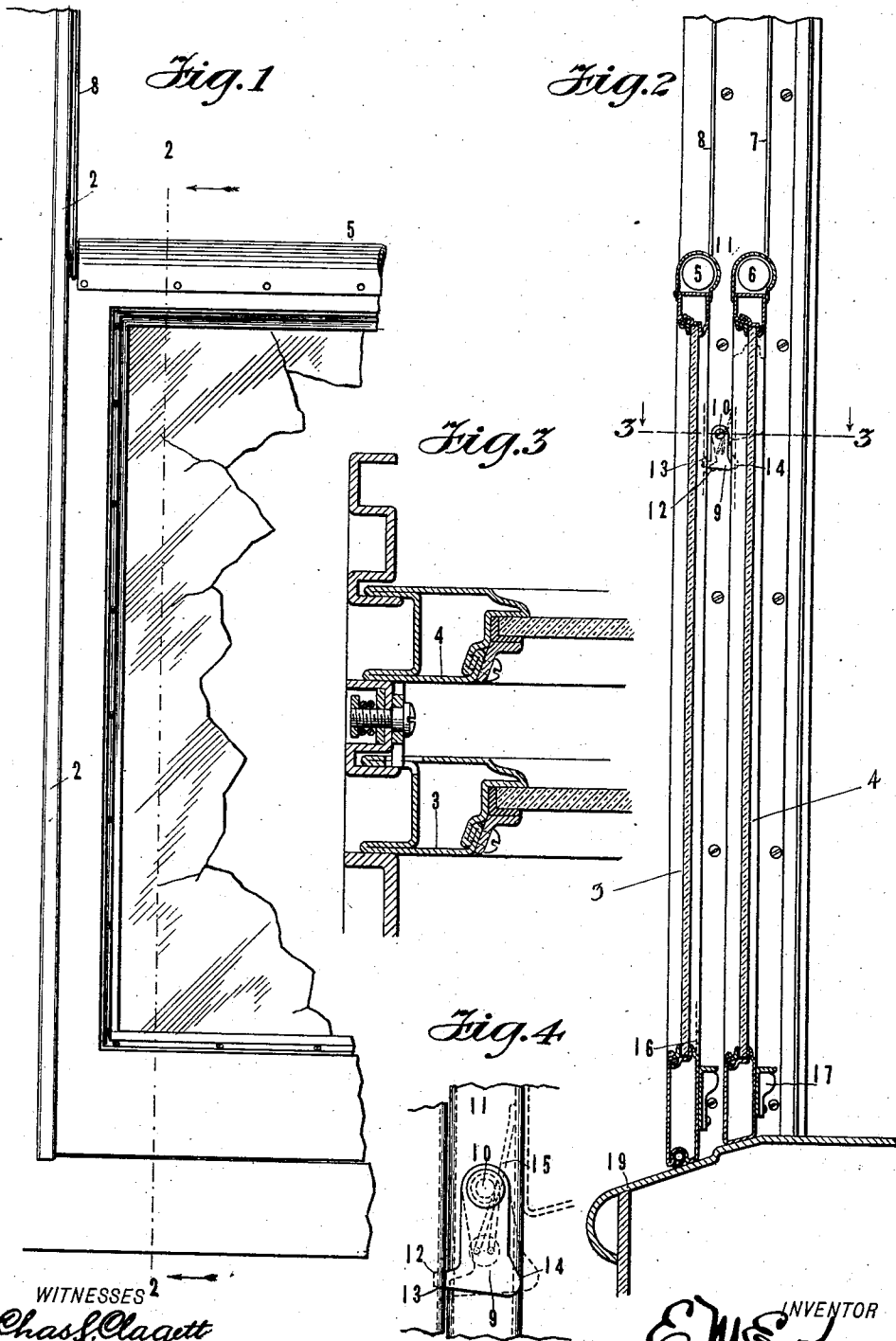


E. M. ERB.
SASH LOCKING DEVICE.
APPLICATION FILED JAN. 10, 1907.

1,025,134.

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UNITED STATES PATENT OFFICE.

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SASH-LOCKING DEVICE.

1,025,134.

Specification of Letters Patent.

Patented May 7, 1912.

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To all whom it may concern:

Be it known that I, EDMUND M. ERB, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Sash-Locking Devices, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to windows, and more particularly to the window of railway cars or like structures.

One of the objects of the invention is to provide means which will insure against injury to the fingers of passengers or other persons engaged in raising or lowering the sliding sashes of railway cars.

Another object of the invention is to provide a simple and efficient lock for the outer sash of a double-sashed window which will prevent the opening of said sash until the inner one has been fully raised or raised to a predetermined open position.

More specifically, my invention contemplates the employment, in a window provided with double sliding sashes, of means which will automatically lock the outer sash when the inner one is closed, but which will automatically release the same from locked condition when the inner sash has been completely opened.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing, wherein is illustrated one of the several possible embodiments of my invention, Figure 1 is a view in front elevation of a portion of a railway car showing a sliding sash mounted in the window frame; Fig. 2 is a vertical sectional view taken substantially on line 2—2 of Fig. 1 looking in the direction of the arrows, the sashes being shown in closed position; Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 2; and Fig. 4 is a view in elevation showing the portion of the frame upon which the locking device is mounted.

Similar reference characters refer to like parts throughout the several figures of the drawing.

Referring now to the drawing, 1 indicates a portion of a side wall of a railway car within which is formed a frame 2. Frame 2 is provided with suitable guiding stops between which slide outer and inner sashes indicated at 3 and 4 respectively, said sashes being provided in their upper portions in the present instance with spring drums shown at 5 and 6, from which suspending devices 7 and 8 respectively extend, said suspending devices, herein shown as cords, being suitably attached to a fixed support provided at the upper portion of the frame. It will be understood that as usual in such constructions the sashes are overbalanced, so that they will rise automatically when released from locked condition.

