March 10, 1959 A. CLAUD-MANTLE 2,877,035

HOOD LATCH

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Fig. 1.

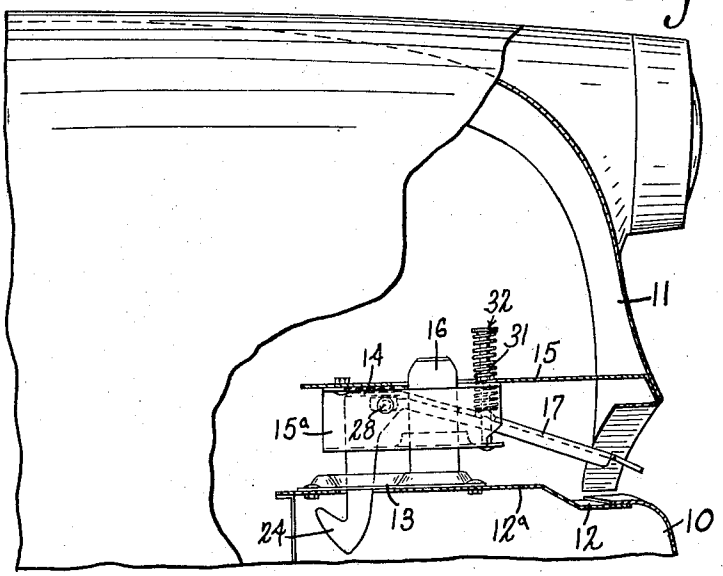
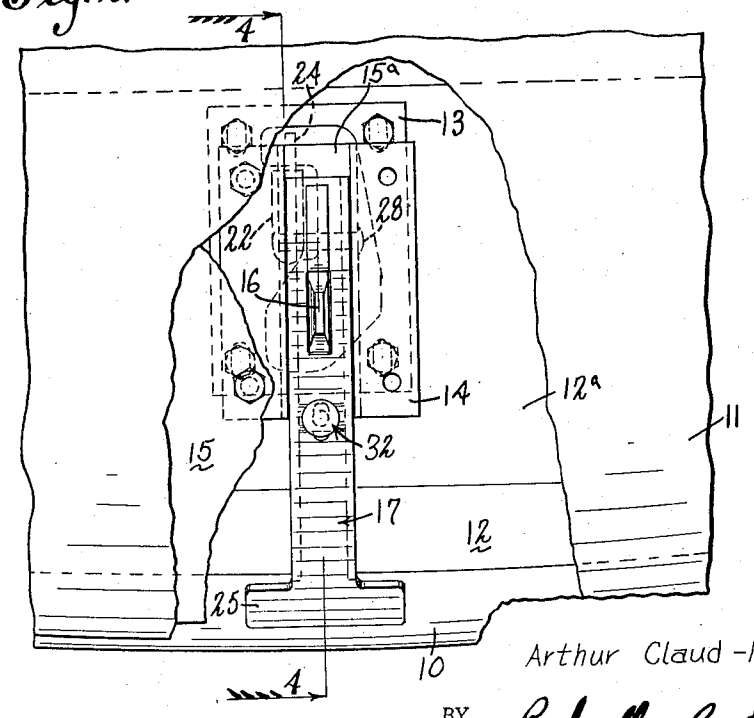


Fig. 2.



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Fig. 3.

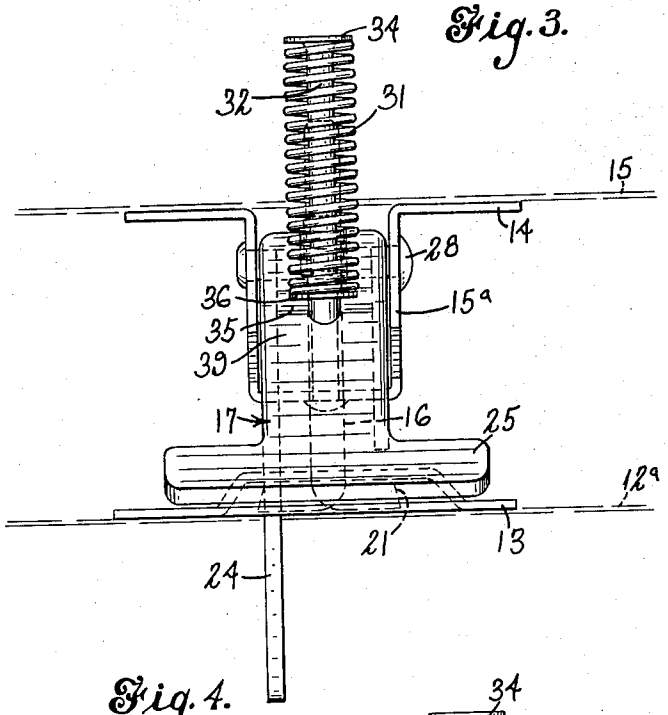
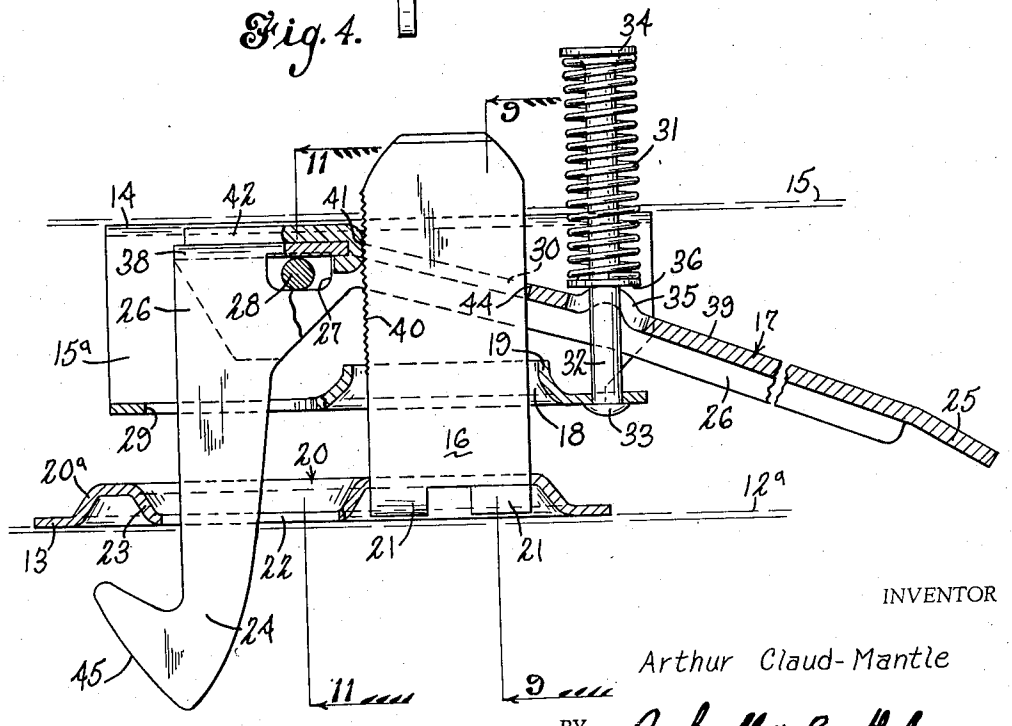


