Oct. 8, 1957 M. DLUGATCH 2,809,064

HOOD LATCH LOCKING DEVICE

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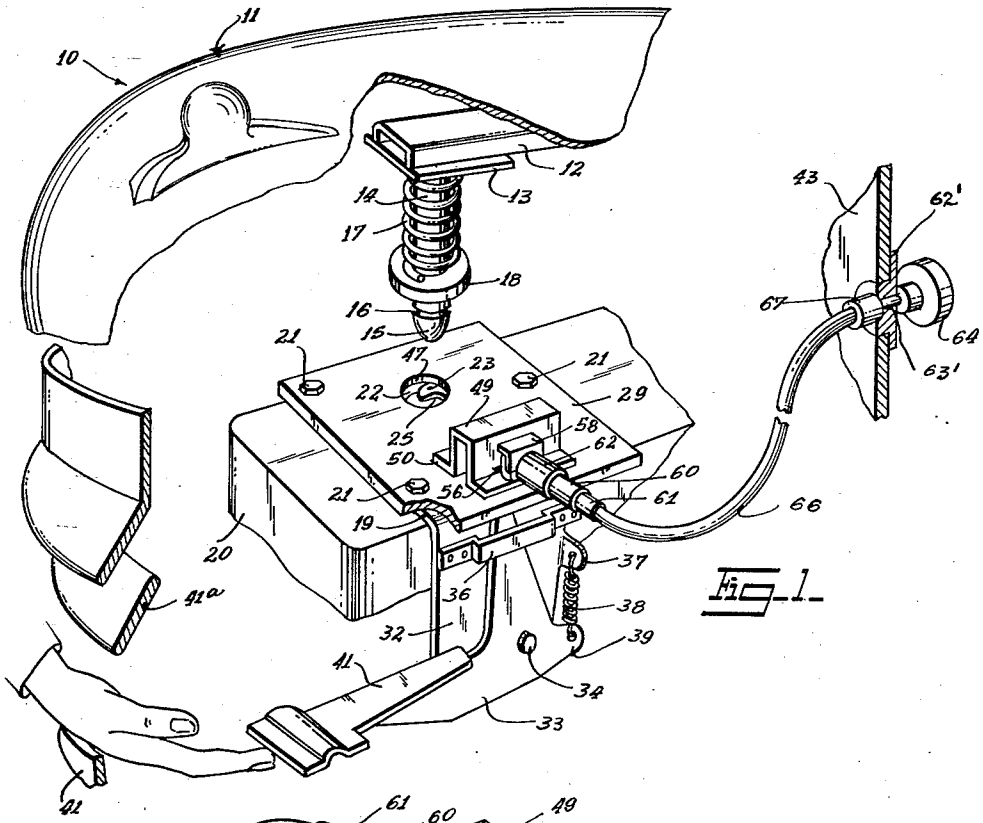


