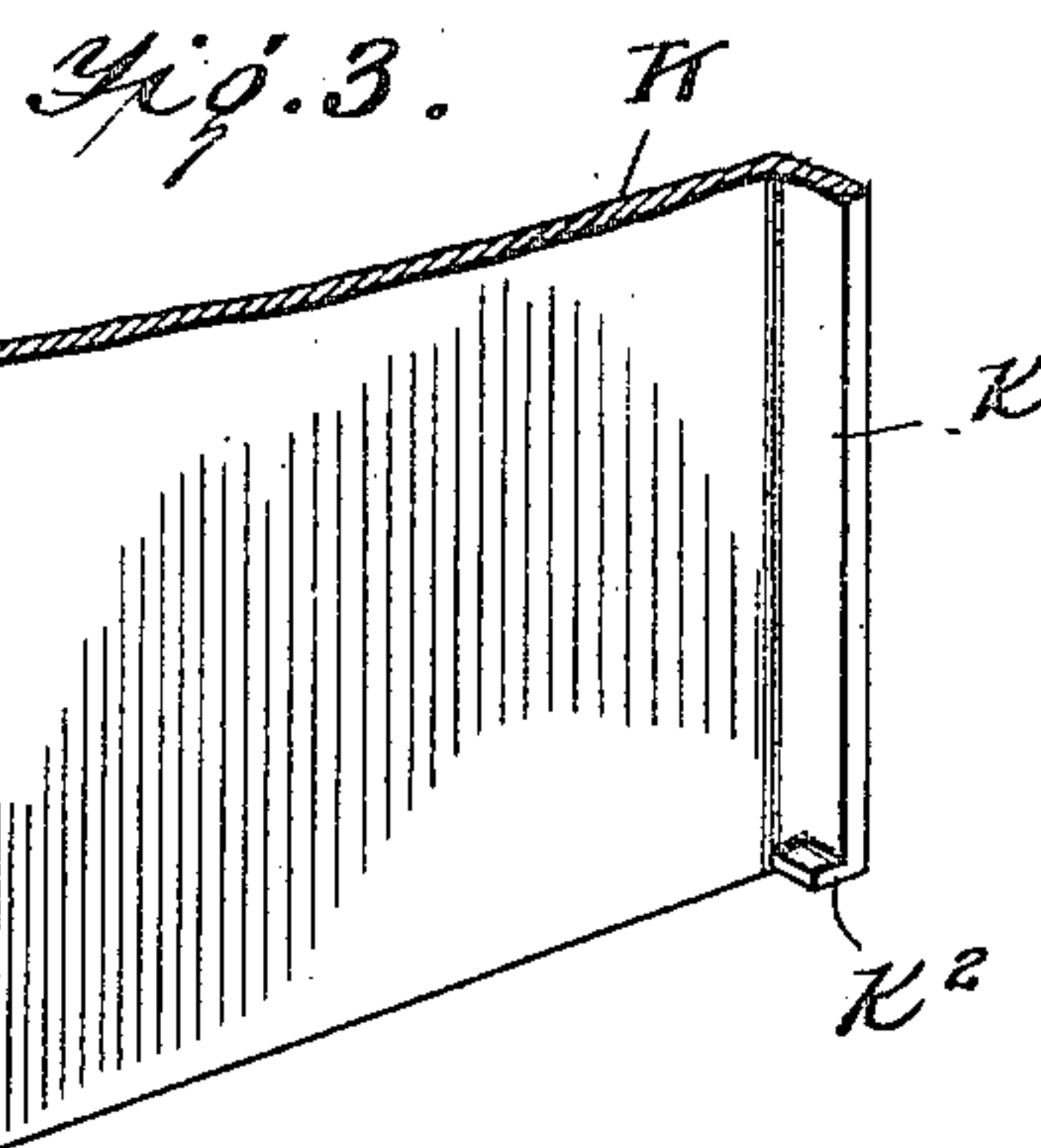