Fig. 4.



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Fig. 5.

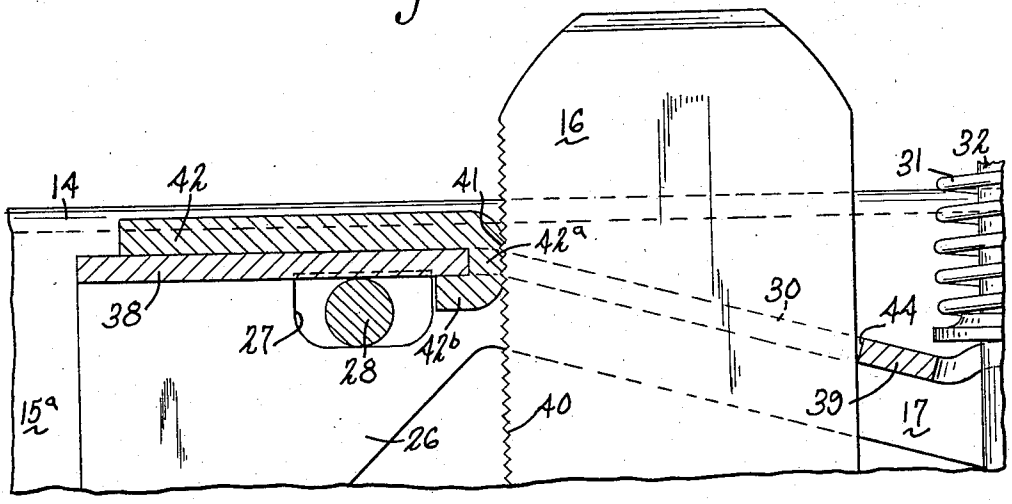


Fig. 6.

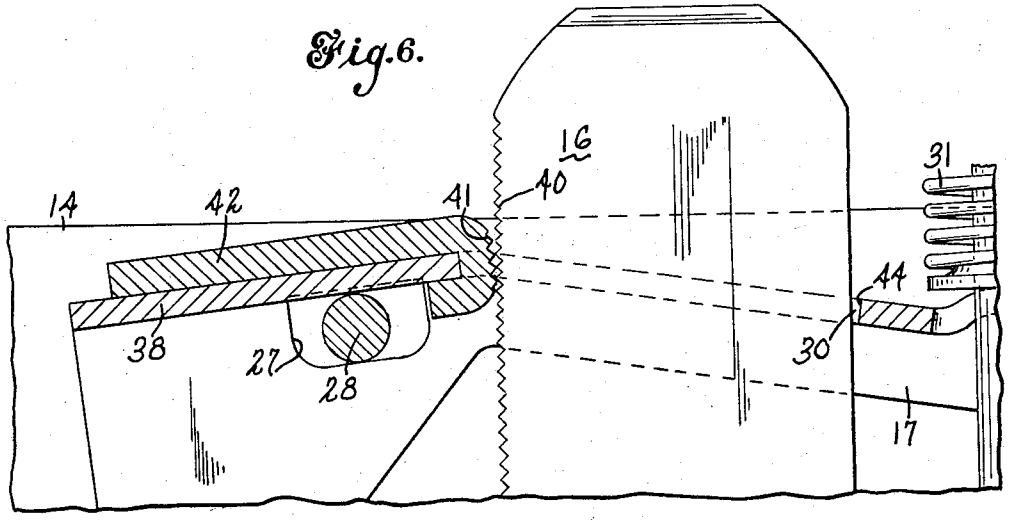
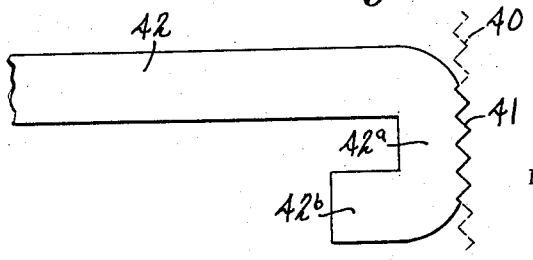


Fig. 7.



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Fig. 8.

