No. 860,959. PATENTED JULY 23, 1907.

S. A. BAKER.

SLIDING DOOR CONSTRUCTION.

APPLICATION FILED SEPT. 13, 1906.

2 SHEETS—SHEET 1.

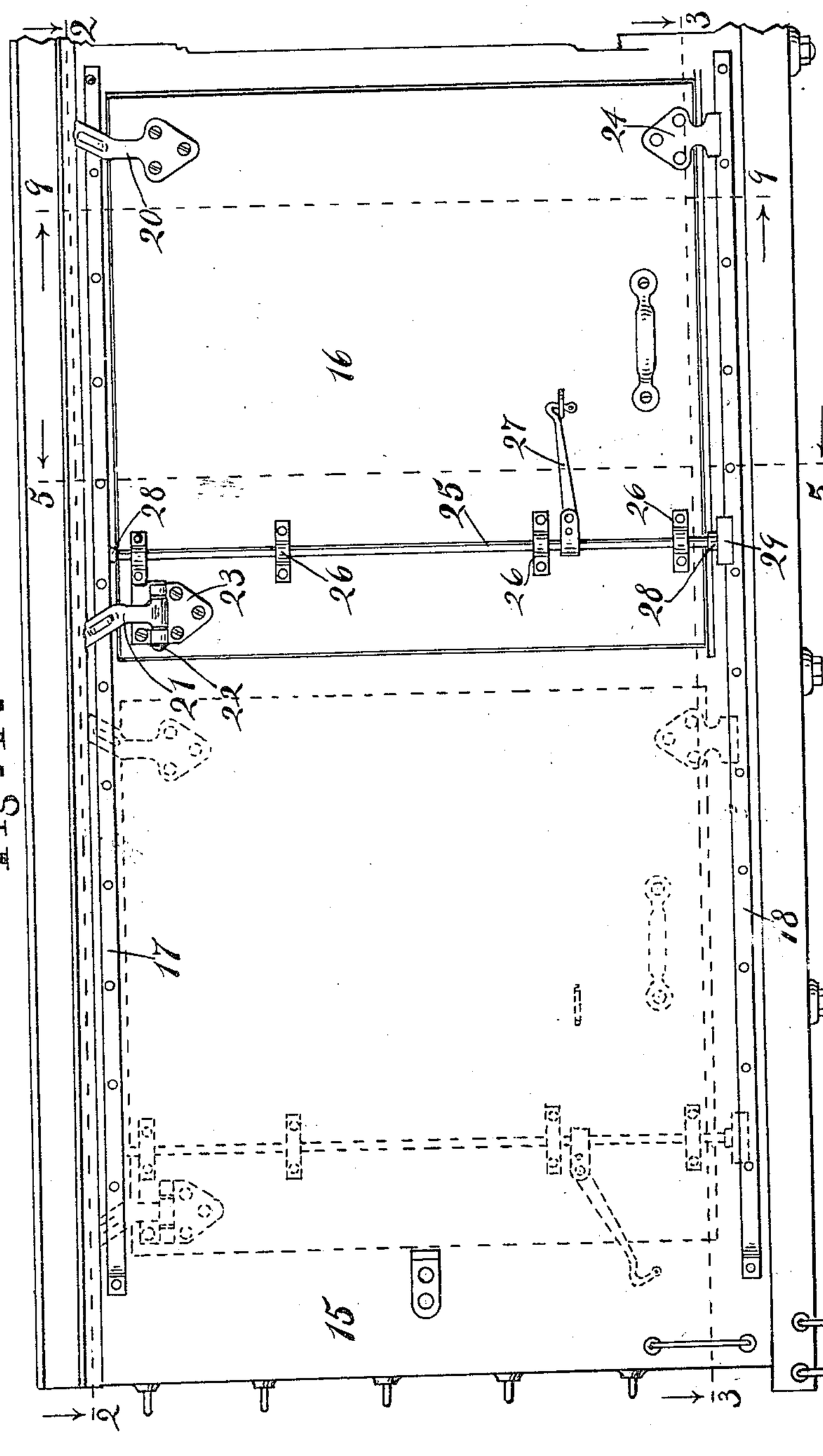

Fig. 1.

