

March 21, 1944.

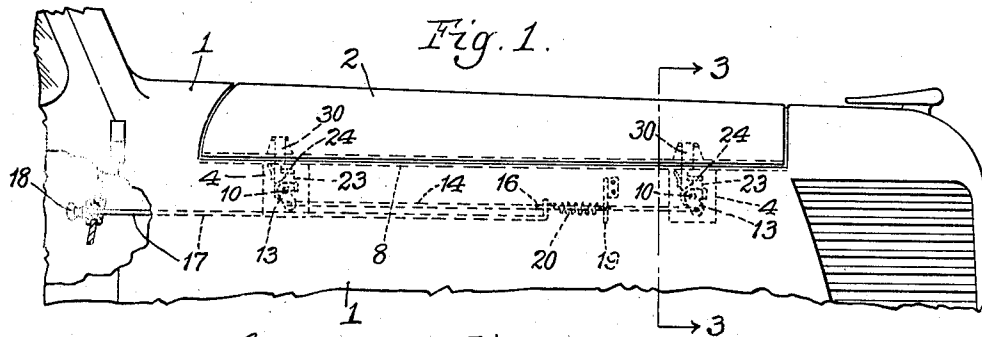
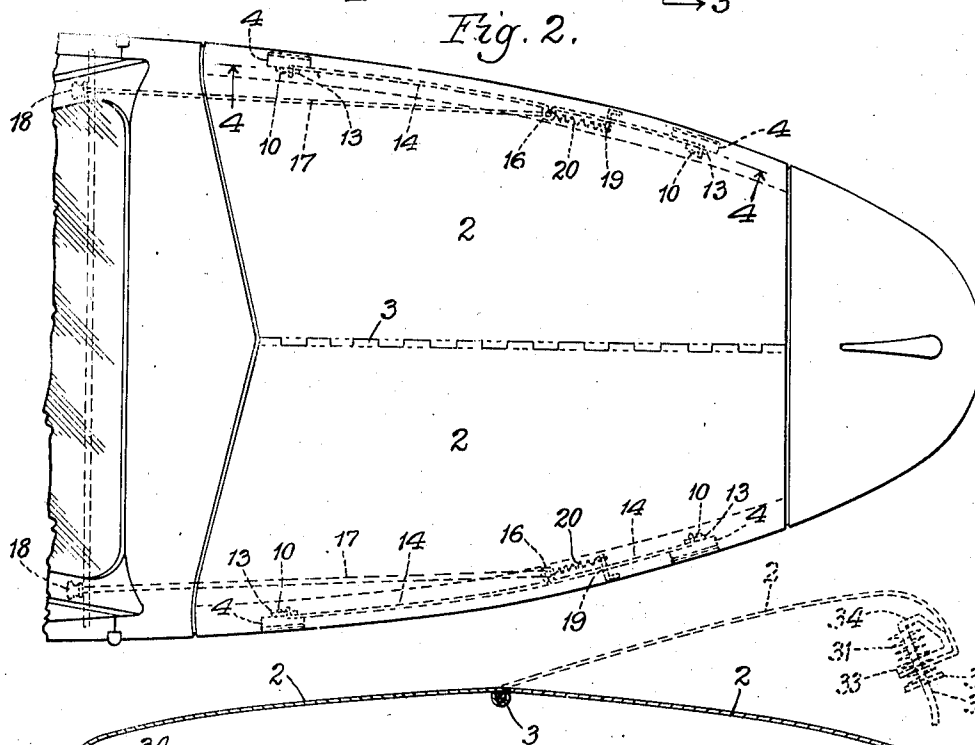
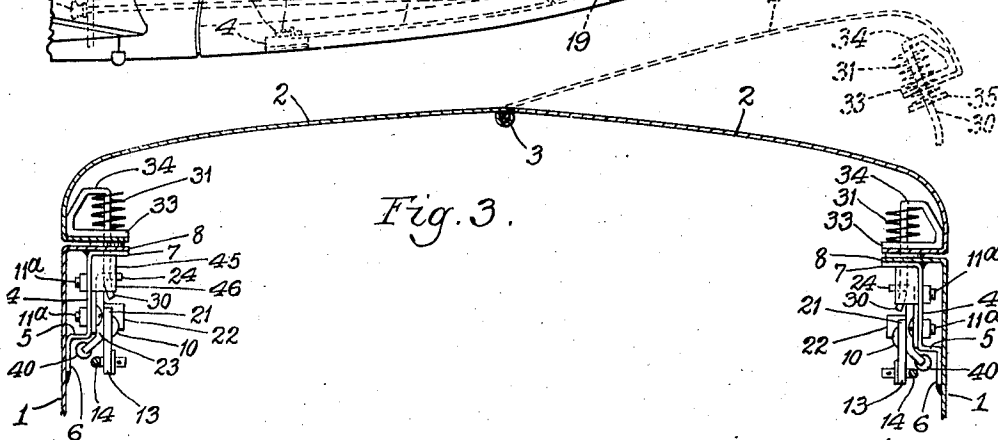
W. H. KRAUSE