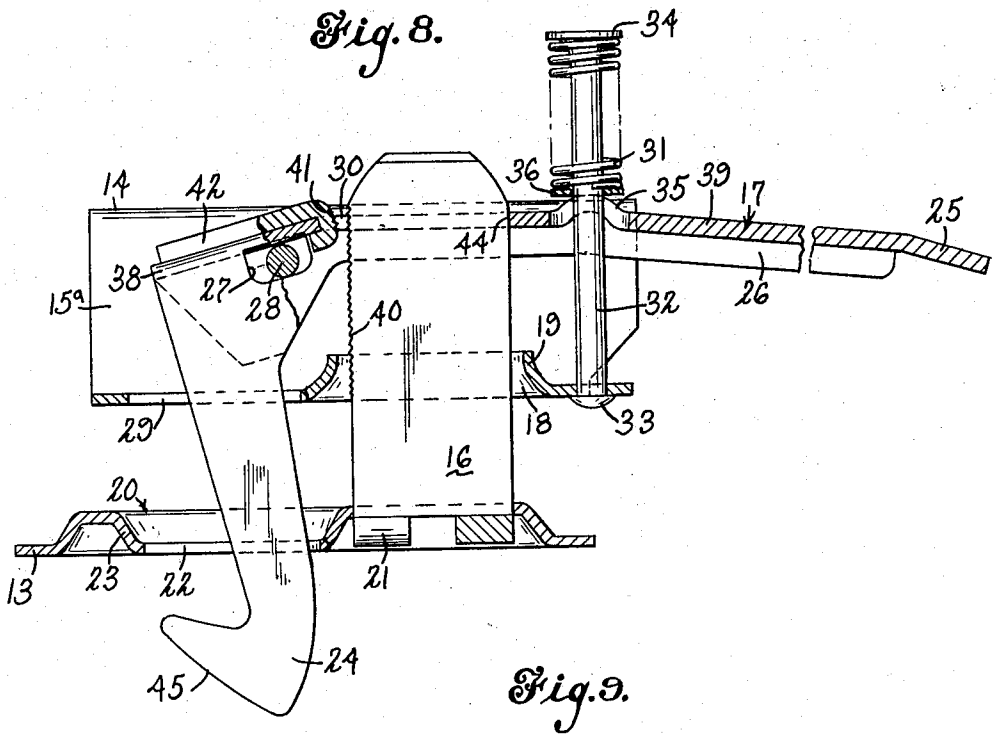
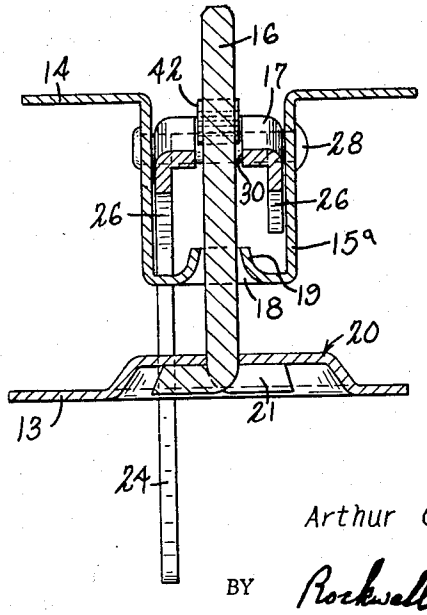


Fig. 9.



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Fig. 10.

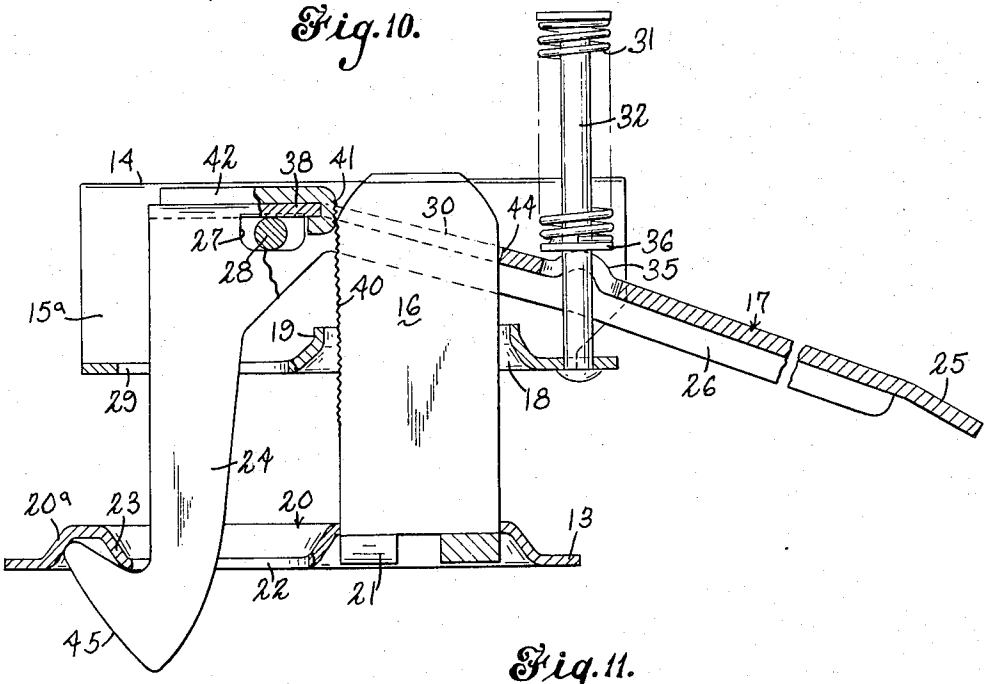
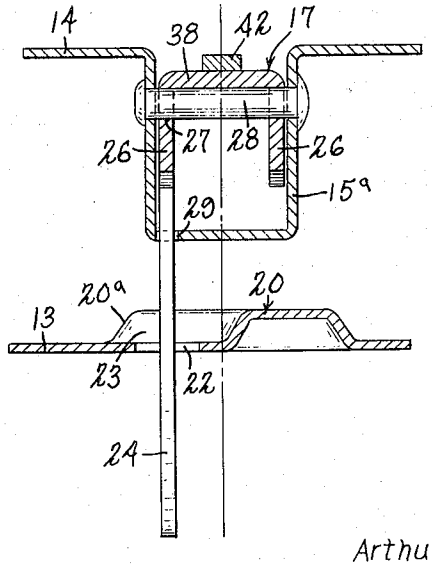


Fig. 11.



