

No. 617,642.

Patented Jan. 10, 1899.

B. W. DAVIS.
GRAIN DOOR FOR RAILWAY CARS.

(Application filed May 6, 1898.)

(No Model.)

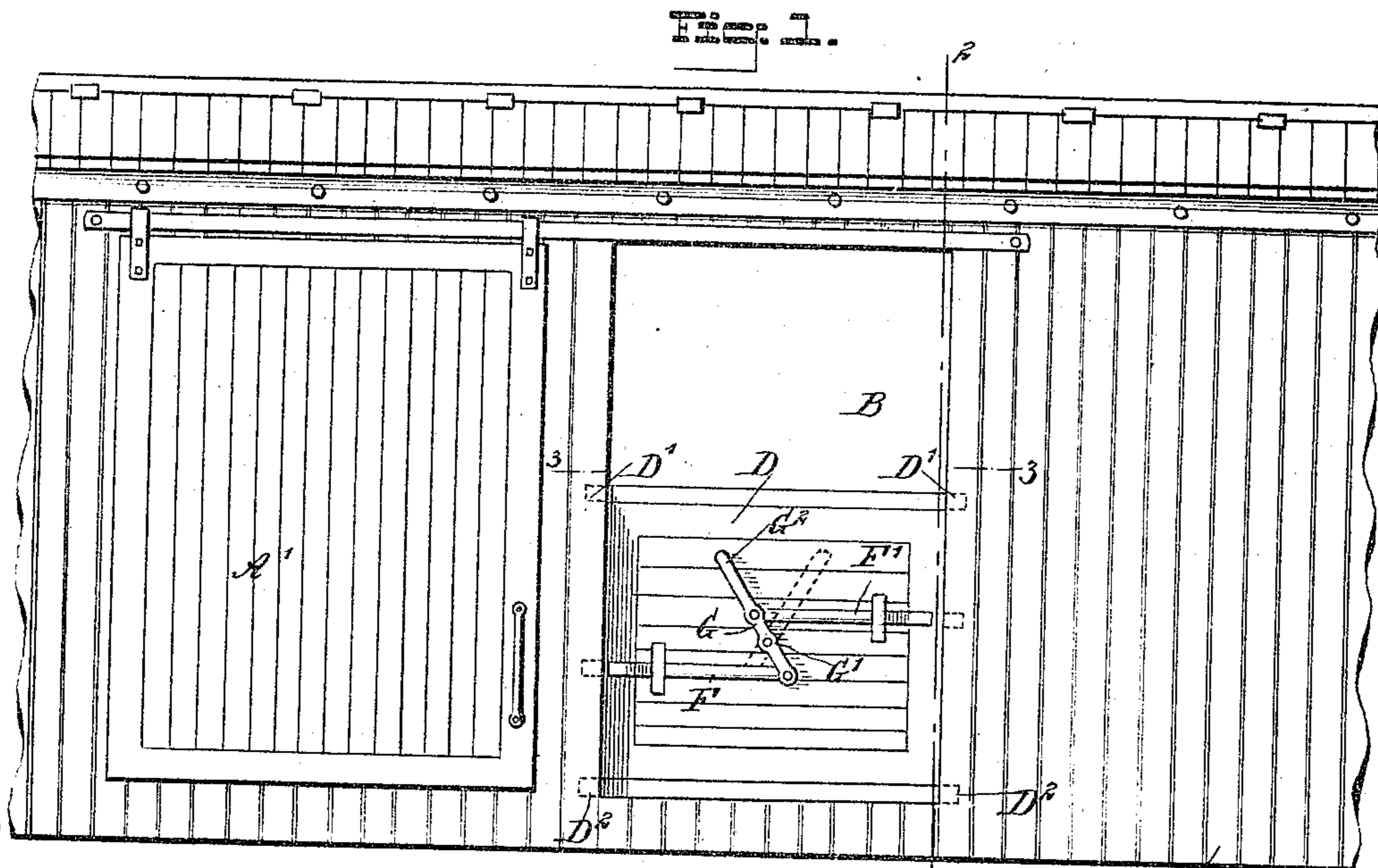


Fig. 2.

