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CAR.  
APPLICATION FILED AUG. 12, 1910.

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3 SHEETS-SHEET 1

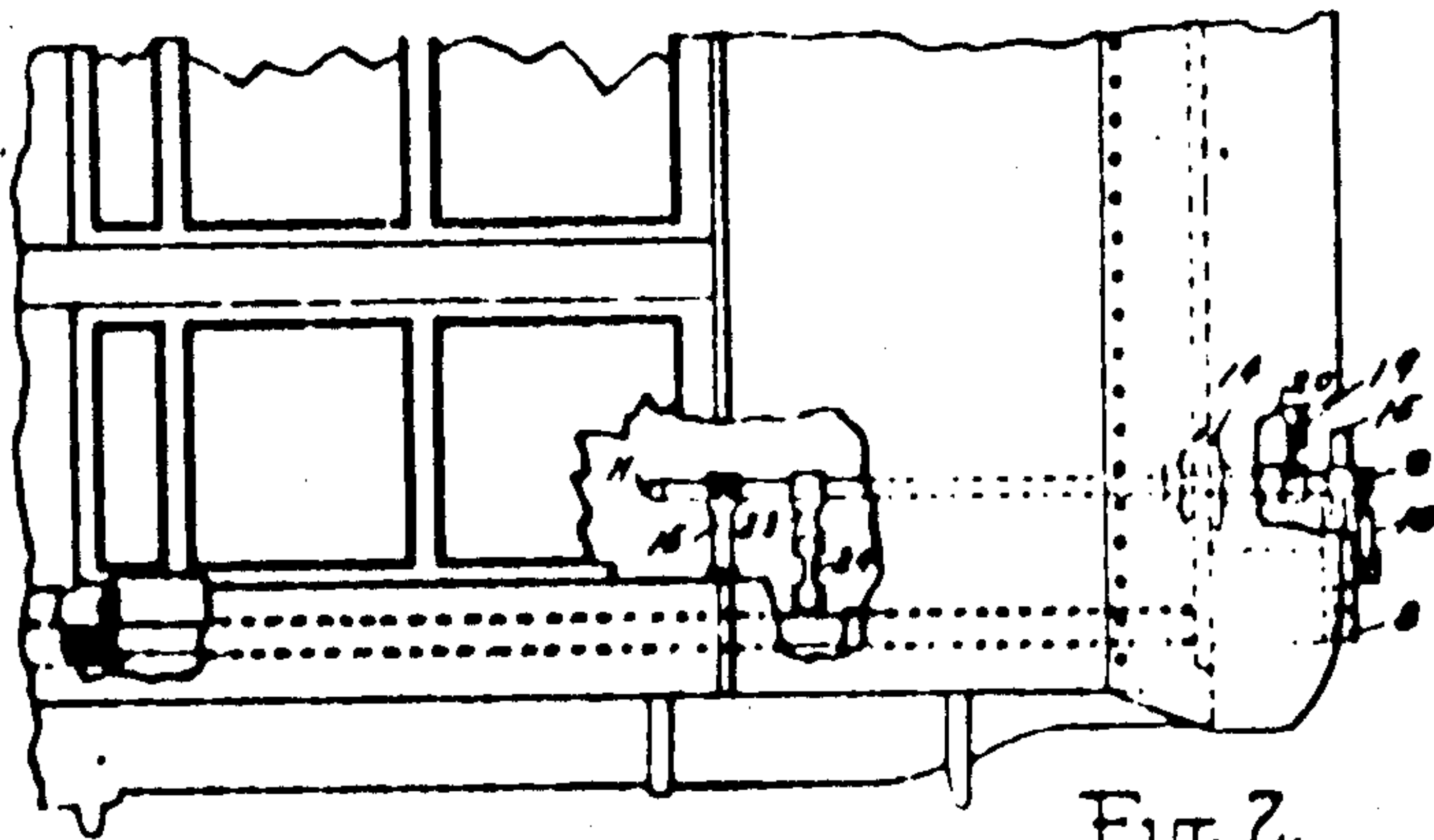


Fig. 2.

