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W. BARCLAY

2,101,210

COMBINATION LATCH

Original Filed Feb. 27, 1934

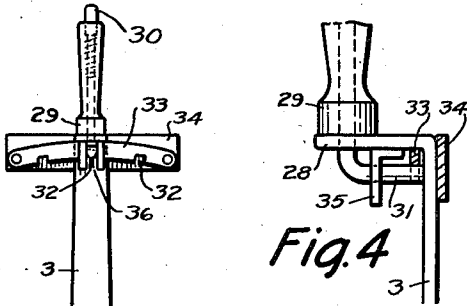


Fig. 1

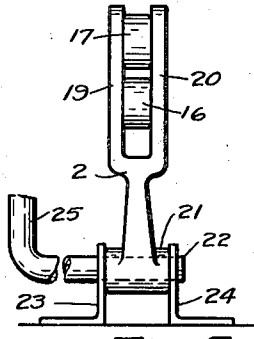
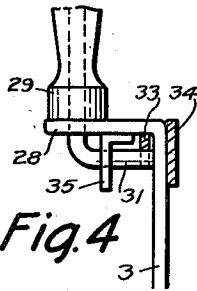


Fig. 5

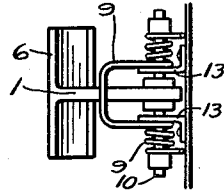


Fig. 6

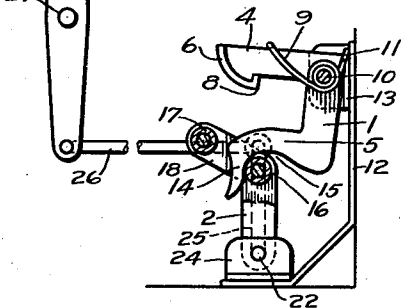


Fig. 2

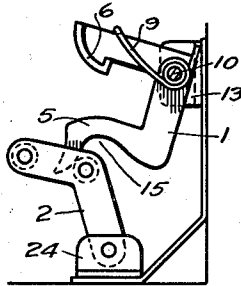


Fig. 3

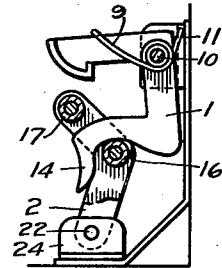


Fig. 7

Fig. 8

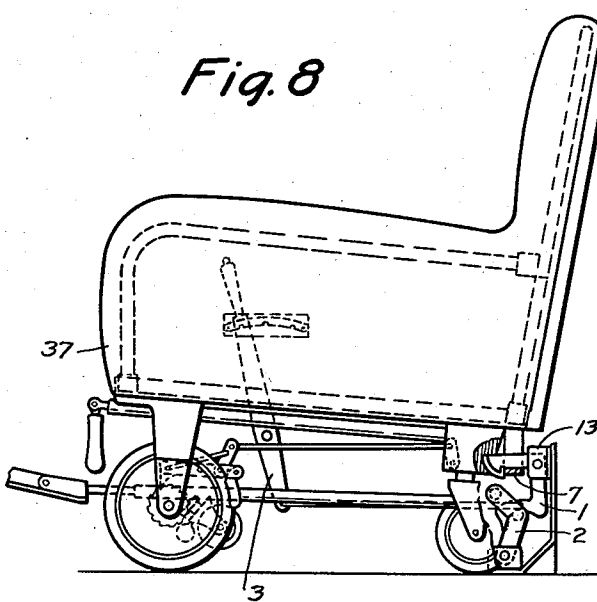


Fig. 9

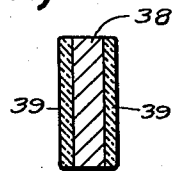


Fig. 9

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# UNITED STATES PATENT OFFICE

2,101,210

## COMBINATION LATCH

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Refiled for abandoned application Serial No. 713,104, filed February 27, 1934. This application filed October 23, 1936, Serial No. 107,630

11 Claims. (Cl. 296—65)

The purpose of this invention is to provide a latch for automatically locking a roll chair in an automobile which may also be operated by hand.

