R. M. MORGAN.

SUPPORTING FRAMING FOR AUTOMOBILES.

APPLICATION FILED JULY 11, 1914.

1,146,343.

Patented July 13, 1915.

2 SHEETS—SHEET 1.

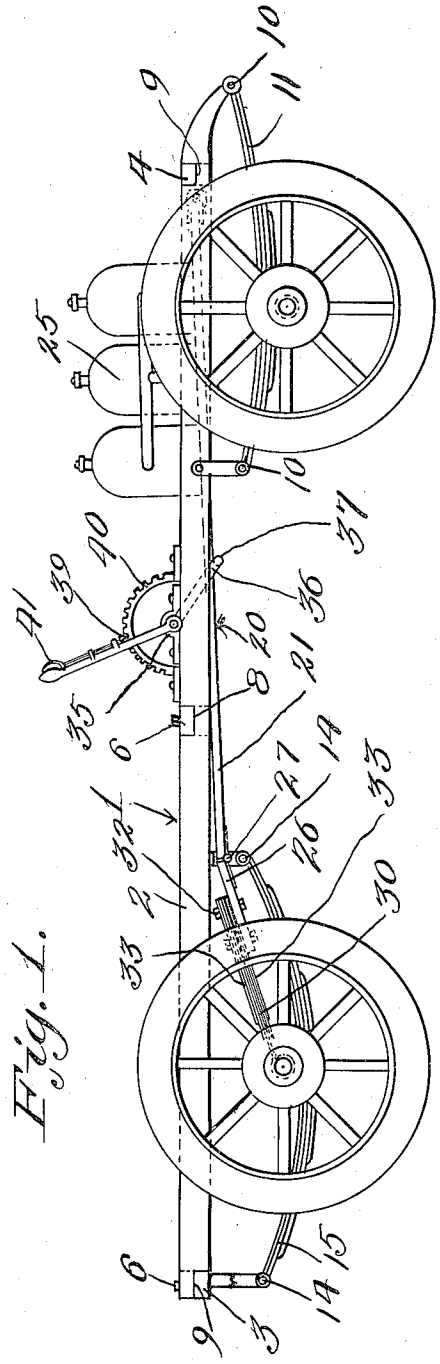


Fig. 1.

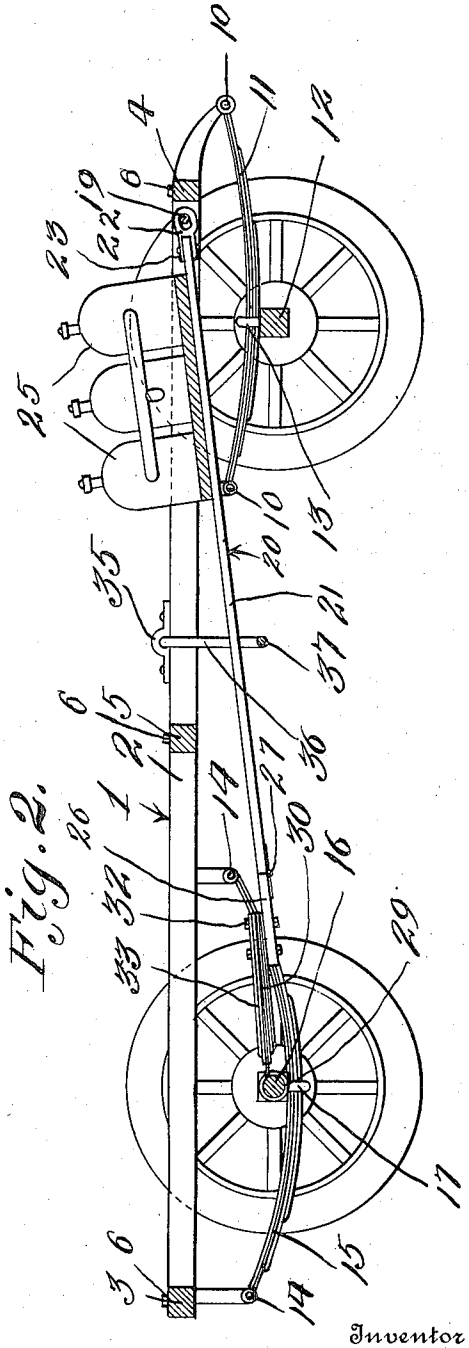


Fig. 2.

