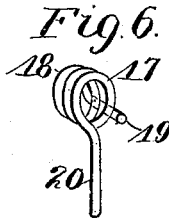
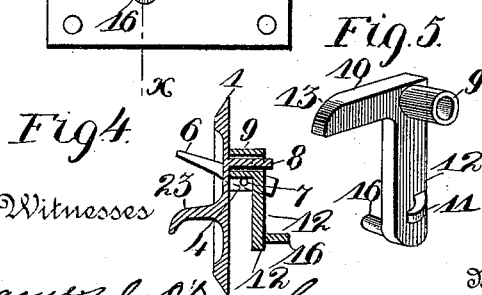
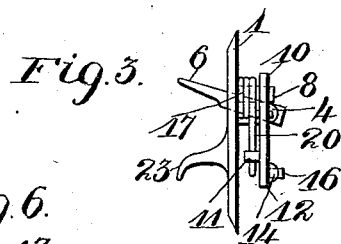
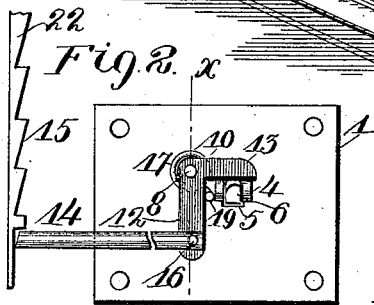
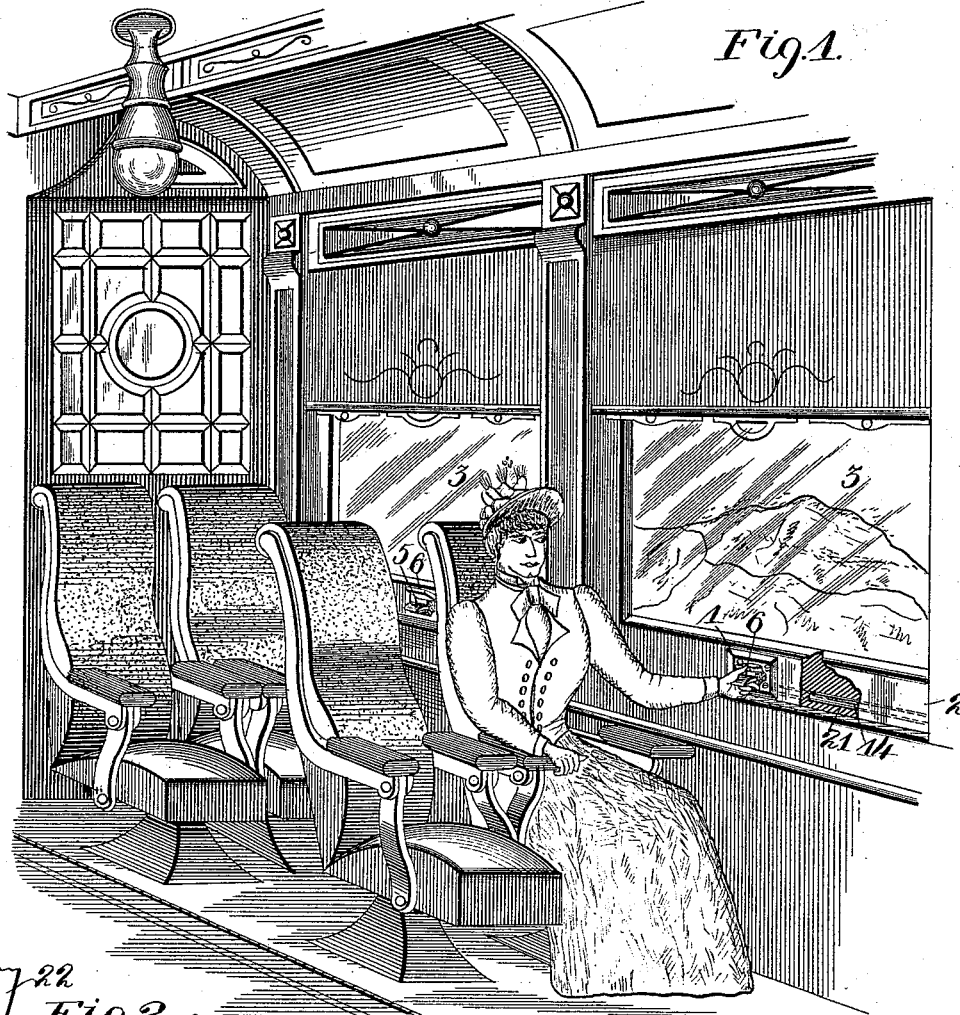


(No Model.)

C. KNAPP.
SASH FASTENER.

No. 493,035.

Patented Mar. 7, 1893.



Witnesses
James L. O'Donohue
Joseph Vastine

Inventor
Charles Knapp.
By his Attorneys
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UNITED STATES PATENT OFFICE.

