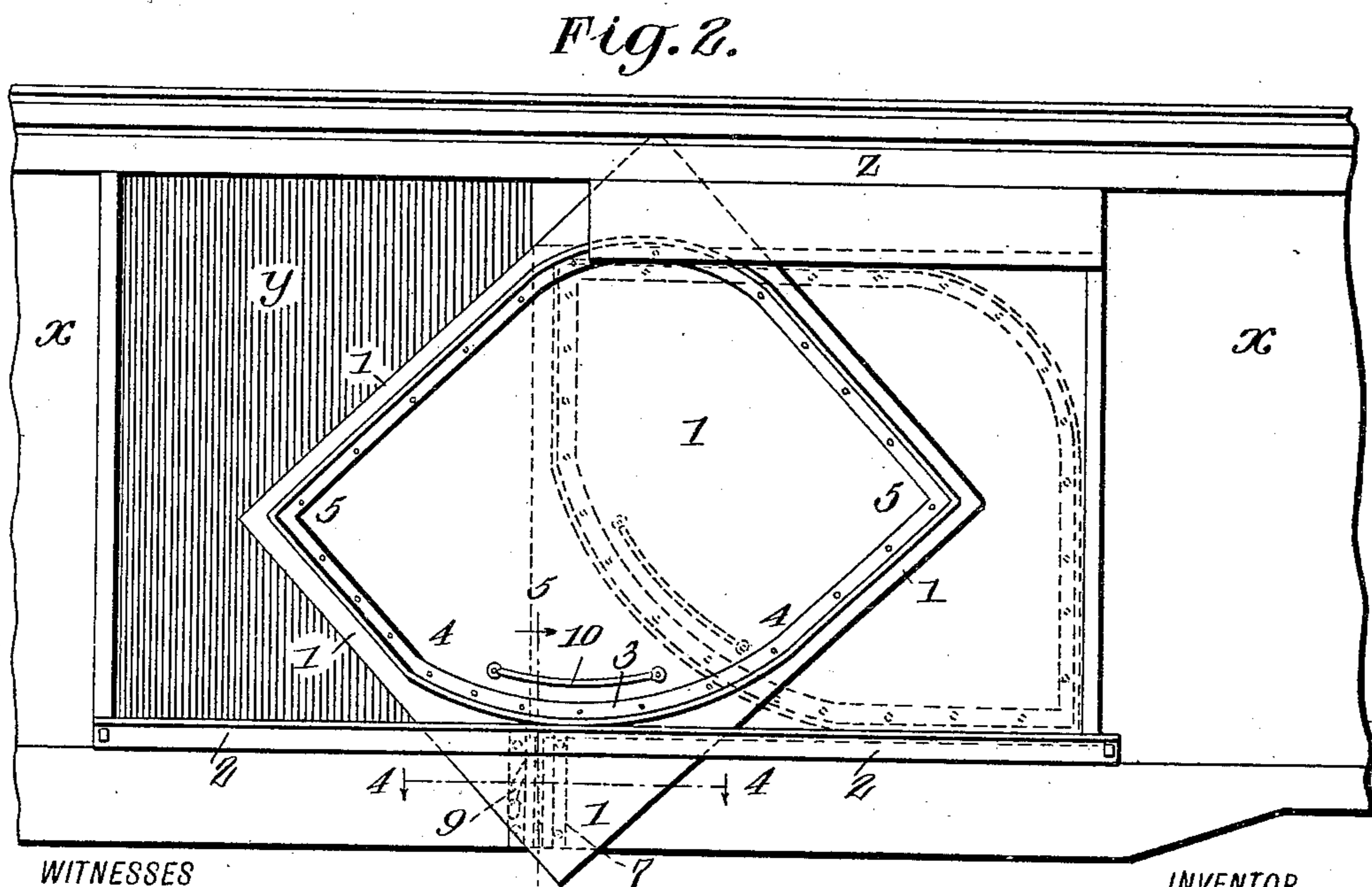