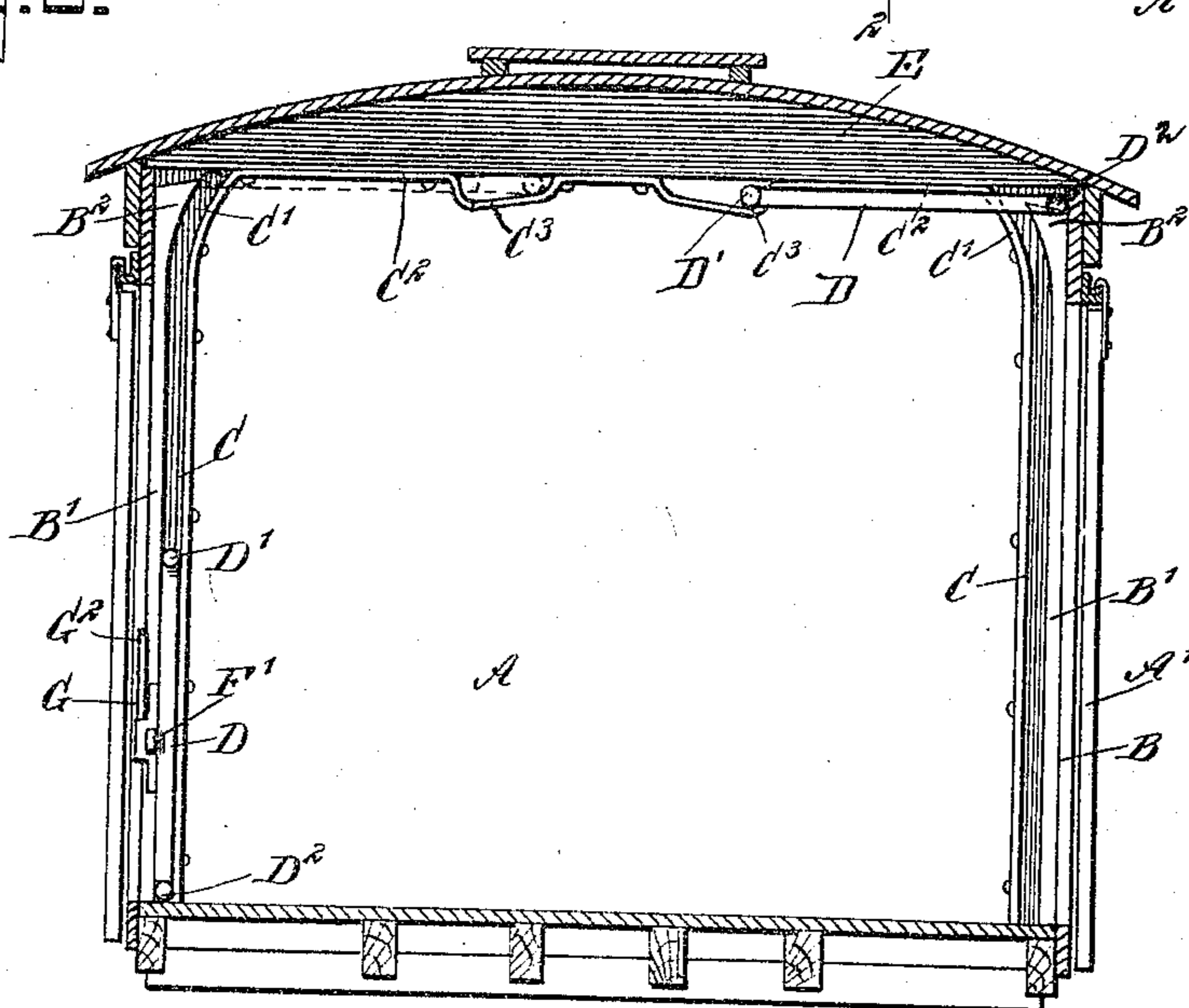
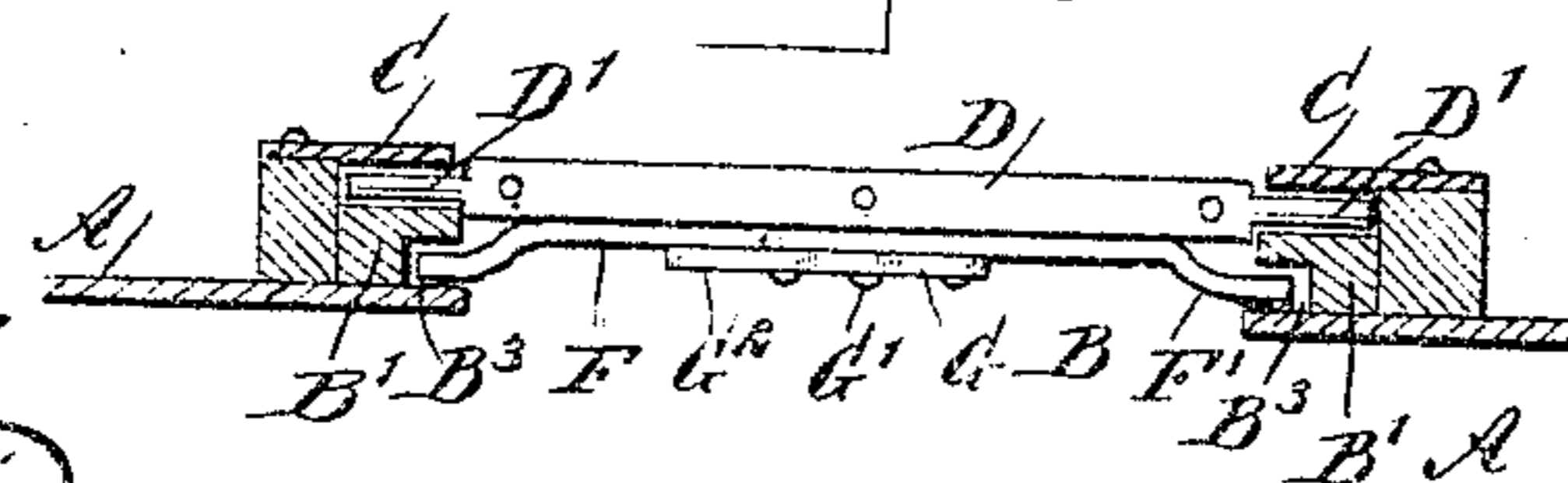


Fig. 3.

