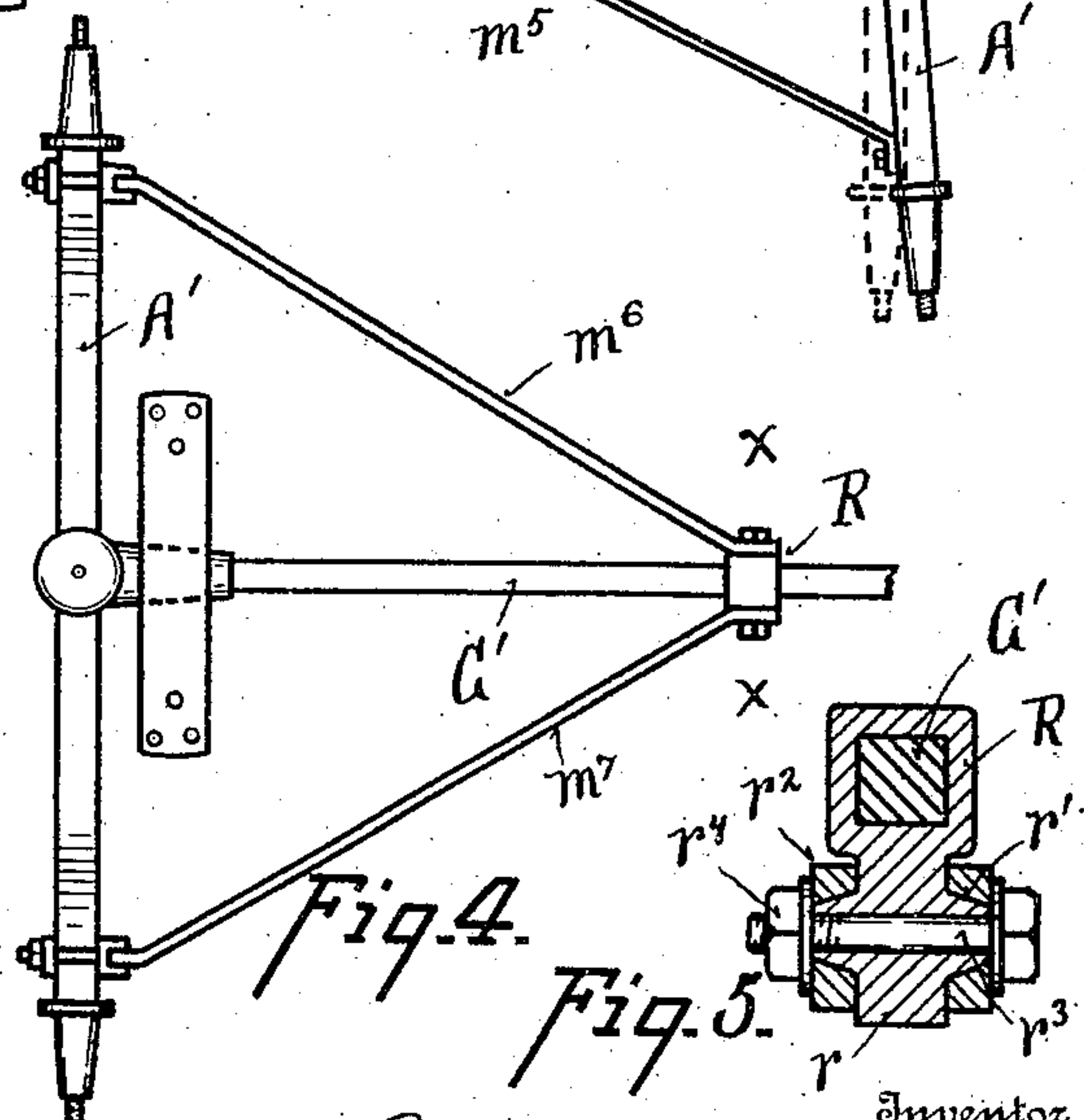