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Fig. 12.

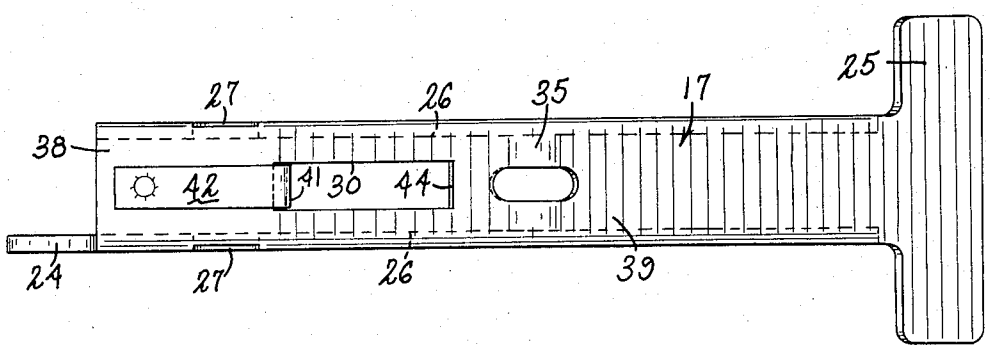
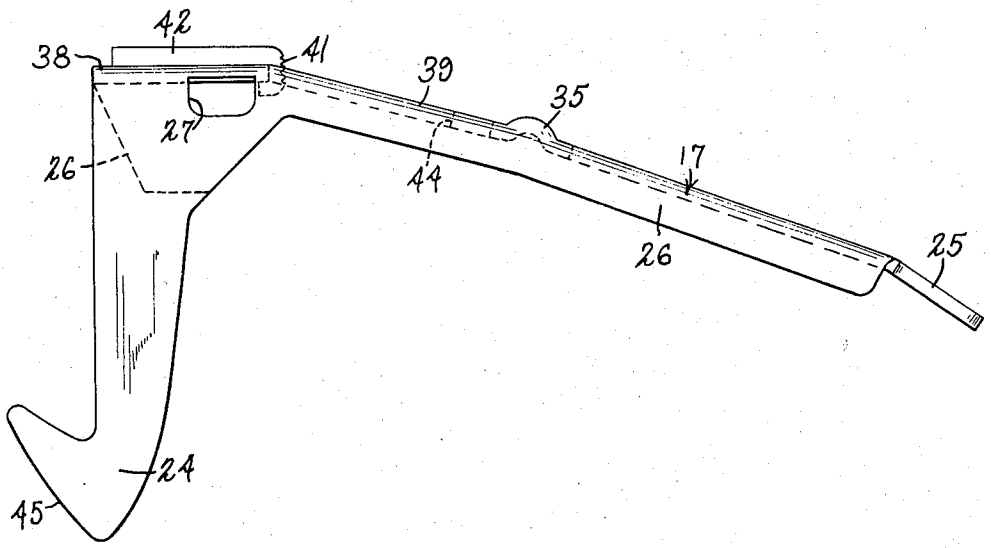


Fig. 13.



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United States Patent Office 2,877,035 Patented Mar. 10, 1959

2,877,035

HOOD LATCH

Arthur Claud-Mantle, Trumbull, Conn., assignor, by mesne assignments, to Stewart-Warner Corporation, Chicago, Ill., a corporation of Virginia

Application November 8, 1954, Serial No. 467,297

11 Claims. (Cl. 292—56)

This invention relates to automobile lid-fastening means, particularly adapted for latching control of hood lids of the alligator type which are hinged at the rear along a hinge line extending transversely of the vehicle. In a hood latch of this type there is usually provided a primary latching mechanism for effecting unlatching of the hood lid and partial raising thereof, and a secondary latch or safety hook for preventing the lid from flying open when the vehicle is in motion and the primary latching mechanism is disengaged or inoperative for one reason or another. The invention further relates to the type of hood latch in which an elongate pilot member is carried by one of the relatively movable hood elements, and a latch member is provided on the other hood element for latching engagement with the pilot member at any of a plurality of points along the length of the latter.

One object of the invention is to provide an improved hood latch of the type characterized above.

Another object of the invention is to provide a hood latch such as characterized above, and including a toothed pilot member for latching engagement with an operating member provided with ratchet teeth.

Another object of the invention is to provide a simplified hood latch and a latch which will not creep open when subjected to vibration.

In the accompanying drawings:

Fig. 1 is a side elevational view, partly broken away, showing an automobile hood equipped with a latch embodying the invention;

Fig. 2 is an enlarged top plan view, partly broken away, showing the front portion of the hood and illustrating the latch mechanism;

Fig. 3 is an enlarged front view of the latch mechanism;

Fig. 4 is an enlarged sectional view on line 4—4 of Fig. 2;

Fig. 5 is a sectional view, generally similar to Fig. 4, the view being enlarged and showing the pilot member fully engaged by the toothed operating member;

Fig. 6 is a view similar to Fig. 5, showing the pilot member and the operating member in a different relationship;

Fig. 7 is a detail view on a larger scale, showing the toothed part of the operating member;

Fig. 8 is a view similar to Fig. 4, showing the latch fully released and the pilot member partially retracted relatively to the operating member;

Fig. 9 is a sectional view on line 9—9 of Fig. 4;

Fig. 10 is a view similar to Fig. 4, showing the primary latch fully released and the safety hook in the engaged position thereof;

Fig. 11 is a sectional view on line 11—11 of Fig. 4;

Fig. 12 is an enlarged detail view of the operating member looking down on the same; and

Fig. 13 is a detail view of the operating member, the member being shown in side elevation.