WITNESSES:

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UNITED STATES PATENT OFFICE.

BENJAMIN WATSON DAVIS, OF ROCK SPRINGS, WYOMING.

GRAIN-DOOR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 617,642, dated January 10, 1899.

Application filed May 6, 1898. Serial No. 679,928. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN WATSON DAVIS, of Rock Springs, in the county of Sweetwater and State of Wyoming, have invented a new and Improved Grain-Door for Railway-Cars, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved door more especially designed for use on railway-cars carrying grain and the like and arranged to permit of readily opening the door and holding it in an open position in the car completely out of the way, so as to give convenient access to the stored grain when unloading the car.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement as applied. Fig. 2 is a transverse section of the same on the line 2 2 in Fig. 1, and Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 1.

The railway-car A, of any approved construction, is provided on each side with the usual doorway B, adapted to be closed by an ordinary door A'. (Shown in an open position in Fig. 1.) On the jambs B' of the doorway B are secured vertically-disposed guideways C, engaged by projecting sets of pins D' D² on the upper and lower sides of a grain-door D; adapted to normally rest on the floor of the car, as is plainly indicated in Figs. 1 and 2. The upper ends of the guideways C are curved inwardly, as at C', and terminate in horizontally-disposed guideways C², formed at their inner ends with an elongated drop C³, adapted to be engaged by the uppermost pins D' at the time the car-door is pushed into an uppermost position, as indicated in dotted lines at the left and in full lines at the right in Fig. 2. The upper ends of the jambs B' are formed with offsets B², adapted to be engaged by and form rests for the pins D², so as to support the door in a horizontal position when raised, as indicated at the right in Fig. 2. It will be

observed that the offsets B² are located entirely without the main guideways C C' C², upon the outer side of guideways, and that the upper surfaces of the offsets form a portion of branch guideways extending outwardly from the main guideways, into which the pins D² at the lower end of the door D can be shifted after passing the junction of the main guideway with the branch guideway.

Now it will be seen that by the arrangement described the door D can be readily pushed upward, the pins D' D² traveling in the guideways C, so that the uppermost pins D' finally pass over the rounded end C', the guideways C², and into the innermost ends of the drops C³, the door then being pushed outward to bring the pins D² onto the offsets B² to hold the door in an uppermost horizontal position, as indicated in full lines at the right in Fig. 2. The doorway B is thus unobstructed and gives ready access to the contents of the car. When it is desired to again close the doorway at the lower portion by the grain-door D, the operator first slides the door inward to bring the pins D² into the curved part C', and then lifts the forward end of the door to disengage the pins D' from the drops C³, and then slides the door outwardly and downwardly, the pins D² traveling along the rounded portion C' and finally down the vertical guideway C and the pins D' traveling along the guideways C² and the parts C' to the guideways C. The guideways C² and their drops C³ are secured to transverse beams E on the roof of the car, as shown in Fig. 2.

On the front edge of the grain-door D is arranged a locking device for fastening the door in a lowermost position, said device consisting of two bolts F F', fitted to slide in suitable bearings on the said door and adapted to engage keepers B³, formed in the jambs B'. The inner ends of the bolts F F' are pivotally connected with a lever G at opposite sides of its fulcrum G', said lever being provided with a handle G² for conveniently swinging the lever to move the bolts F F' in or out of engagement with the keepers B³.

The device is very simple and durable in construction, and the entire arrangement can be readily built into old cars now in use.

The door is always ready for use when

wanted and forms a permanent fixture of the car, so that it cannot be left or forgotten at the station nor lost.

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

1. The combination of the frame having a door-opening and vertical guideways adjacent thereto, said guideways being continued
10 at their upper ends by an approximately horizontal portion, and offsets or supports located entirely without said guideways and on the outer side thereof adjacent to the meeting-point of the horizontal and vertical section 3,
15 and a door mounted to move in said guideways and adapted to rest on said offsets.

2. The combination of the frame having a

door-opening and vertical guideways adjacent thereto, said guideways being continued at their upper ends by a curved portion and an approximately horizontal portion having a drop at its inner end, and offsets or supports located entirely without said guideways and on the outer side thereof adjacent to the curved portion, the upper surface of said offsets forming a portion of branch guideways extending outwardly from the main guideways, and a door having projections mounted to move in said main guideways and branch guideways.

BENJAMIN WATSON DAVIS.

Witnesses:

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