

No. 701,933.

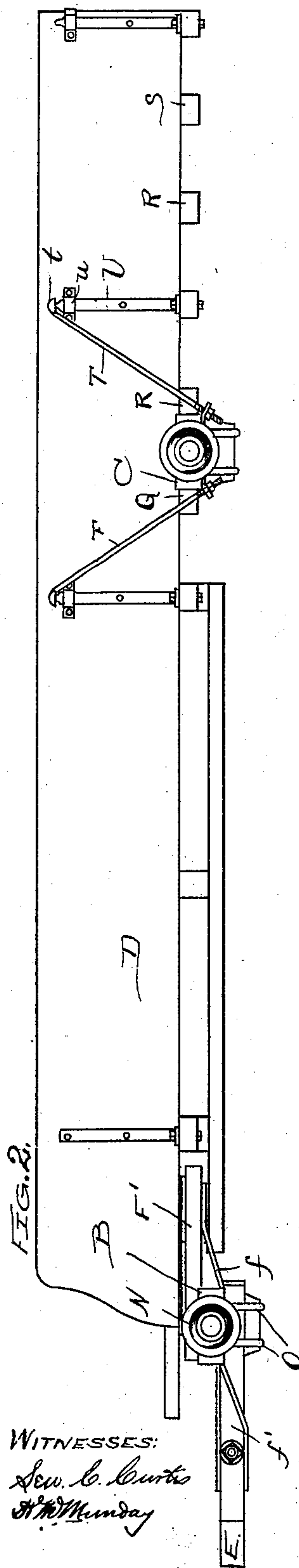
Patented June 10, 1902.

S. D. REYNOLDS.
WAGON.

(Application filed June 4, 1895.)

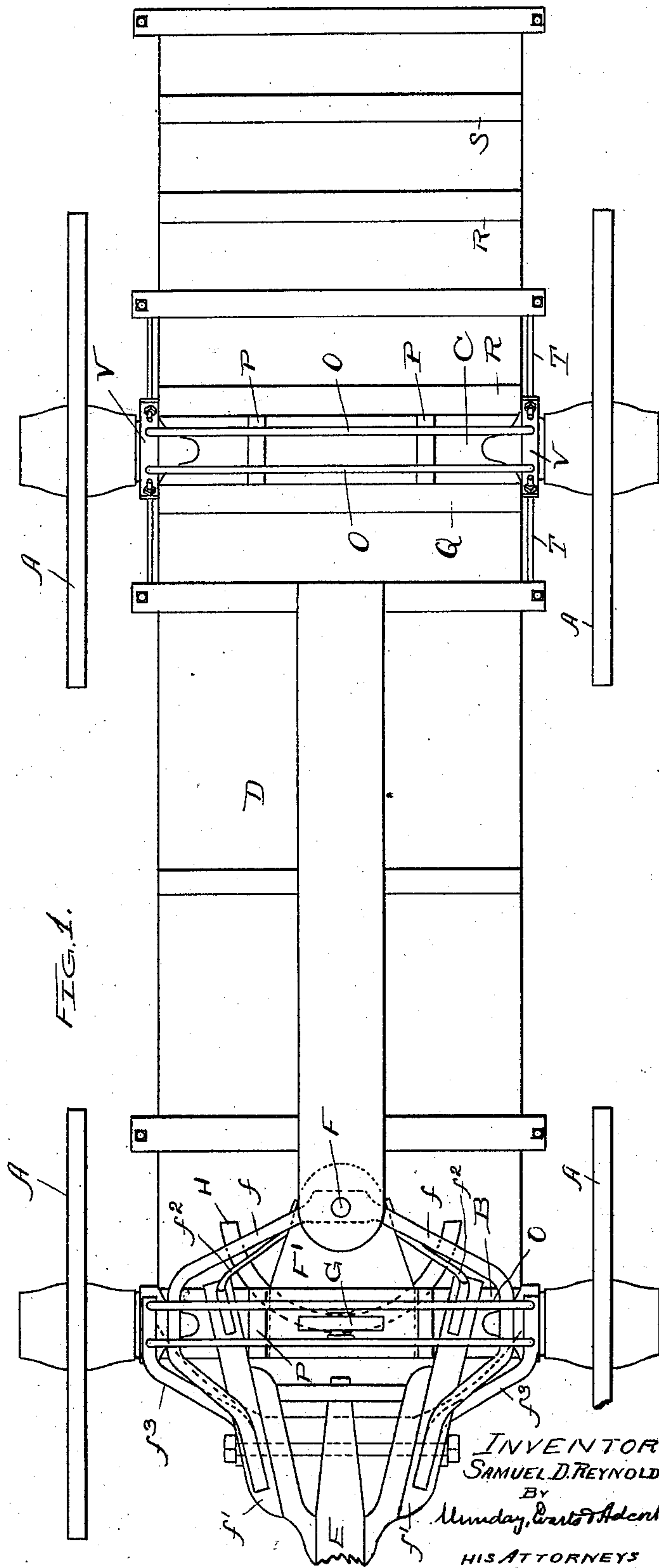
(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

