

No. 677,728.

Patented July 2, 1901.

E. V. WILLIAMS.

GRAIN CAR DOOR.

(Application filed Jan. 18, 1901.)

(No Model.)

Fig. I.

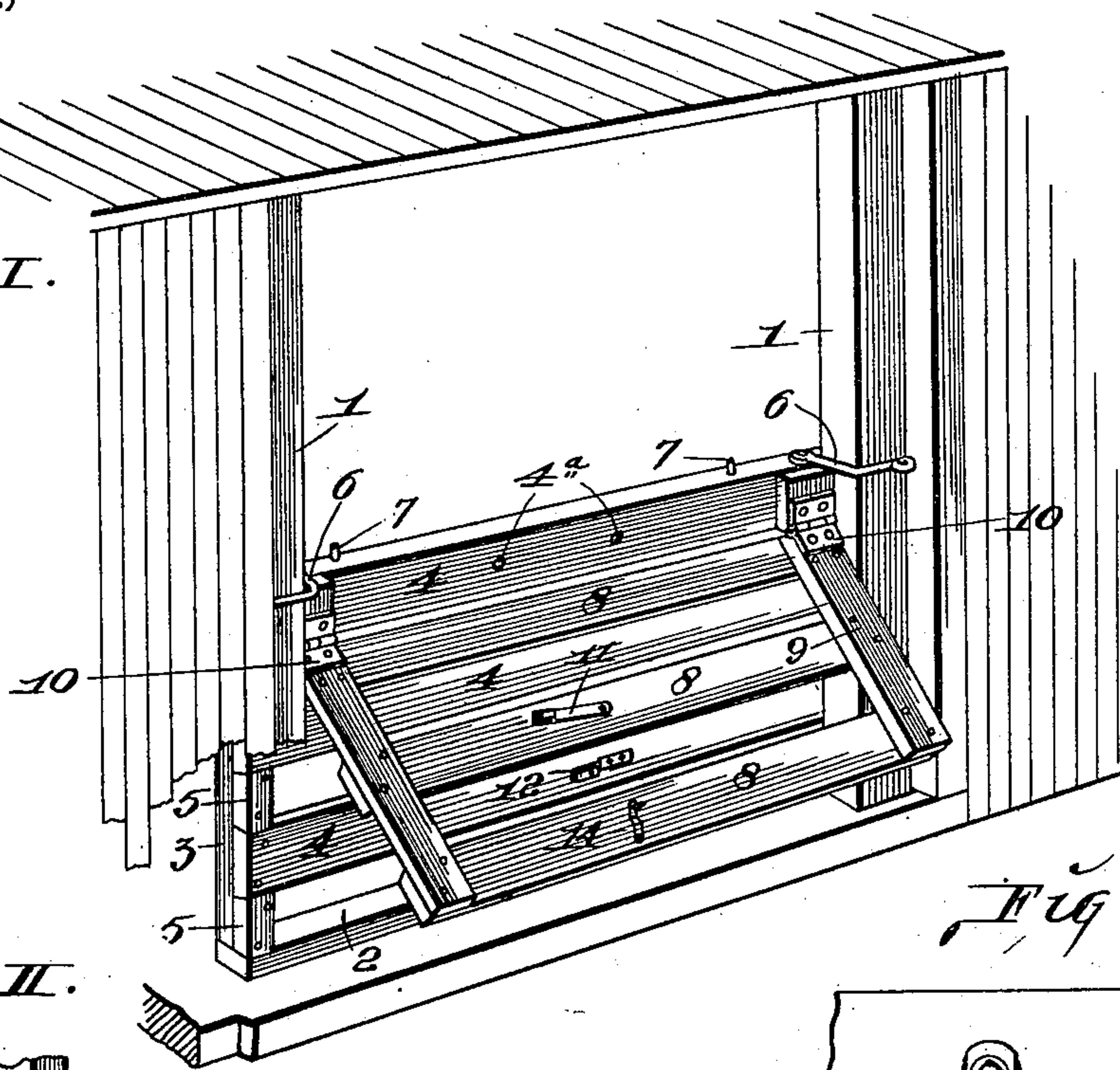


Fig. II.

