

- [54] SLIDING GLASS LOCKS
[75] Inventors: Jean-Claude Pennec; Michel Marcel Valacon, both of Billancourt, France
[73] Assignees: Regie Nationale Des Usines Renault, Billancourt; Automobiles Peugeot, Paris, France
[22] Filed: Oct. 12, 1972
[21] Appl. No.: 296,850

- [30] Foreign Application Priority Data
Nov. 8, 1971 France 71.39954
[52] U.S. Cl. 49/449, 292/175, 292/164, 292/337, 292/DIG. 53, 49/413
[51] Int. Cl. E05d 13/04
[58] Field of Search 49/413, 449; 292/171, 174, 292/175, 164, 337, DIG. 53

- [56] References Cited
UNITED STATES PATENTS
2,153,819 4/1939 Van Vookhees 292/174 X

2,721,636 10/1955 Ordorica et al. 49/413 X
3,171,678 3/1965 Peras 292/175

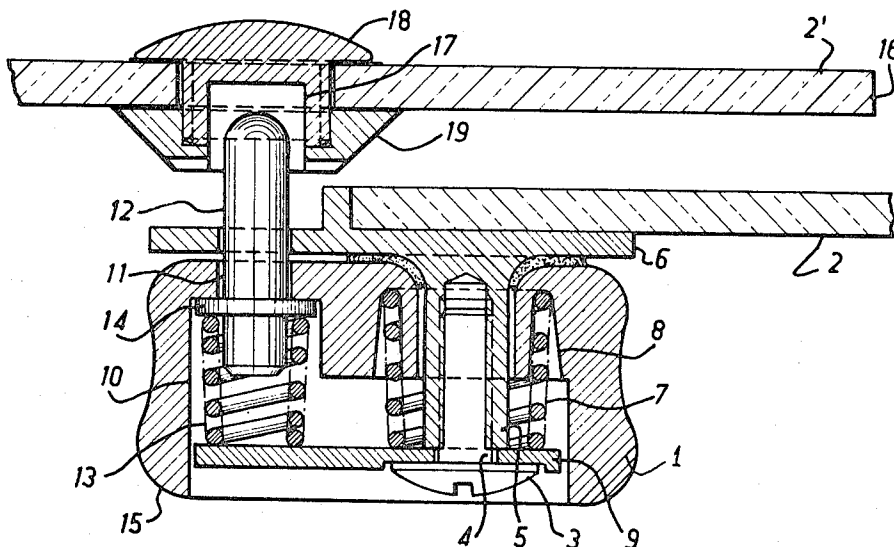
Primary Examiner—Kenneth Downey
Attorney, Agent, or Firm—Stevens, Davis, Miller & Mosher

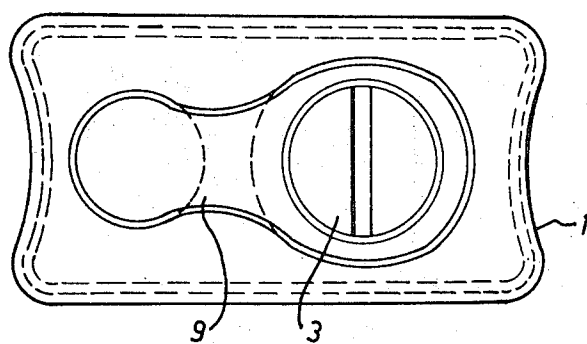
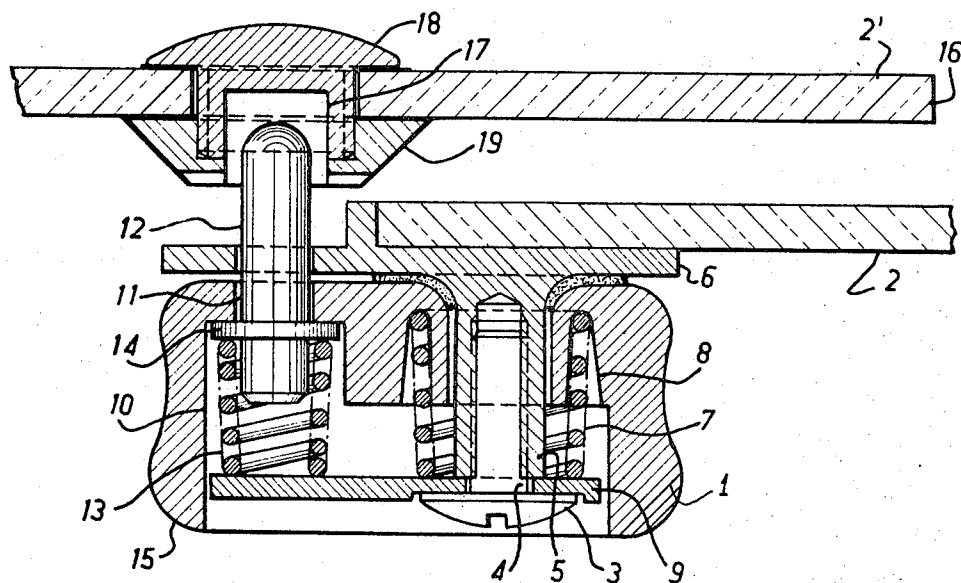
[57] ABSTRACT

Device for locking and operating sliding glasses, notably in automotive automotive and adapted to lock the glasses in their closed position.

