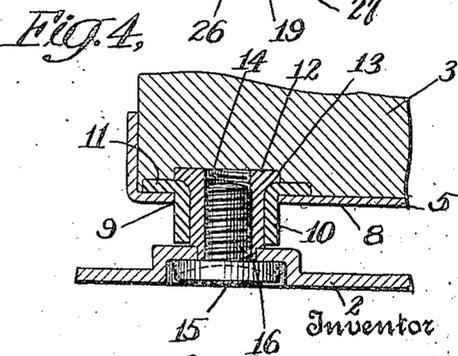
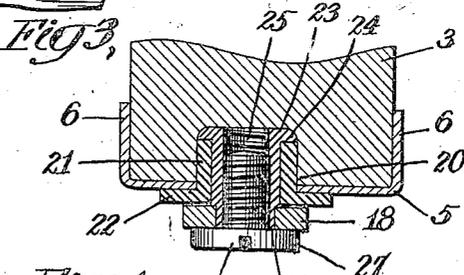
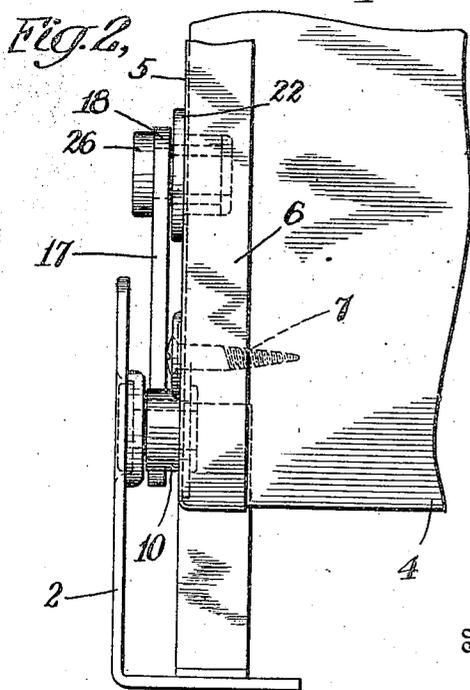
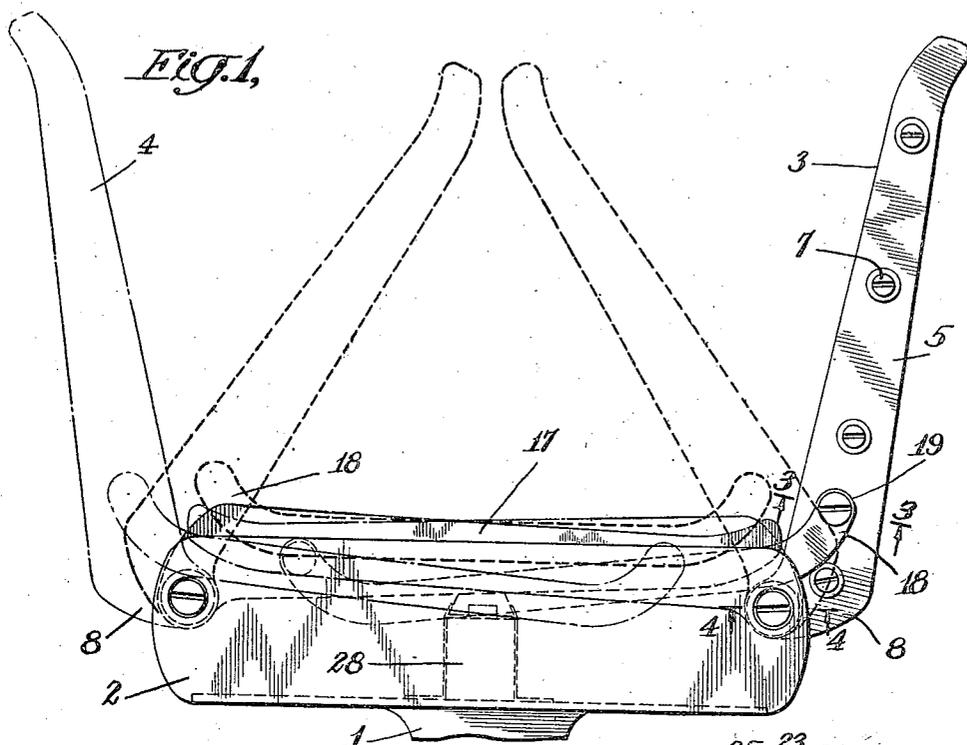


Jan. 2, 1923.