In the drawings, the lower or fixed part of the hood is indicated at 10, and the upwardly swingable lid therefor is indicated at 11. A fixed substantially horizontally

extending plate 12 is disposed within the lower part 10 of the hood and has an upwardly raised portion 12a somewhat above the forward margin of the hood part 10. The lower mounting plate 13 of the latch mechanism is superposed on the plate portion 12a and bolted thereto. The upper mounting plate 14 of the latch mechanism is bolted to the under side of a plate 15 fixed to the hood lid 11, the plate 15 being disposed within the hood lid 11 somewhat above the forward margin thereof and extending substantially horizontally in the position of the lid illustrated in Fig. 1.

The upwardly extending pilot member carried by the lower plate 13 is indicated generally at 16, and the operating member or latching lever, engageable with the pilot member and having a pivotal and lost-motion connection with the upper plate 14, is indicated generally at 17. As shown in Fig. 1, the forward portion of the lid 11, when in closed and latched position, is spaced upwardly a distance from the corresponding or grille portion of the fixed hood part 10, and the operating member 17 is accessible for manual operation from the front of the vehicle.

The upper mounting plate 14, which is somewhat offset laterally and forwardly of the lower plate 13, is provided with a depending portion 15a elongated lengthwise of the hood and generally of U-shape in cross section. The plate portion 15a is provided with a longitudinal slot 18 in the bottom thereof and adjacent the forward end of the portion 15a to receive the pilot 16. The plate 15 above the plate 14 is provided with a slot registering with the slot 18 so that the pilot 16 may extend therethrough in the latched position of the latter, shown in Fig. 4. As shown in this view, the bottom of the plate portion 15a has an upwardly extending lip 19 confining the pilot 16. Rearwardly of the slot 18 and laterally offset therefrom, the bottom of the plate portion 15a is provided with a slot 29 through which the safety hook 24 extends for limited swinging movement.

As shown in Fig. 4, the lower mounting plate 13 has a raised portion 20 of irregular outline extending generally lengthwise of the hood and having a part 20a thereof disposed transversely of the plate 13 adjacent the rear of the latter. The pilot or keeper 16 directed upwardly from the lower mounting plate 13 is of flattened or blade-like form extending in a plane lengthwise of the hood and having a tapered upper end to facilitate entrance of the keeper through the slot 18 in the upper mounting plate. The keeper 16 extends through the raised portion 20 of the lower mounting plate and is provided with laterally directed fingers 21 at the lower end thereof disposed directly below the raised portion 20 of the lower mounting plate and welded thereto to anchor the keeper 16 in fixed relation to the lower mounting plate 13. The keeper 16 is disposed adjacent the forward end of the raised portion 20 of the plate 13, as shown in Fig. 2. The plate 13 is provided with a longitudinal slot 22 rearwardly of the keeper and laterally offset with respect thereto, the rear end of the slot 22 being adjacent the flange 23 (Fig. 4) directed downwardly from the raised part 20a of the plate 13. The slot 22 (see Fig. 2) is partially surrounded by the raised portion of the plate 13 and receives a safety hook 24, which in the position of the latch parts shown in Fig. 10, engages the flange 23 to prevent further opening movement of the hood lid until the operating member 17 is moved to the position of Fig. 8.

The operating member or actuating lever 17, best shown in Figs. 12 and 13, is an elongated stamping of channeled cross section throughout the greater part of the length thereof, having a transversely extending plate portion 25 at one end thereof which may be grasped by the fingers when the latch is to be released. The safety hook

24 is formed integrally with the operating member 17 and is suspended therefrom at one side and adjacent the other end of the member 17. The safety hook 24 is formed as an extension of one of the side flanges 26 of the member 17. The disposition and shape of the hook 24 is best illustrated in Figs. 12 and 13.

Adjacent the last-mentioned end of the operating member 17, the side flanges 26 are provided with longitudinal slots 27 registering with one another and receiving a pivot pin 28 which mounts the operating member 17 on the upper plate 14. As shown in Figs. 4 and 11, for example, the pivot pin 28 extends through and is fixed to the side walls of the U-shaped plate portion 15a only a short distance rearwardly of the slot 18, the pin 28 being disposed adjacent the upper part of the plate 14.

The operating member 17 extends forwardly to a point adjacent the forward margin of the hood lid, as shown in Fig. 1, and the member 17 is provided with a slot 30 through which the pilot or keeper 16 may extend. A substantially vertically disposed helical compression spring 31 is provided to urge the member 17 downwardly, the spring 31 embracing and being supported by a rod member 32 extending upwardly through the bottom of the plate portion 15a forwardly of the slot 18 and closely adjacent the front end of the plate portion 15a. The rod member 32 is provided with an enlargement 33 at the lower end thereof to bear against the bottom of the plate portion 15a at the underside thereof and the upper end of the rod member 32 is enlarged as at 34 to overlie the upper end of the spring 31. The operating member 17 is provided with an upwardly directed protuberant portion 35 disposed forwardly of the keeper 16 and approximately midway between the pivot 28 and the forward end of the member 17. The protuberant portion 35 is slotted longitudinally of the member 17 so that the rod member 32 may extend therethrough and a washer 36, interposed between the lower end of the compression spring 31 and the protuberant portion 35, exerts a constant downward and rearward pressure on the forward end portion of the operating member.

As shown in Fig. 13, for example, the upper rear end portion 38 of the operating member is substantially horizontally disposed and in parallelism with the slots 27 formed in the flanges 26. At a point substantially coinciding with the plane of the rear wall of the slot 30 and forwardly and adjacent the forward ends of the slots 27, the portion 39 of the member 17 is bent downwardly at an angle of approximately 15° to the horizontal. The transverse plate portion 25 of the member 17 is disposed at the forward end of the portion 39 and is inclined downwardly therefrom to a small extent. As shown in Fig. 13, the portion 39 of the operating member is bowed upwardly to a small extent.

