

No. 879,716.

PATENTED FEB. 18, 1908.

H. ALSOP.  
GRAIN CAR AND DOOR THEREFOR.

APPLICATION FILED JAN. 14, 1907.

2 SHEETS—SHEET 1.

Fig. 1. 2

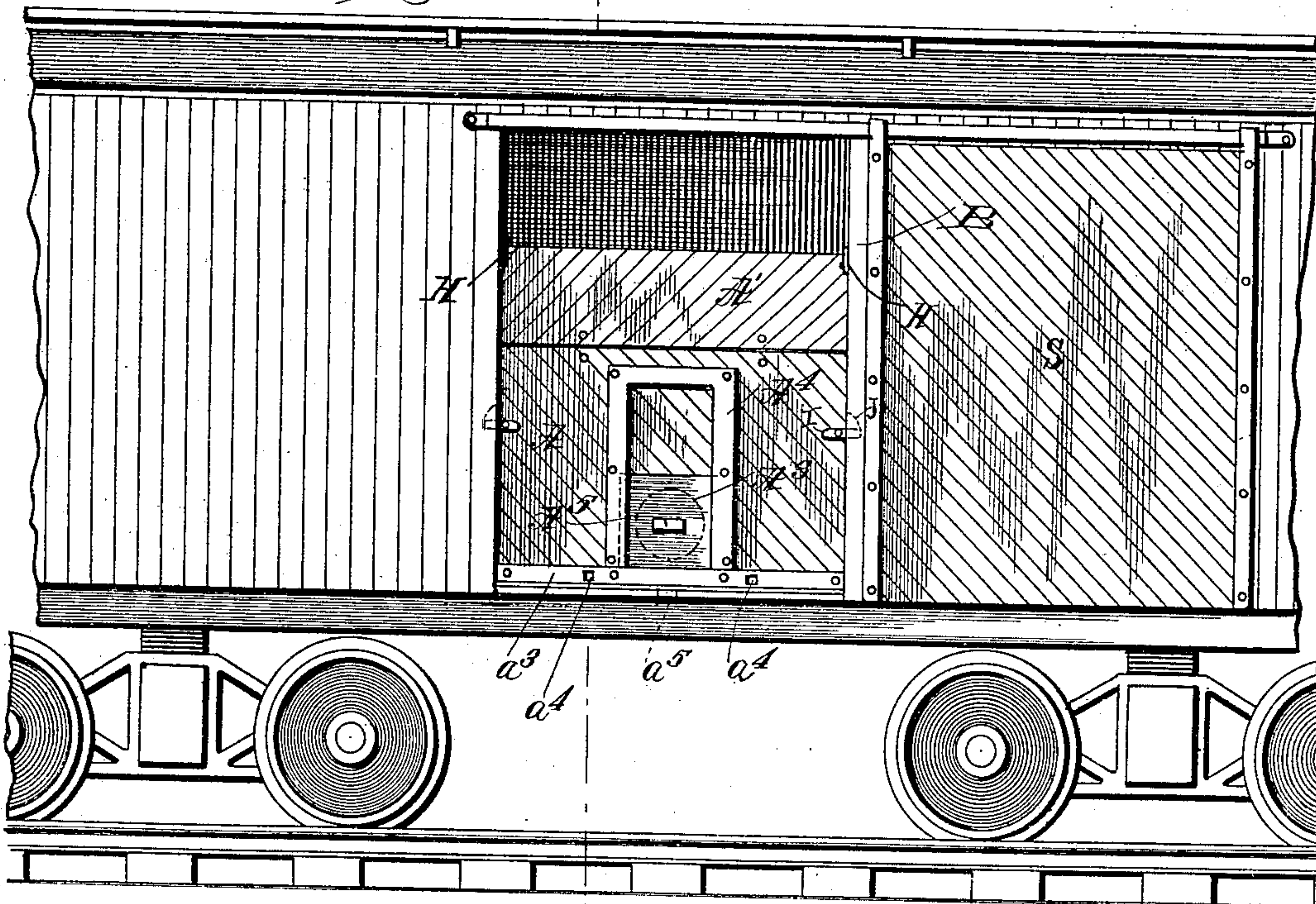
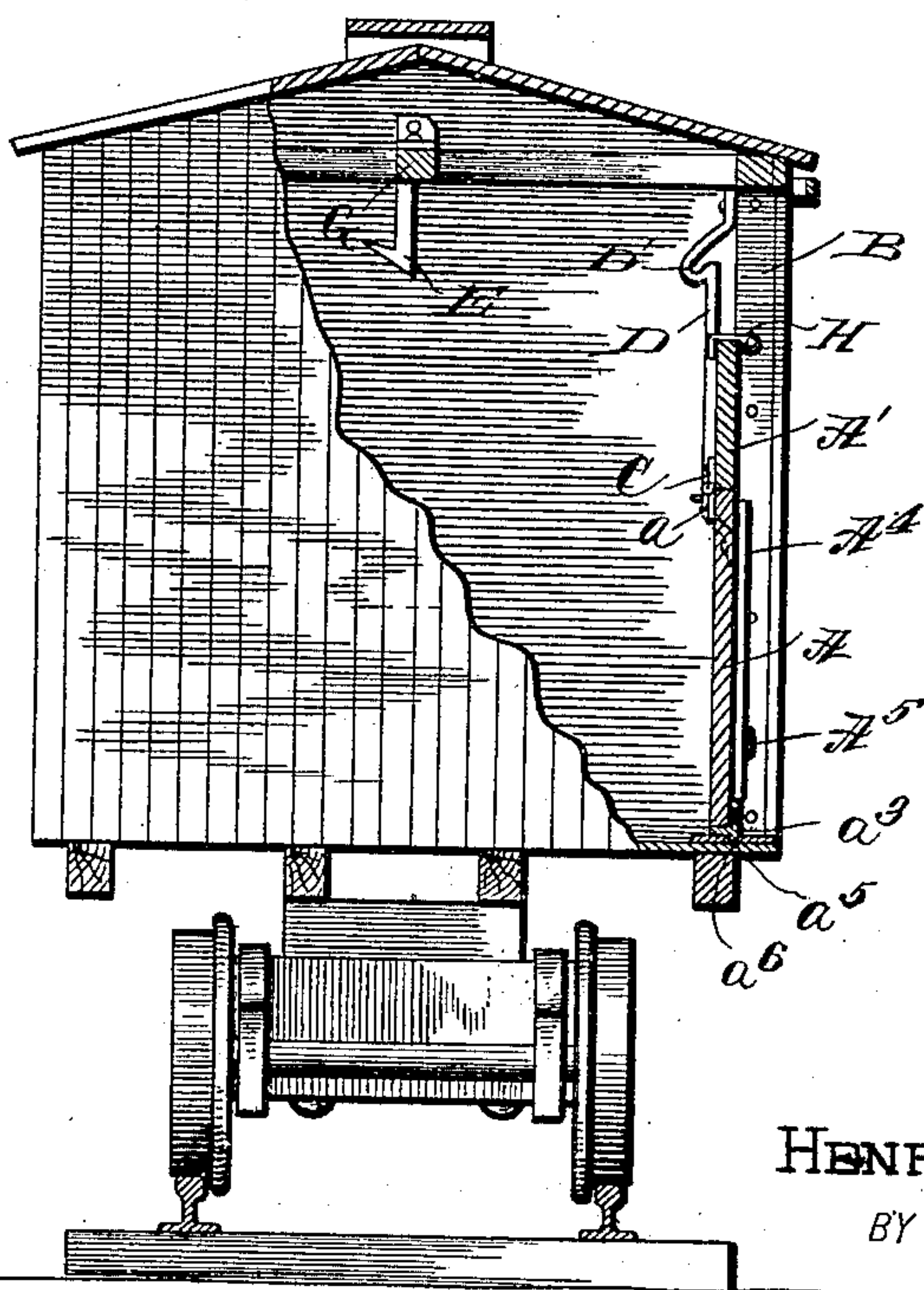


