

(No Model.)

2 Sheets—Sheet 1.

P. GRUHN & W. STOLPNER.  
GATE FOR RAILWAY CARS.

No. 600,261.

Patented Mar. 8, 1898.

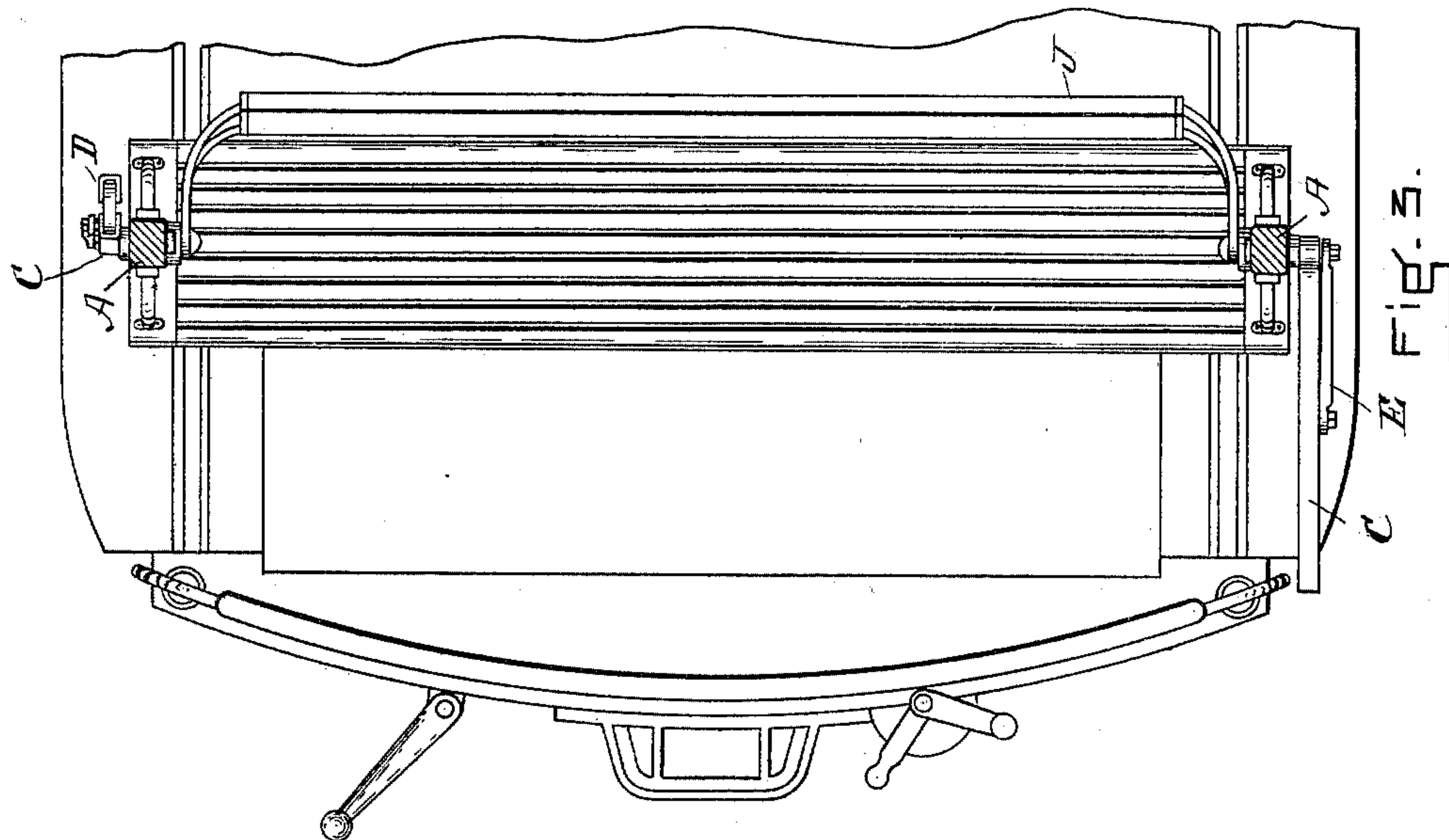


Fig. 3.

