April 2, 1935. D. E. BROWN 1,996,454

HOOD LATCH

Filed Feb. 26, 1932

Fig. 1

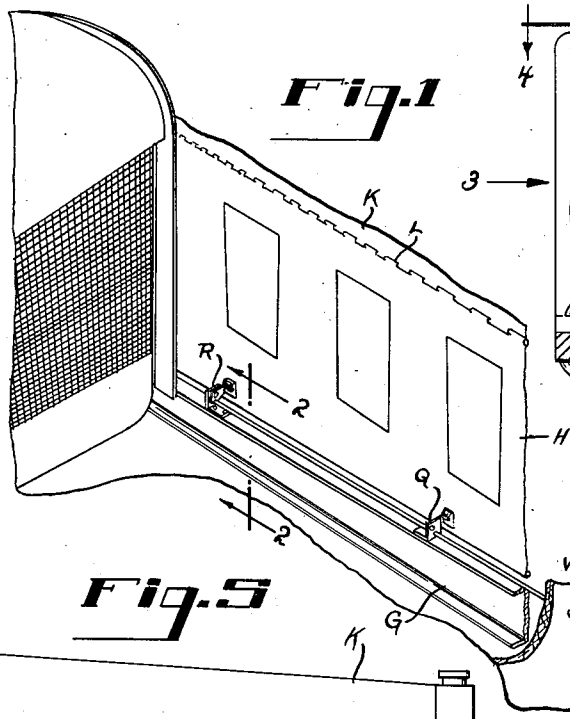


Fig. 2

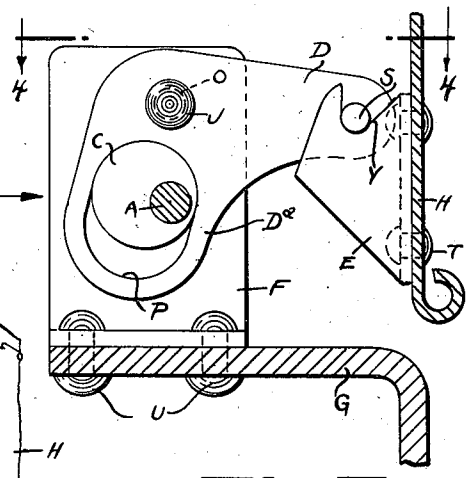


Fig. 5

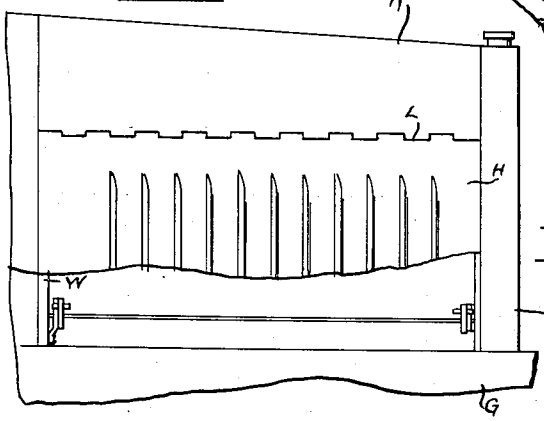


Fig. 3

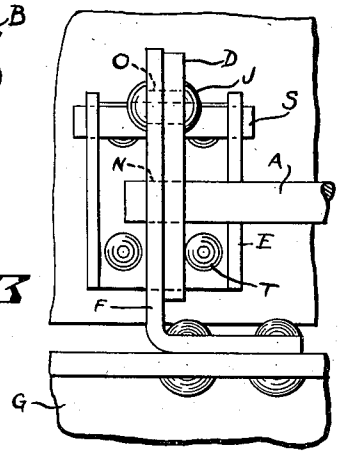


Fig. 4

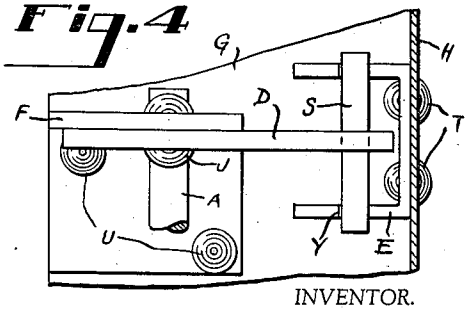
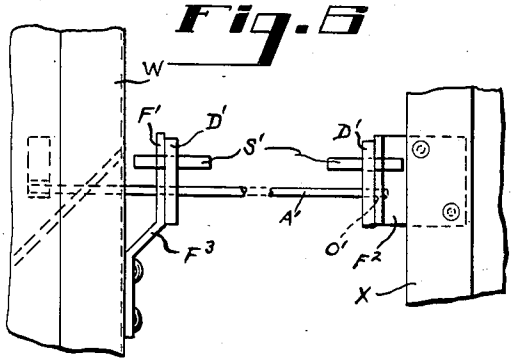


