

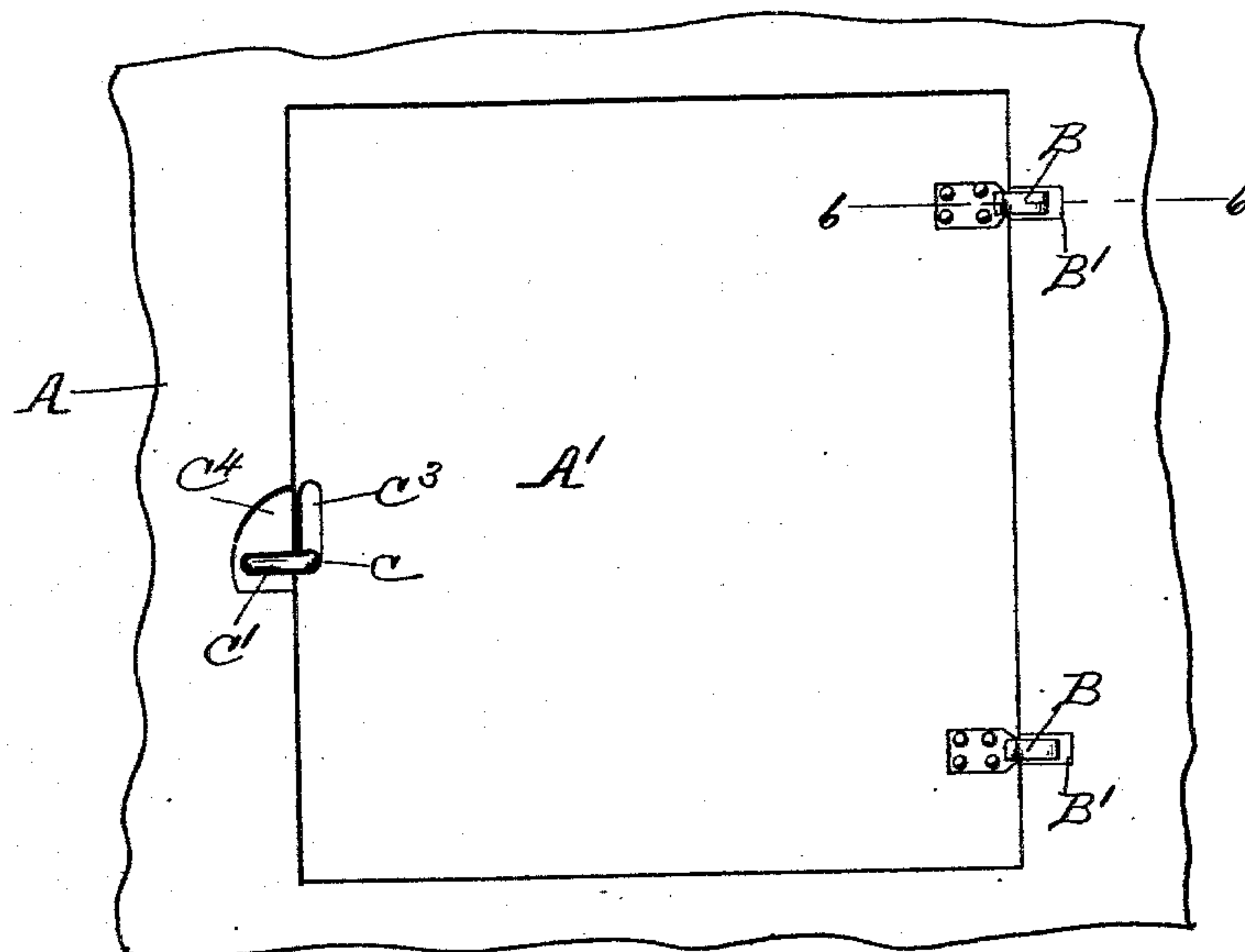
