

(No Model.)

D. D. MILES.
GRAIN CAR DOOR.

No. 272,455.

Patented Feb. 20, 1883.

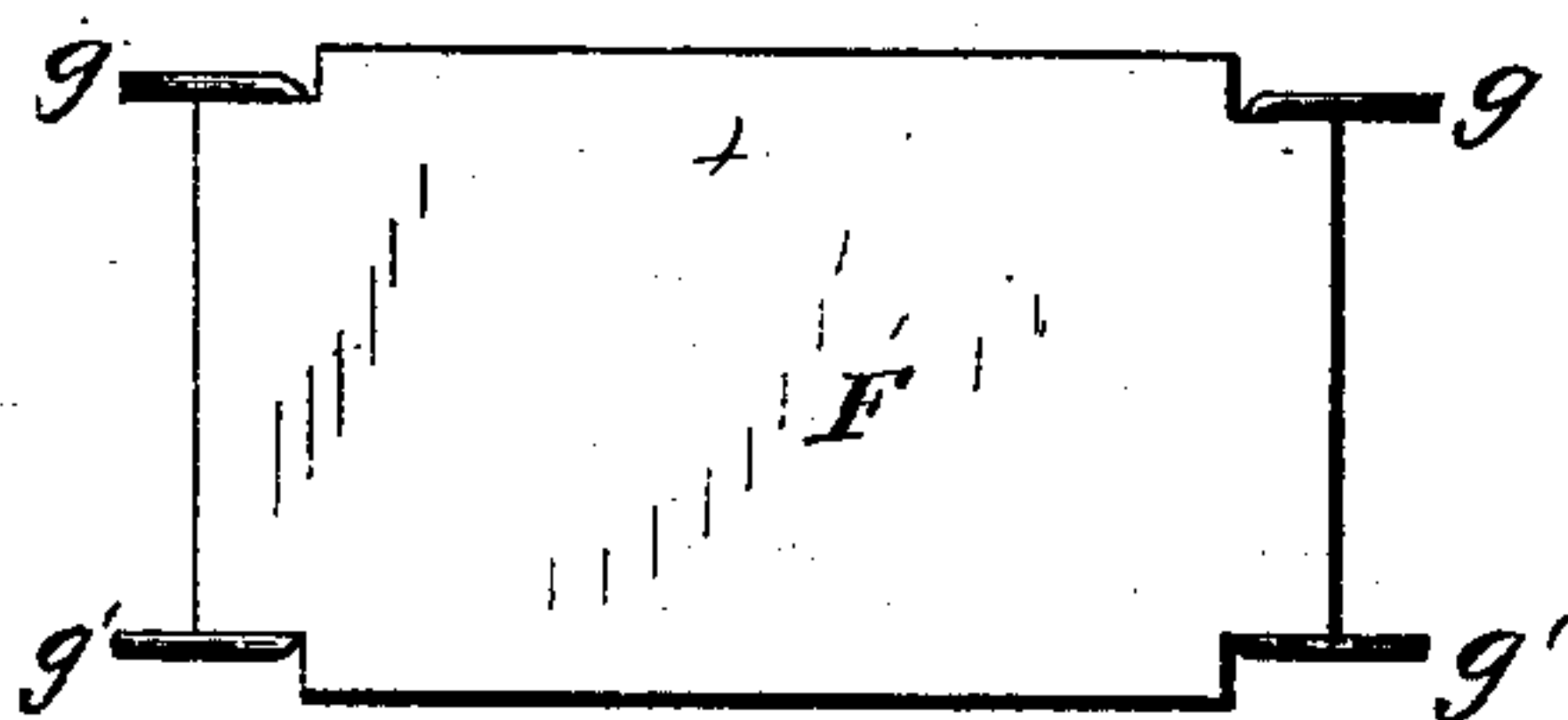


Fig. 4.

Fig. 1.

