Oct. 30, 1923. 1,472,242

J. B. COVI

HOOD FASTENER

Filed May 24, 1920

Fig 1

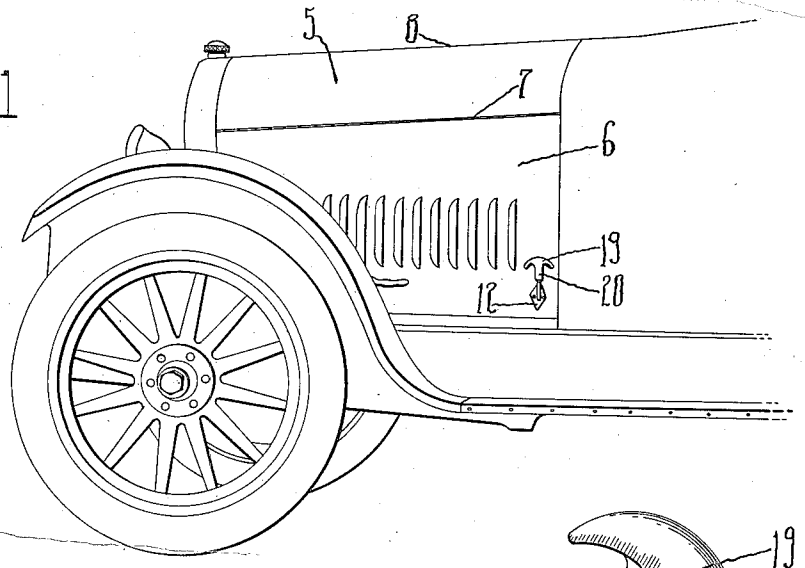


Fig 3

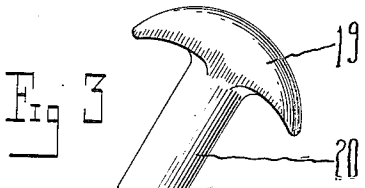


Fig 2

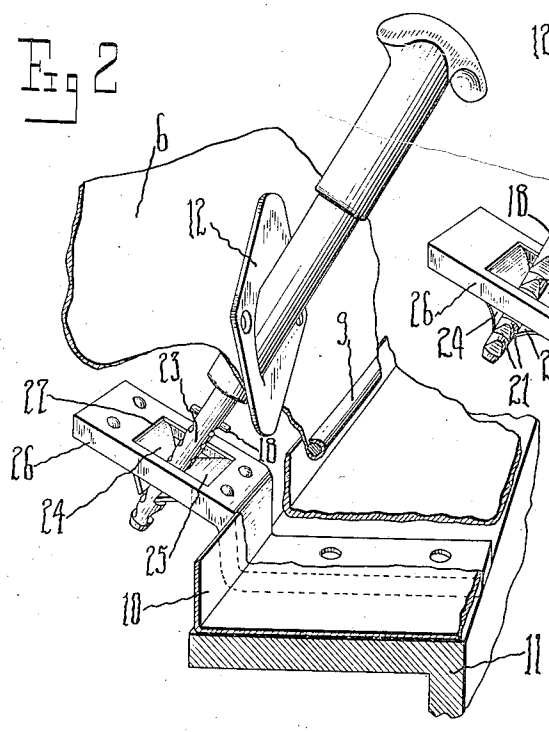
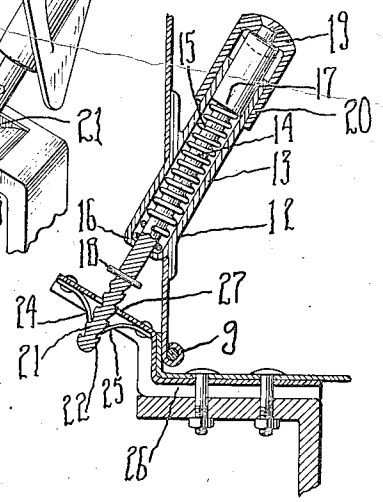


Fig 4



Inventor
John B. Covi

By Attorneys
Blackmore, Spencer & Flint

Patented Oct. 30, 1923. 1,472,242

UNITED STATES PATENT OFFICE.

