

(No Model.)

W. E. EASTMAN.
FREIGHT CAR DOOR AND HANGER.

No. 405,699.

Patented June 25, 1889.

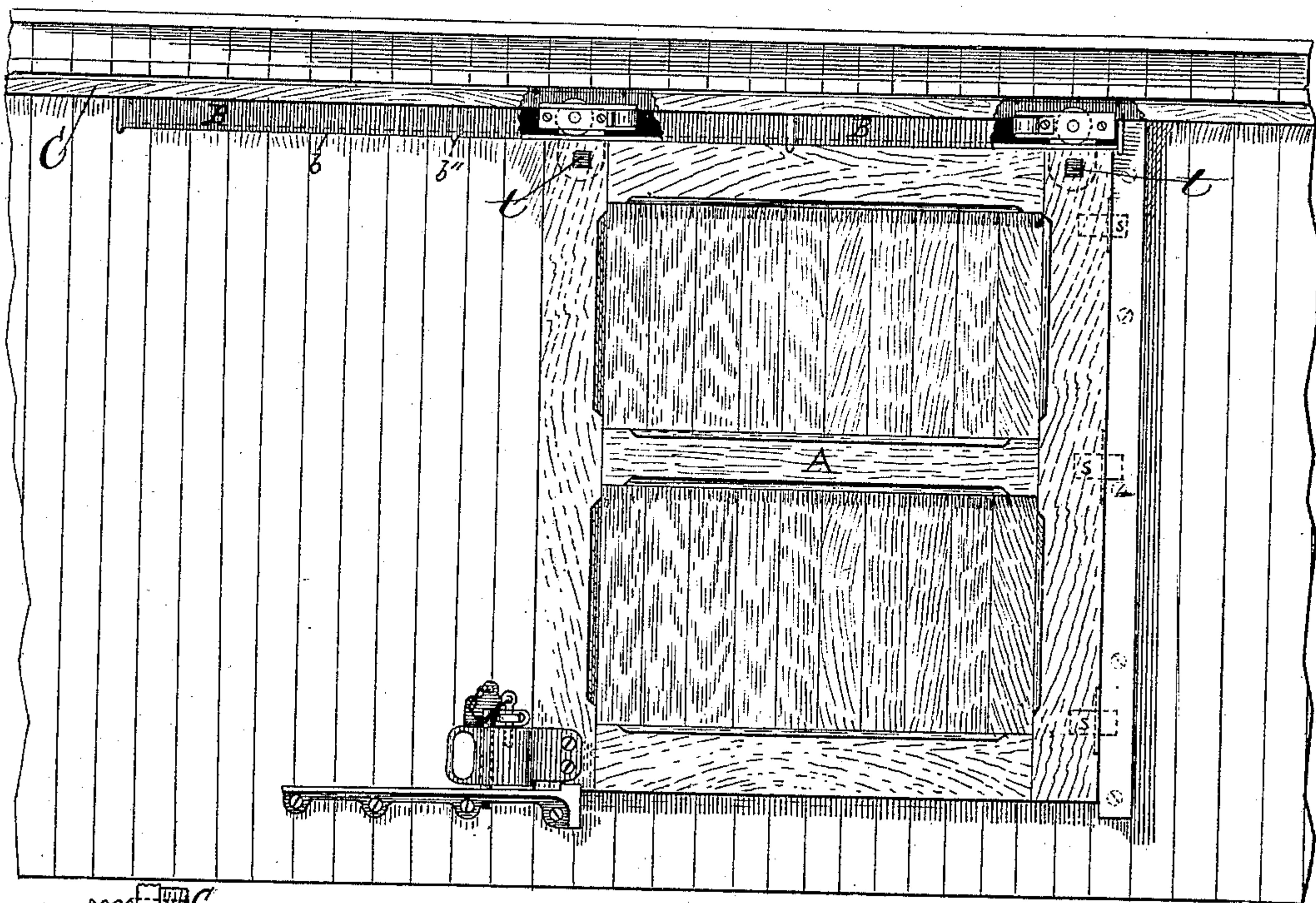


Fig. 1.

