J. A. McGINN.

SUPPORTING MEANS FOR MOTOR VEHICLES.

APPLICATION FILED FEB. 17, 1919.

**1,363,336.** Patented Dec. 28, 1920.

Fig. 1.

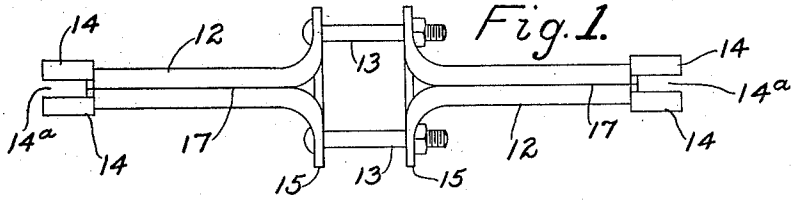



Fig. 2.

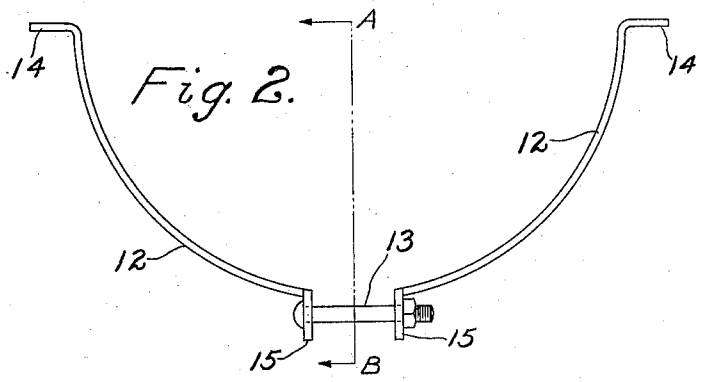



Fig. 3.

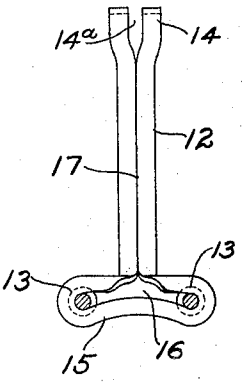



Fig. 4.

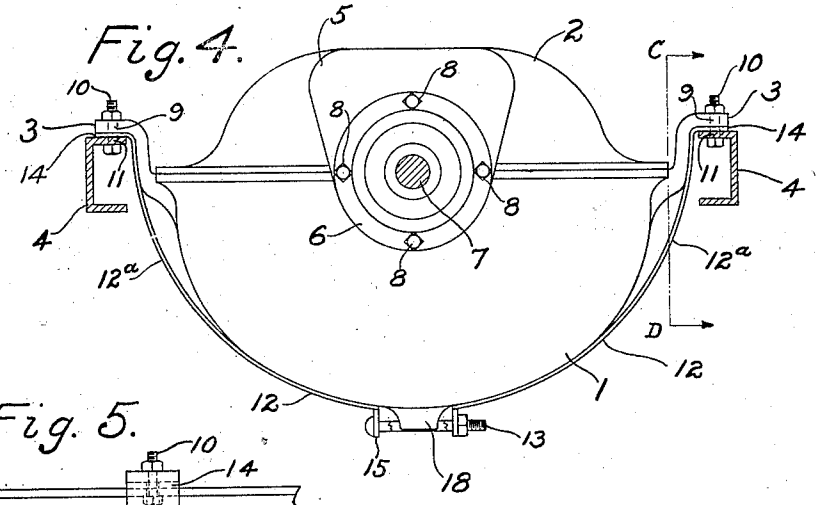
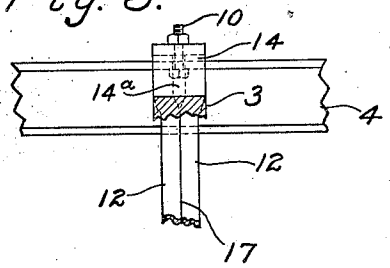



Fig. 5.




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# UNITED STATES PATENT OFFICE.

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## SUPPORTING MEANS FOR MOTOR-VEHICLES.

1,363,336. Specification of Letters Patent. Patented Dec. 28, 1920.

Application filed February 17, 1919. Serial No. 277,402.

*To all whom it may concern:*

Be it known that I, JOHN A. McGINN, a citizen of the United States, residing at Melrose, in the county of Monroe and State of Iowa, have invented certain new and useful Improvements in Supporting Means for Motor-Vehicles, of which the following is a specification.

My invention relates to improvements in the means for supporting the power-plant unit of motor-vehicles wherein the power-plant unit is supported, in respect to the chassis frame by a plural point suspension, the connection being made by means of flanges secured to, or integral with, the lower section of the power-plant casing. Such flanged connections frequently break due to twisting of the chassis frame, vibrations and shocks of the chassis, overloading of the motor-vehicle, sudden stoppage, and from other causes. To repair the broken flanges requires a complete dismantling of the power-plant unit, so that a new lower casing may be installed, the flange electrically welded, or otherwise repaired. Besides, such breakage always is accompanied by consequent injury to the power-plant unit and its coöperating parts.

One of the objects of my invention is to reduce the possibility of breakage and the damage accompanying such breakage by providing auxiliary supporting means to support the power-plant unit, thereby strengthening the flanges so that if a break should occur said auxiliary supporting means will hold the power-plant unit intact.

