

APPLICATION FILED DEC. 31, 1917.

2 SHEETS—SHEET 1.

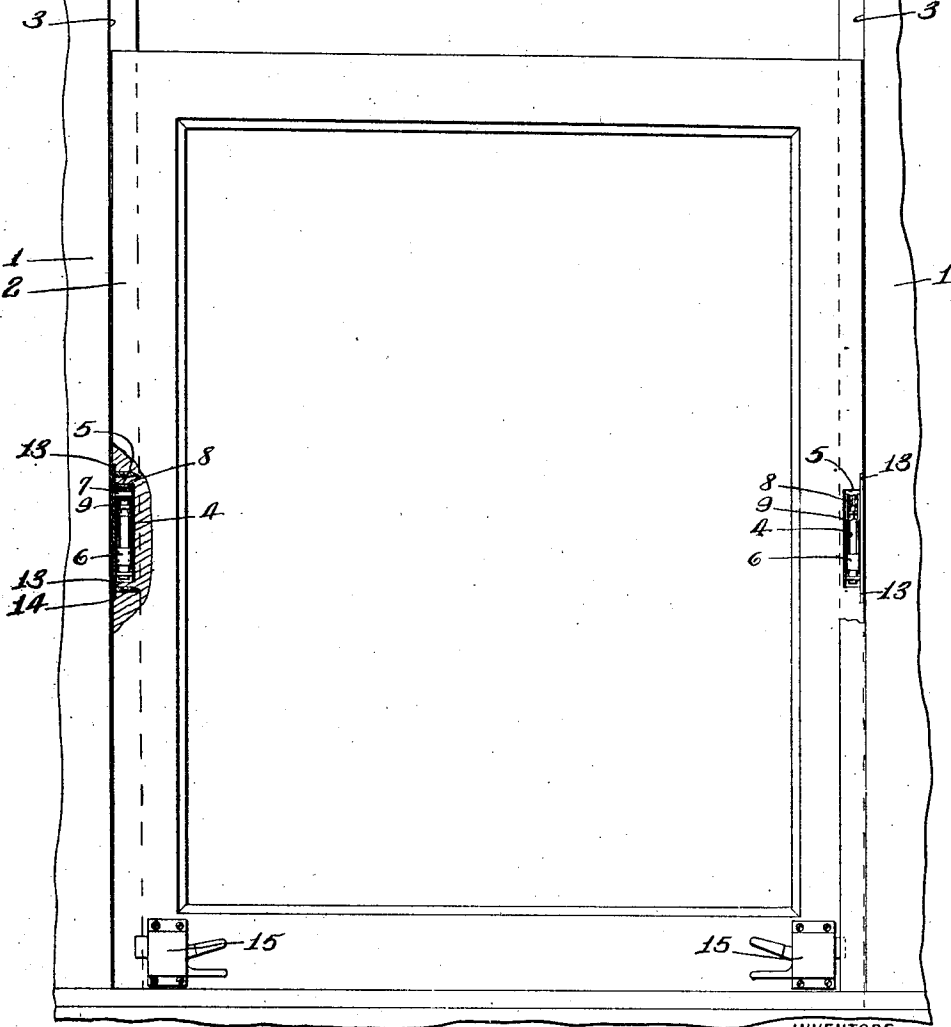


Fig-1

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BRAKE FOR WINDOW SASHES.
APPLICATION FILED DEC. 31, 1917.

1,349,037.

Patented Aug. 10, 1920.
2 SHEETS—SHEET 2.

Fig. 2.

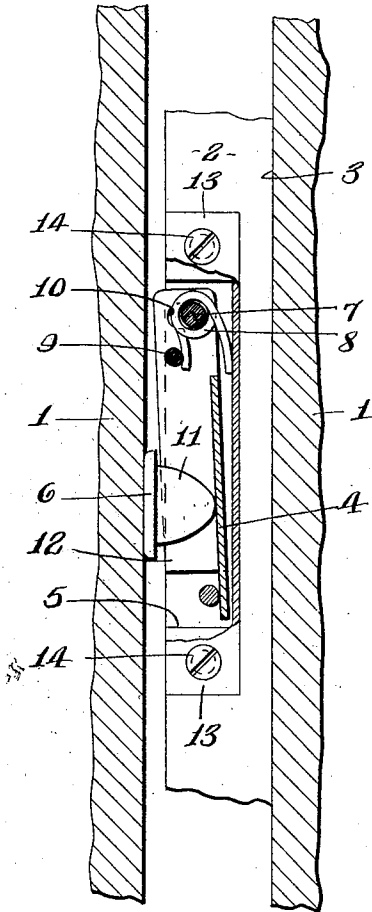


Fig. 3.