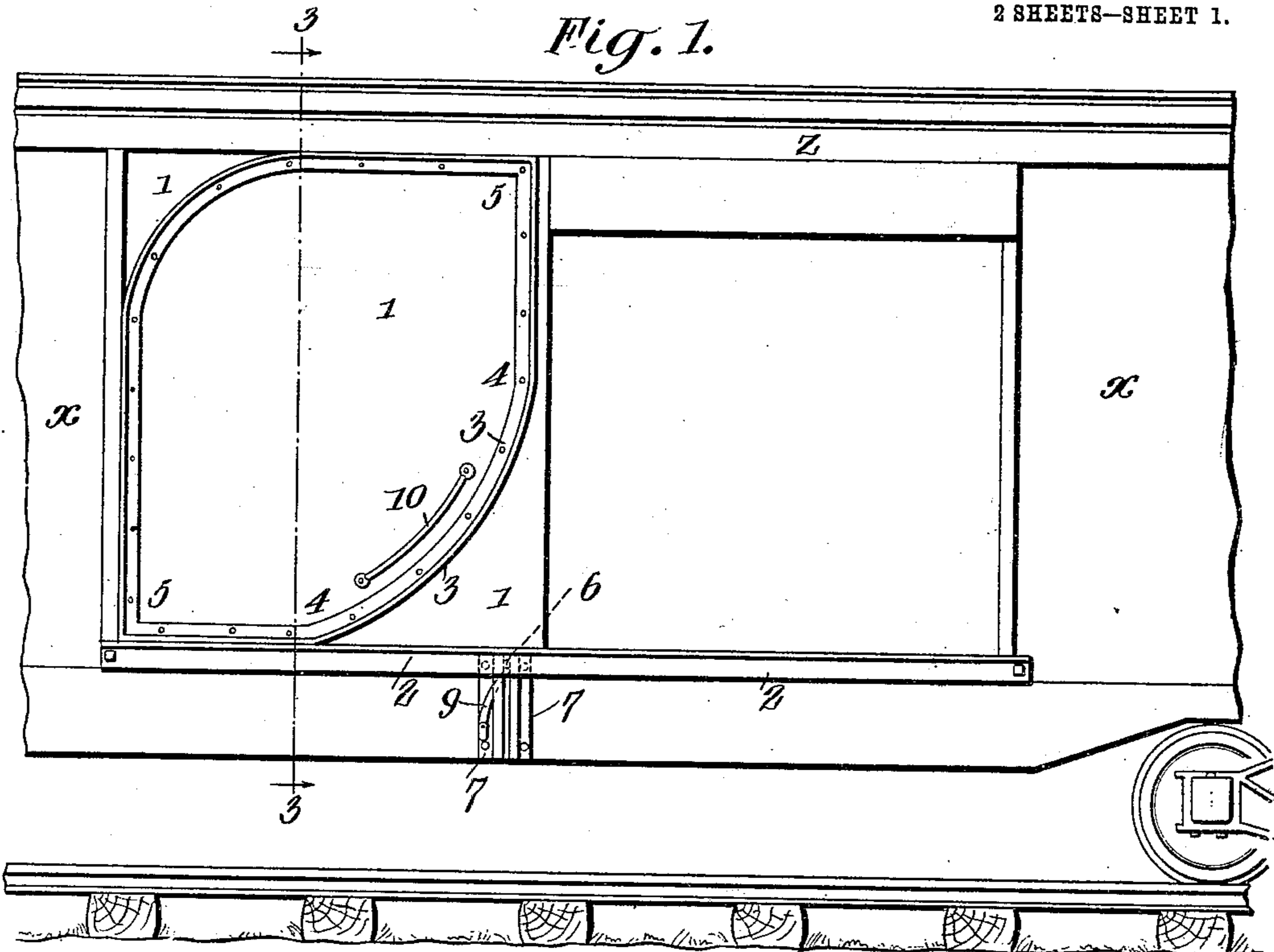


