June 24, 1924. 1,498,926

C. L. NEAL

CLUTCH PEDAL LATCH

Filed Oct. 15, 1923 2 Sheets-Sheet 1

Fig. 1.

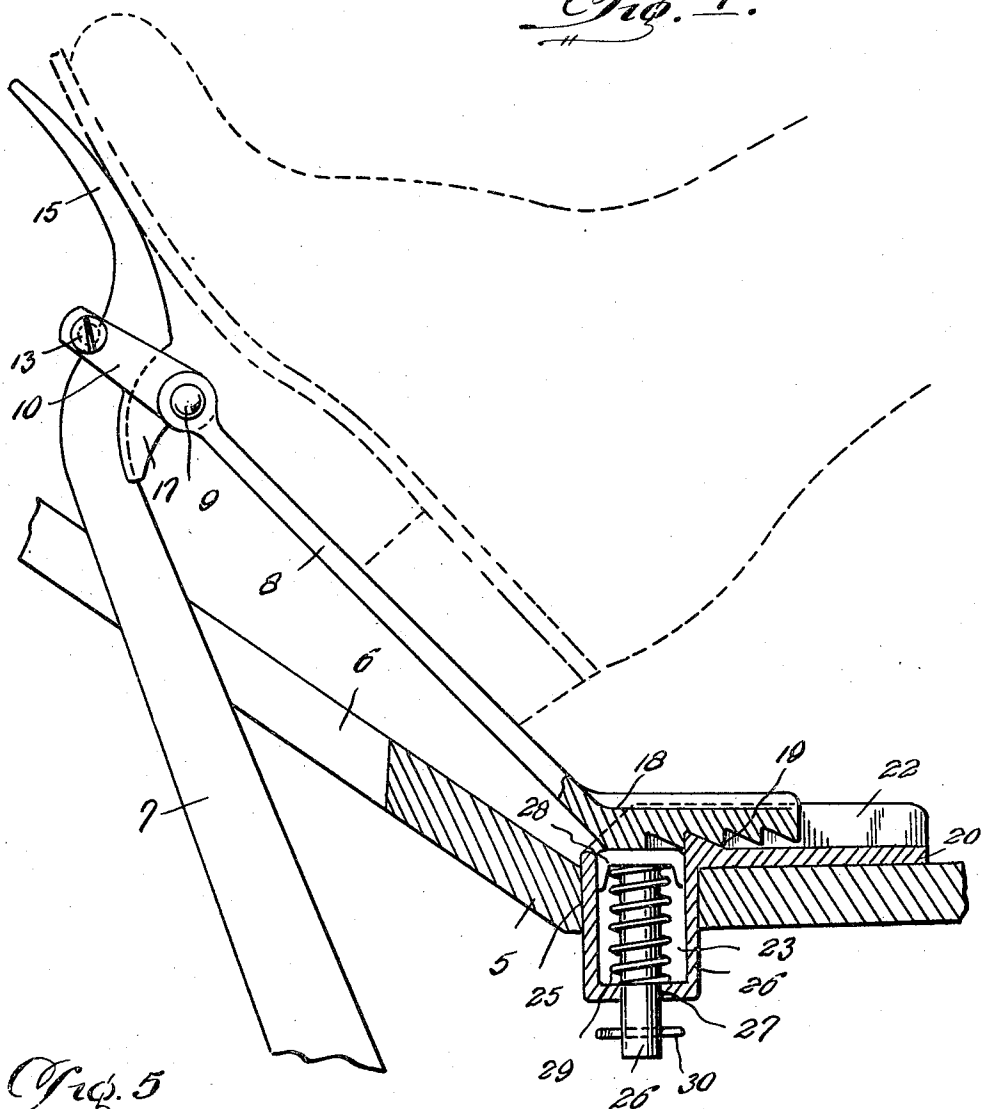
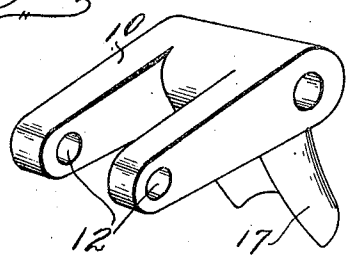


Fig. 5



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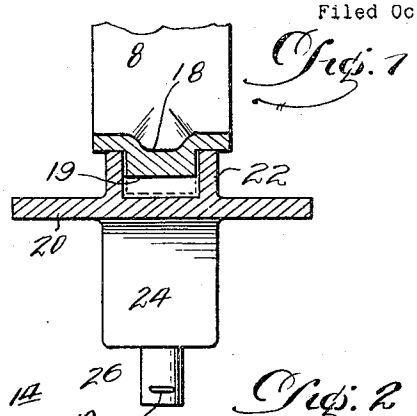


Fig. 1

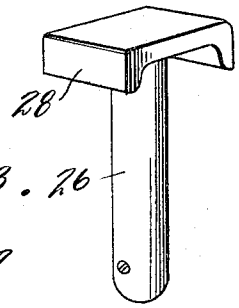


Fig. 8.