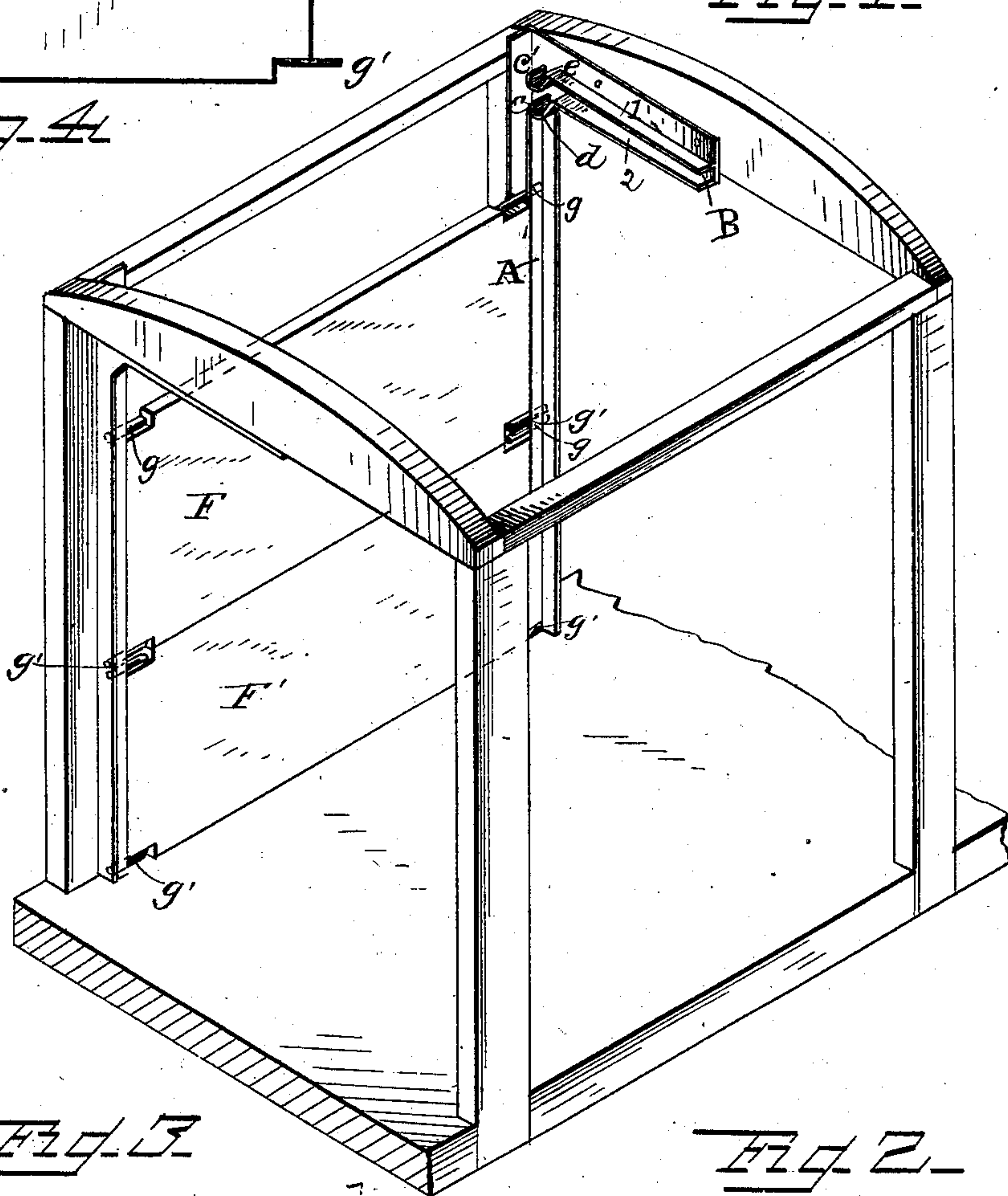
