R. D. RIDDLE.

UNDERCASING FOR MOTOR VEHICLE ENGINES.

APPLICATION FILED DEC. 2, 1921.

1,422,622. Patented July 11, 1922.

Fig. 1.

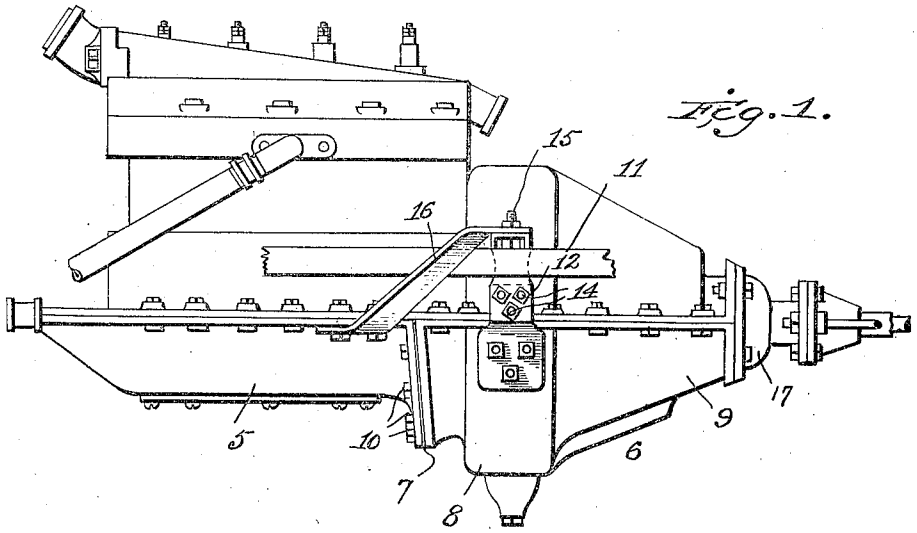


Fig. 2.

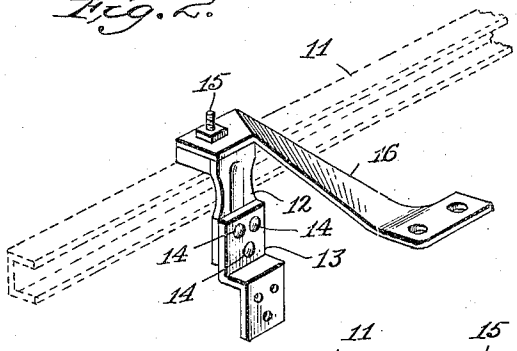
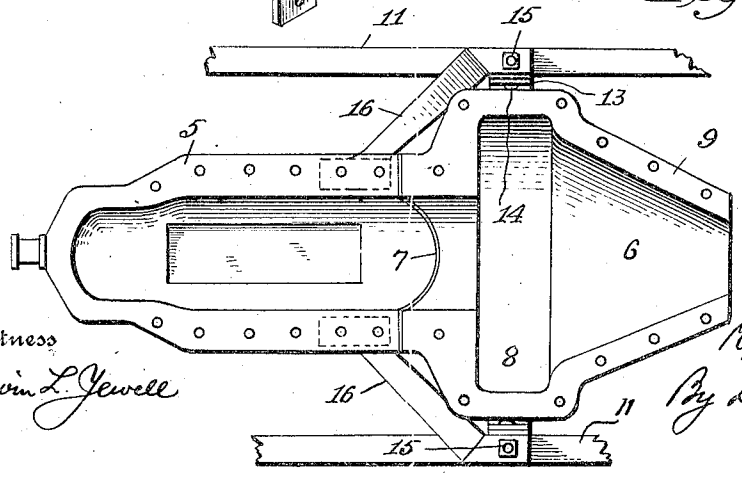


Fig. 3.



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UNDERCASING FOR MOTOR-VEHICLE ENGINES.

1,422,622. Specification of Letters Patent. Patented July 11, 1922.

Application filed December 2, 1921. Serial No. 519,394.

To all whom it may concern:

Be it known that I, ROBERT DEE RIDDLE, a citizen of the United States of America, and a resident of Spartanburg, county of Spartanburg, and State of South Carolina, have invented certain new and useful Improvements in Undercasings for Motor-Vehicle Engines, of which the following is a full and clear specification.

The object of this invention is to so construct the under-casing that it may be removed in sections without removing the motor, to thereby permit ready access to the working parts within the casing, as more fully hereinafter set forth.

In the drawing—

Fig. 1 is a side elevation showing my invention applied to the well-known Ford engine;

Fig. 2 is a detail perspective view of one of the hangers;

Fig. 3 is a plan view of the top part of the engine-casing removed.

