No. 620,118. Patented Feb. 28, 1899.

L. GOOKINS.

GRAIN DOOR FOR CARS.

(Application filed Oct. 3, 1898.)

(No Model.)

Fig. 1.

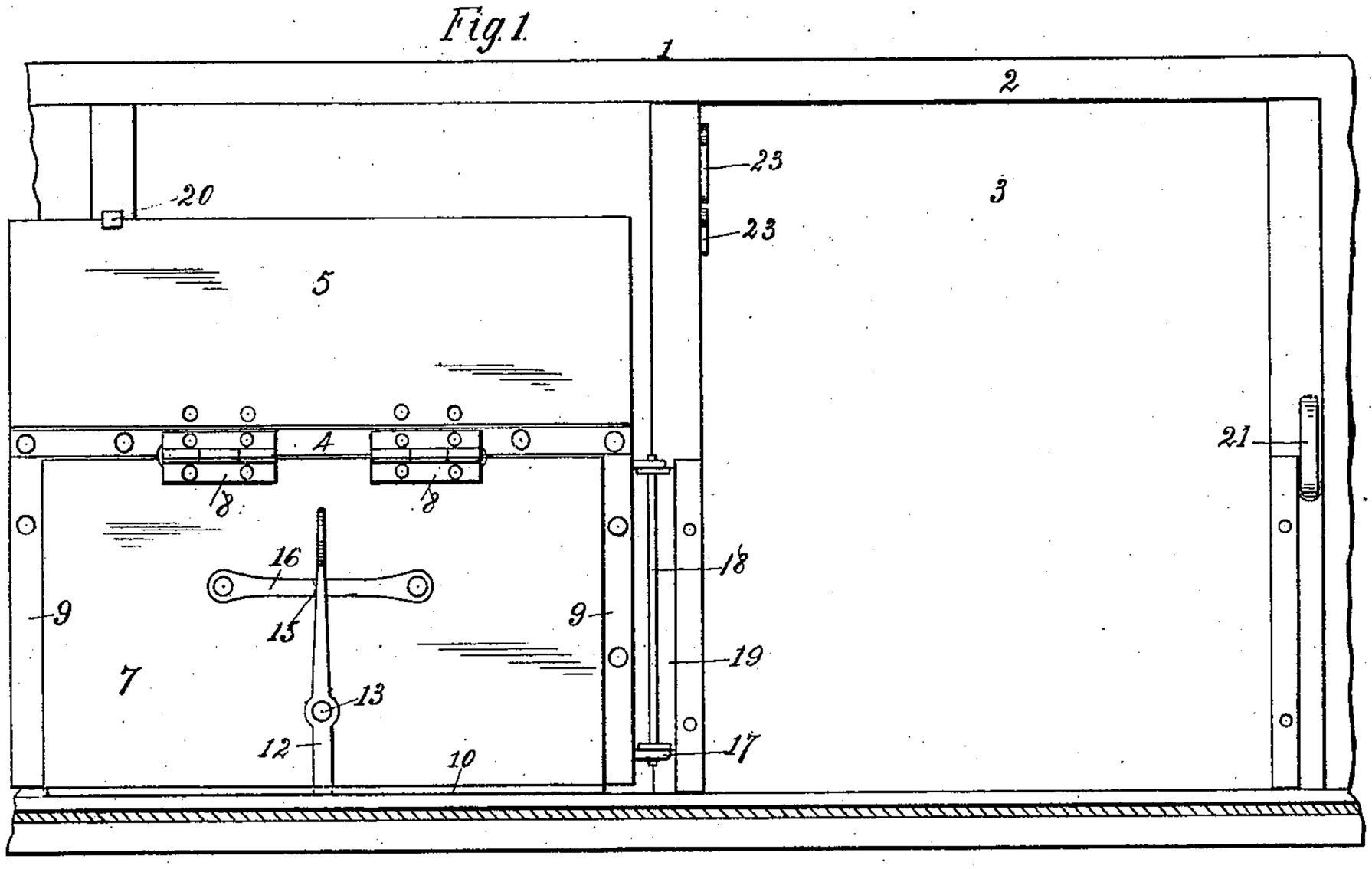


Fig. 2.