The invention is a latch having a hand lever by which it may be opened and closed which is also adapted to be positioned in a neutral position so that it will automatically lock an object inserted therein. This invention is particularly adapted to be used in combination with my Re-issue Patent Number 19,078 and also my Patent Number 1,940,523 and is adapted to lock the chair shown in the latter patent in the automobile body; and is a continuation of an application filed February 27, 1934 with the Serial Number 713,104, abandoned on failure of an amendment thereto to reach the Patent Office.

The object of the invention is to provide a latch that may be set to a certain position so that, as an object is rolled toward the latch the latch will snap and automatically lock the object therein.

Another object is to provide an automatic latch which may also be operated by hand.

A further object is to provide an automatic latch which rigidly grips and holds an object preventing motion or play when in the locking position to prevent rattle.

And a still further object is to provide a combination automatic and hand operated latch which is of a simple and economical construction.

With these ends in view the invention embodies a latch member pivotally mounted in a frame with a device holding one end of said latch member and adapted to move said member from the open or closed position or hold it in the neutral position, and a handle with suitable operating levers for operating said latch holding device.

Figure 1 is a detail showing the latch in the neutral position.

Figure 2 is a similar view with the operating lever omitted, showing the latch in the open position.

Figure 3 is a similar view showing the latch in the closed position.

Figure 4 is a detail showing the lever holding means at the end of the handle.

Figure 5 is a detail showing a yoke by which the latch is held.

Figure 6 is a plan view showing the latch.

Figure 7 is a detail showing a cross section through the latch, showing the sides of the latch covered with a fibrous material for deadening sound.

Figure 8 is a view showing the combination of the latch with the chair adapted to be held thereby.

Figure 9 is a detail showing the latch holding member at the rear of the chair.

In the drawing the device is shown as it may be made wherein numeral 1 indicates the latch, numeral 2 a yoke by which the latch is moved,

and numeral 3 a hand lever for operating the latch.

The latch 1 may be made as shown with a vertical section forming the back thereof and with an upper horizontal section 4 and a lower extending section 5. The outer end of the upper section 4 is provided with a substantially wide curved shoe 6 which may be engaged by a bar 7 at the rear of a chair or other object and as the bar 7 engages the surface of the shoe 6 it will raise the open end of the latch and permit the bar to pass under the end 8 of the shoe, and as it passes under the end of the shoe the latch will snap downward by the action of a spring 9 mounted upon a pin 10, upon which the latch is also pivotally mounted, and this spring will hold the latch in a locking position. The inner end 11 of the spring engages the surface of a stationary bracket 12, upon which the pin 10 is pivotally mounted by clips 13. The spring will, therefore, hold the open end of the latch downward, however, it will permit the end of the latch to raise so that the bar 7 may pass under the end 8 of the shoe. The latch is shown and described as mounted upon a bracket 12 through clips 13, however, it will be understood that the latch may be pivotally mounted, or attached to a wall or surface, as the back of a motor vehicle, or to any object or device.

The lower end 5 of the latch is curved, as shown, and provided with a prong 14 with a recess 15 under the prong and the yoke 2 is provided with a roller 16 which is located in the recess 15, and another roller 17 in an angularly positioned portion 18, which holds the outer surface of the latch and prevents the latch being raised to release the bar 7, or other object, when the handle 3 is in the locking position. The rollers 16 and 17 are pivotally mounted between sides 19 and 20 of the yoke 2, and the lower end of the yoke is provided with a hub 21, which is pivotally mounted upon a pin 22 between clips 23 and 24. These clips may also be mounted upon the bracket 12, or upon the floor of the motor vehicle, or held in any manner, or by any means. The pin 22 extends outward and is bent upward forming a lever 25, which is shown in dotted lines in Figure 1, and this may be attached by a bar 26 to the hand lever 3, which is pivotally mounted on a pin 27. The upper end 28 of the lever 3 is bent outward, as shown in Figure 4, and a handle 29 is mounted thereon. The handle 29 is provided with a spring pin 30, which extends beyond the upper end, and this pin may be pressed inward to release the lower end 31 thereof from notches 32 in a bar 33, and the bar 33 is mounted upon a plate 34. A guide clip 35, having a slot 36 therein, may be provided on the lower side of the handle 29 to hold the latch pin in the correct position. It will be understood, however, that an operating lever of any

other type or description may be used and any other means may be used for releasing or holding the upper end thereof. It will be noted that the pin 30 may be pressed inward so that the lower end thereof may be released from the notches 32 and the lever may be moved in either direction, and as soon as the lower end of the pin engages one of the slots it will snap into the slot and thereby locate and hold the handle.

