

No. 731,276.

PATENTED JUNE 16, 1903.

J. BURNS.
FIFTH WHEEL.

APPLICATION FILED NOV. 1, 1901.

NO MODEL.

2 SHEETS—SHEET 1.

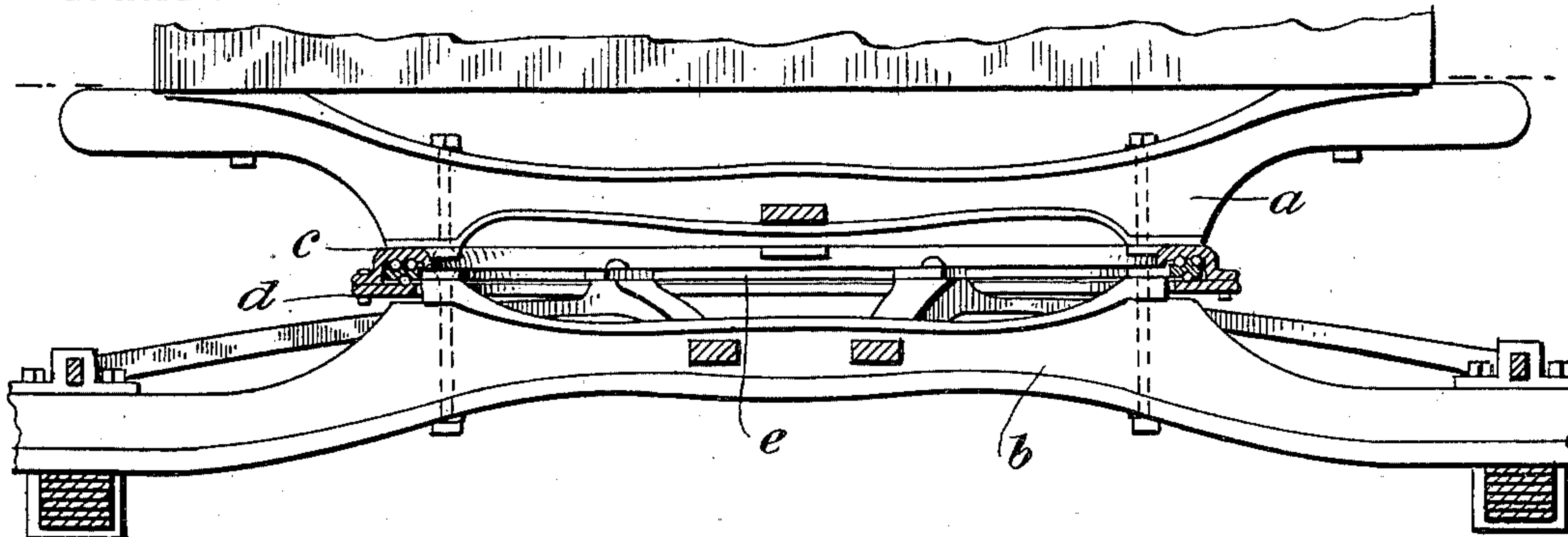


Fig 1

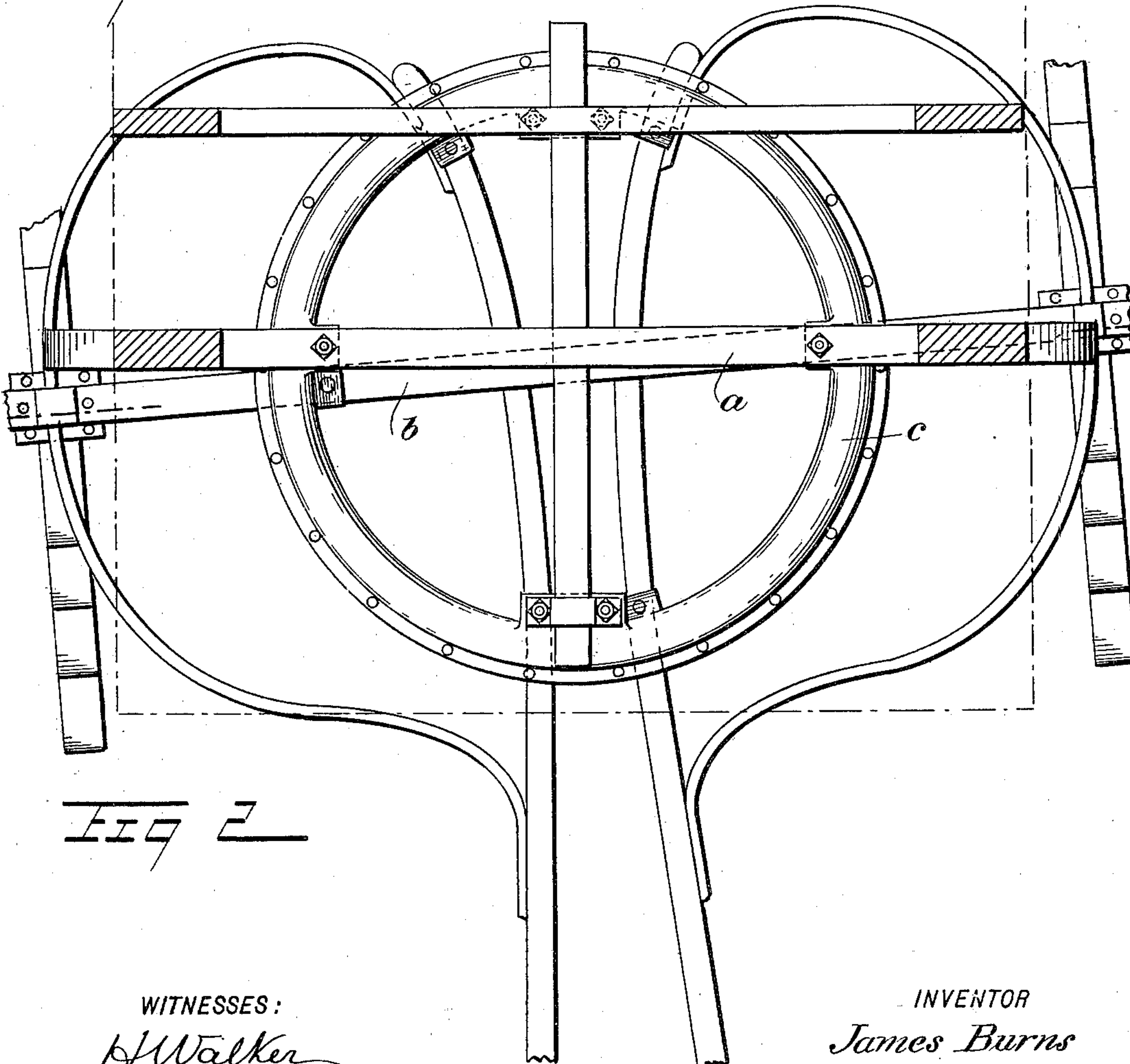


Fig 2

WITNESSES:

