Jan. 10, 1933. G. M. MORTENSON 1,894,189

AUTOMOBILE LOCKING MEANS

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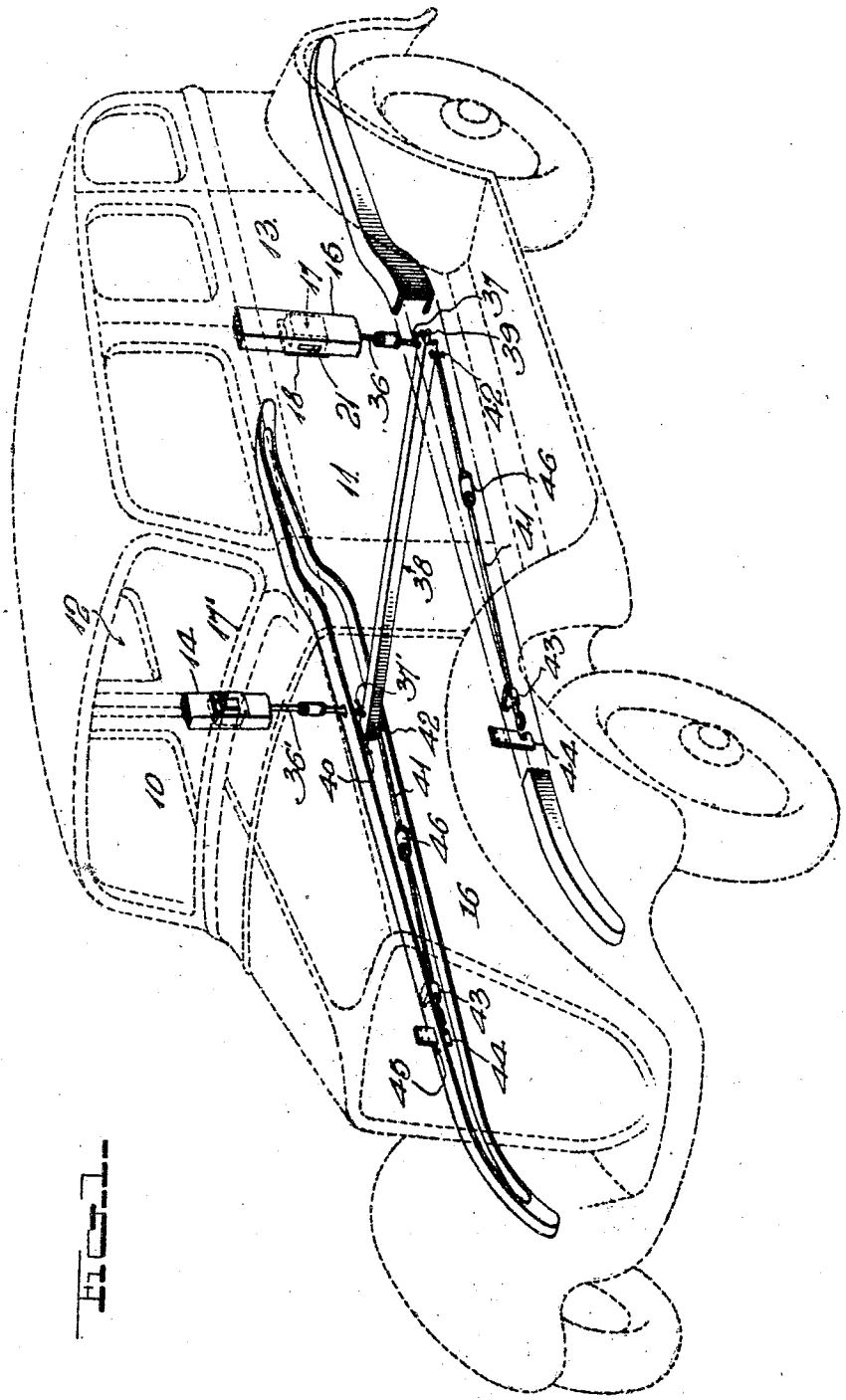


FIG. 1.