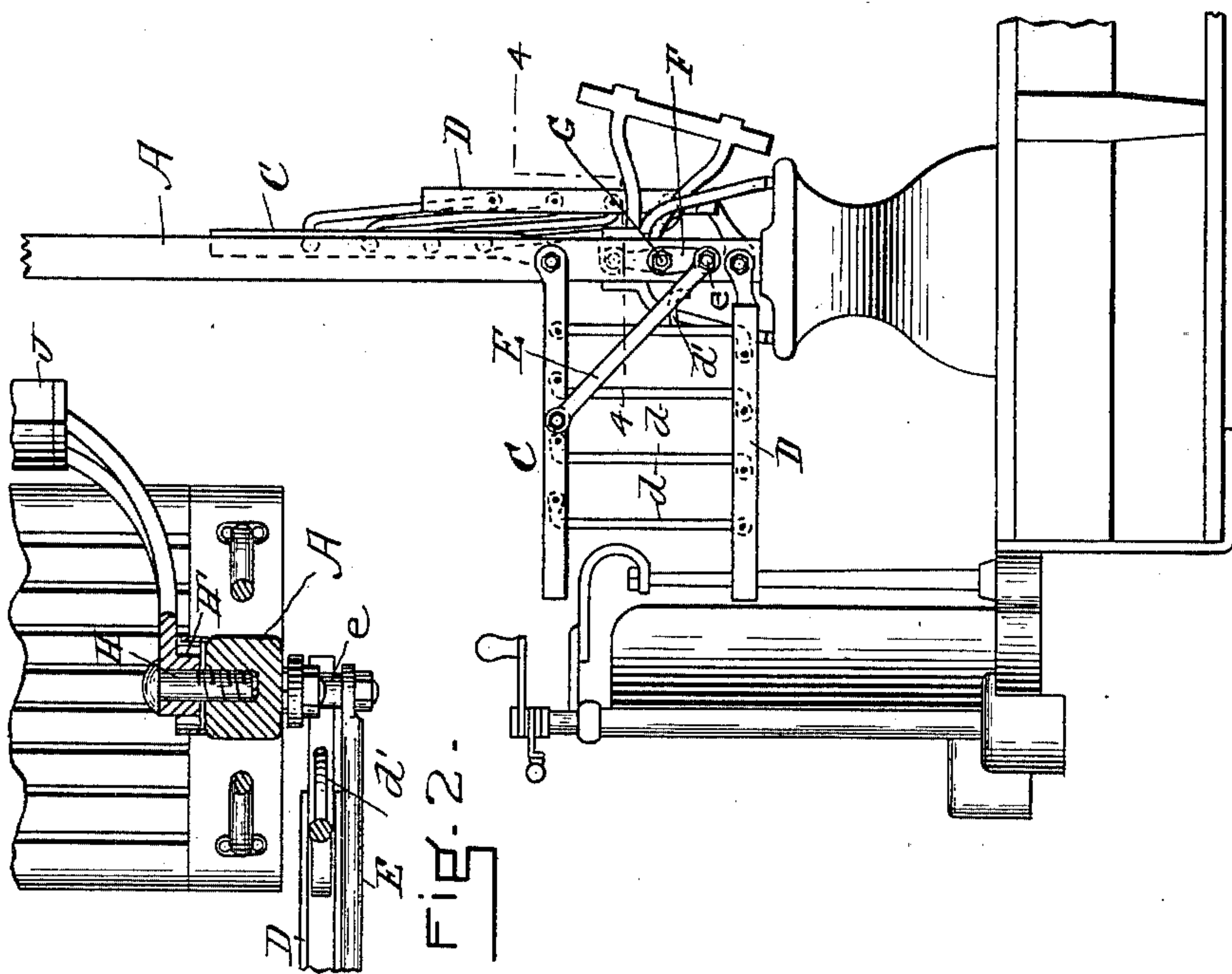


Fig. 1.

