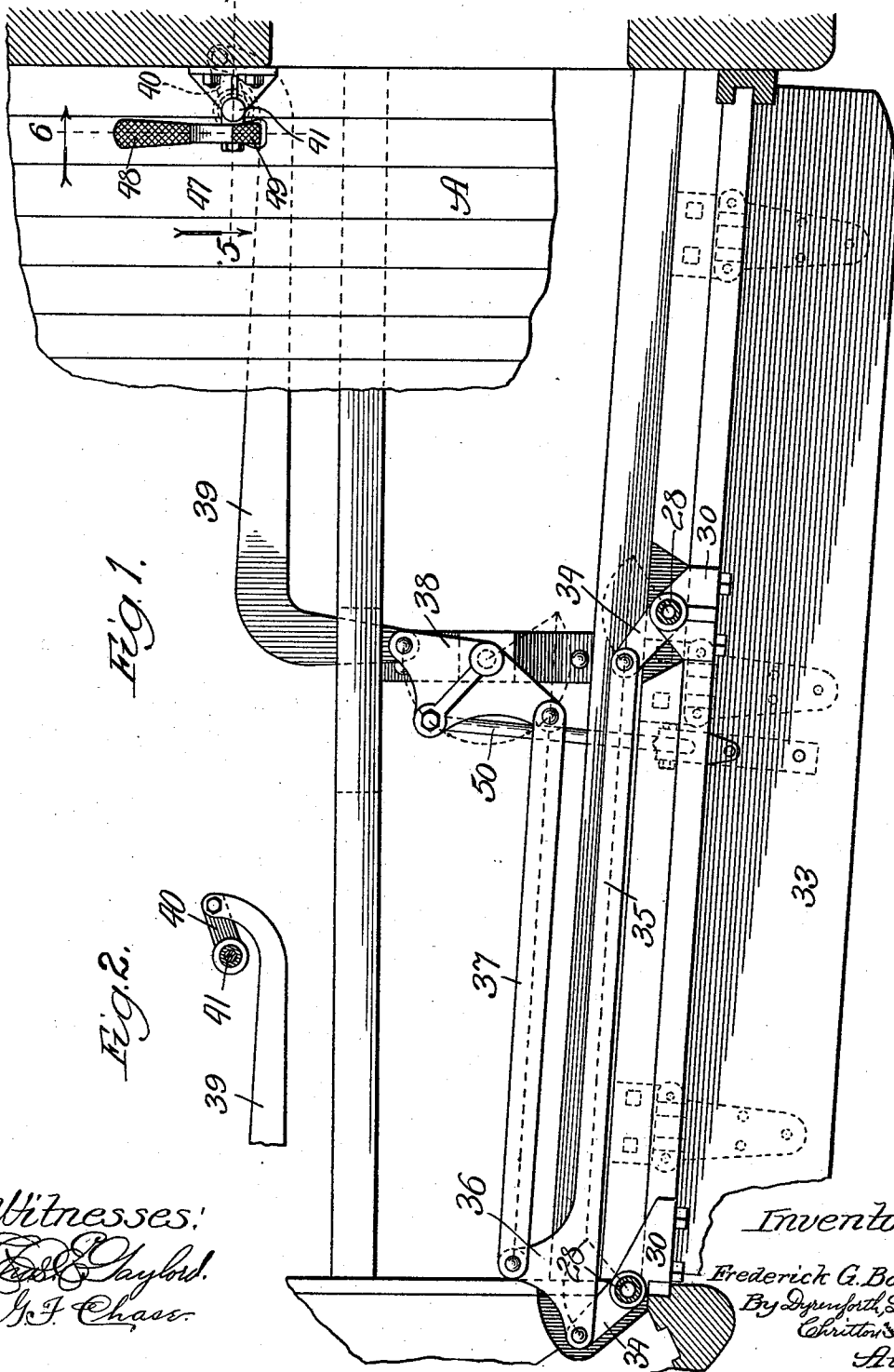


F. G. BORG.
CAR DOOR OPERATING MEANS.
APPLICATION FILED MAR. 11, 1911.

1,000,708.

