United States Patent

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[54] **LATCH**
8 Claims, 5 Drawing Figs.

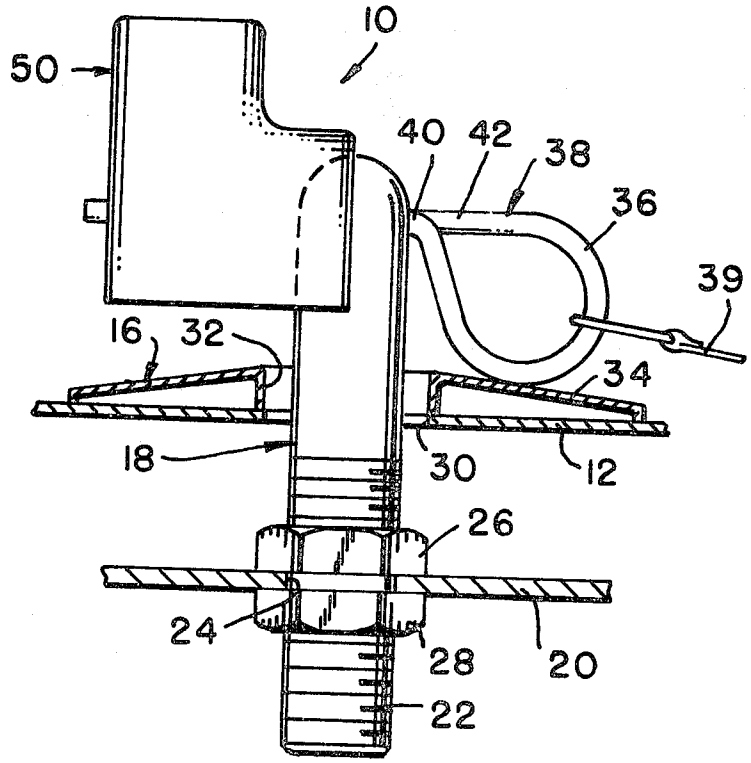
[52] **U.S. Cl.** **70/240,** 70/39, 292/302, 292/DIG. 14
[51] **Int. Cl.** **E05b 65/19,** E05b 67/24
[50] **Field of Search** 70/181, 240, 229, 14, 39; 292/DIG. 14, 302

[56] **References Cited**
UNITED STATES PATENTS

1,512,589	10/1924	Freysinger	70/39
1,638,264	8/1927	Junkunc	70/39
1,650,578	11/1927	Wyman	70/230 UX
1,965,941	7/1934	Jacobi	292/218 UX

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ABSTRACT: The latch mechanism is adapted for use in connection with an automobile hood pin of the type mounted interiorly of the engine compartment and extending through an opening in the hood when the hood is in the closed position and wherein the hood pin has an opening therein exteriorly of the hood for reception of a latch pin to maintain the hood in the closed position. A key-operated latch mechanism is adapted for reception and latching of that portion of a latch pin extending beyond the hood pin to the end that the device is effective to prevent unauthorized removal of the latch pin.