WITNESSES  
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*Wm. A. Brown*

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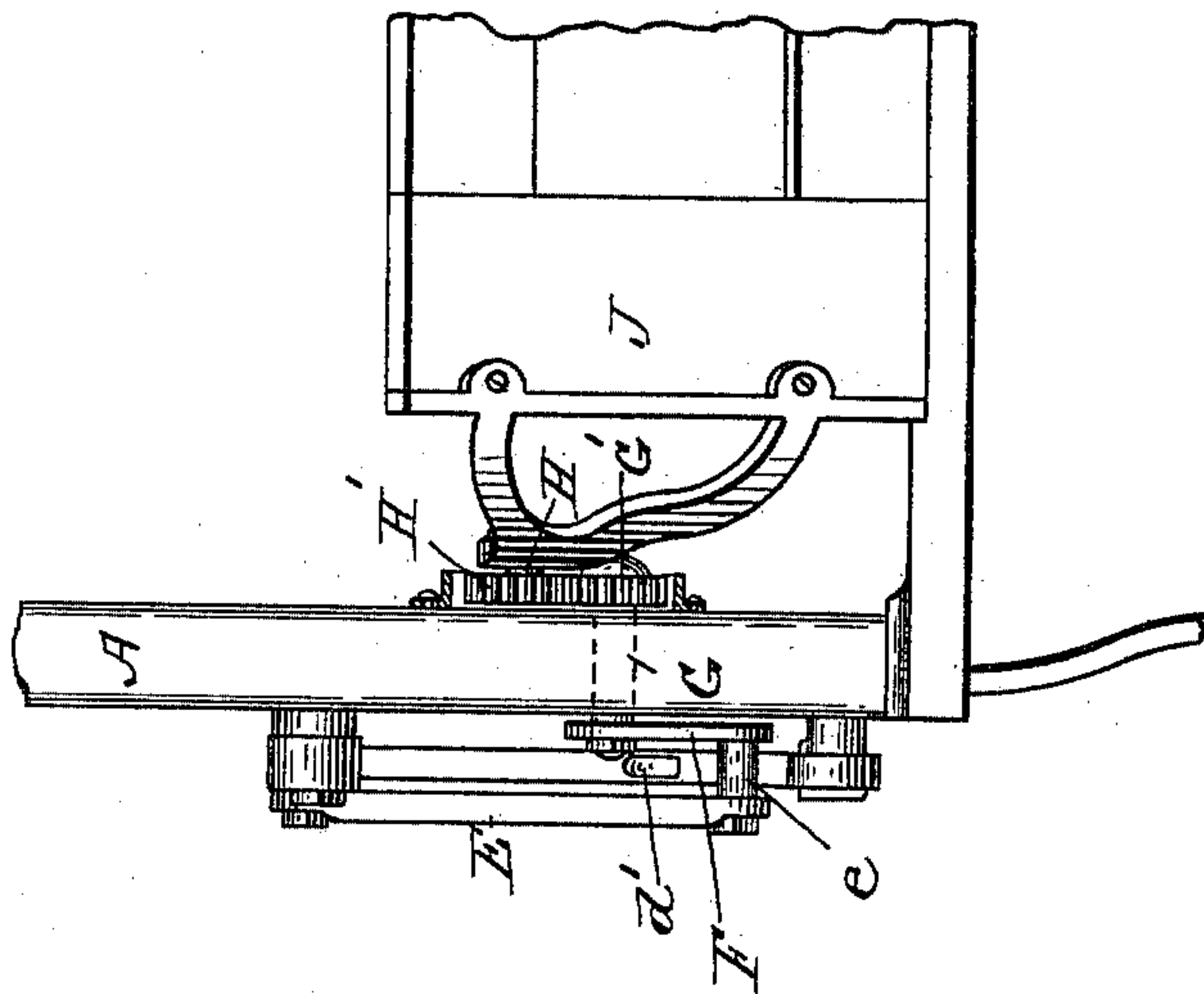


Fig. 4.