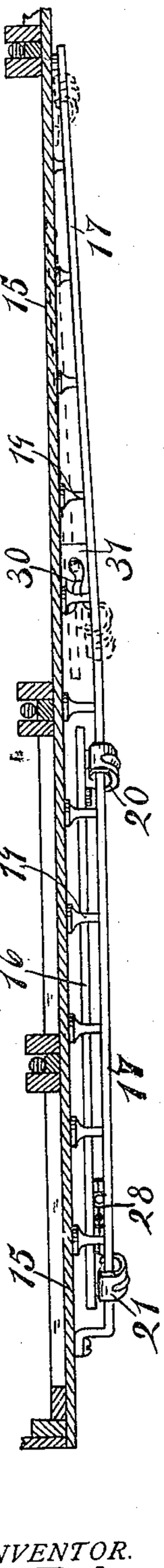

Fig. 2.

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2 SHEETS—SHEET 2.

Fig. 3.

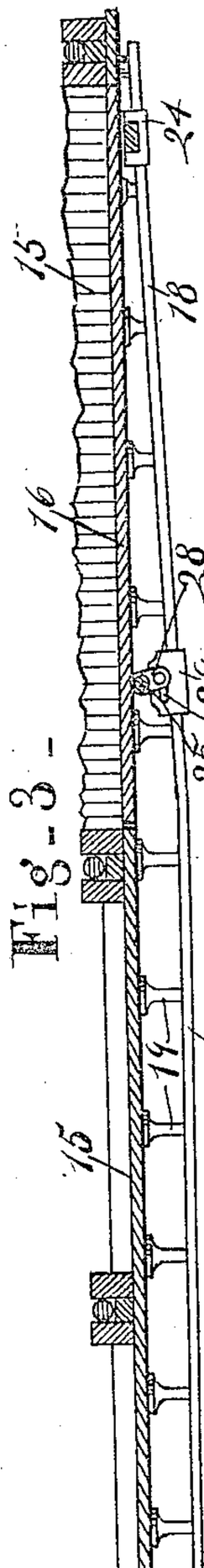


Fig. 4.

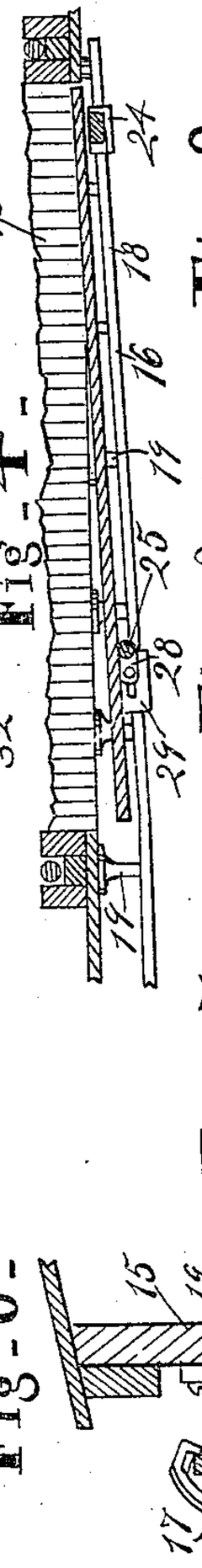
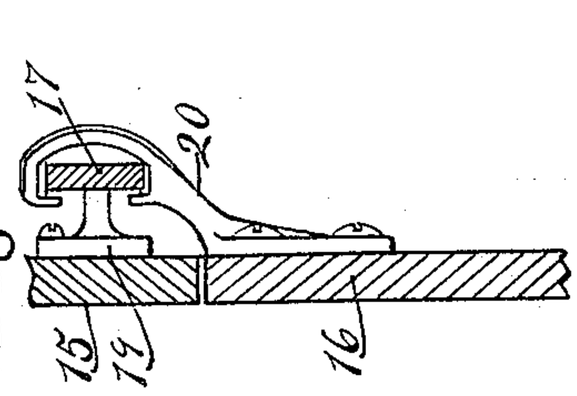


Fig. 9.



