

H. B. MORRIS & C. A. VAN DERVEER.
HAROLD B. MORRIS, EXECUTOR OF H. B. MORRIS, DEC'D.
RAILWAY CAR SEAT.

APPLICATION FILED MAY 16, 1910.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.

985,364.

Fig. 1.

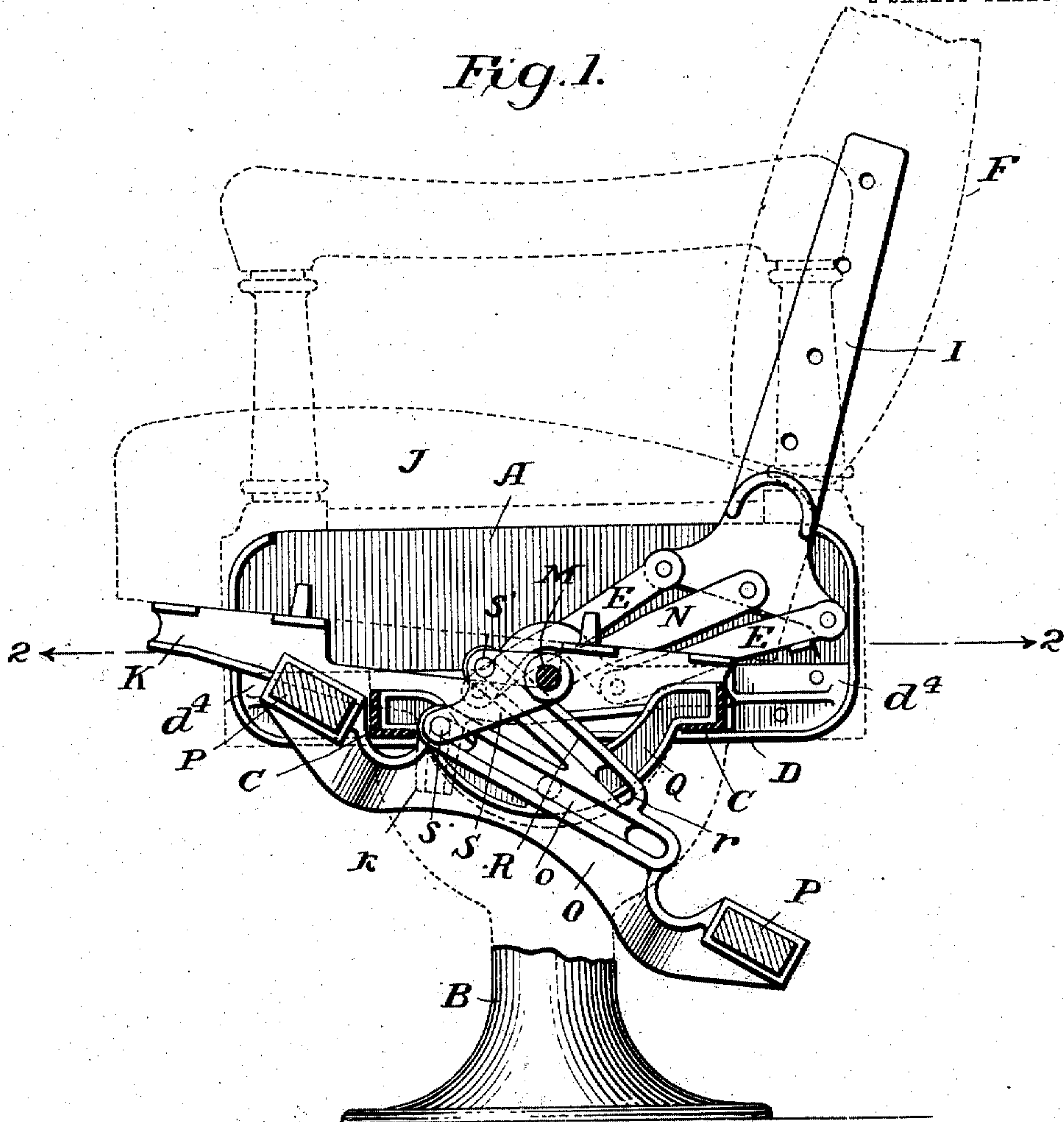
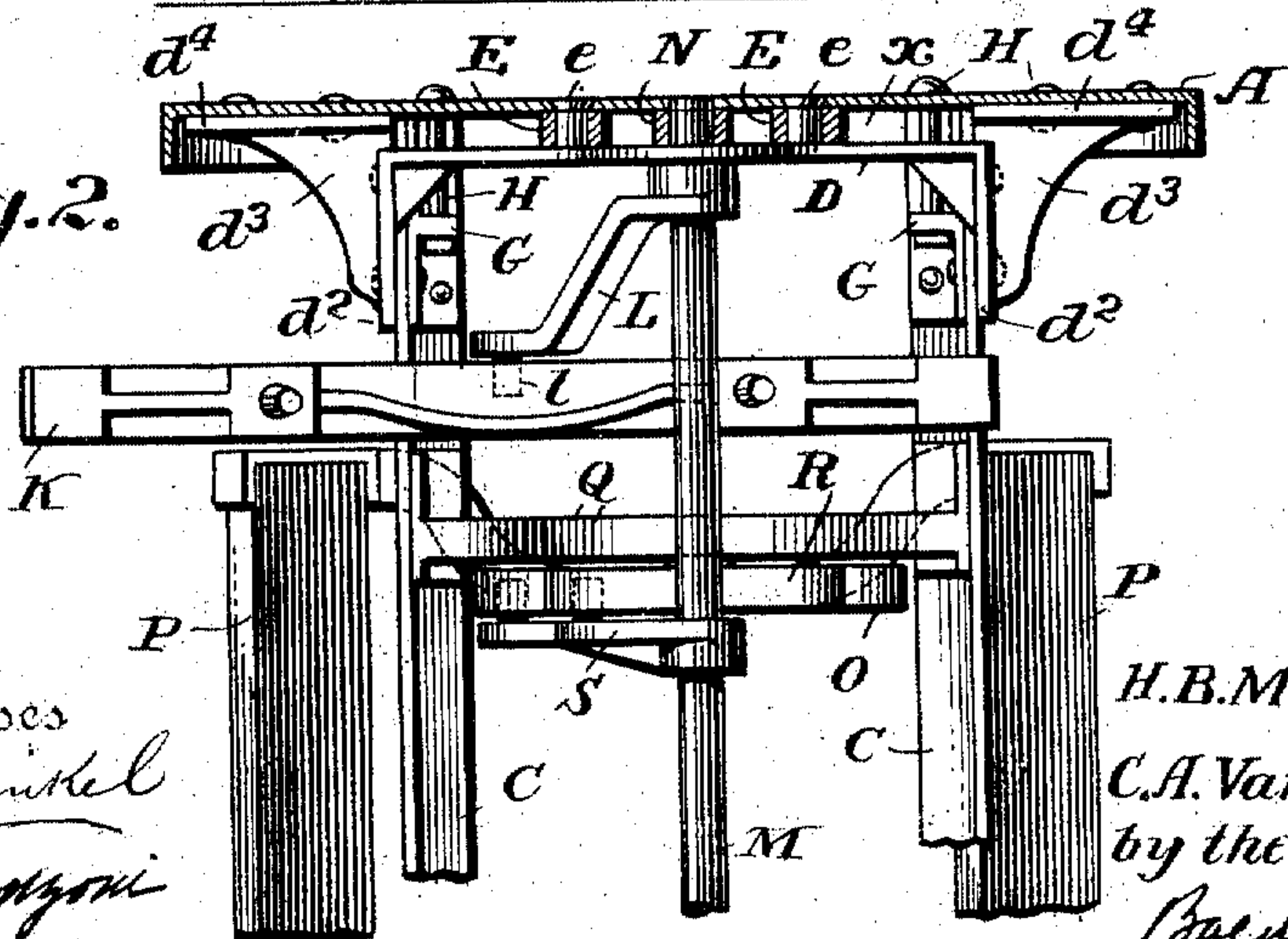


Fig. 2.