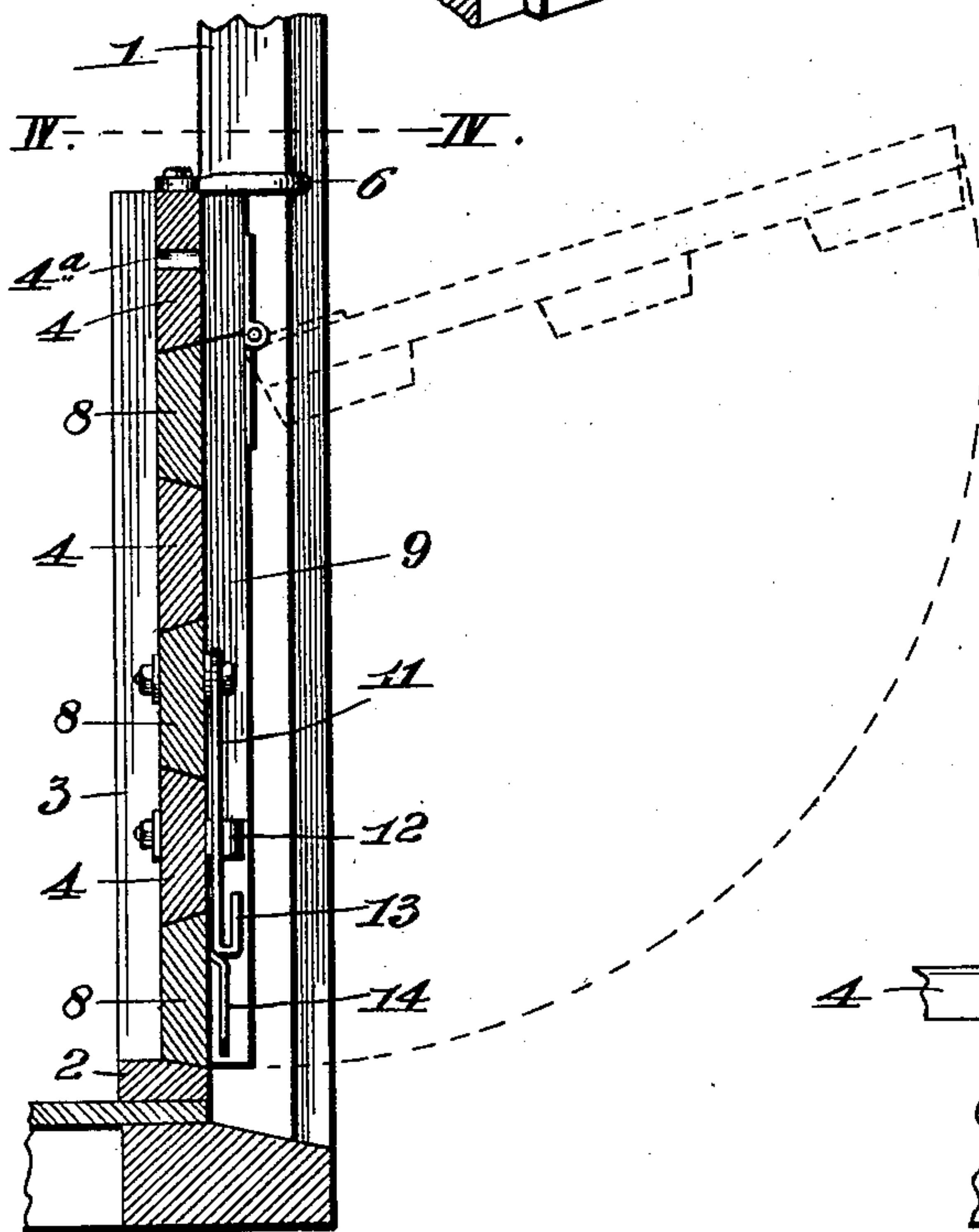


Fig. III.

