaces between the upper and lower members with the minimum of size and weight.

My invention further consists in the details
25 of construction hereinafter described, and pointed out in the claim.

I attain the objects referred to by means of the construction and arrangement of parts hereinafter described, and shown and illustrated in the accompanying drawings, in
30 which—

Figure 1 is a front view, partly in central vertical section, of my fifth-wheel in place; Fig. 2, a side elevation of the same in central
35 longitudinal vertical section; Fig. 3, a top plan view of the upper circle, hereinafter referred to, detached; and Fig. 4, a top plan view of the lower circle, hereinafter referred to, detached.

40 Like numerals of reference indicate like parts throughout the drawings.

In the drawings, 1 is the upper circle, flat and smooth at bottom and rounded in transverse section at top. A diametrical cross-
45 arm 2 connects the opposite sides of this circle, and a radial arm 3, leading from the middle of the arm 2, is joined to the rim, the two arms 2 3 forming an integral T-plate. At each end of the arm 2 is a pair of upwardly-projecting
50 lugs 4 for the reception of the head-block 5. The arm 3 is countersunk, as at 3^a, for the reception of the reach-plate or perch-strap 6,

the upper surface of which when in place is flush with the top of the plate 3 and projects backwardly and is connected with the reach
55 or perch 6^a, as illustrated in Fig. 2. At the middle of the arm 2 is a downwardly-projecting boss 2^a, through which is an opening for the reception of a corresponding boss on the lower circle and for the passage of the king-
60 bolt 7.

8 is the lower circle, the upper face of which is flat and smooth and the lower surface of which is rounded in transverse section. The cross-arm 9 connects opposite sides of the cir-
65 cle 8. At the middle of this cross-arm is an upwardly-projecting boss 8^a, which engages the boss 2^a on the upper circle. The contacting faces of the bosses 2^a and 8^a are in the same plane with the contacting flat faces of
70 the upper and lower circles. The circle 8 is also provided at each end of the cross-arm 9 with two downwardly-projecting lugs 9^a, which are spaced apart for receiving the axle, as shown in Fig. 2. The circle and the two
75 lugs are provided with vertical bolt-holes. The lugs 9^a strengthen the circle, give long strong bearings for the bolts 8^b, and make a rigid connection between the circle and axle. The upper face of circle 8 has adjacent to
80 each end of bar 9 two rectangular countersunk recesses 8^c for receiving the square heads of the bolts 8^b, and from these recesses are extended the bolt-holes down through the two lugs 9^a.
85

10 is a circle-guard consisting of a flat strap having a downward bend 10^a. The circle-guard is secured to the bottom side of the T-
90 arm 3 by means of bolts 10^b, which pass through the reach or perch, the reach-plate 6, the T-arm 3, and the circle-guard 10. The downward bend 10^a in the guard-plate loosely receives the lower circle 8.

My device is assembled and operated as follows: The lower circle is secured to the
95 axle and axle-bed by means of separable square-headed bolts 8^b, passing down through the plate and its lugs at each end of the cross-arm 9, the bolts at bottom engaging opposite ends of cross-bars 8^c on the under side of the
100 axle by means of nuts 8^d. The upper circle is engaged with the lower circle by means of the bosses 2^a and 8^a, one slipping over the other. The king-bolt 7 is passed downwardly

through the center of the bosses of both circles and through the axle and is secured at bottom by means of a nut on its threaded lower extremity. The head-block, which rests
 5 upon the arm 2 and between the upwardly-projecting lugs 4, is secured to the upper circle by means of clips 11, which embrace the arm 2, the head-block, and the forward spring. The reach, the reach-plate, and the
 10 circle-guard are secured together by means of the bolts 10^b, and the device is now assembled and ready for use. The upper circle is stationary, while the lower circle swings with the axle, the bearings and the friction be-
 15 tween the upper and lower members being the two flat meeting faces of the upper and lower circles and the contacting parts of the bosses 2^a 8^a.

It will be seen that the advantages of the
 20 construction here shown are that the cross-arms of the upper circle and of the lower circle being separated some distance from each other in parallel planes permit the upper cross-arm to be secured to the head-block by
 25 means of clips 11, embracing the arm 2. As the arm is straight, the clip may be moved to or fro along the arm and secured to the head-block at any desired point. As the ironing and trimming of different vehicles
 30 vary, the arrangement by which the clips 11 may be secured to the arm 2 at any desired point renders my fifth-wheel applicable to a variety of vehicles. It is obvious that the clamping of the arm 2 and head-block to-
 35 gether by means of encircling clips without holes avoids weakening the arms and head-block and insures the greatest strength and rigidity with the least weight of parts.

Another advantage found in my construc-

tion is the use of the separable square-headed 40 bolts 8^b, passing down through the plate, and the downwardly-projecting lugs 9^a at each end of the cross-arm 9. By dropping the square head of the bolt into the countersunk
 45 recess 8^c of the upper face of the plate the bolt is prevented from turning and the plate from becoming loosened. As the plates and bolts are separable, bolts of different lengths
 50 may be used, and thus the device may be accommodated to axles of greater or less thickness. The lateral lugs 9^a give long rigid bearings for the separable bolts and strengthen
 the connection of the circle 8 with the axle.

Having described my invention, what I claim, and desire to secure by Letters Pat- 55 ent, is—

In a fifth-wheel, the combination with the upper circle having a cross-arm and central perforated boss, of the lower circle 8 having
 60 a cross-arm 9, a central perforated boss and two lateral, downwardly-projecting lugs 9^a at each end of said cross-bar, said lugs being spaced apart to receive the axle, and having
 65 vertical bolt-holes, and the face of said lower circle having at each end of bar 9 two rectangular countersunk recesses 8^c, two pair of square-headed, removable bolts in the holes
 70 of the lugs with their heads in said recesses, and a cross-plate beneath the axle engaged by said pairs of bolts and by nuts, substantially as described.

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

JACOB GOGEL.

Witnesses:

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