JOHN B. COVI, OF FAR ROCKAWAY, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WHITE PRODUCTS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

HOOD FASTENER.

Application filed May 24, 1920. Serial No. 383,752.

To all whom it may concern:

Be it known that I, JOHN B. COVI, a citizen of the United States, and a resident of Far Rockaway, county of Queens, and State of New York, have invented certain new and useful Improvements in Hood Fasteners, of which the following is a full, clear, concise, and exact description, such as will enable others skilled in the art to which the invention relates to make and use the same, reference being made therein to the accompanying drawings, which form a part of this specification.

My invention relates to fastening devices designed for use with the doors of the hoods of motor propelled vehicles such as automobiles, motor driven trucks, etc., and particularly to fastening devices provided for holding the doors through which access is had to the interior of the hood and to the engine enclosed thereby in a normally closed condition, and with a yieldable force to thereby reduce noise due to movement of the doors when the vehicle is in motion.

The object of my invention is to provide an improved fastening device for use with the doors of motor vehicle hoods which will be simple in construction, and which may be more easily operated to fasten and release the doors than has heretofore commonly been the case; and which at the same time will hold the door closed with a yielding pressure provided by a spring which is under compression when the door is closed and fastened, to thereby prevent rattling of the doors when the vehicle is in motion along a roadway.

With the above and other objects of invention in view my invention consists in the improved hood door fastening device illustrated in the accompanying drawing and hereinafter described and claimed; and in such variations and modifications thereof as will be obvious to those skilled in the art to which my invention relates, so long as such variations and modifications come within the scope of the concluding claims wherein the distinguishing features in which my invention consists are particularly pointed out.

In the drawing wherein the preferred embodiment of my invention is illustrated:

Figure 1 is a view showing the front end of a motor driven vehicle in side elevation, the door of the hood thereof which appears in the view being equipped with hood fastening devices made in accordance with my invention.

Figure 2 is a view upon a considerably larger scale and in perspective showing my improved hood door fastening device and its relation to the hood door and to a side frame member of the vehicle.

Figure 3 is a view illustrating the principal parts of my invention, and showing the manner in which the hood fastening device is manipulated to accomplish the release or unlocking of the door so that it may be opened.

Figure 4 is a sectional view upon a vertical transverse plane illustrating my improved hood door fastening device.

Referring now to the drawing, the reference numeral 5 designates the upper section and 6 the lower section of the door upon one side of the hood of a motor driven vehicle, each of the two doors upon opposite sides of the hood being commonly made up of two such sections pivotally connected with one another along a hinge connection at 7; altho my invention is in no way limited to use with hood doors made up of two sections. The doors upon the two sides of the hood are pivotally supported by a top bar to which they the pivotally connected by a hinge connection at 8 as will be understood.

The lower edge 9 of the hood door abuts against a jamb or stop 10 which is ordinarily supported by one of the side members 11 of the frame of the vehicle, the width of the hood being commonly such that the lower edges of the doors upon the opposite sides thereof are in about the same vertical planes as the side members of the frame of the vehicle, altho this is a feature of secondary importance so far as concerns the invention to which this present application relates and the relationship of the lower ends of the doors to the side frame members may be varied.

Secured adjacent the lower edges of each of the two oppositely located doors of the hood, or rather to the lower portion 6 of said doors in the embodiment of my invention illustrated, are bracket members 12 which support the principal operating elements or parts of my improved hood fastening device, each door being commonly equipped with at least two of such fastening devices located one adjacent each end there-

of; and each of the said brackets is provided with an inclined tubular barrel 13 shown as formed integrally therewith and the upper end of which lies upon the outside of the hood when the same is closed while the lower end portion thereof extends through an opening provided in the hood door and terminates inside the hood, as best shown in Figure 4 of the drawing. The supporting brackets and tubular barrels which form a part thereof as well as the elements of the fastener which are supported by the said brackets are secured to the hood doors as unitary structures, and in any way as by means of rivets extending through holes provided in the said brackets.