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BOX CAR DOOR.  
APPLICATION FILED JAN. 20, 1909.

935,450.

Patented Sept. 28, 1909.  
2 SHEETS—SHEET 1.



WITNESSES  
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2 SHEETS—SHEET 2.

Fig. 4.

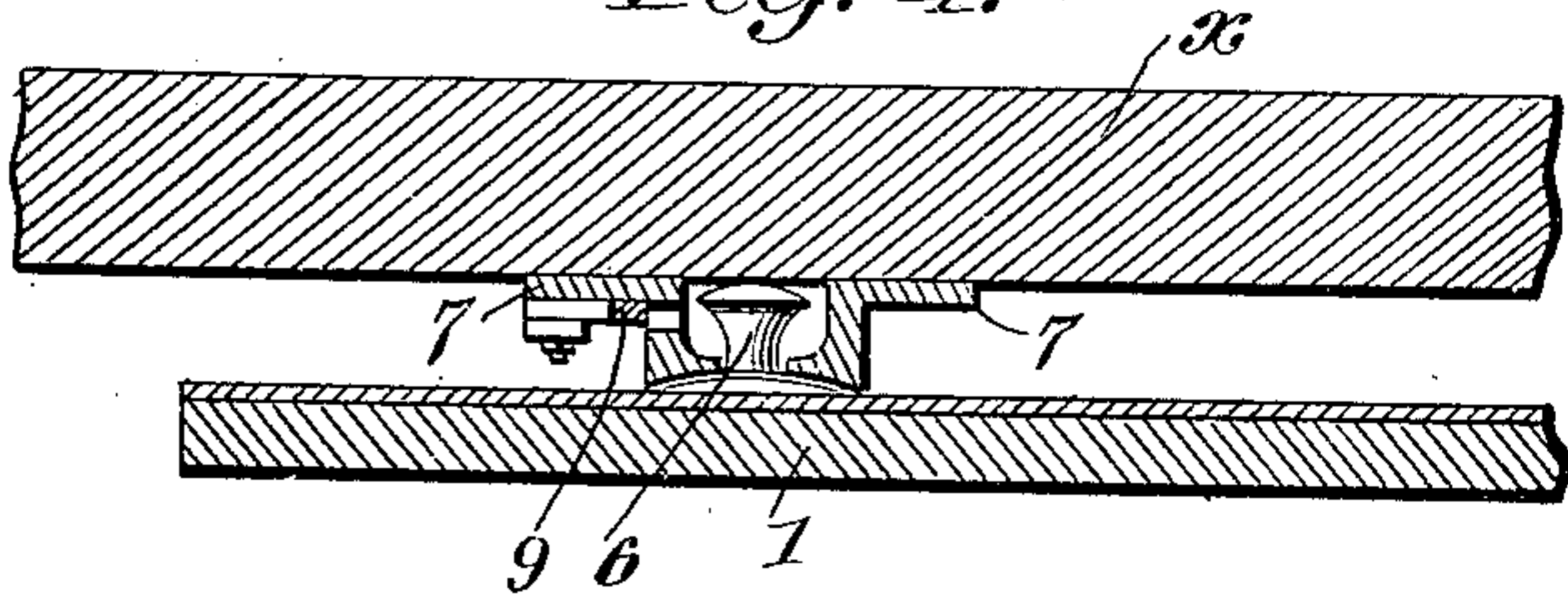


Fig. 3.

