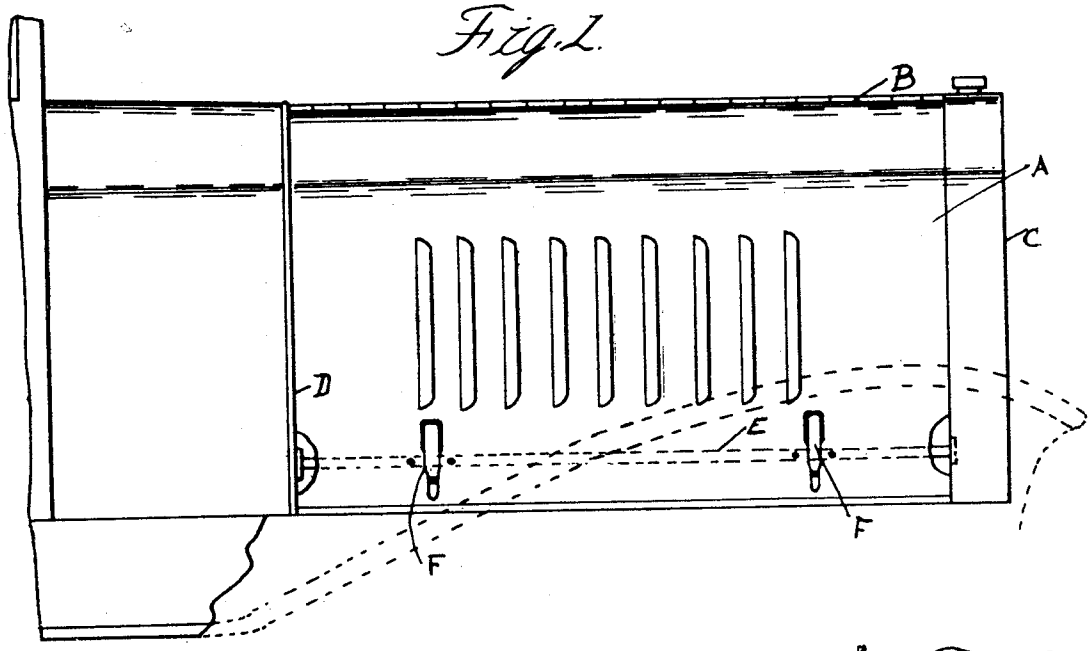
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HOOD CATCH

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Fig. 1.



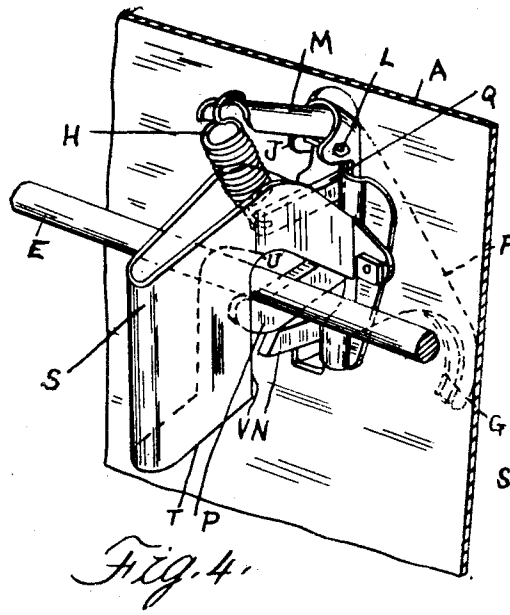
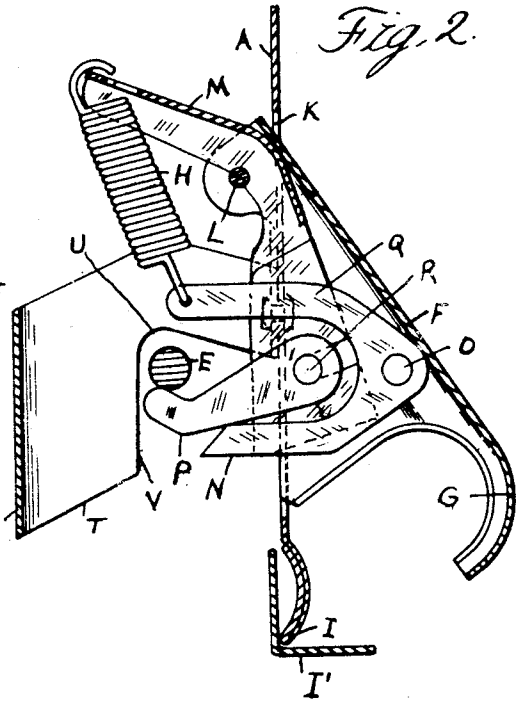


Fig. 4.

