

D. F. VAN LIEW.  
Grain-Car Door-Sill.

No. 225,441.

Patented Mar. 9, 1880.

Fig. 1

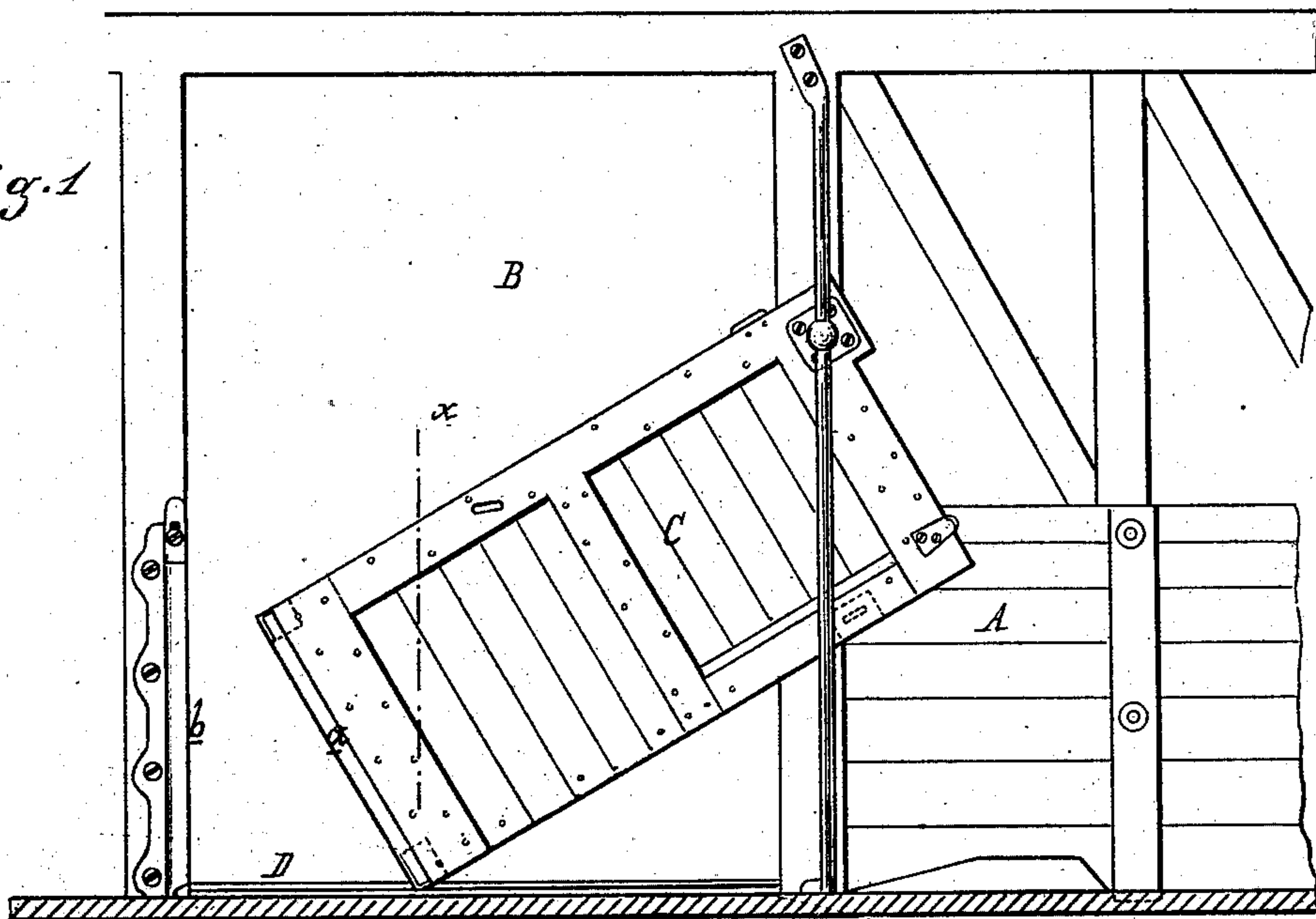
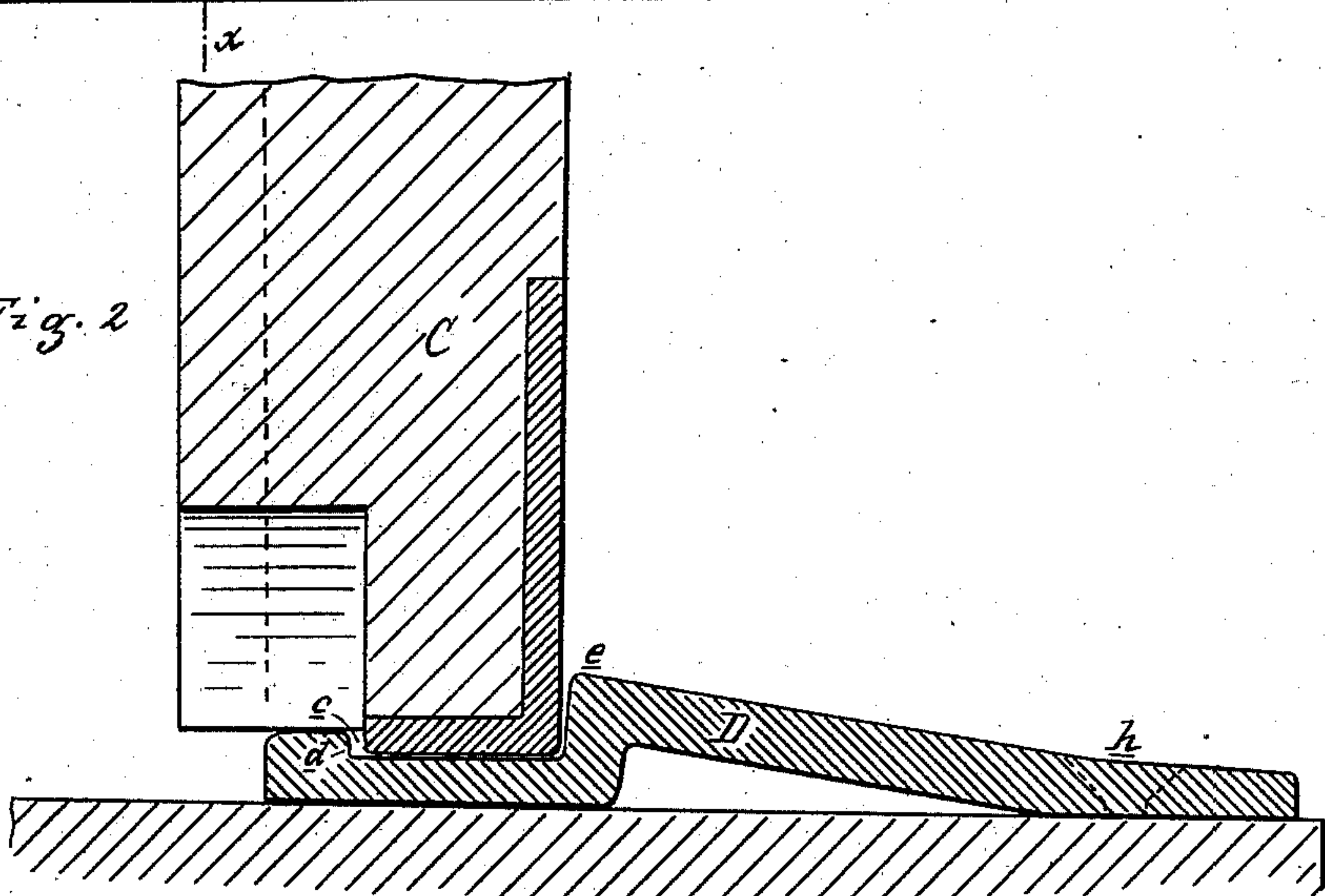