Fig. 1

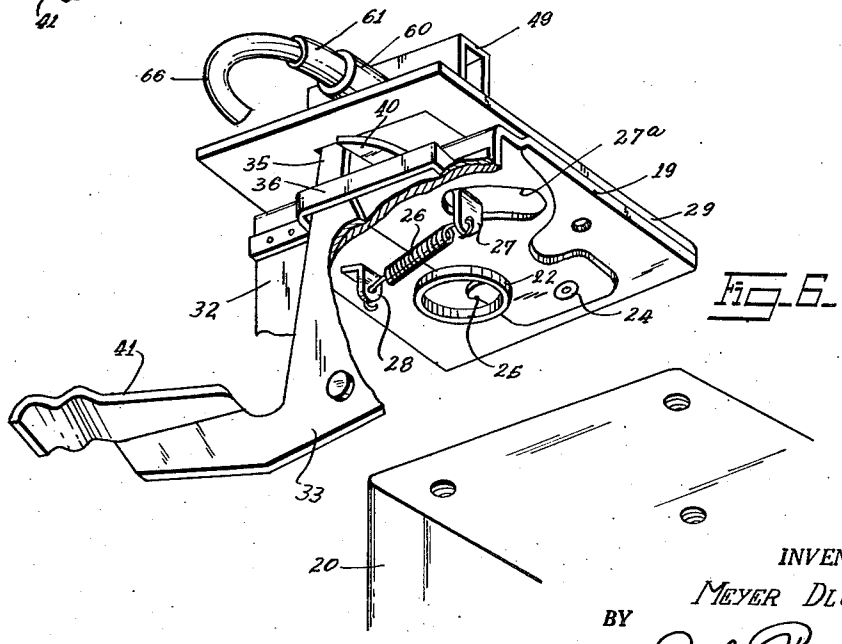


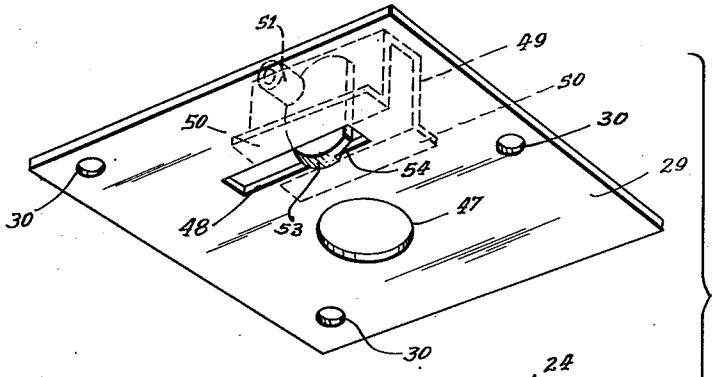
Fig. 6

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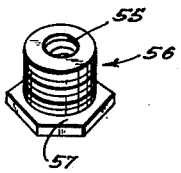


FIG. 8.

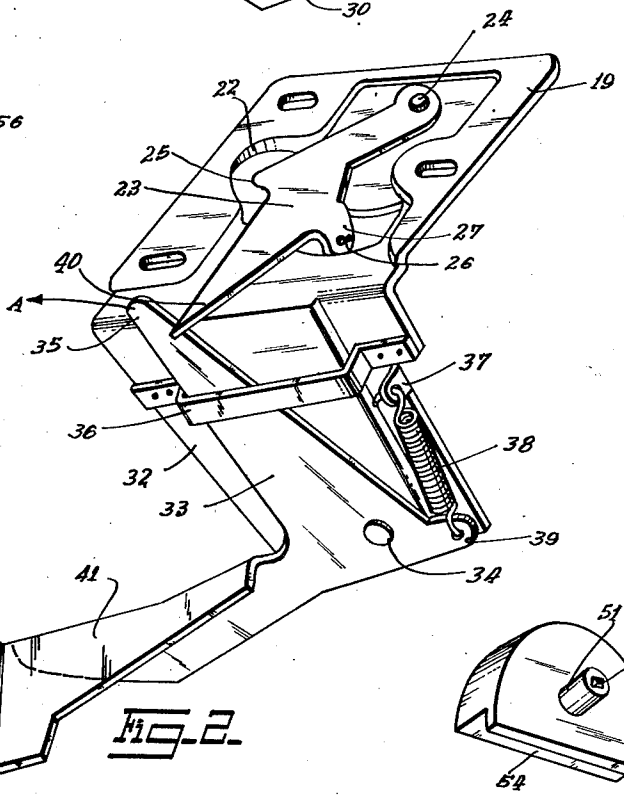


FIG. 2.

FIG. 7.

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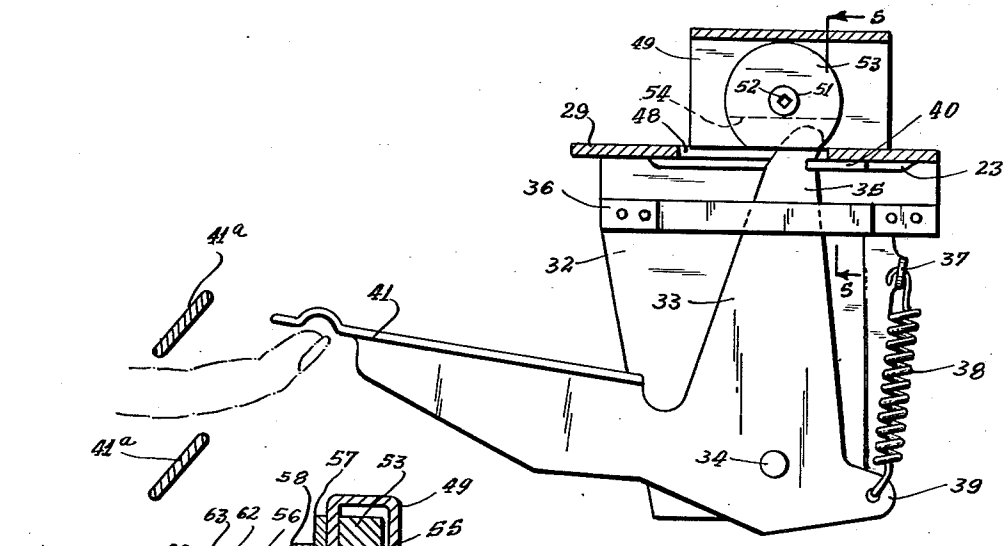


