W. BROWN,

BRACE FOR AUTOMOBILE AXLES.

APPLICATION FILED JULY 14, 1915.

1,245,433. Patented Nov. 6, 1917.

Fig. 1.

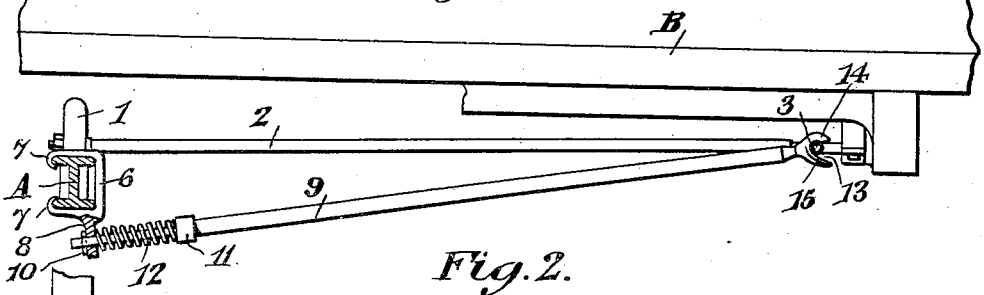


Fig. 2.

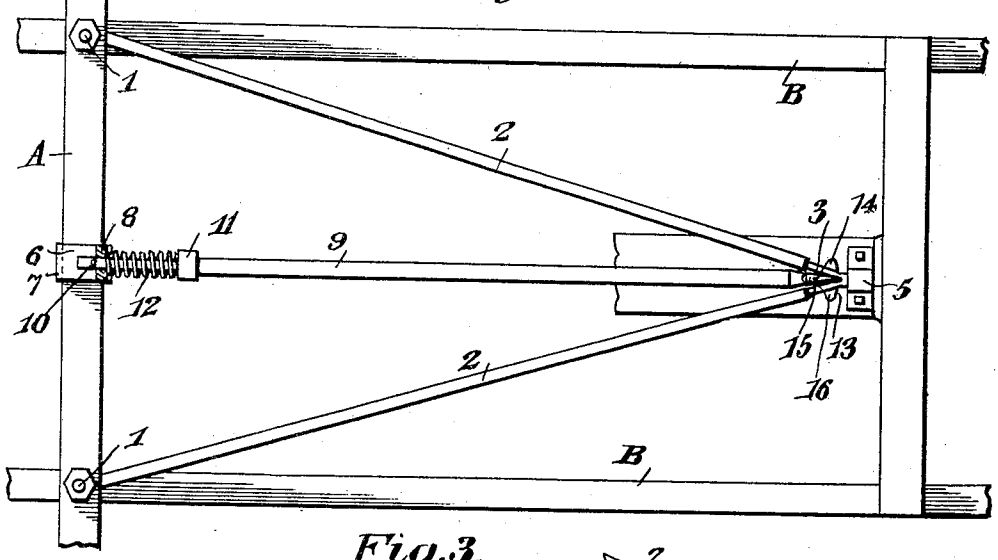


Fig. 3.

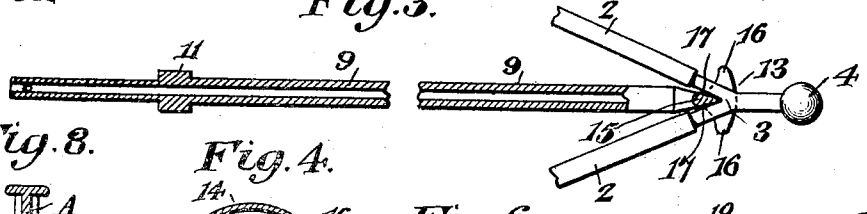


Fig. 8. *Fig. 4.*

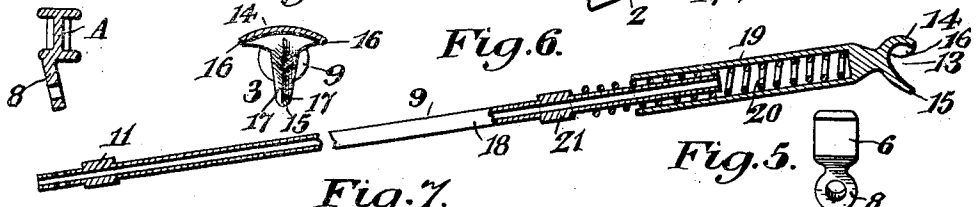
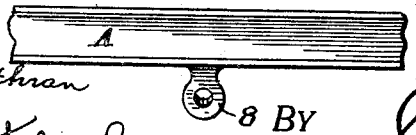


Fig. 6. *Fig. 5.*

Fig. 7.