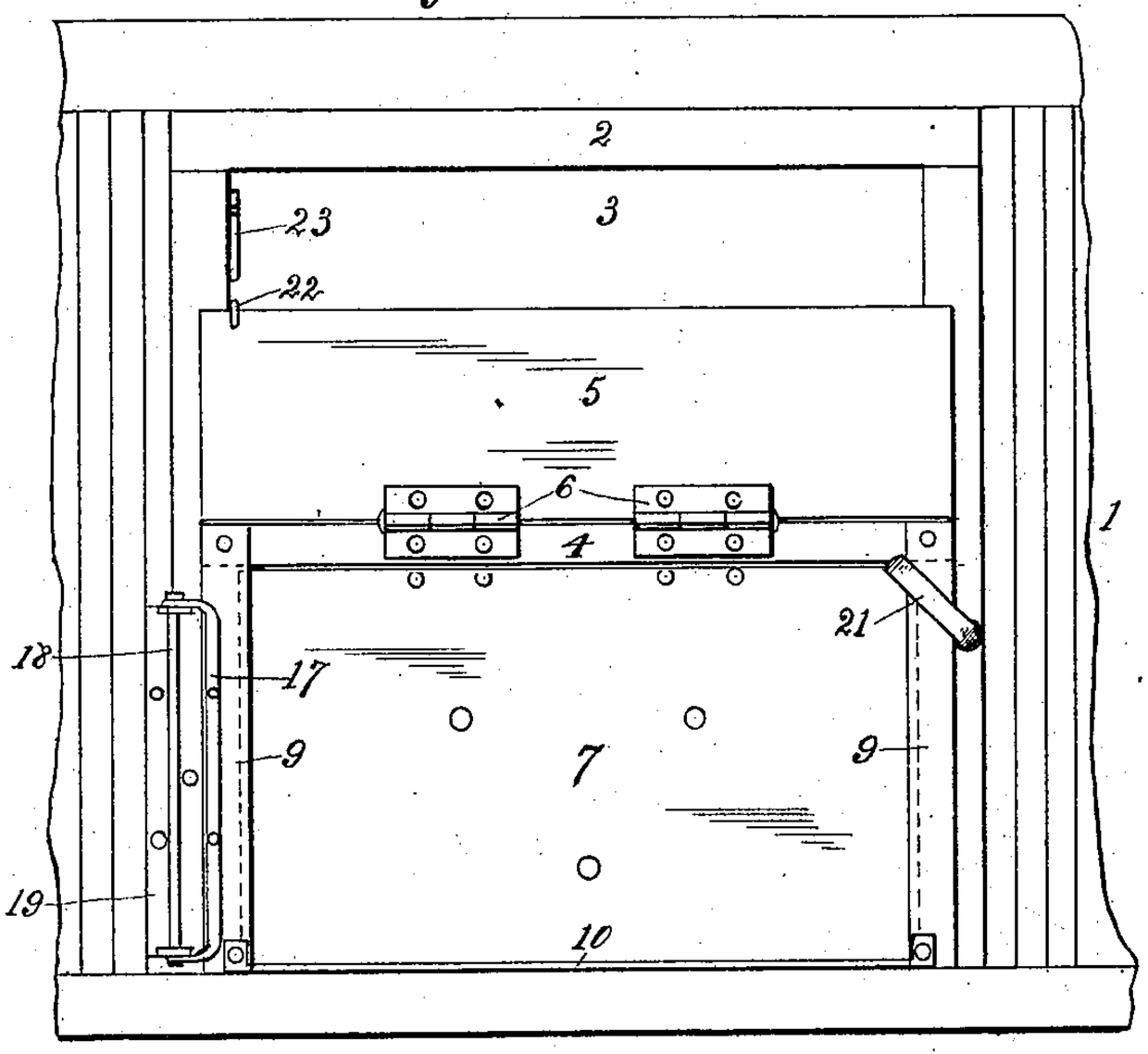
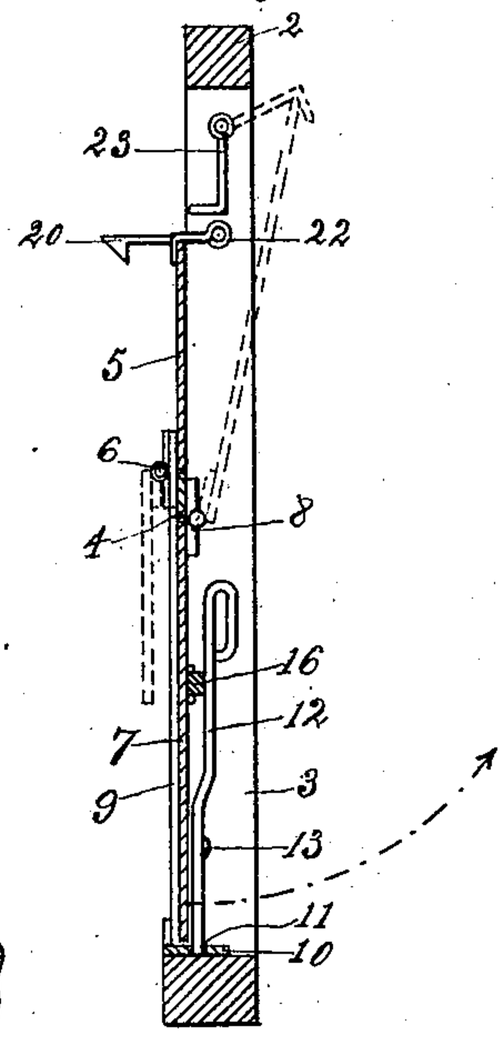