Fig. 4

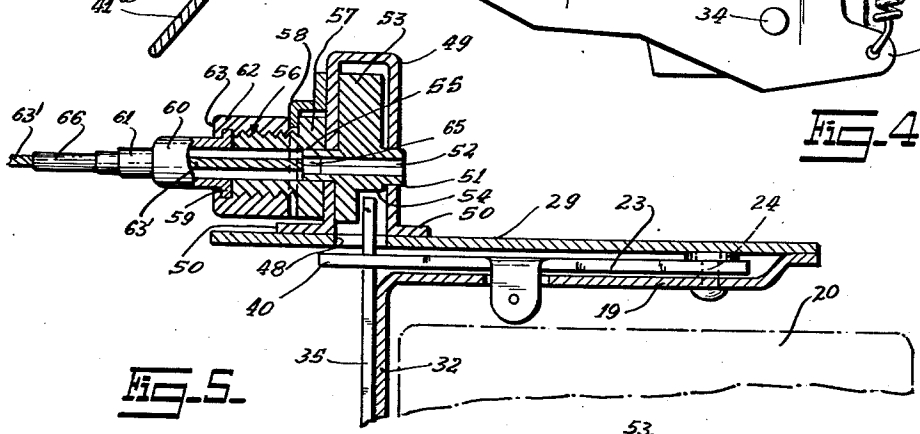


Fig. 5

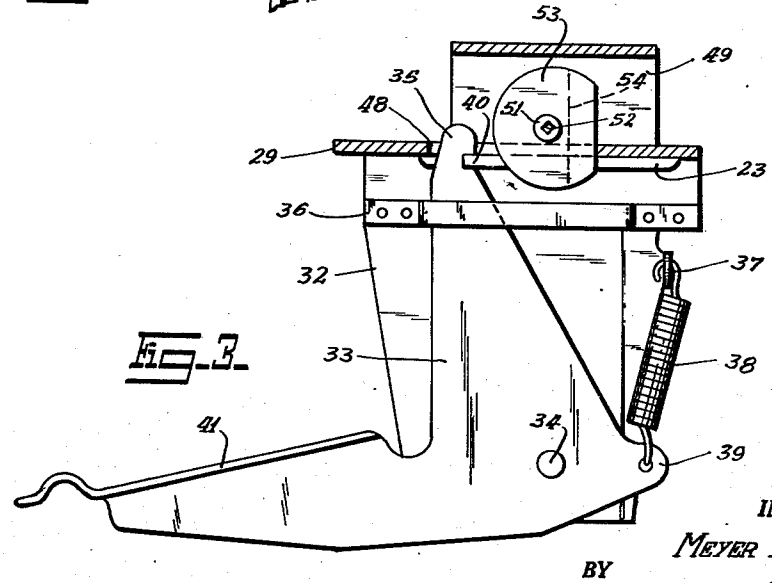


Fig. 3

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HOOD LATCH LOCKING DEVICE

Meyer Dlugatch, New York, N. Y.

Application September 21, 1955, Serial No. 535,613

3 Claims. (Cl. 292—226)

This invention relates to locking devices for automobile hood latches and proposes certain improvements in the locking device disclosed in my co-pending application, Serial No. 371,029, filed July 29, 1953, now Patent No. 2,723,552, dated November 15, 1955.

It is an object of the present invention to provide a locking device which will prevent any motion of the conventional hood latches of automobiles, the locking device being controlled from the dashboard.

It is another object of the present invention to provide a locking device for automobile hood latches which will prevent unauthorized persons from opening the hood and removing the battery or parts of the motor, and which will prevent the unauthorized persons from stealing the automobile itself by means of crossed ignition wires.

Other objects of the present invention are to provide a hood latch locking device bearing the above objects in mind which is of simple construction, inexpensive to manufacture, has a minimum number of parts, is easy to use and efficient in operation.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a perspective view of the interior of the hood and showing the hood latch locking device incorporated therein.

Fig. 2 is an exploded perspective view of the invention.

Fig. 3 is a vertical sectional view taken along the line 3—3 of Fig. 2 and showing the device in assembled, operative position.

Fig. 4 is a view similar to Fig. 3 but showing the device in the inoperative position with the hood latch released.

Fig. 5 is a longitudinal sectional view taken along the line 5—5 of Fig. 4.

Fig. 6 is an exploded perspective view of the invention, shown partly broken away, and the engine block.

Fig. 7 is a perspective view of the principal part of the locking device, shown alone.

