

No. 730,289.

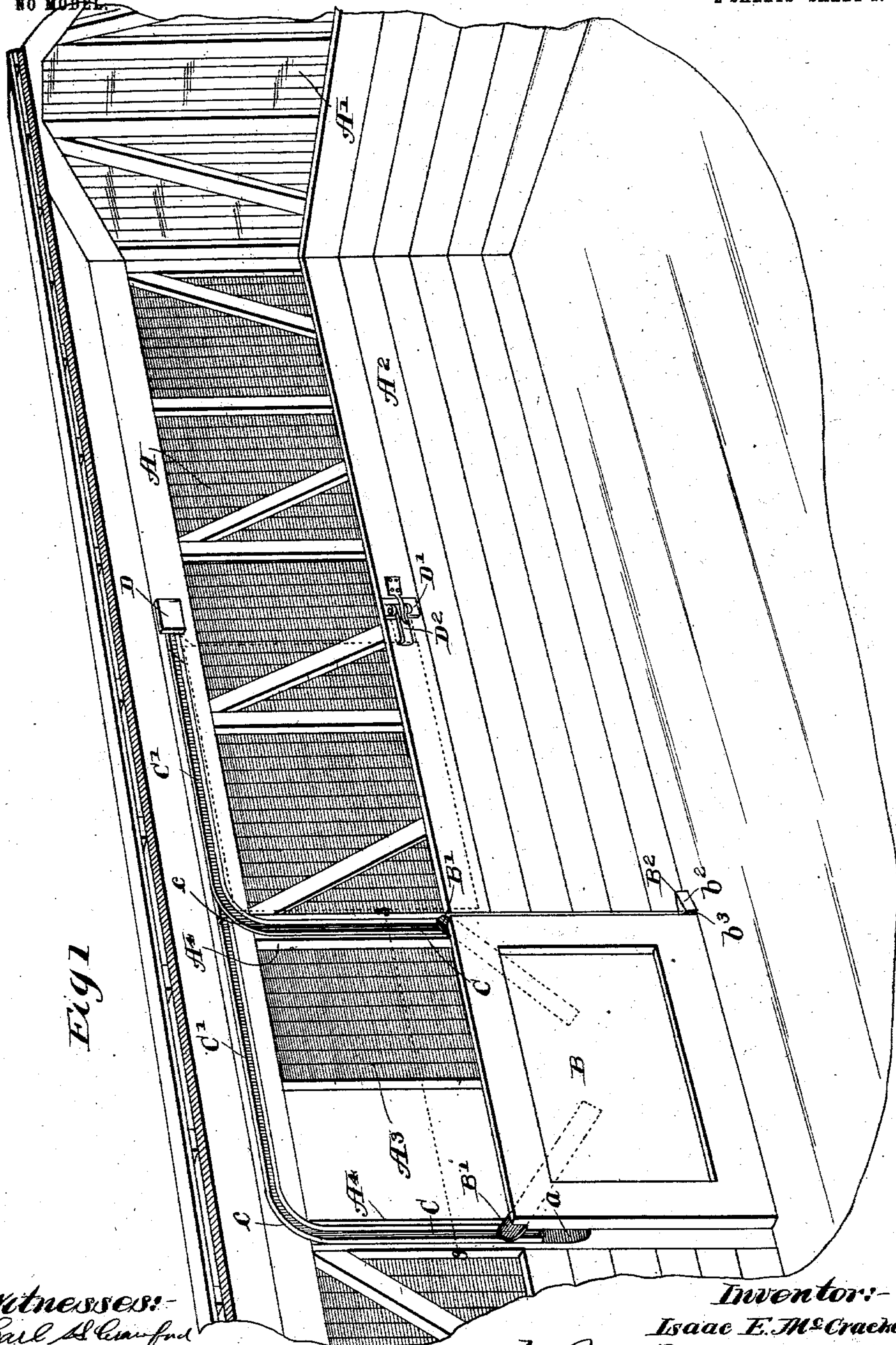
PATENTED JUNE 9, 1903.

I. E. McCracken
SLIDING DOOR.

APPLICATION FILED JULY 14, 1902.

2 SHEETS—SHEET 1.

~~NO MODEL~~



Witnesses:-

Carl H Crawford
Gertrude Pryce

Inventor:-

Isaac E. M^{rs} Cracker

by Pooler Brown
his Attorneys

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2 SHEETS—SHEET 2.

