E. S. ZIEGLER.

TRANSMISSION EXTENSION MEANS FOR AUTOMOBILES.

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1,309,676. Patented July 15, 1919.

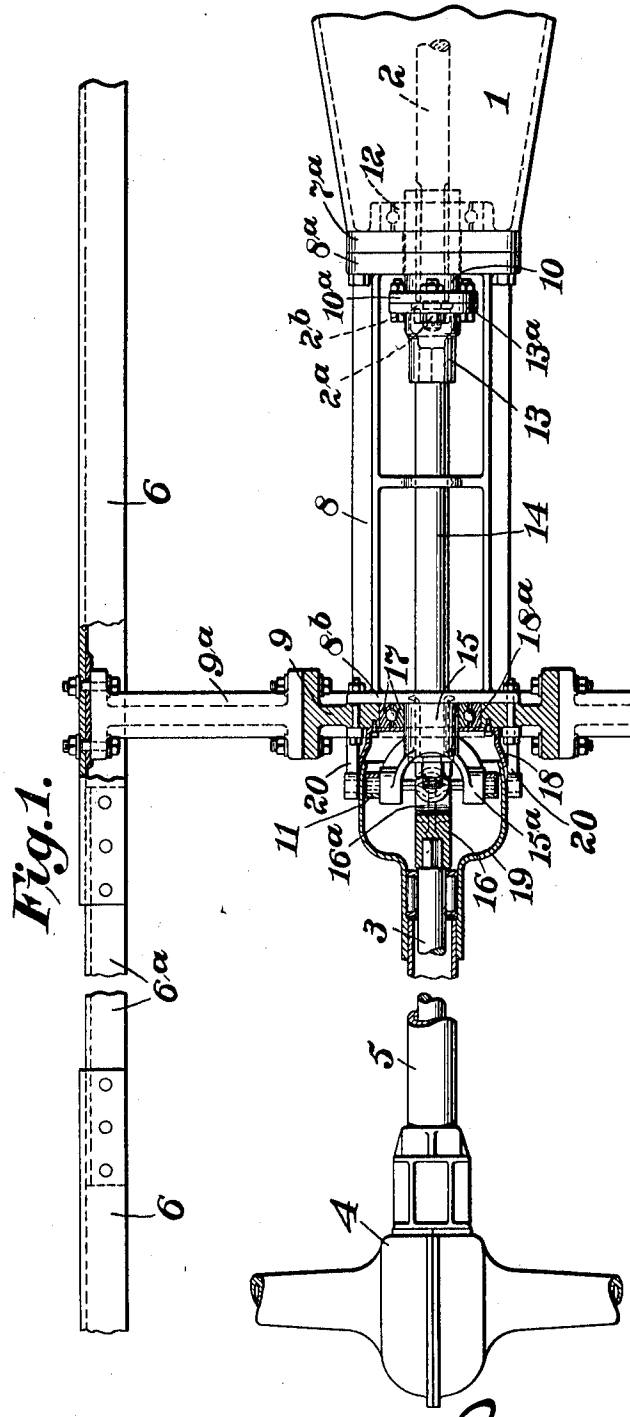


Fig. 1.

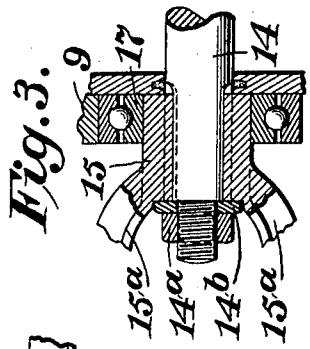


Fig. 3.

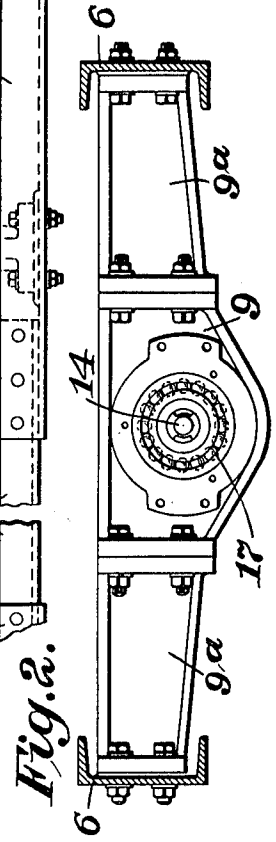


Fig. 2.

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TRANSMISSION-EXTENSION MEANS FOR AUTOMOBILES.

1,309,676. Specification of Letters Patent. Patented July 15, 1919.

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To all whom it may concern:

Be it known that I, EDWIN S. ZIEGLER, a citizen of the United States, and resident of York, Pennsylvania, have invented certain new and useful Improvements in Transmission-Extension Means for Automobiles, of which the following is a specification.