Fig. 8 is a perspective view of another of the parts of the device.

Referring now to the drawings, 10 represents an automobile having a hood 11 of the type adapted to be rotated upwardly when it is desired to have access to the motor.

The usual longitudinally extending frame member 12 is secured to the top inner face of hood 11 and serves to support a plate 13 from which depends a shaft 14 terminating in a bullet-nosed head 15. The head 15 is provided with the usual peripheral groove 16.

A spring 17 sleeves shaft 14 and is suitably secured at its upper end to the lower surface of plate 13, the lower end of the spring being connected to a flanged cup member 18 open at the top and bottom and receiving the head 15 and shaft 14 freely therethrough.

A plate 19 is secured at one end to the top of motor block 20 by means of bolts 21, the plate 19 on the undersurface thereof (Fig. 6) being provided with a flanged opening 22 adapted to receive the head 15 downwardly therethrough.

A latch 23 is pivotally connected to the upper surface of plate 19 by means of a pin 24, the latch 23 having an arcuate cut-out portion 25, adapted to be received within the peripheral groove 16 when the head 15 is within opening 22. A spring 26 (see Fig. 6) is connected at one end to a bracket 27 extending downwardly through opening 27a in plate 19 on one longitudinal edge of the latch 23, the spring 26 extending across and below the plate 19 and being connected at its other end to a bracket 28 secured to the undersurface of the plate 19. Thus, the spring 26 will bias the latch 23 to retain the head 15 in the locked position.

In the practice of my invention, a plate 29 is mounted on top of the plate 19 on the motor block 11, the plate 29 being provided with openings 30 receiving therethrough the bolts 21 (Fig. 2).

The plate 19 along one longitudinal edge is integrally formed with depending plate 32 which serves to rotatably mount an L-shaped lever 33 by means of a pin 34, the upper portion of one arm of the lever 33 tapering to an elongated portion 35 extending upwardly above the plate 19 and being surrounded by a guard 36, substantially as illustrated. One vertical edge of the upright 32 near the top is integrally formed with a bracket 37 which secures the upper end of a tension spring 38, the lower end of the spring 38 being secured to the corner portion 39 of the lever 33. Thus, the spring 38 will normally urge the lever 33 in the direction of the arrow A of Fig. 2. It will also be noted that the portion 35 extending upwardly abuts the pointed end 40 of the latch 23. The lever 33 is also formed with a horizontal portion 41 adapted to be manually moved upwardly by inserting the hand through the spaced grill elements 41a at the front of the hood. Thus, pushing the horizontal portion 41 upwardly will move the lever 33 against the action of the tension spring 38, and in so doing to move the latch 23 out of engagement with the bullet head 15 against the action of the tension spring 26, all in a manner well known to those skilled in the art.

The plate 29, forming a part of the invention, extends outwardly beyond the depending plate 32 (Fig. 1), and is provided with a cut-out 47 which overlies the flanged opening 22 and receives therewithin the bullet nose 15, as will be obvious. The plate 29 is also provided with an elongated opening 48 which overlies and receives upwardly therethrough the upper portion 35 of lever 33.

A U-shaped housing 49 is secured to the upper surface of the plate 29 on each side of the opening 48 by means of flanges 50 and suitable welding, not shown.

A hollow cylindrical shaft 51 is rotatably mounted between the vertical walls of the housing 49 (Fig. 5), the shaft 51 having an angular bore 52 of substantially square-shaped cross section for a purpose which will hereinafter become clear. A semicircular cam plate 53 is integrally formed on the shaft 51 intermediate the walls of housing 49, the plate 53 along the entire length of its straight edge being provided with a cut-out portion 54 aligned vertically with the end 35 of the lever 33. Thus, when the plate 53 is in the horizontal or inoperative position of Figs. 4 and 5, the upper portion 35 of lever 33 may be rotated freely to the position of Fig. 4 through cut-out 54. However, when the plate or cam 53 is in the position of Fig. 3, the straight portion thereof will abut the end of the opening 48, limiting its rotational displacement, while the forward edge of the portion 40 of latch 23 will abut the adjacent side of the plate 53. Thus, the latch 23 will be frozen and prevented against movement, even

though the lever 33 were attempted to be rotated. Thus, tampering by unauthorized persons will be effectively prevented.