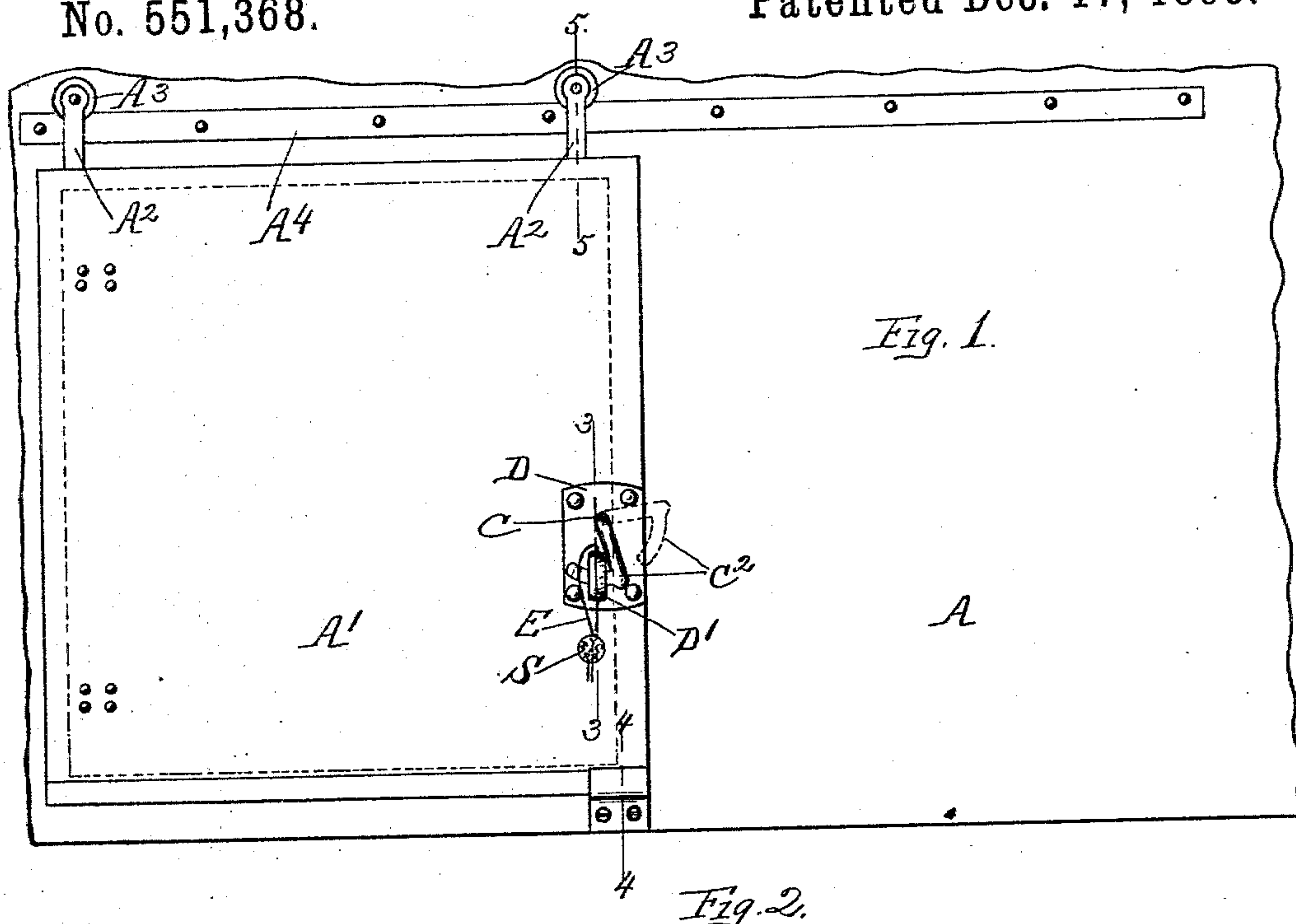
(No Model.)