The reference numeral 14 designates a holding member which extends through the barrel 13 and is rotatable within the said barrel, as well also as capable of longitudinal or reciprocating movement therein; and the reference numeral 15 designates a spring located within the barrel 13 and the lower end of which abuts against an inwardly extending flange 16 at the lower end of said barrel, while the upper end thereof abuts against a shoulder 17 formed upon and located adjacent the upper end of the said holding member. A cross pin or equivalent stop 18 is provided adjacent the lower end of the holding member from which it follows that the spring 15 acts normally to force the holding member 14 upward within the barrel 13, and to hold the stop 18 aforesaid against the lower end of the said barrel. The holding member 14 has a handle member 19 of any suitable form secured to the upper end thereof, said member having a depending sleeve 20 which slides in engagement with the exterior of the barrel 13 to thereby provide a more pleasing appearance for the upper end of the fastening member as a whole and prevent the entrance of water or dirt into the interior of the said barrel.

The lower end of the holding member 14 is prolonged beyond the lower end of the barrel 13 and is provided with two series of lugs or teeth 21, 22 formed in opposite sides of the lower extending end of said holding member; which is commonly circular in cross section; from which it follows that two intermediate smooth portions 23 are provided upon opposite sides of the extending portion of the holding member, which smooth portions are disposed at right angles to the portions of the said member along which the series of teeth 21, 22 are located.

The reference numerals 24, 25 designate two catch members made, preferably, of spring material so as to be resilient, and which members are supported by a stationary abutment 26 and located beneath an opening 27 provided in said abutment in the embodiment of my invention illustrated; the abutment itself being supported from the frame of the vehicle, or otherwies, in a fixed position. The arrangement of the said abutment is such that the prolonged lower end of the holding member 14 may pass through the opening 27 therein and between the inner ends of the catch members when the door of the hood is in its closed position, as clearly shown in the drawing, to thereby enable the catch members 24, 25 to enter the depressions between the series of teeth 21, 22 as the door is moved into its closed position. The separate teeth of the two series of teeth 21, 22 are shown as arranged in staggered relation, see Figure 4, in order to provide a finer adjustment of the parts and in which case one only of the catch members 24, 25 is in engagement with a tooth at the lower end of the said holding member at a given time; altho this is a feature which may be varied without departing from my invention and the arrangement of the parts may be such that both the catch members are in engagement with teeth upon opposite sides of the holding member when the door is being held in its closed position.

In view of the premises it will be appreciated that as the door of the hood is moved into its closed position and as the free edge 9 approaches the jamb or stop 10 the lower extending ends of the holding members 14 of the fasteners carried by the door will pass through the openings 27 in the abutments 26, the direction of movement of the section 6 of the door near the end of the closing movement thereof being downward which results in the passage of the toothed lower ends of the holding members through the openings 27 aforesaid, and in between the yielding inner ends of the resilient catch members 24, 25. When the door has reached its fully closed position with its front and rear edges in engagement with the rabbets or flanges commonly present upon the radiator and at the forward end of the body portion of the vehicle, and with its lower free edge in engagement with the stop or jamb 10, the said holding members are depressed by pressure applied to the handles 19 to subject the springs 15 to compression, during which the lower toothed ends of the holding members slide between the inner ends of the catch members 24, 25. If the angular positions of the holding members 14 is as shown in Figures 2 and 4 the teeth 21, 22 thereof will slip past the catch members 24, 25 during the compression of the springs 15, and if the angular position of said holding members is otherwise they are rotated during or at the end of such downward movement in such a manner as to bring the series of teeth 21, 22 into a position to be caught between said catch members; thereby in either case preventing return movement of the holding member due

to the action of the spring 15 upon the release of the operating handles of the said member and leaving the parts in a condition such that upward movement of the holding members is prevented by engagement of the catch members with the teeth. The entire door structure will thus be yieldably held against the radiator and body stops and against the said stop 10 and in its closed condition, and preventing the rattling or slamming, due to vibration of the vehicle body, by the springs 15 of the holding devices.