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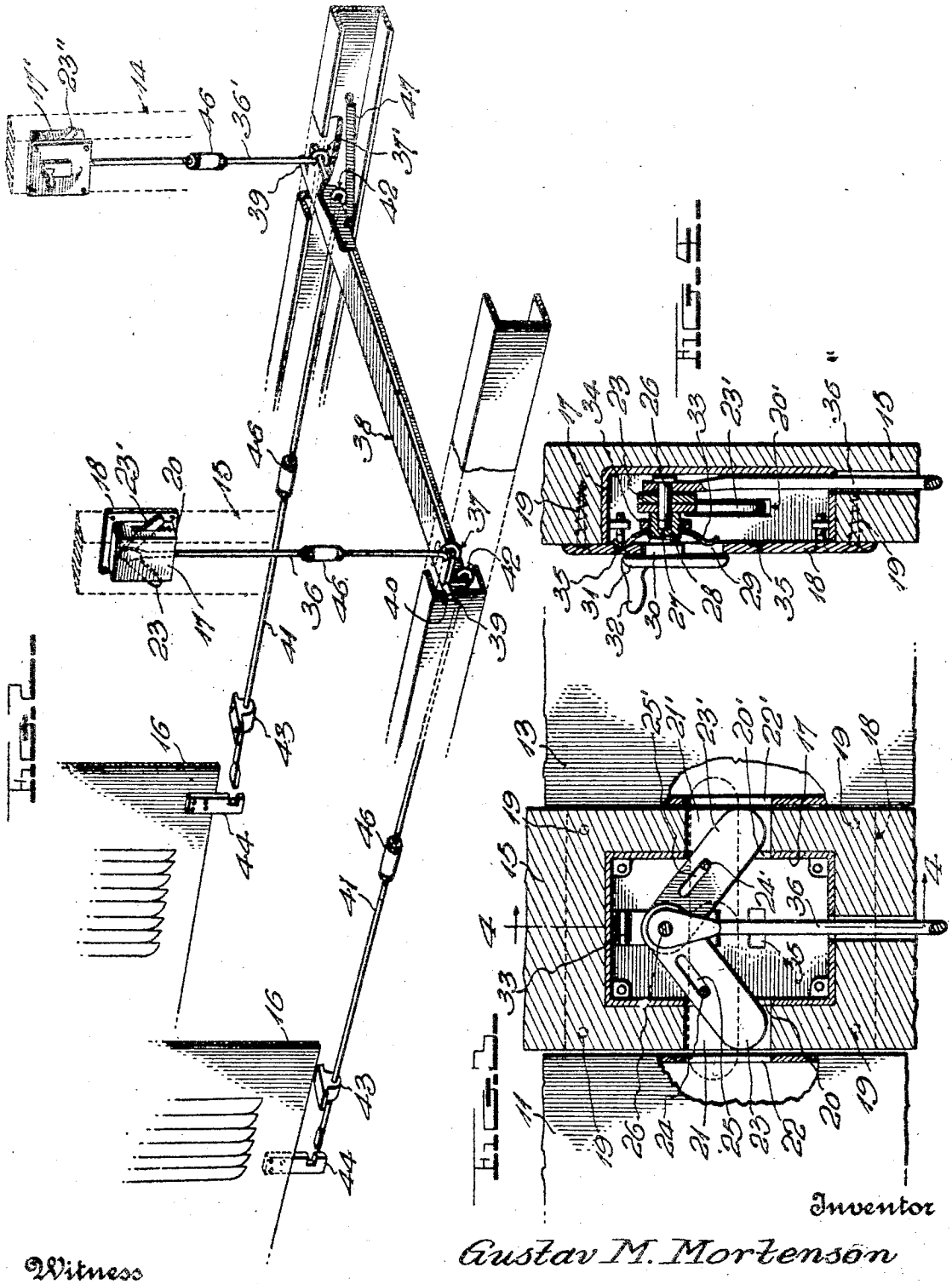
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UNITED STATES PATENT OFFICE

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AUTOMOBILE LOCKING MEANS

Application filed February 29, 1932. Serial No. 595,888.