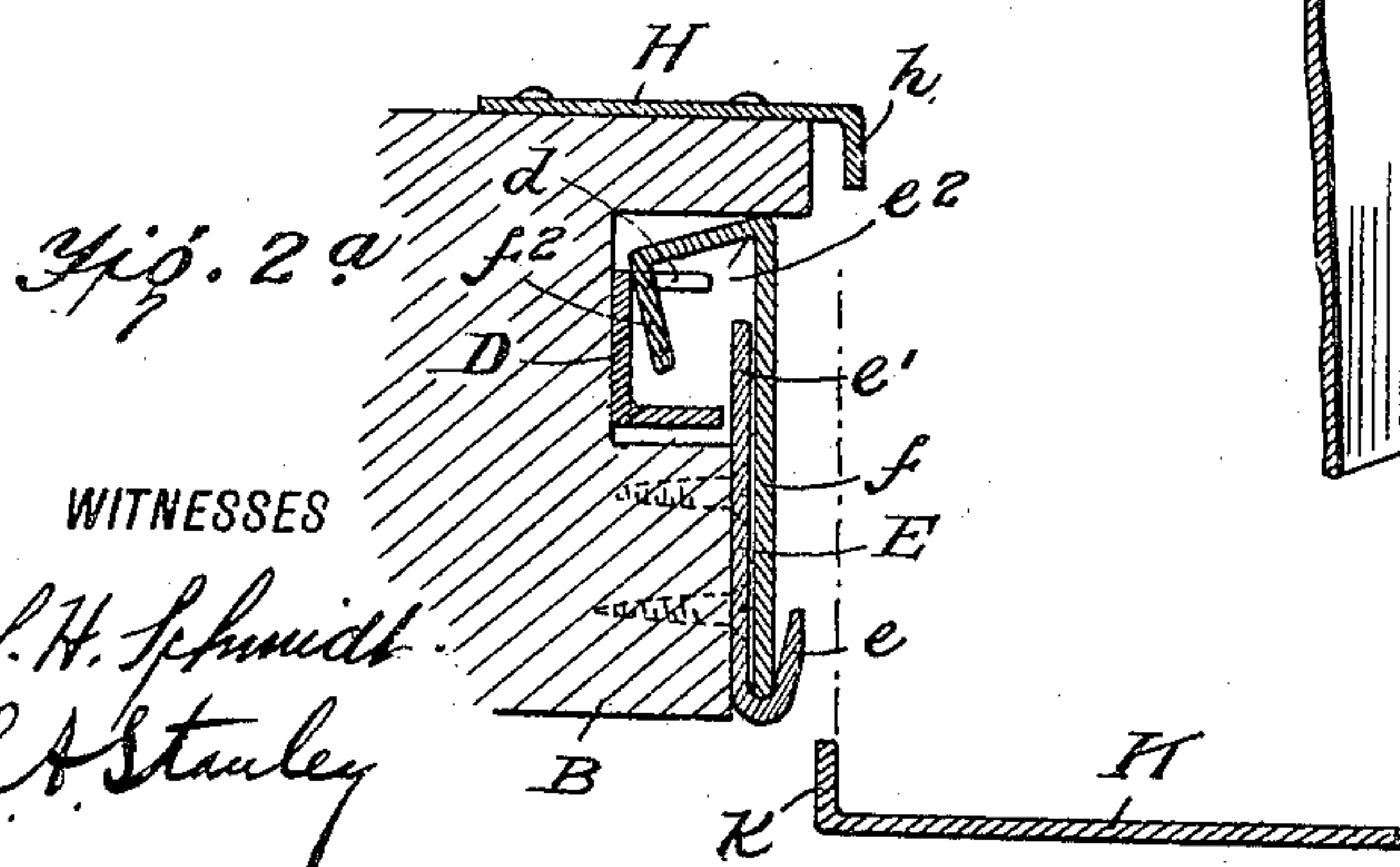
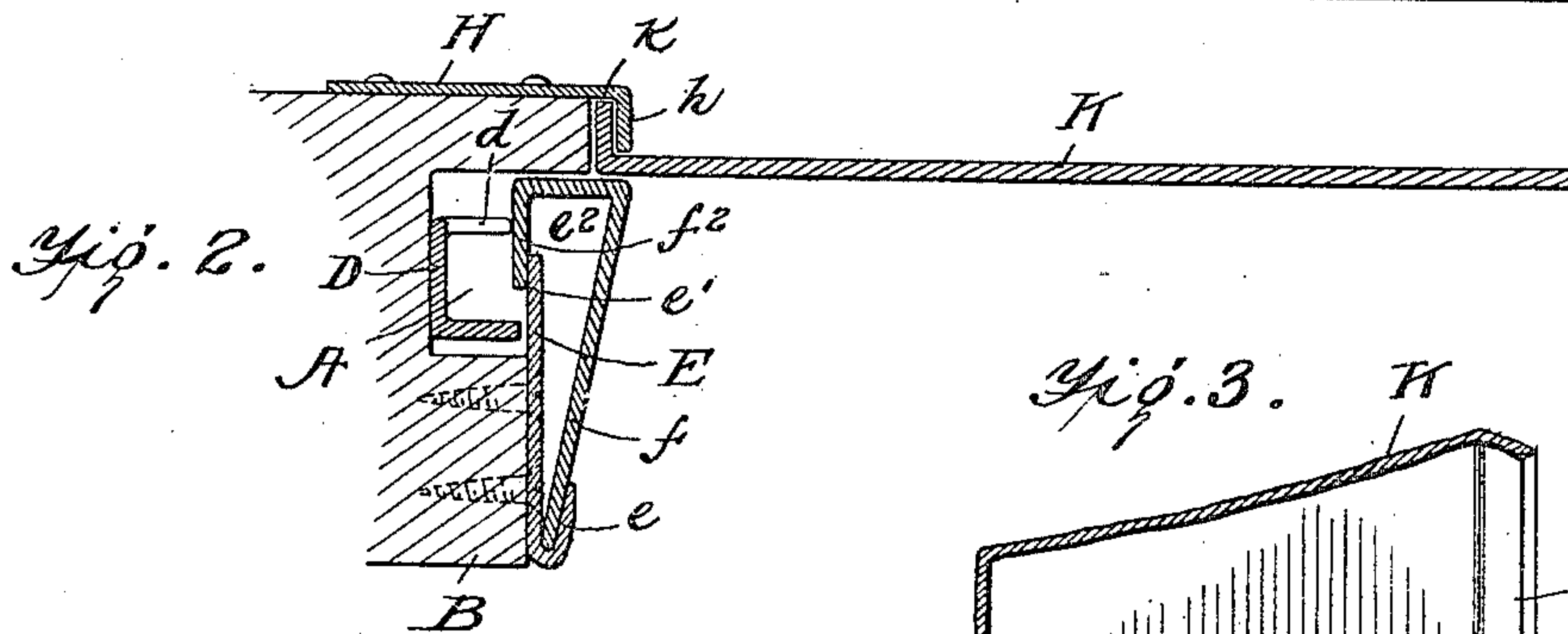
