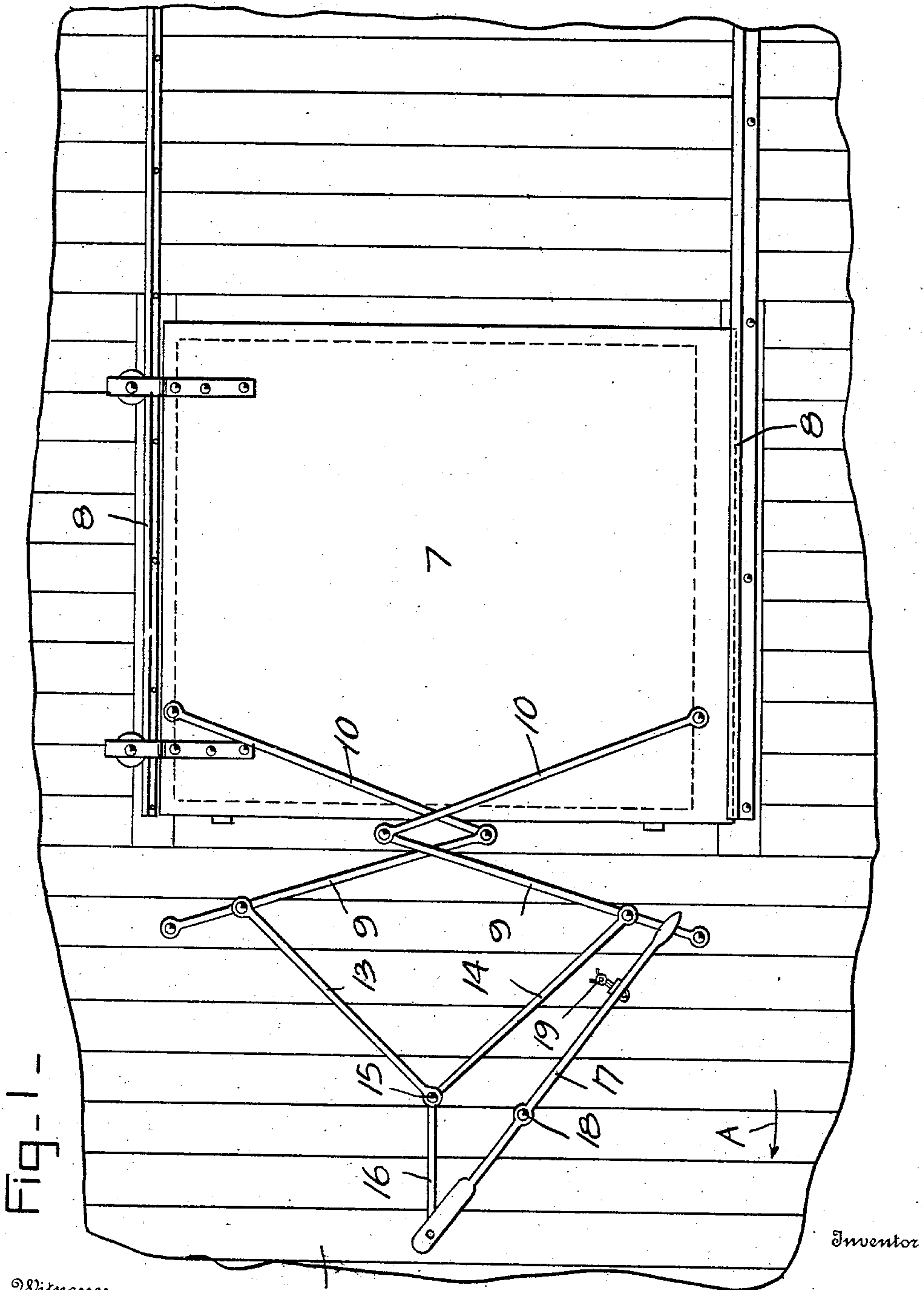


No. 884,295.