Witnesses
J. H. Sturges
E. B. Franzoni

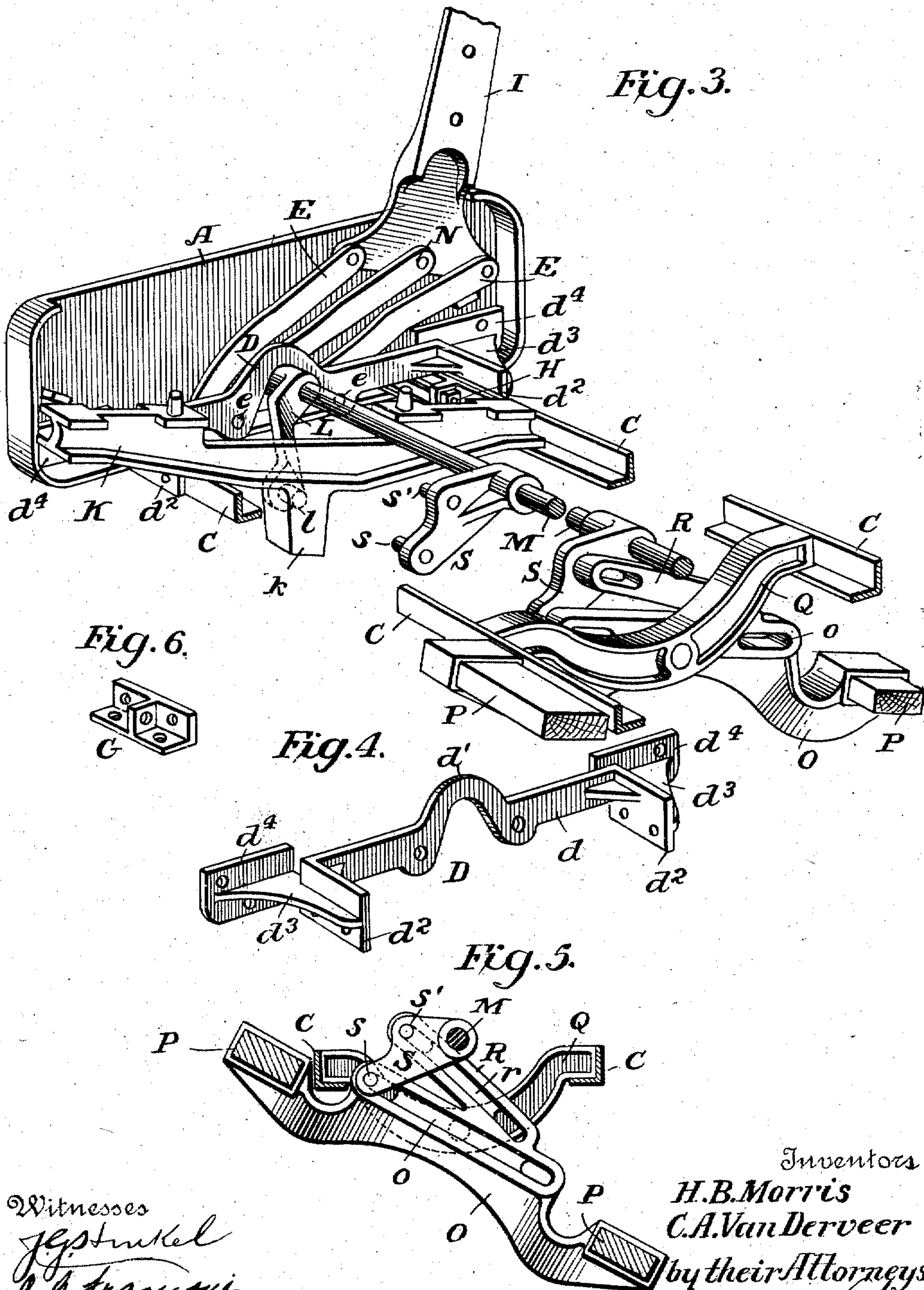
Inventors
H. B. Morris
C. A. Van Derveer
by their Attorneys
Baldwin Wright

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Witnesses
J. B. Thompson
E. B. Thompson

Inventors
H. B. Morris
C. A. Van Derveer
by their Attorneys
Baldwin & Wright

UNITED STATES PATENT OFFICE.