The invention aims primarily to provide new and improved automobile locking means which not only embodies locking means for the doors, but additional locking means for holding the engine hood in closed position, thus still further safeguarding against theft of the entire machine or tampering with motor parts.

Further objects are to provide novel locking means whereby a plurality of the doors of the machine may be simultaneously locked or unlocked, and to provide novel and advantageous hood locking means.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a phantom perspective of a four-door sedan equipped with the door and hood locking means.

Fig. 2 is an enlarged fragmentary perspective view.

Fig. 3 is an enlarged vertical section through part of the door locking means.

Fig. 4 is a vertical section on line 4—4 of Fig. 3.

A preferred construction has been shown in connection with a four door sedan, but the invention may also be adapted to coaches or to coupes, having only two doors, and in fact, to any type of motor vehicle regardless of the number of doors which it embodies. Moreover, it will be understood that while only a preferred construction has been illustrated, various modifications may be made within the scope of the invention as claimed.

For later reference, the front right door is denoted at 10, the front left door at 11, the rear right door at 12 and the rear left door at 13. The right and left posts of the body, between the front and rear doors are denoted at 14 and 15, and the conventional engine hood is shown at 16. The right front door 10 is key-locked from the exterior of the car, in the usual way.

Inset in the left post 15, is a suitable casing 17 preferably having a detachable flush-plate 18 secured to the inner side of the post by screws or the like 19. Opposite sides of the casing 17 are formed with vertical slots 20 and 20′ registering with other slots 21 and 21′ which open through the door-engaging edges of the post 15, said slots 21 and 21′ being registrable with openings 22 and 22′ in the edges of the doors 13 and 11 respectively, when said doors are closed. Two upwardly converging locking links 23 and 23′ are slidably received in the slots 20—21 and 20′—21′ respectively, and these links are slidably and pivotally mounted by pins 24 and 24′ and slots 25 and 25′, so that when the inner ends of said links are pulled downwardly, their outer ends will project into the openings 22 and 22′, thereby locking the doors 13 and 11. The upper or inner ends of the links 23 and 23′ overlap each other and are pivotally connected by means of a pin 26. The end of this pin toward the interior of the car, is received in a socket 27 in a lug 28 which passes slidably through a vertical slot 29 in the flush-plate 18, said lug preferably having a flat-sided portion 30 engaging the walls of said slot 29 to hold it against rotation. The lug 30 is carried by a small plate 31 which lies slidably against the plate 18 and closes the slot 29, said plate 31 being provided with a finger-piece 32 by means of which it may be raised or lowered. When raised, the links 23 and 23′ are released as shown in Fig. 3, but when lowered, projection of said links to locking position is effected.

For holding the plate 31 and associated parts in either raised or lowered position, I fasten a bowed spring 33 on the lug 28, for instance, by means of a nut 34, and provide the flush-plate 18 with shallow sockets 35 into which the ends of said spring will snap, thereby holding the locking means either in operative or inoperative position and also preventing rattling of parts.

Slidably mounted in the post 15 is a vertical rod 36 which extends to a point below the car floor and is permanently pivoted at 37 to one flange of an angle metal rock shaft 38 which extends between the chassis side bars, the ends of said rock shaft being provided with trunnions 39 mounted in suitable bearings 40. Another vertical rod 36′ is permanently and pivotally connected at 37′ with

the opposite end of the rock shaft 38, said rod 36′ being slidably mounted in the post 14 and extending into a casing 17′ which is inset in this post. The upper end of rod 36 carries the above described pin 26 and is by the latter connected with the locking links 23 and 23′. In a similar manner, the upper end of rod 36′ is connected with a locking link 23″ for projecting the latter into engagement with or withdrawing it from engagement with the right rear door 12. When the finger-piece 32 is depressed, the links 23 and 23′ are projected, the rod 36 turns the rock shaft 38, this rock shaft pulls upon the rod 36′, and this rod effects projection of the locking link 23″, thereby at a single operation, locking all three of the doors 11, 12 and 13, the door 10 being key locked in the usual way, as above stated. Obviously, upward movement of the finger-piece 32, will effect simultaneous release of all of the door-locking means.