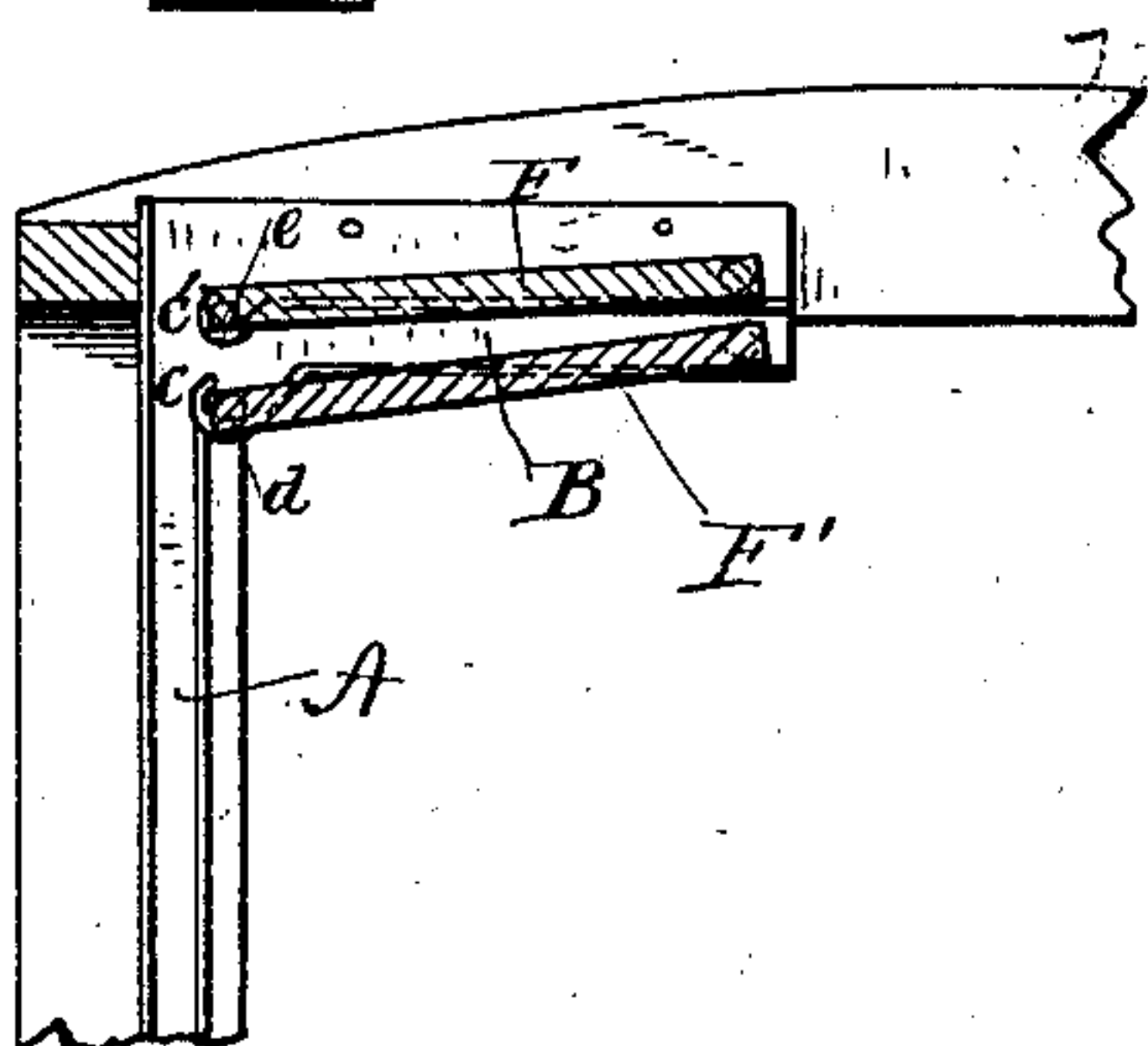