CHARLES KNAPP, OF ST. LOUIS, MISSOURI.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 493,035, dated March 7, 1893.

Application filed October 6, 1892. Serial No. 447,887. (No model.)

To all whom it may concern:

Be it known that I, CHARLES KNAPP, of the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in a Combined Sash Lift and Lock, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to a combined sash lift and lock and consists in the novel arrangement and combination of parts more particularly described in the specification and set out in the claims.

In the drawings Figure 1 is a perspective view of the interior of a car having my invention applied to the window thereof. Fig. 2 is a rear elevation of my invention showing the bolt in connection with the rack which is fixed to one side of the window frame. Fig. 3 is a side elevation of my invention. Fig. 4 is a vertical transverse section of the same taken on the line $x-x$ of Fig. 2. Fig. 5 is a perspective view of the right-angular lever employed in carrying out my invention, and Fig. 6 is a perspective view of a spring which I also employ.

My present invention has for its object to simplify the construction over that shown in my patent granted to me November 17, 1891, No. 463,518.

Referring to the drawings, 1 represents a plate which is fixed to the lower rail 2 of the window sash 3 at the middle thereof and is fixed thereto by screws or other like devices, premising however that a suitable space is cut in said rail for receiving the several parts carried by and attached to the rear surface of said plate.

Referring again to the plate 1, 4 represents two lugs which are formed on the rear surface thereof, and on either side of an opening 5 formed in said plate. 6 represents a thumb latch which projects a suitable distance on either side of the said plate, and is movably secured to the lugs 4 intermediate of its length by a pivot 7 passing through the said lugs and latch. Formed also with the plate 1 and located on the rear surface thereof is a rounded projection 8 which is received by the tubular extension 9 of the right angular arm 10 of the lock, as best shown in Fig. 4. After the arm 10 has been placed in position as

shown in Fig. 4, the end of said rounded projection is flattened thereby holding the said right-angular arm loosely to the plate 1, the tubular projection 9 acting to keep the said arm a suitable distance from the plate 1. The arm 10 and its parts as shown in Fig. 5 is cast complete in one piece and in said figure, 11 represents a hook formed on the depending extension 12 of the same, and when the said arm is in its proper position the hook will be adjacent to the rear surface of the plate 1 but not in contact with the same as shown in Fig. 3. The horizontal extension 13 of said arm normally rests upon the rear end of the latch 6 and is always in contact with the same, whereby when the forward end of the said latch is depressed, the said arm will be operated and retract the bolt 14 and free the same from its engagement with the rack bar 15 as best shown in Fig. 2.

In order to dispense with the removable pivot, I form on the lower end of the extension 12 of the arm 10 a rounded projection 16 which projects therefrom in opposite direction to the hook 11, and is passed through an opening formed in one end of the bolt 14, the same being loosely united by riveting.

17 represents a coiled spring the shape of which can be better seen by referring to Fig. 6, and when located in its proper position, the coils 18 thereof encircle the tubular extension 9 of the arm 10; and the arm 19 of said spring bears against one of the lugs 4 of the casting or plate 1, and its opposite or longer arm 20 is passed over the hook 11 formed on the extension 12 of the arm 10, whereby the said arm 10 is caused to assume its normal position as shown in Fig. 2 after the same has been operated by the thumb latch 6 for retracting the bolt 14.

In order to accommodate the bolt 14 within the lower rail 2 of the sash, I form in the said rail a horizontal rounded opening 21 the size of which is such as to admit the said bolt freely, the opposite or free end of the said bolt projecting a suitable distance beyond the edge of the sash in order to engage with the teeth 22 formed on the rack bar 15, whereby the window is held in any desired elevated position. In order to release the bolt when it is desirable to close the window the forward end of the latch is depressed causing the bolt

to be retracted and the end thereof freed from engagement with the teeth of the rack bar.

Formed with the plate 1 on the front surface thereof immediately below the thumb latch 6 and in close proximity thereto is a lift 23 for receiving the forefinger of the hand as best shown in Fig. 1, in which instance the thumb may be used for depressing the latch.

Having particularly described my invention, what I claim is—

1. In combination with the fixed plate, a rounded extension 8 formed thereon, a right angular arm, a tubular projection 9 formed on the said arm and adapted to receive said rounded projection, lugs 4 formed on the said plate, a latch 6 passing through an opening 5 formed in the plate and pivotally attached to said lugs, a coiled spring encircling the tubular projection 9, one arm of which bears

against one of said lugs 4, and the opposite arm removably attached to the depending extension 12 of said arm 10, and a bolt one end of which is removably attached to said depending extension, substantially as set forth.

2. A combined sash lift and lock having a right-angular arm, a bolt operated by the same a hook formed on the depending extension of said arm, a tubular projection also formed on said arm and a coiled spring encircling the said tubular projection one arm of which is adapted to be received by the hook carried by the angular arm, substantially as set forth.

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

CHARLES KNAPP.

Witnesses:

HENRY H. DENISON,
C. F. KELLER.