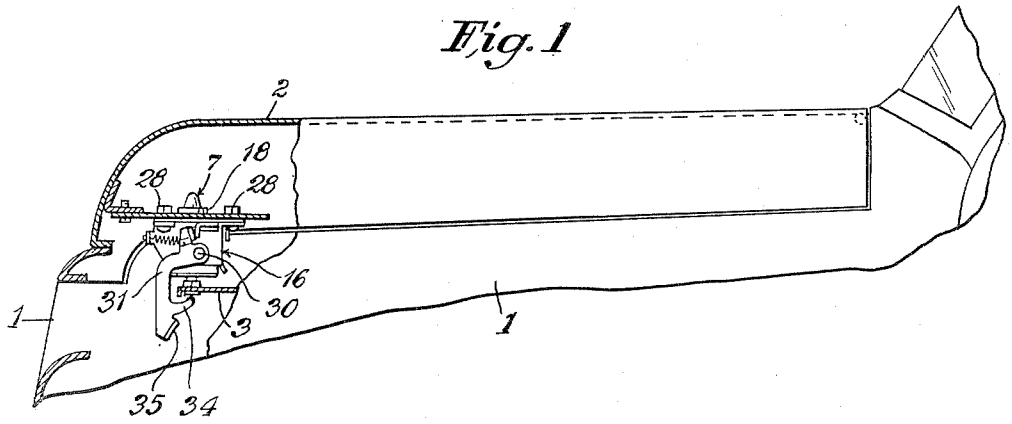
Sept. 18, 1956 H. KRAUSE 2,763,505

HOOD LATCH

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Fig. 1



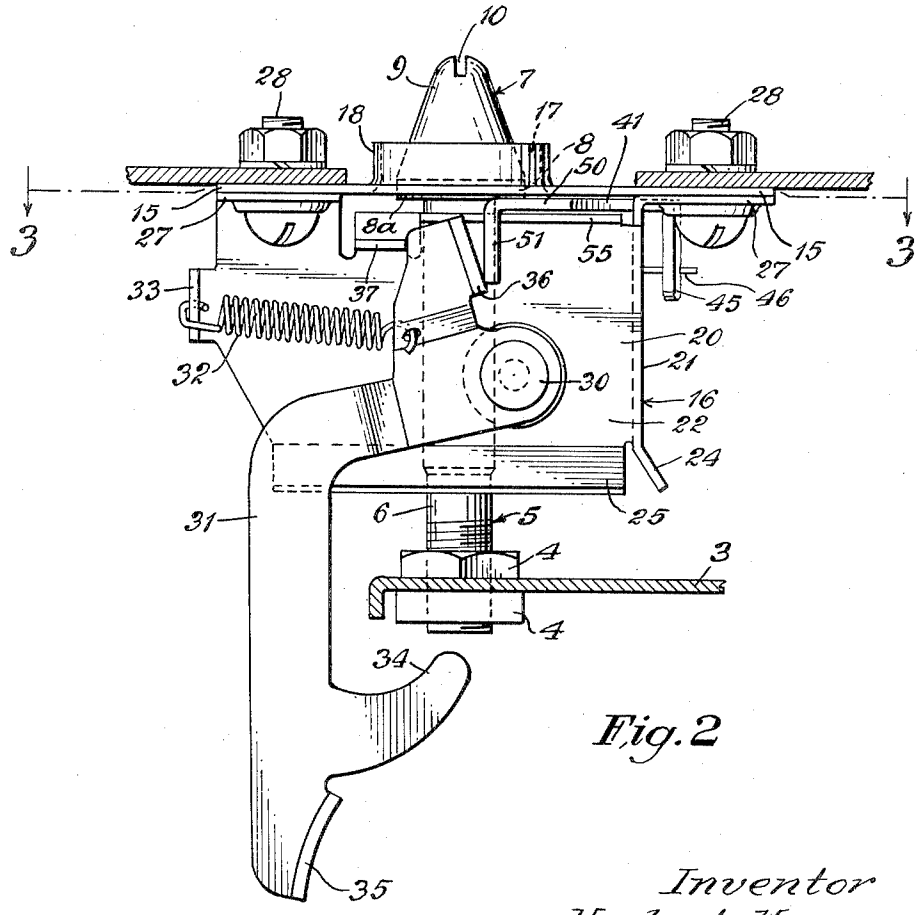


