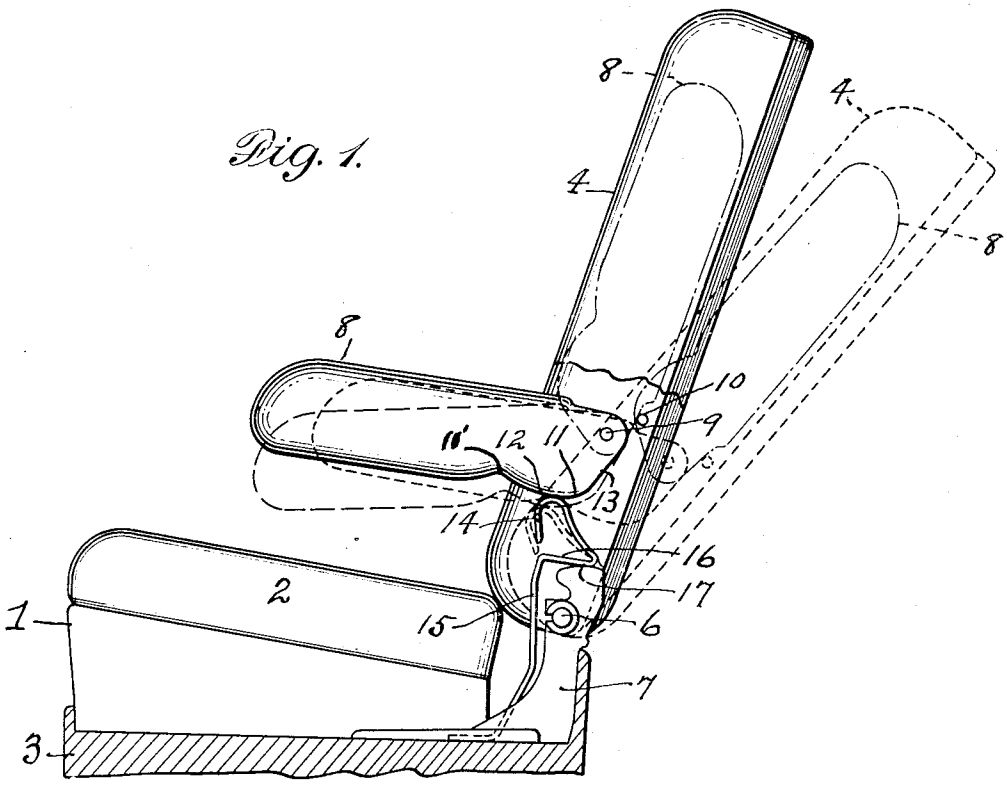
July 6, 1937. J. J. TATUM 2,085,836

ARM REST FOR RECLINING COACH SEATS

Filed Jan. 3, 1935

Fig. 1.



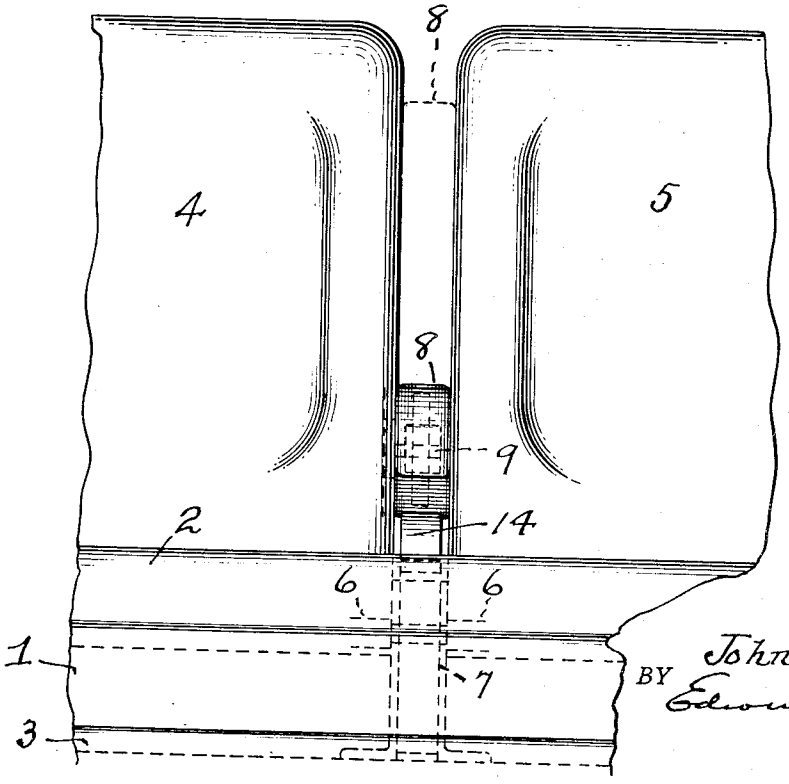


Fig. 2.