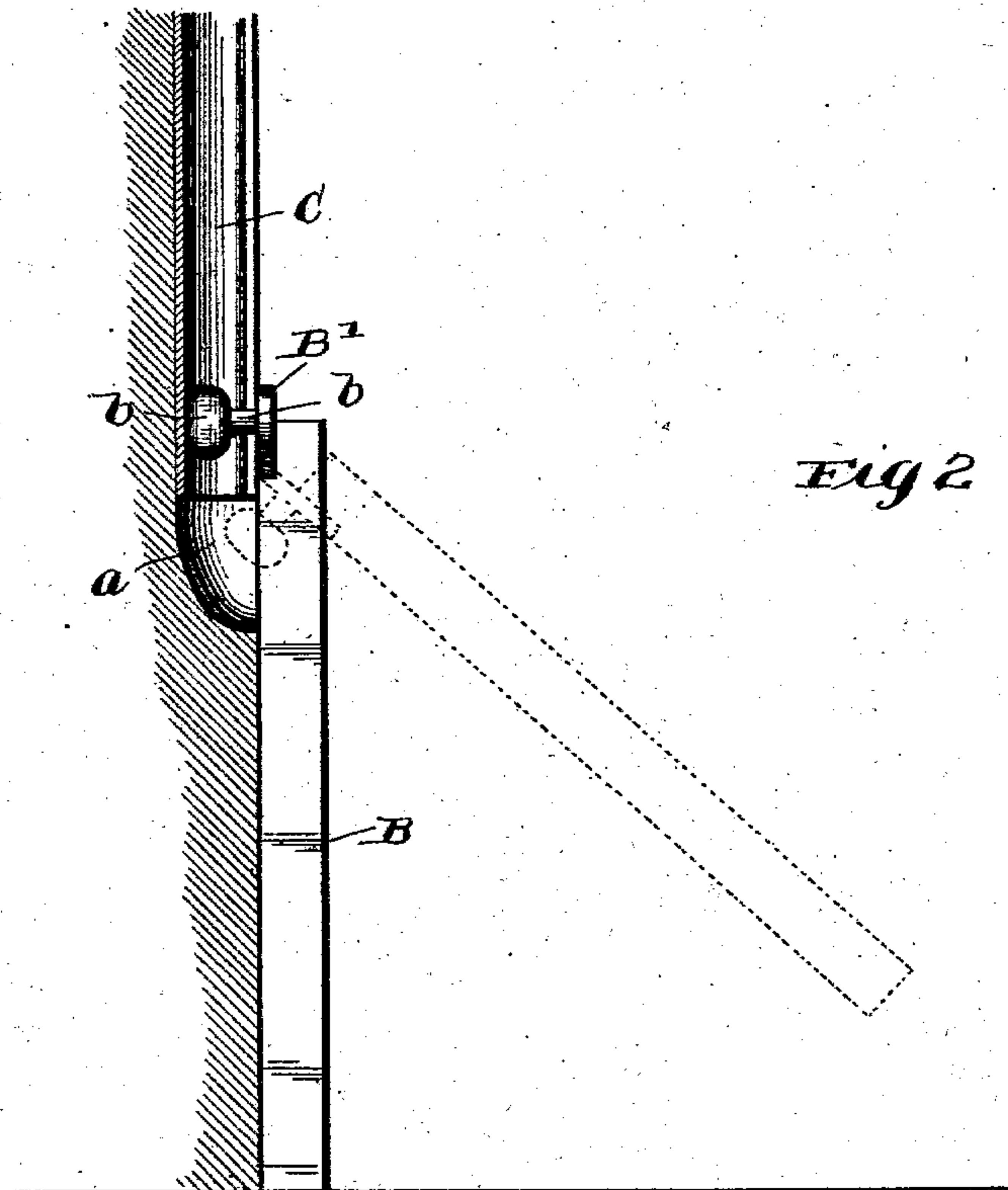


Fig 2

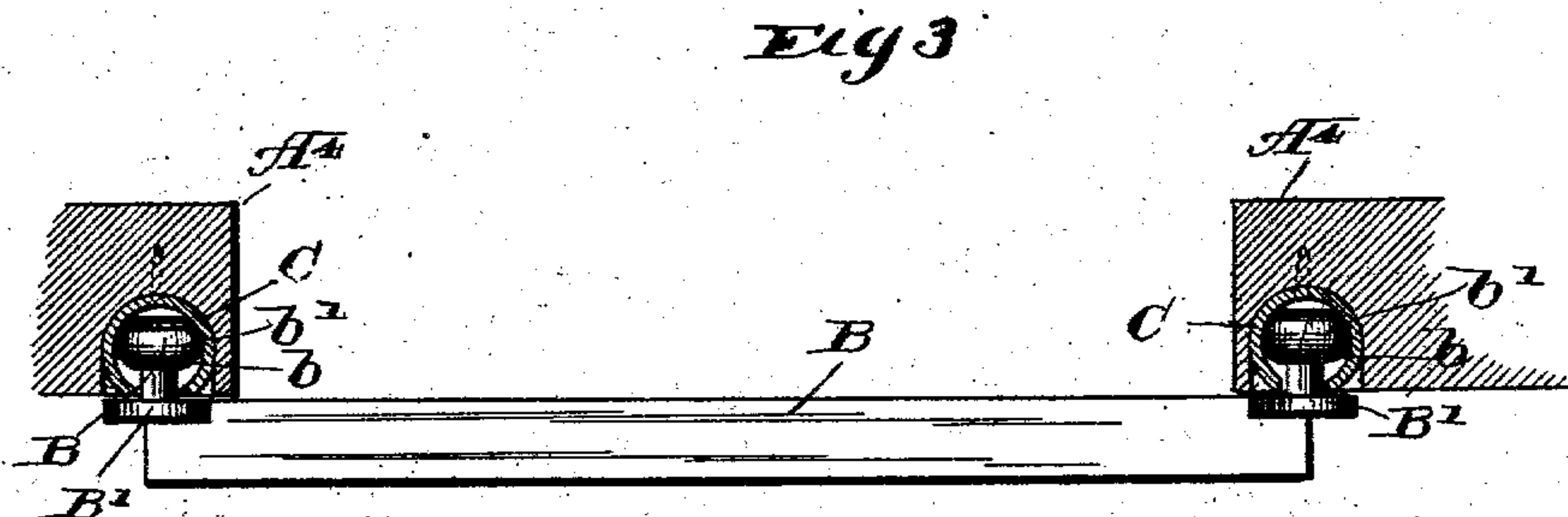


Fig 3

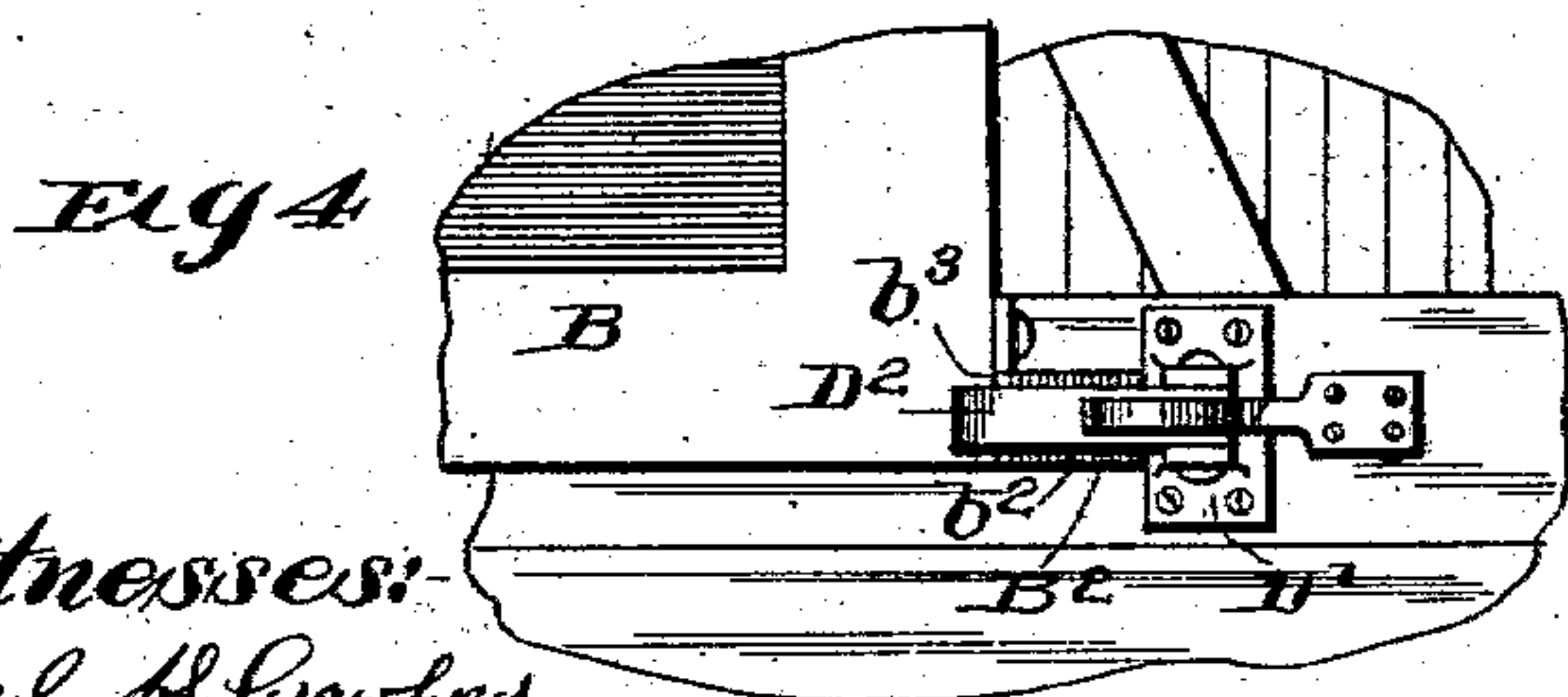


Fig 4

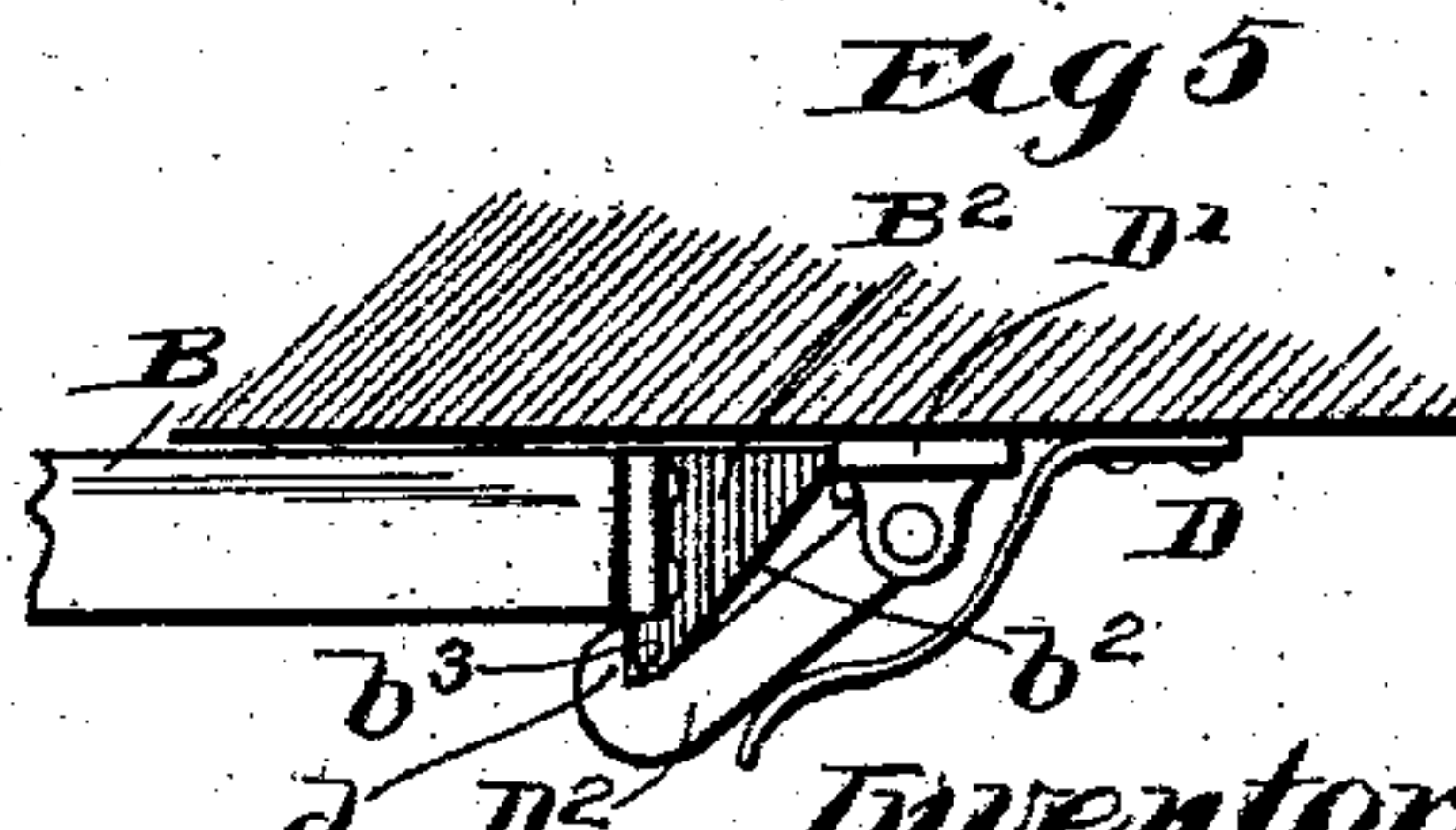


Fig 5

Witnesses:

Carl H. Crawford

Gertrude Pryce

Inventor:

Isaac E. McCracken

by Pooler & Brown
his Attorneys

UNITED STATES PATENT OFFICE.

ISAAC E. McCracken, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JOHN L. WOODS, OF CHICAGO, ILLINOIS.

SLIDING DOOR.

SPECIFICATION forming part of Letters Patent No. 730,289, dated June 9, 1903.

Application filed July 14, 1902. Serial No. 115,437. (No model.)

To all whom it may concern:

Be it known that I, ISAAC E. McCracken, of Chicago, in the county of Cook and State of Illinois, have invented certain new and
5 useful Improvements in Sliding Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked
10 thereon, which form a part of this specification.

This invention relates to improvements in sliding doors, and refers more specifically to an improved means for hanging or support-