2,344,705

HOOD LATCH FOR HORIZONTALLY HINGED HOOD CLOSURES

Filed April 11, 1941

3 Sheets-Sheet 1



Inventor
Walter H. Krause.
by *Huber & Hart*
Attorneys.

March 21, 1944.

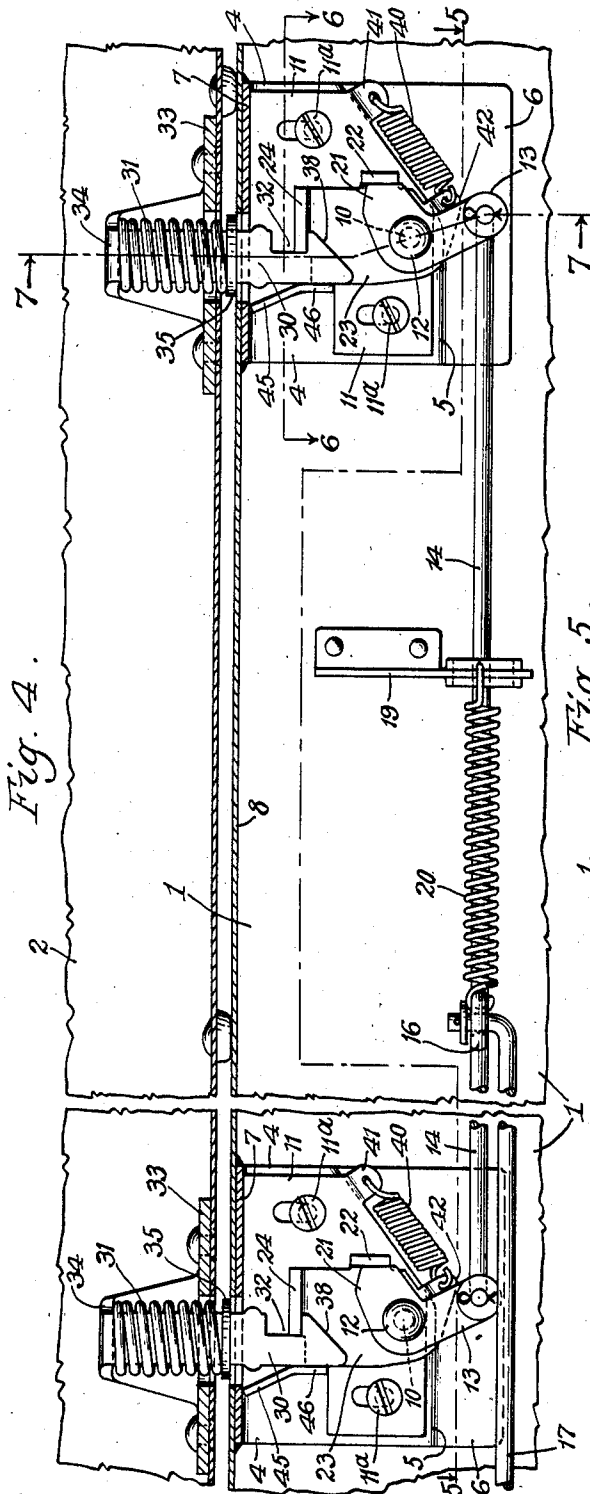
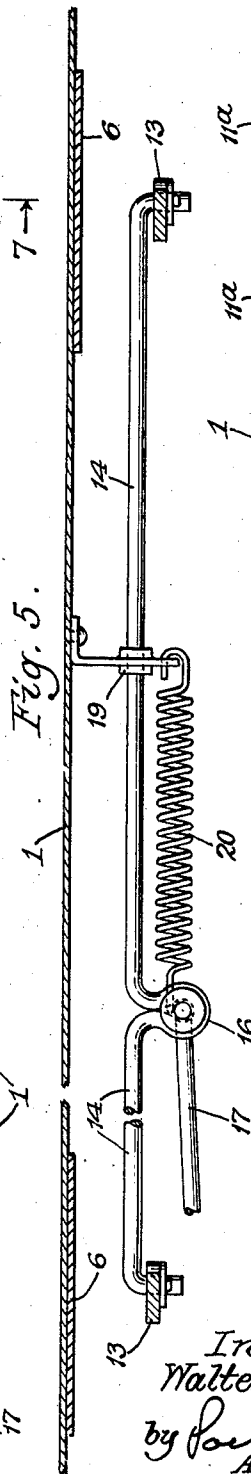
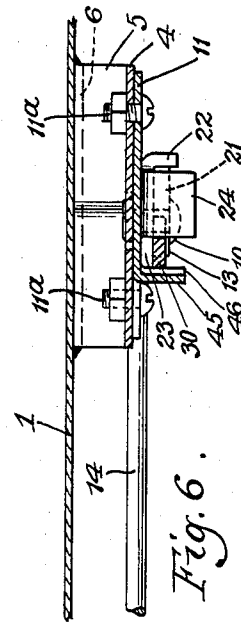
W. H. KRAUSE