When it becomes necessary to release the hood door fastening members and open the doors the operating handles 19 are grasped and rotary motion imparted to the holding member 14 to an extent sufficient to bring the smooth portions or surfaces 23 at the lower end thereof into a position between the free ends of the catch members 24, 25, whereupon the door as a whole may be moved upward to disengage the lower ends of the holding member from the said spring catch members; the said holding members being free to move upward and out from between the free ends of the said catch member because of the fact that said catch members slide freely upon the smooth portions 23 of said holding members during the opening movement of the door, and are out of the path of and cannot engage the teeth 21, 22 during such opening movement.

Having thus described and explained my invention, I claim and desire to secure by Letters Patent:

1. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket carried by said door and having an inclined tubular barrel the upper end of which lies outside the hood and the lower end of which extends through an opening in said door and terminates inside the hood; a rotatable and reciprocating holding member located within said barrel and having a shoulder adjacent its upper end, and a series of oppositely located teeth or lugs at its lower end; a spring within said barrel and acting between an inwardly extending ledge at the lower end thereof and the shoulder aforesaid; a stationary abutment adjacent the lower end of the said door and having an opening through which the lower end of said holding member extends when the door is closed; and two catch members carried by said abutment and between which the inner end of said holding member lies when the door is in its closed condition and the free ends of which catch members engage the teeth or lugs aforesaid of said holding member.

2. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket secured to said door and having a tubular barrel; a holding member rotatable within said barrel and having a shoulder adjacent its upper end, and which holding member is capable of movement longitudinally of said barrel; a series of oppositely located lugs or teeth upon the lower end of said holding member and below the lower end of said barrel; a spring within said barrel and acting between an inwardly extending ledge at the lower end thereof and the shoulder aforesaid; a stationary abutment adjacent the lower end of said door and having an opening through which the lower end of said holding member extends when the door is closed; and two yieldable catch members carried by said abutment and between the inner ends of which the lower toothed portion of said holding member lies when the door is in its closed condition.

3. In a hood fastening device for motor vehicles, a supporting bracket having an inclined tubular barrel the upper end of which lies outside the hood and the lower end of which extends through an opening provided in a door to be held closed and terminates inside the hood; a holding member located within the barrel aforesaid and capable of both rotary and longitudinal movement therein; a spring carried by said bracket and acting upon said holding member to oppose longitudinal movement thereof; a series of teeth or lugs formed upon the lower end of said holding member and below the lower end of the barrel aforesaid; an abutment located adjacent the lower end of said holding member; and a catch member carried by said abutment and with which the teeth upon said holding member may be made to engage by imparting angular movement to said holding member to thereby hold the door closed.

4. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket carried by said door; a rotary and longitudinally movable holding member carried by said bracket, the upper end of said member being provided with an operating handle and the lower end thereof with a series of lugs or teeth; a spring surrounding said holding member and acting to oppose longitudinal movement thereof; a yieldable catch member with which the lugs or teeth upon the lower end of said holding member may be made to engage by imparting angular movement to said holding member when the door is to be held in a closed condition; and an abutment whereby said catch member is supported.

5. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket carried by said door; a rotary and longitudinally movable holding member carried by said bracket; a handle secured to the upper end of said

holding member; a series of lugs or teeth provided upon the lower end of said holding member and extending longitudinally thereof; a spring acting upon said holding member to oppose longitudinal movement thereof; a stationary abutment adjacent the lower toothed end of said holding member when the door is closed; and a catch member carried by said abutment and with which the teeth upon said holding member may be made to engage when the door is closed to thereby hold the door in a closed condition.

6. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket carried by said door and which bracket has a tubular barrel; a rotary and longitudinally movable holding member within said barrel; a sleeve carried by said holding member and fitting about the upper end of said barrel; an operating handle upon the upper end of said holding member; a series of oppositely located lugs or teeth upon the lower end of said holding member; a spring carried by said bracket and acting upon said holding member to oppose longitudinal movement thereof; a stationary abutment adjacent the toothed end of said holding member when the door is closed; and catch members carried by said abutment and with which the teeth upon said holding member may be made to engage by imparting angular movement to said holding member.

7. In a hood fastening device for motor vehicles, a supporting bracket having a tubular portion; a rotatable and longitudinally movable holding member carried by said bracket; a sleeve carried by said holding member and fitting about said tubular portion; a spring acting upon said holding member to oppose longitudinal movement thereof; a handle upon one end of said holding member for operating the same; a stationary abutment located adjacent the other end of said holding member; and co-operating fastening members carried one by said holding member and the other by said abutment, and which members may be made to engage with and disengage from one another as angular movement is imparted to said holding member.

8. In a hood fastening device for motor vehicles, a supporting bracket having an inclined tubular barrel; a rotatable holding member carried by said bracket; a sleeve carried by said holding member and enclosing one end of said barrel; a handle carried by said holding member and through which angular movement may be imparted thereto; a lug carried by said holding member and located at the end thereof opposite said handle; a stationary abutment adjacent the last mentioned end of said holding member when the door is closed; and a catch member carried by said abutment and with which the lug upon said holding member may be made to engage as angular movement is imparted to said holding member.

9. In a hood fastening device for motor vehicles and in combination with a hood door, a supporting bracket carried by said door; a holding member carried by said bracket, and which member is capable of both rotary and longitudinal movement relative to said bracket; a spring acting to oppose longitudinal movement of said holding member; an operating handle through which angular and longitudinal movement may be imparted to said holding member; a stationary abutment; and co-operating fastening members carried one by said holding member and the other by said abutment, and which fastening members may be made to engage with one another by imparting angular movement to said holding member, the arrangement of said fastening members being such that said holding member may be held in a plurality of distinct positions.

10. In a hood fastening device for motor vehicles and in combination with a hood door, an inclined holding member capable of both longitudinal and rotary movement; means for supporting said holding member from said door; an operating handle carried by said holding member and located at the upper end thereof; and fastening means whereby the lower end of said holding member is held in a fixed position.

11. In a hood fastening device for motor vehicles and in combination with a hood door, a rotary and longitudinally movable holding member carried by said door; a resilient abutment with which the lower end of said holding member may be made to engage; and an operating handle at the upper end of said holding member.

12. In a hood fastening device for motor vehicles and in combination with a hood door, a rotary and longitudinally movable holding member inclined relative to said door and so arranged that its upper end is upon the outer and its lower end upon the inner side of said door; an operating handle carried by the upper end of said holding member; and a resilient abutment with which the lower end of said holding member may be made to engage.

13. In a hood fastening device for motor vehicles, and in combination with a hood door, a tubular supporting member carried by said door; a holding member operable in said supporting member; a sleeve secured to the upper end of said holding member and surrounding the upper end of said tubular member; an operating handle at the upper end of said holding member; and a fixed abutment with which the lower end of said holding member may be made to engage.

14. In a hood fastening device for motor

vehicles, and in combination with a hood door; a rotary and longitudinally movable holding member carried by said door; an operating handle at the upper end of said holding member; a resilient abutment with which the lower end of said holding member may be made to engage and past which the same may be moved longitudinally; and a holding lug carried by said holding member at the lower end thereof and which holding lug may be made to engage with said resilient abutment as rotary movement is imparted to said holding member.

15. In a hood fastening device for motor vehicles, and in combination with a hood door, a holding member carried by said door; a fixed resilient abutment with which the lower end of said holding member may be made to engage; and an operating handle located at the upper end of said holding member.

16. In a hood fastening device for motor vehicles and in combination with a hood door, a rotary and longitudinally movable holding member the upper end of which is provided with an operating handle and the lower end of which is provided with a series of spaced lugs; and a resilient holding abutment adapted to permit movement of said holding member in a downward direction but to restrain movement thereof in an upward direction.

