R. E. MOSHER.

LATCH.

APPLICATION FILED MAR. 9, 1907.

915,873. Patented Mar. 23, 1909.

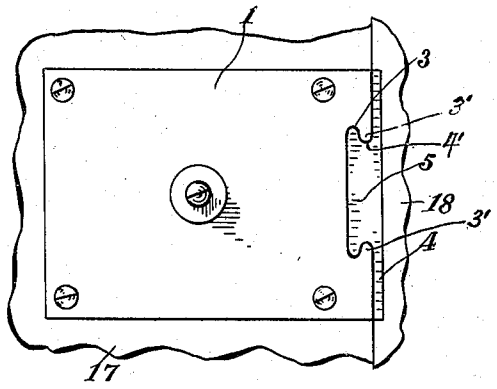

Fig. 1.

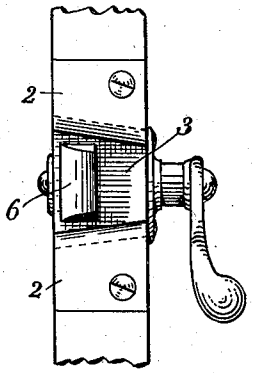

Fig. 2.

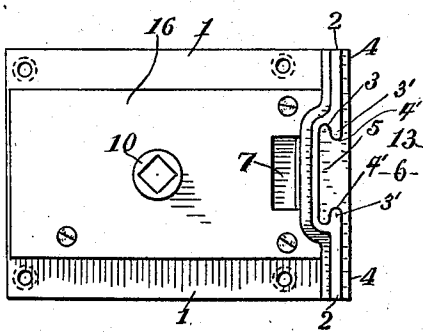

Fig. 3.

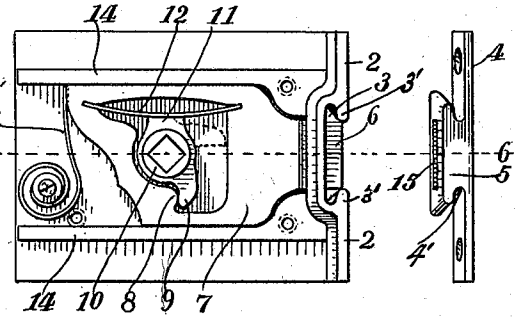

Fig. 4.

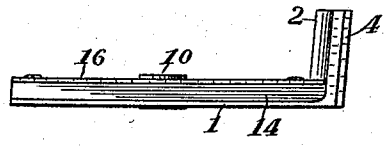

Fig. 5.

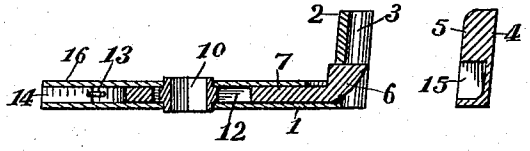

Fig. 6.

Witnesses

Georgiana Chace

Palmer A. Jones.

Inventor

Ralph E. Mosher

By Luther V. Moulton

Attorney

UNITED STATES PATENT OFFICE.

RALPH E. MOSHER, OF GRAND RAPIDS, MICHIGAN.

LATCH.

No. 915,873. Specification of Letters Patent. Patented March 23, 1909.

Application filed March 9, 1907. Serial No. 361,545.

To all whom it may concern:

Be it known that I, RALPH E. MOSHER, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Latches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in latches for doors, and more particularly to latches for the doors of vehicles, such as carriages, automobiles and the like, and its object is to provide means for securely connecting the door and casing when the door is closed; to prevent relative movement of the same by the vibration of a vehicle; to securely hold the latch from becoming unfastened by such movement or vibration, and to provide the device with various new and useful features, hereinafter more fully described and particularly pointed out in the claim.

