May 18, 1926. 1,585,054

R. TAEGER

CLUTCH PEDAL LOCK

Filed March 3, 1925 2 Sheets-Sheet 1

Fig. 1.

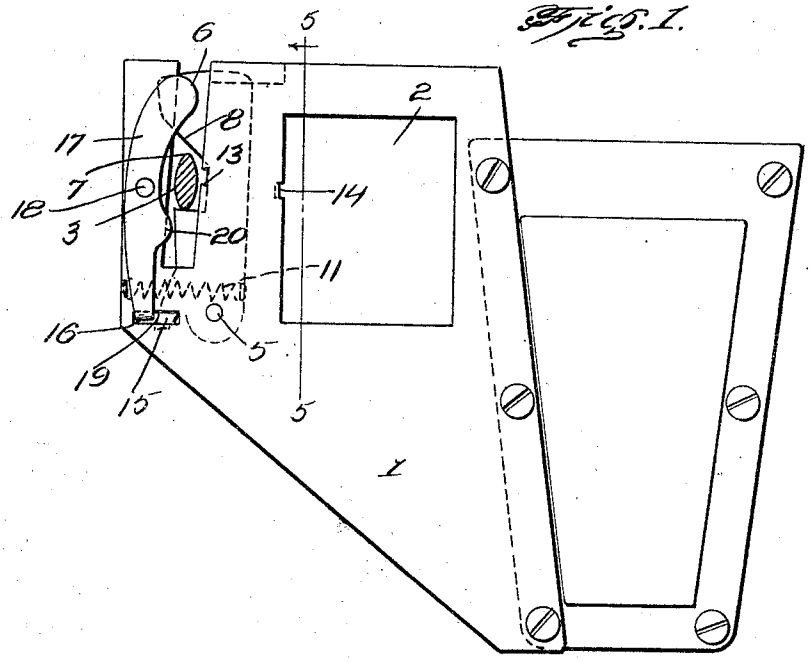


Fig. 2.

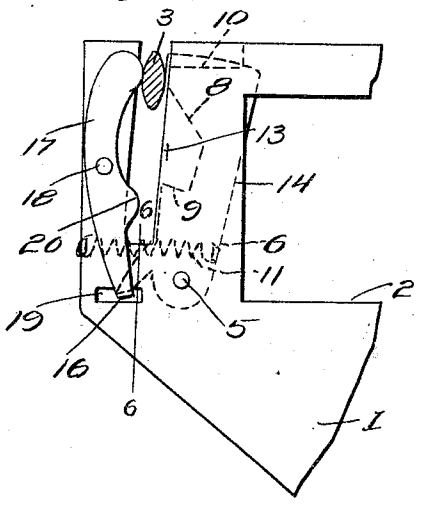
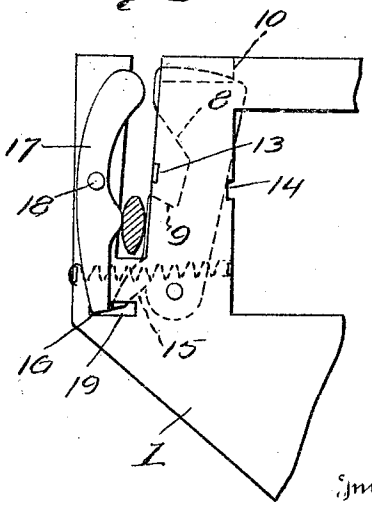


Fig. 3.



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Fig. 4.

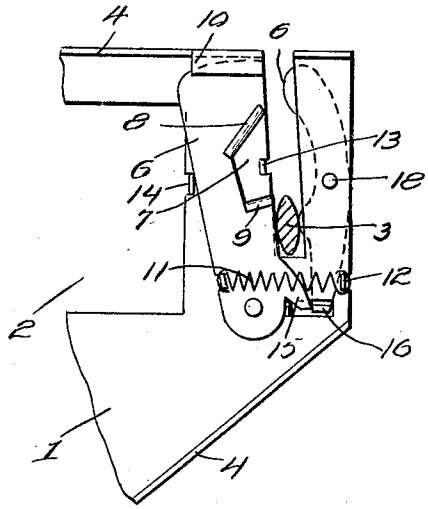


Fig. 5.

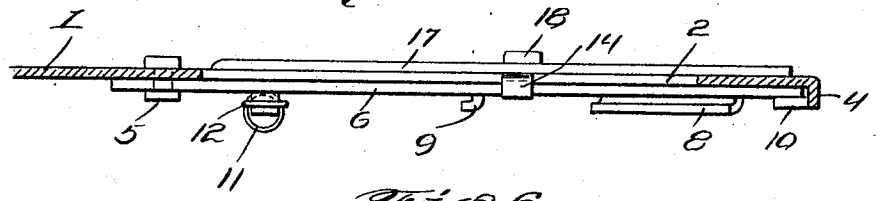


Fig. 6.