2 Sheets—Sheet 1.

G. E. DE WITT.  
CAR DOOR FASTENING.

No. 551,368.

Patented Dec. 17, 1895.



Witnesses:  
J. G. Curtis.  
G. L. Curtis.

Inventor:  
George Emil de Witt.  
By Mosher Curtis  
Attys.

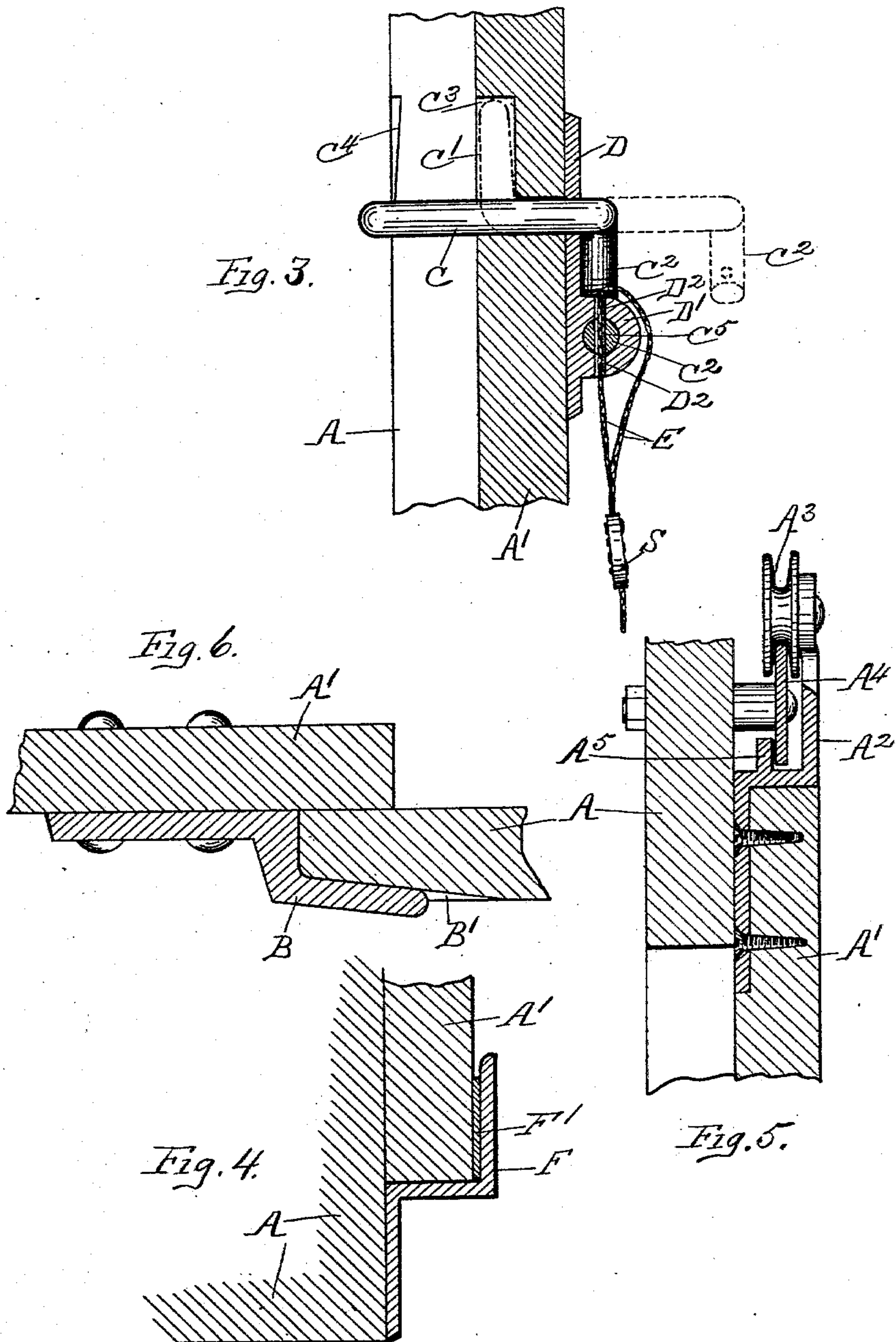
(No Model.)

2 Sheets—Sheet 2.

G. E. DE WITT.  
CAR DOOR FASTENING.

No. 551,368.

Patented Dec. 17, 1895.



Witnesses:  
J. L. Curtis  
G. L. Curtis.

Inventor:  
George Emil de Witt.  
By Mosher & Curtis  
Attys.