Fig. 2.



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Fig. 3.

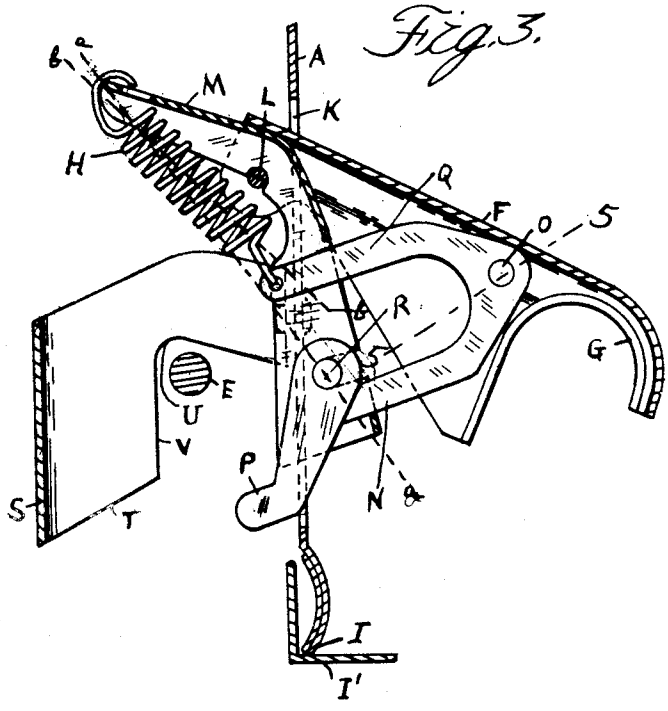


Fig. 5.

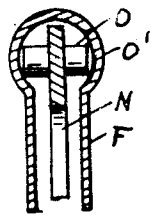


Fig. 7.

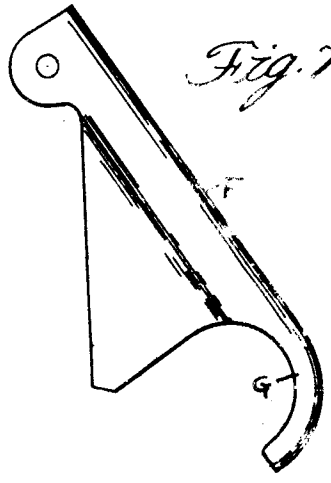
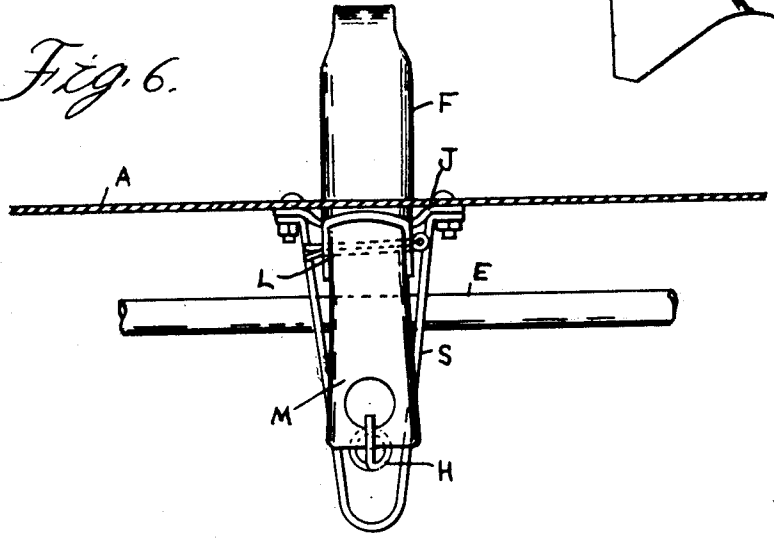


Fig. 6.



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UNITED STATES PATENT OFFICE

WILLIAM R. WILEY, OF DETROIT, MICHIGAN

HOOD CATCH

Application filed August 9, 1929. Serial No. 384,541.

This invention relates to a hood catch for locking in position the liftable hood walls about the engine of a motor vehicle, and has for its object an improved organization of parts adapted to permit the quick yet reliable anchorage with, and disengagement of the latter from, a suitable anchorage element whose position is fixed relatively to the chassis of the vehicle. In the organization of parts herein embodied I am endeavoring to effect a departure from the now familiar but generally unsatisfactory catch which merely relies upon a lengthwise pull by the user upon a helical spring and which thereafter requires the lifting of the now released hood wall by a separate movement, as well as a reduction to the minimum of the number of parts exposed to view or to injury from the outside.