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

LINCOLN GOOKINS, OF WATSON, MISSOURI.

GRAIN-DOOR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 620,118, dated February 28, 1899.

Application filed October 3, 1898. Serial No. 692,501. (No model.)

To all whom it may concern:

Be it known that I, LINCOLN GOOKINS, a citizen of the United States, residing at Watson, in the county of Atchison and State of Missouri, have invented certain new and useful Improvements in Grain-Doors for Cars, of which the following is a specification.

My invention relates to grain-doors for cars; and my object is to produce a door of this character which is practically indestructible and of simple and cheap construction.

Other objects of the invention will hereinafter appear and be pointed out in appended claims, and in order that the invention may be fully understood reference is to be had to the accompanying drawings, in which—

Figure 1 is a view showing the interior of a car provided with my improved grain-door in its open position. Fig. 2 is a similar view of the car, showing the door in its closed position. Fig. 3 is a central vertical section.

In the said drawings, 1 designates a car of any preferred type, 2 one of the door-casings, and 3 the door-opening thereof, said opening being adapted to be closed by the customary sliding door (not shown) at the outside of the car.

My improved grain-door is located at the inner side of a car and is constructed as follows:

4 designates a longitudinal strip parallel with the car-floor and arranged about the middle of the said opening.

5 designates the upper hinged member of the door, said member being secured to the strip 4 by hinges 6 of any suitable type, said door being adapted to swing downward and inward of the car.

7 designates the lower hinged member of the door. This member is connected to the strip 4 by hinges 8 and is adapted to swing upward and outward of the car and for this reason must be shorter than the upper member, so that it may swing freely outward and upward through the door-opening.

9 designates strips which are secured by rivets or equivalent means to the inner side of the strip 4 in order to provide abutments which prevent the door 7 swinging inward of the car, and secured to and carried by said strips 9 is a horizontal latch-bar 10, having a longitudinal slot 11 to receive the lower end of the lever 12, pivoted, as at 13, at the outer side of the door member 7 in order to clamp said member reliably against said strips 9, and thus prevent it swinging outwardly accidentally. This lever is secured reliably in position by engagement with a notch 15 of bar 16, secured to the outer member 7. By means of the slotted plate 10, lever 12, and latch-bar 16 the door member 7 is made for the time being a rigid part of strip 4.