This device comprises a support secured to the inner glass and provided with an integral projection on which the lock body is adapted to slide, resilient means constantly urging said lock body against the glass, said lock body further comprising a recess adapted to receive a lock bolt constantly urged by a coil spring towards the outside of said recess so as to project from the inner glass, said lock bolt being adapted to engage a blind hole formed in the vicinity of the inner edge of the outer glass.

3 Claims, 4 Drawing Figures





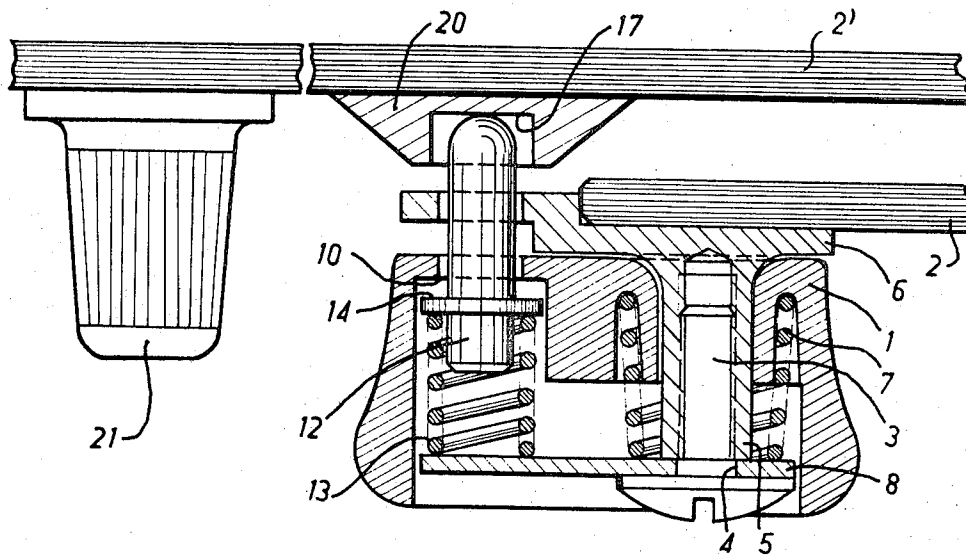


FIG. 3

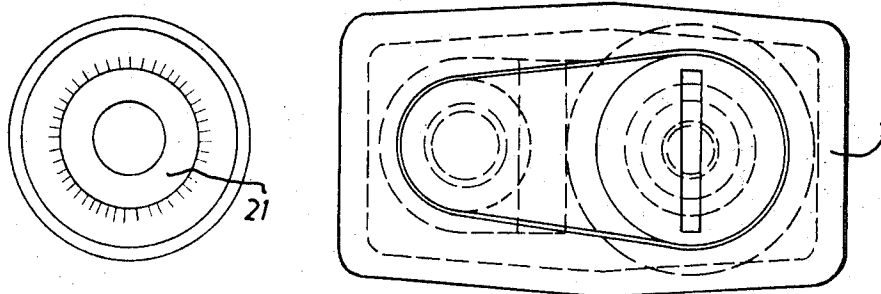


FIG. 4

SLIDING GLASS LOCKS

This invention relates to locking means for sliding glasses, notably sliding glass locks for certain windows of automotive vehicles.

It is advantageous to have the possibility of locking sliding glasses in their closed position by means of a lock, bolt or catch not accessible from the outside, even if it attempted to tamper with the lock or catch by inserting a tool between the two glass sheets.

It is the essential object of this invention to provide a sliding glass lock capable of meeting this requirement.

A sliding glass lock according to this invention comprises a support secured to the inner glass and provided with an integral projection on which the lock body is adapted to slide, resilient means constantly urging said lock body against the glass, said lock body further comprising a recess adapted to receive a lock bolt constantly urged by a coil spring towards the outside of said recess so as to project from the inner glass, said lock bolt being adapted to engage a blind hole formed in the vicinity of the inner edge of the outer glass.

A clearer understanding of this invention will be had as the following description proceeds with reference to the attached drawing, in which:

FIG. 1 is a sectional view showing a first form of embodiment of the sliding glass lock of this invention;

FIG. 2 is an elevational view of the lock of FIG. 1;

FIG. 3 is a sectional view showing a modified form of embodiment of the sliding glass lock, and

FIG. 4 is an elevational view thereof.

