

No. 665,628.

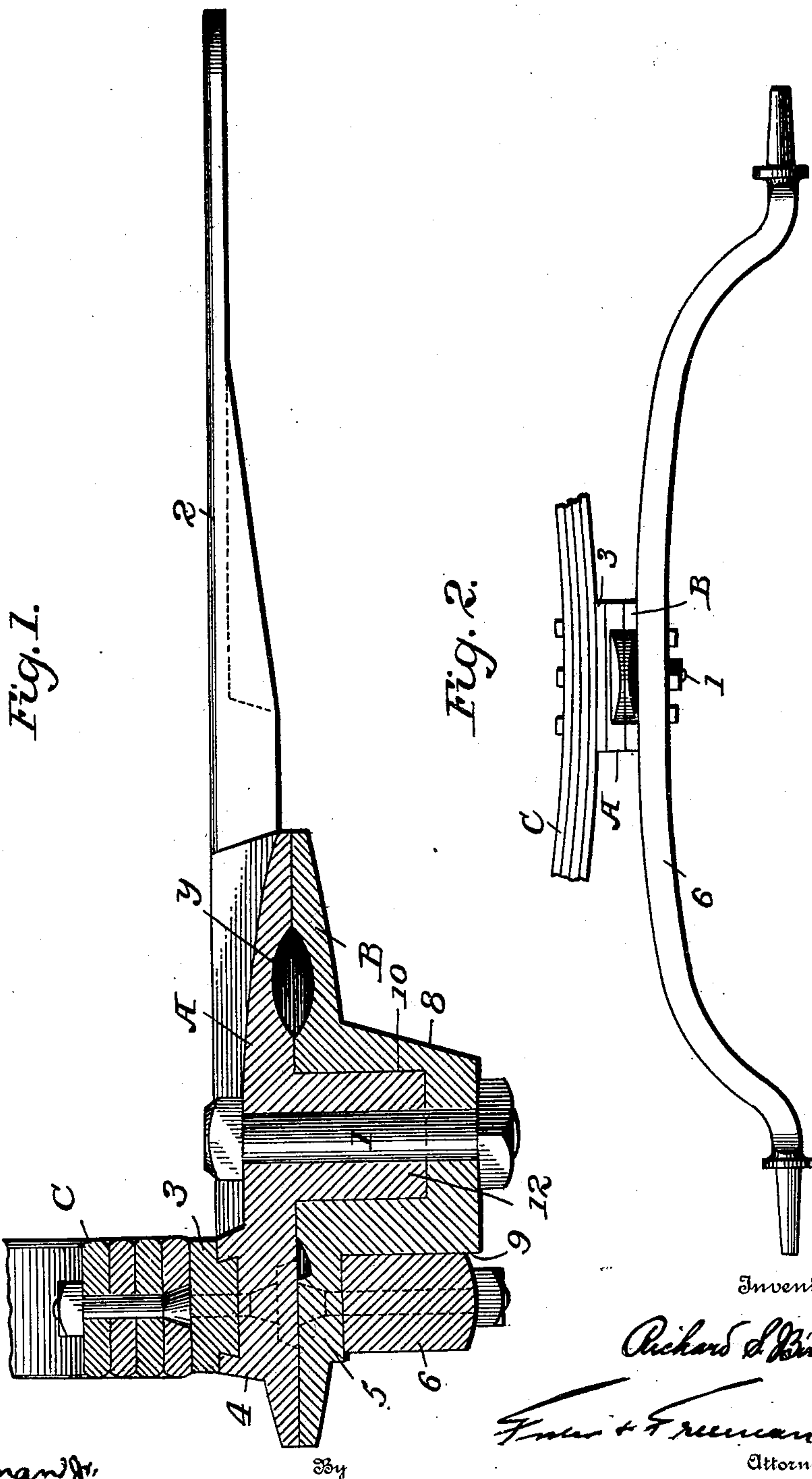
Patented Jan. 8, 1901.