2,344,705

HOOD LATCH FOR HORIZONTALLY HINGED HOOD CLOSURES

Filed April 11, 1941

3 Sheets-Sheet 2



Inventor.
Walter H. Krause.
by Fisher & Bates
Attorneys.

March 21, 1944.

W. H. KRAUSE

2,344,705

HOOD LATCH FOR HORIZONTALLY HINGED HOOD CLOSURES

Filed April 11, 1941

3 Sheets-Sheet 3

Fig. 7.

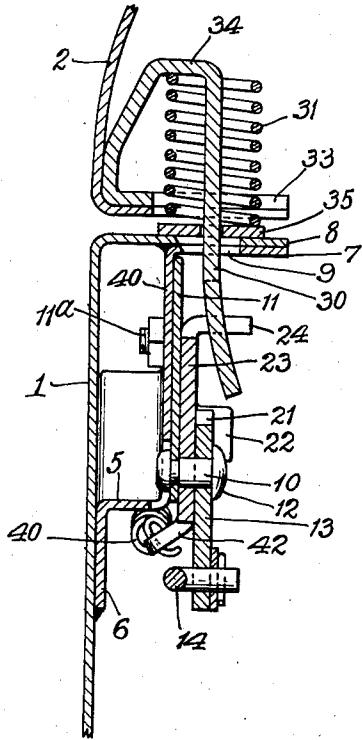
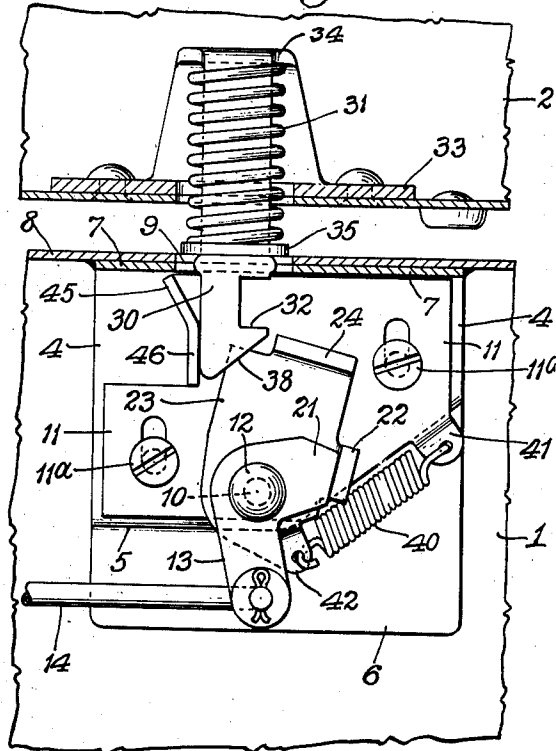


Fig. 8.