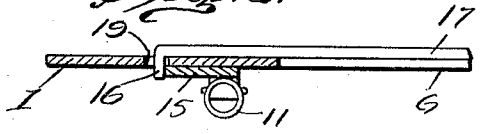
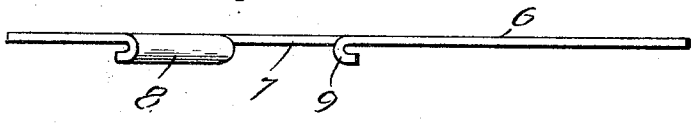


Fig. 7.



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UNITED STATES PATENT OFFICE.

REINHOLD TAEGER, OF TOPEKA, KANSAS.

CLUTCH-PEDAL LOCK.

Application filed March 3, 1925. Serial No. 12,901.

This invention relates to an improved device which may be broadly defined as a clutch pedal lock, the same having reference more particularly to an improved device which has been designed for holding a clutch operating pedal in a neutral position.

Briefly described, the invention comprises a mounting which is especially advantageous in that it may be connected with the fastenings utilized for maintaining a transmission cover plate in place. The mounting is provided with an opening in which the shank of a clutch pedal is movable, there being a spring projected retaining device carried by the mounting and projectable into the opening to present a shoulder for the shank of the pedal while being held in neutral position.

The returning device is moved to retracted position by forward movement of the pedal, at which time a lock is brought into play to maintain said device in retracted position while the pedal is in high.

The various advantages and features derived from the structure briefly outlined are to be more specifically described and will become apparent from the following description and drawing.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same:—

Figure 1 is a top plan view of a clutch pedal locking device constructed in accordance with the present invention showing the pedal held in neutral position.

Fig. 2 is a fragmentary view showing the position of the parts of the locking device when the pedal is moved toward low position.

Fig. 3 is a view like Fig. 2, showing the relative position of parts when the pedal is in high.

Fig. 4 is a bottom plan view of Fig. 3.

Fig. 5 is a detail section taken approximately on the plane of the line 5—5 of Fig. 1, looking in the direction of the arrow.

Fig. 6 is an enlarged detail section taken approximately on the line 6—6 of Fig. 2.

Fig. 7 is an edge elevation of one of the details.

Referring to the drawings in detail, it will be seen that the reference character 1 designates generally what has been referred to as a mounting. This detail is preferably in the form of a plate of the approximate configuration shown in Fig. 1. The plate is provided with a relatively large opening 2 for reducing weight and for permitting access to be had to the under side for moving the parts to their proper positions in the event that they accidentally become stuck. When the plate is in position, the opening serves to accommodate reverse and brake pedals, (not shown).

As stated, this plate is provided with an opening to accommodate the shank 3 of a clutch pedal, the opening being preferably in the form of an elongated slot opening through the forward edge of the plate. As may be more plainly seen in Figs. 4 and 5, the marginal edges of the plate are downturned to provide reinforcing flanges 4. Pivotally mounted at 5 on the upper side of the plate between the opening 2 and the slot, is an arm 6 which may be broadly termed a retractable retainer. This is the element which cooperates directly with the pedal shank for maintaining it in neutral position. Directing attention to Fig. 4, it will be observed that a notch 7 is formed in one edge of the arm and portions of the metal struck from the notch are turned under to provide rolled flanges 8 and 9 respectively. Also as shown in this figure, the flange 4 on the plate is equipped with a right angular extension 10 which constitutes a keeper in which the free ends of the arm 6 operates. This aids in maintaining the arm in the proper plane.

An ear is turned down at one edge of the arm and a coiled spring 11 is attached to this ear, being fastened at its opposite end to a relatively stationary ear 12 struck down from the plate. It may be stated here that the notch 7 constitutes a seat in which the pedal shank is confined when in neutral position, the flange 9 constituting a shoulder or stop against which the pedal abuts at this time.

The forward inclined flange 8 constitutes a cam against which the pedal may be pushed when moved to its normal position for moving the arm upon its pivot against the tension of the spring 11. Stops 13 and 14 are struck down from the plate, the first named stop limiting the movement of the arm 6 in a direction from right to left and the stop 14 serving to limit the movement in the opposite direction. It should be observed that adjacent the pivot, this arm is provided with an extension 15, the free end of

which is adapted to engage the laterally directed end 16 of a latch 17. This latch is pivoted between its ends on the top of the plate as indicated at 18 and the laterally directed end 16 works in a short slot 19. The forward end of the latch is rounded as shown and between the pivot and the downturned end 16 the latch is formed on an inner end with a projection 20 forming a cam for releasing the latch.