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ARM REST FOR RECLINING COACH SEATS

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Application January 3, 1935, Serial No. 284

2 Claims. (Cl. 155—112)

This invention relates to improvements in passenger coach seats of the reclining back type, or that type in which the seat is provided with a back pivotally mounted for adjustment to support the back of the occupant in a substantially upright position or in one or more rearwardly reclining positions. More particularly the invention relates to a folding arm rest for reclining back coach seats in which each seat is provided with a pair of seat backs and an arm rest which normally divides the seat into seat spaces for two occupants.

One object of the invention is to provide an arm rest for a double seat or chair of reclining seat type which may be folded back to an inoperative position between the seat backs so as to make the full seating space unobstructed from end to end when so desired by the occupant or occupants thereof.

Another object of the invention is to provide a folding arm rest which is mounted upon one of the seat backs so as to be movable with said seat back in its adjustments so as to prevent its protrusion from the seat back when the latter is disposed in a reclining position.

Still another object of the invention is to provide novel means for holding the arm rest against casual displacement in any of its adjusted positions.

Still another object of the invention is to provide a folding arm rest which will be resiliently supported when in normal horizontal or working position so as to yield sufficiently to prevent injury to a passenger accidently sitting or falling over upon the arm rest.

With these and other objects in view, the invention consists of the features of construction, combination and arrangement of parts, hereinafter fully described and claimed, reference being had to the accompanying drawing, in which:—

Fig. 1 is a vertical section of a double back coach seat embodying my invention, the plane of section being between the two seat backs, one of which is shown, such view also showing in full and dotted lines certain positions of adjustment of said seat back and the arm rest.

Fig. 2 is a fragmentary view in front elevation of the seat, showing respectively in full and dotted lines the arm rest in normal service and folded back positions of the arm rest.

Referring now more particularly to the drawing, 1 designates the body or frame and 2 the cushion of the coach chair or seat, which may be mounted upon the car floor or upon a suitable supporting base 3 secured thereto, and 4 and 5 designate a pair of independent seat backs adapted to serve as back rests for passengers occupying portions of the seat on opposite sides of its transverse center. The lower portions of these seat backs are pivotally mounted at their relatively outer ends in any suitable manner (not shown) and are shown as pivotally mounted at their relatively inner ends by pivot pins 6 upon a common supporting bracket 7, the construction being such that each seat back may be disposed in the substantially upright position shown in full lines in Fig. 1 or to the tilted back reclining position shown in dotted lines in Fig. 1. Any suitable means may be provided in practice for retaining each back in such positions, and the construction thus far described may accord generally with that used in a well known type of "reclining chair seat cars" now in service. The back rest 4 may be the back rest at the side of the seat adjacent the side of the car and the back rest 5 the back rest at the side of the seat adjacent the center aisle of the car, which back rest 5 or its seat frame, may be provided at its end adjacent the center aisle with a fixed or suitably adjustable arm rest (not shown).

In accordance with my present invention I provide a centrally disposed arm rest 8 for normal use as a partition separating the seat spaces of the passengers occupying the seat from one another, and which may be used as an arm rest by the passenger using the inner seat space or by both passengers. This arm rest 8 is pivotally mounted, as at 9, at or near the upper portion of its inner end upon the inner end portion of the back rest 4, i. e., that end of the back rest which is mounted upon the bracket 7, so as to adapt said arm rest to be disposed for use as such in the substantially horizontal position shown in full lines in Fig. 1, in which service position it acts as an arm rest when the back rest 4 is in the upright position shown in full lines in Fig. 1, and so as to adapt said arm rest to be swung or folded upwardly and rearwardly to the dotted upright positions shown in Fig. 1, in which it will lie within the plane of and parallel with said inner end of the back rest 4. A stop pin or lug 10 is provided on the back rest 4 to limit this rearward swinging movement of the arm rest to folded position. The arm rest is of a width to fit into the space between the adjacent ends of the back rests 4 and 5 when both back rests are in normal upright position, so that in such folded position of the arm rest the seat space will no longer be partitioned into separate seat spaces but will be unobstructed from end to end. Mem-

bers of a family or passengers traveling together and occupying the same seat may thus fold up the arm rest when for any purpose it is desired to freely use the entire seat space without the arm rest seat spacer.

The arm rest is provided at its pivoted end with a cam-shaped friction surface 11 having a base portion 12 and a heel portion 13. This cam surface is adapted for engagement with the bight or return portion of spring supporting and retaining device in the form of an inverted U-shaped cushioning and retaining spring 14. The spring 14 is formed at the upper extremity of a bracket arm 15 secured at its lower end to the floor or base 3, and said bracket arm is connected with the spring member by an offset bracing and abutment portion or member 16 which rests upon a supporting member or abutment 17 which may be formed upon and as an upper extension of the bracket 7. The elements 14, 15 and 16 may conveniently be constructed as integral components from a single strip of spring metal, as shown. The function of the parts 16 and 17 is to brace the spring 14 and to limit its depression to a desired degree, but the free end of the spring member 14 is spaced from and movable toward and from the member 16 to allow it to have an effective degree of cushioning movement under pressures falling upon the arm 8.