Inventor.
Walter H. Krause.
by *Forbes & Platter*
Attorneys.

UNITED STATES PATENT OFFICE

2,344,705

HOOD LATCH FOR HORIZONTALLY HINGED
HOOD CLOSURESWalter H. Krause, Chicago, Ill., assignor to Chi-
cago Forging & Manufacturing Company, Chi-
cago, Ill., a corporation of Illinois

Application April 11, 1941, Serial No. 388,059

10 Claims. (Cl. 292-221)

My invention relates to an improvement in automobile hood latches and has for one purpose the provision of an improved hood latch or latches for an automobile hood closure in which a pair of closure members is hinged along a generally horizontal axis extending along the length of the car.

Another purpose is the provision of closure means which shall be secure and efficient and which will prevent rattling.

Another purpose is the provision of improved hood latches which may be actuated from within the driver's compartment and which cannot be actuated from outside the driver's compartment.

Another purpose is the provision of such hood latches in which means are provided for preventing actuation of the hood latches by the insertion of tools, screw drivers, or the like, beneath the edge of the hood closure or closures.

Another purpose is the provision of multiple and unitarily operated hood latches, and rattle preventing means therefor, for the so-called butterfly type hood closures.

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:

Fig. 1 is a side elevation with parts broken away;

Fig. 2 is a plan view;

Fig. 3 is a section on the line 3-3 of Fig. 1;

Fig. 4 is a section on the line 4-4 of Fig. 2, on an enlarged scale;

Fig. 5 is a section on the line 5-5 of Fig. 4;

Fig. 6 is a section on the line 6-6 of Fig. 4;

Fig. 7 is a section on the line 7-7 of Fig. 4; and

Fig. 8 is a view similar to Fig. 4 on an enlarged scale, illustrating the parts in open position.

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

Referring to the drawings, I generally indicate an automobile hood having a plurality of closures 2, 2, hinged along the front and rear generally horizontal axis, as at 3. Located within the walls of the hood 2 are a plurality of plates 4, there being herein shown two within each hood side wall. The plates 4 have lower flanges 5 spacing the plates from the inner face of the wall 1, with downward extensions 6, which may be welded or otherwise secured to the hood. Upper flanges 7 may be secured to a flange 8 extending inwardly from the top of the hood wall 1.

It will be understood that the members 4 constitute base plates, which may be varied in detail, shape and proportion to suit any particular size or shape of hood, depending upon the car to which the hood latches are applied. 10 indicates a pivot pin passing freely through each plate 4, which may for example be mounted on a plate 11, adjustable on each plate 4. The pin is headed, as at 12. Rotatable on the pin 10 is a bell crank lever 13, one arm of which is secured to an actuating rod 14, as shown for example in Fig. 5.

It will be understood that the rod 14 extends between the two bell crank levers 13. It may have an offset portion or eye 16, to which is pivoted any suitable actuating rod 17, which may extend to the dash board, where it is provided with a manually operating knob or handle 18. 19 is a bearing mounted on the inner face of the hood wall 1, in which the rod 14 is guided. 20 is a tension spring extending from the bearing 19 to the eye 16. This spring tends to hold the rod 14 in forward or closed position. The effect of a pull on the handle 18 is to move both the bell crank levers to release position.

Each bell crank lever 13 has an upper arm 21, which abuts against a lug 22, on the plate 23, which also has an outwardly extending locking lug 24. The plate 23 is also pivoted on the pin 10 so that a pull of the operating rod 17 to the left, referring to the position of the parts in Fig. 4, will, by rotation of the bell crank levers, move each of the plates 23 to the right. This clears the locking lugs 24 from the latches 30, which are normally upwardly urged by the compression spring 31. The latch 30, with its notch 32, which is engaged by the lug 24, is herein shown as unitary with the plate 33, mounted on the hood closure 2. The spring 31 is compressed between the upper bend 34 of the latch and the washer 35, mounted in any suitable way on the shank of the latch. The latch 30 passes downwardly through the aperture 9 in the flanges 7 and 8, and the washer 35 engages the upper flange 8 of the closure wall 1 so that when the lugs 24 of the plates 23 are moved to the right, referring to the position of the parts in Fig. 4, the springs 31 are effective to raise the closure 2 upwardly a slight distance. Thereafter the closure may be lifted manually to fully open position.

