

Dec. 28, 1943.

B. E. JONES

2,337,557

ARM REST

Original Filed July 31, 1940 4 Sheets-Sheet 1

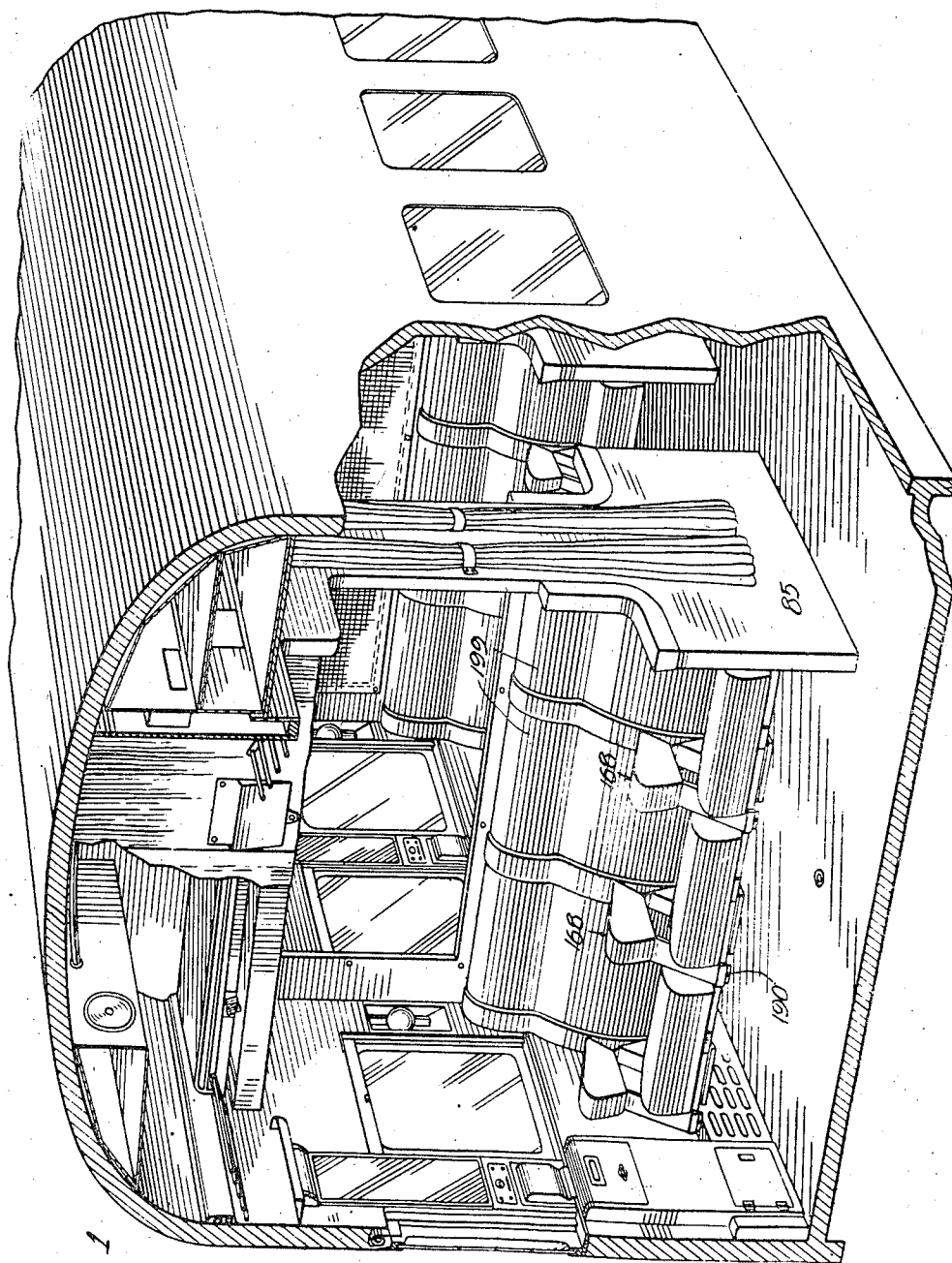


Fig. 1

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