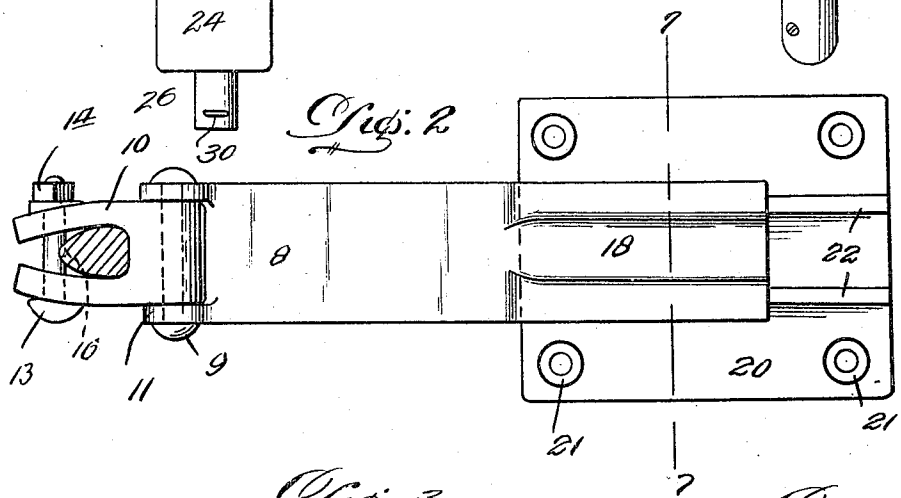


Fig. 2

Fig. 3.

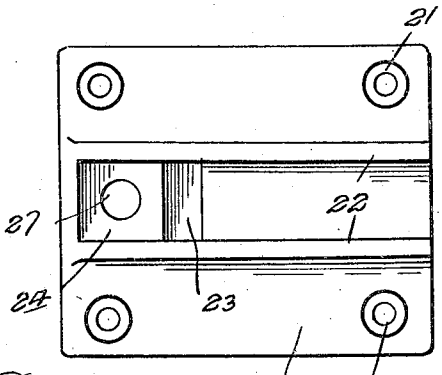


Fig. 4.

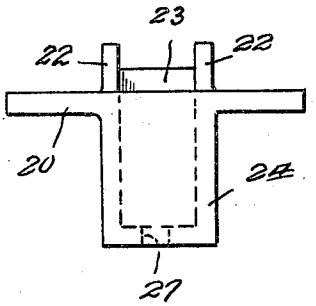
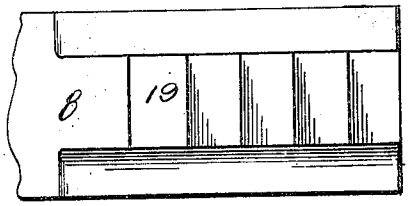


Fig. 6



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UNITED STATES PATENT OFFICE.

CHARLES L. NEAL, OF LEWISBURG, WEST VIRGINIA.

CLUTCH-PEDAL LATCH.

Application filed October 15, 1923. Serial No. 668,633.

To all whom it may concern:

Be it known that I, CHARLES L. NEAL, a citizen of the United States, residing at Lewisburg, in the county of Greenbrier and State of West Virginia, have invented certain new and useful Improvements in Clutch-Pedal Latches, of which the following is a specification.

This invention relates to clutch pedal latches, and has particular reference to the provision of means latching the clutch pedals of Ford type automobiles in low gear position, and by means of which the operator of the automobile will be relieved of the necessity for applying foot pressure upon the clutch pedal to retain the latter in such position.

The primary object of the invention is to provide a latching device of the above character which embraces the desired qualities of simplicity, durability, and efficiency in operation.

Another object is to provide such a pedal latching device which will not interfere with the ready removal of the foot boards of the vehicle when access is desired to parts therebeneath.