In closing the closure the operator merely thrusts down in such fashion that the nose of the latch 30, which is inclined, as at 38, overrides the edge of the lug 24 and snaps it into closed

position. The plates 23 are normally held in locking position, for example, by the tension springs 40, one end of which is secured to an ear 41 on the plate 11, and the other end of which is secured to the arm 42 on the plate 23. In its downward movement the latch 30 is also guided by the inclined offset 45 on the plate 11. This inclined offset 45 terminates in a vertical portion 46, which abuts against the edge of the latch 30 opposite to the locking lug 24. It will be observed that, when the latch 30 is moved to locking position, it will thereafter cam the plate 23 in a clockwise direction, without, however, rotating the bell crank lever 13. It will be noted that there is no clearance or space through which an instrument can be inserted to move the plate 23 or the lug 24, so that the latch is tamper proof and can be actuated only by drawing inwardly from the interior of the vehicle on the rod 17, by the employment of the handle 12.

It will be observed that the plate 11 is bodily adjustable and secured in position by the bolts 11a. It is shown as a vertical adjustment, it being realized, of course, that a slight horizontal adjustment may be provided if desired. Since the plate 11 carries the guide 45, 46 and the pivot pin 10, the locking means can be bodily and simply adjusted in relation to the keepers 30.

It will be realized that, whereas I have described and illustrated a practical and operative device, nevertheless many changes may be made in the 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 precise showing.

The use and operation of my invention are as follows:

I provide a simple and efficient latch structure which is adaptable, for example, to automobile hood closures in which a pair of closures is hinged along a generally horizontal longitudinal axis. I provide a hood latch closure which may be locked by simply slamming or urging the closure downwardly to closed position, without affecting the actuating means within the driver's compartment.

I provide a keeper, including the shank 30, which is in effect unitary with the closure, which may be made as a single piece, including the base portion 33, the upper bend 34, the shank 30, and the enlargement which receives the washer 35. The shank serves also as a guide for the spring 31, the washer or thrust member 35 being urged by the spring against the upper flange 8 of the hood when the closure is in closed position. The plate 11 is vertically adjustable for variations in size and proportion of parts, and also if necessary to take up wear.

The member 21 provides a lost motion which permits the lug 24 to recede when the portion 38 of the keeper cams over it, without affecting the position of the actuating rods or the manual handle 13 within the vehicle. The latch and keeper assembly can be applied to the hood and closure without any special design of hood and closure, and are advantageously supported in whole or in part upon the vertically superposed flanges of hood and closure, as will be clear, for example, from Fig. 7.

I claim:

1. In combination with an automobile hood having a generally upright side wall and a generally horizontal inwardly extending top flange,

a base plate permanently secured to the inner face of the side wall of the hood and including portions abutting the inner face of the hood side wall and the lower face of the hood top flange, said top flange and the abutting portion of said base plate being apertured to permit the entry from above of a keeper mounted on the hood closure, a latch plate adjustably mounted on said base plate, a latch mounted on said latch plate, a keeper guide, yielding means tending normally to urge said latch towards latching position in opposition to said keeper guide, and manually operable means for moving said latch to release position.

2. In combination with an automobile hood having a generally upright side wall and a generally horizontal inwardly extending top flange, a base plate permanently secured to the inner face of the side wall of the hood, said top flange being apertured to permit the entry from above of a keeper mounted on the hood closure, a latch plate adjustably mounted on said base plate, a latch mounted on said latch plate, a keeper guide, a yielding means tending normally to urge said latch towards latching position in opposition to said keeper guide, and manually operable means for moving said latch to release position.