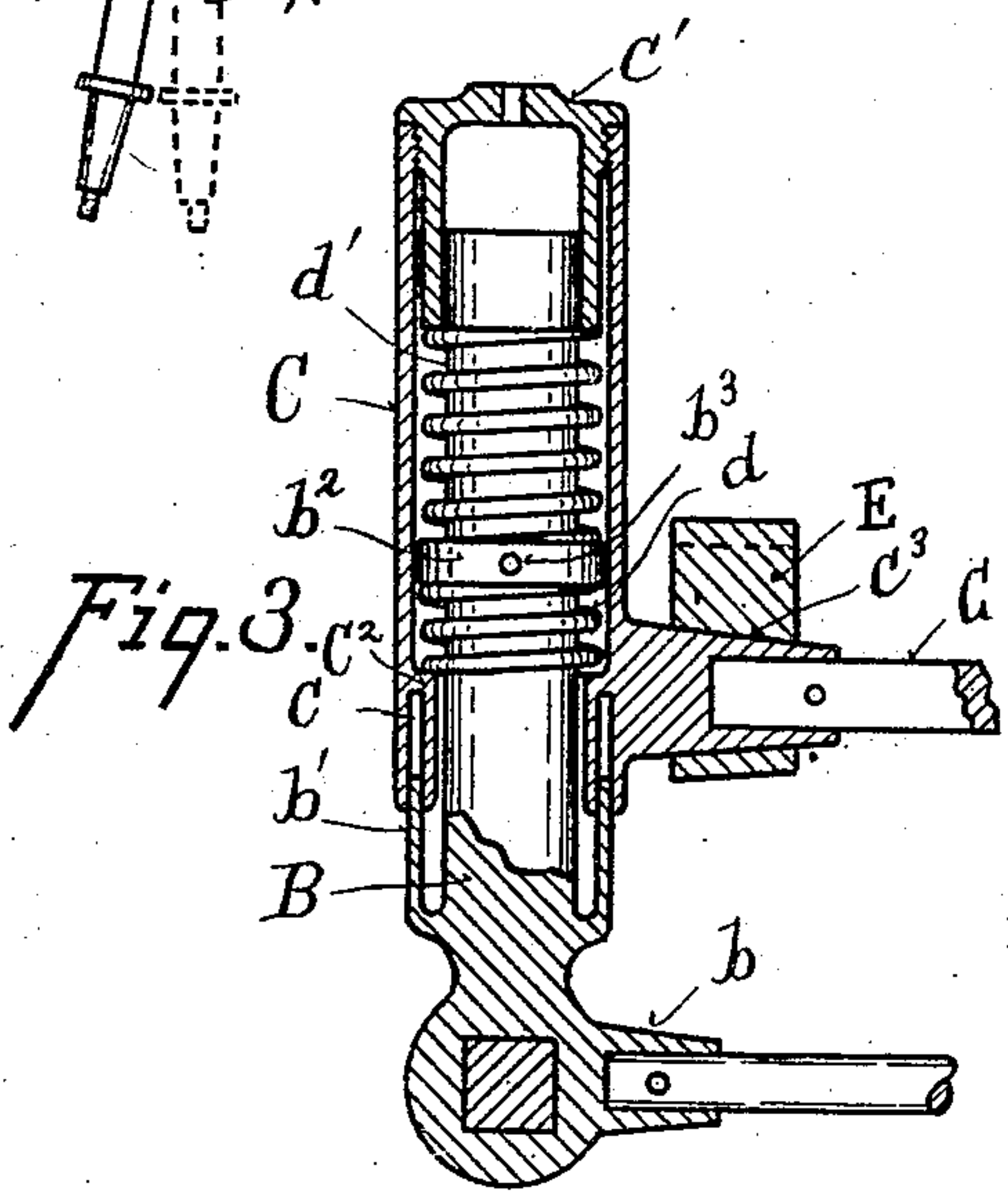
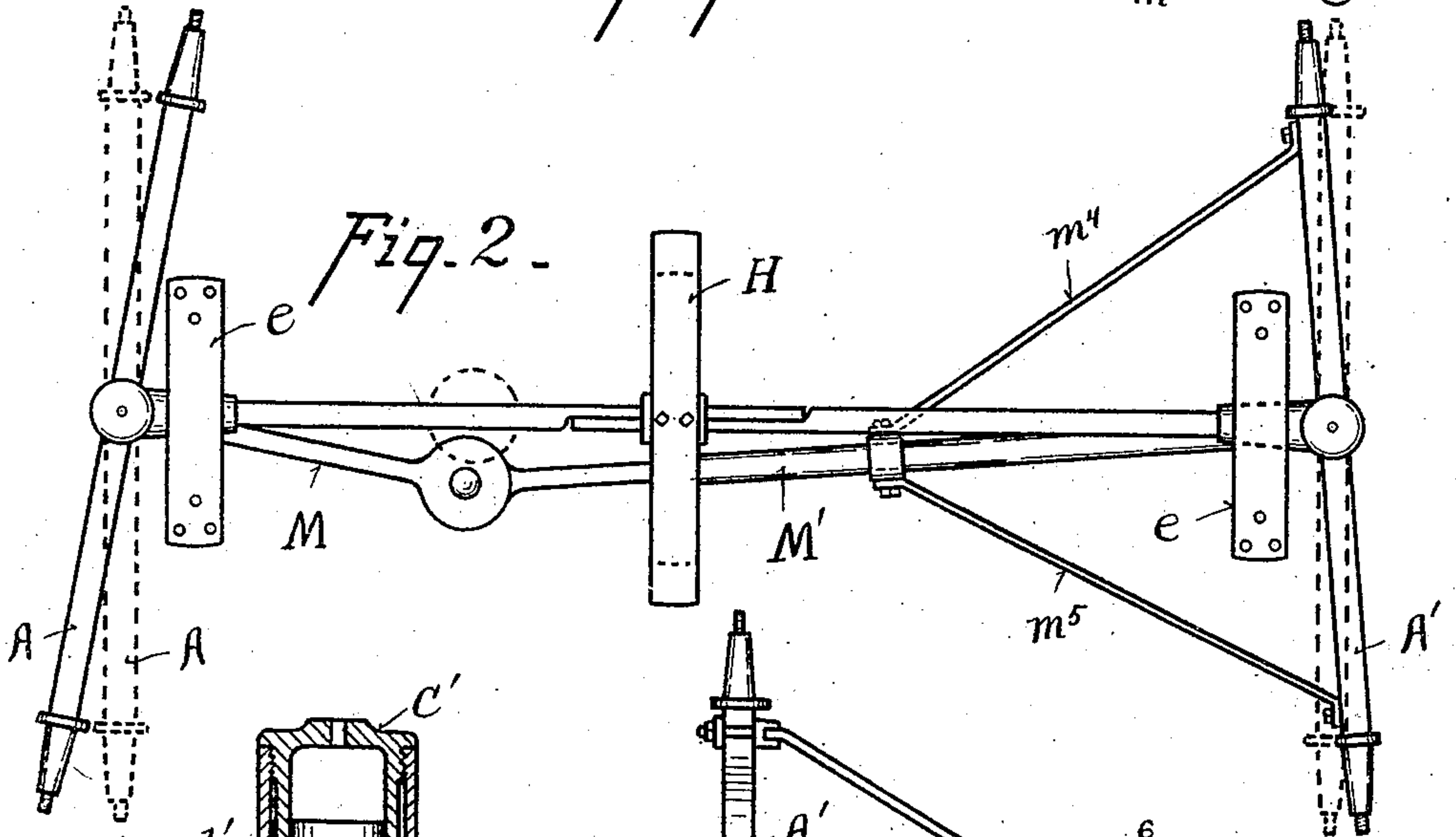