HENRY B. MORRIS AND CLARENCE A. VAN DERVEER, OF MICHIGAN CITY, INDIANA;
HAROLD B. MORRIS EXECUTOR OF SAID HENRY B. MORRIS, DECEASED; SAID
HAROLD B. MORRIS AND SAID VAN DERVEER ASSIGNORS TO THE FORD & JOHNSON
COMPANY, OF MICHIGAN CITY, INDIANA, A CORPORATION OF OHIO.

RAILWAY-CAR SEAT.

985,364.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, HENRY B. MORRIS and CLARENCE A. VAN DERVEER, citizens of the United States, residing in Michigan City, county of Laporte, and State of Indiana, have invented certain new and useful Improvements in Railway-Car Seats, of which the following is a specification.

Our invention relates to that class of car seats in which the back may be shifted (without being reversed or turned over) from one edge of the seat to the other in order that the seat may face in opposite directions and in which foot rests are provided that automatically move to proper position when the seat back is shifted.

Our invention consists in certain improvements in the construction of the seat frame, in the manner of connecting the seat back with the frame and in the mechanism for supporting and operating the foot rest.

In carrying out our invention we provide a frame, which in general is of well known construction, but at opposite ends it is provided with frame plates with which are connected braces of novel construction which strengthen the frame and serve to stiffen the levers which support the seat back and which are pivotally connected with the frame between the end plates thereof and said braces. The seat proper or cushion is mounted on rockers of usual construction operated in the usual way, and the foot rest, which in general is of well known form, is pivotally connected with the usual bridges supported on the rails of the frame. The foot rest is, however, provided with end frame pieces formed with divergent slots or grooves which are engaged by studs carried by arms extending from a rock shaft operated by connections with the seat back, the arrangement being such that when the back is shifted, the foot rest is moved to the proper position and held firmly without danger of being moved back to its original position in the act of shifting.

In the accompanying drawings,—Figure 1 shows a transverse section through a railway car seat embodying our improvements, some parts being broken away and some shown in dotted lines in order to better illustrate other parts. Fig. 2 is a plan view of one end of the seat frame (the back being

removed), the foot rest and part of the operating mechanism, the end plate of the frame and the levers connecting the back with the frame being shown in section. Fig. 3 is a perspective view with some parts omitted and some broken away showing clearly the manner of pivotally connecting the back with the seat frame, the manner of supporting the seat proper or cushion, and the mechanism for operating the foot rest. Fig. 4 is a perspective view of one of the braces between which and the end plate of the seat the back-supporting levers are pivoted. Fig. 5 is a view in cross section showing part of the mechanism for operating the foot rest. Fig. 6 is a perspective view of a casting forming part of the devices for connecting the rails of the seat frame with the end plates thereof.

The end plates A of the seat frame are mounted on pedestals B and are connected by rails C. In some cases one end of the seat is arranged close to the side of the car and one of the pedestals is omitted as is well understood. The rails C abut at their opposite ends against the inner faces of the frame plates and the connections between the rails and the plates are made by means of the braces D and certain other parts soon to be specified. One of the braces is shown in perspective in Fig. 4. It comprises a middle part d having an arched portion d' and inwardly projecting arms d^2 connected by webs d^3 with feet d^4 . The feet are riveted to the plate A and the middle part of the brace is held away from the plate, thus leaving a space x to receive the lower ends of the levers E which support the seat back F. Castings G, one of which is shown in perspective in Fig. 6, are riveted to the rail C and bolts H connect these castings with the end plates as shown in Fig. 2. In this way the end plates and the rails are securely fastened together and braced.