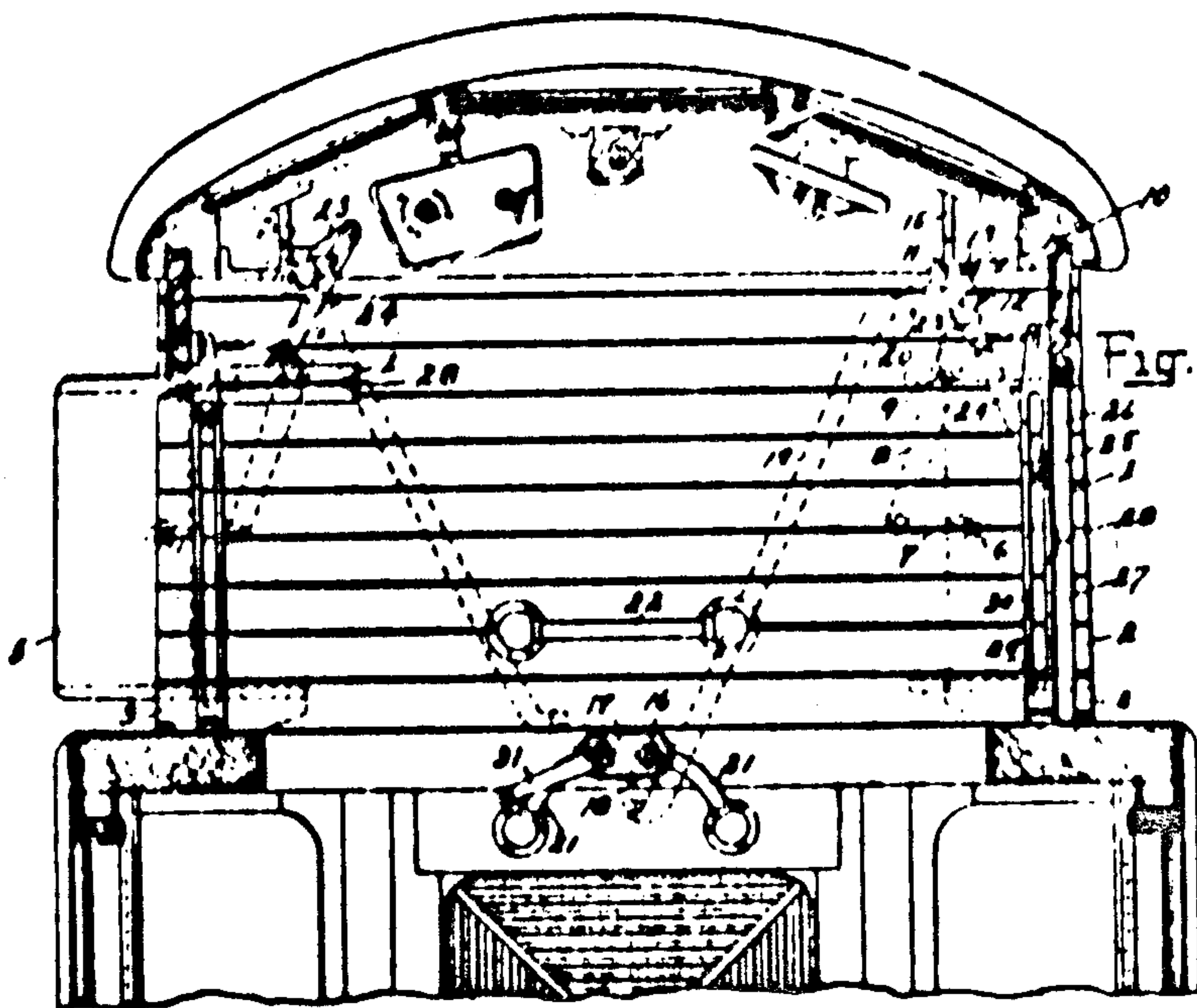


Fig. 1.