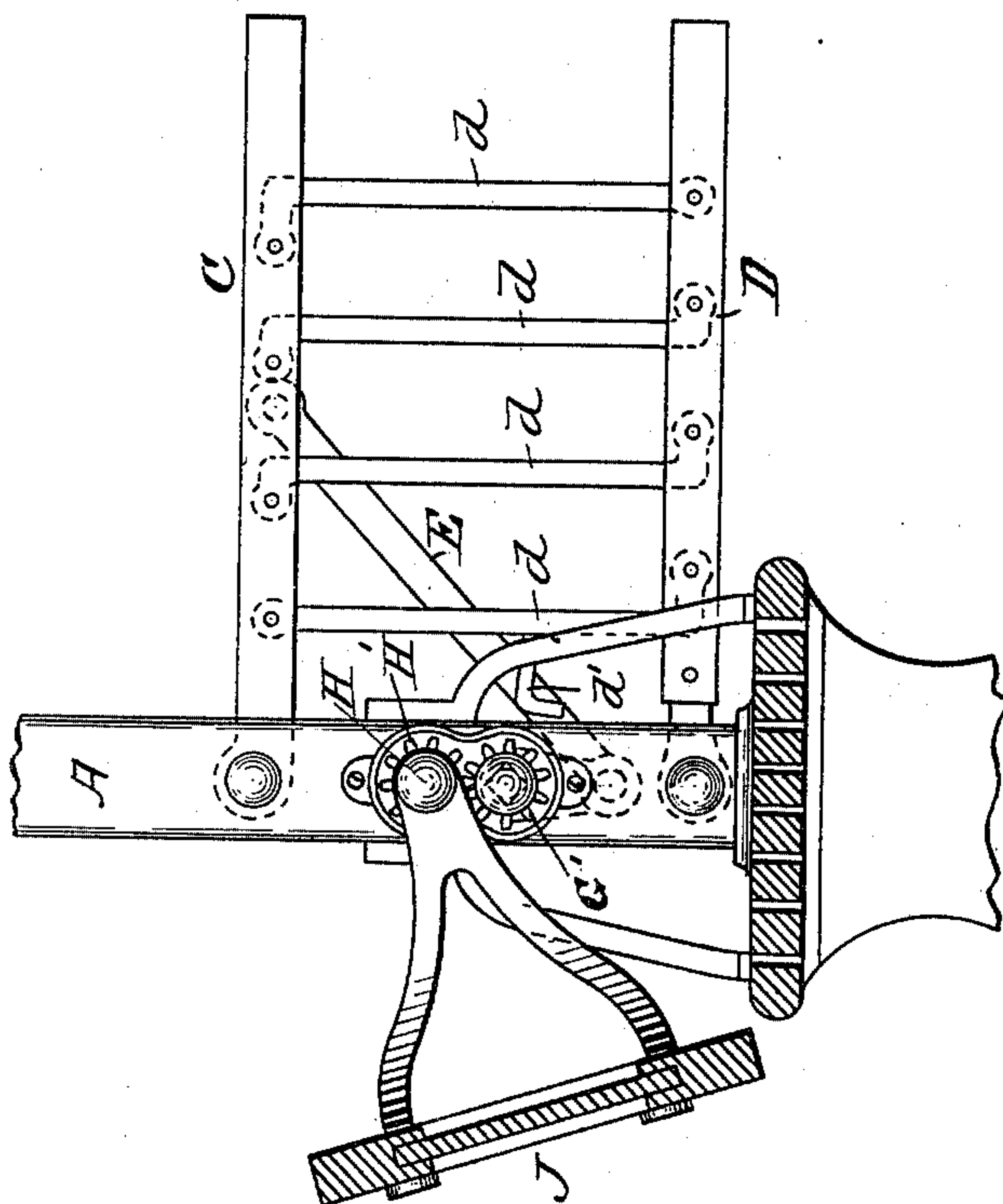


Fig. 5.

WITNESSES

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# UNITED STATES PATENT OFFICE.

PAUL GRUHN AND WILHELM STOLPNER, OF BOSTON, MASSACHUSETTS,  
ASSIGNORS OF ONE-THIRD TO ALBERT C. LIEBER, OF SAME PLACE.

## GATE FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 600,261, dated March 8, 1898.

Application filed August 16, 1897. Serial No. 648,339. (No model.)

*To all whom it may concern:*

Be it known that we, PAUL GRUHN and WILHELM STOLPNER, subjects of the Emperor of Germany, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Gates for Railway-Cars, of which the following is a specification.

