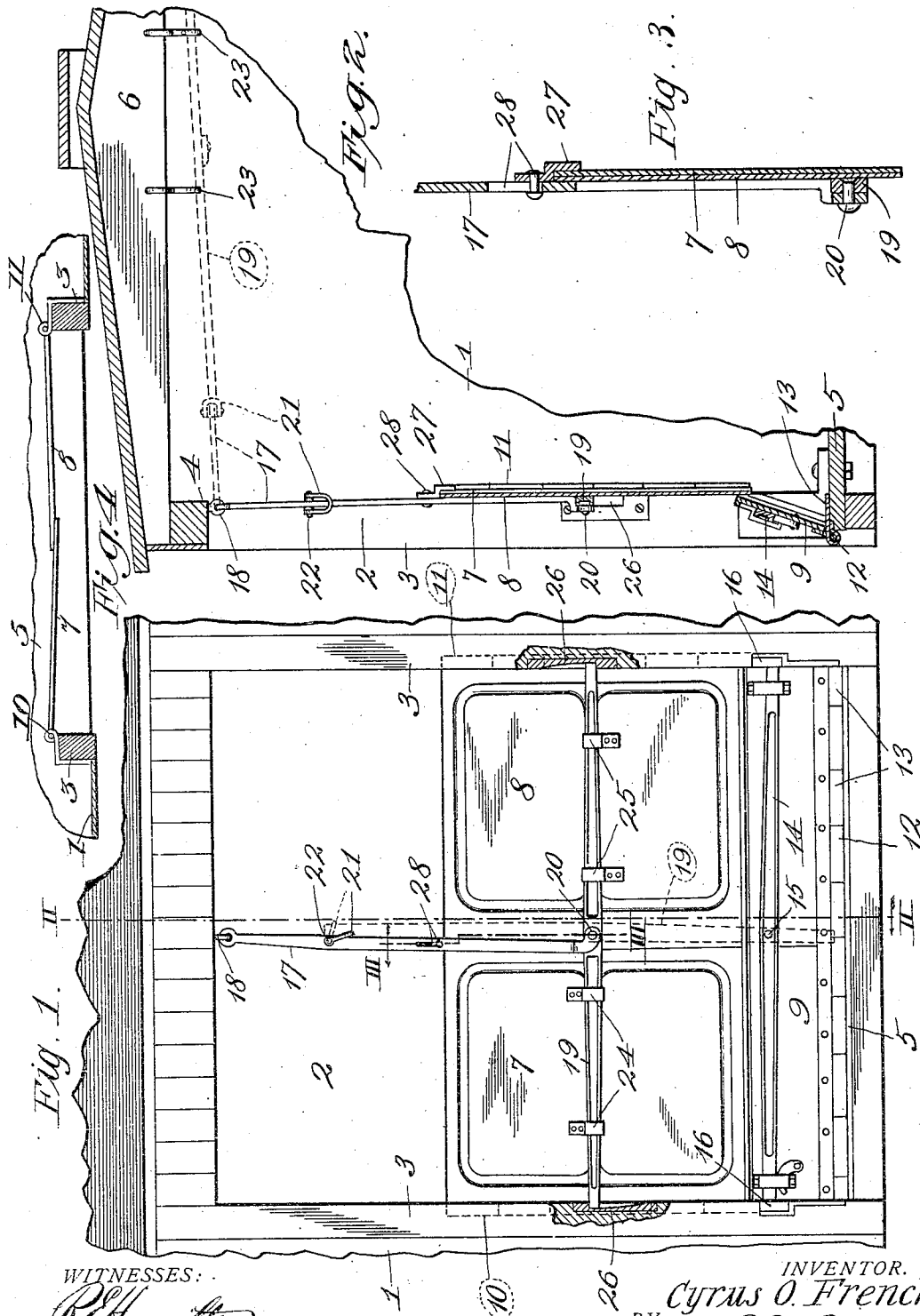


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 LOCK FOR GRAIN DOORS OF BOX CARS.
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938,469.

Patented Nov. 2, 1909.



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CYRUS O. FRENCH, OF KANSAS CITY, MISSOURI.

LOCK FOR GRAIN-DOORS OF BOX-CARS.

938,469.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CYRUS O. FRENCH, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Locks for Grain-Doors of Box-Cars, of which the following is a specification.

My invention relates to improvements in locks for grain-doors of box-cars; and one of my objects is to provide a lock which is supported independently of the doors, so that it may be swung upward out of the way when the doors are opened.

Heretofore, locks on grain-doors have caused considerable annoyance by being in the way when the doors are thrown open to load the car with merchandise other than grain, but I overcome this annoyance by swinging the lock overhead, so that it will be out of the way when the doors are open.