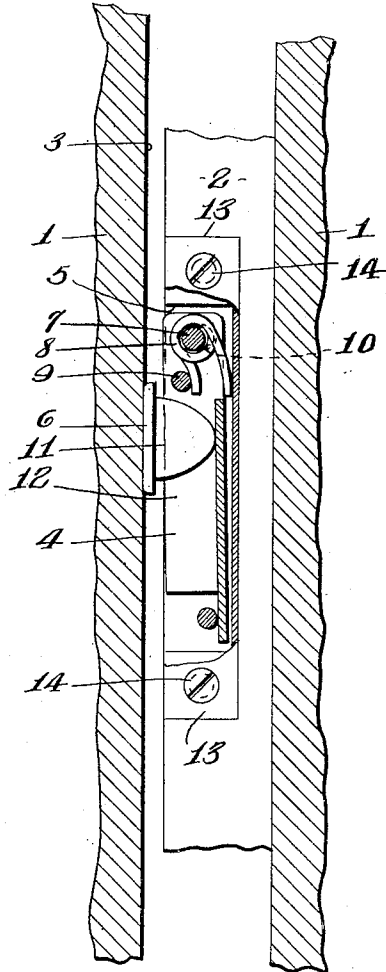
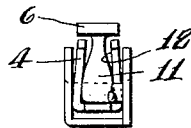


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROY T. AXE AND EDWARD F. CHAFFEE, OF SYRACUSE, NEW YORK, ASSIGNORS TO THE
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BRAKE FOR WINDOW-SASHES.

1,349,037.

Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed December 31, 1917. Serial No. 209,712.

To all whom it may concern:

Be it known that we, ROY T. AXE and EDWARD F. CHAFFEE, citizens of the United States, and residents of Syracuse, in the county of Onondaga and State of New York, have invented a certain new and useful Brake for Window-Sashes, of which the following is a specification.

This invention relates to windows, particularly railway car windows, and has for its object a particularly simple and efficient means for checking the movement of the sash or increasing a braking action as the movement of the sash increases above predetermined speed, which means is particularly applicable to prevent the dropping of the sash when the sash lock or locks are released and to prevent injury to passengers and to the locks and the sash.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is a front elevation, partly broken away and partly in section, of a window construction embodying our invention.

Fig. 2 is a side elevation, partly broken away, of the retarding means, the brake member being shown in its normal position; the contiguous portion of the sash and frame being also shown.

Fig. 3 is a view similar to Fig. 2, showing the action of the brake means when shifted by sudden movement or dropping of the sash.

Fig. 4 is an end elevation of the brake and its box.

1 designates the window frame; and 2, the sash movable in the guideways 3 formed in the frame.

The brake or retarding means may be associated with one of two parts, one of which moves relatively to the other, and coacts with the other of said parts, and includes a brake member shiftable by the movement of the movable part as the speed of said part increases above a predetermined speed, and means by which the friction of the brake member is increased and is released by the movement of said part in the opposite direction.

As here shown, the brake means is car-

ried by the sash, and coacts with one of the walls of the guideway 3 of the frame. Preferably, there is a brake means at each side margin of the sash.

In the illustrated form of our invention, the brake means comprises a spring-pressed carrier 4 extending lengthwise of the portion of the window sash in the guideway 3 and located in the recess 5 formed in the margin of the sash and an engaging member or brake shoe 6 movable in a guide extending lengthwise of the carrier 4. Said guide extends in the direction of the path of movement of the sash at a slight inclined angle to said path, and toward the point the carrier is acted on by its spring, so that the force of the spring is applied to the shoe with increasing pressure as the shoe approaches the spring. The carrier 4 is here shown as pivoted at one end as at 7 in the recess 5, and as extending at a slight incline to the plane of the sash, and is movable outwardly on its pivot 7 to press the shoe 6 against a wall of the guideway, by a coiled spring 8 encircling the pivot and pressing at one end against a shoulder 9 of the carrier, and the carrier is also movable transversely of its pivot 7, it being formed with slots 10 through which the pivot extends.

The brake shoe 6 is mounted to have a tilting or rocking movement about an axis parallel to the axis of the carrier 4, and has a stem portion 11 slidable in the guide 12 extending lengthwise of the carrier toward and from or substantially radial to the pivot thereof. The stem has a rounding lower end which rocks on the bottom of the guide 12 during the tilting of the shoe 6 about its axis.

Usually, the carrier 4 is bent up from sheet metal in the form of a channel U-shaped in cross-section, and the opposite sides thereof having their free edges bent inwardly toward the sides of the stem 11 of the shoe to overhang the lower end of the stem and thus form a guide to slidably hold the stem 11 of the shoe. In other words, the stem 11 is slidably dovetailed in the guide 12.