The trailing edge of the pilot or keeper 16 is toothed throughout the intermediate portion thereof, as at 40. In the preferred form of the latch mechanism, twenty teeth per inch are provided throughout said intermediate portion of the keeper 16. The included angle of each tooth is preferably 90°. The teeth 40 on the keeper 16 mesh with ratchet teeth provided on the operating members 17 and indicated at 41. The teeth 41 are formed in a strap 42 extending lengthwise of the member 17 and welded to the portion 38 of the member 17. The strap 42 has a forward end of hook shape having a portion 42a thereof overlying the rear wall of the slot 30 and having a portion 42b underlying the portion 38 of the member 17, as shown in Fig. 6, for example. The ratchet teeth 41 are formed in the portion 42a of the strap which is best shown in Fig. 7.

From the foregoing, it will be understood that the pivot pin 28 mounts the operating member 17 for swinging movement in a vertical plane extending lengthwise of the hood, the connection of the member 17 with the pin 28 being such that the member 17 is permitted limited sliding movement in a direction lengthwise of the hood. In the latched position of the operating member 17 shown in Fig. 5, the slots 27 formed in the member 17 and receiving the pivot pin 28, are substantially horizontally disposed and the strap part 42 of the member 17 is also substantially horizontally disposed and is engaged with the keeper 16. In this position of the latch parts, the ratchet teeth 41 provided on the member 17 mesh with the teeth 40 provided on the keeper 16, the cooperating faces of the teeth being inclined at approximately 45° to the vertical. In the engaged or latched position of the operating member 17, the forward end of the member 17 is strongly urged downwardly by the spring 31, and the forward wall 44 of the slot 30 provided in the member 17 is strongly engaged with the leading edge of the keeper 16. It will be noted that the forward wall 44 of the slot 30 is disposed in an upwardly extending plane which is inclined with respect to the plane of the strap portion 42a overlying the rear wall of the slot, as shown in Fig. 5, for example. In the position of the member 17 shown in this view, the forward wall 44 of the slot 30 is inclined with respect to the leading edge of the keeper 16 and the lower edge portion of the wall 44 is engaged with the keeper 16. Hence, it will be understood that when the operating member 17 and the keeper are positioned relatively to one another as shown in Fig. 5, movement of the member 17 in a direction lengthwise of the hood relatively to the upper mounting plate 14 is prevented and the hood lid is tightly latched. It will also be understood that the toothed operating member 17 may have latching engagement with any part of the longitudinally extending toothed portion of the keeper 16. Furthermore, it will be apparent that the latch mechanism is strongly resistant to both vertical and horizontal vibratory forces in the upper and lower hood elements. The last-mentioned feature of the latch mechanism is partially due to the disposition of the keeper-engaging part 42 intermediate the keeper 16 and the pivot 28 and adjacent the latter. Furthermore, the teeth provided on the part 42 of the member 17 and meshing with the teeth of the keeper 16 further inhibit any tendency of the latch mechanism to creep open when the latter is subjected to vibration. In this connection, it is important to note that when sufficient upward force on the forward end of the spring-pressed operating member 17 is exerted to move the member 17 in the releasing direction and to the position thereof shown in Fig. 6, the toothed part 42 of the member 17 pulls the keeper 16 relatively upwardly through the member 17 to thereby effect a downward pull on the hood lid. Thus it will be understood that vibrations, tending to raise the forward end of the operating member 17 from the latched position thereof to the released position, draw the hood lid down more tightly.

In the illustrated form of the invention, the pilot or keeper 16 is released by the part 42 of the operating member 17 when the member 17 is lifted manually at the forward end thereof against the downward pressure of the spring 31 to the extent that the portion 39 of the operating member is swung upwardly approximately 9°. When and as the member 17 is moved toward the last-mentioned position from the latched position thereof, the wall 44 of the operating member is swung outwardly and forwardly from the leading edge of the keeper 16 and the slots 27 receiving the pivot pin 28 tip to a somewhat more inclined position than the position shown in Fig. 6, thereby permitting the member 17 to slide rearwardly to clear the teeth of the keeper 16. In the illustrated form of the invention, a rearward sliding movement of the member 17 of only .025 inch or thereabouts, may be sufficient to clear the teeth of the keeper 16. Further upward swinging movement of the portion 39 of the operating member to the substantially horizontal position of Fig. 8, a movement of approximately 6° from the keeper-releasing position of the portion 39, effects withdrawal of the safety hook 24 from beneath the flange 23

to a position (see Fig. 8) in which clearance for the hook 24 is provided so that the hood lid may be fully opened.

The latch mechanism illustrated in the drawings is of the self-latching type. Upon downward swinging movement of the hood lid from the fully open position thereof, the inclined trailing edge 45 of the safety hook strikes the flange 23 of the lower mounting plate 13 and is cammed forwardly by the latter so that the hook 24 may enter the slot 22 in the plate 13. The forward camming movement of the hook 24 effects upward swinging movement of the forward end of the operating member 17 to facilitate entrance of the pilot or keeper 16 through the keeper-receiving slot 30 formed in the operating member. It will be understood that the tapered upper end of the keeper 16 may engage the member 17 to cam the forward end thereof upwardly as the lid is closed, and further facilitate entrance of the keeper 16 through the slot 30 of the member 17. It will also be understood that the lost-motion connection of the operating member 17 with the upper mounting plate 14 permits self-adjustment of the member 17 relatively to the keeper 16 and longitudinally of the hood as the hood lid is moved to the closed position thereof. As the lid is moved to the closed position, the teeth of the keeper 16 engage the teeth of the operating member 17 and have a camming effect thereon to raise the forward end of the member 17 so that the member 17 may move rearwardly to the extent that teeth of the member 17 may slide by teeth of the keeper 16 until further downward movement of the lid is prevented by engagement of the latter with the fixed part of the hood. As the teeth provided on the keeper 16 preferably number twenty to the inch or thereabouts, the lid may be latched in a position in which the lid is drawn down tightly on the fixed part of the hood.