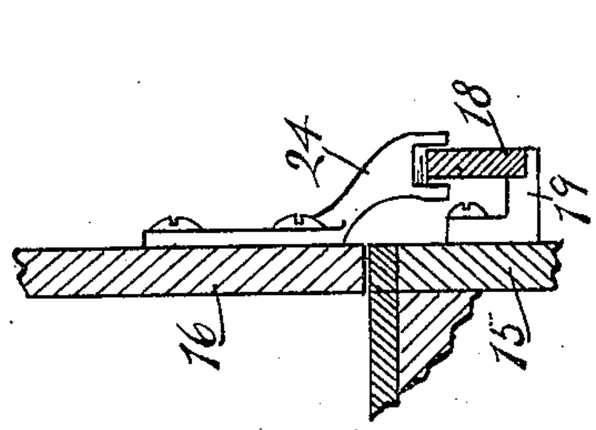


Fig. 8.

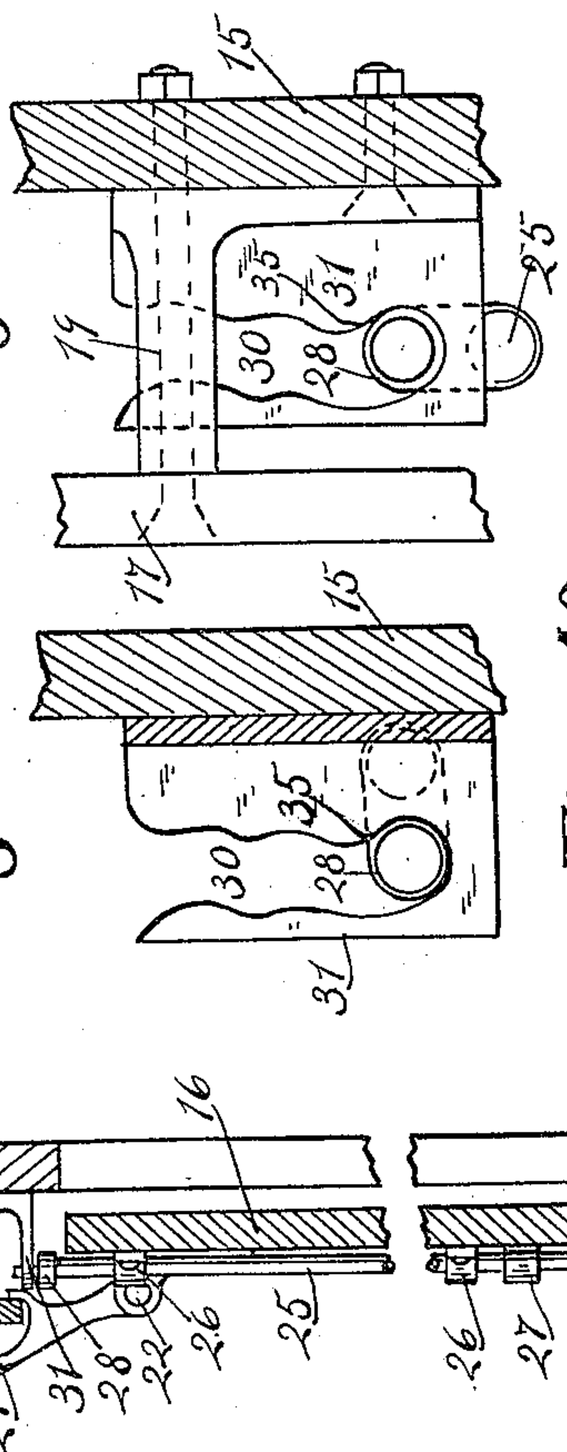


Fig. 11.

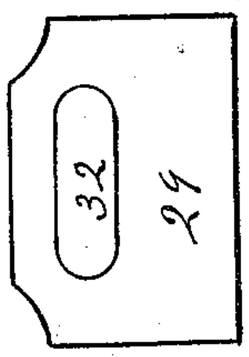


Fig. 10.