Fig. 2

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Fig. 3

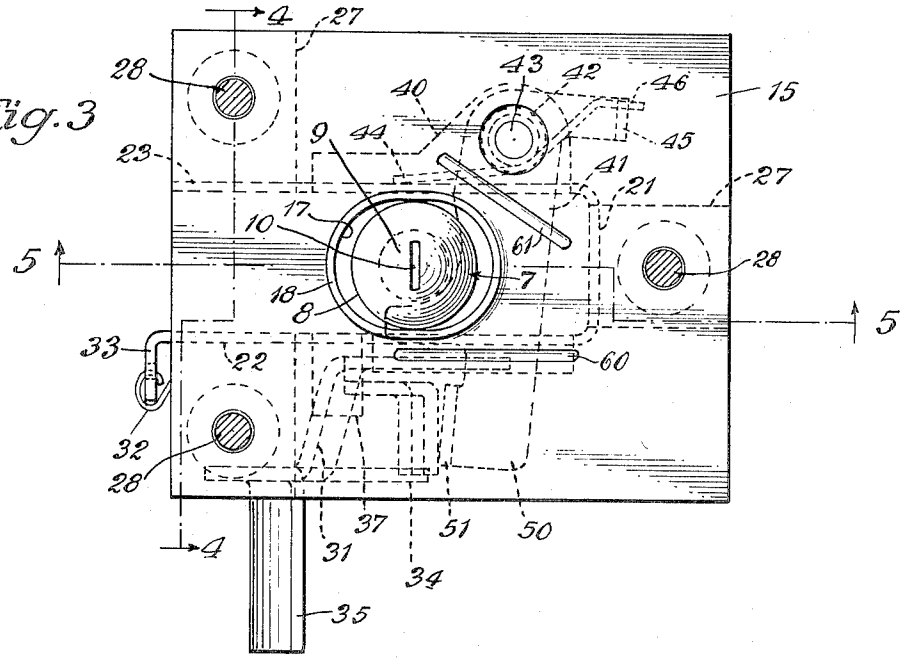
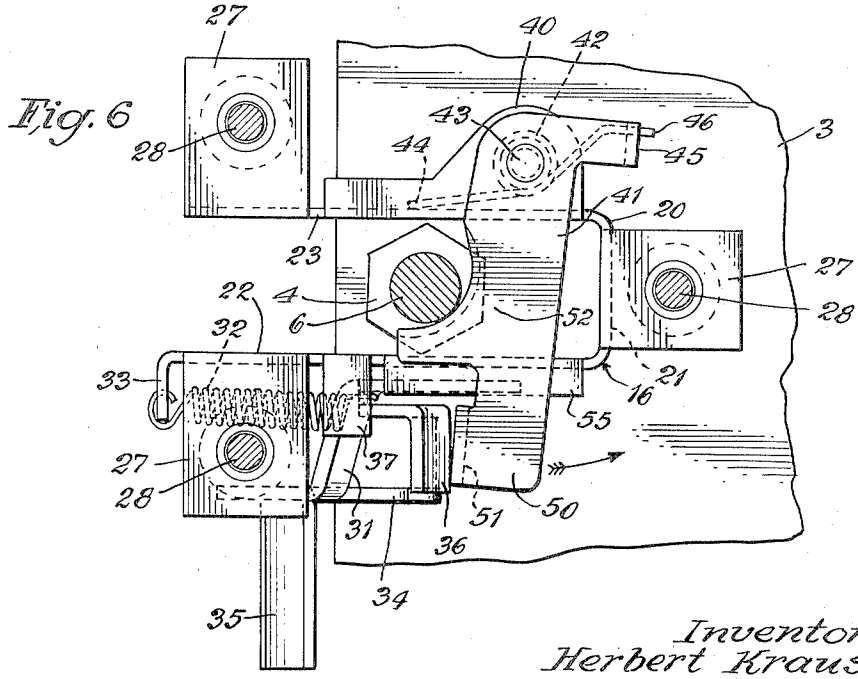


