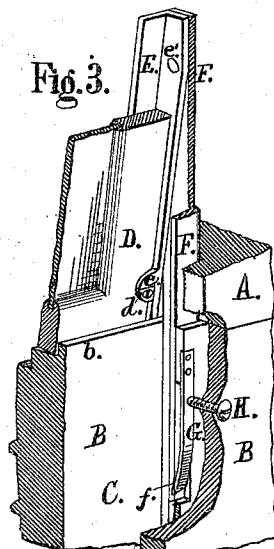
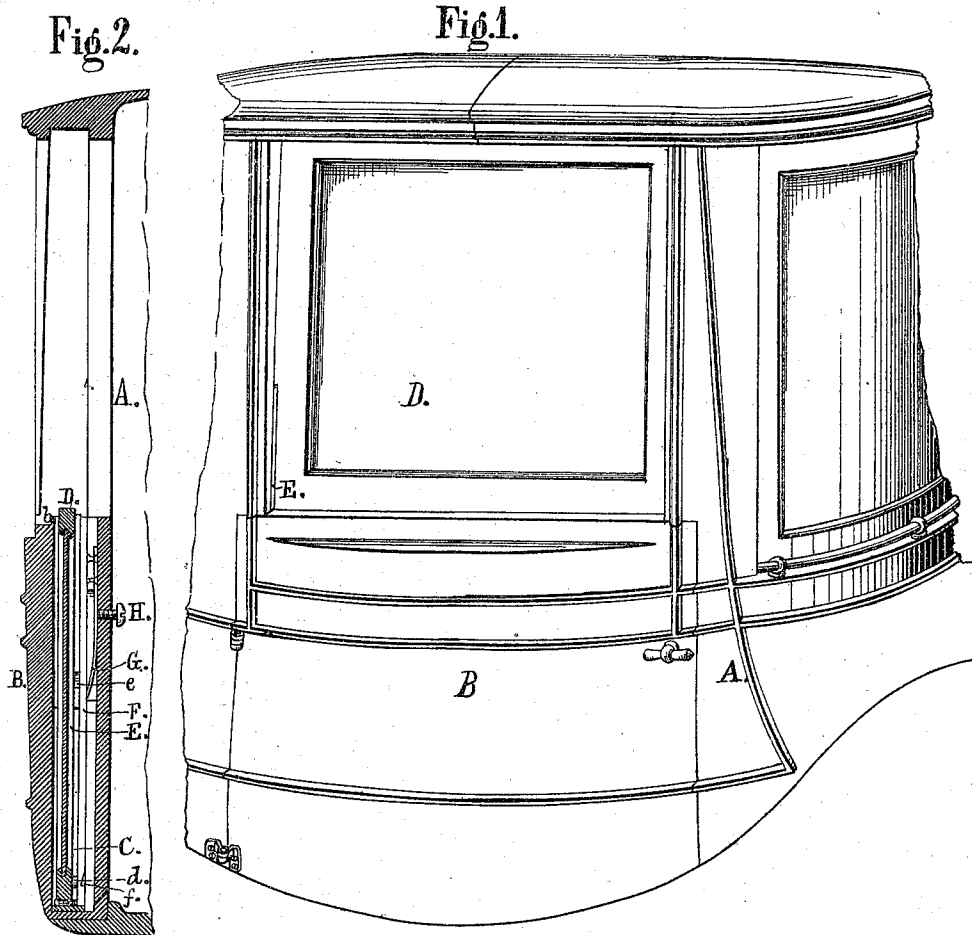


J. HENSGEN.
Carriage Windows.

No. 142,229.

Patented August 26, 1873.



ATTEST.
Jas. L. Ewins
Walter Allen

INVENTORS.
John Hensgen
By Knight & Bro. Attys.

UNITED STATES PATENT OFFICE.

JOHN HENSGEN, (FOR HIMSELF AND AS ADMINISTRATOR OF EDWARD KRUGER, DECEASED,) OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN CARRIAGE-WINDOWS.

Specification forming part of Letters Patent No. 142,229, dated August 26, 1873; application filed March 20, 1873.

To all whom it may concern:

Be it known that JOHN HENSGEN, of the city and county of St. Louis and State of Missouri, and EDWARD KRUGER, deceased, late of St. Louis, aforesaid, invented a certain Improvement in Carriages, of which the following is a specification:

The improvement relates to the doors and windows of that style of carriage which is convertible into either a close or open carriage at will, and in which, consequently, no fixed window-frame is admissible above the body of the door. The improvement consists in supporting the sash between two side guides, each consisting of two parts pivoted together, that have a limited vertical movement in the door, so as to admit of rising up to give support to the window when raised, or of descending until their upper ends are level with the door-top, as is required when the carriage is in open condition. The invention also includes two adjustable springs, which bear against the inner sides of the side guides to prevent rattling, and which also act as stops to limit the upward movement of the guides.

Figure 1 is a perspective view of part of the carriage, showing the sash raised. Fig. 2 is a transverse section of the door and window with the sash down. Fig. 3 is a detail perspective view.

A is part of the carriage-body. B is the body of the door, having the usual open-topped chamber or recess C, into which the sash and guides descend. The sash D slides vertically between the side guides, which also slide vertically in the body of the door. On the sash are lugs *d*, which, as the sash is drawn upward, catch against the lugs *e* of the side guides and cause the guides to be drawn upward with the sash. The side guides consist each of two angle-pieces, E F, the former of which are pivoted to the latter at *e'*, so as to allow the necessary

tilting outward of the bottom of the sash when raised to engage the lip *b* of the door-top. The angle-pieces F (forming the outer parts of the side guides) are confined to a vertical movement in the door, and their upward movement is limited by springs G, whose points enter notches *f* in the angle-pieces F when the sash is raised sufficiently to allow of its lower end passing over the lip *b*. The springs G are secured to the inner side of the recess C, and their force is regulated by set-screws H, so as to regulate their pressure against the pieces F. The springs keep the parts forced to the outer side of the recess C, and prevent rattling.

The improvement conduces to lightness of construction in the carriage-body, (as will be understood by carriage-builders,) because the door may have less depth than with the usual construction of the doors of such carriages in which the side guides fold down upon the door-top, and the top of the sash, when let down, cannot project above the door-top.

The hinged side guides are subject to fall loose at the hinges, as neither the door nor guide furnishes an adequate support for attachment of the hinges, whereas the described arrangement is strong and durable, and not expensive.

What is herein claimed is—

1. The combination of the carriage-door-lifting standards F, pivoted guides E, and sash D, all substantially as set forth.

2. In combination with the sliding guides or standards E F, sash D, and door B, the spring-catches G, substantially as and for the purpose set forth.

JOHN HENSGEN,
*For himself and as administrator
of Edward Kruger, deceased.*

Witnesses:

SAML. KNIGHT,
ROBERT BURNS.