Witnesses

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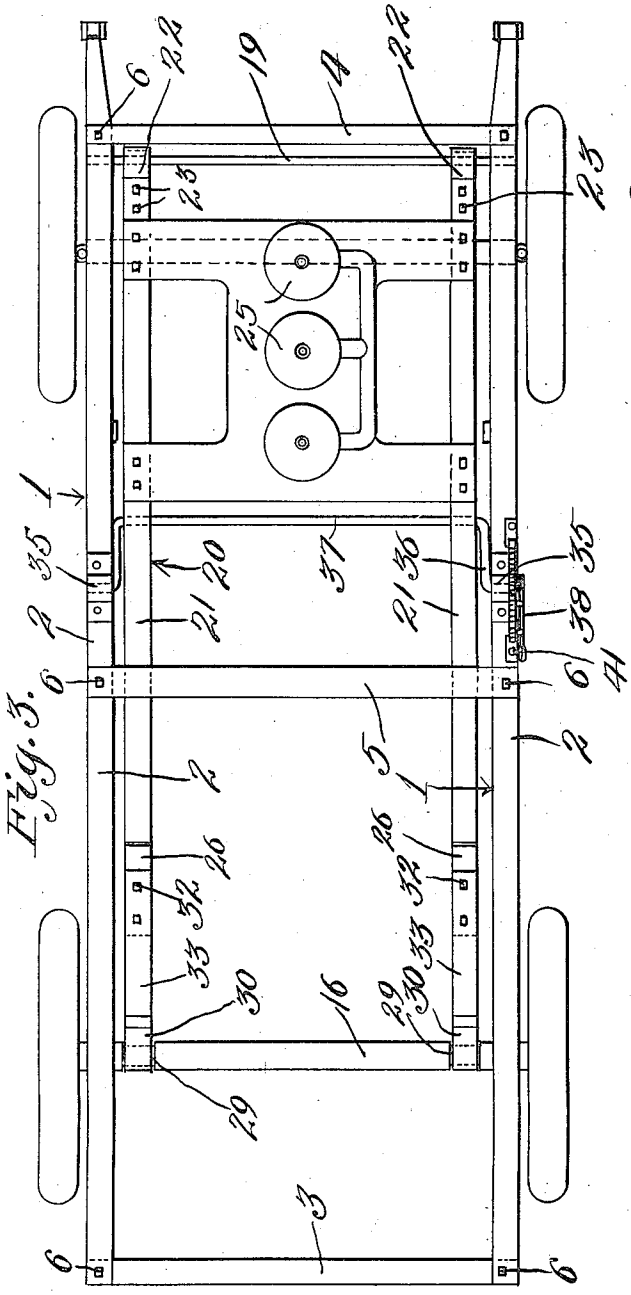


Fig. 5.