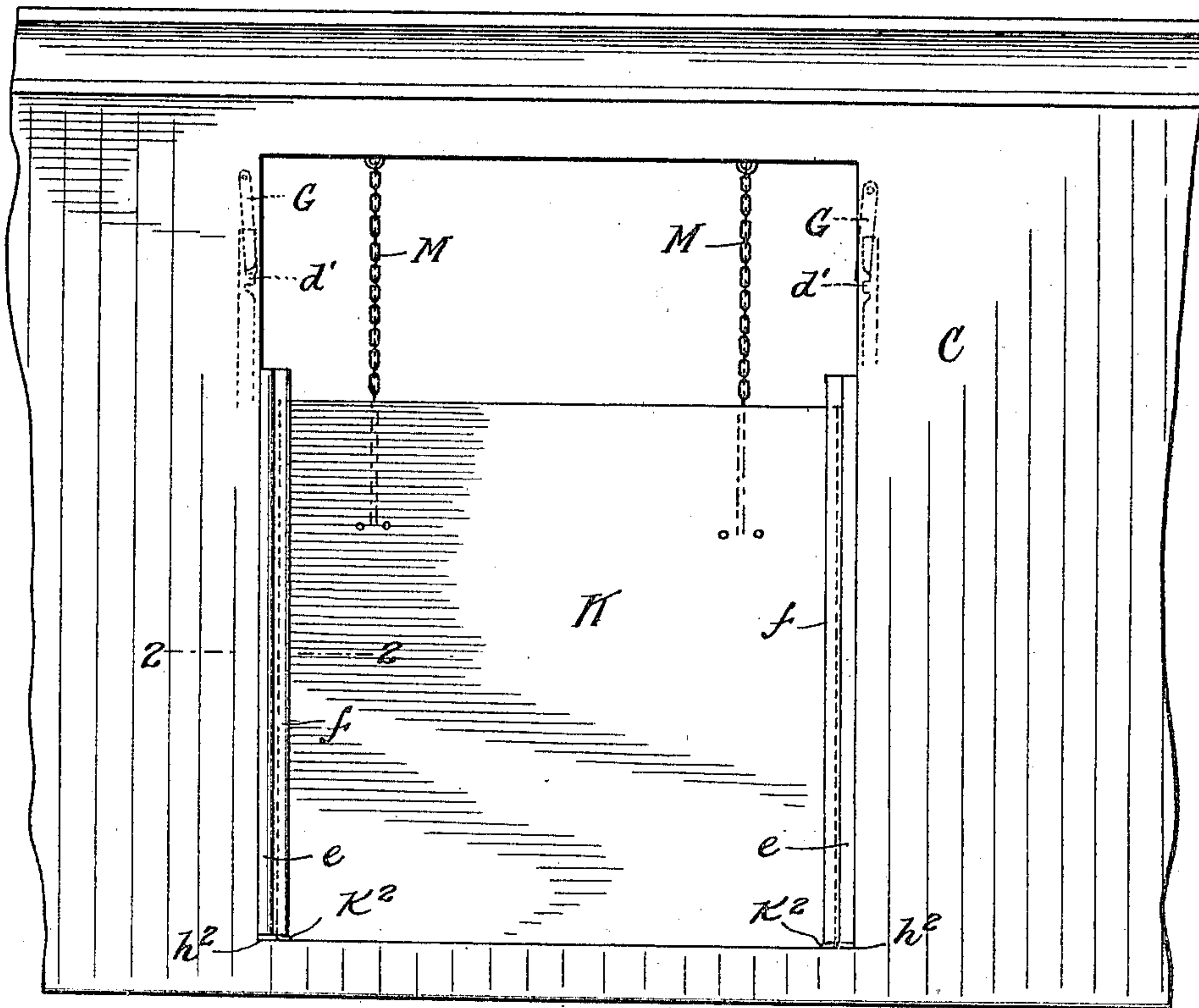