# UNITED STATES PATENT OFFICE.

GEORGE EMIL DE WITT, OF LANSINGBURG, NEW YORK.

## CAR-DOOR FASTENING.

SPECIFICATION forming part of Letters Patent No. 551,368, dated December 17, 1895.

Application filed January 25, 1895. Serial No. 536,283. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE EMIL DE WITT, a citizen of the United States, residing at Lansingburg, county of Rensselaer, and State of New York, have invented certain new and useful Improvements in Car-Door Fastenings, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in elevation of a part of the outer side of a car, showing a door provided with my improved fastening. Fig. 2 is a similar view of the inner side. Fig. 3 is a vertical section taken on the broken line 3 3 in Fig. 1. Fig. 4 is a vertical section taken on the broken line 4 4 in Fig. 1. Fig. 5 is a vertical section taken on the broken line 5 5 in Fig. 1. Fig. 6 is a horizontal section taken on the broken line 6 6 in Fig. 2.

The object of my invention is to provide simple and effective fastening mechanism controlled by a seal-lock, for use particularly on the doors of freight-cars.

A represents the side wall or body part of an ordinary freight-car; and A' the car-door supported by the hangers A<sup>2</sup>, secured at their lower ends to the door, and provided at their upper ends each with a grooved trolley A<sup>3</sup> mounted upon the track-rail or runway A<sup>4</sup>, fixed upon the car-body in the usual manner.

The door is provided on its inner side along one of its vertical edges with a pair of offsetting studs B B, the horizontally-projecting ends of which are adapted to engage the inner surface of the car-wall, or a wall of a recess B' formed therein, and serve both as a stop to limit the closing movement of the door and as a fastening device to prevent that edge of the door from being forced outwardly from the car-body to make an opening between the closed edge of the door and the car-body. The ends of the studs and the engaging surfaces on the car-wall may be relatively beveled, as

shown in Fig. 6, to facilitate the seating of the studs on such surfaces and insure close engagement between the edge of the door and car-body. The opposite end of the door is provided with an aperture adapted to receive the shank of the fastening-bolt C, rotarily and longitudinally movable in such aperture and of a length greater than the thickness of the door. The inner end of the bolt is provided with an offset C', and its outer end with an offsetting hook C<sup>2</sup>, both integral with the shank. These offsets C' and C<sup>2</sup> are in practically parallel planes, the first being situated to engage the inside of the car-wall and the other an eye on the outside of the door, both engagements being simultaneously effected by partially rotating the latch.

The inner wall of the door is provided with a recess or pocket C<sup>3</sup> opening into the bolt-aperture, and of a size adapted to receive and wholly contain therein the offset C' when the same projects vertically upward and the bolt is drawn to the outward limit of its longitudinal movement. When the bolt is forced to the inward limit of its longitudinal movement, the inner end of the bolt projects into the door-opening and the plane of rotation of the offset C' is located interiorly of the outer surface of the car-body.

The bolt is so located in the door that when the studs B B are in engagement with the car-wall at one side of the door-opening, a rotary movement of the bolt will cause its inner offset C' to lap the car-wall at the other side of such opening.

The walls of the car may be provided on its inner side in the path of the offset C' with a recess C<sup>4</sup> gradually decreasing in depth to form an inclined seat for the offset.

The outer side of the door is provided with a supporting-plate D, having an aperture registering with the bolt-aperture in the door, through which the bolt-shank passes. The plate D supports an apertured lug or eye-piece D' adapted to receive the hook end of the bolt when the bolt is turned to cause its inner offset to lap the car-wall in an approximately horizontal position. The hook end of the bolt is provided with an aperture C<sup>5</sup> adapted to register with similar apertures D<sup>2</sup> in the top and bottom walls of the eye-piece when the hook is inserted in the eye. The



registering-apertures are adapted to receive a wire E inserted therethrough and having its ends, which project from the apertures, secured together by the lead seal S in the usual manner of sealing car-door locks. When thus secured, the bolt cannot be rotated without destroying the seal or breaking or cutting the wire, and as the offset C' can be disengaged from its seat on the car-wall only by rotating the bolt, the door-fastenings will remain secure so long as the seal-lock is unimpaired; and the inner offset end of the bolt will guard against both a longitudinal movement of the door and a lateral movement tending to separate the door from the car-body.