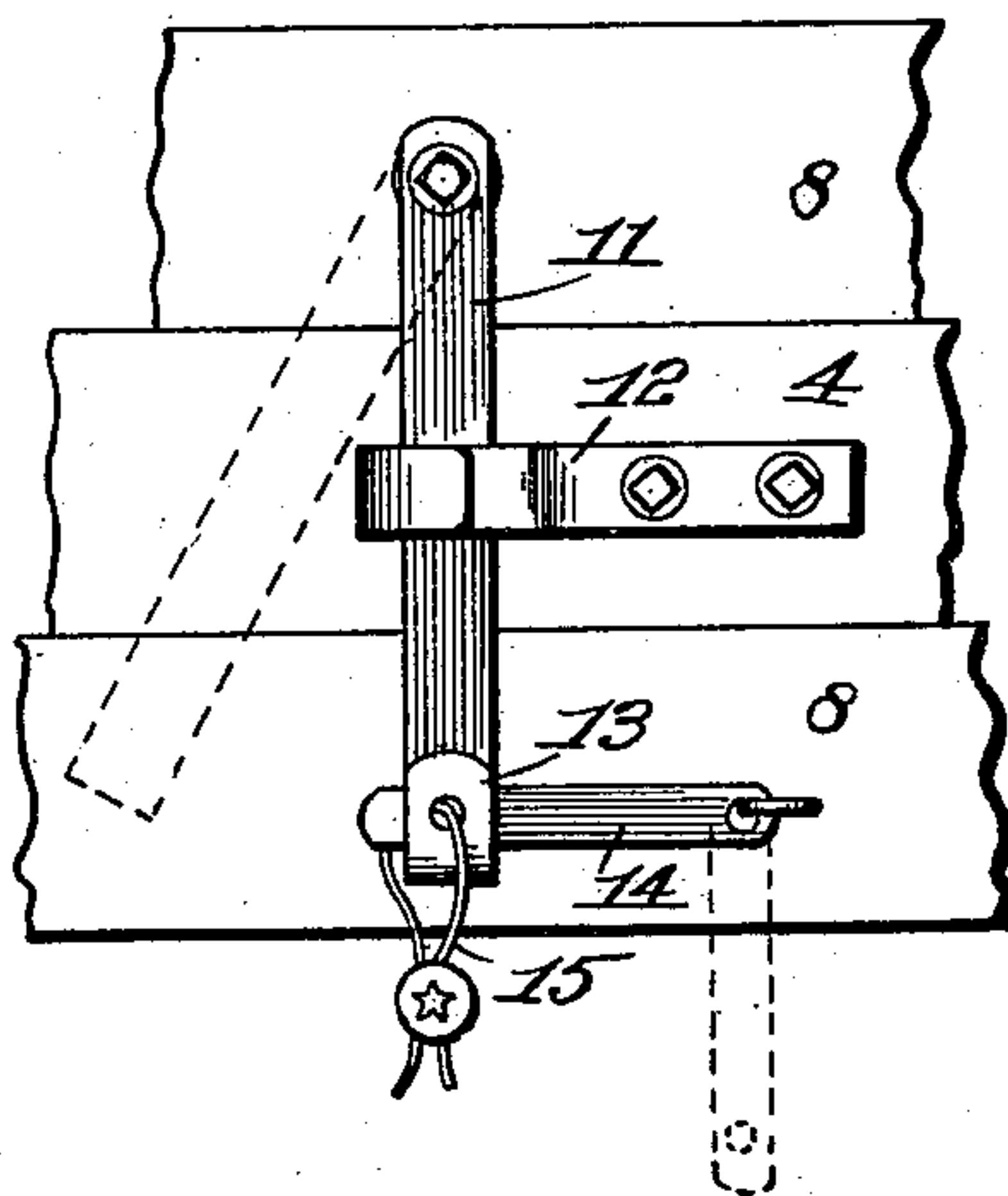
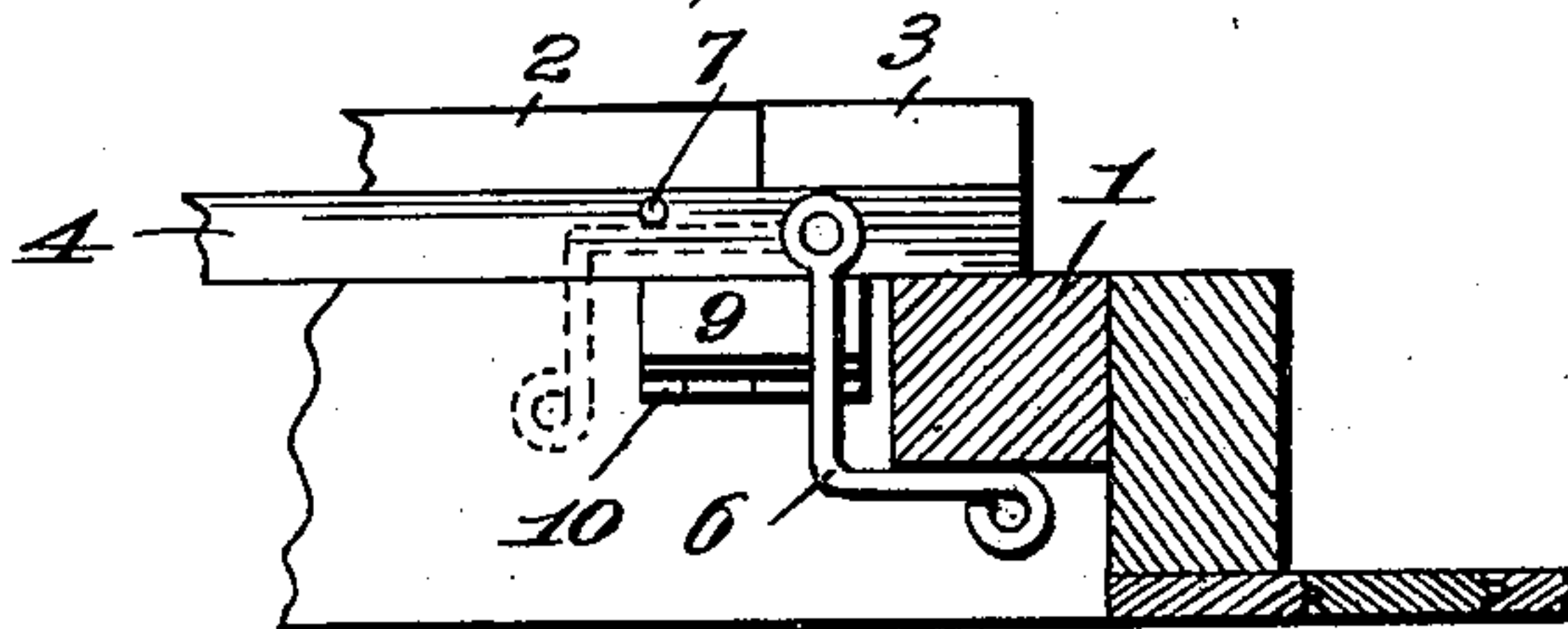