15 ing the door, whereby it may be readily opened and closed and securely locked in its open position.

The invention is particularly applicable to interior doors for grain-cars, and is herein
20 shown in that relation, though it is obvious that it is capable of application to other sliding doors wherein a construction substantially as herein illustrated is desirable.

The invention consists in the matters here-
25 inafter set forth, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a fragmentary perspective view of the interior of a grain-car provided with an interior door made in
30 accordance with my invention. Fig. 2 is an edge elevation of the door, showing in section one of the guide-rails, in which a part projecting from the door slides and by which the door is supported. Fig. 3 is a horizontal
35 section taken on line 3 3 of Fig. 1. Fig. 4 is a fragmentary view showing in side elevation a locking device for holding the door in its open position. Fig. 5 is a plan view of the principal parts shown in Fig. 4.

40 As shown in the drawings, A designates the side, and A' the end, wall of a grain-car.

A² designates the interior lining for the side and end walls of the car, which extends from the floor thereof to about half the distance to
45 the car-roof.

A³ designates the exterior sliding door of the car, which slides laterally to open and close in the usual manner.

50 B designates the interior door of the car, which is located between the vertical posts A⁴ of the door-frame and opposite to the outer

door. Said door is made of the same height as the lining A² and when closed prevents the escape of grain from the car. Said door when closed rests at its lower margin on the car-floor
55 and is supported at its upper part by means of suitable guide-rails C, attached to the door-frame posts A⁴. Said guide-rails, as herein shown, are made of metal and are set into grooves α in the inner faces of the door-
60 frame posts. As herein shown, said guide-rails are made parti-cylindric and are provided with longitudinal grooves, which open toward the interior of the car. The door
65 is provided with suitable projecting parts, which engage the grooves of said rails C. Said projecting parts in this instance consist of studs b , which project outwardly from the upper ends of bars B', attached to the
70 outer face of the door, and enter the grooves of said rail. Said bars are set into the door flush with the outer surface thereof and, as herein shown, project obliquely outwardly from the upper corners of the door and extend a distance inwardly therefrom. The
75 manner of constructing the projecting parts which engage the guide-rails may be varied, however, and I do not wish to be limited to the structural details shown except as hereinafter made the subject of specific claims.
80 The inner ends of the studs b are provided with enlargements b' , which fit closely within the grooves of the track-rails C and are made of such size as to prevent withdrawal of the studs laterally from said rails. Said
85 studs are adapted to be inserted into and removed from the grooved guide-rail at the lower ends thereof, the grooves α being extended for this purpose below said rails. The dotted lines in Fig. 2 indicate the manner of
90 inserting and removing the door.