Patented Aug. 15, 1911.

2 SHEETS—SHEET 1.



Witnesses:
E. J. Chas.
J. F. Chas.

Inventor.
Frederick G. Borg,
By D. J. Smith, Jr.,
Attys.

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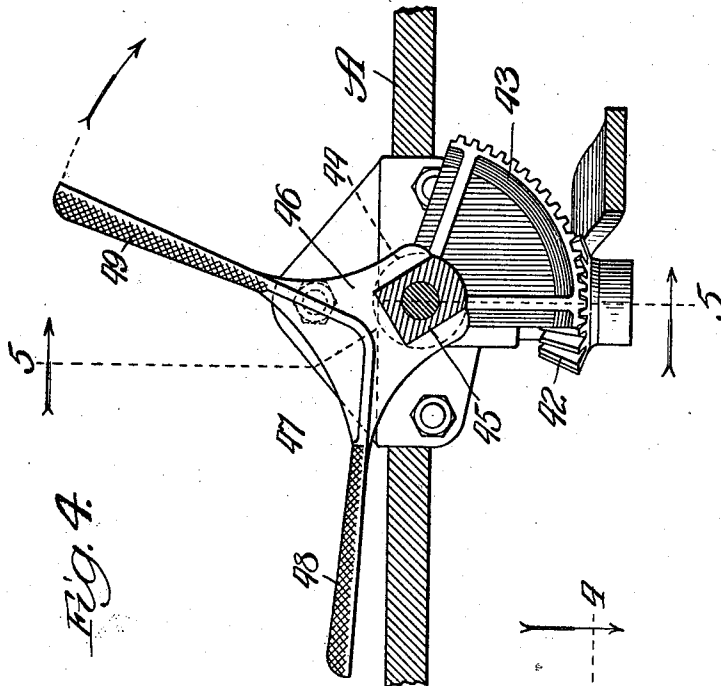


Fig. 4.

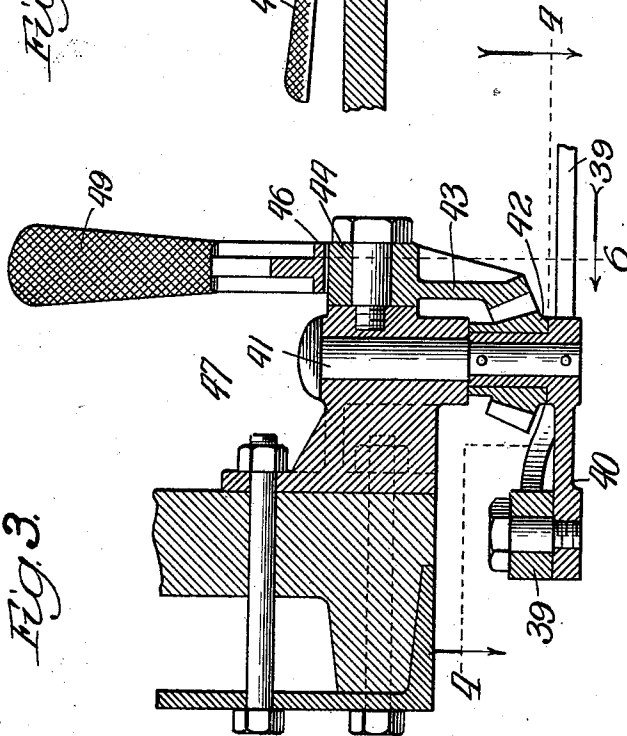


Fig. 3.

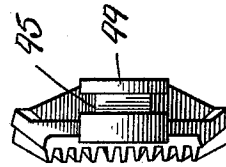


Fig. 5.

Witnesses:
C. C. Gaylord.
G. F. Chase.

Inventor:
Frederick G. Borg,
By *Drydenforth, Lee, Critton & Miles,*
Attys.

UNITED STATES PATENT OFFICE.

FREDERICK G. BORG, OF CHICAGO, ILLINOIS.

CAR-DOOR-OPERATING MEANS.

1,000,708.

Specification of Letters Patent. Patented Aug. 15, 1911.

