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LATCH FOR DOORS OF MOTOR CARS

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Fig.1

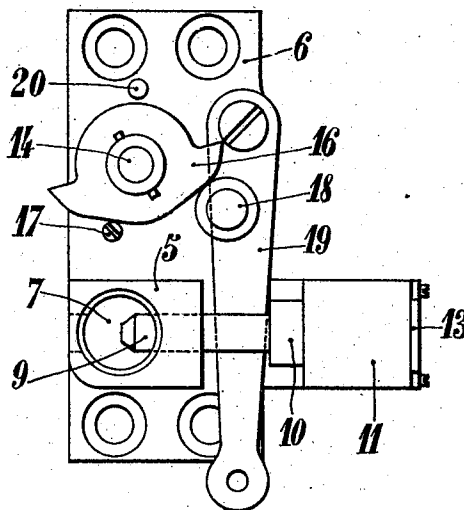


Fig.2

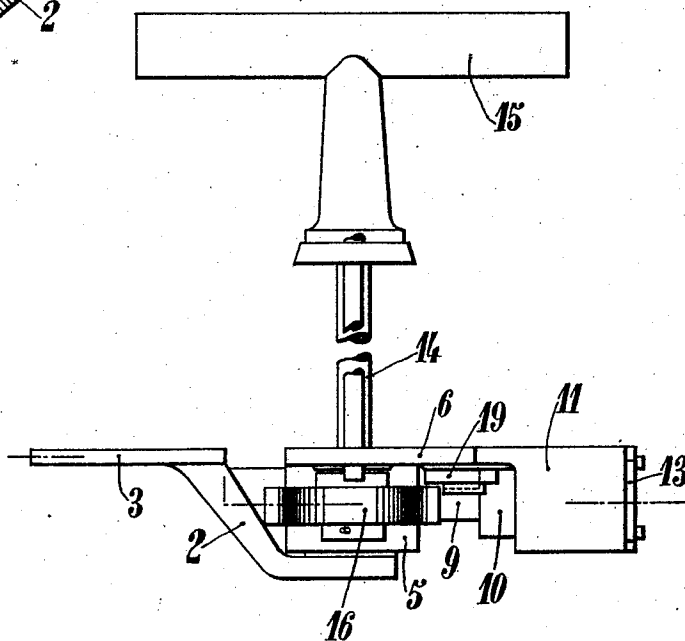
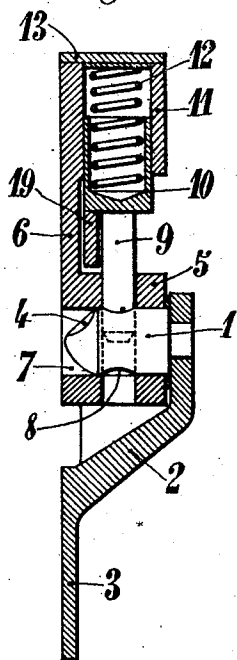


Fig.3



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LATCH FOR DOORS OF MOTOR CARS.

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It has already been proposed to devise fastening means, more particularly applicable to the doors of motor cars, in which the two constituent elements of the door were locked together by the penetration of a cylindro-conical bolt carried by one of the said elements in a staple having a cylindrical bore and depending from the associated element; the staple was, moreover, traversed by a locking bar which could automatically fit in closing position in a corresponding perforation of the said bolt. In these arrangements, the operation to opening the locking bar, to interrupt the mechanical connection existing between the bolt and the staple was effected by a cam rigidly secured on the common axis of the inner and outer operating handles; this cam was therefore mounted on the movable part of the door, which carried the cylindro-conical bolt and engaged with a bell crank lever which was pivoted on the plate of the staple and permitted to actuate the locking bar in the direction of its opening. The present invention has for its object improvements in these fastening means for the purpose of permitting:

(a) The arrangement of the two operating handles or members on the staple carrying the locking bar and on the movable panel of the door.

(b) The establishment of the mechanical movement transmitting connections joining each of the handles of the locking bar so as to allow the operation of the inner handle without acting on the outer handle, the outer handle utilizing, for that purpose, the mechanical connection which belongs to the inner handle for producing the displacement of the said locking bar.