G. W. RAKESTRAW. PATENTED APR. 7, 1908.
CAR DOOR OPERATOR.
APPLICATION FILED SEPT. 10, 1907.

3 SHEETS—SHEET 1.



Witnesses
W. H. Rockwell
John Brown

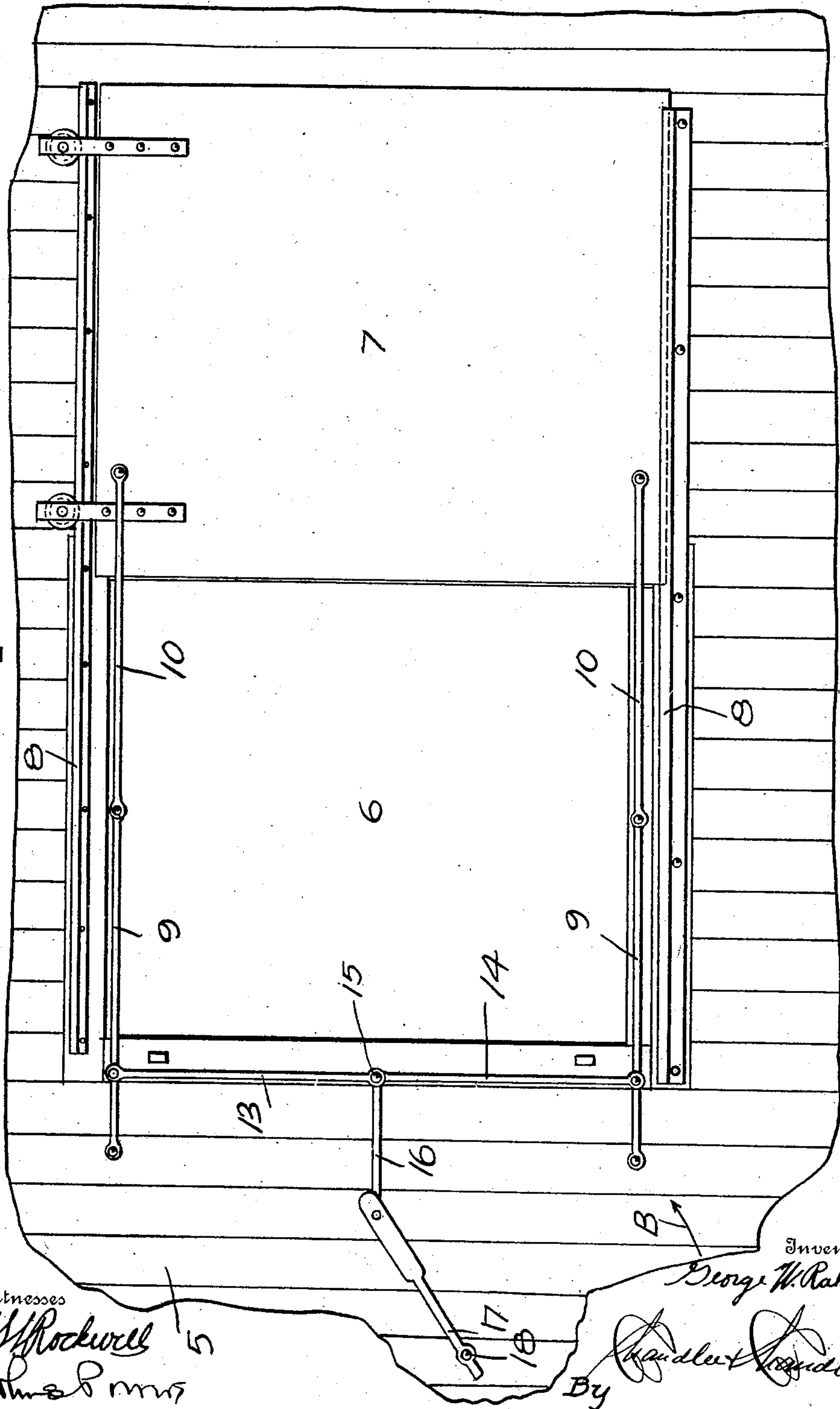
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3 SHEETS—SHEET 2.

Fig-2-



Witnesses

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3 SHEETS—SHEET 3.