If desired, a rubber cushioning block or the like may be substituted for the spring portion and substantially attached to the bracket 15 to serve as the cushioning element, and such rubber block may be suitably reinforced to stand wear from the pressure of the bearing surface 11 therein. As shown, the bearing surface 11 may terminate at its forward end in a recess 11' or other retaining portion to receive and engage the spring member 14 when the seat back is shifted rearwardly to a reclining position, so as to insure the proper alinement of arm 8 relative to the cushion 2 for the occupant's comfort when the back is disposed in such position.

Fig. 1 shows in full lines the normal position of the arm 8 when the seat back 4 is in its normally upright position, or turned back from the vertical to a sufficient degree to comfortably support the passenger in normal sitting posture. In this position the arm 8 extends forwardly in a substantially horizontal plane to divide the seat spaces of the seats from each other. Fig. 1 also shows in dotted lines a depressed position which the arm rest 8 may assume, and which is permitted by the spring 14, to which depressed position the arm may move in the event that a passenger accidentally sits or falls thereon, whereby a cushioning action is instituted to prevent injury to the passenger. Fig. 1 also shows in dotted lines a rearwardly tilted position of the seat back 4, which also may be assumed by the seat back 5, to allow the passenger to assume a comfortable reclining position. Fig. 1 further shows that the arm 8, when its use is not desired as an arm rest or partitioning member, may be swung upwardly and rearwardly on its pivot 9 within the plane of the seat back 4 and parallel with its end portion to which the arm is pivoted. When the arm 8 is in the normal horizontal position shown in full lines its cam portion 12 engages the spring 14 whereby the arm is yieldingly supported in such position. When the arm 8 is folded up against the end of the seat back 4 its cam surface rides on the spring 14 until the heel portion 13 of the cam engages the spring, by which means the pressure of the spring is brought to bear below and at a point in advance of the pivot 9 to hold the arm against casual displacement in its folded position.

It will be seen, therefore, that the invention provides a folding arm 8 which may be turned down to a horizontal position to divide the seat space into two seat portions, so that a certain degree of privacy between two persons occupying the same seat may be secured, but that when desired the arm rest 8 may be swung to an inoperative position so that the full seat space will be clear of obstructions from end to end, whereby traveling conveniences of various kinds are afforded under certain conditions and when desired.

The folding arm may be of any suitable form and construction and is preferably cushioned on its edges with soft cushion pads, such as sponge rubber, covered with upholstery material suitable to the finish of the car seat, so as to provide for soft resting of the passenger's arm upon the folding seat arm, when in horizontal position, as well as to provide soft cushioning for the passenger's back to rest against when the folding seat arm is in vertical position and the seat back tilted to reclining position. This type of folding seat arm, dividing up the space on seats for one or more passengers, may be applied to car seats that are rotatably mounted on a seat frame, or on car seats that are permanently attached to the seat frame against rotation.

From the foregoing description, taken in connection with the drawing, the construction, mode of operation and advantages of the invention will be readily understood without a further and extended description. While the construction disclosed is preferred, it will, of course, be understood that changes in the form, construction and arrangement of the parts may be made within the scope of the appended claims, without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim is:—

1. In a coach seat, a support, a seat member and a seat back mounted on the support, an arm rest pivotally mounted at its rear end upon one end of the seat back to swing downwardly and forwardly to arm supporting position and to swing upwardly and rearwardly to an inactive position alongside said end of the seat back, said arm when horizontal having bearing faces disposed beneath its pivot providing two cam surfaces normal to each other, and a spring supporting and retaining element secured to the support arranged beneath the pivoted end of the arm and bent to provide a lower attaching portion fixed to the support, a stop portion extending laterally at the upper end of said attaching portion and engaging a stop on the support, and an inverted U-shaped vertically movable spring portion at the upper end of said element and disposed above said stop portion and having a free end normally spaced from said stop portion and limited in downward movement thereby, said spring portion of said supporting and retaining element being engageable with said cam surfaces for coaction therewith to respectively yieldingly support the arm for limited pivotal up and down movements in its arm supporting position and to retain it against casual disengagement when swung to its inactive position.

2. In a coach seat, a support, a seat member mounted on the support, a seat back pivoted at its lower edge to the support to swing forwardly

and rearwardly to different angular positions with relation to the seat member, an arm rest pivotally mounted at its rear end upon one end of the seat back to swing downwardly and forwardly to arm supporting position and to swing upwardly and rearwardly to an inactive position alongside said end of the seat back, said arm rest having curved contact surfaces arranged beneath and eccentrically with relation to its pivot to provide two spaced cam faces substantially normal to each other, and a supporting and retaining member carried by the support beneath the pivoted end of the arm and including a spring portion having a bent end and stop portion integral therewith and extending underneath the bent end and engaging means on the support, said bent end spring portion being operatively engageable with the said cam faces of the arm for coaction therewith to respectively yieldingly support the arm in its arm supporting position and to retain it against casual disengagement when swung to its inactive position, and said stop member being arranged to limit the downward movement of said spring member under pressure greater than that of the weight of the arm resting thereon.

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