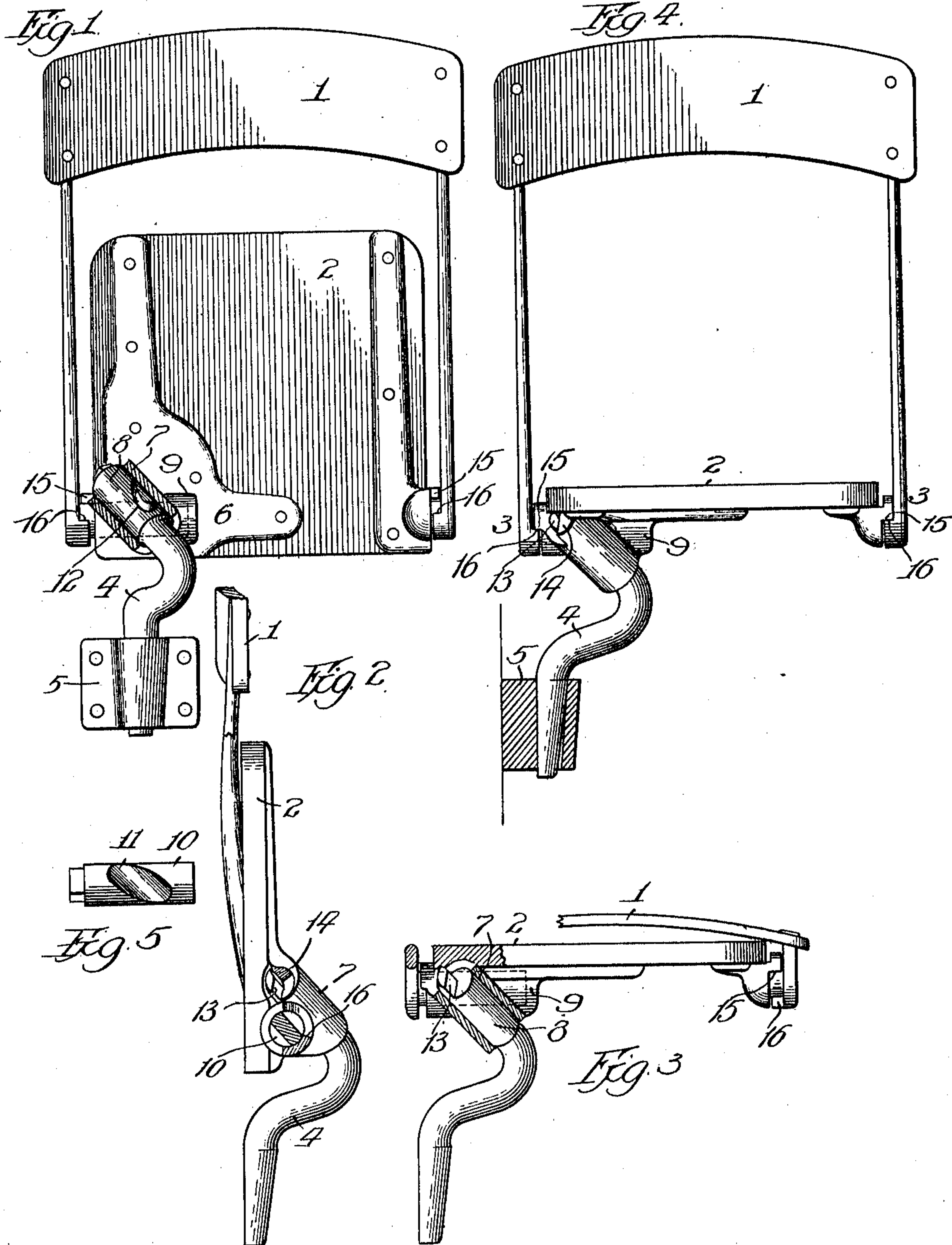


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 AUXILIARY FOLDING SEAT FOR AUTOMOBILES.
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UNITED STATES PATENT OFFICE.

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AUXILIARY FOLDING SEAT FOR AUTOMOBILES.

989,281.

Specification of Letters Patent.

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Application filed October 31, 1910. Serial No. 589,874.