17 designates a bracket which is pivotally mounted upon the hinge-rod 18, secured to the bracket 19, fastened to the woodwork of the car in any suitable or preferred manner, this construction constituting the hinge upon which the entire door, consisting of the strip 4 and door members 5 and 7, swings and upon which said door may be swung from the position shown in Fig. 2 to the open position shown in Fig. 1, being held reliably in said open position by engagement with the spring-catch 20, projecting from a timber of the car, this spring-catch having its front end beveled in order that contact therewith of the door member 5 shall spring it upward until the door passes, when it instantly resumes its original position and prevents the door from accidentally closing.

When the door is closed, it is held reliably in such position by means of a hook 21, pivoted to the framework of the car, and engaging the lower part of said door.

22 designates a hook pivoted to the door-casing to engage the upper edge of said door member 5, as shown in Fig. 3, and in order to support the lower member in its open position—that is, when swung outward and upward to the position shown in dotted lines, Fig. 3—I employ a hook 23, pivoted to the casing and adapted to engage the upper edge of said member, as shown by dotted lines in said figure.

When the car is not engaged in carrying grain, said door may be folded to and secured in inoperative position, as shown in Fig. 1.

When the car is to receive a load of grain, the door is closed and so secured, and then the upper member is swung down and inward to the position shown in dotted lines, Fig. 3, in order to permit the grain to be conveniently introduced into the car. When the car is filled almost to the level of the top of

the strip 4, the member 5 is returned to its original position and so secured, and the loading of the grain continues through the opening or space above said door.

When the car is to be emptied, after the proper receptacle or chute has been positioned the lever 12 is disengaged from the slot of plate 10 and the door 7 is swung upward and outward to the position shown in dotted lines, Fig. 3, and so secured by means of the hook 23 or an equivalent device.

From the above description it will be apparent that I have produced a grain-door for cars which embodies the features of advantage enumerated in the statement of invention, and it is to be understood that I reserve the right to make such changes in the detail construction, form, arrangement, or proportion of the parts as shall not be a departure from the spirit and scope of my invention.

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

1. A grain-door for cars, consisting of a horizontal strip provided with depending end strips, a bracket secured to one of these end strips and hinged to the door-opening of the car at one side, a door hinged at its upper edge to said horizontal strip and adapted to open outward and upward through the door-opening, and means to lock said door in its vertically-pendent position, substantially as described.

2. A grain-door for cars, consisting of a horizontal strip provided with depending strips at its ends, a bracket secured to one of these end strips and hinged to the door-opening of the car at one side, a door hinged at its upper edge to said horizontal strip and adapted to open outward and upward through the door-opening, and means to support the door in its elevated or opened position, substantially as described.

3. A grain-door for cars, comprising a horizontal strip extending across the door-opening of the car, strips depending vertically from its ends, a door hinged at its upper edge to said horizontal strips and prevented from swinging inward by said depending end strips, a door above and hinged at its lower edge to said horizontal strip, a bracket secured to one of the end strips and hinged to the car at the corresponding side of the door-opening, in order that the door as a whole—namely the horizontal strip, the doors hinged at their upper and lower edges thereto, and the end strips—may swing horizontally inward until such movement is limited by the side of the car, substantially as described.

4. A grain-door for cars, comprising a horizontal strip 4, end strips 9 depending therefrom, a slotted base-plate 10 connecting said end strips at their lower ends, a door bearing against the outer sides of said end strips and hinged at its upper edge to said horizontal strip, a locking-lever pivoted to the outer side of said door and engaging said slot to secure the door against said end strips, and a hinged connection between one of said end strips and the corresponding side of the car-door opening, substantially as described.

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

LINCOLN GOOKINS.

Witnesses:
W. S. WHITE,
J. M. PETTIT.