J. E. FAUCETT.  
GRAIN CAR DOOR.  
APPLICATION FILED MAR. 31, 1909.

952,319.

Patented Mar. 15, 1910.  
2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES  
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L. Stanley

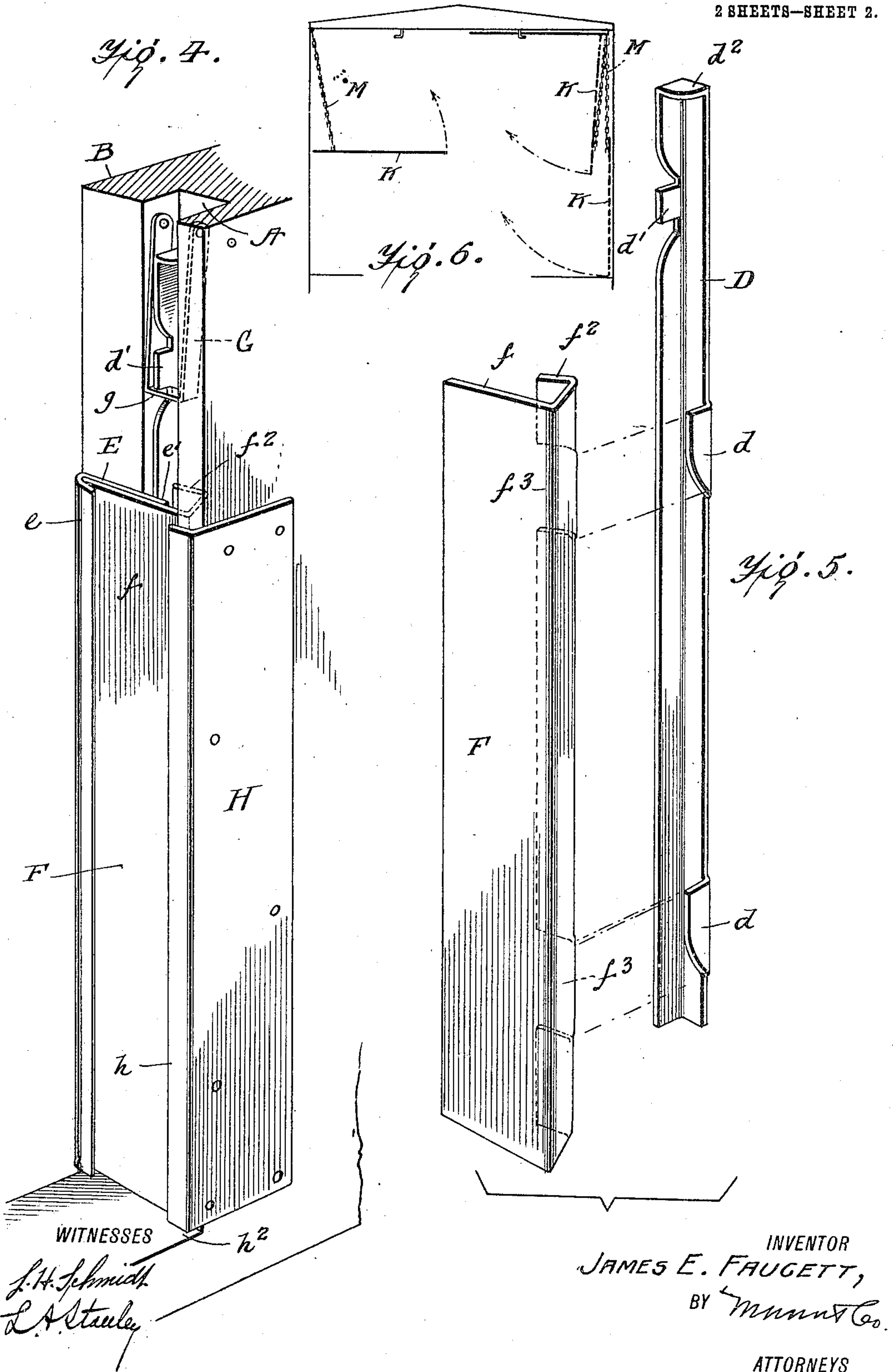
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2 SHEETS—SHEET 2.