Fig. 3.

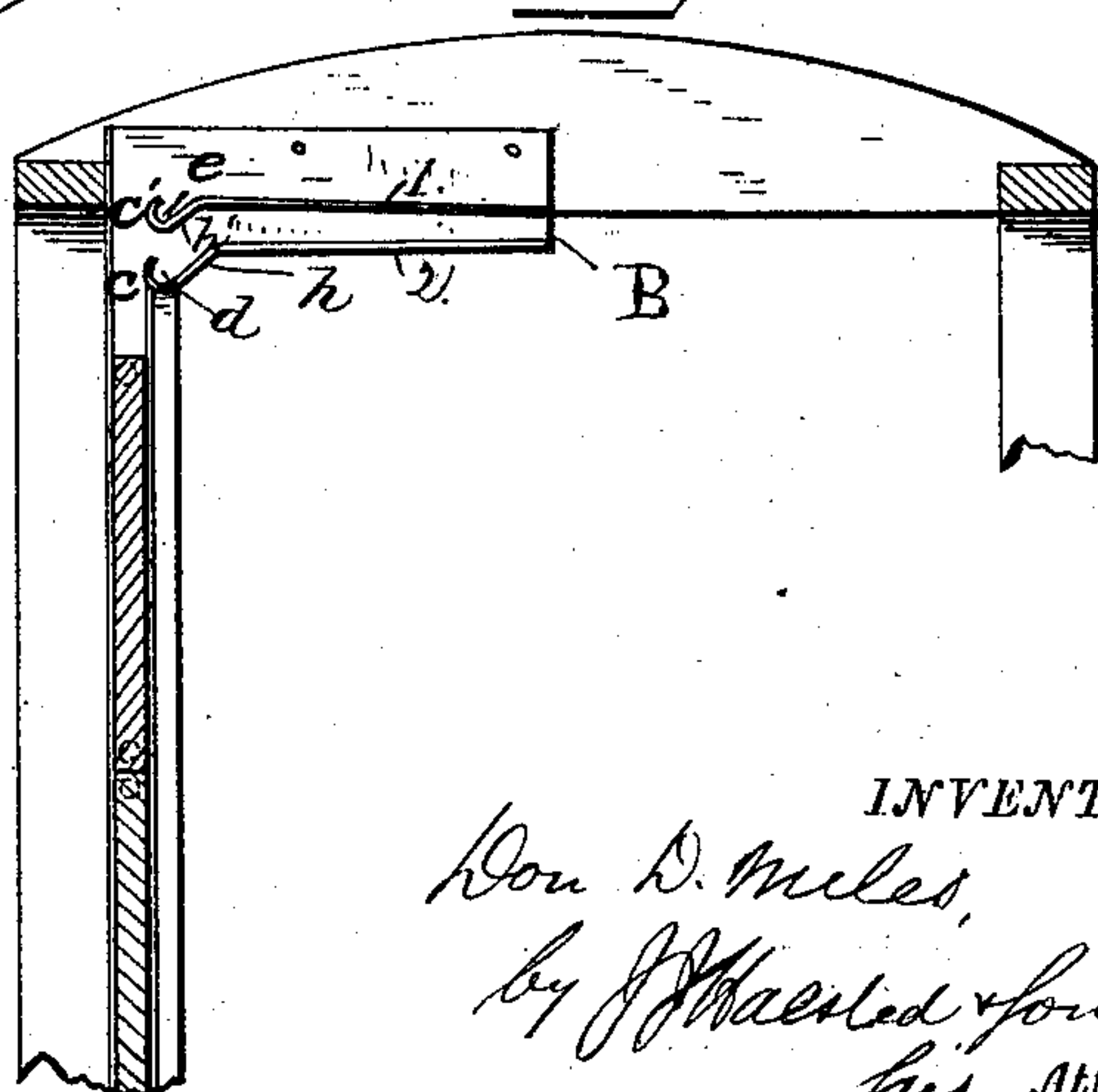


WITNESSES

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Fig. 2.



INVENTOR

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DON D. MILES, OF AURORA, ILLINOIS.

GRAIN-CAR DOOR.

SPECIFICATION forming part of Letters Patent No. 272,455, dated February 20, 1883.

Application filed August 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, DON D. MILES, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful
5 Improvements in Doors for Grain-Cars and other Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable
10 others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has for its object the avoidance of swinging doors, of doors which are
15 lifted off from the car, and so are liable to be lost or stolen, of those which slide laterally into a wall or partition, and of that class of flexible doors consisting of a series of slats
20 connected by joints or flexible material, and which are costly and liable to get frequently out of order. At the same time my invention aims to avoid the defects of that class of car-doors which are arranged to be held up in the
25 roof or ceiling of the car when not in use or during the loading or unloading of the grain, &c.

It consists in a special construction, hereinafter described, by which solid or rigid doors
30 may be easily run up and held in the ceiling of the car without hinging or swinging, and without the need of buttons or latches for holding them when so run up, and in other details.