In the accompanying drawing and by way of example:—

Fig. 1 is an elevation of the staple and of its locking bar.

Fig. 2 is a plan view of the said staple, the bolt being locked in the latter.

Fig. 3 is a horizontal section of Fig. 2.

As indicated in the foregoing, the post of the wooden transom of the door is provided with the cylindro-conical bolt 1. This bolt is rigid with an angle iron 2 extending from a plate 3 permitting the bolts to be secured in position. The conical part of the bolt has a bevel 4. The door leaf panel receives the staple (Fig. 1). The latter is constituted by a block 5 rigid with a securing

plate 6 and in which is provided a bore 7 adapted to receive the cylindro-conical bolt 1. A hole 8 is formed in this block 5 and serves as a guide for the cylindrical locking bar 9 which is to enter a corresponding hole of the bolt 1. This locking bar extends in the shape of a cylindrical journal 10 which is guided in a block 11 rigid with the plate 6. A spring 12 is interposed between the bottom of the cylindrical journal 10 and a cheek 13 obturating the bore of the guide block 11.

At its upper part, the plate 6 is traversed by the rod 14 of the external handle 15, which, in the example shown, carries a cam 16. This cam 16 bears, upon closing, on an abutment 17 and can act on a roller 18, carried by a lever 19 pivoted on the said plate 6. This lever 19 bears on the cylindrical journal 10 forming an extension of the locking bar 9 and is connected, through its lower part, to the inner handle.

Under these conditions, the door is closed by pushing back the leaf of the door which carries the staple, on the wooden transom on which is provided the bolt 1. The latter enters in the bore 7 of the staple 5, pushes back, through its bevelled part 4, the locking bar 9, thus compressing the spring 12. At the end of the movement, the locking bar 9, under the action of its spring 12, enters the corresponding hole of the bolt 1 and thus locks with the staple 5.

For opening the door:

1. Either the outer handle 15 is turned, thus moving angularly the cam 16 rigidly secured on its rod 14 and, through the medium of the roller 18, the rocking lever 19. The latter therefore pushes back the locking bar 9 by compressing the spring 12.

2. Or the inner handle is acted upon, thus angularly moving the pivoting lever 19 and the locking bar 9. In this case, the outer handle 15 is not subjected to any displacement.

It is obvious that for the cam 16 which is rigidly connected to the outer handle 15 and acts on the lever 19 to which is attached the inner handle, any other suitable mechanical means might be substituted.

The fastening device can be locked by providing an abutment in the path of the noses of the cam to permit only a limited rotation of the cam. For this purpose a rod 20, adapted to be moved into the path of the noses of cam 16, and operable from the

exterior, is provided. This rod might be combined with a safety lock.

What I claim as my invention and desire to secure by Letters Patent is:—

- 5 1. In a door-latch for automobiles and the like, a plate adapted to be secured to a door-post, a bolt fixed to said plate, a second plate adapted to be secured to a door and provided with a socket to receive the bolt when the door is closed, apertures in the socket and bolt adapted to align with each other when the door is closed, a locking pin occupying the aperture in the socket and arranged to enter the aperture in the bolt when the door is closed, a spring for moving the locking pin toward said socket, a pivotally mounted lever engaging said locking pin and adapted to be actuated from the inner side of the door for moving the locking pin away from the bore of the socket to release the bolt, a shaft extending through the second plate

and provided at its outer end with a handle to be actuated from the exterior of the door, an abutment on said lever, and a cam fixed to said shaft and adapted to engage the abutment to permit the operator to actuate the locking pin from the exterior of the door. 25

2. A door-latch as claimed in claim 1 in which the locking pin has a socket at one end, a housing on the second plate in which the locking pin socket is slidably mounted, said spring being arranged in the housing and the last mentioned socket. 30

3. A door-latch as claimed in claim 1 including means for locking the cam against rotation by the exterior handle while permitting the locking pin to be actuated from the interior by manipulation of said lever. 35

In testimony whereof I have signed my name to this specification.

CHARLES TORRES WEYMANN.