A further object of the invention is to provide a latch of the above kind embodying a foot operated latch lever having simple and effective means for attaching the same to the clutch pedal.

Still another object of the invention is to provide means for automatically holding the latch lever in raised released position, and means to insure retention of the latch lever in locking position against said raising means, when the clutch lever is released in its latched low gear position, the retaining means being of such nature as to permit automatic release of the latch lever under the influence of the raising means upon slight forward depression of the clutch pedal from its low gear position.

With the above general objects in view, and others that will become apparent as the nature of the invention is better understood, the same consists in the novel form, combination, and arrangement of parts hereinafter more fully described, shown in the accompanying drawings, and claimed.

In the drawings, wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is a fragmentary view, partly in side elevation and partly in longitudinal section, showing a latching device constructed in accordance with the present invention, operatively associated with the foot board and clutch pedal of an automobile.

Figure 2 is a view partly in top plan and partly in horizontal section, of the device shown in Figure 1, with the line of section extending through the clutch pedal above the latch lever attaching clamp.

Figure 3 is a top plan view of the latch plate.

Figure 4 is a front elevational view of the device shown in Figure 3.

Figure 5 is a perspective view of the latch lever attaching clamp with the bolts thereof removed.

Figure 6 is a fragmentary bottom plan view of the latch lever drawn on a larger scale.

Figure 7 is a transverse sectional view, taken substantially upon the line 7—7 of Figure 2, and

Figure 8 is an enlarged perspective view of the plunger of the latch lever raising or releasing means.

Referring more in detail to the drawings, 5 indicates the foot board of an automobile that is usually provided directly in front of the driver's seat and that generally consists of a forward inclined section, and a rear horizontal section which are adapted to be removed for permitting access to parts of the automobile arranged therebeneath. The forward inclined section of the foot board is provided with a longitudinally elongated slot 6, and the usual clutch pedal 7 extends upwardly through this slot for swinging movement therein longitudinally of the vehicle.

As is well known in the art, the clutch pedal 7 is normally swung rearwardly to a high gear position by means of a relatively strong spring, the pedal being manually moved forward to a central or neutral position, and still further forwardly to a low gear position. Obviously, when the pedal 7 is depressed or forced to its forward limit of movement in low gear position, the actuating spring thereof is under its greatest tension and considerable effort is required, on the part of the operator to maintain the pedal in this low gear position. The object of the present invention is, therefore, to provide effective means for relieving the driver or operator of the vehicle from the necessity of exerting pressure at such time

for maintaining the clutch pedal 7 in its low gear position.

In the form of the invention shown, I provide a foot operated latch lever 8 that is pivoted at its forward end as at 9 to a substantially U-shaped clamp member 10, by means of a bolt, which extends through the transverse rear central portion of the clamp 10 and through aligned ears 11 provided upon the forward end of the lever 8 whereby the latter is mounted for vertical swinging movement, and positioned to extend longitudinally of the vehicle rearwardly from the clutch pedal 7 as shown clearly in Figure 1. The clamp member 10 has aligned apertures in the forward free ends of the legs thereof, as at 12, through which extends a bolt 13 having a nut 14 threaded upon one end thereof and by means of which the legs of the clamps are caused to be flexed into close embracing relation with the shank of the clutch pedal 7 as shown clearly in Figure 2, at a point directly beneath the foot piece 15 provided upon the upper end of the pedal. A transverse latch is provided at 16 at the forward side of the pedal 7, in which the bolts 13 seat, and the central rear portion of the clamp member 10 is provided with an arcuate depending member 17 that embraces the rear side of the clutch pedal for thereby preventing tilting of the clamp members 10 relative to the clutch pedal or vertical displacement of the clamp member relative to the same. The member 17 of the clamp member 10 is disposed against the rearwardly directed upper end portion of the clutch pedal 7 as shown in Figure 1 for this purpose.

The foot lever 8 is of angular form so that the forward end portion thereof occupies an inclined position when operatively disposed with the rear end portion thereof lying substantially parallel with the horizontal rear portion of the foot board 5, and such rear portion has its central part longitudinally depressed, as at 18, with said depressed portion formed with a series of transversely extending ratchet teeth 19 upon the under side thereof.