3. In combination with an automobile hood having a generally upright side wall, a base plate permanently secured to the inner face of said side wall, a latch plate adjustably mounted on said base plate, a latch mounted on said latch plate, a keeper guide, yielding means tending normally to urge said latch towards latching position in opposition to said keeper guide, and manually operable means for moving said latch to release position.

4. In combination with an automobile hood having a generally upright side wall, a generally vertical latch plate adjustably mounted on the inner face of said wall, a latch mounted on said latch plate for rotation about a generally horizontal axis generally perpendicular to the length of the automobile, a keeper guide fixed on said plate, yielding means tending normally to urge said latch towards latching position in opposition to said keeper guide, and manually operable means for moving said latch to release position.

5. In combination with an automobile hood having a generally upright side wall, a generally vertical latch plate adjustably mounted on the inner face of said wall, a latch mounted on said latch plate for rotation about a generally horizontal axis generally perpendicular to the length of the automobile, a keeper guide fixed on said plate, yielding means tending normally to urge said latch towards latching position in opposition to said keeper guide, and manually operable means for moving said latch to release position, including a lever rotatably mounted on said plate concentrically with said latch, a portion on said latch opposed to one arm of said lever, and manually operable means secured to the opposite arm of said lever, whereby rotation of said lever toward the release position is effective to rotate said latch away from said keeper guide.

6. In combination with an automobile hood having a generally upright side wall, a generally vertical sheet metal latch plate adjustably mounted on the inner face of said wall, a latch mounted on said latch plate for rotation about a generally horizontal axis generally perpendicular to the length of the automobile, a keeper guide flange offset inwardly from said plate, yielding means tending normally to urge said latch to-

wards latching position in opposition to said flange, and manually operable means for moving said latch to release position.

7. In combination with an automobile hood having a generally upright side wall, a generally vertical sheet metal latch plate adjustably mounted on the inner face of said wall, a latch mounted on said latch plate for rotation about a generally horizontal axis generally perpendicular to the length of the automobile, a keeper guide flange offset inwardly from said plate, yielding means tending normally to urge said latch towards latching position in opposition to said flange, and manually operable means for moving said latch to release position, an upper portion of said keeper guide flange being inclined from the vertical, a lower portion of said flange being generally vertical and substantially at right angles to said plate.

8. In combination with an automobile hood having a generally upright side wall and a generally horizontal inwardly extending top flange, a base element including offset portions engaging the bottom face of the top flange and the inner face of said side wall, the body of said base element being parallel with but inwardly spaced from said side wall, the top flange of the side wall, and the portion of said base element opposed thereto, being apertured to permit the penetration from above of a keeper mounted on the hood closure, a latch plate adjustably mounted on said base plate and having thereon a keeper engaging guide flange, a latch, and yielding means for urging said latch towards latching position in opposition to said guide flange, and manually operable means for moving said latch, against said yielding means, to release position.

9. In combination with an automobile hood having a generally upright side wall and a gen-

erally horizontal, inwardly extending, top flange, a base plate lying in a generally vertical plane, parallel with, but inwardly spaced from the upright side wall of the hood, a supporting connection therebetween, said base plate having an angularly offset flange on its upper edge, abutting against and permanently secured to the hood top flange, the hood top flange and the abutting portion of the base plate being apertured to permit the entry from above of a keeper mounted on the hood closure, a latch plate adjustably and removably mounted on the base plate, and a latch mounted on the latch plate, yielding means tending normally to urge said latch toward latching position and manually operable means for moving the latch to release position.

10. In combination with an automobile hood having a generally upright side wall and a generally horizontal, inwardly extending, top flange, a base plate lying in a generally vertical plane, parallel with, but inwardly spaced from the upright side wall of the hood, a supporting connection therebetween, said base plate having an angularly offset flange on its upper edge, abutting against and permanently secured to the hood top flange, the hood top flange and the abutting portion of the base plate being apertured to permit the entry from above of a keeper mounted on the hood closure, a latch plate adjustably and removably mounted on the base plate, and a latch mounted on the latch plate, yielding means tending normally to urge said latch toward latching position and manually operable means for moving the latch to release position, means for securing the latch plate to the base plate including elements extending into the space between the base plate and the adjacent part of the side wall of the hood.

WALTER H. KRAUSE.