H. Walker

J. B. Owens

INVENTOR

James Burns

BY

Mumford

ATTORNEYS

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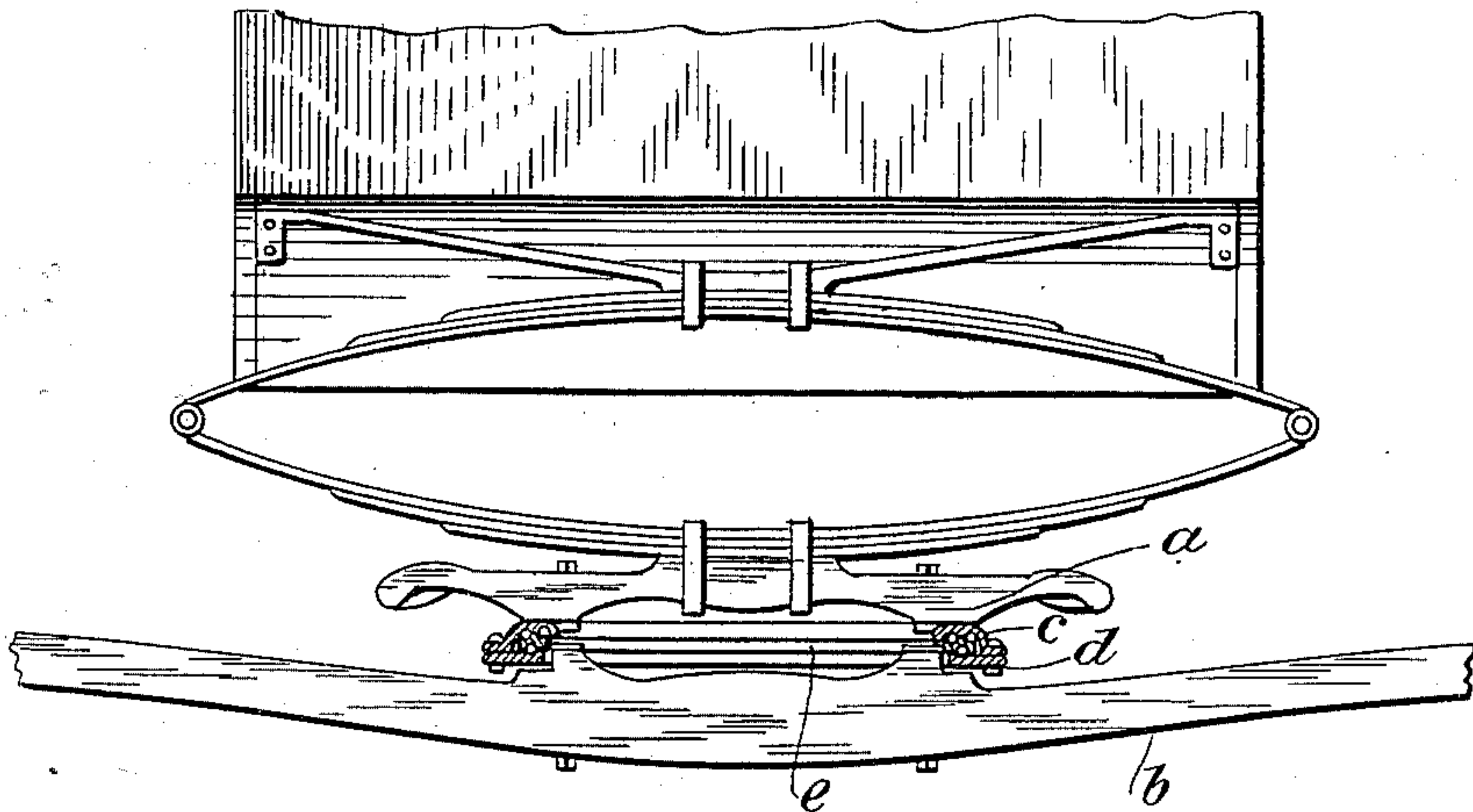
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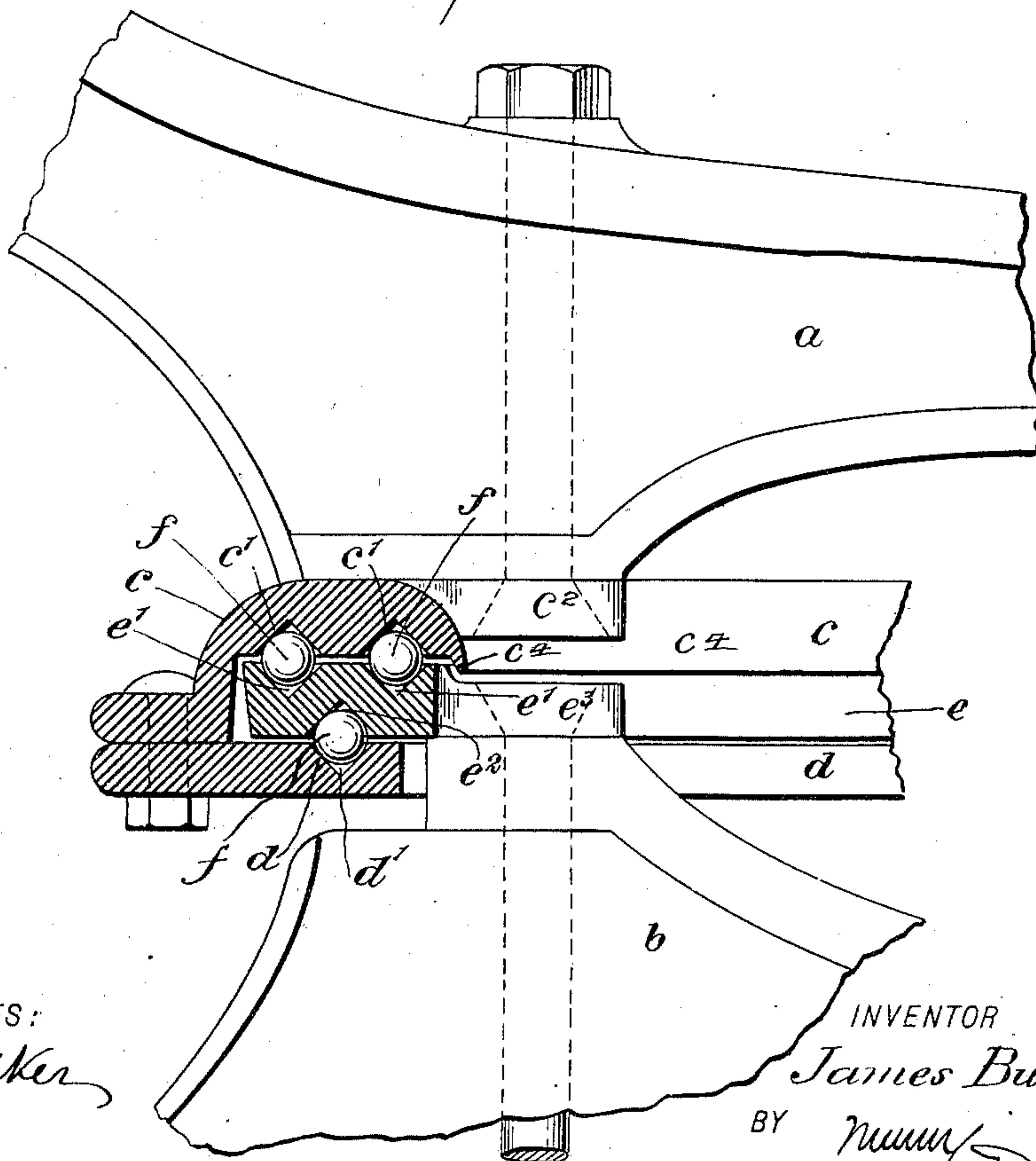
NO MODEL.