Fig. 2.



WITNESSES  
E. M. Crallaghan  
Geo. S. Brock

INVENTOR  
HENRY ALSON  
BY *Mum & Co.*  
ATTORNEYS

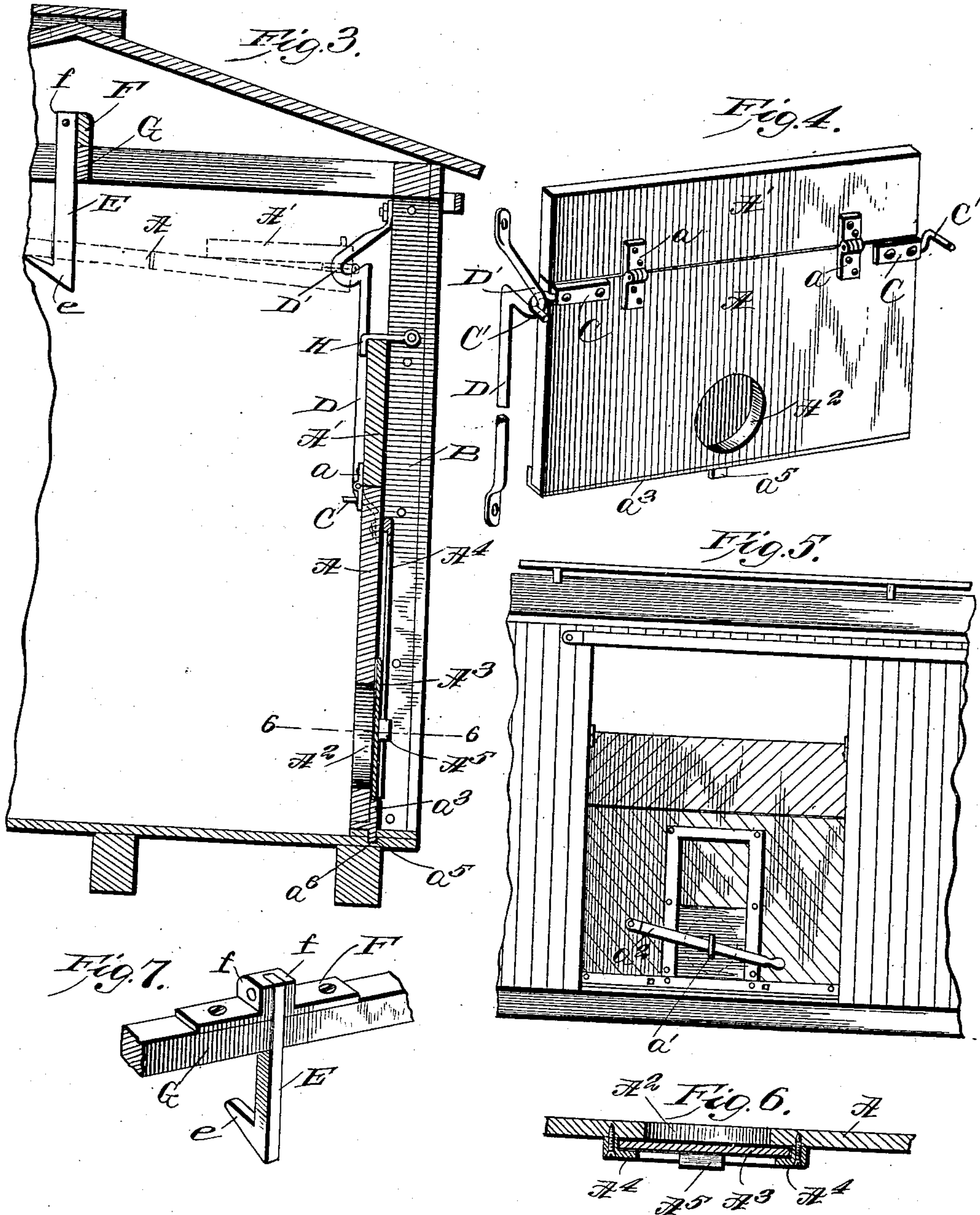
No. 879,716.

PATENTED FEB. 18, 1908.

H. ALSOP.  
GRAIN CAR AND DOOR THEREFOR.

APPLICATION FILED JAN. 14, 1907.

2 SHEETS—SHEET 2.



WITNESSES  
E. M. Callaghan,  
Geo. J. Brock

INVENTOR  
HENRY ALSOP  
BY *Munn & Co.*  
ATTORNEYS



# UNITED STATES PATENT OFFICE.

HENRY ALSOP, OF CHICAGO, ILLINOIS.

## GRAIN-CAR AND DOOR THEREFOR.

No. 879,716.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed January 14, 1907. Serial No. 352,167.

*To all whom it may concern:*

Be it known that I, HENRY ALSOP, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have made a new and useful Improvement in Grain-Cars and Doors Therefor, of which the following is a specification.

My invention relates to improvements in grain cars and more particularly to sliding doors for the same and means for mounting said doors, its object being to provide a simple, cheap and efficient closure for the usual door opening, whereby grain may be stored in the car and prevented from leaking out, and also to provide means for opening the doors and discharging the grain from the car.

To these ends my invention consists in certain novel features of construction, arrangement and combination of parts as will be hereinafter fully described and pointed out in the claims, reference being had to the accompanying drawings, in which

Figure 1 is a side elevation of a grain car, showing the ordinary outside sliding door open and showing my improved door in position. Fig. 2 is a sectional elevation of a car showing my improved door in position covering the door opening. Fig. 3 is an enlarged vertical section, showing in dotted lines the position of the door while the car is being unloaded. Fig. 4 is a rear perspective view of the door in its raised position. Fig. 5 is a side elevation, showing another form of door. Fig. 6 is a horizontal section of a wicket or hatch for covering the small opening in lower part of door. Fig. 7 is a detail perspective view of a hook for holding the door up within the car out of the way.