In accordance with the foregoing disclosure, there is provided a hood latch comprising a pilot or keeper and a latching lever having a snubbing effect on the keeper. However, unlike many, if not all, latches of the snubbing type heretofore employed for fastening hood lids, the latch lever of the mechanism illustrated in the drawings having a keeper-receiving aperture intermediate the ends thereof, is provided with a part disposed intermediate the keeper and the pivot mounting the lever and having latching engagement with the keeper, said part being adjacent said pivot whereby vibratory forces tending to open the latch are strongly resisted. Another advantage of the latch mechanism resides in the provision of fine teeth on the latch lever cooperating with teeth provided on the keeper to further inhibit creeping of the latch parts to the open position of the same when the latch mechanism is subjected to vibration.

Still another advantage of the latch mechanism is the compactness of the same. It occupies little space within the hood of a vehicle. Another advantage resides in the provision of a safety hook, actuating lever, and operating handle incorporated in a single stamping employed in the latch mechanism and biased by a single spring.

While a single embodiment of the invention has been described and illustrated in the drawings, it will be understood that various modifications and changes in details may be made in the latch mechanism without departing from the principles of the invention and the scope of the claims.

What I claim is:

1. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a lower mounting plate for connection to the fixed part of the hood, an upper mounting plate for connection to the lid, an elongate pilot fixed to the lower mounting plate and extending upwardly therefrom, and a latch lever swingable in a vertical plane provided with a pivot intermediate the ends thereof mounting the lever on said upper plate, said lever having a free end portion for manual operation and having a fixed safety hook suspended from the other end portion thereof extensible through said lower plate and engageable with the under side of the latter, said lever having a pilot-receiving aperture formed therein intermediate said pivot and said free end portion of the lever, and said lever being provided with a part engageable with said pilot and having a snubbing effect thereon to latch the lid to the fixed part of the hood, said lever being spring-biased to the latched position thereof.

2. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a lower mounting plate for connection to the fixed part of the hood, an upper mounting plate for connection to the lid, an elongate pilot fixed to the lower mounting plate and extending upwardly therefrom, and a latch lever swingable in a vertical plane provided with a pivot intermediate the ends thereof mounting the lever on said upper plate, said lever having a free end portion for manual operation and having a fixed safety hook suspended from the other end portion thereof extensible through said lower plate and engageable with the under side of the latter, said lever having a pilot-receiving aperture formed therein intermediate said pivot and said free end portion of the lever, and said lever being provided with a part engageable with said pilot and having a snubbing effect thereon to latch the lid to the fixed part of the hood, said lever being spring-biased to the latched position thereof, said pilot being of blade-like form extending longitudinally of said lever and having edgewise engagement with said part of the lever.

3. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a lower mounting plate for connection to the fixed part of the hood, an upper mounting plate for connection to the lid, an elongate keeper extending upwardly from and fixed to said lower plate provided with teeth throughout a longitudinal portion thereof, and a latch member swingable in a vertical plane having a pivotal and lost-motion connection with said upper plate, said latch member being provided with a depending safety hook extensible through said lower plate and engageable with the under side of the latter, said latch member being provided with a part having teeth meshing with the teeth of said keeper to latch the lid to the fixed part of the hood, and said latch member being spring-biased to the latched position thereof.

4. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a lower mounting plate for connection to the fixed part of the hood, an upper mounting plate for connection to the lid, a blade-like keeper extending upwardly from said lower plate and having a toothed edge portion, and manually operable spring-pressed latching means having a pivotal and lost-motion connection with said upper plate, said means comprising a safety hook extensible through said lower plate and engageable with the under side thereof, said means also comprising a part provided with teeth meshing with the teeth of said keeper to latch the lid to the fixed part of the hood, said means being spring-biased to the latched position thereof.

5. In a latch mechanism for an elongate hood having a lower fixed part and an upwardly swingable lid of the alligator type, a lower mounting plate for connection to the front portion of the fixed hood part, an upper mounting plate for connection to the forward portion of the lid having a part thereof extending longitudinally of the lid and generally of U-shape in cross section, an elongate keeper extending upwardly from and fixed to said lower plate, said upper plate having a keeper-receiving aperture in the bottom of said plate part intermediate the ends thereof, latching means comprising a longitudinally disposed latch lever swingable in a vertical plane provided with a pivot mounting the lever between the sides of said U-shaped part of the upper mounting plate, said pivot being disposed adjacent and rearwardly of said

aperture, said lever extending forwardly of said aperture and having a free end for manual operation, said lever having a keeper-receiving aperture adjacent said pivot, spring means connected to said upper plate part forwardly of said aperture therein and urging said free end of the lever downwardly to the latched position thereof, said lever having a part disposed intermediate the keeper and said pivot adjacent the latter and engageable with the keeper, said part of the lever having a snubbing effect on the keeper to latch the lid to the fixed part of the hood when said lever is in the latched position thereof, said keeper being of blade-like form extending longitudinally of the hood and having edgewise engagement with said lever part, and said latching means comprising a safety hook engageable with the lower plate and operable by operation of said lever.

