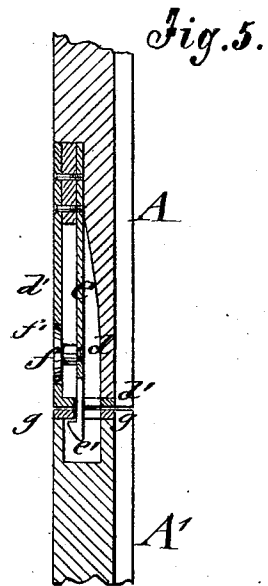
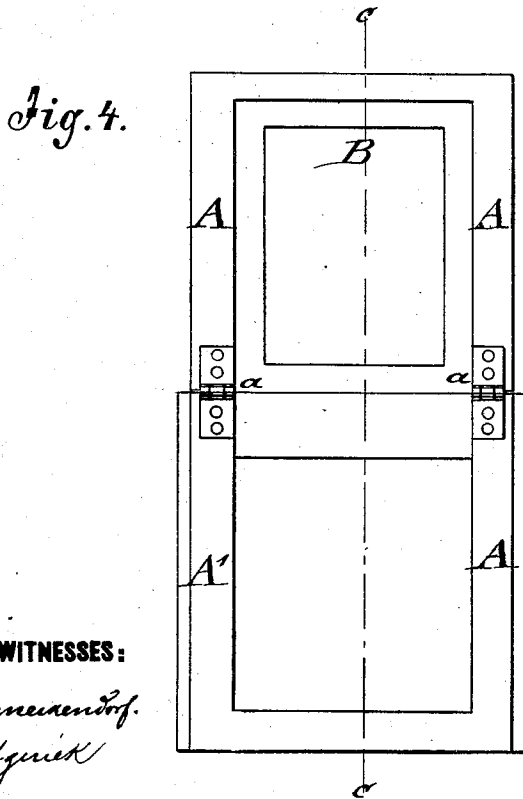
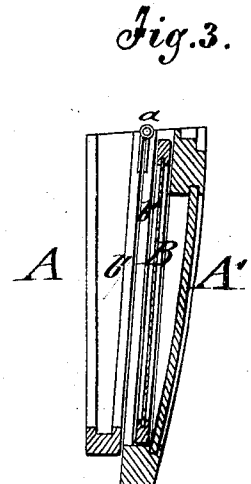
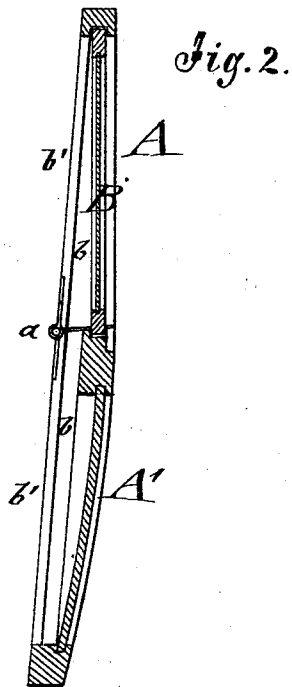
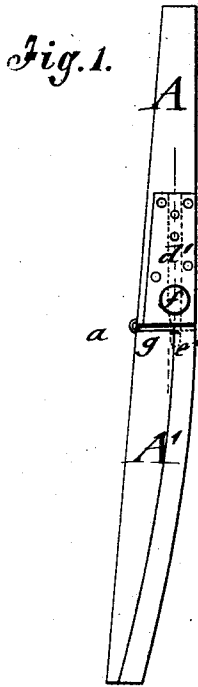


G. KELLNER.
Carriage Doors.

No. 147,058.

Patented Feb. 3, 1874.



WITNESSES:

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INVENTOR:

BY

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UNITED STATES PATENT OFFICE.

GEORGE KELLNER, OF PARIS, FRANCE, ASSIGNOR TO WOOD BROTHERS COMPANY, OF NEW YORK, N. Y.

IMPROVEMENT IN CARRIAGE-DOORS.

Specification forming part of Letters Patent No. **147,058**, dated February 3, 1874; application filed December 1, 1873.

To all whom it may concern:

Be it known that I, GEORGE KELLNER, of Paris, in France, have invented a new and useful Improvement in Doors for Carriages, of which the following is a specification:

In the accompanying drawing, Figures 1 and 2 respectively represent a side view and vertical section on line *c c*, Fig. 4, of my improved carriage-door in upright position; Fig. 3, a vertical section of the same, with the upper half folded down on the lower half; Fig. 4, a front view of the door with upper part thrown up; and Fig. 5, a detail vertical transverse section of the spring-catch and socket-plate, by which the hinged section is retained in position when thrown up.

Similar letters of reference indicate corresponding parts.

The object of my invention is to provide an improved folding door for that class of carriages which are alternately thrown open and closed, so that, for instance, the changing of a landau or landalet into a bertin or brougham, and vice versa, combined with their stability and outside appearance, may be obtained. My invention consists in constructing the door of two sections, the upper half of which is hinged to the lower half, swinging to the inside of the same, both parts being provided with guides for the window. The upper part locks, when thrown open, by means of spring-catch at one or both sides, into socket-plates of the lower part, and produces thereby a rigid connection of both halves, forming a complete door for closed or open use of the carriage.

In the drawing, *A* represents the upper, *A'* the lower, half of the carriage-door, which are hinged together at *a a*, so that the upper half may be folded down on the inside of the lower part. The window *B* slides, in the usual manner, in grooves *b* along guide-strips *b'*, resting, when raised, on the upper cross-piece of the lower section *A'*, when lowered in the casing of the same. The outer shape of both sections of the door corresponds to the curved form of the body of the carriage, while the inside shape is straight, to produce an intimate contact of the sections when folded down. The upper section *A'* is provided at one or both sides with recesses *d* having metallic covering-plates *d'*, to which the spring-catches *e* are attached. Spring-catch *e* has a disk or button, *f*, which

fits into a corresponding perforation, *f'*, of the face-plate *d*, while its head *e'* projects downward into a recess of the lower section *A'*, locking over the recessed plate *g* of the same. The locking parts are preferably applied at the sides of the upper section to be out of sight.

A firm connection of the two sections of the door is thereby established, with the appearance and rigidity of a full door, allowing the opening and closing and the use of the window, in the same manner as the common carriage-doors; but whenever it is desirable to change the carriage from the closed or covered position into the open one, the window is let down into the lower section, the door is swung open, so that the disks of the springs may be pressed inwardly and the catches detached from the lower section, admitting thereby the folding down of the upper half onto the lower and the use of the folded door, exactly as the doors of open carriages. In a few seconds the door may be changed again into condition for closed use by turning the lower section in upright position till the spring-catches lock into the socket-plates. The window may then be raised, and in this manner the door be applied to supply the desideratum of the public—a carriage which may be readily changed from an entirely closed state into an open one, and vice versa.

I am aware that convertible or folding carriage-doors are not broadly new, and therefore I do not desire to claim the same; but

What I do claim, and desire to secure by Letters Patent, is, viz:

1. For carriages which are intended to be changed from closed to open position, and vice versa, the door constructed of two hinged sections, of which the upper folds to the inside of the lower and guides the window, in the manner substantially as and for the purpose described.

2. The combination of the upper section *A*, having spring-catches *e e'* and covering-plates *d'*, with the lower section *A'*, to lock rigidly thereon in upright position, substantially as and for the purpose set forth.

The above specification of my invention signed by me this 29th day of October, 1873.

GEORGE KELLNER.

Witnesses:

M. GUIOT,

A. D. WERNITT.