Other objects of the invention will hereinafter appear, and in order that the same may be fully understood, reference will now be made to the accompanying drawing, in which:

Figure 1 represents a broken side elevation of a box-car provided with my improvements. Fig. 2 is a vertical section on line II—II of Fig. 1. Fig. 3 is an enlarged vertical section on line III—III of Fig. 1. Fig. 4 is a broken horizontal section of the car, showing the grain-doors and their hinges.

1 designates a box-car provided with the usual doorways 2, the door-jambs 3, the lintel 4, the floor 5, and the carlines 6.

The doorways are partly closed by grain-doors consisting of sections 7, 8, and 9. Sections 7 and 8 are secured by hinges 10 and 11, respectively, to the inner sides of the door-jambs, so they may either swing outward or swing inward against the inner side of the car, and the free ends of said sections overlap when closed, as shown in Figs. 3 and 4. Section 9 is secured by a hinge 12 to a threshold-strip 13, secured to the floor of the car, as shown in Fig. 3. Said section is adapted to swing outward and downward when opened, or swing upward against the lower ends of sections 7 and 8 to assist in locking the same in a closed position.

14 designates a bar for locking section 9 in a closed position, said bar being pivotally secured at its central portion to the section

by a pin 15 and adapted to engage keepers 16 secured to the door-jambs 3.

17 designates a member suspended from lintel 4 by an eye-bolt 18 so that it will be free to hang in a vertical position as shown in Fig. 1, or swing upward to the dotted position shown in Fig. 2. The lower terminal of member 17 is bent to one side so that a locking-bar 19 pivotally secured thereto by a pin 20, may swing upward to an inoperative position against the member, as shown by dotted lines in Fig. 1, and when in this position, the locking-bar is secured against the side of the member by a clevis 21, pivotally secured by a pin 22 to said member, so that when the latter is swung upward to an inoperative position, it will be reliably supported by the locking-bar which in turn is supported by a hook 23 loosely secured to the carline 6.

24 25 designate reversely-disposed keepers on sections 7 and 8, which are engaged by the locking-bar when the latter is adjusted to the horizontal position shown by full lines, Fig. 1, and when so adjusted its ends engage a pair of keepers 26 on the door-jambs.

27 designates a clamp slidably secured to member 17 by a pin-and-slot connection 28 so that it may be slid down over the upper edges of sections 7 and 8, and thus cooperate with member 17 in securely holding said sections 7 and 8 together.

In order to lock the grain-door, sections 7, 8, and 9 are closed, the latter being securely locked by bar 14. Sections 7 and 8 are then locked by swinging bar 19 to a horizontal position to engage the keepers 24, 25, and 26. The upper ends of sections 7 and 8 are then firmly secured together by sliding clamp 27 downward over the same. When thus secured it is obvious that sections 7 and 8 cannot bulge outward as they are firmly secured at their top and bottom portions by clamp 27 and section 9, respectively, and firmly secured at their central portions by the locking-bar 19, their overlapping edges are also held tightly together so that grain cannot leak from between the same.

When the door is unlocked member 17 and the locking-bar 19 are swung to an overhead position and secured by hook 23, so they will be out of the way when sec-

tions 7 and 8 are swung inward against the inner side of the car.

Having thus described my invention, what I claim is:—

5 1. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper
10 portion of the car, and a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections.

2. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper
15 portion of the car, a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections, and means at the upper portion of the car for supporting the suspended member in an inoperative
20 position.

3. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper
25 portion of the car, a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections, and a hook at the upper portion of the car for supporting the suspended member in an inoperative
30 position.

4. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper
35 portion of the car, a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections or fold against the suspended member, and means on the latter for holding said locking-bar in
40 its folded position.

5. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper portion
45 of the car, a locking-bar pivoted to said suspended member, adapted to engage the keep-

ers on the door sections or fold against the suspended member, and a clevis on the latter for holding said locking-bar in its folded
50 position.

6. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper portion
55 of the car, a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections, and means on the suspended member which coöperates therewith in securing the overlapping edges of
60 the door sections together.

7. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, keepers on said sections, a member suspended from the upper portion
65 of the car, a locking-bar pivoted to said suspended member, adapted to engage the keepers on the door sections, and a clamp on the suspended member which coöperates therewith in securing the overlapping edges of
70 the door sections together.

8. In combination, a box-car, a grain-door including two sections hinged to the door-jambs of the car, a member freely suspended from the upper portion of the car, a locking-
75 bar pivoted to said suspended member, adapted to fold against the same or engage keepers on the door sections and keepers on the door-jambs of the car, a clamp slidably mounted on the suspended member and
80 adapted to coöperate therewith in securing the overlapping edges of the door sections together, a clevis on the suspended member adapted to hold the locking-bar in its folded
85 position, and overhead means for supporting the suspended member in an inoperative position.

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

CYRUS O. FRENCH.

Witnesses:

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