To all whom it may concern:

Be it known that I, EMIL G. PANDOW, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Auxiliary Folding Seats for Automobiles, of which the following is a full, clear, concise, and exact description.

In folding seats, such as are adapted for use as supplemental or extra seats in automobile cars, it is desirable that when out of service, the seat bottom and back may be brought into substantially the same plane, and turned half way around near to the inner side of the car body and preferably back of the path of the doors. I have heretofore made certain improvements in auxiliary seats, of this general class, for which I have made application for a patent, which application, Serial No. 572,857, filed July 20th, 1910, is now pending in the United States Patent Office.

My invention herein is an improvement upon the structure illustrated and described in the said application. In said former structure, the socket plate is secured upon the under side of the seat bottom and near one of the rear corners thereof, said plate being provided with a sleeve inclined at an acute angle to the plane of said bottom. The main supporting member or pintle is secured at its base to the side of the body of the vehicle or other support, and extending upwardly is bent or curved first away from the side of the body of the vehicle or other support and then toward the same at a forward inclination, the pintle proper being provided at the upper end thereof. This pintle fits within the socket of the previously mentioned angularly inclined sleeve. As in said former invention, the angle of the pintle and the position of the mounting of the sleeve or socket which fits the pintle are preferably such that the chair seat, by a single movement or swing, may be carried approximately 90 degrees in folding, that is, from its horizontal position or position of use to its vertical position or folded position and by the same movement rotated approximately 90 degrees and thereby brought out of the path of the door and in line with and near to the side of the body of the vehicle.

My invention herein relates more particu-

larly to the means whereby the swinging movement of the seat is limited and the seat and back with respect to each other locked in position when folded, and the seat bottom locked when in position for use. To this end I provide a second sleeve or socket and preferably in the same plate with the main sleeve or socket, the openings or bores of the two sleeves being angularly disposed with respect to each other and so that said bores will, to a limited extent, occupy common space. Now, as will be more particularly described, the angularly disposed sleeve is adapted to be rotated as stated upon the pintle of the standard. These several parts are constructed and arranged so that when the chair is unfolded the chair seat will be securely held in proper position for use, while on folding the chair and bringing it to its position of rest in line with the body of the vehicle the chair seat and back will be locked with respect to each other, and so held until rotated back about the pintle.

My invention will be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a view of the seat in its folded position as viewed from the inside of the car, a portion of one sleeve being shown in section to disclose the groove in the pintle; Fig. 2 is a side elevation viewed from the left of Fig. 1, with parts broken away; Fig. 3 is a front view showing the seat and back after having been brought into horizontal position, portions of the seat and back being broken away to more clearly show the relative positions of the locking mechanism; Fig. 4 is a front view showing the chair with back and seat in position for use; and Fig. 5 is a detail view of the pivot pin which is turned by the movement of the chair back.

Like parts are indicated by similar characters of reference in the different figures.

From the foregoing it will be seen that we have two folding members, the chair back 1 and the chair seat or bottom 2. The members are pivoted or hinged together at 3 and 3 so that they may be folded together as shown in Figs. 1, 2, and 3, or opened out and unfolded as shown in Fig. 4. There is provided a standard 4, which is supported as indicated by the socket 5, or in other suitable manner. We come now to the plate or casting 6 which is provided with two sleeves. First, sleeve 7 is disposed at an acute angle

to the plane of the seat bottom and is adapted to rotate about the pintle 8 of the standard. Second, sleeve 9 is disposed transversely and parallel with the plane of the said bottom. Now it will be seen that these two sleeves cross one another so that the opening or bore of one sleeve at the place of intersection comes into the path of the bore of the other sleeve for a short distance and to a small extent. From this it follows that if the pintle proper 8 of the angular sleeve and the pivot pin 10 of the other sleeve 9 were cylindrical throughout both could not be in position in their respective sleeves at once. I have found that by providing suitably placed grooves in the pintle 8 and pivot post 10, respectively, the desired movements of the members 1 and 2, may be permitted, while the movements of folding and unfolding will result in locking and unlocking the said members at the proper times and places.