Fig. 6



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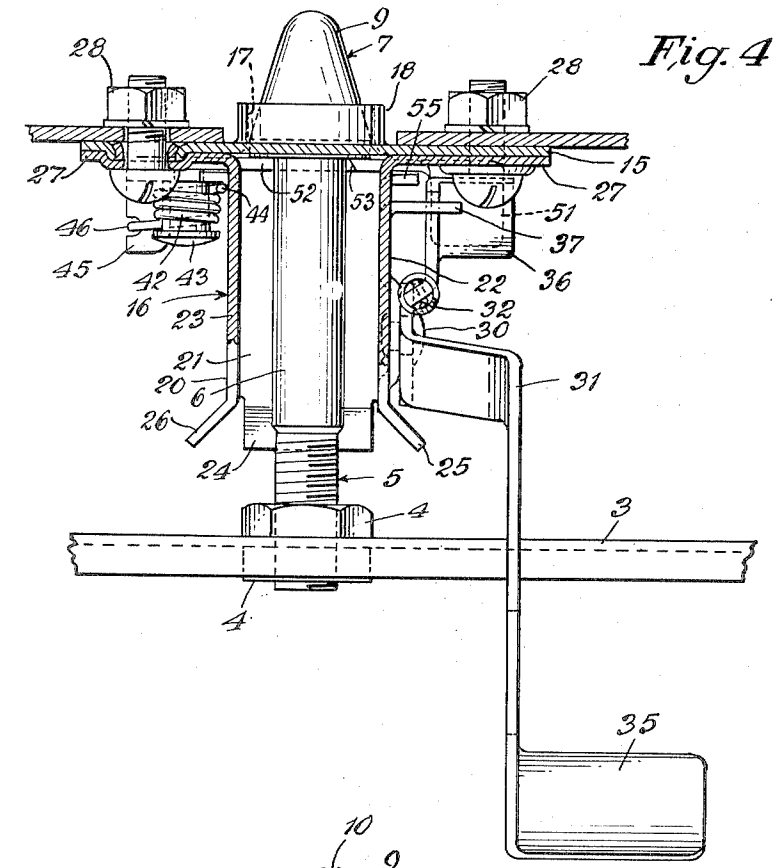


Fig. 4

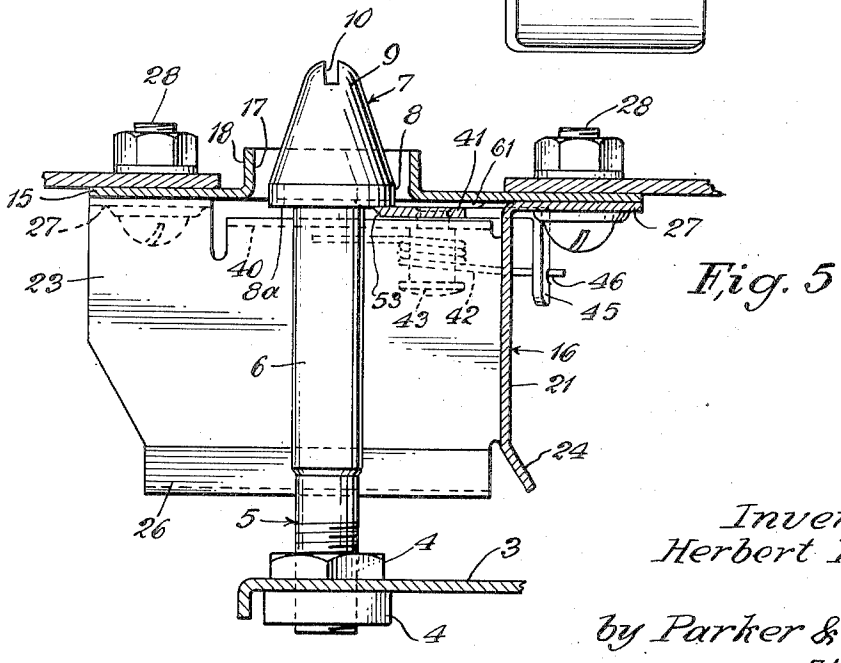


Fig. 5

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HOOD LATCH

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Application October 22, 1954, Serial No. 464,048