My device consists essentially of a latch having a spring actuated bolt, the end of the latch adjacent to the strike plate being provided with an open-ended tapering recess having oppositely disposed overhanging tapering edges; and the strike plate composed of a single piece of material including a body portion, a neck portion, and a head portion merging into the neck, the neck merging into the body portion, said head portion being longer than said neck portion and having a recess intermediate its ends, with the opposite ends of the head and neck portions tapering and the ends of the latter also concave so that when the latch casing and strike plate are brought into coöperative relation, the recess of the casing will present its slot into alinement with the recess of the head portion of the strike plate with the overhanging edges of the casing recess fitting in the concaved ends of said neck portion and binding tightly between the rear of the head portion and the base of the strike plate, all as will more fully appear by reference to the accompanying drawings in which:—

Figure 1. is an elevation of the inner side of a latch embodying my invention, shown in place as it appears when the door is closed; Fig. 2. an edge view of the door with the latch attached thereto; Fig. 3. an elevation of the latch detached from the door casing and showing the side opposite to that of Fig. 1.; Fig. 4. the same with the cover plate removed and the strike plate detached; Fig. 5. an edge view of the device as shown in Fig. 3.; and Fig. 6. a longitudinal section on the line 6—6 of Fig. 4.

Referring now more particularly to the accompanying drawings, the reference character 1 indicates the latch casing; 2 the end of the case which is embedded in the edge of the door, said end being inclined to the casing at a slightly obtuse angle and provided with a transverse recess 3, which recess is open ended and tapered horizontally, and which has oppositely disposed overhanging rounded tapering edges 3′ which latter also taper according to the taper of the recess 3.

The strike plate is preferably composed of a single piece of material, including a body portion 4, a neck portion 4′ and a head portion 5. The head is longer than the neck portion of the strike plate and has its ends preferably rounded and merged into the neck portion 4′ with the neck portion 4′ merging into the body portion 4 to concave the ends of the neck to receive the rounded overhanging edges 3′ of the recess formed in the latch casing. The head 5 of the strike plate and the neck portion 4′ are both tapered according to the taper of the recess and overhanging edges of the latch casing, as will be understood.

The strike plate is provided with a recess 15 to receive the end of the bolt 6, which end projects into the recess 3 of the latch and extends within the latch casing in the form of a broad flat extension 7 having an irregular opening therein, in which opening, is a shoulder 8 engaged by a lug 9 on the tumbler 10, which latter has a flattened side 11 engaged by a spring 12, whereby the tumbler is yieldingly held in place with the lug 9 engaged with the projection 8 when in position to withdraw the bolt from engagement with the strike plate. This tumbler is also held by the spring with the lug in position at right angles to the previous position, in which position its end abuts against the forward wall of the opening in the extension 7 and thus locks the bolt in engagement with the opening 15 in the strike plate.

13 is a spring engaging the end of the bolt and yieldingly forcing the latter into engagement with the recess of the strike plate.

When the door is closed, the narrow or smaller end of the head and neck portions of

the strike plate first enter the larger end of the recess 3 and in this way the door is readily guided to place and closely held by engagement of these tapered and interlocking parts without liability of undue wear upon the parts incident to the rounded formations of the interlocking parts, in direct contradistinction to the structures wherein sharp edge portions are brought into interlocking relation and incident to the tight wedging action of the interlocking parts, such sharp edges are caused to deteriorate owing to the frictional engagement of the parts as they are thrown into and out of coöperative relation. It is for this reason that I form the meeting edges of the interlocking parts without sharp edges. The inclined arrangement of the end of the case and strike plate also facilitates this drawing closely together of the door and casing whereby the door is securely held from any movement whatever relative to the casing when closed, and by turning the tumbler with the lug 9 in position shown by dotted lines on Fig. 4. the bolt is securely locked and thus the door can not move or become released by the vibration of the vehicle.

What I claim is:

The combination with a latch casing provided with an open ended tapering recess whose sides are rounded and which has oppositely disposed overhanging tapering edges, of a strike plate composed of a single piece of material including a body portion, a neck portion and a head portion merging into the neck, and the neck merging into the body portion to provide the ends of the head with rounded edges and to concave the ends of the neck portion, said head portion being longer than said neck portion and having a recess intermediate its ends, said recess of the latch casing having an opening and being adapted to receive the head portion of the strike plate with the recess of the latter registering with the opening of the recess of said casing and with the overhanging rounded edges of the latter recess fitting in the concaved ends of said neck portion and binding tightly therein between the rear of the head portion and the base of the strike plate.

In testimony whereof I affix my signature in presence of two witnesses.

RALPH E. MOSHER.

Witnesses:

LUTHER V. MOULTON,

GEORGIANA CHACE.