The groove 11 of pivot post 10 and the groove 12 of pintle 8 are provided as shown. These grooves are in such position that when the seat is horizontal and the back still folded, as shown in Fig. 3, they will come nearly opposite each other and occupy the common intersection space of the bores of the two sleeves, so that there will be, at this time, no locking of either of the members 1 and 2. On raising the back to the position shown in Fig. 4 the pivot post or pin 10 is rotated, and the cylindrical surface thereof brought into the groove 12 of the pintle 8, and this rounded surface turning in said groove 12 permits the back or member 1 to be raised, turning on its pivots or hinges 3, 3. Seat 2 is therefore securely locked in its horizontal position, that is, prevented from turning about the pintle as soon as the surface of pin 10 takes the groove 12 on the first movement of the back 2 in unfolding so that the seat may not be turned by any movement of the sleeve 7 about the pintle 8 of the standard.

The chair is folded by turning the back 1 down to the position indicated in Fig. 3, this movement causing pivot post or locking pin 10 to turn out of engagement with the groove 12 of pintle 8; and thereupon the back and seat may be rotated together to the position indicated in Figs. 1 and 2, the said back and seat being locked with relation to each other as soon as moved from the position shown in Fig. 3 toward the position indicated in Figs. 2 and 3. During this movement the groove 11 of pin or post 10 will take and be turned about the rounded surface of the pintle or post 8.

On the upper end of the standard 4, that is, upon the pintle proper, is provided the stop 13, while the sleeve 7, at its upper end, is cut away as shown to form a corresponding stop 14. These stops may be termed positioning stops since they limit the rotary

movement of the sleeve 7 and consequently that of the chair bottom or member 2 as shown, for example, in Fig. 4.

The lower ends of the arms of the back are provided with lugs 16 which, when the back is unfolded and brought to the position shown in Fig. 4, limit the backward movement of the said back or member 1.

The manner of operating or manipulating the chair in folding and unfolding will be obvious, that is to say, assuming that the auxiliary seat is in the position shown in Fig. 4, the first act will be to fold down the seat back or member 1 to the position indicated in Fig. 3. Thus the folding of the back will have turned the locking pivot 10 to disengage the same from the pintle 8. Thereupon the two members 1 and 2 thus folded together will be rotated about the pintle and be brought to the position shown in Figs. 1 and 2.

The plate or casting 6 may be, for example, of phosphor bronze. The standard 4, including the pintle 8, and also the pivot post or locking pin 10 may be of steel. In actual practice I have made the diameter of the pintle $1\frac{1}{4}$ inches and that of the pivot post 10, $1\frac{1}{8}$ inches.

Speaking broadly the pintle proper 8 and the pivot post 10 may be spoken of as pivot pins, posts or pintles interchangeably. Thus it may be said that there are comprised in the invention two sleeves angularly disposed, each sleeve having its own pivot pin and these pins being each provided with a groove and so arranged that the grooves will register at the common point of intersection of the bores of the two sleeves, in which position there will be no engagement between the pivot pins, the different parts being, however, so arranged that the relative positions of the sleeves and pivot pins may be changed from that of registration so that the grooves of the pins respectively will, according to their position in one direction or the other from the position of registration, take or fit upon the corresponding cylindrical surface of the other, that is, accordingly as the parts are rotated to bring the grooves from their position of registration. In the particular instance shown the pintle proper 8 is fixed in position and the relative positions of this pintle, with respect to the post 10, are determined by movements imparted to the member 1 which carries the said pivot post, that is to say, the opening or unfolding of member 1 rotates the pivot post to bring the cylindrical surface thereof into the groove of the pintle, in which groove, the said cylindrical post turns. On the other hand when the members are folded together as shown in Fig. 3, and the further movement is imparted to the two members 1 and 2 to bring them to the position shown in Figs. 2 and 1, the groove 11 of post 10 takes

the cylindrical surface of the pintle and turns about the same during the movement of sleeve 7 upon the pintle 8 to carry the two members from the horizontal position to the vertical position, as already described.

I have described my invention with respect to the angularly disposed sleeves and the grooved pintle pivot pin in connection with auxiliary chairs adapted for use in automobiles. This mechanical structure, to my knowledge, was not known or used, prior to my invention thereof; it is evident that the two sleeves having their bores intersecting as described, and combined with pivot posts cut or grooved to admit of bringing the notches or grooves into the common space of intersection might be employed in other structures with only such modifications as would suggest themselves to those skilled in the art and therefore I am presenting claims which are intended to cover this feature of my invention wherever it may be employed, at the same time bearing in mind, that the invention is specially adapted for use in connection with two rotating members similar to or analogous to the back and seat bottom of an auxiliary seat for automobiles.