The seat back is provided at opposite ends with arms I having enlarged lower portions pivotally connected with the levers E which support the back and which have their lower ends pivotally connected by studs e with the seat frame. This lever mechanism is of well known construction and it is such that the back F may be moved from one edge of the seat to the other without being turned over,

so as to make the seat face in either desired direction. It will be observed, however, that instead of merely pivoting the lower ends of the levers to the sides of the end plates of the frame, they are pivoted between said plates and the braces D. In this way wobbling or sidewise movement of the back is avoided as the levers move between two parallel surfaces which closely fit them and prevent movement thereof except in a vertical plane.

The seat proper or cushion J is supported on rockers K of usual construction and which rest on the rails C. One of the rockers is formed with a downwardly projecting slotted or grooved arm *k* which is engaged by a stud *l* projecting laterally from an arm L secured to and extending downwardly from a rock shaft M mounted in bearings in the ends of the seat frame. The rock shaft is connected by levers N with the seat back and when the back is shifted, the rock shaft is turned and the rockers are so moved as to change the inclination of the seat proper or cushion in a well known way.

The foot rest comprises two end frame pieces O which carry two bars P arranged on opposite sides of the middle line of the seat. These are of usual construction. The foot rest frame pieces are pivotally connected with bridges Q supported on and firmly connected with the rails C. Each frame piece is preferably formed in the manner shown in Fig. 5, but inasmuch as the frame pieces are connected by the bars P, only one of said frame pieces need be thus formed. As shown, the frame piece O is formed with a slot or groove *o* disposed in a plane parallel with a plane passing through both bars P, and also extending from opposite sides of the pivot, and the frame piece is also formed with an arm R extending at an angle of about 30 degrees from the slot *o* and formed with a groove or slot *r*. An arm S extending downwardly from the rock shaft M is provided with two studs *s*, *s'*, one of which, *s*, engages the slot *o*, while the other stud *s'* engages the slot *r*. The arrangement is such that as the seat back is shifted and the rock shaft M is turned, the studs *s*, *s'* move in the grooves *o*, *r* and cause the foot rest to be shifted to bring one or the other of the bars P into position for use. If the slotted arm R were omitted and a connection made between the rock shaft and the frame plate only by means of the stud *s*, there would be danger of the foot rest moving back to its original position while being shifted. This would occur when the stud *s* entered the middle

part of the slot or groove *o* beneath the rock shaft M, but by providing the arm R and connecting it with the arm S by the additional stud *s'*, this is avoided and the foot rest is made to follow the movement of the back without danger of its falling back to its original position while being shifted.

We claim as our invention:

1. A railway car-seat, comprising a seat frame, a shifting back connected therewith, a rock shaft connected with and operated by the back, and a foot rest comprising foot bars and end frames, one of which end frames is provided with a plurality of slots or grooves arranged at an angle to each other, and an arm carried by the rock shaft provided with studs engaging said groove.

2. A railway car-seat, comprising a seat frame, a shifting back connected therewith, a rock shaft connected with and operated by the back, and a foot rest comprising foot bars and end frames which latter are pivotally connected with the seat frame and one of which end frames is provided with a groove extending across the pivot of said frame and with another groove arranged at an angle to said first mentioned groove and an arm carried by the rock shaft provided with studs engaging said grooves, for the purpose specified.

3. A railway car-seat, comprising end frames, rails connecting the end frames, bridges between the end frames supported on the rails, a shifting back, a rock shaft connected with and operated by the back, a foot rest comprising foot bars and end frames, one of which is provided with grooves arranged at an angle to each other, and an arm carried by the rock shaft provided with studs engaging said grooves.

4. A railway car-seat, comprising end frames, rails connecting the end frames, bridges connecting the rails, a shifting back, a rock shaft arranged above the bridges and connected with and operated by the back, and a foot rest comprising foot bars and end frames pivotally connected with the bridges below the rock shaft and one of which end frames is provided with a groove extending across the pivot of the frame and with another groove above it arranged at an angle thereto and an arm carried by the rock shaft provided with studs engaging said grooves.

In testimony whereof, we have hereunto subscribed our names.

HENRY B. MORRIS.

CLARENCE A. VAN DERVEER.

Witnesses:

MAGDALENE M. KARRAS,

ISIDORE I. SPIRES.