

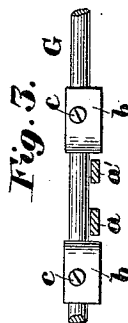
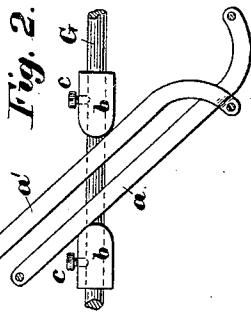
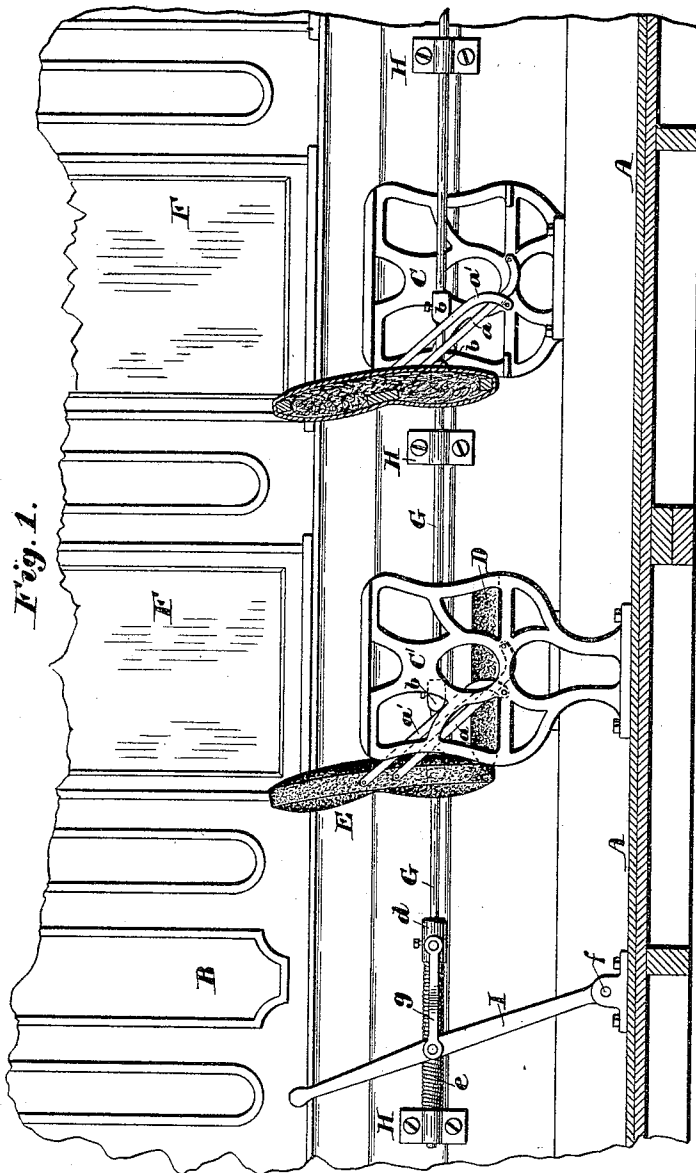
(No Model.)

J. E. GROVES.

DEVICE FOR TURNING THE BACKS OF CAR SEATS.

No. 500,063.

Patented June 20, 1893.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES E. GROVES, OF BOSTON, MASSACHUSETTS.

DEVICE FOR TURNING THE BACKS OF CAR-SEATS.

SPECIFICATION forming part of Letters Patent No. 500,063, dated June 20, 1893.

Application filed March 1, 1893. Serial No. 464,164. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. GROVES, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Devices for Turning the Backs of Car-Seats, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to devices for turning car seat backs and it consists in certain novel features of construction, arrangement and combination of parts which will be readily understood by reference to the description of the accompanying drawings and to the claims hereinafter given and in which my invention is clearly pointed out.

Figure 1 of the drawings is a sectional elevation of a portion of a railway car showing two seats, one in end elevation and the other with its back cut in section, and showing the devices for turning said backs according to my invention. Fig. 2 is an elevation of the back supporting radius arms of a single seat, and a portion of the operating rod, and a pair of lugs arranged to act upon said radius arms to turn or reverse the seat back drawn to an enlarged scale, and Fig. 3 is a plan of the same section of rod and lugs, and showing the radius arms in section.