Having thus described my invention, I claim as new and desire to secure by Letters Patent.

1. An auxiliary seat for automobiles comprising the seat bottom and back adapted to be folded into substantially the same plane and turned half way around and near to the inner side of the car body by a continuous rotary movement in combination with a sleeve secured to the corner of the seat bottom and extending at an angle therefrom, a second sleeve rigid therewith, transversely disposed, and parallel with the seat bottom, pivot posts, one for each sleeve, the first post of said last mentioned sleeve being secured to and rotatable with said back, the bores of said sleeves intersecting to a limited extent, the pivot posts of said bores being cut away to provide grooves whereby the said bottom may be locked in position when the back is unfolded, and whereby the back will be locked with relation to the seat bottom when folded, substantially as described.

2. The combination with two members hinged together, of a plate secured to the corner of one member and provided with two sleeves, one sleeve being at an acute angle to the plane of the member to which the plate is secured and the other sleeve extending transversely and in a plane substantially parallel with said member, the bores of said sleeves, at their intersection, occupying to a limited extent common space, a pintle on which the angular sleeve is adapted to be turned, and a pivot post carried upon and turned by the movement of the other member, said post and pintle being each provided

with a groove, thus being adapted to be brought to register opposite one another in the space at the intersection of the bores of the sleeves, while in other positions of the members said grooves are reciprocally engaged to lock said members with respect to each other in folded position and in unfolded position to lock said angular sleeve upon the pintle.

3. The combination with a plate having two bores therein which partially intersect, of a swinging member and means whereby said plate is attached thereto, a fixed pivot post fitting in one of said bores and constituting an axis about which said swinging member is swung, a second member, and a rotatable post carried by said second member and fitting in said other bore, whereby said second member is pivoted to said first mentioned member, said posts at the intersection of said bores being each provided with a transversely extending groove, the groove in each post being adapted and arranged at certain relative positions of said members to receive the rounded surface of the other post.

4. The combination with hinged members, of two sleeves attached to the corner of one of said members, one sleeve being at an acute angle to said member, and the other sleeve placed transversely and substantially parallel with said member, a pivot post inserted in the bore of said other member and secured to and moved by said member, and a pivot post about which the angularly disposed sleeve is adapted to be rotated, the said interlocking posts being provided each with a groove with which the surfaces of the corresponding posts are adapted to engage respectively at the extreme position of rotations, said grooves being adapted, at their intermediate position, to register and occupy the common space at the intersection of the bores of the sleeves.

5. The pintle 8 fixed in position, the sleeve 7 mounted thereon, the member 2 on which said sleeve is mounted at an acute angle to the plane thereof in combination with the second sleeve 9 disposed transversely and substantially parallel with the plane of said member 2, a pivot post 10 and member 1 to which said pivot or pin is secured to be moved thereby, the bores of said sleeves intersecting to a moderate extent, the said pintle and pivot post being provided each with a groove, said grooves being adapted to register to occupy the common intersection of the bores of the two sleeves, said grooves being adapted reciprocally to take the corresponding rounded surfaces of the pintle and post respectively, according to the relative positions of said members.

6. In a folding seat, the combination with a seat-bottom, of a plate secured to the underside thereof, said plate having two bores

therein which partially intersect, a fixed post fitting in one of said bores and constituting an axis about which said bottom is swung to fold or unfold the same, said post having a
5 transverse groove therein arranged to register with the intersection of said bores when said bottom is swung to its unfolded position, a seat-back foldable upon said bottom, and a rotatable post carried by said seat back
10 and fitting in said other bore, said rotatable post constituting a pivot for folding said back upon said bottom, said rotatable post

being provided with a transverse groove which registers with the intersection of said bores when said back is folded upon said bottom.

In witness whereof, I hereunto subscribe my name this 29th day of October, A. D., 1910.

EMIL G. PANDOW.

Witnesses:

ALFRED H. MOORE,
McCLELLAND YOUNG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