3 Claims. (Cl. 292—304)

This invention relates to improvements in hood latches and has for one purpose to provide hood latches for automobile hood closures.

Another purpose is to provide an improved hood latch usable in securing alligator-type automobile closures.

Another purpose is to provide a hood latch structure in which a single member may be employed to control and actuate both a primary latch and a secondary or safety latch.

Another purpose is to provide a hood latch structure having substantial guiding means for a normally employed keeper with such latches.

Another purpose is to provide a hood latch structure wherein a primary latch member is positioned on the same side of a latch plate as that approached by the keeper when the keeper and latch structure are moved toward latching engagement.

Another purpose is to provide an actuating member for hood latches which may be mounted upon a keeper guiding portion of the latch structure and which may have a portion comprising a safety latch and another portion comprising a primary latch operating segment.

Another purpose is to provide a hood latch comprising a pair of opposed plates having oppositely-disposed, aligned keeper-guiding portions.

Other purposes will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawings, wherein

Figure 1 is a side elevation, with parts broken away and parts in cross section;

Figure 2 is a side view on an enlarged scale;

Figure 3 is a view taken on the line 3—3 of Figure 2;

Figure 4 is an end view taken on a line 4—4 of Figure 3;

Figure 5 is a vertical section taken on line 5—5 of Figure 3; and

Figure 6 is a section similar to Figure 3 with the top plate removed.

Like parts are indicated by like symbols throughout the specification and drawings.

Referring, for example, to Figure 1, the numeral 1 generally indicates the hood or forward portion of an automobile and the numeral 2 generally indicates a closure therefor.

Referring now to Figure 2, a generally horizontal portion 3 of the hood 1 may have secured thereto, as by the securing means generally indicated at 4 and in a generally upright position, a keeper member 5.

The keeper member 5 may comprise an elongated shaft portion 6 and an end enlargement 7. The enlargement 7,

as perhaps best seen in Figures 2 and 4, may have a generally cylindrical portion 8, and may terminate in a generally conical portion 9.

A tool engaging slot 10 may be provided in the outer tip or upper end of the keeper 5 for ease in installing, adjusting and removing the keeper from the hood portion 3, it being understood that the shaft 6 may have its inner or lower end portion threaded for engagement with the securing means 4.

Continuing to refer to Figure 2, the latch structure may comprise a pair of members such as the base plate or latch plate 15 and the keeper-guiding and latching element 16, which may be secured together in any suitable manner, or which may be left separate to be held in position by a means which would be effective to secure the members 15 and 16 to the hood closure 2.

Base plate 15 may be generally rectangular in shape, as best seen in Figure 3, and may have a generally centrally located aperture 17 which may be completely surrounded by an upstanding wall portion or keeper-retaining skirt means 18. As seen in the drawings the wall portion or skirt 18 may extend outwardly from the plate 15 on the side opposite that to which the member 16 is secured. As best seen in Figure 3 the aperture 17 and the surrounding wall portion 18 may be generally elliptical in shape, its lateral diameter corresponding generally to the diameter of the cylindrical keeper portion 8, its longitudinal diameter being substantially greater than the diameter of the keeper portion 8 to facilitate entry of the keeper enlargement 7 as the hood closure 2 is brought downwardly in an angular path of approach toward latched position.

Secured to the lower face, as the parts are shown in the drawings of plate 15, is the keeper guide or housing 20 which may comprise a rear wall 21 and a pair of generally parallel, opposed side walls 22, 23. The walls 20—23 may have their outer or lower end portions outwardly inclined as indicated generally and respectively at 24—26. As best seen in Figure 4, it will be observed that the opposed walls 22, 23 are spaced apart a distance only slightly greater than the diameter of the cylindrical portion 8 on the keeper end enlargement 7.