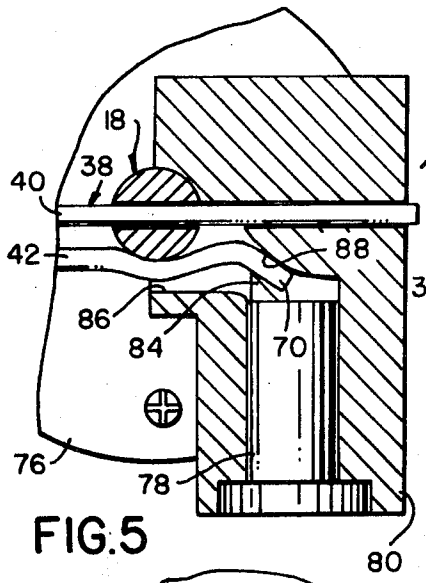


FIG.5

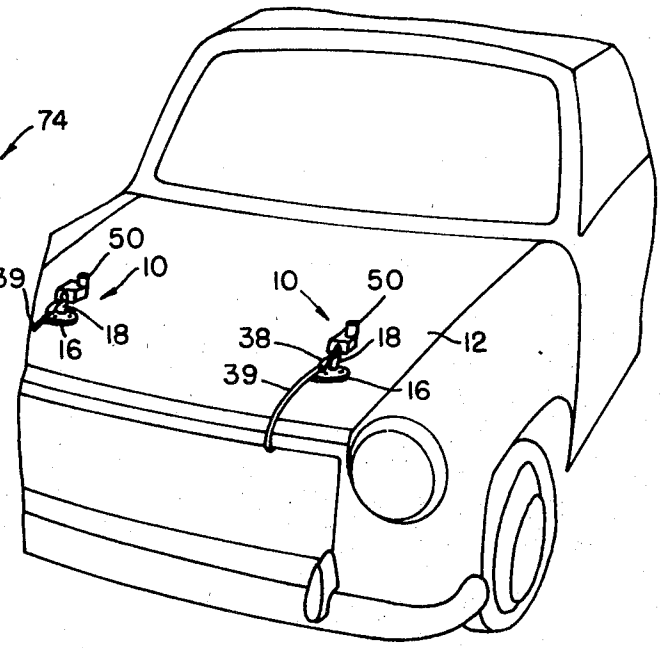


FIG.1

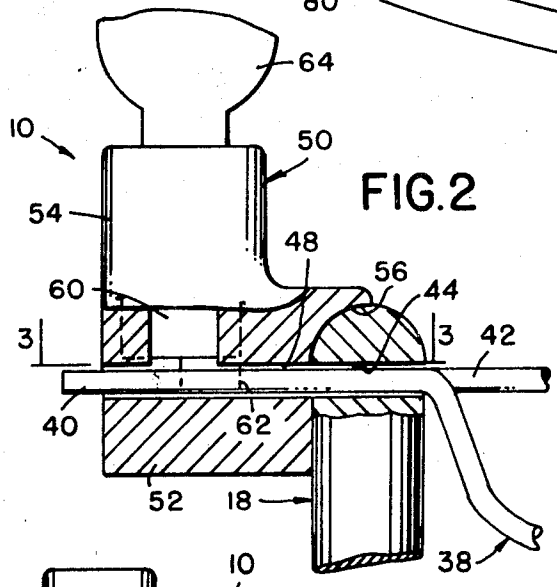


FIG.2

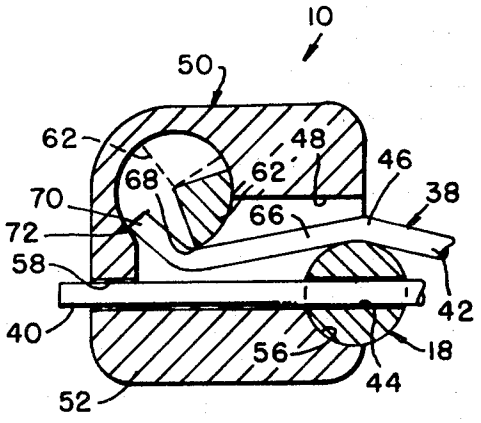


FIG.3

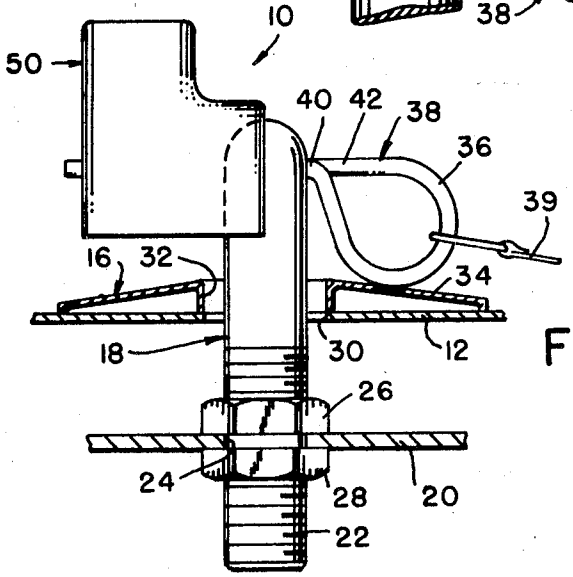


FIG.4

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LATCH

BACKGROUND OF THE INVENTION

Recently, hood pins have become very popular in connection with sport and hotrod-type cars. The hood pins are mounted in the engine compartment on bracket structure available therein. The pins extend through openings in the hood when the hood is closed. A cotter-type latch pin engages an opening in the exterior portion of the hood pin to maintain the hood in the closed position. Sport cars frequently have valuable accessory equipment mounted within the engine compartment, and the car owners have in some cases been subjected to theft of the accessory components because the engine compartment is not locked closed.