R. F. STUBBLEBINE.  
CAR SEAT.  
FILED MAR. 18, 1921.

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Inventor  
R. F. Stubblebine  
By his Attorney  
J. P. Edwards

# UNITED STATES PATENT OFFICE.

RAYMOND F. STUBBLEBINE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
AMERICAN MOTOR BODY COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A  
CORPORATION OF DELAWARE.

## CAR SEAT.

Application filed March 18, 1921. Serial No. 453,325.

*To all whom it may concern:*

Be it known that I, RAYMOND F. STUBBLEBINE, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car Seats, of which the following is a specification.

My invention relates to railway car seats and my object is to provide a seat which will be light of weight, by which maximum cushion-space will be secured for a given over-all length and in which a minimum number of parts will be used. An additional object is to provide a construction in which a minimum of space at the ends of the seats is taken up with mechanism or frame-work.

A further object of this invention is to provide a seat which may be manufactured and assembled inexpensively and easily and at the same time is very durable and efficient in operation.

Other objects will be in part obvious and in part pointed out hereinafter.

My invention relates particularly to the type of seat such as is disclosed in the application of George W. Dryer, car seat, Serial Number 352,342, filed January 19, 1920, although many features of my invention may readily be employed with other types of seats.

The type of seat above referred to comprises two pairs of supports, pivoted on opposite sides of the construction, each pair supporting a member adapted to be positioned either as a seat or as a back. One of these members is pivoted at the front and the other at the back of the construction, and connections are provided between the two members such that when one rests in seating position the other will extend upwardly from its pivot in the correct position to serve as a back. When it is desired to reverse the seating direction of the seat the member which is serving as a back may be swung downwardly about its pivot into position to serve as a seat, the other member rising at the same time from its seating position into position to serve as a back at the opposite side of the construction. The connection between the seat and back members comprises a pair of links, one at each end of the construction, which links are pivot-

ally connected at their ends to the end surfaces of the seat and back members at points above the pivotal connections between said members and their supports. The function of these links is to cause a member in seating position to swing upward into back position when the other member swings downward from back position into seating position, and a further function is to prevent either member from swinging rearwardly beyond its correct back position or forwardly therefrom when the seat is occupied.

It has been found that by fashioning these links in a shape resembling somewhat an elongated crescent instead of in the shape of a compound curve, as has heretofore been the custom, not only will a smaller space be required at the ends of the seat for the movement of these links and thereby considerable additional space at the ends of the seat is conserved, but the ends of the links may be connected with the seat and back members at points further from their points of pivotal support, and by the increased leverage thus obtained the seat and back members may be more easily shifted from one position to the other when desired, and these members are more positively held against undesired movement when in extreme position.

Moreover, in accordance with my invention I provide novel and improved means for mounting the seat and back members on the construction by providing channel irons secured to each end of the back and seat members, and improved means for mounting these channel irons on the supports as well as improved connections between the links and these channel irons. As a result a very efficient construction is obtained and one which is inexpensive to manufacture, comprises a minimum of parts and one which may be easily assembled or taken apart for the replacement of parts. Also the parts are not apt to work loose.

In order that a clearer understanding of my invention may be had, attention is hereby directed to the accompanying drawings forming a part of this application and illustrating one embodiment of my invention. In the drawings Fig. 1 represents an end elevation of a construction embodying my invention; Fig. 2 is a front elevation of a

part of one side of the construction; Figs. 3 and 4 are sections taken respectively on the lines 3—3 and 4—4 of Fig. 1.

Referring to the drawings, a suitable support, such as a pedestal 1, is provided and two angular members 2 are mounted on the support, one at each end of the seat. Seat and back members 3 and 4, respectively, which may be substantially duplicates of each other, are each adapted to serve either as seat or back cushions and are pivotally supported on members 2, one on each side of the seat. Extending along each end of these members 3 and 4 I provide a supporting standard comprising a channel iron 5 adapted to receive substantially the entire end of the member between its flanges 6, and having its web perforated so that it may be attached to the back or seat member as by means of screws 7. At their lower ends these back-supporting members 8 are pivotally supported on the seat-ends 2 so as to permit the seat or back member supported thereby to be easily swung about this pivot and at the same time be positively supported on the end plates 2. As shown in Fig. 4 the particular means for pivoting these standards to the end plates 2 may comprise a lug or ear 8 on the lower end of the standard 5 and a perforation 9 therein, an annular ring 10 positioned through perforation 9 and having an annular flange 11 resting against the inner side of the standard 5, a bushing 12 within member 10, having an annular flange 13 overlapping flange 11 as shown, and containing a threaded perforation 14 adapted to receive a screw 15 threaded therein through an opening 16 in the end plate 2 with the head of the screw bearing against said plate 2. The assembling of these parts will provide a bearing for the channel iron 5, as shown, and it is readily apparent that by assembling the parts as above described the screw 15 will not be rotated when the supporting standard 5 is swung on its pivot to effect the reversing of the seat. With this construction the parts are not apt to work loose and fall apart and a very efficient and suitable pivotal connection is provided for the back and seat members.