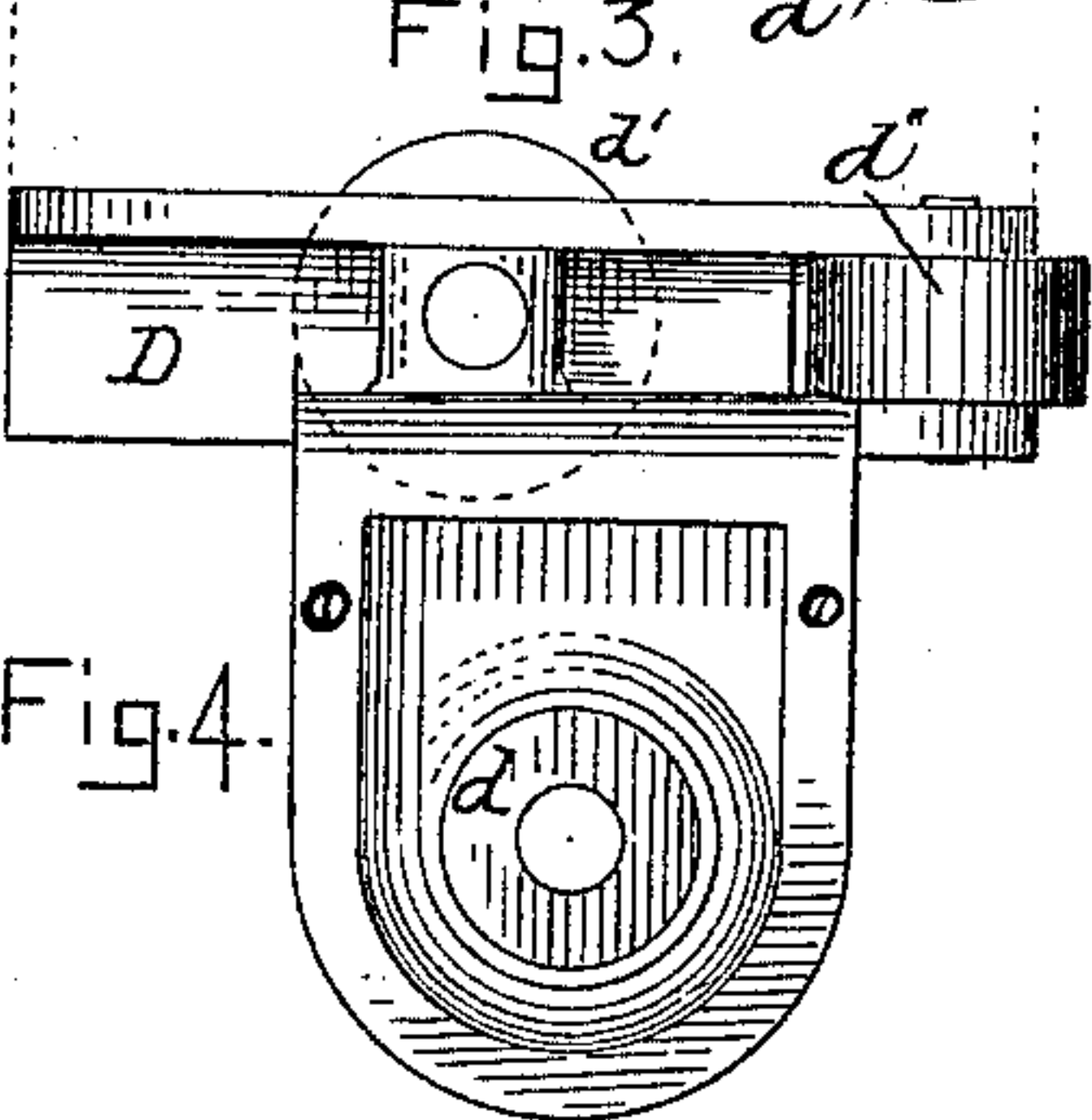