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2 SHEETS—SHEET 2.

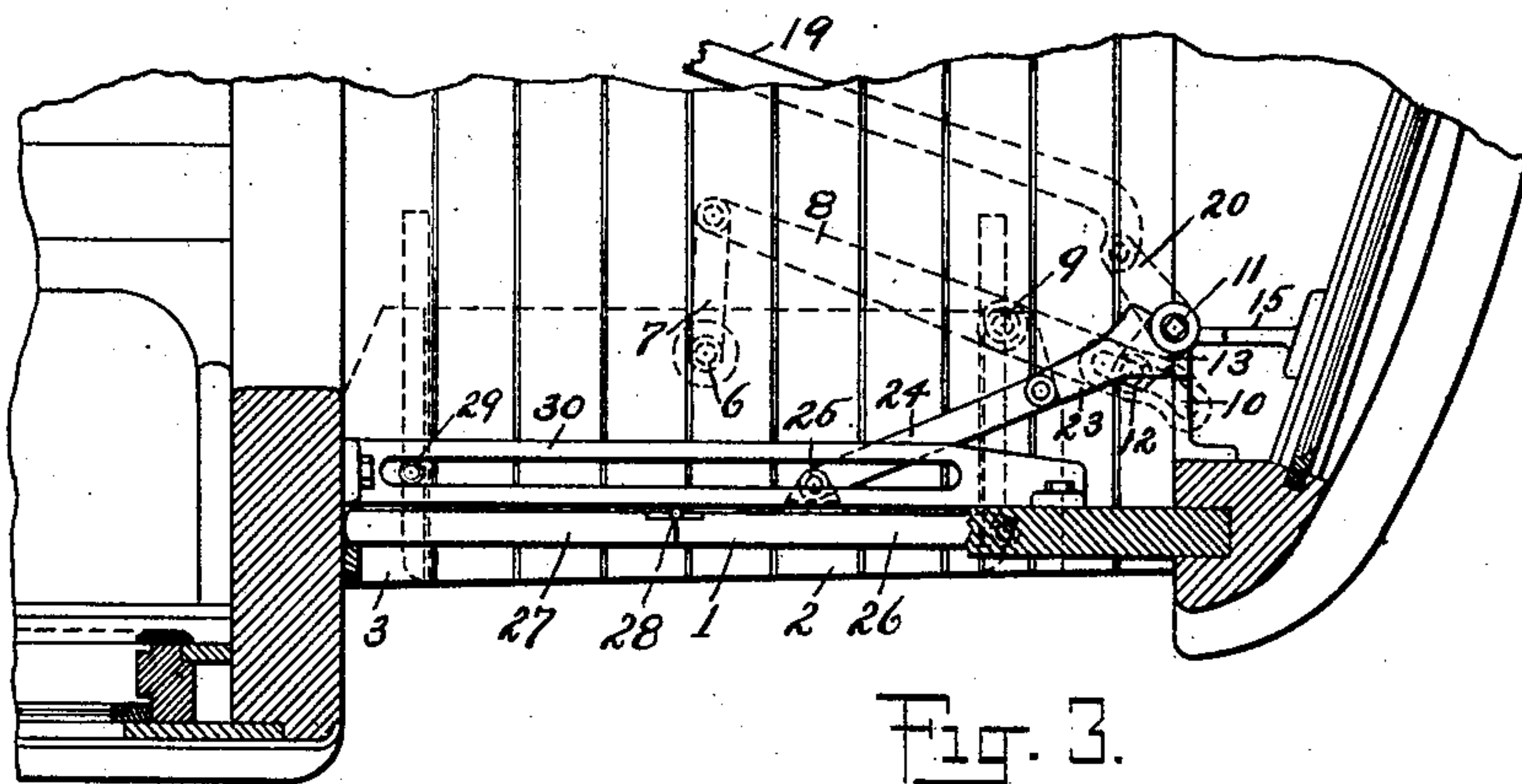


Fig. 3.