6. In a latch mechanism for an elongate hood having a lower fixed part and an upwardly swingable lid of the alligator type, a lower mounting plate for connection to the front portion of the fixed hood part, an upper mounting plate for connection to the forward portion of the lid having a part thereof extending longitudinally of the lid and generally of U-shape in cross section, an elongate keeper extending upwardly from and fixed to said lower mounting plate, said keeper being of blade-like form and extending in a plane longitudinally of the hood, said upper plate part having a keeper-receiving aperture in the bottom thereof intermediate the ends of the plate part, a latch lever swingable in a vertical plane provided with a pivot intermediate the ends thereof mounting the lever between the sides of said U-shaped part of the upper mounting plate, said pivot being disposed rearwardly of said aperture and said lever extending forwardly of said aperture and having a free end portion for manual operation, said lever having a keeper-receiving aperture intermediate said pivot and said free end portion and having a fixed safety hook suspended from the other end portion thereof, said safety hook extending through and having limited swinging movement in an aperture formed in said upper plate part rearwardly of the keeper-receiving aperture in the plate part, said safety hook being extensible through said lower plate and being engageable with the under side thereof, spring means connected to said upper plate part forwardly of said aperture therein and urging said free end portion of the lever downwardly to the latched position thereof, said lever having a part engageable with the keeper at the trailing edge thereof and having a snubbing effect on the keeper to latch the lid to the fixed part of the hood when said lever is in the latched position thereof.

7. In a latch mechanism for an elongate hood having a lower fixed part and an upwardly swingable lid of the alligator type, a lower mounting plate for connection to the front portion of the fixed hood part, an upper mounting plate for connection to the forward portion of the lid having a part thereof extending longitudinally of the lid and generally of U-shape in cross section, an elongate keeper extending upwardly from and fixed to said lower plate, said keeper being of blade-like form and extending in a plane longitudinally of the hood, said keeper having a longitudinally toothed portion on the trailing edge thereof, said upper plate part having a keeper-receiving aperture in the bottom thereof intermediate the ends of the plate part, a latch lever swingable in a vertical plane between the sides of said U-shaped part of the upper mounting plate and having a pivotal and lost-motion connection therewith rearwardly of said aperture, said lever extending forwardly of said aperture and having a free end portion for manual operation, said lever having a keeper-receiving aperture and having a fixed safety hook suspended from the other end portion thereof, said safety hook extending through and having limited swinging movement in an aperture formed in said upper plate part rearwardly of said keeper-receiving aperture in the plate part, said safety hook being extensible through said lower plate and being engageable with the under side thereof, spring means connected to said upper plate part forwardly of said aperture therein and urging said free end portion of the lever downwardly to the latched position thereof, said lever having a part provided with teeth meshing with the teeth of the keeper to latch the lid to the fixed part of the hood when said lever is in the latched position thereof.

8. In a latch mechanism for an elongate hood having a lower fixed part and an upwardly swingable lid of the alligator type, a lower mounting plate for connection to the front portion of the fixed part of the hood, an upper mounting plate for connection to the front portion of the lid having a part thereof extending longitudinally of the lid and generally of U-shape in cross section, an elongate keeper extending upwardly from and fixed to said lower plate, said upper plate part having a keeper-receiving aperture in the bottom thereof intermediate the ends of the plate part, and a spring-pressed latch lever formed of sheet metal extending into said U-shaped plate part and having a forward free end portion for manual operation, said lever having a keeper-receiving aperture intermediate the ends thereof and having opposing side flange portions slotted longitudinally and receiving a pivot pin fixed to the side walls of said U-shaped plate part rearwardly of said keeper-receiving aperture formed in the upper mounting plate, the lever being mounted by said pin for limited sliding movement longitudinally of the hood and being swingable in a vertical plane, said lever having a safety hook at the other end portion thereof formed as an integral extension of one of said side flanges, the safety hook being extensible through said lower plate and being engageable with the under side thereof, and said lever being provided with means adjacent said pivot engageable with cooperating means on said keeper in the latched position of the lever to latch the lid to the fixed part of the hood, said lever being spring-pressed to the latched position thereof.

9. In a latch mechanism for an elongate hood having a lower fixed part and an upwardly swingable lid of the alligator type, a lower mounting plate for connection to the front portion of the fixed part of the hood, an upper mounting plate for connection to the front portion of the lid having a part thereof extending longitudinally of the lid and generally of U-shape in cross section, an elongate keeper extending upwardly from and fixed to said lower plate, said upper plate part having a keeper-receiving aperture in the bottom thereof intermediate the ends of the plate part, and a spring-pressed latch lever formed of sheet metal extending into said U-shaped plate part and having a forward free end portion for manual operation, said lever having a keeper-receiving aperture intermediate the ends thereof and having opposing side flange portions slotted longitudinally and receiving a pivot pin fixed to the side walls of said U-shaped plate part rearwardly of said keeper-receiving aperture formed in the upper mounting plate, the lever being mounted by said pin for limited sliding movement longitudinally of the hood and being swingable in a vertical plane, said lever having a safety hook at the other end portion thereof formed as an integral extension of one of said side flanges, the safety hook being extensible through said lower plate and being engageable with the under side thereof, and said lever being provided with means adjacent said pivot engageable with cooperating means on said keeper in the latched position of the lever to latch the lid to the fixed part of the hood, said lever being spring-pressed to the latched position thereof, said means on the lever comprising teeth meshing with teeth provided on said keeper.

10. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a mounting plate for connection to the fixed part of the hood, a mounting plate for connection to the lid, a keeper fixed to one of

said plates and extending toward the other plate, and spring-pressed latching means having a pivotal connection with said other plate, said means comprising a safety hook extensible through said one of the plates and engageable with the side thereof remote from said other plate, and said means comprising a latching part swingable in a vertical plane and engageable with the keeper to latch the latter, said latching part being spring urged to the latched position thereof and being fixed to the safety hook to effect operation of the latter through operation of the latching means.

11. In a latch mechanism for a hood having a lower fixed part and an upwardly swingable lid, a mounting plate for connection to the fixed part of the hood, a mounting plate for connection to the lid, a blade-like keeper fixed to one of said plates and extending toward the other plate, and spring-pressed latching means having a pivotal connection with said other plate, said means

comprising a safety hook extensible through said one of the plates and engageable with the side thereof remote from said other plate, and said means comprising a latching part swingable in a vertical plane and engageable with an edge of the blade-like keeper to latch the latter, said latching part being spring urged to the latched position thereof and having operative means of connection to the safety hook.

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