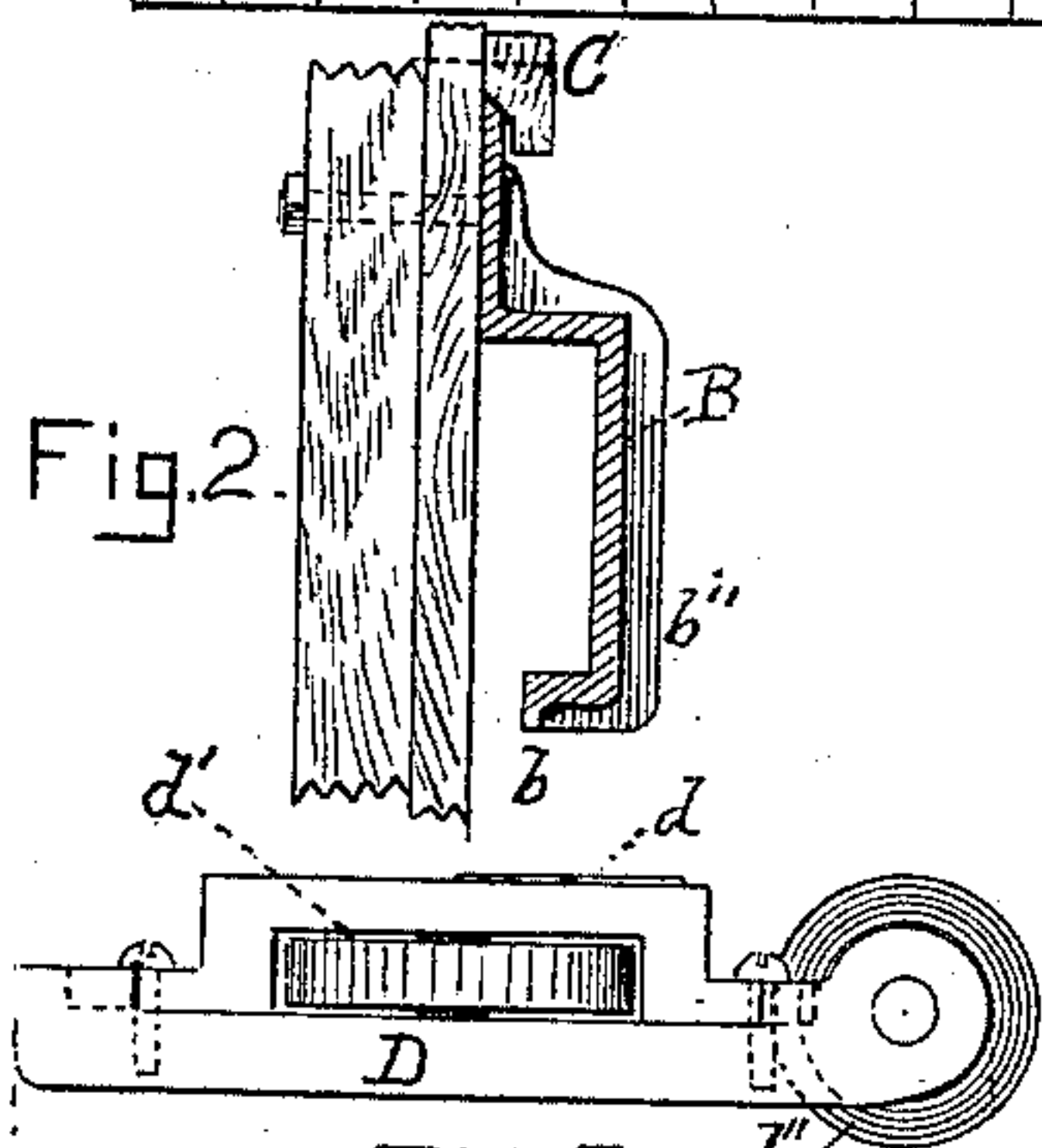