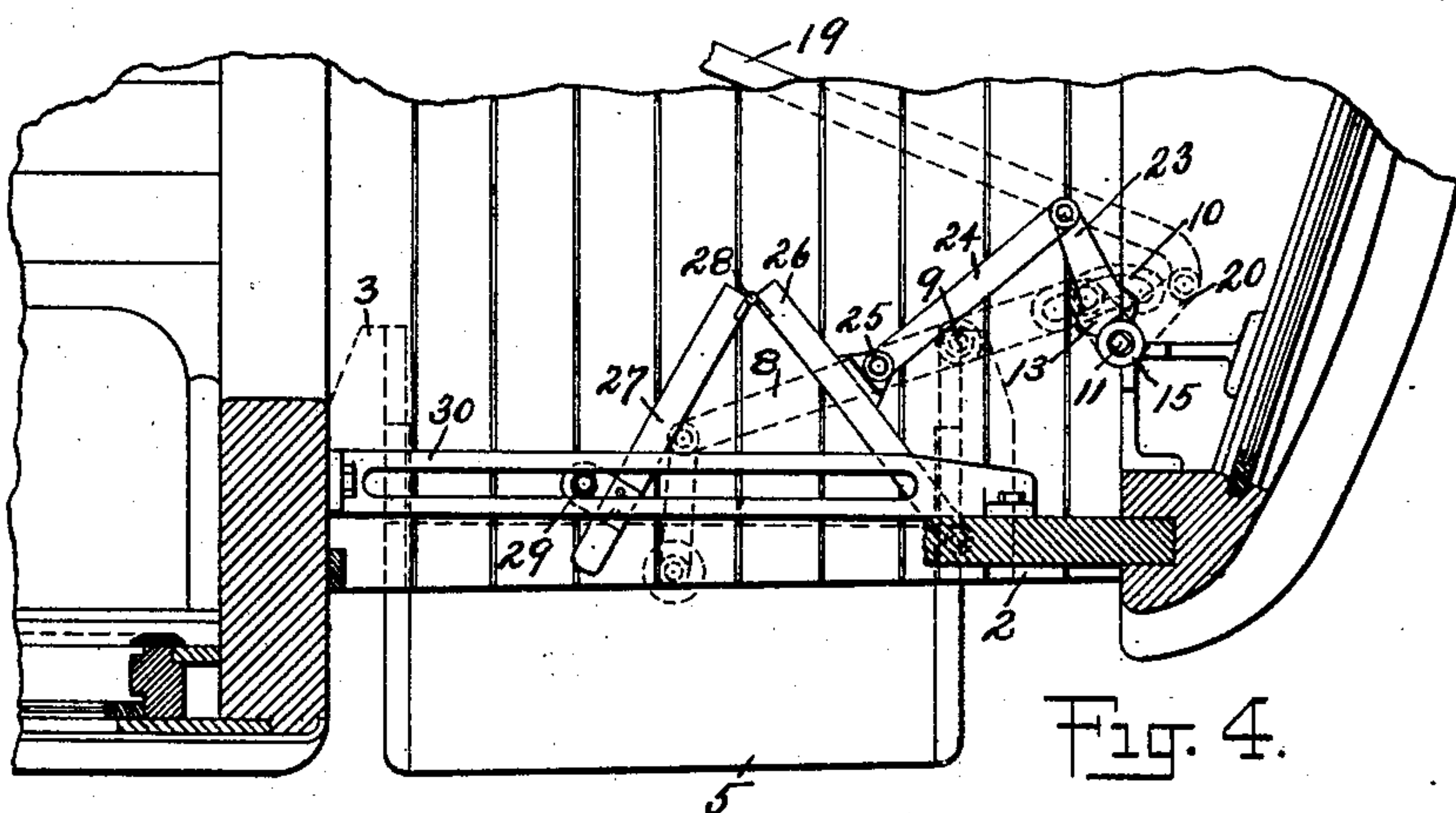


Fig. 4.