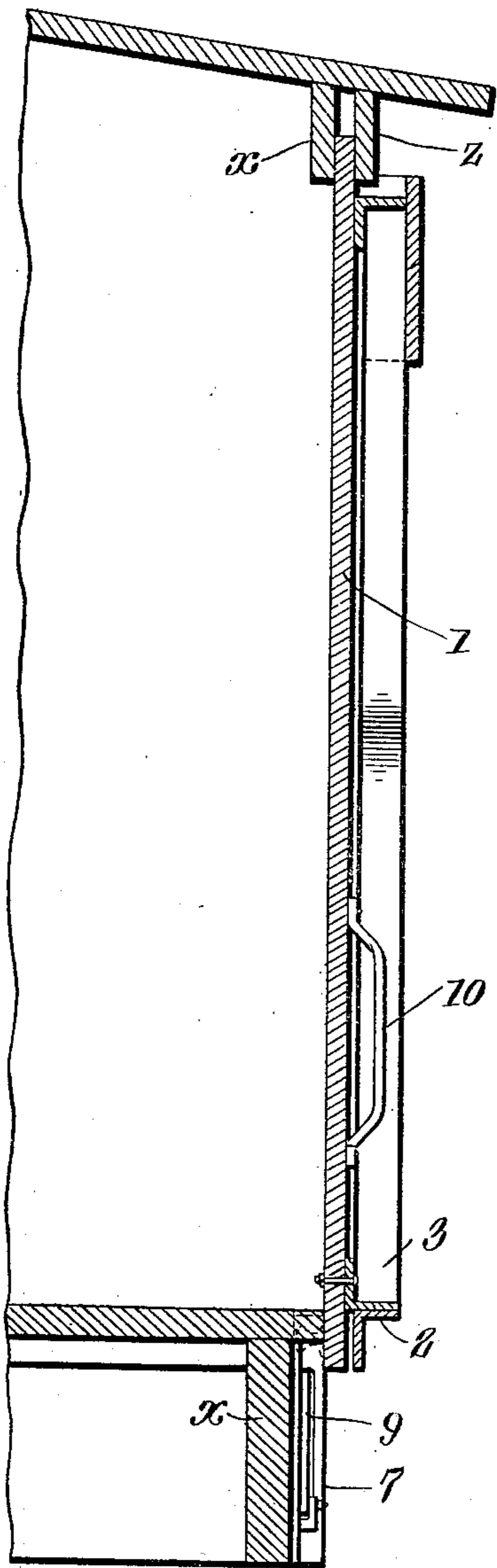


Fig. 5.