Fig. 4.

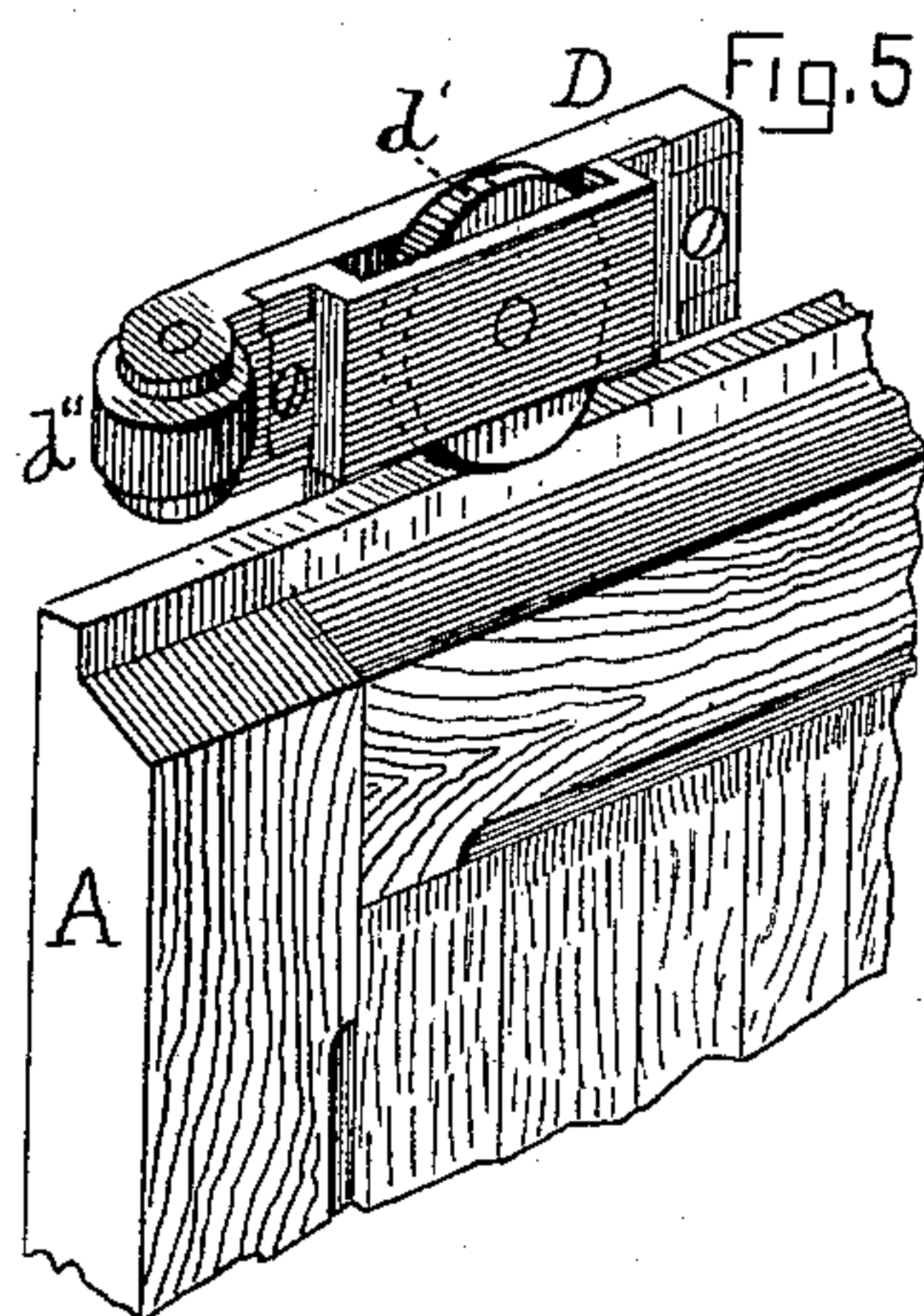


Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM E. EASTMAN, OF BOSTON, MASSACHUSETTS.