With this arrangement it will be seen that the spring projected arm 6 is on one side of the pedal slot while the latch 17 is in somewhat opposed relation on the opposite side of the slot. The operation of the device is as follows:—

Under normal conditions the clutch pedal of the type shown, which is upon Ford automobiles, is in the rearmost position or inner end of the slot in the plate as shown in Fig. 3, the same being held in this position by the spring provided customarily. In Fig. 3 the plate 6 is shown in its dotted line retracted position. The laterally directed end 16 of the latch is disengaged from the extension 15 and the latch is at this time ineffective. The operator, on placing his foot upon the pedal and pushing it forwardly will permit the arm 6, under the action of the spring 11 to move to a projected position into slot such as shown in Fig. 1. The arm cannot move inwardly until the shank of the pedal has passed beyond the stop shoulder 9. As soon as it passes this shoulder, however, the spring draws the arm across the slot and the shoulder 9 is disposed beyond the shank to automatically maintain the pedal in neutral position, at which time the operator may take his foot off of the pedal.

If it is desired to permit the pedal to drop back into high, it is necessary to force the same forwardly to a slight degree to act on the cam 8 to spread the arm and lock the cam as shown approximately in Fig. 2. The proportion of parts is such that a very slight movement beyond the ordinary neutral position causes this spreading action. In so spreading these parts, the free end of the extension 15 engages the downturned end 16 of the latch. Hence, the arm is held in released position and entirely out of the path of the shank and pedal. Now the pedal may be released to return under the action of the usual spring. Owing, however, to the fact that the cam 20 is in the path of movement of the shank, the latter will conduct the cam, thus releasing the latch and permitting the arm to be free to again operate to automatically hold the pedal in neutral.

It is to be observed that the cam 20 is disposed rearwardly of the shoulder 9 so that at this time the pedal really maintains the arm partially retracted and ready for immediate operation. As pointed out in the description of the figures, Fig. 1 shows the position of parts when the pedal is being held in neutral position, Fig. 2 shows the pedal pushed forwardly for spreading the latch, and Figs. 3 and 4 show the pedal in its rearmost or high position.

In connection with Fig. 2 the shank has not yet assumed its foremost position, it being possible to push it still further or before it is completely in low. The following advantages are derived from a structure of this kind:—

It serves to effectively hold the clutch in neutral position without the aid of the driver's foot or the emergency brake lever. This is especially convenient when the driver desires to reverse the direction of movement of the machine. The slight push fitted in this position and it is automatically locked there, leaving the feet for operating the reverse and brake pedals. When coasting, slight pressure on the clutch nut is in neutral, relieving the driver of constant pressure upon the pedal. Then, a slight forward push releases the clutch lock and allows the clutch to drop back into high again. For a new driver, it is very convenient in use for it enables the driver to know just when the pedal is in neutral and prevents him from forcing it too far forward to permit dragging of the transmission bands. It also aids one in operating the clutch and brake together in that as soon as the clutch assumes its neutral position the operator is notified, so that the brake can be applied only when the clutch pedal is in proper position.

The proportions are such that if the operator chooses, he need not move the pedal sufficiently far forward to permit it to lock. In other words, he can move the clutch to neutral position and hold it with his foot without moving it sufficiently far to permit the latch to come into play. The fact that the mounting plate is constructed as shown, enables the device to be installed by an unskilled hand in that it is supported beneath the floor board and held in place by the same bolt which serves to maintain the transmission cover plate in place.

These and other advantages and features of the invention have doubtless been made apparent from the foregoing description and drawing. Therefore, a more lengthy description is thought unnecessary.

Although the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of the invention claimed, may be resorted to if desired.

Having thus described my invention, what I claim as new is:—

1. In combination, a plate having a slot therein, a speed controlled lever movable through said slot, a retainer pivoted at one of its ends to the plate to one side of the

slot, the edge of said retainer adjacent the slot being provided with a notch having its edge farthest from the pivot in the form of a cam, a spring associated with said retainer normally holding it over the slot so that the notch engages the lever, a latch pivoted intermediate its ends to the plate to the other side of the slot and having portions projectable over the slot to be engaged by the lever, a projection extending from the end of the latch adjacent the pivoted end of the retainer and adapted to engage an edge of said retainer to hold it in an inactive position.

2. In combination, a plate provided with a slot, a retainer pivoted to one face of the plate, to one side of the slot and adjacent one end of the slot, said retainer provided with a notch, a latch pivoted intermediate its ends to the other face of the plate and to the other side of the slot adjacent the intermediate portion of the slot and provided with portions normally projected over the slot and the ends thereof, said plate provided with a second slot rectangularly disposed to the first slot and adjacent one end thereof, a shoulder formed on the retainer adjacent said second slot, a lug formed on the latch and projecting through the second slot for engaging the shoulder of the retainer to hold said retainer in an inactive position, a speed controlling lever movable through the first slot, and a spring engaged with the retainer for normally holding its notched edge in engagement with the lever.

In testimony whereof I affix my signature.

REINHOLD TAEGER.