As a means of controlling the angular position of the plate 53, the shaft 51 extends outwardly beyond the housing 49 and is received within the smooth central bore 55 of an externally threaded member 56 (Fig. 7). The member 56 is integrally formed with a hexagonal flanged portion 57 which abuts the outer face of housing 49 surrounding shaft 52, the flange 47 being secured against outward displacement by means of a bracket 58 suitably secured to the housing 49 and retaining thereby the member 56 against outward displacement. The circular flange 59 of a hollow cylindrical member 60 rests adjacent the outer end of member 56, the outer end of hollow member 60 having suitably secured thereto a second cylindrical member 61 of lesser diameter than the member 60. An internally threaded, cup-shaped member 62 is screwed onto the member 56, the end wall 63 of cup-shaped member 62 having an opening therein receiving the hollow cylindrical member 60 therethrough while abutting the flange 59, thus retaining member 60 against member 56 (Fig. 5), as will be obvious.

A coupling or bracket 62' is mounted in dashboard 43 (Fig. 1) and receives therethrough a flexible shaft 63'. The flexible shaft 63' continues below the hood 11 and terminates in an angular block or plug 65 (Fig. 5) which is received within the bore 52 of shaft 51. Thus, as the shaft 63' is rotated by means of knob 64, plug 65 will be rotated to rotate with it the shaft 51 and cam plate 53. A flexible sleeve 66 surrounds the shaft 63' intermediate the coupling 62' and the cylindrical portion 61, the outer end of the sleeve 66 being secured to bracket 62 by means of the externally knurled coupling 67, in suitable manner, while the other end of the sleeve 66 is similarly secured to the cylindrical portion 61.

The plate 53, it will now be apparent, may be rotated by rotating the knob 64 to dispose the plate in the inoperative position of Fig. 4. When it is desired to lock the latch 23 in the position of Fig. 3, after the cut-out portion 25 thereof is in the groove 16, it is only necessary to turn the knob 64 to rotate the cam plate 53 into the vertical position of Fig. 3.

Thus, it is only by first rotating the knob 64 to rotate the plate 53 to the horizontal inoperative position away from latch 23 that the latter can be released by the handle 41.

Thus, when the knob 64 is turned, the flexible shaft 63' fixedly connected thereto will rotate plate 53 out of engagement with the forward edge of the latch 23. This permits the latch 23 to be moved to the disengaged position by the attendant. When the knob 64 is again rotated to its original position, the plate 53 will again abut the forward edge of the latch 23 to lock the same and prevent unauthorized persons from opening the hood 11.

While I have illustrated and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

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

1. In an automobile hood latch assembly including a pivoted plate mounted on the motor block and adapted to be rotated in and out of engagement with a depending latching head carried by the hood, a device for actuating said plate, a rotatable knob mounted on the dashboard and operable from inside of the automobile, a cam plate pivoted within the hood and adapted to be rotated adjacent the latching head, said cam plate being rotatably mounted along a substantially horizontal axis at right angles to the vertical axis of rotation of the latching head and having a cut-out portion adapted to receive the upwardly extending end of the hood latch actuating device whereby to permit the hood latch to be released when said plate is rotated to an inoperative position, and linkage means interconnecting said pivoted cam plate and said knob, said linkage means comprising a flexible shaft fixedly connected at one end to said knob and at the other to said pivoted plate and a flexible sleeve provided on said flexible shaft and extending from said knob to said pivoted plate.

2. In combination with an automobile having a horizontally hinged hood so as to be upwardly and rearwardly swingable and carrying a spring pressed cylindrical latching head with an annular groove therearound, a locking plate rotatably mounted on the motor block and being adapted normally to engage in said groove for holding the hood against opening movement, a spring-pressed rockable lever on the motor block and being adapted to engage said locking plate for releasing the latching head, a camming disc mounted on the motor block for holding said lever against rocking movement, and control means within said automobile and accessible to a driver thereof for controlling said camming disc, said control means including a flexible shaft having one end connected to said camming disc and a knob on the other end of said flexible shaft and being disposed on the dashboard of the automobile.

3. In combination with an automobile having a horizontally hinged hood so as to be upwardly and rearwardly swingable and carrying a spring-pressed cylindrical latching head with an annular groove therearound, a locking plate rotatably mounted on the motor block and being adapted normally to engage in said groove for holding the hood against opening movement, another plate on the motor hood above said locking plate, said second-named plate having a slot therein, a spring-pressed rockable lever on the motor block extending through the slot in said second named plate and being adapted to engage said locking plate for releasing the latching head, a camming disc mounted on the motor block and coacting with the edge wall of said slot for holding said lever against rocking movement, and control means within said automobile and accessible to a driver thereof for controlling said camming disc, said control means including a flexible shaft having one end connected to said camming disc and a knob on the other end of said flexible shaft and being disposed on the dashboard of the automobile.

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