2 SHEETS—SHEET 2.

Fig 3



II 9 4



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UNITED STATES PATENT OFFICE.

JAMES BURNS, OF BROOKLYN, NEW YORK.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 731,276, dated June 16, 1903.

Application filed November 1, 1901. Serial No. 80,800. (No model.)

To all whom it may concern:

Be it known that I, JAMES BURNS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the
5 county of Kings and State of New York, have invented a new and Improved Fifth-Wheel, of which the following is a full, clear, and exact description.

The object of this invention is to construct
10 a fifth-wheel which will not only reduce the friction attending the movement of the parts, but will also provide a device which may be kept clean and which will avoid the unsightly appearance common to fifth-wheels of the
15 usual construction.

This specification is a specific description of two forms of the invention, while the claims are definitions of the actual scope thereof.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view of the invention, showing it applied to one form of vehicle.
25 Fig. 2 is a plan view of the same. Fig. 3 is a sectional view showing the invention applied to another form of vehicle, and Fig. 4 is an enlarged sectional view illustrating a detail construction of the device.

30 *a* indicates a part rigidly connected with the body of the vehicle, and *b* indicates the front axle or transom-bar, which is arranged to turn, as will be understood. These parts are connected together by my fifth-wheel, which
35 comprises an annular casing closed at all sides except at its inner circumference. This casing is made up of a continuous annular upper section *c* and a continuous annular lower section *d*, rigidly yet removably bolted or otherwise fastened together, the upper section
40 being formed with two ball-races *c'* therein and the lower section being formed with one ball-race *d'* therein, the ball-race *d'* being located intermediate the races *c'* and all of the
45 ball-races extending continuously around the said annular casing. This annular casing is fastened rigidly to the stationary part of the vehicle—namely, the part *a*. (Shown in the drawings by inwardly-projected lugs *c*².)

50 Within the annular casing is located a ring *e*, which is fastened suitably to the axle or transom-bar *b* by inwardly-projected lugs *e*³ and

constitutes the sluing part of the fifth-wheel, this ring fitting loosely in the casing, so as to turn freely therein. The ring *e* is provided
55 in its top face with two ball-races *e'*, matching the ball-races *c'*, and in its bottom face with a ball-race *e*³, matching the ball-race *d'*. Within the several ball-races are located the
60 antifriction-balls *f*, which serve not only to lock together the parts *c*, *d*, and *e*, but also to mount the part *e* between the parts *c* and *d* with the least possible friction. The upper
65 section *c* of the stationary casing has at its inner edge a downwardly-projecting annular lip *c*⁴, which lies inside of the ring *e* and tends to prevent the entry of dirt into the casing.
Now it will be observed that by this construction the axle or transom-bar is connected to
70 the vehicle so that it may turn freely and that this turning movement will be attended by the least friction possible. Further, none of the turning parts are exposed to view, and therefore the unsightly and dirty sliding parts
75 of the usual fifth-wheel are avoided. Dust cannot enter the turning parts, owing to the form of the top section *c* of the casing, which section entirely covers the turning or sluing
80 part *e*. Further, owing to the arrangement of the ball-races *c'*, *e'*, *e*³, and *d'* the ring *e* is not allowed to wobble or turn within the casing, because three bearing-points are provided, said bearing-points being in essentially
85 triangular relation, so as to hold the ring from movement in all directions.