The link members connecting the back and seat members comprise a link at each end of the seat, as at 17, extending between the two back and seat members, and each link is pivoted at one end to one of the standards 5 and at its opposite end to the opposite standard of the other member. As shown, the links 17 comprise a straight, horizontal, central portion and upwardly extending portions 18 at each end. The ends of these links are perforated as at 19 where they are pivotally connected to the respective standards 5 well above the points at which the standards are pivotally connected to the end plates 2. Referring to Fig. 3 it is seen that a

perforation 20 is supplied in the channel iron 5 above its point of support on end plate 2, and in this perforation I seat an annular ring 21 having a flange 22. In this annular ring I position a bushing 23 having an annular flange 24 overlapping the end of annular ring 21 and having a threaded perforation 25 adapted to receive a screw 26 threaded therein. A head 27 on screw 26 bears against portion 18 of the links 17. Thus, it is apparent that as the back and seat members are swung on their pivots the links will rotate in respect to back-supporting or seat-supporting standards 5 in such a way that the screw 26 will move in unison with links 17 and will not be apt to become dislodged during the operation of the seat.

The links 17 are of such length and the points of their pivotal connection to members 3 and 4 are so chosen that when member 3 rests in seating position, member 4 is in the correct position to act as a back-cushion, and when member 4 rests in seating position member 3 will be in correct position to act as a back-cushion at the opposite side of the structure, this position being indicated in dot and dash lines at the left of Figure 1. A rubber pad 28 or other suitable support may be provided for the members 3 and 4 to rest upon, when in seating position.

By forming the links with a longitudinally-extending, horizontal, central portion upturned at the ends, the links are adapted to be confined to a minimum space during the reversing movements of the seat. The upturned ends permit connection of the links to the back and seat members well above the points at which these members are connected to the seat ends 2, and the increased leverage thus obtained will render it easier to effect a reversal of the seat in response to pressure applied to the member then positioned as a back.

The intermediate positions of members 3 and 4 on the reversal of the direction of the seat are indicated in dotted lines in Figure 1.

With the construction illustrated, the vertical movement of links 17 is very slight and these links may be readily maintained completely masked by the seat ends 2. The construction described makes an extremely light structure possible with a very slight space requirement for mechanism at each end of the seat; requires a minimum of parts; and the construction of the pivotal connections is such that the connections are not apt to work loose and the parts are not apt to become loosened or displaced.

The particular form of seat and back-cushion to be used is not material for the present invention and is therefore not illustrated, it only being essential that one side of each member shall be adapted to act as a seat-cushion and the other side as a back-

cushion. Members 3 and 4 may be, for example, of wooden slat construction, double paneled or they may be otherwise formed and shaped with suitable upholstery, if desired.

What I claim is:

1. In a car seat, the combination of supports, a pair of similar seat and back members pivotally secured to said supports at opposite sides thereof and a horizontally disposed link having a straight, central portion and an upwardly extending portion at each end, pivotally connected at its respective ends to said seat and back members substantially above the connection between said members and said supports.

2. In a car seat, the combination of supports, a pair of similar members pivotally secured to said supports at opposite sides thereof and each adapted to be positioned as a seat when the other is positioned as a back, and means for causing the movement of one member from seat to back position automatically in consequence of the movement of the other from back to seat position due to pressure applied to either member, said means comprising a link having a

straight, horizontally-extending, central portion and an upturned portion at each end and pivotally connected at its ends to said similar members.

3. In a device of the character described, in combination, two members and means for pivotally connecting said members together, said means comprising a perforation in one of said members, an annular ring positioned in said perforation and having an annular flange overlapping the periphery thereof, a bushing seated within said ring and having an annular flange overlapping one end thereof, a threaded perforation in said bushing, a perforation in said other member registering with the perforation in said bushing and a screw having a head overlapping said other member and a shank extending through said perforation in said member and engaging the threads of said bushing.

This specification signed and witnessed this 11th day of March, 1921.

RAYMOND F. STUBBLEBINE.

Witnesses:

WILLIAM J. EARNSHAW,  
R. M. FRIES.