This handle is preferably positioned on the inside of a motor vehicle and beside the space that may be occupied by the seat and the latch is preferably positioned at the back of the vehicle and located to engage the bar 7 as a chair 37 is rolled backward into the space. It will be understood, however, that this is only one application of the device, as it may also be used for many other purposes.

The latch 1 may be made of any material and may be pivotally mounted in any manner. Figure 7 shows a typical cross section through the latch in which the latch is formed with a central bar 38 and the sides of this are covered with sound insulating plates 39 which may be made of fibre or of any material adapted to prevent a metal to metal contact, in order to deaden sound and thereby prevent rattle.

It will be understood that other changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the use of a spring of a different type for holding the latch, another may be in the use of other means for engaging and moving the latch, and still another may be in the use of other means for moving the latch operating means or in the locating of said operating means at any other point.

The construction will be readily understood from the foregoing description. In use the latch may be provided as shown and described and when used for holding and locking a roller chair in a motor vehicle it may be positioned at the rear of a space provided for the chair and if it is desired to roll the chair into the latch the handle is set in the vertical or neutral position, as shown in Figure 1 so that, as the chair is rolled backward the bar 7 will engage the shoe and be held thereby as it passes into the latch, however, if it is desired to have the latch in the open position the handle is moved backward so that the latch is in the position shown in Figure 2 and when the chair is in place with the bar 7 therein the handle may be moved forward to the extreme position so that the latch will be moved downward to the position shown in Figure 3 in which position it will be impossible to remove the bar or chair without moving the handle to the extreme backward position. The chair will therefore be locked with the handle in either the neutral or forward position and will only be unlocked when the handle is thrown backward. With the handle in the neutral position the latch will automatically lock the chair as the chair is moved backward into the latch.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent, is:

1. A locking device comprising a U shaped latch having a locking projection on the inside of one end thereof, means pivotally mounting said latch and means holding said latch in an open or locked position without having a posi-

tive connection thereto, and with play in said holding means, said means also adapted to hold said latch in a neutral position permitting an object to enter said latch, and said latch preventing its being moved therefrom until the latch is opened, said latch characterized in that the end thereof, opposite the end having the locking projection thereon, is freely held by mechanical means, and said mechanical means adapted to be operated from a remote point.

2. A locking latch comprising a substantially horizontally positioned U shaped member, having downwardly extending projections on the undersides of both legs of said U shaped member, means resiliently urging said latch downward, and a locking member in engagement with the lower leg of said U shaped member adapted to raise said member to the open position, and also in which said U shaped member is free to move to the said open position without operation of said locking member.

3. A device as described in claim 2, characterized by means pivotally mounting said locking member.

4. A device as described in claim 2, characterized by rollers mounted upon said locking member, and adapted to engage the upper and lower surfaces of the lower leg of said U shaped member.

5. A device as described in claim 2, characterized in that the locking member is pivotally mounted, and means operating said locking member to lock said latch, holding said latch in an open position to release an object therein, and also holding said latch in a free receiving position, permitting an object to pass into said latch.

6. A latch as described in claim 2, characterized by rollers on said locking member, said rollers being spaced apart, and positioned above and below the lower leg of said U shaped member.

7. A latch as described in claim 2, characterized by rollers on said locking member, said rollers being spaced apart and positioned above and below the lower leg of said U shaped member, and further characterized by a recess in the under-surface of the lower leg of said U shaped member, adapted to receive one of said rollers, with the other roller limiting upward movement of said latch.

8. A latch as described in claim 2, characterized in that the locking member is pivotally mounted, and extends vertically upward to a point substantially engaging the underside of the lower leg of said U shaped member.

9. In combination, a latch member having a holding projection and an operating projection, means pivotally mounting said latch member, and an auxiliary pivotally mounted holding member, cooperating with the said operating member of said latch, holding said latch member in an open releasing position, a receiving position, and also in a closed position.

10. A device as described in claim 9, characterized in that said locking member comprises rollers between which the operating member of said latch is freely positioned.

11. In combination with a locking device, as described in claim 9, mechanical means holding said locking member in the respective positions.

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