Application filed March 11, 1911. Serial No. 613,895.

To all whom it may concern:

Be it known that I, FREDERICK G. BORG, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Car-Door-Operating Means, of which the following is a specification.

My present invention relates, primarily to an improvement upon the operating means for the actuating mechanism of the hinged-door construction for cars, and more especially street-railway cars of the pay-as-you-enter variety, illustrated and described in my pending application for Letters Patent, Serial Number 602,800, filed January 16, 1911.

The primary object of my improvement is to provide novel and particularly desirable means for operating the aforesaid mechanism by foot-power.

In the accompanying drawings, Figure 1 is a broken plan section showing the actuating mechanism, provided below the platform floor, for the hinged doors and step; Fig. 2 is a broken sectional plan view on the irregular line 4-4, Fig. 3, showing the crank connection of the bent lever of the door and step actuating-mechanism with the operating shaft; Fig. 3 is an enlarged broken section on line 5, Fig. 1, the same section being taken on the irregular line 5-5, Fig. 4; Fig. 4 is an enlarged broken section on line 6, Fig. 1, the same section being taken on line 6, Fig. 3, and Fig. 5 is a view in side elevation of a segmental gear for turning the operating shaft.

The platform A of a pay-as-you-enter street-car is usually arranged with a forward exit-way and a rear entrance-way for passengers, to require them in entering the car to pass the conductor, with a door for each way; and it is desirable to provide the platform with a hinged step to be folded or raised when the doors are closed. The purpose is to have the doors, under the control of the conductor standing on the platform to collect fares, closed and the step raised while the car is in motion and open with the step down after the car stops, and to enable the conductor to operate the door-actuating mechanism with his foot while occupying his position on the platform.

A vertical rock-shaft 28 is secured in brackets fastened at intervals to one of the hinged members of the folding door, as shown and described in my said application, and is journaled at its ends in suitable bearings, of which the lower ones are shown at 30, on the car-platform. By turning the shaft 28 in either direction it turns in that direction the door-member to which it is fastened and turns on the outer door-member in the opposite direction, all as described in said application.

A step 33 is hinged, as indicated in Fig. 1, to a sill on the frame-work of the platform.

For actuating both doors and the step simultaneously the mechanism is provided which is illustrated in Fig. 1 and described as follows: To the lower end of each rock-shaft 28 is fastened a crank 34. A link 35, connected at one end with one crank 34, is provided on its opposite end with a head 36 connected to the other crank 34, and having a laterally-extending arm connected by a link 37 with one arm of a three-armed bell-crank 38, fulcrumed as shown in Fig. 1. The opposite arm of this bell-crank is connected by a bent link 39 with a crank 40 on a vertical shaft 41 journaled in bearings in suitable position on the car-platform for convenient access by the conductor to a foot-lever, hereinafter described. On the lower end of the shaft 41 is fastened a beveled pinion 42, with which meshes a segmental rack 43 having a collar 44 journaled on the bearing of the shaft 41 and provided with a rectangular groove 45, which extends about it, to receive the forked head 46 of a treadle 47 having two foot-levers, 48 and 49, extending at an angle to each other, or diverging from the head. The intermediate arm of the bell-crank 38 is connected by a link 50 to the step behind its line of hinges.

With the parts in the relative positions of their full-line representation in Fig. 1 the doors are open and the step is down, and by turning the treadle, by depressing the foot-lever 49, resultant turning of the shaft 41 brings the parts to the dotted position in that figure, thereby closing the doors and raising the step, and by depressing the foot-

lever 48, the actuating mechanism below the platform will be operated to open the doors and lower the step.

What I claim as new and desire to secure
5 by Letters Patent is—

In combination with a door, actuating mechanism therefor including a vertically journaled operating-shaft, a beveled pinion on the lower end of said shaft, a segmental

rack journaled on the shaft-bearing to en- 10
gage said pinion and provided with a collar, and a treadle having a forked head straddling said collar and a pair of diverging foot-levers.

FREDERICK G. BORG.

In presence of—

L. HEISLAR,

R. SCHAEFER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."