R. S. BIRCH.
FIFTH WHEEL.

(Application filed Aug. 6, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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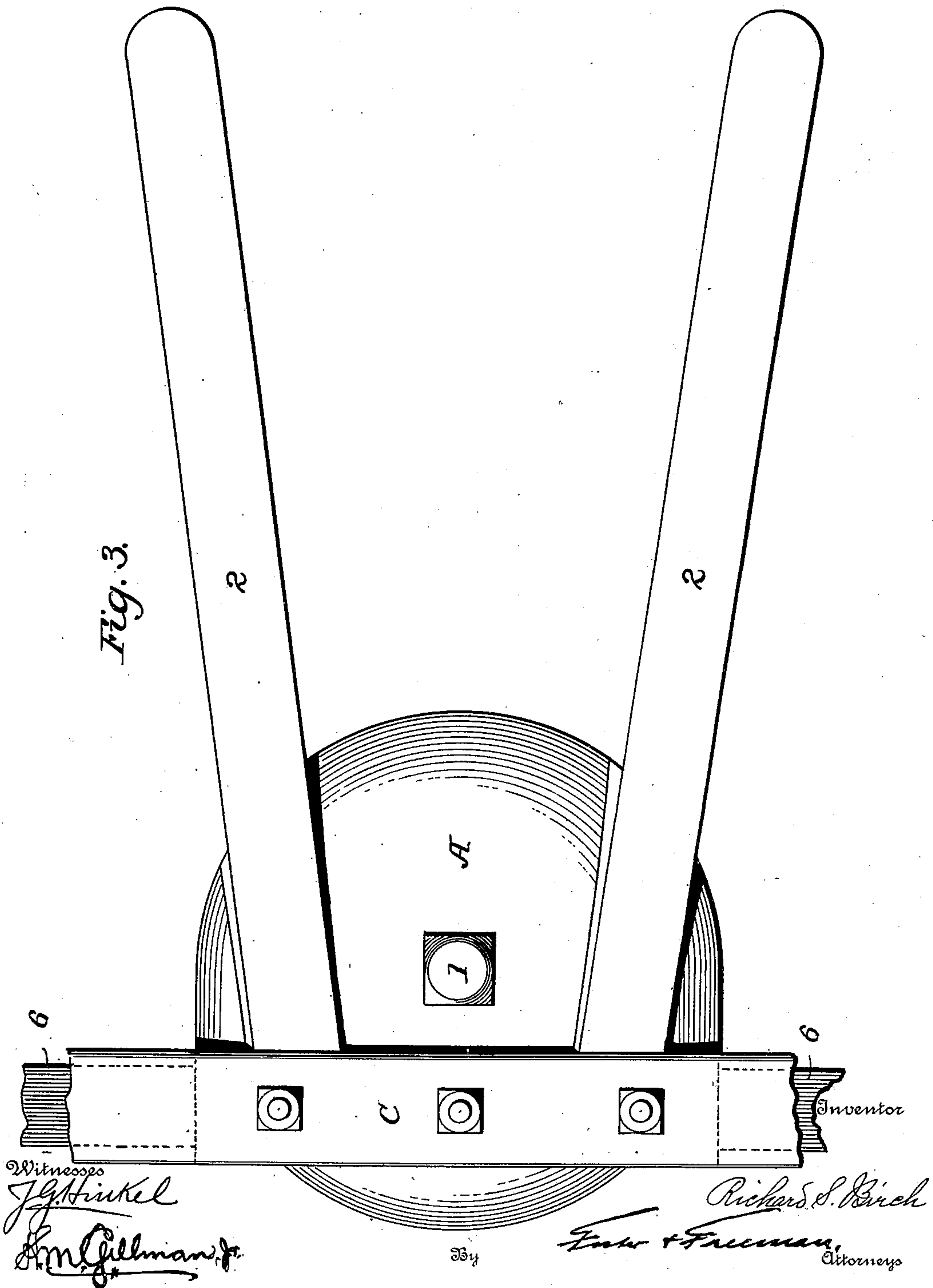
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UNITED STATES PATENT OFFICE.

RICHARD S. BIRCH, OF BURLINGTON, NEW JERSEY.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 665,628, dated January 8, 1901.

Application filed August 6, 1900. Serial No. 26,050. (No model.)

To all whom it may concern:

Be it known that I, RICHARD S. BIRCH, a citizen of the United States, residing at Burlington, in the county of Burlington and State of New Jersey, have invented certain new and useful Improvements in Fifth-Wheels, of which the following is a specification.

Great difficulty has heretofore been experienced in connection with that class of fifth-wheels used for light vehicles—such, for instance, as runabouts—in consequence of the rocking strains which come upon the parts of the fifth-wheel supporting upper spring when the front axle is suddenly drawn upon or its forward movement arrested, this resulting in many cases from the fact that the ends of the said axle are bent downward and connected to the shaft-thills, which gives a leverage tending to twist the axle, causing great strains. In order to overcome these objections and secure a support for the spring, as well as the front axle, which will properly resist the strains coming upon each, I construct the fifth-wheel as fully set forth hereinafter and as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section through the fifth-wheel, front axle, and lower part of the spring, illustrating my improvement. Fig. 2 is a front elevation showing the parts as applied to the axle and spring, and Fig. 3 is a plan view.

The fifth-wheel consists, essentially, of two circular disks A B, which may be continuous or cut away to reduce weight and the inner faces of which are in contact with each other, a bolt 1 extending centrally through both disks, so that the lower may turn beneath the upper, the latter being provided with arms 2, extending over the top disk and strengthening the latter and adapted for connection with the diverging perches of the vehicle.

The bearing 4 for the forward spring C and its head-block 3 extends transversely across the upper disk at a point between the forward edge thereof and the pivot-bolt 1, while the bearing 5 for the front axle 6 is beneath the lower disk B and directly below the bear-

ing 4 of the upper disk. By this arrangement of the bearings 4 5 in connection with the circular disks the strains are distributed over the broad flat circular contacting faces in such manner that there can be no play of either disk upon the other, and a sufficient body of material is afforded at each side of the bearings, front and rear, to resist the strains without the fracture of any of the parts.

In order to still further brace the axle 6 against the strains resulting from its arched form, I provide a hub or projection 8 at the lower part of the disk B, in the center thereof, upon the front of which is a bearing-face 9, adapted to meet the rear face of the axle and affording a firm support therefor. This hub affords means for forming a circular recess 10, in which to receive a cylindrical projection 12, at the under side of the disk A and at the center thereof, which projection constitutes a pivot on which the disk B will turn, removing the strain from the bolt 1, which therefore serves simply as a means for holding the disks together face to face.

To reduce the extent of frictional contacting surfaces, the inner faces of the disks may be cut away at *y*, as shown.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

The combination in a fifth-wheel, of the upper and lower disks A, B, with bearings for the front spring and front axle between the center and front edges of the disks, a hub 8 projecting from the lower disk having a central recess and the front face of the hub engaging the rear face of the axle, a cylindrical projection extending from the upper disk and fitting the recess in said hub, and a connecting-bolt between the disks, substantially as set forth.

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

RICHARD S. BIRCH.

Witnesses:

J. H. BIRCH, Jr.,
W. F. COON.