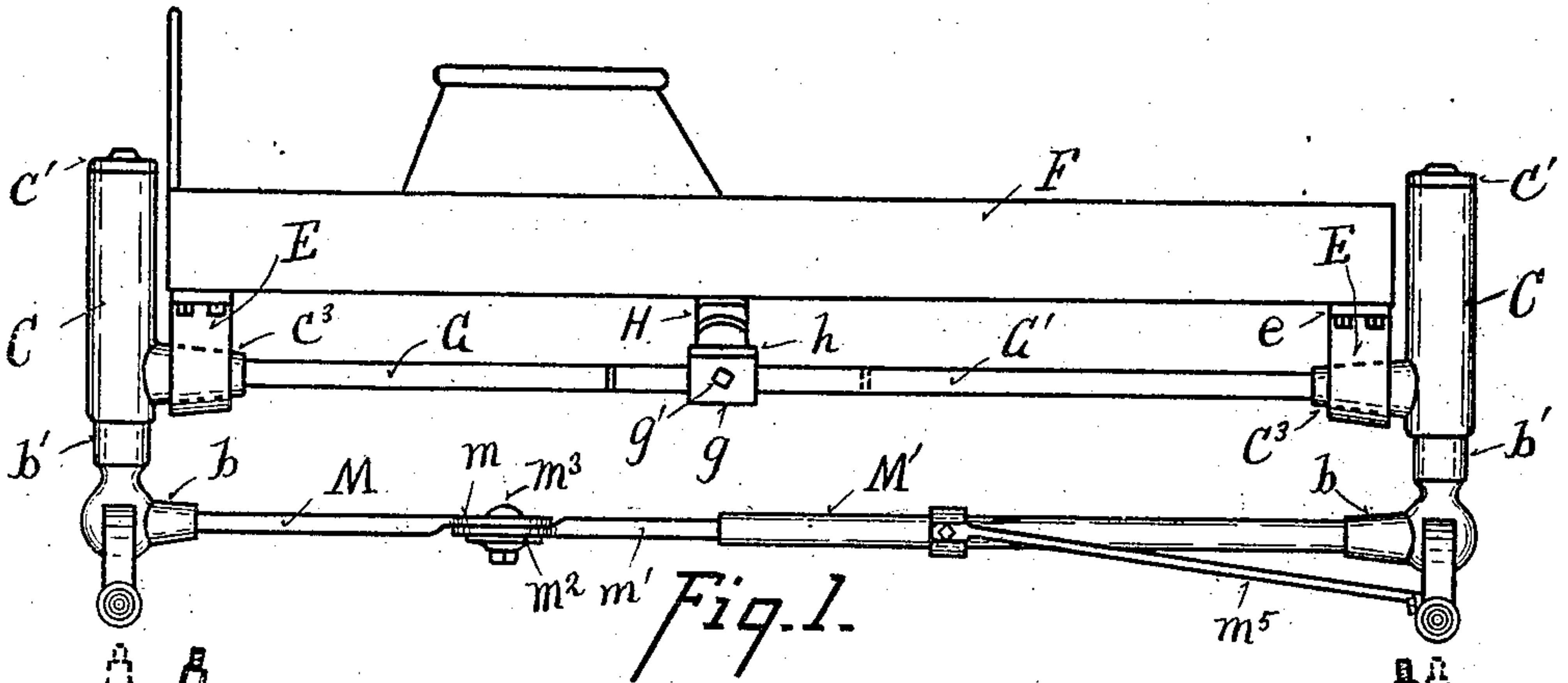