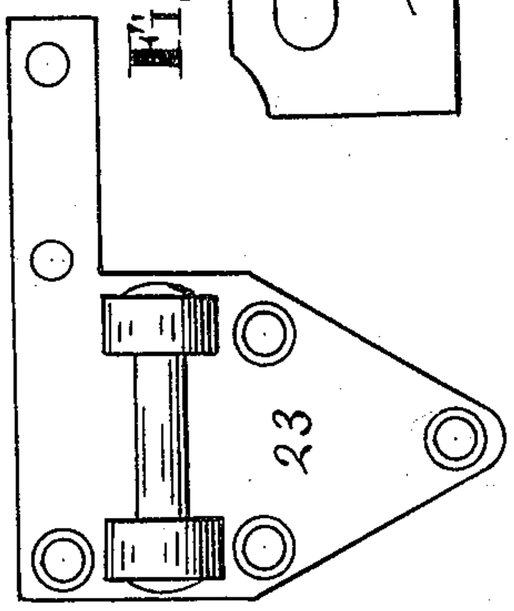
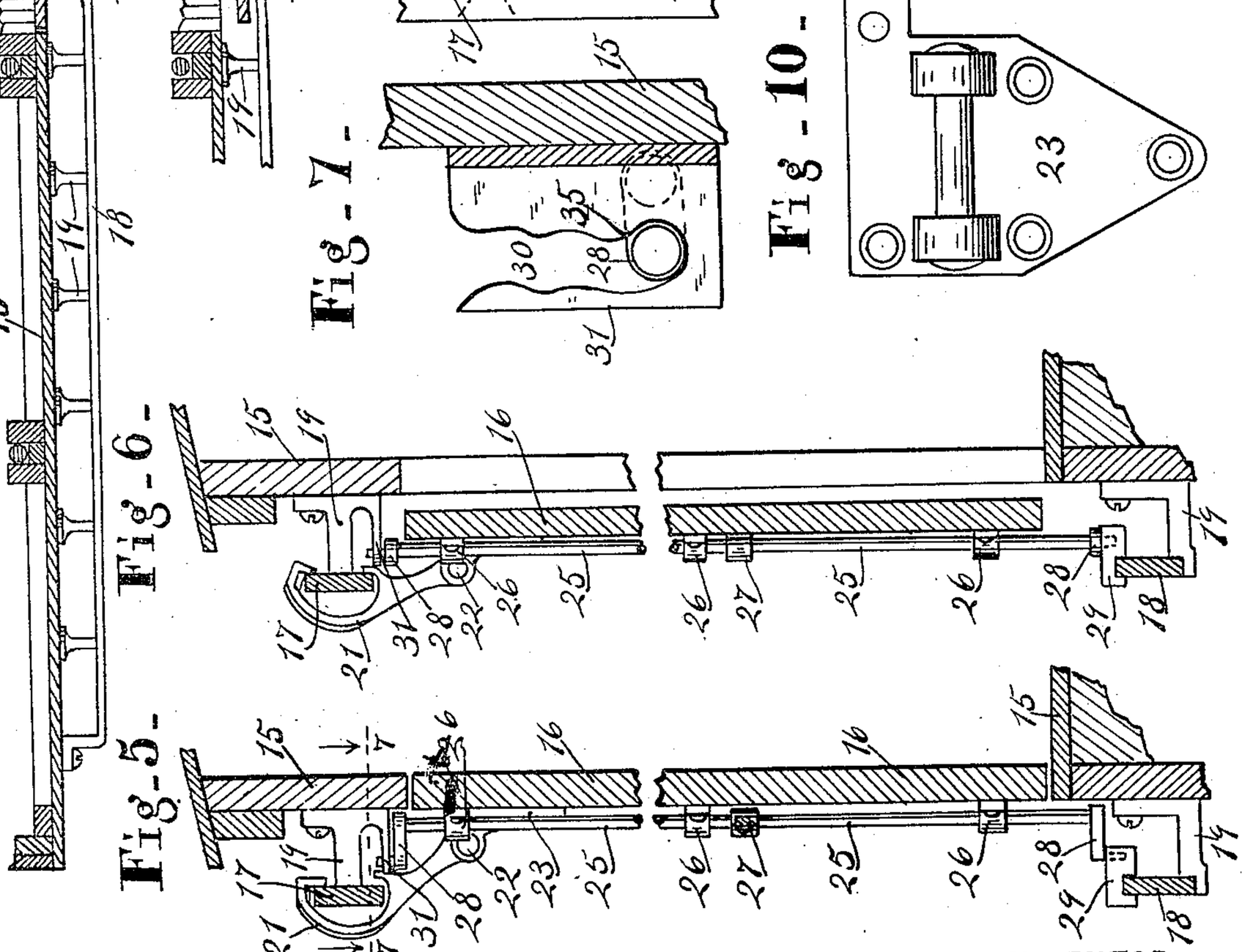


Fig. 7.

Fig. 6.

Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SALEM A. BAKER, OF INDIANAPOLIS, INDIANA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE BAKER-STEWART DOOR EQUIPMENT COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

SLIDING-DOOR CONSTRUCTION.