In Figs. 1, 2 and 3 the door is shown closed and locked.

To unlock the door, the seal is removed or the wire severed and withdrawn from the registering-apertures. A quarter-turn is imparted to the bolt to withdraw the hook from the eye, and simultaneously disengage the inner offset from its seat and cause it to assume a vertical position registering with the pocket C<sup>3</sup> in the door; and the bolt drawn to the outer limit of its longitudinal movement, entirely withdrawing its inner end from the door-opening, and forcing the offset C' into the door-pocket, leaving the door free to be moved on its supporting trolley-track. The position assumed by the bolt when the door is open is indicated in the several figures by dotted lines.

One or both of the hangers A<sup>2</sup> may be provided with a flange or lug A<sup>3</sup> projecting upwardly on the inner side of the track-rail A<sup>4</sup> to prevent an outward movement of the door away from the car, either to gain access to the car, or to remove the door from the supporting-track.

F is a guideway for the lower edge of the door, and F' a bearing-plate on such lower edge to protect the door from wear.

I am aware that a latch provided with a so-called "cam-arm" adapted to engage an oblique socket formed in the casting fixed in the edge of a car-wall has been pivoted in a door, the outer end of said latch having a perforation to receive a keeper to be engaged by a separate hook. Said cam-arm and socket were provided with inclined surfaces corresponding to the screw-threads of the latch-pivot. My improvement dispenses with the screw-threads of the pivot of the latch, also with the metal socket and with the separate hook and provides that the inner arm of the latch shall engage an incline on the inside of the car-wall in manner to draw the door tightly against the outer face of the car-wall, a similar effect being produced at the opposite edge of the door by studs fixed on the car-engaging recesses in the door. By these means the door is positively and closely held to the car at both front and rear edges by a wedging action. Such effect was precluded in the above named constructions by the necessity of placing the door within the door-opening,

so that its edge coincided with the edge of the car-wall requiring specially curved tracks for the door-supporting pulleys. It will be seen that by my devices the door is not only crowded against the car at both front and rear edges, but that it is positively stopped by said devices from moving in either direction horizontally. The studs engaging the recesses also hold the door in a vertical direction and obviate rattling, which effect is further resisted by the wedge-like action above described. The advantages described are secured by devices of greater simplicity and strength.

What I claim as new, and desire to secure by Letters Patent, is—

1. In a car-door fastening, the combination with the car-door having an aperture therein, a wall pocket near its edge in its inner face adjacent to such aperture, of a bolt inserted through the door aperture and capable of independent rotary and longitudinal movements therein, an inner end-offset on the bolt engagable with a seat on the inner face of the car-wall and adapted to be entered in the pocket in the door by a longitudinal movement of the bolt when suitably turned, an eye-piece fixed upon the outer wall of the door below the bolt-aperture, a hook projection on the outer end of the bolt situated in a plane parallel with the plane passing through said end-offset and adapted to be forced into and out of the eye by the rotary movements of the bolt which engage or disengage said offset with respect to the car, and seal mechanism for locking the hook in the eye substantially as set forth.

2. The means for fastening a car door against movement both lengthwise and transversely and pressing it against the car at both the front and rear edges, comprising the lugs B and recesses B' having corresponding inclined faces and the bolt C provided with offsets C', C<sup>2</sup> to engage the inner surface of the car wall and the outer surface of the door respectively, said bolt and offset being adapted to hold the lugs B in their recesses, substantially as set forth.

3. In a car door fastening, the bolt movable when desired entirely out of the plane of the car wall and having inner and outer offsets, one adapted to engage the inner surface of the car wall and the other provided with a hook to engage an eye on the door, said inner offset and the hook being situated in parallel planes whereby they may be engaged by one partial rotation and said hook and the walls of the eye having perforations continuous with each other to receive a seal wire, substantially as set forth.

In testimony whereof I have hereunto set my hand this 14th day of January, 1895.

GEORGE EMIL DE WITT.

Witnesses:

FRANK C. CURTIS,  
C. H. McCUSTUR.