# UNITED STATES PATENT OFFICE.

JAMES ELMER FAUCETT, OF KENMARE, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO  
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## GRAIN-CAR DOOR.

952,319.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed March 31, 1909. Serial No. 486,860.

*To all whom it may concern:*

Be it known that I, JAMES ELMER FAUCETT, a citizen of the United States, and a resident of Kenmare, in the county of Ward and State of North Dakota, have made certain new and useful Improvements in Grain-Car Doors, of which the following is a specification.

My invention relates to improvements in grain car doors and it consists in the constructions, combinations and arrangements herein described and claimed.

The main object of my invention is to provide a door for a grain car which may be easily opened after the car has been filled with grain, notwithstanding the pressure exerted by the grain itself. In fact, the pressure of the grain upon the door facilitates the opening of the latter as will appear from the following specification.

A further object of my invention is to provide a door of great strength in comparison with its weight so that it can resist any ordinary pressure applied thereto.

A further object of my invention is to provide an improved locking device by which the door is absolutely locked against accidental opening although it can be readily opened when desirable.

Other objects and advantages will appear in the following specification and the novel features of the device will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a portion of a car equipped with my improved door. Fig. 2 is an enlarged section along the line 2—2 of Fig. 1. Fig. 2<sup>a</sup> is a similar view showing the stop moved to permit the door to swing outwardly. Fig. 3 is a fragmentary view of the lower part of the door showing the flanged bottom for preventing an upward movement. Fig. 4 is a perspective view of the locking mechanism. Fig. 5 is a view showing the detailed construction of the stop and slide, and Fig. 6 is a section of a box car showing the manner of elevating the door when the latter is not in use.

In carrying out my invention I provide vertical grooves A in the door frames B of the car C on the opposite sides of the door opening. Within the grooves A is disposed a slide D of the form most clearly shown in Fig. 5. This slide consists preferably of an

angle iron having the flanges *d* secured to one side and extending in a direction parallel to the other side, the stop member *d'* and the connecting top portion *d''*. The slide D is disposed in the slot A in the manner clearly shown in Figs. 2 and 2<sup>a</sup>.

On the outer edges of the door frame B are secured the plates E having the curved flange portion *e*. The opposite side *e'* of the plate E extends partly over the slot A but terminates about mid-way so as to leave an opening *e''*.