The lock body 1 is secured to the inner sliding glass sheet 2 by means of a slotted-headed screw 3 engaging a corresponding tapped hole 4 formed in a projection 5 formed integrally with a support 6 moulded from a suitable material such as "Zamak," and secured for example to the glass 2 through a known cementing process.

The lock body 1 is slidably mounted on the projecting portion 5. A coil spring 7 fitted in an annular groove 8 of said body 1 coaxially to said projection 5 reacts against the inner face of the screw head 3 with the interposition of a closing or concealing plate 9 for resiliently urging said body 1 against the flat portion of support 6. Parallel to said screw 3 the lock body comprises a recess 10 formed with a central hole 11. This recess 10 is engaged by a lock bolt 12 constantly urged outside by a coil spring 13 reacting with one end against said plate 9 and pressing with the other end against a shoulder 14 of said lock bolt 12.

The external contour of the lock body is shaped to facilitate the gripping thereof by the user, its surface perpendicular to the glass surface having to this end a recessed, concave contour, in comparison with its external contour 15.

The inner glass 2 and outer glass 2' are adapted to move in a pair of horizontal slideways of conventional cross-sectional contour (not shown). In the vicinity of its edge 16 the outer glass 2' is provided with an annular, closed or blind recess 17 adapted to receive the lock bolt 12.

According to a first form of embodiment this recess 17 comprises an external protection knob or head 18 having a screw-threaded skirt extending through the glass 2' for constituting said recess, which is locked in position by a tapered nut 19 locked against the inner

face of the glass and of a thickness inferior to the gap left between the two sliding glasses.

According to a modified form of embodiment illustrated in FIGS. 3 and 4, the outer glass is not drilled and a tapered washer 20 of suitable material such as Zamak and having substantially the same dimensions as the aforesaid tapered nut 19 is secured by cementing to the inner surface of the outer glass 2'.

Advantageously, as illustrated in FIG. 3, the lock bolt 10 abuts against the bottom of recess 17 before its shoulder 14 contacts the bottom of the recess 10 formed in the lock body.

The outer glass 2' comprises preferably a fixed control knob 21 also adapted to be secured by cementing and located of course at a different level with respect to the lock body 1, to permit the passage thereof.

This lock is operated as follows:

For unlocking the glass, the operator grips the lock body 1 and pulls same perpendicularly away from the glass 2.

Thus, the return spring 7 is compressed and the bottom of recess 10 carries along the lock bolt 12 against the force of return spring 13.

To open the glass 2, the operator while maintaining the pull exerted on the lock body 1 actuates this body and therefore the glass in the direction of the permissible sliding movement of the glass.

To lock the glass, one or the other sliding glass must firstly be put in its closed position. Assuming that the outer glass 2' is closed, the operator simply moves the sliding glass 2 in the closing direction while depressing the lock body 1.

In contrast to the release operation, it is not necessary to pull the lock body 1 since the locking action takes place automatically due to the mutual engagement of the lock bolt 12 and the inclined surface of nut 19 or washer 20.

It will be readily understood by those conversant with the art that if the inner glass 2 is closed, it will only be necessary to bring the outer glass 2' to its closed position by means of the knob 21 for obtaining the automatic locking action exactly in the same manner.

In the foregoing it is mentioned that the lock bolt 12 attains its locking position before completing its axial stroke (FIG. 3). This arrangement is a safety factor in case a thief attempted to increase the gap between the glasses and thus try to release the lock bolt 12 from the blind locking hole 17. In this case, the lock bolt 12 would continue its axial stroke, due to the presence of the spring 13, so as to maintain the locking action and thus deter a thief from continuing his attempt.

What is claimed as new is:

1. Device for operating and locking sliding inner and outer glasses, notably in motor vehicles, adapted to lock the glasses in the closed position, comprising a support secured to the inner glass and provided with an integral projection on which the lock body is adapted to slide, resilient means constantly urging said lock body against the glass, said lock body further comprising a recess adapted to receive a lock bolt having a shoulder engaged by a coil spring with said shoulder being spaced from and parallel to the bottom of said recess through which the bolt extends, said lock bolt being constantly urged by said coil spring towards the outside of said recess so as to project from the inner glass, said lock bolt being adapted to engage a blind hole formed in the vicinity of the inner edge of the

3

outer glass and said lock bolt abutting against the bottom of said blind hole before said shoulder thereof, which is engaged by said coil spring, contacts the bottom of said recess.

2. Sliding glass lock according to claim 1, wherein said blind hole is formed in a protection skirt main-

4

tained on said outer glass by a tapered nut.

3. Lock according to claim 1, wherein said blind hole is formed through a tapered washer of suitable material such as Zamak adapted to be cemented to the inner surface of said outer glass.

* * * * *

10

15

20

25

30

35

40

45

50

55

60

65