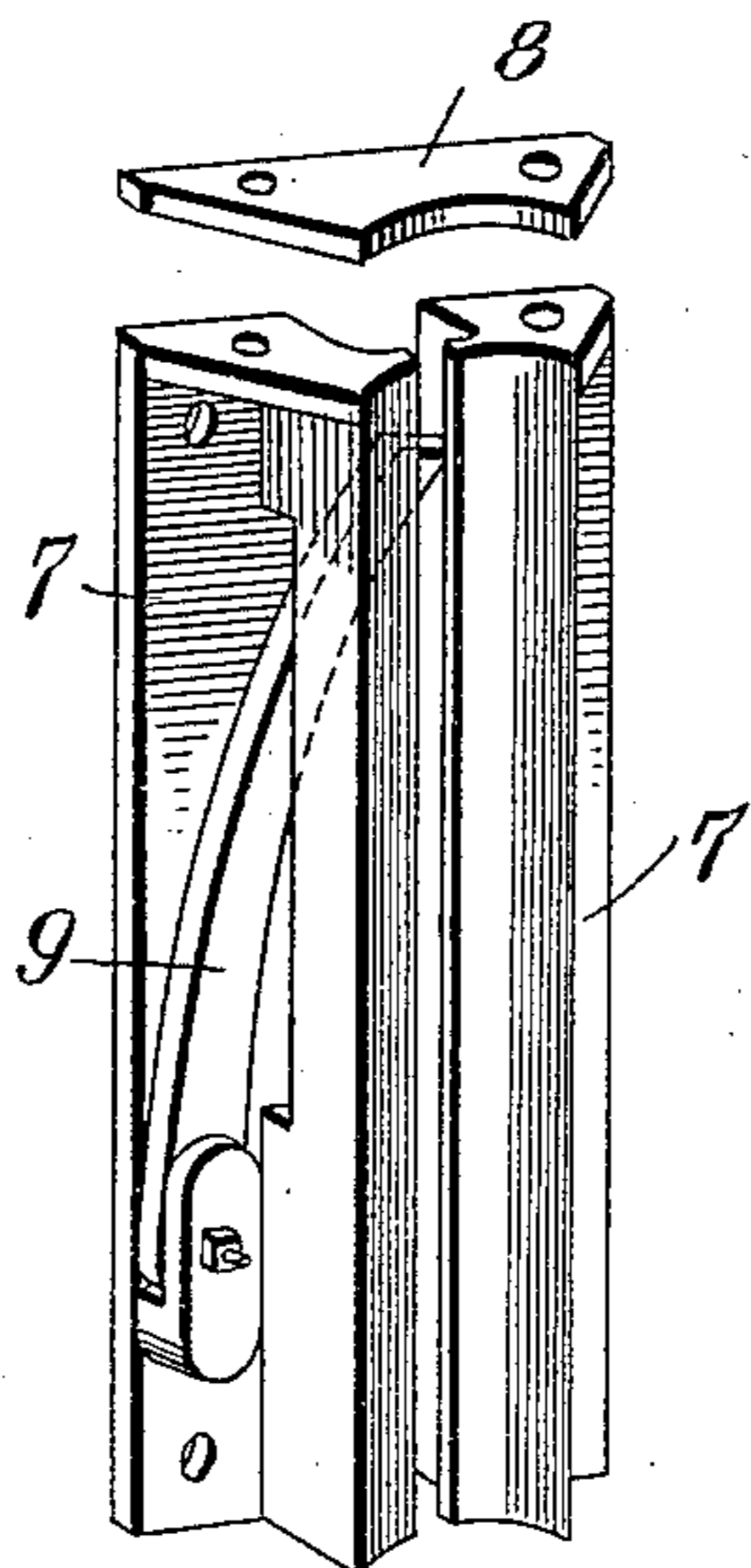
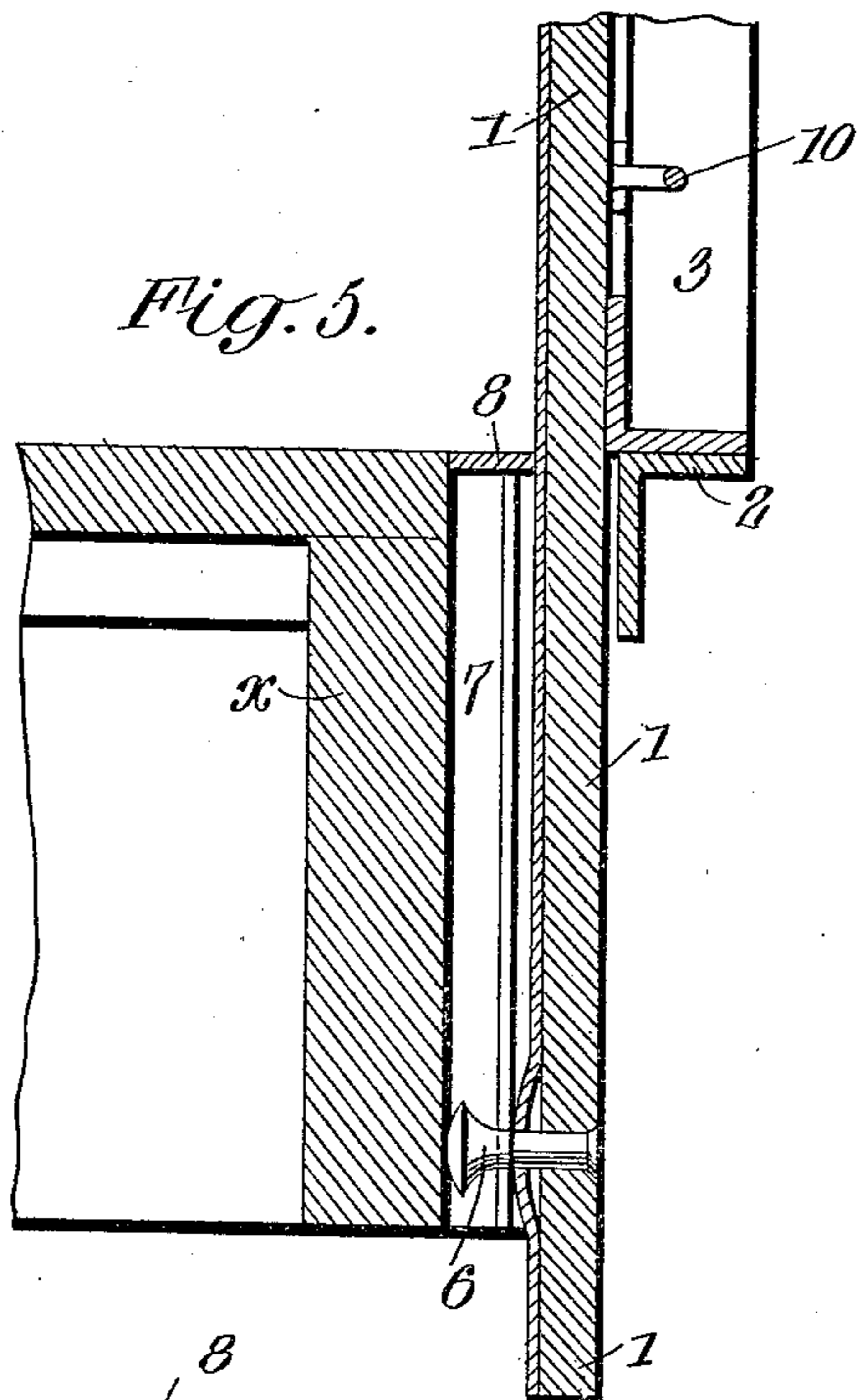