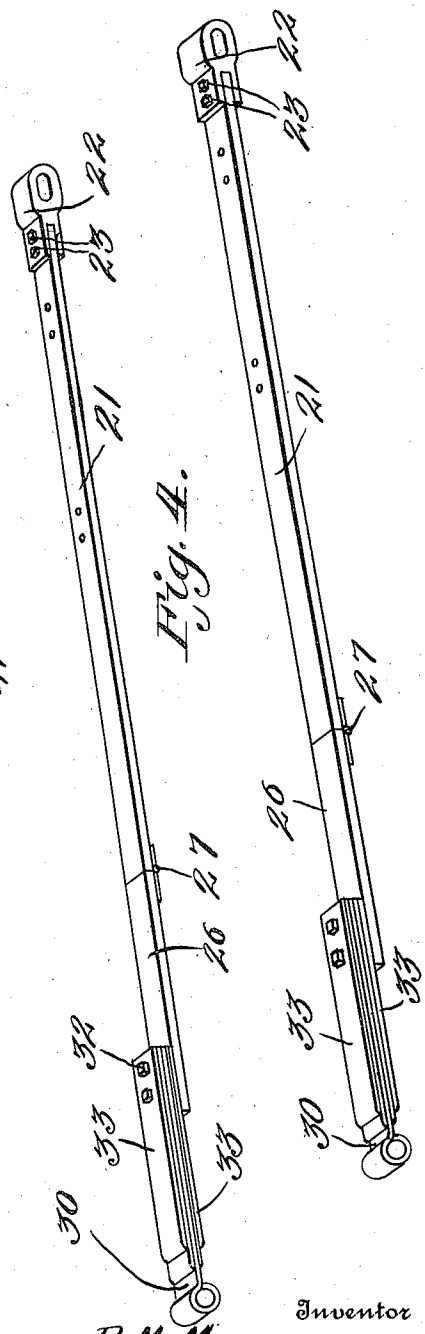


Fig. 4.

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UNITED STATES PATENT OFFICE.

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SUPPORTING-FRAMING FOR AUTOMOBILES.

1,146,343. Specification of Letters Patent. Patented July 13, 1915.

Application filed July 11, 1914. Serial No. 850,323.

To all whom it may concern:

Be it known that I, ROY M. MORGAN, a citizen of the United States, residing at Rankin, in the county of Vermilion and State of Illinois, have invented a new and useful Supporting-Framing for Automobiles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the art of automobiles, and particularly to the supporting framing thereof.

As an object of the invention it is the aim to provide a supporting framing comprising a main frame and an auxiliary frame, the auxiliary frame being so arranged to the main frame and supporting the engine of the automobile, that the weight of the engine is equally distributed upon both axles, or substantially equally distributed, which axles are supported or arranged relative to the main frame by the usual springs.

One of the features of the invention in regard to the auxiliary frame is that its forward portion is pivoted loosely on a transverse rod of the main frame and comprises two side members or bars, each having a hinged extension, which in turn is provided with a yieldable connection with the rear axle, said yieldable connection comprising a plurality of linked springs. A crank shaft is provided under the auxiliary frame, adapted to be manipulated to raise the auxiliary frame, so as to throw the majority of the weight of the auxiliary frame and the engine construction upon the front axle.

The auxiliary frame is normally raised, and an object of the invention is that in making turns this auxiliary frame is lowered to distribute the weight substantially equally on both axles, to prevent skidding of the rear wheels. Also in climbing hills the weight is substantially equally distributed upon both axles in order that the rear wheels may take a firmer hold for climbing.

In practical fields the details of construction may be subjected to alterations, falling within the scope of what is claimed.

The invention comprises further features and combination of parts, as hereinafter set forth, shown in the drawings and claimed.

In the drawings:—Figure 1 is a view in side elevation of a conventional form of automobile embodying the main and auxiliary frames, showing the auxiliary frame normally raised. Fig. 2 is a longitudinal sectional view showing the auxiliary frame lowered, thereby substantially equally distributing the weight upon the front and rear axles. Fig. 3 is a plan view of the two frames, showing the construction of the side bars of the auxiliary frame. Fig. 4 is a detail enlarged perspective view of the auxiliary frame.

Referring more especially to the drawings, 1 designates the main frame, which comprises the longitudinal bars 2 and the end transverse bars 3 and 4, and the centrally disposed transverse bar 5, all of which are bolted together as at 6. Where the bars are bolted together they are provided with inter-engaging recesses 8 and 9. Secured at 10 to the forward portions of the side longitudinal bars of the main frame are the usual leaf bowed springs 11, to which the forward axle 12 is clamped as at 13 in the usual manner. To the rear under portions of the longitudinal side bars of the main frame as shown at 14 are bowed leaf springs 15, to which the rear axle 16 is secured as shown at 17. The rear axle is secured to said rear springs between the springs and the side longitudinal bars of the main frame.