Various changes in the form, proportions, and minor details of my invention may be resorted to without departing from the spirit and scope of my invention. Hence I consider myself entitled to all such variations as may
90 lie within the scope of my claims.

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

1. An annular fifth-wheel, the whole central part of which is open, said fifth-wheel
95 being formed of a rigid annular or full circular casing closed at all points except at its inner periphery, means extending from the casing whereby to fasten it to one part of the
100 vehicle, a rigid ring contained in the casing to turn around the center of the annular fifth-wheel, said ring having lugs projecting inward and extending loosely through the said

open inner periphery of the casing, the lugs serving to permit fastening the ring to the other part of the vehicle, and antifriction bearing devices acting between the casing and the ring, said bearing devices comprising three divisions in triangular relation to each other, for the purpose specified.

2. An annular fifth-wheel, the whole central part of which is open, said fifth-wheel being formed of an annular casing closed at all points except at its inner periphery, lugs projecting inwardly and essentially horizontally from the casing to permit fastening it to one part of the vehicle, a ring contained in the casing to turn around the center of the annular fifth-wheel, lugs projecting inward from the ring and passing loosely through the said open inner periphery of the casing, said latter lugs serving to permit fastening the ring to the other part of the vehicle, two rows of bearing devices lying between one side of the ring and the adjacent inner side wall of the casing, and a single row of bearing devices lying between the other side of the ring and the adjacent inner side wall of the casing, all of said rows of bearing devices being circular and concentric to the axis of the fifth-wheel, and the last-named row lying intermediate the positions of the first two rows.

3. An annular fifth-wheel, the whole central part of which is open, said fifth-wheel being formed of a casing closed at all points except at its inner periphery, the casing being adapted to be fastened to one part of the vehicle, a ring contained in the casing to turn around the center of the fifth-wheel, lugs projecting inward from the ring, means for connecting the ring with the other part of the vehicle, two rows of bearing devices lying between one side of the ring and the adjacent inner side wall of the casing, and a single row of bearing devices lying between the other side of the ring and the adjacent side of the casing, all of said rows of bearing devices being circular and concentric to the axis of the fifth-wheel and the last-named row lying intermediate the position of the two first-named rows.

4. An annular or ring-like fifth-wheel, the whole central part of which is open, said fifth-wheel being formed of a rigid annular or ring-like casing comprising continuous annular upper and lower sections removably fastened together and the casing being open at its inner periphery and having projecting lugs to fasten the casing to the one part of the vehicle, and a permanently-rigid ring lying in the casing and sustained between the top

and bottom interior walls thereof, to move in the casing around the axis of the ring, said ring having horizontally-disposed lugs projecting from its inner periphery inward through the said open inner side of the casing to fasten the ring to the second part of the vehicle, the two rigid parts of the fifth-wheel being guided the one in the other independently of a central connection.

5. An annular or ring-like fifth-wheel, the whole central part of which is open, said fifth-wheel comprising a rigid annular or ring-like casing open at its inner periphery and having projecting lugs to fasten the casing to the one part of the vehicle, a permanently-rigid ring lying in the casing, antifriction bearing devices lying between said ring and the top and bottom interior walls of the casing, whereby said ring is mounted to move in the casing around the axis of the ring, the ring having horizontally-disposed lugs projecting from its inner periphery inward through said open inner side of the casing to fasten the ring to the second part of the vehicle, and the two rigid parts of the fifth-wheel being guided the one within the other independently of a central connection.

6. An annular or ring-like fifth-wheel, the whole central part of which is open, said fifth-wheel being formed of a rigid annular or ring-like casing comprising continuous annular upper and lower sections removably fastened together and the casing being open at its inner periphery and having projecting lugs to fasten the casing to the one part of the vehicle, and a permanently-rigid ring lying in the casing and sustained between the top and bottom interior walls thereof, to move in the casing around the axis of the ring, said ring having horizontally-disposed lugs projecting from its inner periphery inward through the said open inner side of the casing to fasten the ring to the second part of the vehicle, the two rigid parts of the fifth-wheel being guided the one in the other independently of a central connection, and the casing having an annular lip projecting downward from the upper wall thereof and lying inward of the inner periphery of the ring to exclude dust from the fifth-wheel.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES BURNS.

Witnesses:

JAMES F. ROACH,
JACOB SCHAEFER.