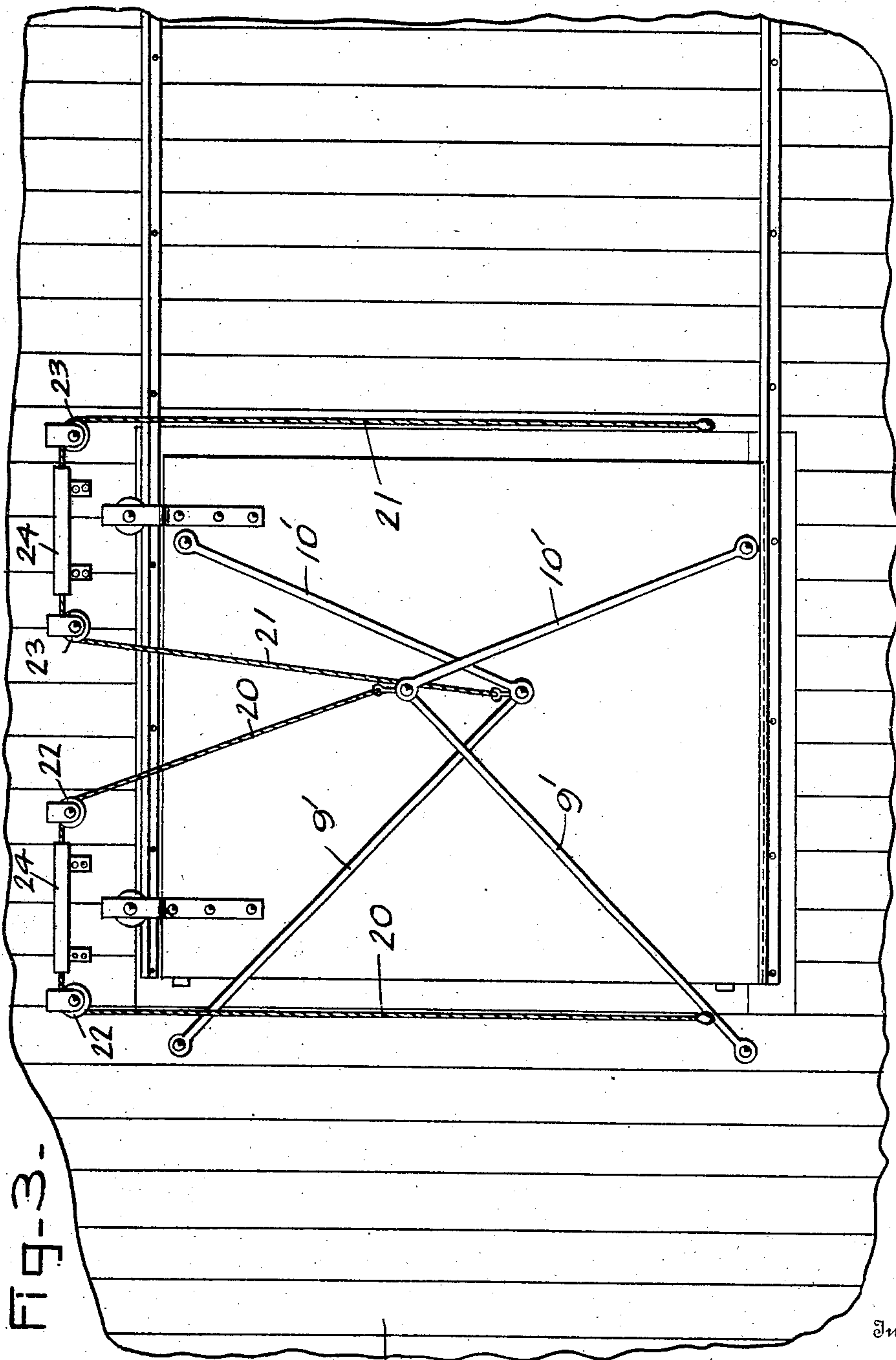


Fig-3-

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UNITED STATES PATENT OFFICE.

GEORGE W. RAKESTRAW, OF HOLLYSPRINGS, GEORGIA.