The grooved guide-rails are provided at their upper ends with lateral horizontal extensions C', which are attached to the wall of the car, near the roof thereof, and are joined
95 to the vertical parts of the guide-rails by means of curved portions c . The curved portions c of the guide-rails are parallel with each other, and the horizontal extensions thereof are located in the same horizontal
100 plane when the bars B' project at equal distances from the door, as herein shown. The

extension C' of one of the rails extends horizontally away from the upper end of the door-frame, while the other extension extends across the top of the door-frame and terminates at the curved portion c of the opposite guide-rail, as shown in Fig. 1, the horizontal extension of one of said guide-rails being thus located in alinement with the other.

With this construction when the door is occupying its closed position, as shown in full lines in Fig. 1, and it is desired to open the door or move it out of line with the door-opening the door is pushed upwardly until the engagement of the studs b with the curved parts of the guide-rails causes said studs to be diverted into the horizontal extensions of the guide-rails. Thereafter the door may be moved into the position shown in dotted lines in Fig. 1 by side pressure applied to one side of the door, the horizontal extensions C' of the guide-rails thus supporting the door when occupying its open position.

Upper and lower stops D D' are provided for limiting the opening movement of the door. The upper stop is located near the car-roof on the side wall of the car and is adapted for engagement by the adjacent one of the bars B' to arrest the movement of the door. The lower stop is affixed to the lining A², near the top thereof, and is adapted for engagement by a lock-lug B², directed laterally from the adjacent lower corner of the door. Said lug is adapted for locking engagement with a spring-pressed latch D², pivoted to the stop D', whereby the door may be locked in its closed position. The lock-lug B² is provided with a beveled advance end b², which is adapted to pass between the latch and its support when the door is being opened, and said lug is also provided with an oppositely-facing abrupt shoulder b³, which is adapted for engagement by the tooth d of the latch when the door is fully opened to hold the door in its open position until said latch is released.

The construction shown provides a ready means of opening the door and also an effective means for holding the door open or out of the way of the door-opening. Moreover, by reason of the fact that the door in its opening and closing movements is moved in the direction of its plane and always occupies a position parallel with the side wall of the car said door occupies a minimum amount of space when in its open position.

It is obvious that changes may be made in the structural details and the proportioning of parts without departing from the spirit of my invention, and I do not wish to be limited

to such details except as hereinafter made the subject of specific claims.

I claim as my invention—

1. The combination with a wall having a doorway and a sliding door, of track-rails comprising parallel, vertical parts which are affixed to the wall at either side of the doorway and laterally-directed extensions which are attached to the side wall and joined to the vertical portion by curved portions; the lateral extension of one of said track-rails extending along said wall from one side of the door-frame and the similar extension of the other track-rail extending along said wall across the top of the doorway toward the first-mentioned rail, and projecting parts on the door adapted for sliding engagement with said track-rails.

2. The combination with a sliding door and its frame, of track-rails comprising parallel, vertical parts which are affixed to the door-frame posts, and lateral extensions which are joined to the vertical parts by curved portions, the lateral extension of one of said track-rails projecting from one side of the door and the similar extension of the other track-rail projecting across the upper end of the door-frame toward the first-mentioned rail, said track-rails being provided with longitudinal grooves which open toward the door, and lugs on the door which have interlocking engagement with and slide longitudinally on said grooved track-rails.

3. The combination with a sliding door and its frame, said frame having door-posts provided with vertical grooves, of track-rails comprising parallel vertical parts which are located in said grooves of the door-frame posts, and lateral extensions which are joined to the vertical parts by curved portions, said track-rails being provided with longitudinal grooves which open toward the door, and lugs on the door which have interlocking engagement with and slide in said grooved track-rails, said grooves in the door-posts which are occupied by said track-rails extending below the track-rails to permit the lugs of the door to be removed from and inserted into the lower open ends of said grooved rails.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 12th day of July, A. D. 1902.

ISAAC E. MCCRACKEN.

Witnesses:

WILLIAM L. HALL,
GERTRUDE BRYCE.