In the drawing, the under-casing is constructed of two sections 5 and 6 divided transversely at 7, this divisional point lying just in front of the fly-wheel casing 8 which is a part of the rear section 6, this section 6 also consisting of the part 9 which encloses the transmission and the magneto.

The forward member 5 forms the housing for the cranks and is bolted, as shown, to the upper casing member of the engine. The rear member 6 of the bottom casing is also bolted, as shown, to the upper engine casing. These two sections 5 are bolted together by bolts 10 at their adjoining edges, the sections 5 and 6 being flanged for the reception of the bolts and a suitable gasket being laid between the flanges.

The rear section 6 is hung to the chassis frame-bars 11 by means of a hanger, consisting of two parts, an upper part 12 and a lower part 13. These flat vertical parts are removably secured together by bolts 14. The upper member overhangs and is bolted down to the frame-bar 11 by a bolt 15, and the lower member 13 is bolted to the casing-member 6 in the usual manner. In addition to the main hanger just described, I employ a supplemental hanger consisting of a bar or arm 16, the forward end of which lies under the flange on the top edge of the casing member 5 and the rear end of which extends upwardly and rearwardly and lies upon the top face of the hanger-member 12, being bolted thereto by the aforesaid bolt 15.

With the structure thus described, it will be observed that either the front member 5 or the rear member 6 of the casing may be removed independently without disturbing the motor, thereby greatly saving in time and labor in the matter of cleaning and repairing the parts enclosed by the under-casing. In removing the front casing, it is simply necessary to unbolt the rear ends of the bracket 16 from the hangers by removing bolts 15 and to take out the bolts 10 and also the usual bolts fastening this part of the casing to the upper part of the engine casing, whereupon the casing member 5 may be entirely detached without disturbing either the motor or the rear member 6 of the casing. In removing the rear member 6 it is simply necessary to remove the bolts 14 connecting the hanger members and also, of course, the bolts connecting said member 6 to the upper part of the engine casing, whereupon this member 6 may be disconnected without disturbing the motor or even the forward member 5 and its hanger.

If the joint between the sections 5 and 6 incline forwardly, as shown, then it will be necessary to loosen the rear cap 17 of the usual universal joint slightly rearwardly. It is desirable to thus incline the joint between the members 5 and 6 in order that the front section 5 will assist in supporting the rear section 6, thereby to some extent relieving the bolts of strain.

The nature and scope of the invention having been thus indicated and its preferred embodiment having been specifically described, what is claimed as new is:

1. In combination with a supporting frame, an engine casing consisting of an upper part and a lower part, this lower part being divided transversely, means for securing the adjoining edges of the divided parts together, and a hanger means for the two parts consisting of independent hangers for said two parts, one of said hangers consisting of two separable parts bolted removably together.

2. In combination with an upper engine casing and a lower or under-casing, this latter being divided transversely and having its parts thus divided bolted removably together, and independent hanger means for the two members of said under-casing.

3. An engine casing consisting of an upper member and a lower member bolted together, said lower casing being divided transversely into two independently-removable parts, hanger means for said lower member consisting of a rear hanger for the rear part having its lower end bolted to the rear part and its upper end bolted to the supporting frame, this rear hanger being made of two parts removably bolted together to permit the lower part to be detached from the upper part without disturbing the upper part of the hanger, and hangers for the forward part of the under-casing whose upper ends are removably bolted to the upper parts of the rear hangers.

4. In combination with an upper engine casing and a lower or under-casing, this latter being divided transversely and having its parts thus divided bolted removably together, and independent hanger means for the two members of said under-casing, the line of division between said two parts inclining downardly and rearwardly.

5. In combination with a vehicle frame, an engine casing consisting of an upper member and a lower member bolted together, the lower member being divided transversely to form a rear part and a forward part, a pair of divided hangers for one of said parts, the upper ends of these divided hangers being secured by a vertical bolt to the vehicle frame, and a pair of hangers for the other part whose upper ends are secured to the frame by the same bolts that secure the other hangers to the frame.

6. In combination with a vehicle frame, an engine casing whose under member is transversely divided, bolts securing these two parts together at the line of division, a pair of hangers for the rear part, each of these hangers consisting of two parts having vertical portions which overlap and bolts securing these vertical portions separably together, and a pair of hangers for the front part of the under member.

In testimony whereof I hereunto affix my signature.

ROBERT DEE RIDDLE.

Witnesses:
WEBB THOMSON,
L. K. JENNINGS.