It is usual where a railroad is double-tracked for the car to run on the right-hand track, and consequently when the seats of an open car run across the car it is desirable that the left-hand end of each seat be provided with a gate which shall be closed while the car is moving in one direction, so as to prevent passengers from leaving on that side of the car, and when the direction of the car is reversed, and consequently the seat-backs are reversed, the left-hand side of the car now becoming the right side, that these gates shall be opened to admit passengers and the passage on the other side closed.

Our improvement is designed more especially to be used with such cars; and it consists, mainly, in such a combination of the seat-back with a gate that the turning of the seat-back will operate the gate in the manner desired.

In describing our invention we shall refer specifically to the gate at one end of the seat only; but we intend that a gate shall be connected with each end of the seat-back, so that as the back is turned one gate shall be opened and the other shut.

Our invention will be understood by reference to the drawings, in which—

Figure 1 is a side elevation of a seat and gate embodying our invention. Fig. 2 is a detail section on line 4 4 of Fig. 1. Fig. 3 is a plan of the front seat and platform, the top of the car being removed. Fig. 4 is a rear view of the mechanism shown in Fig. 5, and Fig. 5 is a cross-section of one of the seats.

A are the posts which support the car-roof. To the outside of each post are pivotally mounted two arms C D, which are connected together by hinged connections *d*. (See Fig. 1.) In the form of our invention shown in the drawings power is applied to the upper arm C to move the gate, the lower arm D and connections *d* being operated therefrom and

serving mainly to make the gate more efficient.

The arm C is operated as follows: E is a connecting-rod which connects the arm C with a crank-arm F. This crank-arm F is attached to the outer end of a shaft G, running through the post A and carrying in its inner end a gear G', which engages with a gear H', which is mounted on or forms part of the arm carrying the seat-back J and which turns on a stud H, supported in the post A. Thus by turning over the seat-back J from the position shown in Fig. 5 to a reversed position the gears H' G' are turned and turn the shaft G, which moves the crank-arm F forward and tips the arm C, thus opening the gate. The arm C then assumes a substantially vertical position, and as the arm D and the other parts are all pivotally connected thereto the gate collapses and takes up but little room. In order that the gate may maintain such a position without undue strain upon the parts and without a tendency to fall, we provide a hook *d'*, which when the gate is down has no function, but when the gate is raised into its upward position hooks onto the pin *e*, which connects the crank-arm F with the connecting-rod E.

So long as the seat-back holds the crank-arm in its vertical position the hook *d'*, engaging with the pin *e*, locks the gate so that its lower part does not tend to fall. By this means also part of the weight of the gate is taken up by the pin *e*.

To operate this device, the seat-back being in the position shown in Fig. 1 and the gate at the left end of the seat being down and that at the right end of the seat being up, as there shown, the back of the seat is reversed. This causes the closed gate to be opened and the open gate to be closed, the gears H' on each side turning the gears G' and through them operating the crank-arms F.

It is apparent that our invention may be embodied in a variety of ways, the essential feature of the invention being the connection of the back of the seat with the gate in the manner and for the purposes referred to.

What we claim as our invention is—

1. A collapsible car-gate consisting of two pivotally-mounted arms suitably connected



together and to a crank-arm whereby they may be lifted and the gate collapsed, in combination with a car-seat connected to and adapted to operate said crank-arm and gate, 5 all as set forth.

2. In combination with a reversible seat-back a crank-arm suitably connected thereto and operated thereby and a gate-arm connected to said crank-arm in the manner described, all as set forth. 10

3. The car-gate consisting of the arm C pivotally mounted on the car, in combination with a crank-arm also suitably mounted on the car and a reversible seat-back, said crank-arm being connected to both said arm C and 15 said seat-back, as and for the purposes set forth.

4. A collapsible car-gate consisting of two pivotally-mounted arms suitably connected 20 together and to a crank-arm whereby they

may be lifted and the gate collapsed, in combination with a locking-hook carried by the collapsible portion of said gate and adapted to engage with the crank-pin of said crank-arm when said gate is locked and so maintain 25 said collapsible portion of said gate in place, as set forth.

5. In combination a seat-back mounted at each end on a shaft and carrying a gear at each end, engaging with a second gear mounted on a crank-shaft, a crank mounted on said crank-shaft and connected with a pivotally-mounted gate, all as and for the purposes set forth. 30

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In presence of—  
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