Figure 1 represents in perspective a portion
35 of a car to which my improvement is applied; Fig. 2, a partial vertical section with the doors down; Fig. 3, a similar section with both doors raised and stowed in the ceiling, and Fig. 4 a plan of one of the rigid doors with its end pin-
40 tles.

A and B are grooves, made preferably in cast-iron, A being vertical and at the side or end of the car, and B being horizontal, or
45 nearly so, and in the ceiling of the car. The top of groove A terminates before it reaches the mouth of groove B. This groove B is formed by the two ledges or lateral projections 1 2, each of which, at its end nearest the wall of the car, has a downward incline or depression marked, respectively, *d* and *e*, and these
50 parts *d* and *e* then curve upwardly, as shown at *c c'*, respectively, thus forming curved in-

lets and hooks adapted to receive the pintles on the doors, as hereinafter stated, these hooks being at the extreme ends of the parts 1 and 2. 55
At the mouth of the lower groove, B, the upper wall of the groove flares or curves upward, as shown.

F F' are two similar solid or non-flexible doors, each having two pintles or pins, *g g'*, projecting from its opposite ends and adapted to run in the grooves A or B. Assuming that both
60 doors (though there may be more than two, if desired) to be in the vertical grooves, one above the other, (see Fig. 2,) and that it is desired to load the car with grain, &c., the upper one, F, is pushed upward, its upper pintles ride
65 over the curves *c'*, and, if desired, they may now be lodged in the upper depressions or hooks, thus holding this upper door suspended, with a wide open space between it and the lower door, F'. If, however, it be desired to
70 raise this upper door still higher and get it entirely overhead and stowed away in the car-ceiling, it is only necessary to push or lift it still farther, and the same upper pintles or guide-
75 pins, *g*, then ride upon the incline *e* of the upper groove, and notwithstanding the door is rigid it will continue to rise and to turn this curve, and thus the door may be pushed on until it
80 shall leave the grooves A and be entirely upheld by the flange or ledge 1, the pintles *g* then resting in the inner ends of such ledge, and the pintles *g'* now dropping into the hooks *c'*, which thus serve as a detent or stop to prevent the door becoming dislodged from its elevated horizontal position. The lower door is
85 then pushed up, and its upper pintles also lodged in the curves or depressions *d*, directly under the pintles of the previously-raised upper door; or this lower door may be pushed farther forward over the top walls of the
90 grooves B, to carry its upper pintles out of the depressions *d*, and the lower pintles of this lower door may then lodge directly in the hooks *c*, both doors then lying secure in the roof, one just above the other.

The grooves A and B and parts 1 and 2 and their hooked ends may all be cast integral with a single angle-plate, if desired. 100

It will be seen that the construction is simple, cheap, and most efficient. There is actually nothing to get out of order—no danger of the raised door dropping, as there is no mov-

ble hook, latch, or button to get displaced. There is no storage-space occupied at any time beyond the mere bulk of the door. No hinges, springs, levers, links, or adventitious appliances are needed, and the doors need no friction-rollers, and need not be detached from the car. It also permits a full load of any kind of grain to be carried without nailing (as is quite customary) a board on the top or above it.

10 I am aware that car-doors have been arranged to be run upward in grooves and lodged in the roof, and that roof-grooves have had flaring mouths and means for holding a single door only; but I am not aware of any in which

15 more than one solid door or section of a solid door has been run up in the same vertical grooves and adapted to be lodged one above the other in the roof.

20 The doors may of course be secured in position, when the car is loaded, in any well-known manner.

I claim—

1. The grooved guides for car-doors, consisting of the vertical grooves A, having the open tops, and the independent grooves B, having 25 curved inlets and provided with the depressions *d e*, whereby both the rigid doors may be raised in the same grooves A and both of them lodged in the roof, one directly above the other, substantially as and for the purposes 30 described.

2. In combination with the vertical grooves A and with the grooves B, made with a depression, *d*, as described, the rigid door or doors, provided, as shown, with pintles adapted to 35 run and lodge in said grooves.

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Witnesses:

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