Geo. C. Curtis
J. M. Munday



INVENTOR:
SAMUEL D. REYNOLDS
BY
Munday, Curtis & Adenck.
HIS ATTORNEYS

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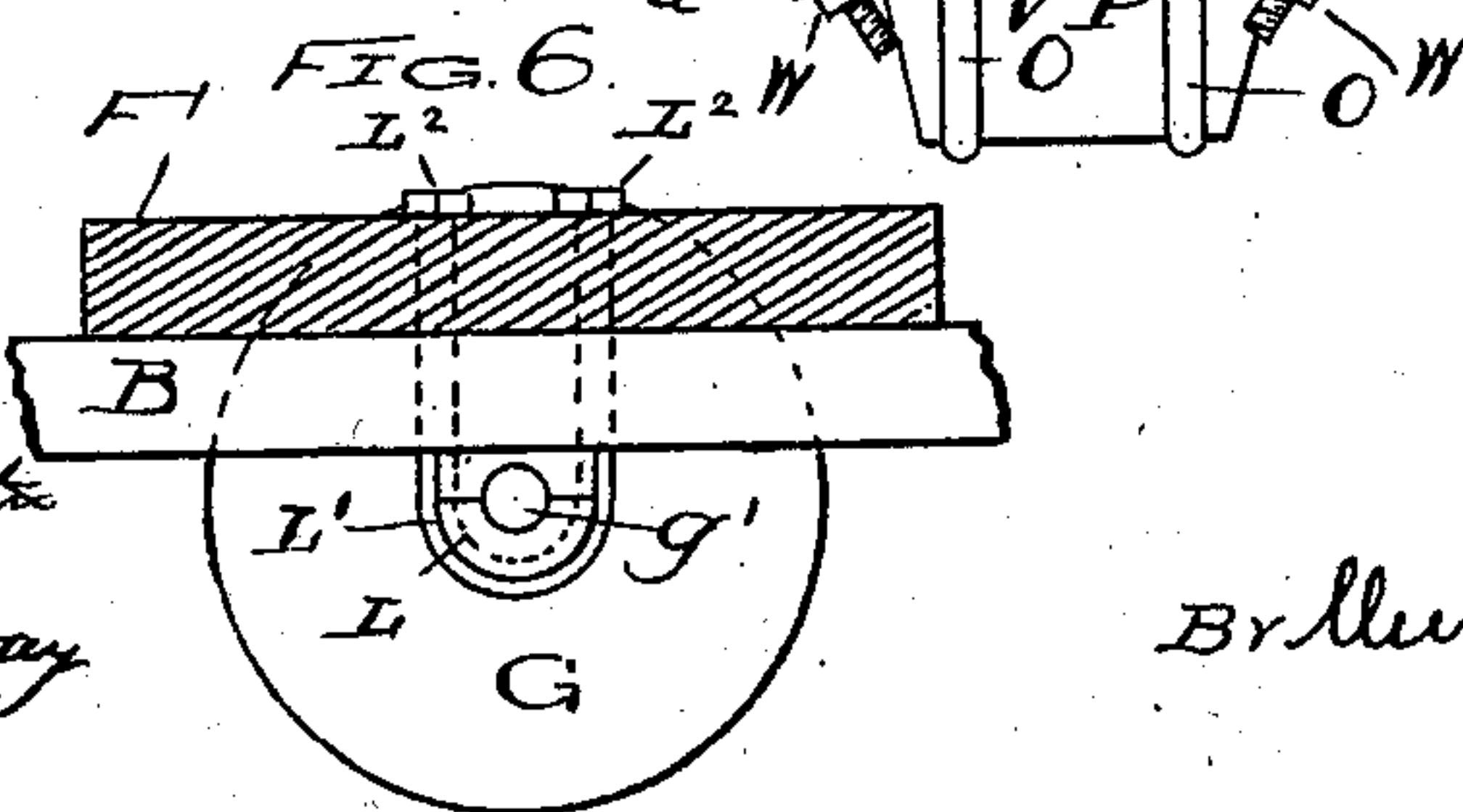