In another application filed by Willard F. Carlton and myself January 28, 1893, Serial No. 460,042, a device is shown and described for turning the backs of a series of railway car seats, which are connected to the seat end frames by a single radius arm at each end, secured rigidly to said back, and each pivoted to an end frame by a single pivot located some distance above the seat.

The object of my present invention is the production of mechanism by which a series of railway car seat backs, which are each connected to the end frames by two links or radius arms at each end of said back, each link or radius arm being pivoted to said back at one end and to the end frame at its other end may be turned or reversed at one operation.

In the drawings A is the floor of the car and B a portion of one of the side walls thereof, C is the outer end frame and C' the inner end frame, D the seat proper, E the back, and F

F the car windows. The backs E have pivoted thereto at each end, by independent pivots two links or radius arms *a* and *a'* the opposite ends of which are curved in opposite directions so as to cross each other, and are secured to the seat end frames by independent pivots in a well known manner and as shown in Fig. 1.

In order to reverse all the car seat backs on one side of the car aisle at one operation, when of this construction, I mount a rod G in suitable bearings H secured to the wall of the car, in such a manner that it may be moved endwise therein, said rod extending from one end of the car to the other, and mount on said rod so as to be adjustable thereon a series of lugs *b b* two to each seat as shown. These lugs *b b* are secured to the rod G by steel pointed set-screws *c*, in pairs, so as to bear against the radius arms *a a'* as shown in Fig. 2, said rod having formed therein indentations to receive the points of the set-screws *c* when said lugs are in their normal or working positions.

The rod G has secured thereon, a short distance inside of its end bearings, a collar *d*, between which and said end bearing a spiral spring *e* surrounds said rod, one of which is compressed when the other is expanded, and serves to assist the operator in raising the backs of the seats when commencing to reverse them, in the same manner as in the prior application before cited. This will be evident when it is remembered that a spiral spring, when compressed, has more tension than when expanded, and it will be seen that the springs on the opposite ends of the rod G are never of equal tension except when the seat back has been lifted into a position directly above the seat, and up to that point the compressed spring is exerting a gradually diminishing force but greater than that of the expanded one to assist in the raising of the seat back, and from that point the weight of the seat back assists in compressing the spring at the opposite end of said rod G.

I is a lever, fulcrumed at *f*, and connected by the link *g* to one of the collars *d*, as a means of moving said rod endwise to reverse the seat backs, in substantially the same manner as in the above cited prior application.

If it is desired to reverse a single seat back

without disturbing the others it can be done by loosening the set screw in one of the lugs *b* and moving said lug along the said rod *G* in the direction toward which the back is to be moved.

The rod *G* may be round, rectangular or of any other desired shape, in cross section, without affecting the principles of my invention, and it may be made in one piece, or in short sections screwed, or otherwise coupled, together, this latter being the form which I prefer.

If preferred the lever *I* and link *g* may be dispensed with and all of the seat backs may be turned simultaneously by the operator lifting and turning one seat back.

The operation of my invention will be sufficiently understood from the foregoing without further description here.

I claim—

1. In combination with a plurality of railway car seats having backs connected to the seat end frames by two radius arms at each end, said radius arms being each connected to said back and to the seat frame by independent pivots and the two radius arms of

each pair crossing each other, of a rod or bar mounted, and movable endwise, in suitable bearings in a horizontal position and extending past all of said seats; and a plurality of pairs of lugs, one pair for each seat, adjustably secured upon said rod in positions to act upon said radius arms to move them about their pivotal connection to the seat frames, and thus reverse the seat backs.

2. The combination of the car seat frames *C, C'*, of a plurality of car seats; the backs *E*; a pair of radius arms *a* and *a'* pivoted independently to each end of each back by one end, and by their other ends to the frame *C, C'*; the rod or bar *G*; a plurality of pairs of lugs *b b* adjustably mounted upon said rod; and the springs *e* all constructed, arranged and operating substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 27th day of February, A. D. 1893.

JAMES E. GROVES.

Witnesses:

N. C. LOMBARD,

WALTER E. LOMBARD.