Fig. 6.

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# UNITED STATES PATENT OFFICE.

WILLIAM T. ANFIELD, OF ST. LOUIS, MISSOURI.

## BOX-CAR DOOR.

935,450.

Specification of Letters Patent. Patented Sept. 28, 1909.

Application filed January 20, 1909. Serial No. 473,262.

*To all whom it may concern:*

Be it known that I, WILLIAM T. ANFIELD, a citizen of the United States, residing at St. Louis, Missouri, have invented an Improvement in Box-Car Doors, of which the following is a specification.

My invention is an improvement in the class of doors for box freight-cars, and other inclosures, which are adapted to roll parallel to the side of the car or inclosure, for covering or uncovering the doorway.

The details of construction and operation of the door and connected parts are as hereinafter described, and shown in the accompanying drawing, in which—

Figure 1 is a side view of a portion of a box-freight car provided with my improved door, the same being shown in the closed position. Fig. 2 is a similar view, except that the door is shown in the intermediate position which it takes in opening or closing. Fig. 3 is an enlarged vertical section on the line 3—3 of Fig. 1. Fig. 4 is a horizontal section on the line 4—4 of Fig. 2. Fig. 5 is a vertical section on the line 5—5 of Fig. 2. Fig. 6 is a perspective view of the vertical guides for the door pin.

The door 1 is rectangular in form and arranged close to, and parallel with, the side  $x$  of the car, or other inclosure, which is provided with the doorway  $y$ . As shown in Fig. 1, the door is closed, and in Fig. 2 it is shown in full lines partly open, and by dotted lines entirely open. To lessen friction between the door and the side of the car as well as prevent wear of the former, it is preferably lined on the inner side with sheet metal, as indicated in Figs. 4 and 5. A track or rail 2 formed of angle-iron, is arranged on the outer side of the car and extends horizontally beneath the doorway  $y$  and to the right of the same as far as the width of the door. In other words, the length of this rail equals the height and width of the door. The door is provided with a corresponding angle-iron attachment 3 which is secured by screws or rivets to the front side of the door and is provided with a curved portion extending from 4 to 4, see Figs. 1 and 2, which rolls on the track 2, when the door is being opened or closed, as will be understood by reference particularly to Fig. 2. Between the points 4, 5, the angle-iron attachment 3 is straight and parallel to the adjacent edge of the door. The door

rests on these straight portions when in either the open or closed position.