CAR-DOOR OPERATOR.

No. 884,295.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed September 10, 1907. Serial No. 392,183.

To all whom it may concern:

Be it known that I, GEORGE W. RAKESTRAW, a citizen of the United States, residing at Hollysprings, in the county of Cherokee, State of Georgia, have invented certain new and useful Improvements in Car-Door Operators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in opening and closing mechanisms for sliding doors, more particularly the doors of freight cars, and it has for its object to provide a novel construction, combination and arrangement of parts.

The details of construction will appear in the course of the following description in which reference is had to the accompanying drawings, forming a part of this specification, like characters of reference designating similar parts throughout the several views, wherein:—

Figure 1 is a side elevation illustrating a preferred embodiment of the invention, the door being shown as applied to a freight car and in its closed position. Fig. 2 is a similar view illustrating the door in its open position. Fig. 3 is a similar view illustrating the modified embodiment of the invention.

In the accompanying drawings the numeral 5 designates a freight car having a door opening 6 which is adapted to be closed by a sliding door 7 working in upper and lower guides 8. Main toggle links 9 and 10 arranged in upper and lower pairs are employed to effect a sliding movement of the door in either direction, the links 9 being pivoted to the sides of the car and the links 10 being pivoted to the door 7. The upper pivotally connected links 9 and 10 are pivoted at their upper ends and depend and the lower pivotally connected links 9 and 10 are pivoted at their lower ends and extend upwardly. Links 13 and 14 are pivoted to the respective upper and lower links 9, the links 13 and 14 being likewise pivoted to one another as at 15 and constituting an auxiliary toggle. The pivot 15 is likewise the connection between the links 13 and 14 and a rod 16 which is in turn pivoted to an operating lever 17 having a pivotal mounting 18.

The handle of the lever 17 is held when the door is closed, by a frangible seal 19. 55

In Fig. 3 a modified form of the invention is shown in which toggle links 9' and 10' corresponding to the links 9 and 10 are employed. The departure from the preferred form of the invention resides in the provision of novel operating means consisting of ropes 20 and 21 connected to the pivot joints of the respective upper and lower links 9' and 10' and trained over respective guide pulleys 22 and 23, the ropes preferably being passed through retaining tubes 24 which together with the pulleys 22 and 23 are mounted upon the side of the car. 60 65

The manner of use will be readily apparent from the foregoing description. In opening the door the lever 17 is moved manually in the direction of the arrow A thereby spreading the links 13 and 14 apart and the individual movement of the latter, acting on the links 9 moves the same and the links 10 to spread apart, the movement of the links 10 in this action resulting in sliding the door 7 to an open position. The said door is closed by movement of the lever 17 in a reverse direction as indicated by the arrow B, the connecting toggle links coöperating similarly as will be understood. 70 75 80

In the modified form of the invention the rope 20 is pulled to actuate the upper pair of links 9' and 10' to open the door, and the rope 21 to actuate the lower pair of links 9' and 10' to close the door. 85

The invention is simple in its structural details, inexpensive to manufacture, and practical and efficient in use. 90

From the foregoing description it will be seen that simple and efficient means are provided for accomplishing the objects of the invention, but, while the elements herein shown and described are well adapted to serve the functions set forth, it will be obvious that various minor changes may be made in the proportions, shape, and arrangement of the several parts without departing from the spirit and scope of the claim appended hereto. 95 100

What is claimed, is,

A mechanism of the class described, comprising in combination with a car and a sliding door mounted at one side thereof, of pivotally connected main toggle links arranged in upper and lower coöperating pairs, one of 105

the links of each pair being pivoted to said car and the remaining link of each pair being pivoted to the door, said links having operative movement as pairs towards and away
5 from one another, an auxiliary link pivoted to each of the car pivoted links of said pairs, said links being pivoted to one another, a rod pivoted to said links at their mutual pivotal

connection, and an operating lever pivoted at its end to said rod. 10

In testimony whereof, I affix my signature, in presence of two witnesses.

GEORGE W. RAKESTRAW.

Witnesses:

A. J. PURCELL,

F. M. BLACKWELL.