The present invention provides a key-operated latch mechanism for engagement with the cotter pins to prevent removal of the cotter pins without first disengaging the latch mechanism by use of the proper key. The mechanism is of simple and inexpensive construction and is adaptable for use in connection with existing hood pins.

SUMMARY OF THE INVENTION

A latch mechanism is provided for use in connection with an automobile hood pin of the type mounted interiorly of the engine compartment and extending through an opening in the hood when the hood is in the closed position. The hood pin has an opening therein exteriorly of the hood for reception of a latch pin to maintain the hood in the closed position. The latch mechanism comprises a body having an opening therein for reception of the portion of the latch pin which extends beyond the hood pin. A latching element is provided in the body and is operated by a key to engage the projecting section of the latch pin to prevent withdrawal thereof from the latch body, thus preventing withdrawal of the latch pin from the hood pin.

IN THE DRAWING

FIG. 1 is a view in perspective of an automobile illustrating one embodiment of the latch of the present invention mounted on a hood pin thereof;

FIG. 2 is a vertical sectional view of the latch structure of FIG. 1;

FIG. 3 is a sectional view taken substantially along the line 3—3 of FIG. 2;

FIG. 4 is a side elevational view of the latch illustrating the mounting of the hood pin; and

FIG. 5 illustrates a modified form of the latch.

Referring first to the embodiment illustrated in FIGS. 1–4, it will be noted that a pair of latch structures **10** are mounted in spaced apart relationship on the forward portion of the hood **12** of an automobile. The latch structures each include a hood pin **18** which is fixedly secured to a support member **20** forming part of the framing structure normally provided in the automobile engine compartment. The lower portion **22** of the hood pin **18** is externally threaded and extends through an opening **24** in the support member **20**. A nut **26** is received on the threaded portion **22** and is positioned above the support member **20**. A second nut **28** is threaded onto the portion **22** below the support member. The two nuts may be adjusted to permit raising or lowering of the hood pin **18** to the proper height. When the proper adjustment has been made, the nuts **26, 28** are tightened to thereby securely lock the hood pin **18** in place.

An opening **30** is provided in the hood through which the hood pin **18** extends. As will be noted, the opening **30** is somewhat greater in diameter than the diameter of the hood pin to allow clearance when the hood is raised and lowered, it being appreciated that the hood is hingedly connected adjacent the windshield of the automobile. A ring **16** is secured to the hood **12**, as by screws, over the opening **30**. The ring **16** has an opening **32** which is placed in alignment with the opening **30**. The ring **16** is preferably chrome plated or otherwise finished on the outer surface thereof for decorative purposes.

A latch pin **38** having a loop portion **36** is engageable with the hood pin **18** to prevent opening of the hood, and the loop **36** may be wedged against the surface **34** of plate **16** to prevent rattling. A retaining strap **39** extends from each latch pin and is secured forwardly of the hood **12**.

The latch pin **38** includes a pair of legs **40, 42** which extend from the loop portion **36** in substantially the same plane. The leg **40** is a straight leg and extends through an opening **44** in the upper portion of the pin **18** to prevent opening of the hood **12**. The other leg **42** has a configuration including a curved portion **46** which extends around the pin **18**.

The ends of the legs **40, 42** extend into a slotlike opening **48** in the body of latch mechanism **50**. The latch mechanism **50** includes a main body portion **52** from which extends, at generally right angles, a hollow cylindrical portion **54**. A groove **56** is provided in the end of the body portion **52** and is configured to mate with and receive the upper portion of the pin **18**. The groove **56** encompasses approximately one-half of the diameter of the pin **18**. An opening **58** of reduced diameter extends from the slotlike opening **48** and receives the free end of the leg **40**.

A key-operated barrel-type lock cylinder **60** is mounted within the cylindrical body portion **54**. The lock cylinder **60** terminates at a point adjacent to the slotlike opening **48** and carries on its lower end a projection **62** which extends into the opening **48**. The projection **62** is movable from the dotted-line position illustrated in FIG. 3 to the full-line position illustrated therein by means of a key **64**. When the projection **62** is pivoted to the dotted-line position by means of lock cylinder **60**, the leg **42** may be inserted completely into the opening **48**. A portion **66** of the leg **42** extends from the curved portion **46** and terminates in an outwardly bent end **70** which abuts against the end wall **72** of opening **48**.

