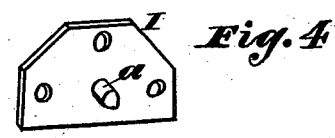
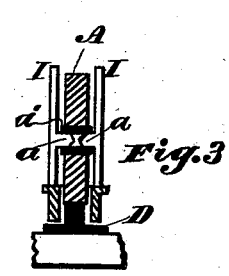
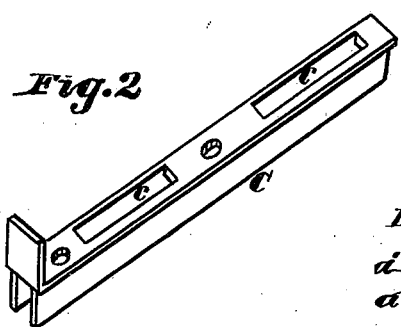
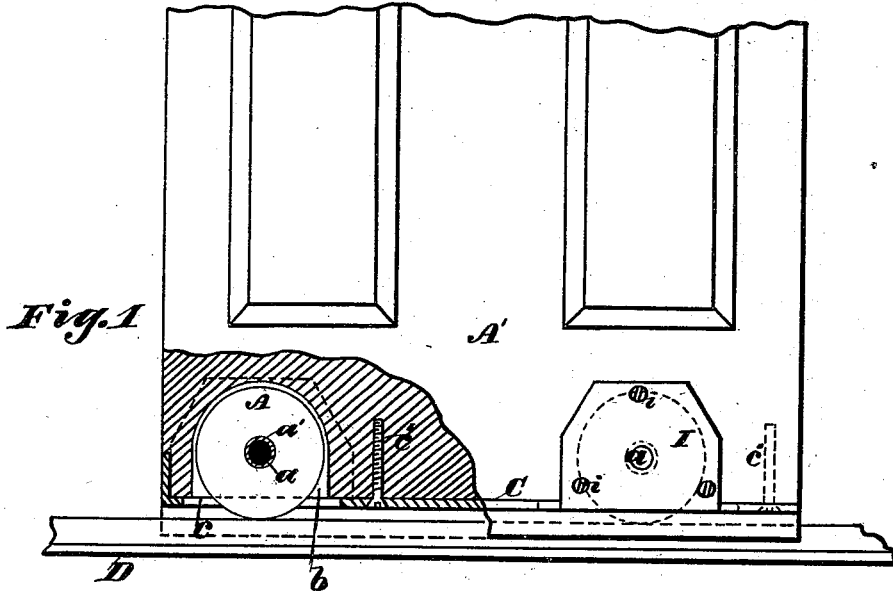


G. L. WAITT.  
CAR-DOOR.

No. 188,994.

Patented March 27, 1877.



Witnesses.  
*S. P. Hill*  
*John W. Tomlinson*

Inventor:  
*G. L. Waitt*

# UNITED STATES PATENT OFFICE.

GEORGE L. WAITT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
SAMUEL L. GARRETT, OF SAME PLACE.

## IMPROVEMENT IN CAR-DOORS.

Specification forming part of Letters Patent No. 188,994, dated March 27, 1877; application filed  
September 18, 1876.

*To all whom it may concern:*

Be it known that I, GEORGE L. WAITT, of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Car-Doors, which improvement is fully set forth in the following specification and accompanying drawing, in which—

Figure 1 is a broken section of a door with my improvement applied. Fig. 2 is a perspective view of a grooved shoe, forming part of my invention. Fig. 3 is a transverse vertical section of my invention. Fig. 4 is a perspective view of one of the plates used in my invention.

My present invention relates to an improvement on Letters Patent No. 114,731, granted to me under date of May 9, 1871; and it consists in forming the shoe without the projecting ears or flanges shown in said patent, and substituting adjustable side plates, with projecting studs on their inner sides to form bearings for the friction-rollers.

The object in making the side plates separate from the shoe is to enable them to be shifted on the shoe to suit any size door, and to enable a hollow axle to be used, instead of a solid one, in order to save drilling or riveting.

The shoe C, which is provided with elongated slots *c c*, is fastened to the lower edge of a car or other door by means of the screws *c' c'*. A

A are friction-rollers, inserted in recesses formed in the lower part of the door, and projecting through the slots *c c* in the shoe. I I are adjustable side plates, fastened to the shoe and provided on their inner surfaces with cylindrical studs *a a*. The friction-rollers A A are each provided with a bushing, *a'*, which is journaled upon the studs *a a* of the plates I I. In using the studs *a a* as an axle, a separate pin is dispensed with, and all drilling and riveting avoided. The slots *c c* in the shoe are made of sufficient length to permit the plates I I, carrying the rollers, to be shifted on the shoe, by which means the position of the rollers may be arranged to suit different width of doors. The rollers A A rest upon a rail, D, which enters the groove in the shoe C.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The adjustable side plates I I, provided with the cylindrical studs *a a*, in combination with the bushing *a'*, roller A, grooved shoe C, and elongated slots *c c*, substantially as herein shown and described.

G. L. WAITT.

Witnesses:

S. P. IFILL,  
JOHN W. TOMLINSON.