The housing 20 may have a number of outwardly bent ears or securing flanges generally indicated at 27 which may be secured to the underface of the plate 15 in any suitable manner as by the securing means indicated generally at 28.

Pivotally mounted to the outer face of the keeper guiding wall 22, as at 30, is an actuating member 31. Member 31 may be yieldingly urged toward non latch-actuating position by a spring 32, having its ends secured to a portion of the actuating member 31 and to an outwardly bent ear 33 on the housing wall 22.

The actuating member 31 may have integral therewith a safety hook portion 34, positioned adjacent its outer or lower end, as the parts are shown in the drawings, and the hook 34 may be adapted to underlie the hood portion 3 when the keeper and latch are in latching engagement. 35 is a manually engageable outer end portion of the actuating member 31. 36 generally indicates a latch-engaging abutment portion at the opposite end of the actuating member 31 beyond the pivot point 30. 37 is a stop limiting the movement of the member 31 away from latch-actuating position. Outwardly bent from the upper edge of the keeper-guiding wall 23 is a

latch-supporting flange 40. Pivotally mounted between the flange 40 and the opposed face of the base plate 15 is a primary latch member 41. A spring 42 may surround a pivot pin 43 about which the latch member 41 is rotatable. The spring 42 may have its opposite ends in engagement with the outer face of the keeper guiding wall 23, as at 44, and with a downwardly depending ear 45, on the latch 41, as at 46, in order to urge the primary latch member 41 toward latching position.

The latch member 41 has an outer end portion 50 with its abutment element 51 opposed to and positioned for engagement by the actuating member abutment 36 as shown best in Figures 2 and 3.

The primary latch 41 has a central portion 52 intermediate the pivot point 43 and the end portion 50 which, when the latch is in keeper engaging position, underlies a portion of the aperture 18 in base plate 15. The portion 52 may be generally arcuate and may thereby surround a portion of the shaft 6 of the keeper 5.

The inner arcuate edge of the latch portion 52 may be chamfered as at 53 to facilitate movement of the latch out of engaging position in response to urging by the conical portion 9 of the keeper 5 as the keeper approaches the aperture 18.

The keeper guiding wall of the housing 20 may have its upper edge outwardly bent beneath and generally parallel with the opposed face of the base 15 as indicated generally at 55 to provide a slot or channel in which the latch 41 may travel toward and away from latching position, the upper face of the outwardly bent portion 55 thus serving as a track and support for the moving outer end of the latch 41.

As indicated in Figure 2 the abutment 51 of the latch 41 may be downwardly bent to provide a substantial engaging surface for the opposed abutment 36 of the actuating member 31. As best seen in Figure 2, the opposed abutments are in continuous engagement, at their lowest point, when the actuating member 31 is in non-actuating position. As the manually engageable portion 35 is grasped by the operator and upwardly raised, as the parts are shown in the drawings, safety hook portion 34 will be rotated out of position for engagement with the hood portion 3 and the engaging abutment 36 will be brought into generally parallel relationship with the abutment 51 on the latch 41. Thereafter, continued upward rotation of the actuating member 31 will cause a movement to the right, or the rear as the parts are shown in the drawings, of the latch 41 thus freeing the latch from engagement beneath the generally flat annular lower face 8*a* of the cylindrical portion 8 of the keeper enlargement 7.

As seen best in Figure 2, the safety hook, the abutments 36, 51 and the engagement of the latch with the keeper, all lie, when the closure is latched shut, in the same vertical plane.

60, 61 are ribs formed in the underface of the plate 15 to serve as tracks against which the upper surface of the latch 41 may ride as it travels toward and away from latching position.

It is thought to be clear that the keeper and latching structure could be reversed in position or location, so far as the hood and hood closure are concerned, without departing from the nature and scope of my invention.