FREIGHT-CAR DOOR AND HANGER.

SPECIFICATION forming part of Letters Patent No. 405,699, dated June 25, 1889.

Application filed May 4, 1888. Serial No. 272,835. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. EASTMAN, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Freight-Car Doors and Hangers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a freight-car door which shall be easy of operation and not liable to get out of order. I attain these ends in the manner following, reference being had to the accompanying drawings, in which—

Figure 1 shows a side elevation of a car fitted with my door and hanger. Fig. 2 shows the housing in section; Fig. 3, a top plan view of the truck frame, roller or wheel, and vertical frictional guide-roller; Fig. 4, a back view of the same; Fig. 5, a perspective of part of the door with one truck attached.

The same letters refer to like parts in the several figures.

The housing B is preferably made of metal, and I use malleable cast-iron strengthened at intervals by the ribs *b''*. The housing not only protects the trucks from the weather, but furnishes tracks for the rollers both above and below and a track or bearing-surface on one side for the roller with vertical axis. This double track formed by the housing is an important part of my invention. A car-door being opened by pressure exerted at a point below its suspending-rollers, there is always a tendency of the upper corner farthest from the front of the door to rise and bind or move with considerable friction within or against the housing; but in my door, as soon as the truck near the corner designated rises from the lower track, upon which it normally rests and runs, it finds a bearing or track immediately above it, and, starting to revolve in an opposite direction, gives free motion to the door, which may run its entire course with one roller or wheel in contact with the lower track while the other is running against the upper one.

Just above the housing is the weather-strip

C, Fig. 2, and at the bottom the downward projection *b*, which extends below the top of the door.

The door A, as shown in Fig. 5, has a portion near the top beveled to shed water and the extreme top straight to enter and move within the housing.

The truck-frame D, carrying the rollers or wheels *d'* *d''*, is attached to the inside of the door by a bolt *t*, screwing from the outside into the thread cut in the boss *d*, which is let into the substance of the door, (see *d*, Fig. 3,) and lag-screws from the inside of the door secure it also, so that if the bolt *t* should be removed from the outside the truck-frame would still be secured to the door.

When the truck-frame is secured to the door and the latter placed in position, the housing entirely covers the rollers or wheels, and also covers a part of the door. The main body of the door, however, projects beyond the housing, or, more properly speaking with reference to doors and housings as heretofore constructed, the thickness of the housing is so reduced as to project less than or, at most, no more than the door, thus rendering it less liable to be torn off or injured by accident. This feature of my invention I regard as important, and is due to the construction of the door, as described, whereby a thin upper portion enters the housing to turn rain, &c., while below the same the door is made of ordinary or suitable thickness with a beveled part to shed rain running from just below the housing to the thick part of the door.

By reducing the thickness of the door at a point where strength is not required I am enabled to guard against the rain, &c., and at the same time reduce the projection of the housing, for the purpose before mentioned.

It will be understood that the office of the roller *d''* is to prevent lateral friction by revolving against the inside face of the housing B or against the body of the car, and that vertical friction is relieved by the upper and lower tracks of the housing, as before set forth.

Having thus described my invention, I claim and desire to secure by Letters Patent the following:

1. A freight-car door made thin at its upper edge with a beveled portion below to shed

rain, &c., in combination with a housing whose projection is no greater than the main body of the door.

2. The combination of a truck-frame carrying a roller with horizontal axis and another with vertical axis, with a door made thin at its upper edge with a beveled portion below to shed rain and the like, and a housing which furnishes a track both above and below for the roller with horizontal axis, and a bearing-

surface on one side for the roller with vertical axis and whose projection is no greater than the main body of the door.

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

WILLIAM E. EASTMAN.

Witnesses:

EROS L. EASTMAN,

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