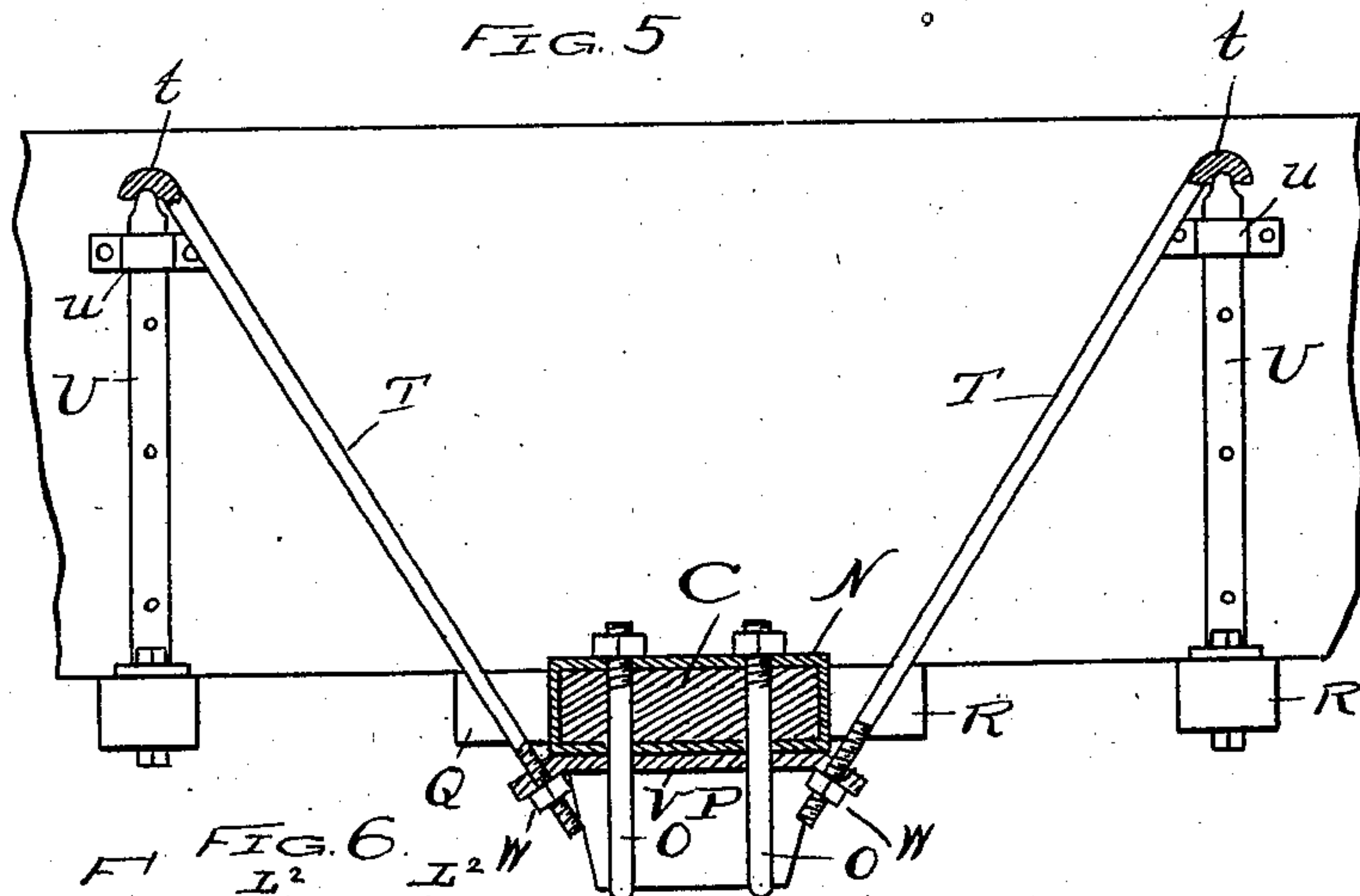
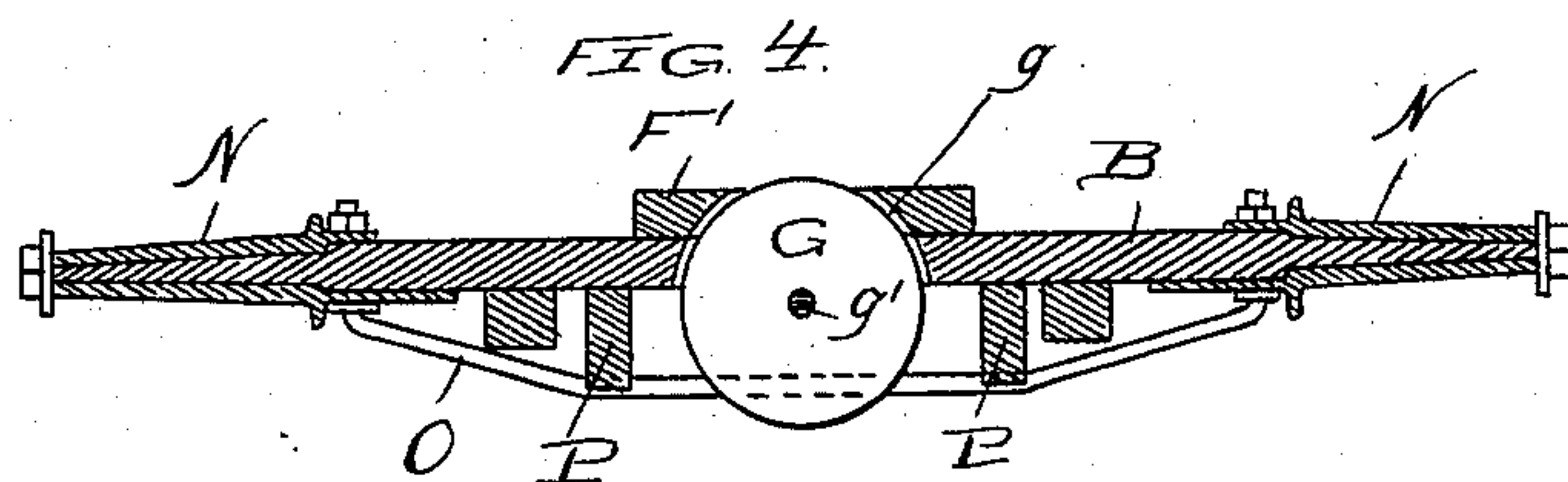
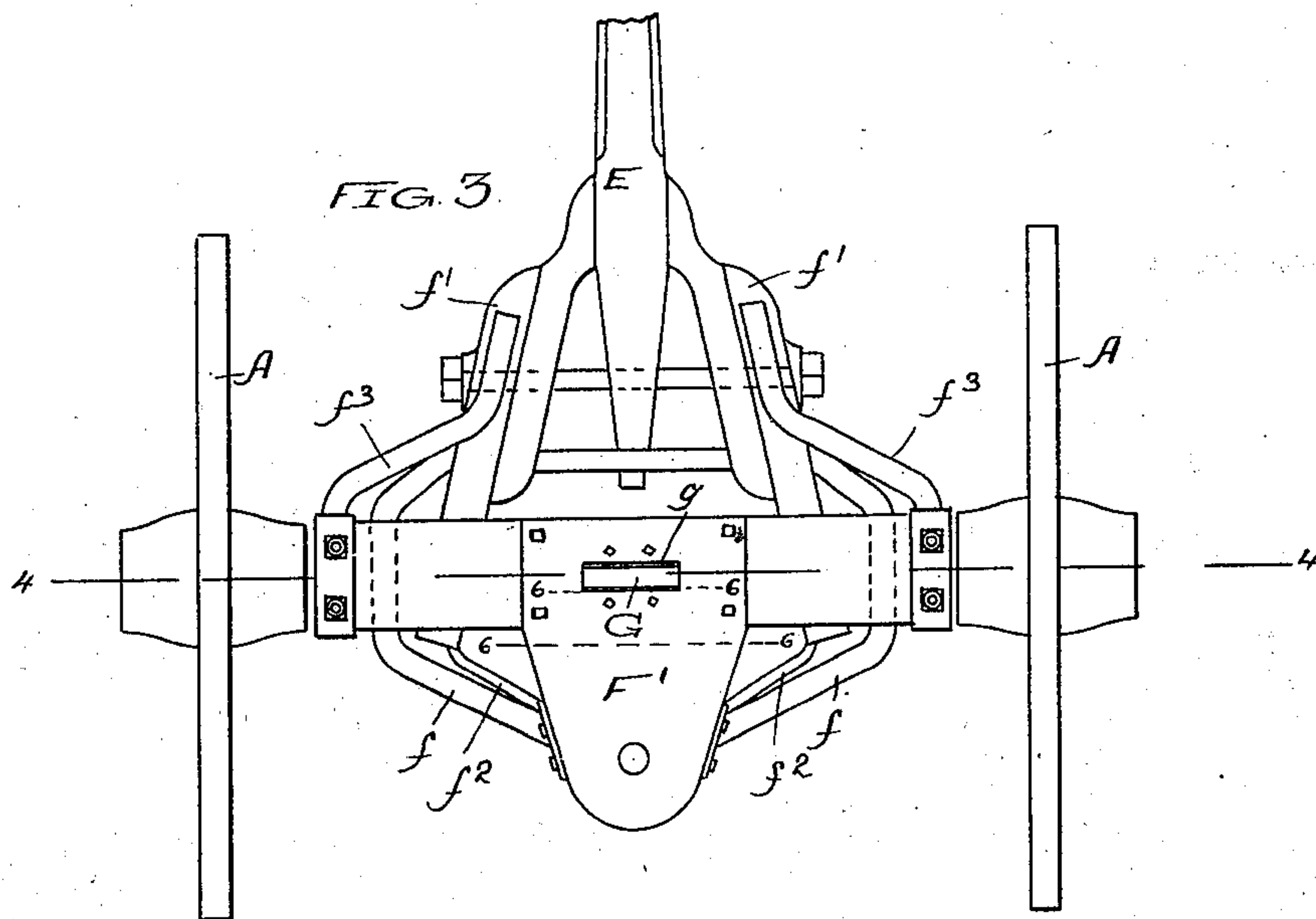
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2 Sheets—Sheet 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL D. REYNOLDS, OF DEKALB, ILLINOIS, ASSIGNOR TO MADISON D. SHIPMAN, CHARLES E. BRADT, AND SAMUEL E. BRADT, OF DEKALB, ILLINOIS.