WITNESSES:

Jas. E. McCathran

Watts T. Estabrook

INVENTOR

William Brown,

By E. G. Siggers

Attorney

UNITED STATES PATENT OFFICE.

WILLIAM BROWN, OF TAFT, CALIFORNIA, ASSIGNOR OF ONE-HALF TO SOLOMON COLEMAN, OF TAFT, CALIFORNIA.

BRACE FOR AUTOMOBILE-AXLES.

1,245,433. Specification of Letters Patent. Patented Nov. 6, 1917.

Application filed July 14, 1915. Serial No. 39,858.

To all whom it may concern:

Be it known that I, WILLIAM BROWN, a citizen of the United States, residing at Taft, in the county of Kern and State of California, have invented new and useful Braces for Automobile-Axles, of which the following is a specification.

This invention relates to an improvement in braces for radius rods, and is applicable more particularly to the radius rods applied to Ford automobiles.

The object of the invention is to provide means for forming a resilient connection, between the axle and radius rods, and a brace to absorb and take up the strain and vibration which is imparted to the axle and radius rods.

A further object is to provide a simple, inexpensive and efficient device of strong and durable construction, which can be readily connected to an axle and radius rods.

The invention consists of certain novel features of construction and combinations of parts, which will be hereinafter described and pointed out in the claims. It will be evident that many slight changes may be made in the form and arrangement of the several parts to be described, without departing from the spirit and scope of the invention, and hence I do not wish to be limited to the exact construction herein set forth.

In the accompanying drawings,

Figure 1 is a view in side elevation of the invention, showing it applied to an axle and radius rods.

Fig. 2 is a bottom plan view of a portion of a frame of an automobile, showing the invention applied thereto.

Fig. 3 is a horizontal sectional view through a portion of the brace bar, showing the crotch of the brace in engagement with the forked portion of the radius rods, one of the jaws of the crotch of the brace being in section.

Fig. 4 is an end view of one of the terminals of the brace bar, showing one of the jaws of the crotch in section.

Fig. 5 is a view in elevation of the clip.

Fig. 6 is a view partly in section showing a modified form of brace bar.

Fig. 7 is a view in elevation of a clip integrally connected to the axle.

Fig. 8 is a cross sectional view through the clip and axle shown in Fig. 7.

A represents the front axle of an automobile to which posts 1 are connected. Radius rods 2 are connected to the posts 1, and connected together at their ends forming a fork 3. A ball 4 is connected to the inner or rear terminals of the rods and received in a socket 5, which is connected to the frame B. The frame, axle and radius rods are parts employed in the construction of the Ford automobile.

A U-shaped clip 6 is mounted upon the axle and the terminals of the clip are bent into engagement with the axle, as indicated at 7. A shank 8 is formed on the clip and is located beneath the axle A. The shank is provided with an opening, through which the outer terminal of the brace bar 9 extends. A cotter pin 10 extends through the outer end of the brace bar for fastening the bar to the clip. A collar 11 is formed on the bar 9 and interposed between the collar and shank 8 is a coil spring 12. A crotch 13 is formed at the inner terminal of the bar 9, forming jaws 14 and 15. The upper jaw 14 has its lower face convex, and is provided with outwardly extending wings 16 which are adapted to be received upon the upper surfaces of the inner terminals of the radius rods 2 for supporting the inner terminal of the radius or brace bar 9. The lower jaw 15 extends obliquely from the bar 9 and has the side walls thereof beveled, as at 17, producing a sharp edge which is received into the fork 3 of the radius rods. The jaw extends rearwardly beyond the fork portion 3, so that the brace bar 9 is prevented from becoming disengaged from the radius rods 2 by any vertical movement, and, as both jaws project beyond the fork portion 3 of the radius rods, the bar 9 is capable of a slight longitudinal movement without becoming disengaged from the radius rods.

When any strain or vibration is imparted to the front axle, rearward movement of the axle will be against the spring 12 on the brace bar 9. This will act as a cushion and take up the vibration imparted to the axle, and at the same time assist the radius rods 2 in maintaining the axle in position.