The car  $z$  near the roof, is provided with the horizontal crown molding  $z$  in which the upper portion of the door is guided in opening or closing. The rail or track 2 is set off from the side of the car as shown in Fig. 3, the space thus provided extending about one-third the length of the track, and being of sufficient width to receive the lower right-hand corner of the door. Such corner is provided with a guide pin 6—see especially Figs. 4 and 5—which has an enlarged head and works between parallel vertical guides 7. The latter are formed of iron or steel castings secured to the sill of the car and spaced apart sufficiently to receive the guide-pin 6 between them. The slot is closed at the upper end by means of a plate 8, see Figs. 5 and 6, which may be secured by rivets, bolts, or screws. It is apparent that the pivot or guide-pin 6 will ride up and down in the slot between the castings 7, when the door is being open or closed, and it, therefore, serves to hold the door in the required position or to prevent it sliding bodily at any time, as would otherwise be the case when the car receives a sudden jar or shock.

In order to prevent the door rolling either when closed or open, or, in other words, to hold it fixed in the open or closed position, I provide an automatic locking device consisting of a curved latch 9, which, as shown best in Fig. 6, is pivoted to one of the castings 7 and normally stands in a nearly vertical position, but inclined across the slot, or passage-way, between the castings. It normally holds this position, but is pushed backward or laterally when the guide-pin 6 passes upward in the slot. So soon as the pin has passed above it, the latch resumes its normal or locking position by gravity, as will be understood by reference to Fig. 1. When it is desired to release the latch, it is done manually, the latch being simply pulled outward or laterally so as to bring it out of the slot between the guide 7.

It will be seen that in the operation of the door for opening or closing, the lower right-hand corner passes down between the track and the side of the car to the distance required for its upper lefthand corner to pass along under the edge of the roof; see especially Fig. 2.

For convenience in moving the door, it is

provided with a handle 10, arranged adjacent and parallel to the curved or contact portion of the door-rail 3.

What I claim is:

5 1. The combination with a car or like inclosure provided with a doorway and a track arranged alongside the same horizontally, and having its middle portion spaced from the side of the car, of a door provided with  
10 a support affixed to its side and curved in its middle portion and straight at its end portions, whereby it is adapted to roll on the track and to support the door in the open or closed position.

15 2. The combination with a box car or like inclosure having a doorway, of a horizontal track arranged alongside the car and beneath the doorway and spaced therefrom in its middle portion, of a door provided with  
20 a curved support fixed to its outer side and adapted to roll on the track, a vertical guide affixed to the side of the car beneath the track, the door having a guide pin adapted to work in the slot of the guide when the  
25 door is opened or closed.

3. The combination with a box car or

other inclosure having a doorway, of a door arranged alongside the same and adapted to roll for opening or closing, a horizontal track upon which the door is supported, a 30 vertical guide arranged below the track, the door having a guide pin which works in the same, and an automatic locking device adapted to engage said pin when the door is in the open or closed position, substantially as 35 described.

4. The combination with a box car or like inclosure having a doorway and a horizontal track arranged beneath the latter, of a rolling door supported on said track alongside 40 the inclosure, a fixed vertical guide arranged below the track and having a pivoted latch which normally extends across the guideway, the door having a guide-pin adapted to work in the guideway and to pass above the 45 latch when the door is opened or closed, as shown and described.

WILLIAM T. ANFIELD.

Witnesses:

S. A. FRANKLIN,  
HENRY CONNOLE.