No. 848,281.

PATENTED MAR. 26, 1907.

J. W. BENTLER.
VEHICLE RUNNING GEAR.
APPLICATION FILED MAY 9, 1906.



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JOHN W. BENTLER, OF ERLANGER, KENTUCKY.

VEHICLE RUNNING-GEAR.

No. 848,281.

Specification of Letters Patent.

Patented March 26, 1907.

Application filed May 9, 1906. Serial No. 315,917.

To all whom it may concern:

Be it known that I, JOHN W. BENTLER, a citizen of the United States of America, and a resident of Erlanger, county of Kenton, State of Kentucky, have invented certain new and useful Improvements in Running-Gear for Vehicles, of which the following is a specification.

The object of my invention is a running-gear for vehicles which moves readily to allow the vehicle to turn corners, by means of which a sharp corner may be turned easily, and which is provided with means for rendering the movement of the vehicle-body free from sudden jolts and from tilting. This object is attained by the means described in the specification and illustrated in the drawings, in which—

Figure 1 is a side elevation of a running-gear embodying my invention with the vehicle-body mounted thereon. Fig. 2 is a plan view of the running-gear, the full line showing it in the position it assumes when the vehicle is turning a corner and the dotted line showing it in its position when the vehicle is running in a straight line. Fig. 3 is a central vertical detail sectional view, upon an enlarged scale, through the axle, the pivot-post, and the housing for a pivot-post. Fig. 4 is a plan view of the rear axle, the pivot-post, and the brace-rods connecting the perch-pole and the axle in a modified form of my invention. Fig. 5 is a sectional view taken upon line $x\ x$ of Fig. 4 upon an enlarged scale.