No. 860,959. Specification of Letters Patent. Patented July 23, 1907.

Application filed September 13, 1906. Serial No. 334,393.

To all whom it may concern:

Be it known that I, SALEM A. BAKER, of Indianapolis, county of Marion, and State of Indiana, have invented a certain new and useful Sliding-Door Construction; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like letters refer to like parts.

The object of this invention is to provide improved means for supporting and handling sliding doors, especially car doors, that are arranged when closed to fit flush with the casing.

One feature of the invention consists in pivoting a hanger at one side of the door and providing means for moving said side of the door towards or away from the structure on which the door is mounted. This feature is used in connection with an upper track for the door that inclines inward at one end towards the structure and outward at the other end away from the structure.

In connection with the foregoing another feature consists in means for causing the door to move directly outward from the structure in a perpendicular line so that there will be no tendency of the outwardly moving edge of the door binding on the edge of the casing while opening the door.

These and the other features of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings, Figure 1 is a side elevation of a portion of a car equipped with my sliding door construction, the open position of the door being shown by dotted lines. Fig. 2 is a horizontal section on the line 2—2 of Fig. 1, showing the door in its open position. Fig. 3 is a horizontal section on the line 3—3 of Fig. 1, showing the door closed. Fig. 4 is the same as the right hand half of Fig. 3, showing the door in process of opening. Fig. 5 is a vertical section on the line 5—5 of Fig. 1, showing the door closed. Fig. 6 is the same showing the door open. Figs. 7 and 8 are details of the means for moving the door in and out. Fig. 9 is a vertical section on the line 9—9 of Fig. 1 parts centrally broken away. Fig. 10 is a detail of the hinge plate on the door. Fig. 11 is a plan view of one of the shoes that is slidable on the lower track.

The drawings show a car 15 with the usual door opening that is closed by the sliding door 16. To the structure there are secured an upper door track 17 and a lower track 18. The right hand ends of the tracks lie close to the surface of the structure and are inclined therefrom to the left away from the structure and supported by arms 19 and said tracks extend far enough to the left to enable the door 16 to slide laterally away from the door opening. The door has a stationary hanger 20 secured to it at the right hand side thereof, the upper portion of the hanger riding upon the track. At the left hand side of the door there is a hanger 21 the upper end of which engages and rides upon the track while its lower end is pivoted at the end 22 in the plate 23 secured to the door. This pivotal arrangement of the hanger is to enable the left hand side of the door to be moved outward and inward with reference to the structure as the door is moved along the edge of the inclined track. At the lower side of the door there is a bracket 24 secured at the right hand side of the door which rides upon the lower track 18, as seen in Fig. 9. At the left hand side of the door a crank-rod 25 is mounted in the bearings 26 and operated by a lever 27. This rod is vertical and has cranks 28 and 28 at its lower and upper ends. The pin on the crank at the lower end extends in a slot 32 in the shoe 29 that slides on the lower track. The pin on the crank at the upper end, as seen in Figs. 7 and 8, extends into a groove 30 in a horizontal plate 31 secured to the structure herein, by being integral with one of the arms 19, just above the door opening and below the upper track supports. The groove 30 is irregular or cam shaped as shown, being turned inward towards the structure at the inner end of the groove so as to form what may be termed a shoulder 35. The purpose of this form of groove and shoulder is to prevent any outward movement of the pin on the upper crank when the crank-shaft 25 is operated to open the door, and therefore, there will be no tendency of the door, while being opened, to move to the left and bind the edge of the door casing and render the opening of the door difficult; but on the contrary, the tendency of the door during such opening is to move slightly to the right, whereby its left edge is disengaged from the edge of the door casing and does not bind the same and, hence the door can without difficulty be moved outward.

What I claim as my invention and desire to secure by Letters Patent is:

A sliding door construction that includes a hanger pivoted to one side of the door, a crank-rod mounted on such side of the door with a crank and pin on the upper end thereof, and a plate secured to the structure provided with a groove in which the pin on said crank extends and moves, said groove at its inner end being curved to form a shoulder on said plate that prevents the pin on the crank moving along said slot while said crank-rod is being actuated, substantially and for the purpose set forth.

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

SALEM A. BAKER.

Witnesses:

NELLIE ALLEMONG,

HELEN B. MCCORD.