In the drawings:

Figure 1 is a side elevational view of a motor vehicle hood, showing the position and function of my improved catch relative to a liftable side section thereof and to the anchorage element employed.

Figure 2 is a sectional elevational view of my improved catch, shown in relation to the anchorage element and to the hood wall.

Figure 3 is a similar sectional view with the parts in unlocked position, resulting from the manually induced outward swing of the lifting handle.

Figure 4 is a perspective of my improved device in position upon the hood wall, and taken from a point internally thereof, the external projecting handle being phantomed in dotted lines.

Figure 5 is a detail sectional view taken along the line 5—5 of Figure 3.

Figure 6 is a plan view of the device relatively to the anchorage element and to the hood wall, taken from above.

Figure 7 is an elevational view of the externally located lifting lever dissociated from the other parts.

A represents the motor vehicle hood wall hinged for lifting as usual along the top line B, and as usual bounded at its forward edge by the radiator C and at its rearward edge by the dash D. Between these two latter elements there is suspended at the desired elevation, relatively to the vehicle chassis and to the hood wall, the anchorage rod E. In the various types of hood catches now commonly employed, two are generally used, one near the forward edge and the other adjacent the rear edge of the hood wall, and I have thus illustrated the possible installation of my improved construction, though one appurtenant each hinged hood wall section is, according to my experience, often adequate to affect its secure and non-rattling anchorage.

My preferred catch element comprises a handle portion F provided with a suitably formed trigger or finger hook G at the lower end, and pivoted at its upper end to the top end of an inwardly extending bracket J, which for convenience is made initially separate from the rest of the device, and is adapted to be held against the inner face of the hood wall by suitable bolts or screws, the top end of the latch piece engaging through an aperture as K in the hood wall, of sufficiently greater size than the catch piece to permit its easy movement to either locking or unlocking position. Pivoted by the same bolt or cotter pin, as for example, L, as that whereby the top end of the catch piece F is supported, is an inwardly extending bracket or frame piece M over whose angled shoulder closest the hood wall the top end of the latch piece F rides when manually actuated. The top or inmost end of this member M serves as the top anchorage for the spring H, whose lower end is connected to the tip of one of the branches, as Q, of the generally U-shaped or horseshoe piece shown with particular clearness in Figures 2 and 3 as pivoted at O inside the shell of the catch piece F. The other branch of this horseshoe piece, as N, rides slidingly against the under face of the pivoted latch lever P, the outer end of which is pivoted as at R in the lower end of the slightly swinging frame, of which the part M constitutes the upper end. The upper and concavely elbowed face of the pivoted lever P which, as brought out in Figure 3, may swing to the lowered position there shown, is actuated by the engagement against its under face of the

branch N of the U-shaped lever, when the catch piece F is pushed inwardly, into position of clamping anchorage under the rod E, which has already been described as extending spacedly above the chassis frame between the radiator C and dash D, in position to be engaged by this locking mechanism.

The interaction of the parts just described is brought out by contrast in the showing in Figure 3 of the dotted lines *a* and *b*, each of which passes through the axial center of the spring K at the point of its connection with the frame piece M, whereas as they extend obliquely downward they diverge. The line *a*, it will be noted, passes through the center of the pivot R, whereas the line *b* lies thereabove in the open or lifted position of the catch parts illustrated in this figure, and is in true axial coincidence with the spring K. When, therefore the parts have been actuated to the position shown in Figure 3, the pivot R, which is along the line *a* is in a position slightly beyond, or overthrown relatively to, the line of maximum draw exerted by the spring K, thus actuating the lever P accordingly against the under side of the anchorage rod E; and as soon as the pivot R of this lever P has thus passed center, the latter thereafter operates to lock itself, with a decided snap action.

If the positioning of this anchorage rod relatively to the catch mechanism, which is supported by the anchorable hood wall, has been accurate enough, the catch, including the pivoted lever P can be relied upon to hold the supporting hood wall firmly down so that its lower edge, as I, fits tightly against, indeed rests upon, the adjacent chassis structure I'. If, however, there has been a careless adjustment of the parts, or if the hood wall is carelessly dropped down by the user, I provide for the accurate guidance of its locking mechanism with reference to the anchorage rod E, by positioning, with its arms on either side of the locking levers described, a guard element as S, provided with a sloping lower edge T which will run along the anchorage rod if the hood wall is carelessly dropped into position until the vertical edge V is reached, when it will permit the dropping of the described latching parts with respect to the anchorage bar to a point where the curved portion U of the guard piece almost engages the top surface of the rod E as thus positioned, when between its over-engagement of the top and the engagement against the diametrically opposite side or face of the rod by the pivotal lever P just described, the rod is so firmly seized between the opposingly acting parts that no relative movement can occur, even to the degree of permitting rattling. This is brought out with particular clearness in cross-sectional Figure 2.