When the hood **12** is lowered the hood pins **18** will project through the openings **30** in the hood. The latch pins **38** are then mounted by inserting the leg **40** of the latch pin through the opening **44** in the hood pin **18** as the end **70** of leg **42** is sprung slightly to pass around pin **18**. The latch mechanism **50** is then applied onto the forward end of the legs **40, 42** with the lock cylinder in a position to permit insertion of the leg **42**. The lock cylinder is then turned by means of the key **64** whereupon the projection **62** occupies an interferring position as illustrated in FIG. 3. In this position, the portion **70** of the leg **42** engages behind the lock projection **62** thus preventing withdrawal of the pin **38**. The leg **42** cannot be manipulated to disengage the projection **62** as it is confined within the opening **48** in the latch body. It will be appreciated that the pin **38** is fabricated of relatively heavy gauge spring steel wire and cannot be withdrawn without use of the key **64** to pivot the projection **62** out of its interfering position. In this manner the hood **12** is securely locked.

FIG. 5 illustrates a modified form of the latching mechanism. The retaining pin **38** and pin **18** are substantially the same as that previously described. However, in FIG. 5 the latch mechanism **74** is integral with the ring **76** which in turn is secured to the top of the hood. In this manner the latch mechanism is fixedly secured to the automobile. The lock cylinder **78** is received in a hollow cylindrical portion **80** extending laterally from the latch body **82** rather than the top of the main latch body. The projection **84** provided on the inner end of the lock cylinder **78** is rotated by the key into engagement with the portion **70** of leg **42** to prevent removal of pin **38**. The slotlike opening **86** has a wall **88** which is engaged by the portion **70** of leg **42** to prevent deflection of the portion **70** out of engagement with projection **84**.

What I claim as may invention is:

1. A latch device for use in connection with an automobile hood pin of the type mounted exteriorly of the engine compartment and extending through an opening in the hood when the hood is in the closed position and wherein the hood pin has an opening therein exteriorly of the hood for reception of a latch pin to maintain the hood in the closed position, comprising a latch body having an opening therein for reception of a

portion of the latch pin extending beyond the hood pin, said portion of the latch pin having a locking formation thereon, a latching element in said body movable to one position to engage said locking formation of the latch pin to prevent withdrawal thereof from said body and movable to another position to disengage said locking formation to permit withdrawal or insertion thereof into said body, and a lock in said body, said lock operatively connected to the latching element and operative upon actuation to move the latching element to one or the other of said positions, said body having a recess therein from which the opening therein extends, said recess encompassing a portion of the hood pin to thereby prevent twisting of said body with respect to the hood pin when the latch pin is inserted therein.

2. A latch device as defined in claim 1, and further characterized in that said latch pin has two legs, one of said legs being substantially straight and extending through the opening in the hood pin and thence into the opening in the body, the other of said legs extending around the hood pin and thence into the opening in the body, said locking formation being provided on the other of said legs.

3. A latch device as defined in claim 2, and further characterized in that said legs lie in substantially the same plane, the opening in said body in a direction perpendicular to said plane having a dimension slightly greater than the thickness of said legs to thereby prevent twisting of the latch pin after insertion of a portion of the legs thereof into the opening in said body.

4. A latch device as defined in claim 3, and further characterized in that the opening in said body includes a portion of reduced diameter to receive the forward end of the straight leg of the latch pin to thereby restrict pin movement.

5. A latch device as defined in claim 2, and further characterized in that the end of said other leg is bent at an angle to define said locking formation.

6. A latch device as defined in claim 5, and further characterized in that said other leg of the latch pin is curved intermediate the ends thereof to fit around the hood pin.

7. A latch device as defined in claim 1, and further characterized in that said body is adapted to be fixedly secured to an automobile hood.

8. A latch device for use in connection with an automobile hood pin of the type mounted interiorly of the engine compartment and extending through an opening in the hood when the hood is in the closed position and wherein the hood pin has an opening therein exteriorly of the hood for reception of a latch pin to maintain the hood in the closed position, comprising a mounting plate adapted to be secured to the hood and having an opening therein through which the hood pin extends, a latch body on said mounting plate having an opening therein for reception of a portion of the latch pin extending beyond the hood pin, said portion of the latch pin having a locking formation thereon, a latching element in said body movable to one position to engage said locking formation to prevent withdrawal thereof from said body and movable to another position to disengage said locking formation to permit withdrawal or insertion thereof into said body, and a lock in said body, said lock being operatively connected to the latching element and operative upon actuation to move the latching element to one or the other of said positions.

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