It will be realized that whereas I have described and claimed a practical and operative device, nevertheless many changes may be made in size, shape, number and disposition of parts without departing from the spirit of my invention. I therefore wish my description and drawings to be taken as in a broad sense illustrative or diagrammatic, rather than as limiting me to my specific showing herein.

The use and operation of my invention are as follows:

As the closure 2 is moved downwardly toward the hood 1, as the parts are shown in the drawings, the keeper enlargement 7 is caused to enter the keeper guiding structure 20. Should the closure 2 be somewhat out of alignment, the conical portion 9 of the keeper enlargement 7 would impinge upon one of the outwardly inclined guiding surfaces 24, 25, 26, thus forcing the closure 2 into proper position and aligning the keeper 5 generally with the aperture 18 in the latch plate 15. As the hood closure 2 continues to approach hood 1, the keeper enlargement 7 is maintained in general alignment with the aperture 17 by the guide walls 22, 23.

With respect to forward and rearward aligning, it will be noted that the housing 20 is three-sided, there being no forward wall thus leaving a clear path for the entry of the enlargement 7 within the housing 20.

Should the hood closure be too far forward, the inclined portion 24 of the rear housing wall 21 is effective, in cooperation with the conical portion of the keeper 5, to force the keeper into general alignment with the aperture 17.

The conical keeper surface 9 next contacts the chamfered edge 53 of the main latch 41 and forces the main latch toward non-latching position against the action of the spring 42. As soon as the cylindrical portion 8 of the keeper enlargement 7 passes beyond the plane occupied by the latch 41, the spring 42 is effective to snap the latch 41 back into latching position.

As the closure 2 was moved downwardly, the curved outer edge of the safety hook 34 contacted the rounded edge of the hood portion 3 and was thus moved outwardly; after passing it the hook snapped into position beneath the portion 3 in response to urging by the spring 32.

The skirt 18 surrounding aperture 17 is of sufficient extension to prevent the annular face 8*a* of the enlargement 7 from overlying a portion of the plate 15 and thus interlocking with the plate 15.

When the operator desires to raise the hood closure 2, he need only grasp the manually engageable portion 35 and lift upwardly. As he does so, the safety latch hook 34 and main latch 41 are moved substantially simultaneously out of engaging positions. The safety hook 34 is moved out of alignment with the hood portion 3 by rotation, as the parts are shown in the drawings, in clockwise direction. This same motion causes the abutment 36 on the actuating member 31 to move into full engagement with the abutment 51 on the latch 41 and to move the latch 41 out of engaging position. Continued upward or clockwise pressure against portion 35 will be effective to raise the hood closure 2 to which the actuating member 31 is, in effect, attached, thus member 31 constitutes a unitary member which is a safety latch, a safety latch actuating member, a main latch actuating member and a closure raising handle.

I claim:

1. In a hood latch assembly a latch structure and a keeper, one to be mounted on an automobile hood and the other on an automobile closure for said hood, said latch structure comprising a plate, said plate having an aperture adapted to be penetrated by said keeper, a cylindrical wall surrounding said aperture and extending upwardly from one face of said plate, a pair of spaced, generally parallel walls mounted on the opposite face of said plate and extending therefrom in axial alignment with said cylindrical wall and said aperture a distance substantially equal to the length of said keeper, said walls being spaced apart a distance substantially equal to the largest diameter of said keeper whereby said walls are effective to serve as a guide for said keeper in the course of its travel toward said aperture, said spaced walls being joined by a third wall of equal extension from said plate with said spaced walls and a latch movably mounted with relation to said plate for engagement with said keeper.

2. The structure of claim 1 wherein said latch is mova-

bly mounted on said housing for movement along said opposite face of said plate between said spaced walls toward and away from latching position.

3. The structure of claim 1 characterized by and including an outwardly inclined end portion on each of said spaced parallel walls and said third wall, said end portions being generally positioned about the axis of said aperture and spaced from said plate to be contacted first by said keeper, as said closure is moved toward closed position, when said keeper is out of alignment with said aperture.

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