Fig. 6



INVENTOR.

BY David E. Brown

Swan, Frye & Hardesty

ATTORNEY.

Patented Apr. 2, 1935 1,996,454

UNITED STATES PATENT OFFICE

1,996,454

HOOD LATCH

David E. Brown, Detroit, Mich., assignor of one-half to Harry G. Bradow, Detroit, Mich.

Application February 26, 1932, Serial No. 595,254

2 Claims. (Cl. 292—49)

This invention relates to latching means, and more specifically to an improved and simplified arrangement of parts particularly adapted to be installed upon a motor vehicle to enable locking and release of the hood panels covering the engine from within the passenger compartment. While various constructions have in the past been utilized for this purpose, they have in the main been objectionable on the score of the complexity and consequent undue expensiveness of manufacture and installation believed unavoidable in this type of latch. My invention has for a primary aim the production of a hood latching mechanism operable from within the vehicle which is so simple and inexpensive in construction as to be installable at a cost even less than that involved in the provision of the usual hood latches which are operable only from outside the vehicle.

A further object of my invention is the provision of a construction of the type mentioned which is so rugged and positive in operation as to provide secure and safe latching means effectively preventing persons from lifting the hood of the vehicle, unless they first have access to the interior of the vehicle to release the latching mechanism.

Still another object of my invention lies in the provision of such an interiorly operable hood latching construction adapted to function with equal efficiency even though the hood panels are not tightly closed, or are in partial disalignment with respect to their properly closed position, in which event, upon closing actuation of my device, the improperly or not fully closed hood panel or panels will be drawn into fully aligned and tightly closed position, and there firmly held, until released by reverse actuation of the latching mechanism.

Other objects and advantages will be apparent from the following description, wherein reference is made to the accompanying drawing illustrating preferred embodiments of my invention, and wherein similar reference numerals designate similar parts throughout the several views.

In the drawing:

Figure 1 is a perspective view taken from inside and looking at one panel of the hood of a motor vehicle, showing a suitable installation of mechanism embodying the principles of my invention; unimportant portions of the vehicle construction have been omitted, since the vehicle construction itself forms no part of the invention;

Figure 2 is a vertical sectional view taken through one of the side rails of the vehicle frame substantially on the line 2—2 of Figure 1, showing one of the latch units in side elevation; a fragment of the hood panel and the latch bracket carried thereby being also shown;

Figure 3 is a rear elevational view of one of my improved latch units similarly installed, taken from the inside of the vehicle and looking toward the hood wall substantially as indicated by the arrow 3 of Figure 2, surrounding parts being fragmentarily shown;

Figure 4 is a fragmentary horizontal sectional view taken substantially on the line 4—4 of Figure 2 and looking in the direction of the arrows;

Figure 5 is a side elevational view of a vehicle hood with which has been incorporated a somewhat modified form of my invention, the hood panel being partially broken away to afford a side elevational view of the latches, and

Figure 6 is an enlarged detail side elevational view of the same modified latching construction, fragmentarily showing the supporting parts, and bringing out the variant method of mounting.

Referring now to the drawing, reference character G indicates a side rail of a vehicle frame, shown as a channel iron of the usual form. This is of course immaterial, however, and it will be seen that my invention is equally applicable to varying vehicle constructions and to other latching purposes than that herein specifically described as an illustrative embodiment. The side hood panel H is usually substantially flat, hinged to an upper more nearly cylindrical section K, as at L, and arranged to occupy a substantially vertical position when closed; its lower edge, as best shown in Figure 2, lying along the upper portion of the frame.

To the inner face of the hood panel H are secured double bent brackets E, preferably of the shape best shown in Figure 4.