At this point it may be noted that in structures wherein double sashes are employed, as for instance in railway cars, injuries are often sustained by the passengers when manipulating sashes, due to their fingers being caught or pinched between the sash lock manipulating devices of the outer sash and the bottom rail of the inner sash. Such accidents usually occur by reason of the fact that the inner sash is not raised a sufficient distance to enable the outer sash to be raised to the full extent of its sliding movement. I have therefore found it desirable to provide means whereby the raising of the outer sash will be dependent upon the raising of the inner sash to a full open position, thereby obviating all chance of the occurrence of such injuries. In order to attain this end a swinging locking member 9 is swiveled upon a stud screw 10 upon the parting strip 11 which separates the inner and outer sashes opposite the upper portion of the sash frames, which in the present instance are shown as constructed of hollow metal, the parting strip being similarly constructed. Locking member 9 at its lower end is provided with a portion 12 adapted to enter an opening or recess 13 provided in the side rail of the outer sash, and directly opposite this locking portion, member 9 is provided with a curved or cam surface 14. The lower end of locking member is of such width that when the inner sash is in a closed position, as shown

in Fig. 2 of the drawings, the locking portion 12 will be forced into locking engagement with the walls of the opening 13 of the outer sash and the sash will be thus securely locked against raising. A spring 15 is arranged to retract locking member 9, such spring in the present instance being shown located within the parting strip and encircling the stud 10 which carries the locking member. One end of this spring takes against the inner wall of the parting strip and the other end is secured in any suitable manner to the locking member. An opening 16 similar to that shown at 13 is provided in the lower portion of the outer sash, the purpose of which will presently be apparent.

Upon the lower portion of each of the sashes are provided devices 17 for releasing the sashes from locked condition. These locking devices, which may be of any desired type, are not shown herein. It will be understood, however, that each of the sashes is locked to the side stiles of the frame by means adapted to be released through a manipulation of the locking devices 17 provided upon the lower portion of the sash.

Having thus described the structural features constituting my invention, the operation thereof, which will be to a large extent obvious, is substantially as follows: Supposing both sashes to be in a closed position and resting upon sill 19, as shown in the full lines of Fig. 2, locking member 9 is, by its engagement with the side stile of sash 4, forced into locking engagement with recess 13 of sash 3. Upon raising the inner sash to the position shown in dotted lines in Fig. 4, spring 15 will retract locking member 9 from sash 3, whereupon the same may be raised to open position, the curved or cam portion 14 of the locking member being received in the space beneath the lower end of the bottom rail of sash 4. Or, if desired, a suitable recess or notch may be cut in the inner sash for the accommodation of this cam portion. Such latter structure might be employed in constructions wherein the sashes are not permitted sliding movements equal to their height. In closing the sashes, the outer sash may first be lowered and the locking member will again enter opening 13, when the inner sash is likewise forced to a closed position. If, however, for any reason it is desired to close the inner sash, leaving the outer sash in an open position, this operation may be effected by reason of the provision of opening 16 in the outer sash, which will receive the locking projection when the inner sash is lowered. This will also lock the outer sash positively in an open position. It will accordingly be seen that I have provided mechanism well adapted to accomplish,

among others, the ends and objects above pointed out, the employment of which will eliminate all chance of injury to the passengers when manipulating the sliding sashes of railway cars. While I preferably employ my invention in connection with railway cars and have shown the same in such relation, it is obvious that the same may be applied with equal facility to the windows of other structures.

Certain features relating to the specific construction of the sash frames disclosed in the drawings are not claimed herein, but are shown, described and claimed in my prior patents Nos. 871,217 and 871,218, dated November 19, 1907.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which, as a matter of language, might be said to fall therebetween.

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

1. In window construction, in combination, a frame, a pair of registering sashes located therein and adapted to slide in the frame, and a spring-retracted locking member movably mounted upon the frame intermediate said sashes, said locking member being adapted to be held in position to lock one of said sashes by an engagement with the other thereof and to be released automatically when said last mentioned sash is opened a predetermined extent.

2. In window construction, in combination, a frame, a pair of registering sashes mounted to slide therein, a locking member mounted to swing upon the frame intermediate said sashes, one of said sashes being adapted to engage said member and force the same into positive locking engagement with the other thereof, and a spring adapted to swing said member out of engagement with the locked sash when the other sash is raised.

3. In window construction, in combination, a frame, a pair of sliding sashes mounted in registry therein, a swinging locking member swiveled upon the frame intermediate said sashes adapted to be engaged by the inner sash and to be forced into an opening provided in the outer sash, and a spring for retracting said device from

said opening when the inner sash is raised to an open position, said outer sash being provided with another opening to accommodate said locking member when the inner sash is closed and the outer one left open.

4. In window construction, in combination, a frame, a pair of registering sashes slidably mounted therein, a pivotally mounted locking member provided with a portion adapted to enter an opening provided in the outer sash and thereby lock the same in closed position and having a cam portion adapted to be engaged by the inner sash, such engagement effecting a locking of the outer sash, and means for retracting said locking member.

5. In window construction, in combination, a car window comprising a pair of

normally registering sashes, a frame in which said sashes are slidably mounted, said sashes being formed to close said window in normal registering position, and a positive locking device adapted to lock the outer sash to the frame in its normal lowered position, said device being provided with a portion adapted to be operated by the inner sash to force it into locking position as said inner sash is lowered and release the device as the inner sash is raised.

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

EDMUND M. ERB.

Witnesses:

R. F. MARTIN,

H. M. SEAMANS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."