For locking the hood 16 in closed position simultaneously with locking of the doors and for freeing said hood simultaneously with release of the doors, I provide two rods 41 extending longitudinally of the machine and permanently pivoted at their rear ends to the rock shaft 38 as denoted at 42. These rods are mounted in appropriate guides 43 within the channels of the chassis side bars, and they co-act with approprate keepers 44 which are secured to the sides of the hood and project downwardly through slots 45 in the upper flanges of said side bars and through any fender portions lying upon said flanges. When the shaft 38 rocks incident to locking of the doors, the rods 41 are pushed forwardly into engagement with the keepers 44, thereby also securely locking the hood in closed position. When shaft 38 turns in the other direction upon release of the door-locking means, it pulls rearwardly upon the rods 41, releasing them from engagement with the keepers 44 so that the hood may be raised on either side, if desired.

The rods 41 and the lower ends of the rods 36 and 36′ are preferably so closely confined within the channels of the chassis side bars, as to overcome any liability of sawing them at their pivots or at other points, and said pivots (37, 37′ and 42) are preferably formed by welding eyes on the rods in openings of the angle metal rock shaft 38, preventing detachment of any of these pivots. All of the rods are preferably provided with adjusting sleeves or the like 46, allowing slight adjustments in the length thereof, to obtain the best results.

I prefer to connect a coiled or other spring 47 with the rock shaft 38 for the purpose of holding it and the other parts of the locking means, in the position assumed when said locking means are released, said spring serving to minimize or prevent rattling of parts and co-acting with the spring 33 and depressions 35 in holding the locking means against accidental movement to operative position. The strength of the spring 47 however, is such that it will not overcome the friction of parts and the holding effect of spring 33 and the depressions 35, when the locking means are projected to operative engagement with the doors and hood.

It will be seen from the foregoing that novel and advantages provision has been made for carrying out the objects of the invention, and attention is again invited to the fact that variations may be made within the scope of the invention as claimed, and said invention may be applied to machines other than four door sedans. It may be further stated that although the door-locking means and the hood-locking means are preferably embodied in the same assemblage, either might well be used without the other.

I claim:—

1. In a closed automobile, vertical latch-operating rods, horizontal latch-operating rods, and a single angle metal bar extending transversely between the chassis frame side bars of the automobile and having integral trunnions mounted in openings in said side bars, said angle metal bar having both vertical and horizontal flanges formed with openings, said vertical rods being provided with integral eyes having pivotal engagement with the openings of said horizontal flange, said horizontal rods having integral eyes in pivotal engagement with the openings of said vertical flange.

2. A latch comprising a casing having a front plate provided with a slot, two opposed side walls of said casing being also formed with slots, two flat converging links passing through the last named slots in planes parallel with said front plate and having their inner ends overlapped, combined pivotal and slidable connections between said casing and said links, a pin pivotally connecting the overlapped ends of said links, a slide plate lying against the outer side of said front plate and closing the slot of the latter, said slide plate having an operating handle, a lug carried by said side plate and passing through said slot of said front plate, said lug being connected with said pin to operate said links when said slide plate is moved, and a bowed spring secured between its ends on said lug and having said ends disposed against the inner side of said front plate, the latter having depressions in which said spring ends are received when said slide plate is moved to either project or retract said links.

In testimony whereof I affix my signature.

GUSTAV M. MORTENSON.