In carrying out my invention I provide a door made in two sections A the main or lower section, and A' the upper section, which is hinged to the upper edge of the part A by the hinges *a*; this sectional door is the inside door of a car for carrying grain, and is intended to keep grain from being lost or scattered, and is to be made of wood, with hard wood on upper and lower edges of bottom section and hard wood battens on ends and center, and cross or angle battens of either soft or hard lumber. The lower section A is provided with a round opening A<sup>2</sup> near its bottom centrally located, said opening being usually 12 or 14 inches in diameter; this opening is intended to relieve the pressure of grain against the door when car is to

be unloaded, by raising the wicket or hatch A<sup>3</sup> which slides in a metal frame A<sup>4</sup> secured to the outer face of the section A; said wicket or hatch which is to be of steel or malleable iron may be provided with a protuberance A<sup>5</sup> to be used for forcing the same up and down, or it may be provided with an elongated staple *a'* through which passes a bar lever *a'* one end of which is pivoted to the section A, the free end of said lever having a handhold to manipulate the same. The lower edge of the section A, is covered by a projecting strip of angle iron *a*<sup>3</sup> which covers the lower edge of the door and projects upwardly over the front face a short distance; this angle iron is provided with the notches or depressions *a*<sup>4</sup> to receive the end of a crow bar to start the door upwardly. The section A has also projecting downwardly from its lower edge at its center the metal tongue *a*<sup>5</sup> which when the door is down fits in a seat or socket *a*<sup>6</sup> in the sill of the doorway of the car.

The side posts B, of the doorway are faced with metal on their inner side faces, and the sectional door is of such width as to extend across the door opening and beyond the said posts B within the car.

To the upper corners of the lower section A, and on the inner face thereof are secured the metal plates C having the bent hooks C' projecting therefrom which hooks engage the vertically disposed guide rods D secured at their lower ends to the inner face of the door posts B at about their vertical center, said rods being bent or off-set from said posts and extending upwardly to near the roof timbers of the car and being bent near their upper ends into a downwardly and inwardly projecting loop D', the extreme upper ends being bolted to inner face of the side posts B, the said hooks C' are adapted to slide upwardly on the rods D and drop into the loops D', and retain the door in a raised position. With the hooks C' resting in the loops D' the sectional door comprising the parts A and A' the upper section having been swung inwardly and downwardly against the lower section, the entire door may be swung as upon a hinge inwardly until the edge of the opening A<sup>2</sup> engages the beveled nose *e* of hook E which is suspended from the roof timbers of the car and swings said hook until said tongue passes through the opening A<sup>2</sup> when by gravity the hook swings back under the door and holds the lower end of the door up out of the



way within the car, as indicated in dotted lines in Fig. 3. Said hook E, as shown in Fig. 7, consists of a shank and the nose *e*, the shank being pivoted between two lugs *f f* on the plate F, secured to the upper face of the beam G, which has a notch or channel cut in its face into which the shank of the hook swings, as indicated in Fig. 3.

When the car is loaded with grain my improved door is in the position shown in Figs. 1, 2, 3, and 4 and to retain the upper section A' in its proper position, I provide the hooks H, which are pivoted to the door posts B and are adapted to swing over the upper edges of the said upper section A' as clearly shown in Fig. 3. If desired notches may be cut in the section A' to receive the hooks H.

As a further means of fastening the section A in place I may provide it with the pivoted latches or buttons I, at about its center at each side said latches being located on the outside of the door A, and fastened thereto by a bolt, the latches entering and engaging a slot J cut to receive them, in the door posts, said latches drawing and holding the grain door up tight against the door posts and preventing grain from leaking or losing out at the sides.

To discharge a cargo of grain from a car equipped with my improvements, the slide wicket or hatch is first raised to expose the round opening, whereupon the grain immediately against the door will discharge through said opening and relieve to a great degree pressure against the two part door, which can then be raised and swung out of the way and permit the contents of the car to be removed through the open doorway.

As my improved door is applied to the inside of the car and is covered and concealed by the ordinary sliding outer door S, it can-

not be tampered with during transit from point to point.

I claim—

1. A door for grain cars composed of wood and adapted to be raised and swung inwardly against the inner roof of the car, said door having a circular relief opening therethrough near its lower end, metal guides extending vertically on each side of the relief opening and offset from the outer face of the door, a cross metal bar connecting the upper ends of said vertical guides, a rectangular metal gate fitting against the outer face of the door and within the offset vertical guide and adapted to control the said relief opening, an elongated eye projecting forwardly from said metal gate, a bar lever passing through said elongated eye and having one end pivoted to the said door, whereby the said metal gate may be moved vertically to cover or uncover the relief opening.

2. A door for grain cars composed of wood and adapted to be raised and swung inwardly against the inner roof of the car, said door having a relief opening therethrough near its lower end, metal guides extending on each side of the relief opening and offset from the outer face of the door, a metal gate fitting against the outer face of the door and within the offset guides and adapted to control the said relief opening, an elongated eye projecting forwardly from said metal gate, a bar lever passing through said elongated eye and having one end pivoted to the wooden door, whereby the metal gate may be moved to cover or uncover the relief opening.

HENRY ALSOP.

Witnesses:

F. H. SNOW,  
F. J. McCANN.