While any desired form of anchorage of the pivot stud O with respect to the catch handle F may be employed, I have illustrated in Figure 5 a preferred form thereof wherein the ends of the stud are confined within a groove O' in the center of the relatively contoured outer surface of the catch F as exposed to the outside. This not only provides for an adequate anchorage of the lever composed of the branches M and N, but as well makes a pleasing and easily handled contouring of the handle piece F.

A firm spring-held engagement of the lever P against the under side of the anchorage rod E being desirable, I find it desirable in practice to subject the spring K to a draw up to fifty pounds; but due to the interaction of the parts described, and the fact that the manually-actuated draw thereon is what might be described as a sliding one, a manual pull of roughly one-third of the degree prevailing as to the spring K is all that is necessary to effect the snapping change from locked to unlocked position of the parts, or vice versa.

What I claim is:

1. A locking catch for the hood of a motor vehicle, having, in combination with a fixedly supported anchorage member, an externally projecting lever member pivotally supported from the inner side of the hood wall, a U-shaped lever member operatively connected at its closed end with said externally projecting lever member, a pivotally supported operating dog adapted to engage one branch of said U-shaped lever member when said externally projecting lever member is manually actuated, and a spring operatively connected at one end with one branch of said U-shaped lever member and anchored at the other end adjacent the pivoted upper end of said externally projecting lever member, whereby the movement of one branch of said U-shaped lever to position of locking engagement with or disengagement from said anchorage member is yieldingly opposed.

2. In a locking catch for the hood of a motor vehicle, in combination with an externally projecting handle member passing through a suitably apertured portion of the hood wall, a U-shaped member operatively connected therewith, a spring adapted to yieldingly oppose the inward and outward movement of said U-shaped member relatively to the hood wall resulting from the manually induced swing of said externally projecting handle member, a lever member operatively connected with the hood wall and adapted to be operatively engaged by one branch of said U-shaped member when the externally projecting handle member is manually actuated, and an anchorage member fixedly supported with relation to the vehicle frame, with which said lever member is adapted to operatively engage when actuated by frictional engagement thereagainst of one

branch of said U-shaped member, and from its described engagement with which it is disengaged by the actuated swing of said externally projecting handle member in the opposite direction.

3. In combination with the apertured hood wall of a motor vehicle, a manually actuatable handle member pivotally supported from the interior face thereof and adapted when in lowered position to substantially fill the aperture in the hood wall, a U-shaped member pivotally connected with said handle member with its branches extending inwardly therefrom through the aperture in the hood wall, a lever member pivotally supported in predetermined relation to the hood wall and adapted to be wipingly engaged by one branch of said U-shaped member when the former is swung inwardly with respect to the hood wall, a spring for yieldingly opposing the downward movement of said U-shaped member, and an anchorage member with which said lever member is adapted to be forced into operative engagement when said handle member is swung to its lowered position.

4. The combination, with an anchorage member supported by selected fixed portions of a motor vehicle structure, of a handle member pivotally connected with the engine hood wall adjacent a selectively positioned aperture therein, a bracket member engaging within said hood wall aperture and fixedly supported with relation thereto, a lever member pivotally supported by said bracket in position of potential operative engagement with said anchorage member when the hood wall and its supported parts are in lowered position, a U-shaped member pivotally connected with said handle member, one branch thereof being adapted to operatively engage said lever member upon the induced inward swing thereof to effect the locking engagement of the latter with said anchorage member, and a spring operatively connected with the other branch of said U-shaped member and with said bracket for yieldingly opposing the described actuated swing thereof.

5. The combination, with a fixedly supported anchorage member, of a handle member pivotally supported by the hood wall in position of potential closure of an aperture therein through which it extends, a bracket member also extending through said hood wall aperture, being supported by said hood wall, a U-shaped member pivotally connected at its central portion with said handle member and extending inwardly therefrom, a pivoted lever member supported from said bracket member in position of potential engagement with said anchorage member when the handle and its supporting hood wall are lowered, adapted to be forced into such position by the wiping engagement with it of one branch of said U-shaped member, a spring resiliently connecting the other branch of said U-shaped member and the upper end of said bracket member, whereby the downward swing of the latter is yieldingly resisted, and a guide member projecting from the inner face of the hood wall and adapted to permit the described engagement of said parts only when the hood wall and its supported parts are in proper position relatively to said fixedly supported anchorage member.

In testimony whereof I sign this specification.

WILLIAM R. WILEY.