Referring to the parts, the front and rear axles A and A' have centrally secured to them vertical pivot-posts B, similar in construction, so that in describing them it will be necessary to describe but one of them. Projecting inwardly from the pivot-post on a line with the axles each pivot-post has formed integral with it a horizontal stud b . Surrounding the pivot-post B is a vertical annular flange b' . Pivot-post B has secured to it a collar b^2 , held in place by means of set-screw b^3 . Surrounding the pivot-post B is a hollow shell C, which has in its lower end an annular recess c to fit over the annular flange b' , at its upper end is internally screw-threaded to receive a screw-threaded cap c' , and upon its interior near the lower end has a shoulder c^2 . Between the shoulder c^2 and the collar b^2 is a coiled spring d , and between the lower end of the cap c' and the collar b^2 is a second coiled spring d' . Both the front

and rear housings have inwardly-projecting external cone-shaped studs c^3 and c^3 , which pass through cone-shaped perforations in front and rear brackets E, which have horizontal faces e , perforated to pass screws for attaching the vehicle-body F. The studs c^3 have a central square bore to receive horizontal rods G and G', which are tapered at their inner ends to lie flat against each other and to pass through a coupling-block g , which is supplied with a set-screw g' for holding the rods G and G' together to form what I term the "perch-pole." The block g has mounted upon it a horizontal leaf-spring H, whose ends are adapted to bear upward against the bottom of the vehicle-body to prevent the side tilting of the same. Beneath the spring H a horizontal metal bar h is secured to support the vehicle-body in case of the failure of the spring H to do so. To the horizontal stud b of the front axle is secured a horizontal rod M, which terminates at its inner end in a disk m , and to the horizontal stud b of the rear axle is a horizontal tube M', in which is located a horizontal rod m' , which terminates at its inner end in a disk m^2 . Disk m and m^2 are centrally perforated to pass the pivot-screw m^3 . The rear axle A' is connected to tube M' by means of brace-rods m^4 and m^5 .

The operation of the device is as follows: When the front axle A is turned to enable a vehicle to turn a corner, the pivot-post B rotates in the housing C, the rod M is drawn out of line with the rod M', as shown in Fig. 2, and the rod M' turns the rear axle A' upon its pivot-post to permit the vehicle to turn a sharp corner. It is seen that the weight of the vehicle-body is communicated to the shell C and thence is borne by the spring d' bearing down upon the collar b^2 and that any jar upon the vehicle is taken up by the front and rear springs d' . Each recoil of the spring d' is retarded by the spring d bearing upward against the collar b^2 , so that the movement of the vehicle-body is smooth and comparatively free from jolts.

In Figs. 4 and 5 I have illustrated a modified form of construction wherein the studs b of the pivot-posts and rods M and M', with their connections, are entirely omitted. In this construction in place of having the brace-rods m^4 and m^5 connected to the rod M', I have placed a sliding block R on the rod G', said block having a downward por-

tion r with cone-shaped studs r' r^2 to receive the inner ends of brace-rods m^6 and m^7 , which are secured to the rear axle A' . The cone-shaped studs r' r^2 permit the tightening of the nut r^4 upon the bolt r^3 to take up any play between the brace-rods m^6 and m^7 and the studs r' and r^2 when the same have become worn from use. It is seen that in this construction the rear axle A' is not capable of a rotating movement in respect to the vehicle-body F .

What I claim is—

1. A means of coupling the axle to the vehicle-body consisting of a pivot-post secured centrally to the axle, a collar carried by the pivot-post, a housing surrounding the pivot-post and having a horizontal stud, a spring within the housing bearing at one end against the housing and at the other end against the collar of the pivot-post, and a bracket mounted upon the stud and adapted to be secured to the vehicle-body.

2. In a vehicle running-gear the combination of a front and rear axle, vertical pivot-posts secured centrally to each axle, housings mounted upon each of the pivot-posts, springs for supporting the housings on the pivot-posts, said housings having inwardly-

projecting studs, a perch-pole connecting the studs, brackets mounted rotatably upon the studs and a means carried by the perch-pole for bearing against the vehicle-body to prevent the side tilting thereof.

3. In a vehicle running-gear the combination of a front and rear axle, vertical pivot-posts secured centrally to each axle, housings mounted upon each of the pivot-posts, springs for supporting the housings on the pivot-posts, said housings having inwardly-projecting studs, a perch-pole connecting the studs, brackets mounted rotatably upon the studs, means carried by the perch-pole for bearing against the vehicle-body to prevent the side tilting thereof, the front and rear pivot-posts having inwardly-projecting horizontal studs, the front stud carrying a horizontal rod, terminating at its inner end in a perforated disk, the rear stud carrying an inwardly-projecting tube, a sliding rod within the tube terminating at its inner end in a perforated disk, and a pivot-bolt coupling the said disks.

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