A latch plate 20 is suitably secured upon the horizontal rear portion of the foot board 5, being provided with corner screw receiving openings 21 for this purpose, and said latch plate is provided with a pair of rigid longitudinally extending spaced parallel ribs 22 upon the upper side thereof, between which the depressed tooth portion 18 of the foot lever 8 is slidably guided for movement longitudinally of the vehicle. The latch plate 20 is provided with a transverse tooth 23 that connects the rib 22 and is formed to cooperate with the teeth 19 for preventing rearward movement of the foot lever 8 and the clutch pedal 7 to which the latter is attached when these teeth are interengaged, altho permitting free forward movement of the pedal 7 and lever 8. The longitudinal or side portion of the lever 8 at opposite sides of the depressed portion 18 are arranged to overlie the upper edges of the rim 22 so that the space between said ribs is somewhat effectively covered for greatly acting to exclude entrance of dust between the rim.

The latch plate 20 is provided with a central depending socket member 24 at the forward end thereof and at the rear side of which the ratchet tooth 23 is located, said socket member 24 being adapted to extend downwardly through a suitable opening provided in the switch board as at 25. A plunger is carried by the socket member 24 and includes a stem 26 that is arranged centrally of said socket member and slidably projects through a central opening 27 that is provided in the bottom wall thereof, the head 28 being provided upon the upper end of the stem 26 and slidably fitted in the socket of the member 24, whereby the plunger is effectively guided in its vertical movement. The plunger is thus located beneath the horizontal rear end portion of the foot lever 8 with the head 28 disposed to engage the under side thereof in front of the tooth 23, and this plunger is normally pressed upwardly by means of a compression spring 29 that is arranged within the socket of the member 24 and encircles the stem 26 between the bottom of said socket and the head 28 of the plunger. The construction thus described, provides means, therefore, for normally raising the foot lever 8 so as to disengage the same from the tooth 23 of the latch 20, whereby movement of the clutch pedal 7 in either direction is freely permitted under ordinary conditions. A cotter pin 30 may be extended through the lower end of the pin 26 beneath the bottom wall of the socket lever 24 for limiting the upward movement of the plunger, altho any other suitable means may be provided for this purpose.

In operation, the clutch pedal 7 is pressed forwardly to low gear position with the heel of the operator out of contact with the lever 8 so as to not apply pressure thereon. As soon as the clutch pedal reaches the low gear position, the operator forces downwardly upon the lever 8 by pressure of the heel thereon so as to depress the spring pressed plunger carried by the socket lever 24 and to bring the adjacent one of the teeth 19 into engagement with the tooth 23 of the latch plate. While still maintaining a slight pressure upon the foot lever 8, the pressure is relieved from the clutch pedal 7 and the spring of the latter forces the lever 8 rearwardly with sufficient strength as to cause a

binding action between the adjacent faces of the inter engaging teeth 19 and 23 so as to offset the action of the spring 29 and thereby latch said clutch pedal in its low gear position. The operator is thus relieved of the necessity of applying and maintaining pressure upon the pedal 7 for any extended period during which it is desired to maintain said pedal in low gear position. However, upon slight forward pressure upon the clutch pedal 7 without applying pressure upon the lever 8, the friction between the interengaging teeth of the latch plate and foot lever will be destroyed, so as to permit the spring 29 to force the plunger upwardly and thereby cause upward swinging movement of the foot lever 8 for disengaging in teeth from the tooth 23. The clutch pedal 7 may then be released or relieved of pressure and is then free to move rearwardly either to neutral or high gear position.

From the foregoing description, it is believed that the construction and operation, as well as the advantages of the present invention will be readily understood and appreciated by those skilled in the art.

Minor changes may be made without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

In combination with the clutch pedal of a motor vehicle normally spring pressed to a rearward high gear position and manually depressible to a forward low gear position, a foot operated latch lever having its forward end pivoted to the upper end of the clutch pedal for vertical swinging movement, means associated with the rear end of said latch lever for automatically retaining the clutch pedal in forward low gear position when the latch lever is depressed and the clutch lever is released at its forward low gear position, and means to automatically raise the latch lever in its inoperative position upon slight forward depression of the clutch pedal from its forward low gear position whereby the clutch pedal may return to its rearward position, the means associated with the latch lever for holding the clutch pedal in its forward low gear position comprising a fixed transversely extending ratchet tooth and transverse ratchet teeth cooperating with said tooth and provided on the under side of the rear portion of the latch lever, a latch plate having a depending socket member, said first named transverse tooth being formed upon the latch plate at the rear side of the socket member, and the latch lever raising means comprising a normally raised spring pressed plunger carried by the socket member and engaging the under side of the rear portion of said latch lever.

In testimony whereof I affix my signature.

CHARLES L. NEAL.