Fig. IV.



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# UNITED STATES PATENT OFFICE.

ELMER V. WILLIAMS, OF ST. LOUIS, MISSOURI.

## GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 677,728, dated July 2, 1901.

Application filed January 18, 1901. Serial No. 43,707. (No model.)

*To all whom it may concern:*

Be it known that I, ELMER V. WILLIAMS, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Grain-Car Doors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a door designed for use upon freight-cars carrying grain, the object of the invention being to produce a door of the character named that will embody strength and durability, is simple in construction, and is readily and easily operated to permit the discharge of grain from the car.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view showing the door applied to a car, the door being shown open. Fig. II is an enlarged vertical sectional view of the door in closed position. Fig. III is an enlarged detail view of the door-securing means. Fig. IV is a top view of a fragment of the door with the door-frame shown in horizontal section, taken on line IV IV, Fig. II.

1 designates the door-posts of the car. The main frame of the door is composed of a base 2, end uprights 3, and cross-bars 4, that are nailed or otherwise suitably secured to the uprights and are separated by parting-blocks 5. (See Fig. I.) The frame composed of said parts is adapted to be positioned in the doorway of the car and is maintained in upright position by a pair of hooks 6, that engage the door-posts 1, thereby supporting the door until the pressure of grain from within the car against it provides for its support. The swinging of the hooks 6 is limited by stops 7.

The arrangement of the cross-bars 4 of the door-frame provides spaces between the bars, through which the grain is discharged when the door is open. When the door is closed, these spaces are closed by a swinging frame composed of cross-slats 8, joined by end strips 9, that are connected to the upper cross-bar 4 by hinges 10, the said slats 8 being adapted to enter the spaces between the cross-bars and effectually close them against the egress of grain therethrough. Whenever the door is to be opened for the discharge of grain,

it is merely necessary to raise the swinging frame, so that the slats are moved out of said spaces and the grain is free to discharge therethrough, as will be readily apparent.

Each of the cross-bars 4 and slats 8 are formed with tapering edges, so that when the door is closed a tight fit will be produced between the parts to prevent the egress of the grain. The upper cross-bar 4 is provided with apertures 4<sup>a</sup>, adapted to receive pins or hooks on the interior of the car when the car is not in use and it is desired to suspend the door out of the way.

11 designates a catch-bar pivoted to one of the slats 8 and adapted to engage a keeper 12, fixed to one of the cross-bars 4 to hold the swinging frame in closed position. The lower end of the catch 11 is provided with a hook 13, adapted to receive the hasp 14, both of which contain eyes adapted to receive a suitable seal 15, passed therethrough.

I claim as my invention—

1. In a grain-car door, the combination of a main frame detachably secured in the doorway of the car and having a series of cross-bars separated from each other, an outwardly-swinging frame hinged to the main frame and comprising slats arranged to close the spaces between said cross-bars and cleats secured to the outer face of the main frame and spaced to engage the inner faces of the jambs at each side of the doorway to position the door in such doorway whether the swinging frame be open or closed.

2. In a grain-car door, the combination of a main frame detachably secured in the doorway of the car and having a series of cross-bars separated from each other, an outwardly-swinging frame hinged to the main frame and comprising slats arranged to close the spaces between said cross-bars and cleats secured to the outer face of the main frame and spaced to engage the inner faces of the jambs at each side of the doorway to position the door in such doorway whether the swinging frame be open or closed, and a laterally-swinging hook secured to each end of the main frame adapted to engage the jamb on each side of the doorway.

ELMER V. WILLIAMS.

In presence of—

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