My present invention relates to improvements in means for extending the transmission mechanism for automobiles with a view to adapting the touring car chassis for use as a truck or delivery wagon where a longer body is desired and the invention relates more particularly to such means as embodied in or adapted for a Dodge automobile.

The object of the invention is to provide a simple, strong and durable construction whereby the transmission shaft will be lengthened and properly supported, and the parts maintained in alinement and all "whipping" or vibration of the shaft avoided.

The invention includes the novel features of construction and arrangement and combination of parts hereinafter described and particularly defined by the appended claims, an embodiment of the invention being shown in the accompanying drawings in which,

Figure 1 is a plan view, partly in section showing a sufficient portion of the chassis parts to illustrate my improved means.

Fig. 2 is a transverse sectional elevation, and

Fig. 3 is a sectional detail.

Referring by reference characters to this drawing the numeral 1 designates the usual transmission mechanism within which is located the usual drive shaft (indicated in dotted lines and designated 2), which, as embodied in the ordinary Dodge chassis drives the propeller shaft 3 through a suitable universal joint, the latter driving the rear axle through differential gearing in the manner well understood by those skilled in the art, the differential housing being designated by the numeral 4, and the usual propeller shaft casing by the numeral 5.

The ordinary frame members are indicated at 6 and to extend the frame for the purpose of extending the body and transmission I provide channel bars 6^a overlapping and suitably riveted to the frame members. 8 designates a transmission extension frame which may be formed in any suitable manner, as for example by malleable casting and is provided at the front end with a plate 8^a adapted to be bolted rigidly to the rear wall 7^a of the transmission case after the universal joint and its housing has been removed.

At its rear end this casting is provided with a similar plate 8^b which is adapted to be bolted to the front side of a transverse inserted frame member supported by the main frame bars of the chassis. This transverse frame member I preferably form in three parts, a central member 9 and two side members 9^a bolted respectively to the central and side parts.

The member 8^a has a central opening through which passes a sleeve 10 which is designed to replace the sleeve 15 of the front half of the universal joint and to be secured upon the non-circular end of the shaft 2 in the customary manner, to wit, by a nut 2^a and lock washer 2^b.

The sleeve fits within the usual antifriction bearing indicated in dotted lines at 12 and is provided at its outer edge with an annular flange 10^a adapted to be bolted to the corresponding flange 13^a of a sleeve 13 fast on the end of the extension drive shaft 14.

The rear end of the extension shaft 14 is shaped to correspond identically with the rear end of shaft 2 and lies within the central opening through the frame member 9 and to said rear end is secured the tubular member of the front half of the universal joint, the arms 15^a of which connect by the usual ring 11 with the corresponding arms 16^a of the member 16, which is connected with the propeller shaft 3 in the usual manner.

The member 15 is located within the antifriction bearing 17 which is confined in place within the opening in the frame member 9 by the end wall 8^b on one side and the inwardly extending flange 18^a of the front section 18 of the universal joint housing.

The sleeve 15 is secured to the rear end of the shaft 15 by a nut 14^a and lock washer 14^b similar to the nut 2^a and washer 2^b.

The rear section of the housing is indicated at 19 and this is supported by arms 20 which have their forward ends bolted to the rear face of member 9 and their rear ends pivotally connected to the sides of the housing section 19, which section is secured to

the propeller shaft casing 5 and enables the latter to perform the functions of a torsion rod.

Having thus described my invention what I claim is:

1. In combination a longitudinal frame member having means at one end for connection with the transmission casing of an automobile, a transverse frame member at the rear end of said first named member, a shaft rotatably carried by said members and having means at one end for connection with the transmission shaft, a sleeve on the other end of said shaft carrying a universal joint element, an anti-friction bearing between the sleeve and transverse frame member, and a propeller housing element secured to said transverse frame member and retaining said bearing in position.

2. In combination, a longitudinal frame member having means at one end for connection with a transmission casing and having a plate member at the opposite end, a transverse frame member having a central opening, an anti-friction bearing in said opening, said plate being secured to said transverse member on one side and overlapping the stationary member of the bearing, a shaft in said longitudinal frame having its front end adapted for connection with the transmission shaft, a sleeve on the rear end of the shaft within said bearing and carrying a coupling element, and a joint housing element secured to said transverse frame member and overlying the stationary member of the anti-friction bearing.

3. In combination a transmission casing, a longitudinal frame secured thereto, a transverse frame secured to the rear end of said longitudinal frame, an extension shaft in said longitudinal frame connected at its front end to the transmission shaft, a propeller shaft, a universal joint connecting the rear end of the extension shaft to the propeller shaft, a casing for the propeller shaft, a joint housing section carried by the transverse frame, a cooperating joint housing section connected to the shaft casing, and rigid arms carried by the transverse frame member and pivotally connected with the second joint housing section.

In testimony whereof, I affix my signature.

EDWIN S. ZIEGLER.

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