In Fig. 6 is disclosed the brace bar made in two sections, 18 and 19. The section 18 is received within the section 19 and is capable of sliding movement therein. The section 19 is closed at one end, and a spring

20 bears against the closed end of the section 19 and is wrapped around the inner or rear terminal of the section 18 and bears against a collar 21 on the section 18. The section 18 is adapted to be moved or forced into the section 19, and when forced into the section the spring will be compressed. The spring normally tends to press the section 18 outwardly toward the forward end of the machine. The section 19 is provided with the crotch 13 and the jaws 14 and 15.

The distinction between the brace bar shown in Fig. 6, and the brace bar shown in Figs. 1, 2, and 3, is that the brace bar is made in two sections and the spring 20 is interposed between the two sections, instead of between the collar 11 and the shank 8 of the clip 6, as shown in the construction set forth in Figs. 1, 2 and 3.

The brace bar disclosed in Figs. 1, 2 and 3 telescopes the shank 8 of the clip 6, and the section 18, of the form shown in Fig. 6, telescopes the section 19, so that in each form a telescopic connection is provided, and by interposing the coil spring between the telescoping sections or parts, a cushion is provided for relieving the strain and vibration which may be imparted to the axle.

In Figs. 7 and 8 I have shown the clip shank 8 forming an integral part of the axle A. The clip 6 is intended to be used with axles, which are not provided with the integral clip shank 8. This clip shank 8 may be made integral with the axle during the construction of the axle, and I therefore do not wish to be limited to the use of the invention in connection with the removable clip 6.

From the foregoing it will be seen that I have provided a construction which is simple in its application to a machine, for the purpose of relieving the front axle of vibration and strain which may be imparted thereto. Furthermore, the brace bar might be applied or connected directly to the frame of the machine instead of connecting it to the forked end of the radius rods 2.

What is claimed is,—

1. The combination with a frame, an axle and radius rods connected to the axle and frame and having the terminals thereof remote from the axle connected together forming a fork, of a brace bar slidably connected to said axle at one end and flexibly and detachably engaging the fork between said radius rods at its opposite end, and resilient means for retaining said last-mentioned end of the brace bar in engagement with said fork.

2. The combination with a frame and an axle of a motor driven vehicle and radius rods connected to the axle and connected together at their inner terminals forming a fork connected to the frame, of a detachable brace bar movably attached at one end to the central portion of the axle and flexibly engaging at its opposite end the inner portion of the fork between the rods, and resilient means tending to keep the last-mentioned end of the bar in engagement with the fork.

3. The combination with a pair of radius rods attached to the axle and frame of a motor driven vehicle, and connected together forming a fork at the ends thereof remote from the axle, of a detachable brace bar movably attached at one end to the central portion of the axle and provided at its opposite end with a crotch engaging the fork between the rods and comprising upper and lower jaws engaging the upper and lower portions of the fork to prevent the disengagement of the bar from the fork and a central portion flexibly engaging the fork to allow play between the same and the bar, and resilient means tending to keep the last-mentioned end of the bar in engagement with the fork.

4. The combination with an axle provided with a central depending lug and radius rods connected to said axle at the ends thereof and converging forming a fork at their opposite ends, of a detachable brace bar slidably supported at one end by said lug and having at its opposite end a crotch engaging the fork between the rods, said crotch being provided with a vertically extending portion to allow a certain amount of play between the fork and bar, and outwardly projecting jaws to prevent the disengagement of the bar from said fork by vertical movements up or down, and a spring for retaining said bar in engagement with said fork.

5. The combination with an axle having a central depending lug provided with an aperture and radius rods connected to the opposite ends of said axle and connected together at their inner terminals forming a fork, of a brace bar having an end slidably engaging said lug and extending through said aperture and flexibly engaging at its opposite end the fork between said radius rods, said last-mentioned end comprising a crotch allowing a certain amount of play and preventing the disengagement of said bar from the fork, and a coiled spring encircling said bar and tending to move the same into engagement with said fork to retain it in position.

6. The combination with a frame and axle of a motor driven vehicle and radius rods connected to the axle and frame and having their inner terminals connected together forming a forked end, of a brace bar movably connected at one end to said axle and provided with a crotch at its opposite end flexibly and movably engaging the fork between the radius rods and having upper and lower jaws, said upper jaws having outwardly extending wings which engage the

inner terminals of the rods for supporting the bar upon the radius rods, the lower jaw having the sides thereof beveled to provide a sharp inner surface to enter the forked end and extend beneath the forked end for preventing the disengagement of the bar from the fork, and a spring for retaining said crotch in engagement with said fork.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

WILLIAM BROWN.

Witnesses:
R. B. WHITTEMORE,
J. E. CATER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."