WAGON.

SPECIFICATION forming part of Letters Patent No. 701,933, dated June 10, 1902.

Application filed June 4, 1895. Serial No. 551,599. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. REYNOLDS, a citizen of the United States, residing in Dekalb, in the county of Dekalb and State of Illinois, have invented a new and useful Improvement in Wagons, of which the following is a specification.

This invention relates to certain improvements in reachless wagons. One feature of it relates to the construction of the joint by which the front axle is swiveled to the body, another part of the invention to the construction of the axles, and a third part to the means for adjustably securing the rear axle to the body.

The object of the invention is to improve the construction and operation of these parts.

In the accompanying drawings I show at Figure 1 a bottom plan of my improved wagon, at Fig. 2 a side elevation of the same, the wheels being omitted. Fig. 3 is a top view of the front axle. Fig. 4 is a section on the line 4 4 of Fig. 3. Fig. 5 is a partial vertical section transverse to the rear axle, and Fig. 6 is a section on the line 6 6 of Fig. 3.

In the drawings, A A represent the supporting-wheels; B, the front axle; C, the rear axle; D, the body or box, having a straight and unbroken bottom, and E the tongue of the wagon. The king-bolt F, which unites the front axle to the body, is located some distance back of the axle, as shown, and is secured to the body or box. By thus locating it the axle is permitted a much greater swiveling movement without bringing the wheels against the wagon-body than is possible where the pivot is located directly at the axle, and this is a great advantage, especially with wagons having low-down bodies. The engagement of the king-bolt with the axle is through the medium of a plate or frame F', of wood or metal, attached to the axle and having an opening to receive the bolt. A yoke f, of metal, is also employed to brace the bolt from the axle, the ends of the yoke being secured to the hounds f', supporting the tongue, and its center being preferably pierced, so it may inclose the bolt. Other braces f² preferably extend from the rear end of plate F' to a junction with the axle. The hounds are braced from the axle by braces f³. The plate F' is

adapted to prevent any tendency to turn upon its axis by the axle. G is a roller or wheel between the wagon-body and the axle or parts attached thereto. It is preferably journaled or mounted in one part or the other—that is to say, on the axle or the wagon-body. I prefer to mount it on the axle, as illustrated in the drawings. Notwithstanding this rearward location of the king-bolt the weight of the wagon-body is transmitted directly to the axle by means of the antifriction vertical wheel or roller G, preferably positioned in a longitudinal slot g in the axle and revolving upon a horizontal pivot g'. This roller is in constant contact with a curved way or track H, attached to the body. By this construction it will be seen that the swiveling movement of the axle will be rendered easy even under a heavy load and that it embodies no large surfaces which rub against and wear one another away, as in many forms of fifth-wheels, and that there need be no perceptible friction at the king-bolt, in which respects my invention is an improvement over preceding styles of wagons.