Fig. 2



Attest:

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# UNITED STATES PATENT OFFICE.

DENNIS F. VAN LIEW, OF AURORA, ILLINOIS.

## GRAIN-CAR DOOR-SILL.

SPECIFICATION forming part of Letters Patent No. 225,441, dated March 9, 1880.

Application filed January 8, 1880.

*To all whom it may concern:*

Be it known that I, DENNIS F. VAN LIEW, of Aurora, in the county of Kane and State of Illinois, have invented an Improvement in Car Grain-Door Sills or Thresholds, of which the following is a specification.

The nature of my invention relates to a new and useful improvement in the construction of a sill or threshold for the doorways of cars adapted for carrying grain and provided with swinging or sliding doors so arranged that when said doors are closed their free ends engage in sockets in the door-frame, to hold them firmly and tightly in place; and the invention consists in the peculiar construction, in combination with such doors and the car, of a threshold or sill which will act as a guide to compel the door, as it is being closed, to enter the socket, and present a resistance to the bottom of the door against the outward pressure of the grain in the car, substantially as hereinafter described.

Figure 1 is an elevation of the inside of a section of a grain-car, showing the door-opening and grain-door; and Fig. 2 is a vertical cross-section of the same on the line *x x* in Fig. 1.

In the accompanying drawings, which form a part of this specification, A represents the side of a car, provided with doorway B and a door, C, by means of which the opening is closed or unclosed at will, said door and connections being operated by one of the various methods now in use. In the drawings the door is shown in position as being partially closed. When the closing is entirely complete the bottom of the door rests upon the threshold, and the end *a* of the door is designed to enter the socket *b* on the door-post, by which means it is designed to effectually close the lower half of the door-opening against the escape of grain.

As the thresholds are ordinarily constructed there is nothing to guide the door to its socket, and if grain or other obstruction has fallen upon the threshold it elevates the door by so much as the thickness of such obstruction, thereby allowing the grain in the car to sift out under the door. To obviate these difficulties I construct, preferably by rolling wrought-iron, a threshold or sill, of

the width of the timbers of the door-frame, substantially of the form shown in Fig. 2, wherein D represents such threshold provided with a channel, *c*, the inner wall, *d*, of which is simply high enough to act as a guide to keep the door in the channel, and the opposite wall, *e*, being considerably higher, as shown, to guide the door to its socket. At the same time, if ice should form in the channel, or grain fall therein, so as to fill such channel to the height of wall *d*, it will not affect the function to be performed by the outer wall, *e*, which will still guide the door to its place, prevent grain from sifting through under it, and hold the bottom of the door against the outward pressure of the grain, while the door rests at all times on top of the wall *d* when closed.

It will also be observed that the inner wall, *d*, serves to break the abrupt rise caused by the use of a high sill outside the door, which high sill, although desirable in many respects, is yet objectionable when the car is to be used for miscellaneous freight, or for articles carried in barrels, as it prevents such articles being readily rolled out of the car; but by the use of a channel having an inner wall above the floor of the car this objection is overcome, as said wall acts as an incline to break the abruptness of the rise from the level of the floor to the top of the sill, whereby barreled freight may be readily rolled over the sill. Such inner wall also serves to strengthen the sill, and prevents, to some extent, the wear of the outer wall, and also the great shocks caused to barrels by coming in contact with the abrupt edge of the outer wall when there is no inner wall to ease and divide the shock.

As this threshold or sill is adapted to be used with nearly all the styles of grain-doors in use, I do not desire to confine its use to the door shown in the drawings, which is simply designed to illustrate the adaptation of the sill.

This sill is provided with suitable holes, through which bolts or screws *h* pass to secure it to the bottom of the door-frame and floor.

What I claim as my invention is—

1. As a new article of manufacture, a cast, forged, or rolled iron threshold having a chan-

nel, *c*, whose walls *d e* are of different heights, substantially as herein shown, and for the purpose specified.

2. In combination with a railway-car provided with a sliding or swinging grain-door, substantially as herein described, the threshold D, provided with the channel *c*, and the walls thereof, *d e*, of different heights, substantially as and for the purpose set forth.

10 3. In combination with a railway-car pro-

vided with the socket *b*, and a door having one end rabbeted to fit in said socket, a threshold having a narrow channel adapted to receive the lower corner of said rabbeted end, and whose inner wall receives the weight of the door when closed.

DENNIS F. VAN LIEW.

Witnesses:

H. S. SPRAGUE,

CHARLES J. HUNT.