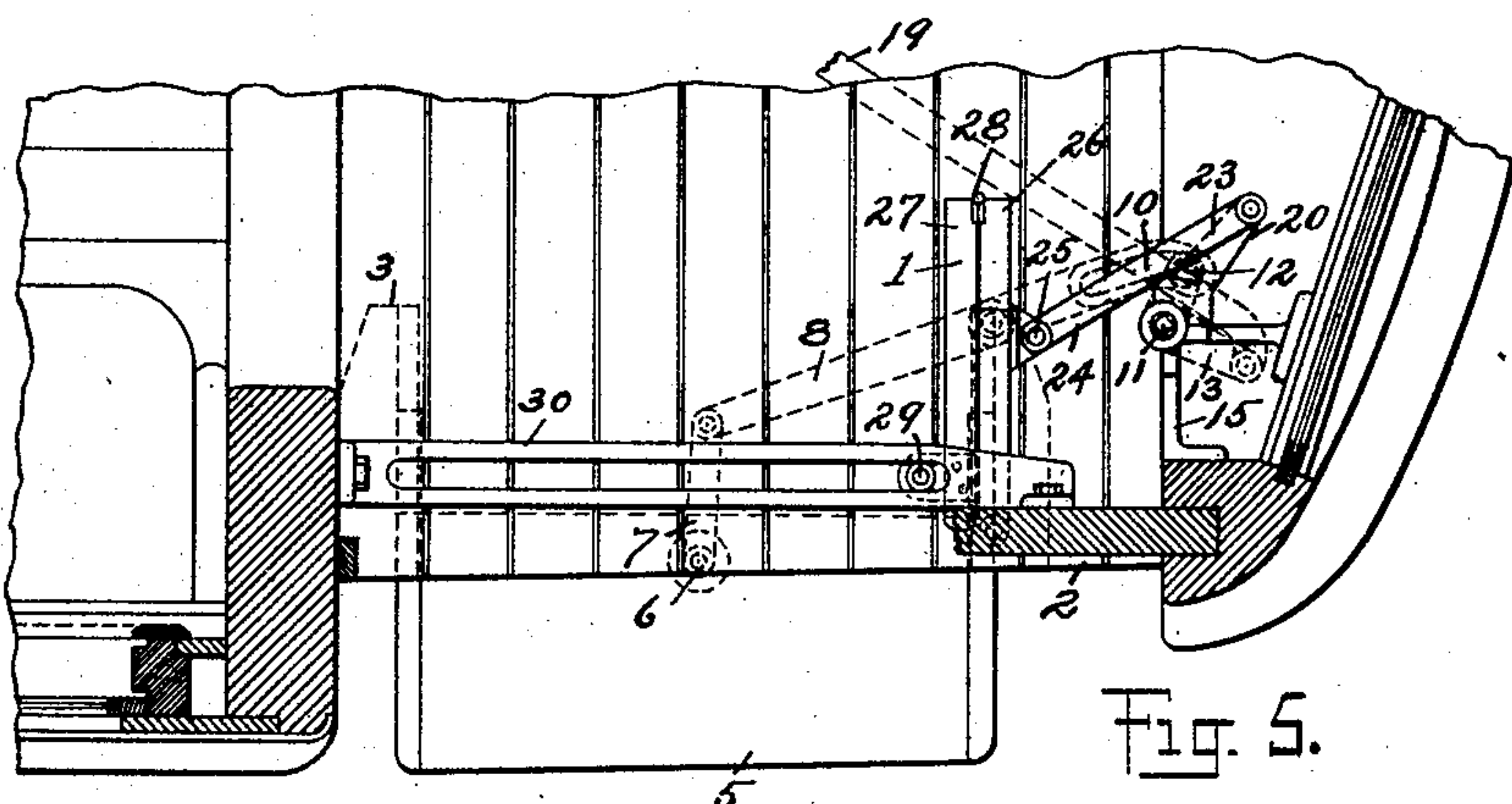


Fig. 5.