The axles are of unusual construction. Instead of the square or nearly square timber usually employed in them I make them of planking, the thickness of which is not less than the largest internal diameter of the skein N, and the width of which is greater than its thickness and stiffen and strengthen them by means of a pair of truss-rods O O and struts or blocks P P. The ends of the rods are bent upward to pass through the axle and the inner edges of the skeins at both top and bottom and are provided with nuts bearing upon said upper edge, so that the rods serve the additional function of holding the skeins in place. By employing plank wider than the ordinary axle I am enabled to duplicate the truss-rods, and thus obtain a very unusual amount of strength in them.

The rear axle is like the front one, in that it is made of planking and is trussed in the same manner. It is adapted to be attached to the box or body either between the cross-bars Q and R or R and S of the box by diagonal bolts T T. These bolts are bent over at the top to form hooks t, adapted to engage the upper ends of the standards U, rising from the cross-bars, at either end of the same, and

passing through loops *u* upon the sides of the box, said standards being rendered very firm by this construction. At their lower ends the bolts pass through the inclined ends of a plate V, located immediately below the lower inner edge or flange of the skein and held in place by the truss-rods which extend through it. The bolts may be tightened or released by the nuts *w* upon their lower extremities. This feature of construction allows the rear axle to be positioned between either pair of the cross-bars, according to the load to be carried, and the changes of position are quickly effected, as the nuts *w* only need to be loosened to release the bolts from the standards.

The pivot *g'* of the antifriction-roller is preferably sustained in split bearings L, supported in loops L', which pass through openings in the plate F' and the axle, and are provided at their upper ends with nuts L², whereby they may be drawn together, the upper half of the bearing being confined between the lower half and the under surface of the axle. These loops may serve also as the means of attaching the plate to the axle. It is obvious that the roller may be attached to the plate in any suitable manner, or it may be secured to the wagon-body and the track or way to the plate. One marked advantage in the use of this roller to carry the front end of the wagon-box is that the box is relieved of the twisting or straining movement imparted to it by the ordinary fifth-wheel or bolster (which is entirely dispensed with by my construction) by the front-wheels when passing over uneven ground, as the rear end of the of the box is only carried by the rear axle.

I claim—

1. The wagon having a front axle swiveled upon a king-bolt located in the rear of the axle, and also having a roller supported in the axle and adapted to sustain the weight of the wagon-body, substantially as specified.
2. The four-wheeled reachless wagon having a front axle swiveled upon a king-bolt located in the rear of the axle, and secured in the box or platform, and having its box or platform extended over and supported upon the front axle and also fixed to and incapable of vertical movement on the rear axle, substantially as specified.

3. The four-wheeled reachless wagon the box or platform whereof is rigidly attached to the rear axle, and is also joined to the front axle by a king-bolt located in the rear of the latter, the box or platform being supported from the front axle by a pivoted roller carried on that axle, substantially as specified.

4. The reachless wagon having its front axle swiveled upon a king-bolt located in the rear of the axle, and also having a roller pivoted in the axle and adapted to sustain the weight of the body, substantially as specified.

5. The wagon wherein are combined the front axle, the plate or frame F', the roller let into the axle and plate, and means for supporting the roller and attaching the plate or frame to the axle, substantially as specified.

6. The wagon wherein are combined the swiveled front axle, the king-bolt located back of the axle, plate or frame F', the yoke *f* and hounds *f'* joined to the axle, substantially as specified.

7. The combination in an axle of a wide wood body, parallel truss-rods, and a roller let into the body at the central longitudinal plane thereof, substantially as specified.

8. The combination of the wagon-body having the side standards U, of the rear axle, and the bolts extending from the axle and engaging said standards, substantially as specified.

9. The combination of the wagon-body having the side standards U, of the rear axle, and the bolts extending from the axle and detachably engaging said standards, substantially as specified.

10. The combination of the wagon-body having three or more standards U upon each side, of the rear axle and bolts T, T, extending from the axle to the standards and having their ends fashioned to detachably engage said standards, substantially as specified.

11. The combination of the wagon-body having the side standards U, of the rear axle, the plate V, and the bolts passing through said plate and engaging said standards, substantially as specified.

SAMUEL D. REYNOLDS.

Witnesses:

SAMUEL PETERSON,
T. J. ADAMS.