The stop or main locking member F is best shown in Fig. 5. It consists of a plate of approximately L-shape in cross-section, having the longer arm *f* inclined at an angle to the short arm *f''*. The latter is provided with the recesses *f'''* which are arranged to receive the lugs *d* on the slide D when the parts are in registration. The shorter arm *f''* of the stop F is disposed within the slot A while the end of the longer arm *f* is arranged to be loosely held by the flange *e* of the plate E.

In the top of the slot A is a hinged member G whose lower end *g* is arranged to engage the stop *d'* as clearly shown in Fig. 4. On the inner side of the door frame is a plate H having an outwardly turned flange *h*.

The door K itself preferably consists of one piece and may be made of any suitable material. The door illustrated in Fig. 3 is a metal door and has an integral flange *k* on either side, and a bottom flange *k''*. The door K is suspended by means of the chains or other suitable flexible members M. The point of attachment of the chains M and the door K is approximately one-half of the distance from the door sill to the lintel as shown in the figure.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood.

Figs. 2<sup>a</sup> and 4 show the mechanism in position for receiving the door. In this position the slide D has been raised in which position it is held by the engagement of the lug *d'* by the pivoted member G. It is this elevated position of the slide D that brings the flanges *d* into registration with the openings *f'''* in the stop F and permits the latter to be pushed inwardly as clearly shown in Fig. 2<sup>a</sup>. The flanges *k* of the door K are now brought between the flanges *h* of the side plates H and the door frame B as



shown in Fig. 2. The pivoted member G is now swung outwardly thereby allowing the slide D to drop when the flanges  $d$  will engage the sides  $f^2$  of the stop F and draws the latter outwardly as shown in Fig. 2. This locks the door K securely in position. In order to prevent the door from working upward, I provide the bottom flanges  $h^3$ , see Fig. 3, which enter the spaces  $h^2$  at the bottoms of the plates  $h$  thereby preventing any upward movement until the door is swung clear of the parts. When the slides D are lowered the pivoted member G may be swung in above the lug  $d'$  thereby locking the slide in position and absolutely preventing its accidental upward movement, and the release of the stops F. When the car arrives at its destination the pivoted member G is swung outwardly, the slides D raised and suspended in the manner already described and the stops F are then driven in toward the door frame by means of sledges or other suitable tools. As soon as the stops clear the edges of the door the weight of the grain forces the latter outward. It will be seen that the emptying of the car may be accomplished very quickly by merely raising the slides and forcing back the stops.

In Fig. 6 I have shown how the swinging door may be elevated out of the way when not in use. From this figure it will be seen that the door after being released may be passed through the door opening to the inner side of the car, turned upwardly against the supporting chains, raised to the roof of the car and there kept suspended by means of the hooks R. This provides a convenient means of holding the door when not in use, and permits ready access to the latter when necessary.

I claim:

1. The combination with a vertically slotted door frame of a car, of a pair of flanged plates secured to the door frame on opposite sides of the doorway, a flanged door suspended in front of said doorway, and arranged to engage said flanged plates on one side thereof, a movable stop member secured to the door frame on the outer side of the door and having an arm arranged to project

within the vertical slot, said movable stop member extending the full height of the door, and means disposed within said slot for normally keeping the movable member in the path of the door, said means being adapted to move so as to permit the inward movement of the stop members, out of the path of the door.

2. The combination with a vertically slotted door frame of a car, of a pair of flanged plates secured to the door frame on opposite sides of the doorway, a flanged door suspended in front of said doorway, and arranged to engage said flanged plates on one side thereof, a movable stop member loosely secured to the door frame on the outer side of the door and having an arm arranged to project within the vertical slot, the movable stop member extending the full height of the door, and a slide disposed in the vertical slot having cam members normally in engagement with said arm for holding said stop member in the path of the door, and adapted to be moved vertically to free the arm, and permit its inward movement, thereby allowing the door to swing outwardly.

3. The combination with the slotted door frame of a car, of a flanged door suspended in the door way, a flanged plate secured on each side of said door frame and adapted to engage the flanged portions of the door to prevent inward movement of the latter, L-shaped slotted stop members movably secured to said door frame on each side thereof and arranged to project into said slots and slide disposed in said slots having lugs arranged to engage said stop members for forcing the latter outwardly to cover the edges of the suspended door thereby preventing it from swinging outwardly, said slides being adapted to be moved vertically to bring said lugs into registration with the openings in said stop members to permit the latter to be moved inwardly to release the door.

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Witnesses:

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