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# UNITED STATES PATENT OFFICE.

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CAR.

997,200.

Specification of Letters Patent.

Patented July 4, 1911.

Original application filed December 29, 1909, Serial No. 535,413. Divided and this application filed August 15, 1910. Serial No. 577,216.

*To all whom it may concern:*

Be it known that I, FRANCIS X. MALOCSAY, a citizen of the United States, and a resident of the city of Jersey City, county of Hudson, and State of New Jersey, have invented new and useful Improvements in Cars, of which the following is a specification.

The invention relates to cars and more particularly to the class of the "pay-as-you-enter" type, and is a division of my co-pending application, filed December 29th, 1909, Serial Number 535,413.

The primary object of the invention is the provision of a car in which the doors and steps are simultaneously actuated under the control of a conductor or motorman whereby the said doors and steps may be opened and closed to admit or permit the exit of passengers to and from the car.

Another object of the invention is the provision of a car in which the doors and steps at either end thereof may be simultaneously actuated so that upon the opening of one door and the projecting of the step adjacent thereto from the side of the car the other door will be closed and the step adjacent thereto will retreat inwardly from the side of said car whereby persons or passengers may be admitted to the car or they may freely egress therefrom, the mechanism for actuating the said doors and steps being under the positive control of either the motorman or conductor when positioned in their respective ends of the car.

A further object of the invention is the provision of a car in which the doors and steps thereof are under positive control of either the conductor and motorman for bringing the doors to either opened or closed position and also the steps in a position to permit the entrance or egress of passengers to and from the car.

A still further object of the invention is the provision of a car of this character which is simple in construction, thoroughly reliable and efficient in operation and inexpensive in manufacture.

In the drawings accompanying and forming part of this specification is illustrated the preferred form of embodiment of the invention, which to enable those skilled in the art to carry the invention into practice, will be set forth at length in the following description, while the novelty of the inven-

tion will be brought out in the claims hereunto appended.

In the drawings:—Figure 1 is a fragmentary sectional plan view of a car with the invention applied thereto. Fig. 2 is an end elevation thereof, the same being partly broken away. Figs. 3, 4 and 5 show the door and step moving mechanism in various positions. These parts are the same as those shown in Fig. 1.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

In the drawings the car is closed by ordinary doors 1 mounted to slide longitudinally or transversely, as desired, but preferably, in the conventional manner. The doors 1 are supported by any suitable means (not shown). The floor or platform 2 is carried on suitable sills or platform knees (not shown) and are provided with suitable brackets 3 between which slide steps 5 so as to be under the floor or platform 2 when the doors are not closing the entrance. The doors used are of the swinging type instead of sliding doors and the said doors and steps are driven simultaneously by manually operated means. In other words the doors and steps are not power driven but are mechanically operated in a manner as will be hereinafter more fully described.

The steps 5 slide as above described and are driven in the brackets 3 through suitable couplings 6 by links 7 and levers 8 fulcrumed at 9 and provided with suitable curved slots 10 near the ends removed from the links 7. Each curved slot 10 is so shaped that part is straight and part is on the arc of a circle from the vertically disposed shaft 11 when the step 5 is in the position shown in Fig. 5. The walls of the slots 10 engage pins 12 placed therein and secured to cranks 13 fixed at the lower end of the shafts 11. Each shaft 11 is supported at its lower end in a suitable bearing 14 and the upper end thereof is supported in a suitable bearing 15. Each shaft 11 terminates at a point which is in easy reach of the motorman and is adapted to be controlled by a handle which will be hereinafter more fully described. Each shaft 11 is parallel with a similar and second shaft 16 mounted as shown in Fig. 1 and supported by a suitable bearing 17 and provided with a suitable crank 18 which



runs to a link 19 and that is connected with a second crank 20 fixed on the shaft 11 so that by either turning the shaft 16 or the shaft 11 the mechanism may be operated.