17. In a hood fastening device for motor vehicles, and in combination with a hood door, a holding member having an operating handle at its upper end, and which member is movable in the direction of its axis; resilient holding means adapted to engage the lower end of said holding member and past which said member may move freely in a downward direction; and means for releasing said holding means, to thereby permit said holding member to be disengaged therefrom.

18. In a hood fastening device for motor vehicles, and in combination with a hood door, a supporting bracket having an inclined tubular portion the upper end of which is arranged without and the lower end of which is arranged within said door; a holding member operable in said tubular portion; and a fixed abutment with which the lower and inner end of said holding member may be made to engage to thereby hold the door in its closed position.

19. In a hood fastening device for motor vehicles, and in combination with a hood door, a fastening member supported from said door and arranged inclined relative thereto, so that the upper end of said member is upon the outside and the lower end upon the inside of said door; an operating handle carried by said holding member; means whereby the lower and inner end of said holding member may be held in a fixed position to thereby hold the door closed; and a spring associated with said elements and adapted to prevent movement of the door.

20. In a hood fastening device for motor vehicles, and in combination with a hood door, a tubular supporting member carried by said door and inclined relative thereto; a holding member operable within said tubular member and the upper end of which lies upon the outer and the lower end upon the inner side of said door; a fixed abutment with which the lower end of said holding member may be made to engage; a spring located within said tubular member and acting upon said holding member to yieldably hold the door closed; and an operating handle located at the upper end of said holding member.

21. In a hood fastening device for motor vehicles, a holding member capable of longitudinal and rotary movement; means for supporting said holding member from said door; a series of lugs carried by said holding member and located at the lower end thereof; an abutment with which various of said lugs may be made to engage to thereby hold said holding member in a plurality of separate and distinct positions; and an operating member carried by said holding member and located at the upper end thereof.

22. In a hood fastening device for motor vehicles, and in combination with a hood door, a rotary and longitudinally movable holding member; means whereby said member is supported from said door; an operating member carried by the upper end of said holding member; a resilient abutment past which the lower end of said holding member may be moved; and a plurality of lugs located at the lower end of said holding member and which lugs may be made to engage with, and disengage from said abutment, upon rotary motion being imparted to said holding member.

23. In a hood fastening device for motor vehicles, and in combination with a hood door, a fastening member carried by the door and positioned with its axis extending upwardly and outwardly relative to the plane of the door, and means within the hood cooperating with the lower portion of the fastening member to secure the door in its closed position, the said means acting on the door of the hood through the said fastening member in the direction of the axis of the same.

24. In a hood latch, a guiding member, and a keeper-engaging member adapted to move longitudinally of the guiding member, said keeper-engaging member being closed at its upper end and adapted to telescope over one end of the guiding member whereby to close effectively that end of the same.

25. In a hood latch, a tubular guiding member, and a keeper-engaging member adapted to move longitudinally of the guiding member, said keeper-engaging member being closed at its upper end and adapted to telescope over one end of the guiding member whereby to close effectively that end of the same.

26. In a device of the character described, a casing formed to extend at an angle through an opening in an automobile hood with its upper end arranged close to the outer side face of the hood and its lower end arranged close to the inner side face of the hood, a latching member movably carried by the casing, a keeper enclosed by the hood engageable with the latching member, and a web secured to the casing at an angle thereto and surrounding the same and secured to a side face of the hood, said web extending over and completely closing the said opening of the hood through which the casing projects.

27. In a device of the character described, a casing formed to extend at an angle through an opening in an automobile hood with its upper end arranged close to the outer side face of the hood and its lower end arranged close to the inner side face of the hood, a spring tensioned slidable and depressible latching member carried by the casing, a keeper rising from the hood sill and enclosed by the hood and engageable with the latching member, and a web secured to the casing at an angle thereto and surrounding the same and secured to a side face of the hood, said web extending over and completely closing the said opening of the hood through which the casing projects.

In testimony whereof I affix my signature.

JOHN B. COVI.