Secured to the top of the channel iron, with upstanding portions in spaced parallel relation, are angle plates or brackets F, apertured as at N and O. As shown in Figure 1, two pairs of cooperating hood brackets and latching member may be employed, one adjacent each end of the hood panel, although if desired a single latch centrally located might be used. Pivotally secured to the upstanding portion of each angle plate F, I arrange the latch hook D, pivotally carried by the pin J, here shown as a shouldered rivet extending through the aperture O in the supporting angle plate. In the downwardly extending portion D^a of the latch hook D may be punched an aperture P, here shown as substantially rectangular in con-

tour, within which fits a cam C fast upon rod A journaled in and extending through the apertures N in the angle plates. The upper forward hood-engaging portion of the swingable latch member carries the short transverse rod S, which when the latch member is swung by the cam is adapted to be thrown into and out of the cut out portions Y of the hooked extremities of the bracket E.

Turning the cam by means of the rod swings the latch hook about its fulcrum pin and forces the rod S into the bracket E, or withdraws it therefrom, as the case may be, provided of course that the hood is so positioned that the hook and bracket may cooperatively interengage. Due to the width of the brackets E and rods S they will engage even though the hood be slightly out of position, and because of the straightening tendency of the rod S as it engages the opposed arms of the brackets E, the hood will be drawn into alignment.

The control rod A preferably extends completely through the rearmost latch unit, generally designated Q in Figure 1, and runs to the front latch unit R, the cam of each latch unit being of course secured thereto. The rod may extend rearwardly through an aperture in the cowl W and so into the interior of the vehicle, where it may carry an operating lever here shown as simply a laterally bent end portion B of the rod.

The brackets E and F are shown secured to the hood and frame side rail respectively by rivets T, U, although welding or any other suitable means of secural might of course be used. It will be seen that with the exception of the fulcrum pins and operating rod, each entire hood latching assembly may be constructed of sheet metal throughout, in a very simple and inexpensive manner, while the excepted elements may be formed of equally inexpensive wire and rivets. The cams may, if desired, be formed of the blanks punched out of the latch hooks in forming the apertures P therein. The assembly for each hood panel may be the same for each side of the car.

In Figures 5 and 6 I have shown a somewhat modified method of mounting which may be employed if desired. In place of supporting the brackets (here designated F'—F^2) upon the frame side rail, they are here shown secured to the cowl W and radiator X respectively, for which purpose I find it best to form the cowl bracket F' with an offset, as F^3 (Figure 6) to provide sufficient clearance between the latch member D' and the rod S' carried thereby and the cowl. The supporting flange of the bracket F^2 is also of sufficient length to provide similar clearance at the other end, as shown. The remaining portions of the device may of course be analogous in construction to the first described embodiment, and they are so shown. The forward extremity of the rod A' in this embodiment, is free to slide out of the aperture O' in the bracket F^2 in which it is journaled, thus permitting removal of the radiator without disturbing the rod or cams, the bracket and latch hook merely separating therefrom and remaining with the radiator.

While it will be apparent that the illustrated embodiments of my invention herein disclosed are well calculated to adequately fulfill the objects and advantages primarily set forth, it is to be understood that the invention is susceptible to variation, modification and change within the spirit and scope of the subjoined claims.

What I claim is:

1. In combination with a relatively fixed member having an aperture therein, and a closure member movable relatively thereto to closed and opened positions, means for latching the movable member in closed position, including a plurality of substantially parallel supports carried by the fixed member adjacent the aperture, an apertured latch hook movably carried by each support for movement relatively to the closure member, a cam member for actuating each latch hook arranged within the aperture in the latch hook, and a shaft extending between the several supports and connected to the cams for concurrently actuating the latch hooks.

2. In combination with a relatively fixed member having an aperture therein, and a closure member movable relatively thereto to closed and opened positions, means for latching the closure member, comprising a plurality of supports carried by the fixed member adjacent the aperture, a plurality of latch hooks of angular bell-crank form, one pivotally carried by each support and each latch hook having an aperture near one extremity while another extremity is movable relatively to the closure member, a cam member for actuating each latch hook housed within said aperture, a shaft extending between the several supports and connected to the cams for concurrently actuating the latch hooks by simultaneously moving the cams.

DAVID E. BROWN.