5 The bearing 17 is suitably supported in guide rails 21 or otherwise, as may be desired. For convenience, the floor or platform 2 is provided with a second guide rail 22. This second guide rail may be dispensed  
10 with if so desired.

A little below each bearing 15 of the shaft 11 is provided with a crank 23 which engages a link 24 which is also connected to a suitable bracket 25 that is secured to the  
15 folding door 1. Each folding door 1 is composed of two parts 26 and 27 which are united together by hinges 28 although they may be united in any conventional manner and the part 27 is guided by a suitable pintle  
20 29 running in a suitable runway 30 secured near the hood of the door. Each folding door 1 is mounted on suitable hinges so as to turn freely and easily in the manner described below.

25 The upper ends of the shafts 11 and 16 are preferably made square in cross section so as to receive a crank 31 by which they may be rotated.

The operation for the movement of the  
30 door and step on either side of the car is as follows:—The door is brought from its closed position to its opened position by turning the crank 31 which may be either on the shaft 11 or 16 adjacent to that particular door. The rotation of the shaft 11  
35 about its axis causes the crank 13 to actuate the lever 18 so as to throw the step out immediately and before the shaft 11 is turned more than 90° (degrees). When the step  
40 is thrown to its extreme position the lever 18 moves no farther but the pin 12 slides freely in the slot 10 because of the peculiar curvature of the said slot which is made as above described. While the step 5 is being  
45 actuated as above described the door 1 is opened by means of the crank 23, link 24 and bracket 25. The movement is such that each door 1 is not sufficiently open to let a person out until the step 5 is fully exposed,  
50 and obviously when the door is closed by reversing the movement of the handle or crank 31 the door is nearly closed by the mechanism above described before the step 5 is withdrawn.

55 In my companion application, Serial No. 577,217, are shown but not claimed combinations and constructions covered by the claims of this application.

What is claimed is:—

60 1. In a device of the class described, a pivotally mounted foldable door, a slidably

mounted step, and connections between said 65 step and one member of the door for positively moving said step and door in unison whereby the door is substantially closed before the step is withdrawn.

2. In a device of the class described, a 70 pivotally mounted door, means for mounting the same, a slidably mounted step, means for mounting the same, means for moving said step and door in unison, the said door being formed of two sections, and means for 75 folding the sections of the door when opening the same.

3. In a device of the class described, a door comprising a pair of hinged united sections, the said door being pivotally mounted, 80 a slidably mounted step, and means connecting the step and one of the door sections for opening the door and projecting the step in unison beyond a doorway.

4. In a device of the class described, a 85 pair of vertical shafts, cranks on said shafts, links connecting said cranks, doors, means pivotally mounting the said door, and means controlled by said shafts for opening and closing said doors and a slidable step oper- 90 atively connected with said doors.

5. In a device of the class described, a door having hinged sections united and mounted for pivotal movement, a step 95 mounted for sliding movement, and connections between the door and step whereby either the door will be folded and opened and the step protruded, or the door closed and the step retreated, the door being substantially closed before the step is retreated. 100

6. In a device of the class described, a door having hinged sections united and mounted for pivotal movement, a step 105 mounted for sliding movement, connections between the door and step whereby either the door will be opened and the step protruded or the door closed and the step retreated and means operating said last named means.

7. In a device of the class described, a 110 door having hinged sections united and mounted for pivotal movement, a step mounted for sliding movement, connections between the door and step whereby either the door will be opened and the step pro- 115 truded or the door closed and the step retreated, and means operative at different points for actuating said last named means.

Signed at the city, county and State of New York, this 30th day of July, 1910.

FRANCIS XAVIER MALOCSAY.

Witnesses:

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