Other objects are to provide a supporting means for the power plant unit of motor-vehicles that can be easily and quickly applied; that will have a certain amount of tension (due to a clamp-screw action) to offer great resilient resistance to sudden impact or shocks; that will connect both side bars of the chassis frame and pass completely under the power-plant unit and terminate at a central location and be held in tension by clamp screws straddling the center so that an equalizing action results. My invention may be applied either prior to breakage or after breakage has occurred by simply elevating the power-plant unit and inserting the projecting forks of my improved supporting means under the flanges of the power-plant unit, bolting down said flanges, and clamping together underneath the power-plant unit.

A still further object is to provide an arcuately-fitting saddle yoke without any positive connection except at the extreme forked ends so that the strains may be equalized and distributed over the entire supporting means.

To the accomplishment of the above stated and related ends, said invention then, consists of the means hereinafter fully described and particularly pointed out in the claims.

I attain these objects by the apparatus illustrated in the accompanying drawing, in which—

Figure 1 is a plan view of my improved supporting means for motor-vehicles; Fig. 2, a side view; Fig. 3, a section taken at line A—B in the direction of the arrows; Fig. 4, a view in cross-section of a motor-vehicle chassis equipped with a flanged power-plant unit, showing the arrangement of my invention; Fig. 5, a fragmentary inner side view sectioned to correspond to a section taken at line C—D in the direction of the arrows.

Referring to the drawing, 1 is the lower casing of a flanged power-plant unit, 2 the upper casing, 3 the flanges for supporting the power-plant unit, and 4 the side bars of the automobile chassis frame; said power-plant unit and automobile chassis frame being of any familiar construction, and hence not shown in detail. 5 is a cover plate usually connected with the upper casing, and 6 a flanged end bearing of the upper and lower casings through which the propelling shaft 7 (shown in section) rotates and drives the motor-vehicle. 8 are bolts for rigidly securing the flanged end 6. In each flange 3 there is a hole 9 and in each side bar 4 there is a corresponding hole 11 through which a bolt 10 is inserted which secures said power-plant unit rigidly to the chassis frame.

The flanges (or lugs) 3, being generally of a hard metallic substance, break, due to the several causes stated above. The power-plant unit then drops and the bearing and other coacting parts become badly damaged due to the fact that the propelling shaft 7 and coacting parts, of any familiar construction and hence not shown in detail, are not maintained in proper alinement. To prevent breakage of the flanges 3 and also to hold the power-plant unit intact after a breakage has occurred, I insert a pair of saddle yokes 12 between the flanges 3 and the

side bars 4, and connect said pair of saddle yokes 12 at the underneath of the power-plant unit by clamp screws 13 for the purpose of effecting tension. It is evident that as great tension is effected the curved part of the saddle yoke at $12^a$ will assume a straight form, and thereby give increased "purchase" or friction power.

Said pair of saddle yokes arranged as shown in Fig. 2 constitutes my improved supporting means for motor-vehicles. At the upper end of each saddle yoke 12 are outwardly-projecting forks 14 with a fork slot $14^a$, and at the lower end is an elongated downwardly-projecting lug 15 with an opening 16 for a plurality of clamp screws 13. I have shown the saddle yoke 12 as being made of a continuous piece of wrought iron with the free ends forming the outwardly-projecting forks 14, for the purpose of said forks is to straddle a bolt 10, thereby utilizing the bolt used to secure the flange 3 of the power-plant unit lower casing 1 to the side bar 4. It has proven very beneficial to have this saddle yoke constructed of one continuous piece as shown, for it obviates the necessity of a welded joint with its inherent weakness, besides resulting as an equalizing feature to distribute the stress throughout the entire supporting means. By being bent out of one continuous piece each saddle yoke becomes bifurcated above the downwardly-projecting lug 15, said bifurcation being denoted by the number 17.

At a central location at the bottom of the lower casing 1 there usually is means provided to draw off or drain oil, for transmission gearing running in oil is situated between the lower casing 1 and upper casing 2, but not shown in the drawing. Such means generally is a boss 18 in which is inserted a plug or drain cock of any suitable construction. By having the clamp screws 13 straddle the center they also clear such boss 18 or similar projection, in addition to making the joint extremely effective due to the equalizing action on account of the elastic construction. In Fig. 4 I have shown one of the clamp screws 13 broken at the center to allow the boss 18 to be more clearly seen.

The flanged power-plant unit supporting means being held against the lower casing 1 wholly by the elastic tension due to the tightening action of the clamp screws 13 is free to adjust itself to any local condition, since there are no positive fastenings except at each extreme end (forks 14). This is a feature of great importance, for while the construction permits of great rigidity the fact that the supporting means is held against the lower casing by friction makes the construction flexible and equalizing.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An auxiliary engine support comprising two opposed supporting members each having a flexible body part bifurcated at its upper part and bent outwardly, and having on its lower end a transverse flexible slotted part, said supporting members adapted to be seated entirely between the engine casing and the supporting frame with said transverse flexible slotted parts under the engine and slightly spaced apart, and a plurality of bolts adjustably securing said parts through said slots.

2. In an auxiliary engine support for automobiles the combination of two flexible strap parts, means for securing the tops of said straps to the chassis frame, a transverse flexible slotted member extending on each side of the bottom of each of said straps and a plurality of tying bolts slidable in the slots of said slotted members by the positioning of which bolts in said slots the flexibility of the support can be adjusted.

In testimony whereof I affix my signature.

JOHN A. McGINN.