The carrier 4 is preferably located in a sheet metal box in the form of a channel in the sides of which the pivot 7 is mounted, this box being set into the recess 5 and having ears 13 forming extensions of one side

thereof which side is flush with the edge face of the sash. Fastening members 14 extend through the ears 13 into the window sash.

5 The window sash is held at different elevations by sash locks 15 of any suitable construction.

When a passenger releases the lock or locks 14, as the case may be, (some windows 10 having one lock and others two), the sash drops suddenly and thus damages the bolts of the locks and oftentimes drops on the arm or fingers of the passenger. By our braking means, when the sash is released 15 and starts to drop, if the passenger lets go of the lock or locks so that the window can drop of its own weight, the brake shoe immediately slides from its position shown in Fig. 2 toward that shown in Fig. 3 and in- 20 creases the braking action, (as the leverage of the spring 8 on the shoe 6 is constantly changing, during the shifting of the shoe,) and stops the movement of the sash so that the passenger must exert some force to en- 25 tirely close the window sash. However, if the passenger does not let go of the catch or partly supports the sash, the shoe 6 remains in its position shown in Fig. 2, where it exerts but slight braking action. The 30 brake means also holds the sash from rattling as it presses it against a portion of the frame as the outer stop.

What we claim is:

1. The combination of a window frame, a 35 sash movable in the frame, a pivoted carrier associated with one of said parts, and a brake shoe supported by the carrier and slidably engaging the other of said parts, the brake member being mounted to rock 40 relatively to the carrier, substantially as and for the purpose described.

2. The combination with a window frame, a sash movable in the frame, a pivoted carrier associated with one of said parts, and 45 formed with a guide extending toward its axis, and a brake shoe supported by the carrier and slidably engaging the other of said parts, the brake member being mounted to rock relatively to the carrier, and to shift 50 along the guide, substantially as and for the purpose specified.

3. The combination of a window frame, a sash movable in the frame, a carrier pivoted to one of said parts and extending 55 lengthwise of the path of movement of the sash, and movable in a direction transversely of its pivot, and a brake member supported by the carrier and coacting with the other of said parts, substantially as and for the 60 purpose described.

4. The combination of a window frame, a sash movable in the frame, a carrier pivoted to one of said parts, and movable in a direction transversely of its pivot, the car- 65 rier having a guide extending substantially

radially relatively to its axis, a brake member coacting with the other of said parts, said brake member being shiftable along the guide, and spring means tending to move the carrier on its pivot to carry the brake 70 member into operative position and also to resist transverse movement of the carrier relatively to its pivot, substantially as and for the purpose specified.

5. The combination of a window frame, a 75 sash movable in the frame, a carrier pivoted to one of said parts and having a guide extending lengthwise of the path of movement of the sash toward the axis of the carrier and normally at an incline relatively to said 80 path, the carrier being also movable in a direction transversely of its pivot, a brake member shiftable lengthwise of the guide, and spring means tending to move the car- 85 rier on its pivot to carry the brake member into operative position and also resist transverse movement of the carrier relatively to its pivot, substantially as and for the purpose set forth.

6. The combination of a window frame, 90 a sash movable in the frame, a carrier pivoted to one of said parts and having a guide, extending lengthwise of the path of movement of the sash and toward the axis of the carrier, the carrier being also movable in a 95 direction transversely of its pivot, a brake shoe rockably mounted in the guide on an axis extending parallel to the axis of the carrier and also shiftable lengthwise of the guide toward and from the pivot of the car- 100 rier, the brake shoe coacting with the other of said parts, and spring means tending to move the carrier on its pivot and to resist transverse movement of the carrier rela- 105 tively to its pivot, substantially as and for the purpose specified.

7. A device of the character described comprising a spring pressed pivoted carrier movable in a direction transversely of the 110 axis of its pivot, and formed with a guide extending toward its pivot, the spring acting to restrain pivotal and transverse movements of the carrier, and an engaging member movable along the guide, substantially 115 as and for the purpose specified.

8. The combination of a window frame, a sash movable in the frame, a pivoted carrier associated with one of said parts and a brake shoe supported by the carrier and slidably engaging the other of said parts, 120 the brake member being movable to slide along the carrier toward and from the axis thereof, substantially as and for the purpose described.

In testimony whereof, we have hereunto 125 signed our names, at Syracuse, in the county of Onondaga, and State of New York, this 8th day of November, 1917.

ROY T. AXE.

EDWARD F. CHAFFEE.