Extending transversely of the main frame at its forward portion and through the longitudinal side bars is a rod 19. An auxiliary frame 20 is provided, the forward ends of the side bars 21 of which are provided with castings 22 bolted to the side bars as shown at 23. These castings 22 are provided with elongated loops, the slots of which receive the rod 19, thereby in this manner loosely pivoting the auxiliary frame, which carries the engine 25. Extensions 26 are hinged at 27 to the side bars 21 of the auxiliary frame. The rear axle 16 is provided with annular recesses or grooves 29. A pair of leaf springs 30 is provided. Each leaf spring 30 is bent or turned upon itself to form a roll or sleeve fitting the annular recesses or grooves 29. The end portions of each leaf spring 30 are bolted as at 32 to the extension 26. Also bolted at 32 to each extension is a plurality of leaf springs 33, several above and several below each leaf spring 30, thereby yieldably reinforcing the spring 30.

Mounted in bearings 35 of the main frame is a crank shaft 36, the downwardly extending drop portion 37 of which is disposed

under the side bars of the auxiliary frame, but sufficiently out of contact therewith abnormally, to permit the auxiliary frame to be yieldably supported by said springs 30 and 33, thereby yieldably substantially distributing the weight of the engine of the auxiliary frame on the front and rear axles. By means of a crank arm 38 of the shaft the drop portion of the crank shaft may be thrown upwardly sufficiently to contact with and raise the auxiliary frame, which is in normal position thereof, and is held in such normal position by virtue of the dog or pawl 39 engaging one of the teeth of the segment rack 40. The pawl or dog is released by manipulating the hand grip 41.

In ordinary use, such as straight driving of the machine, the auxiliary frame is normally supported in a raised position, but in making sharp turns or curves, the auxiliary frame is dropped, thereby substantially equally distributing the weight between the front and rear axles to prevent skidding of the rear wheels, and in climbing hills the auxiliary frame is also dropped, in order to cause the rear driving wheels to take a firmer hold upon the ground.

The invention having been set forth, what is claimed as new and useful is:—

1. In a motor vehicle, the combination of the front and rear axles, a main body frame supported upon the axle, an auxiliary engine frame pivoted at its forward end to the main frame and having yieldable connections with the rear axle, and means for holding the auxiliary frame normally raised relieving the yieldable connection and the weight from the rear axle, said means designed to be manually manipulated constituting means to permit the auxiliary frame to lower by gravitation.

2. In a motor vehicle, the combination of a front and rear axle, a main body frame supported upon the axles, an auxiliary engine frame having pivoted connections at its forward end to the main frame and provided with rear hinged extensions having yieldable connections with the rear axle, and means for holding the auxiliary frame normally raised.

3. In a motor vehicle, the combination of the front and rear axles, a main body frame yieldably supported by said axle, an auxiliary engine frame pivotally connected at its forward end to the main frame and having a plurality of leaf spring connections with the rear axle, and means for holding the auxiliary frame normally raised relieving the weight from the rear axle.

4. In a motor vehicle, the combination of the front and rear axles, a main body frame supported upon the axles, an auxiliary engine frame pivoted at its forward end to the main frame and provided at its rear portion with hinged extensions, each having a plurality of leaf spring connections with the rear axle, and means for holding the auxiliary frame normally raised relieving the yieldable connection and relieving the weight from the rear axle, said means being manually manipulated and acting to permit the auxiliary frame to gravitate to substantially equally distribute the weight upon the front and rear axles, said yieldable leaf spring connections acting to yieldably support the distributed weight.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROY M. MORGAN.

Witnesses:
W. M. CUTLER,
E. H. WHITHAM.