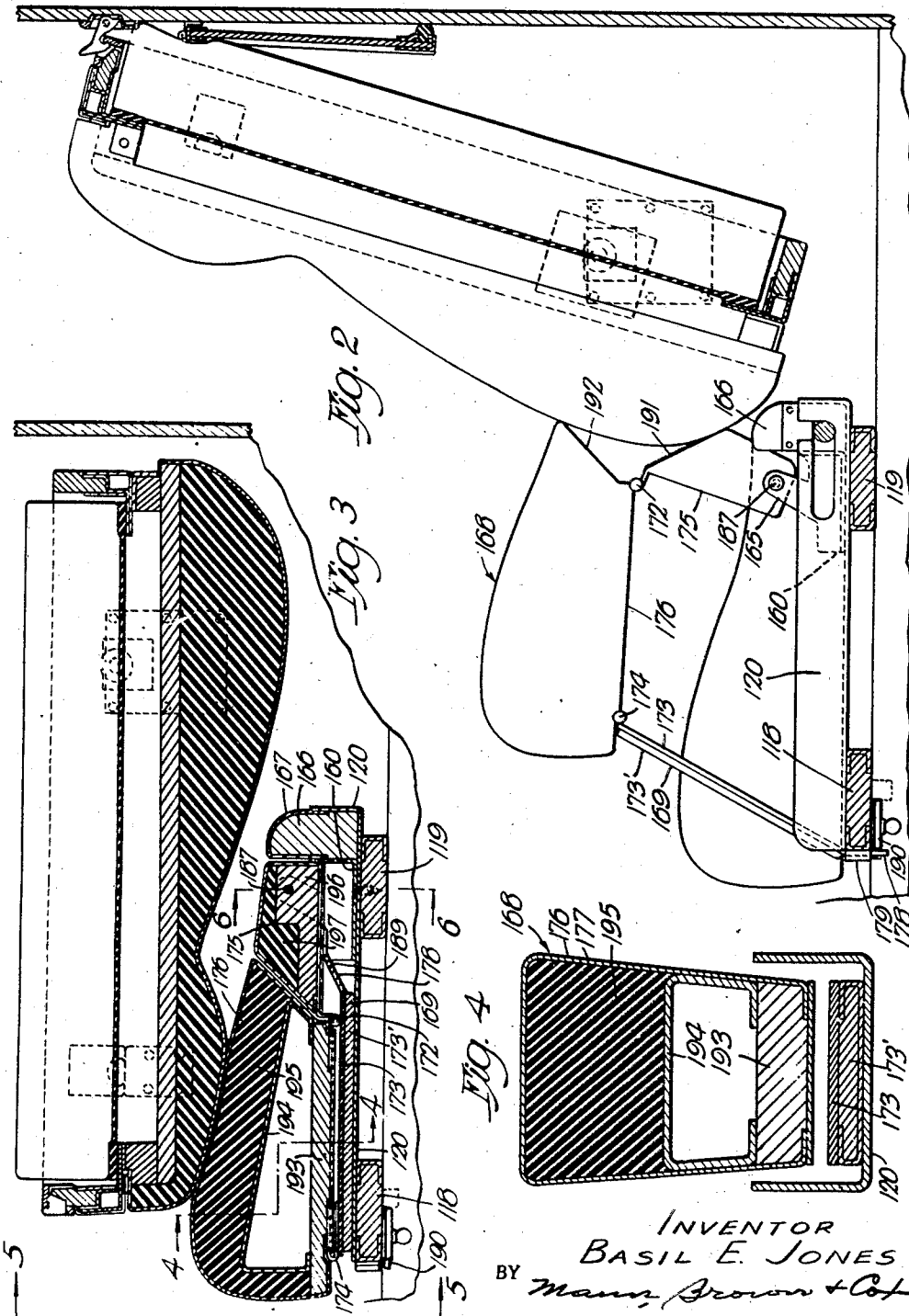
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ARM REST

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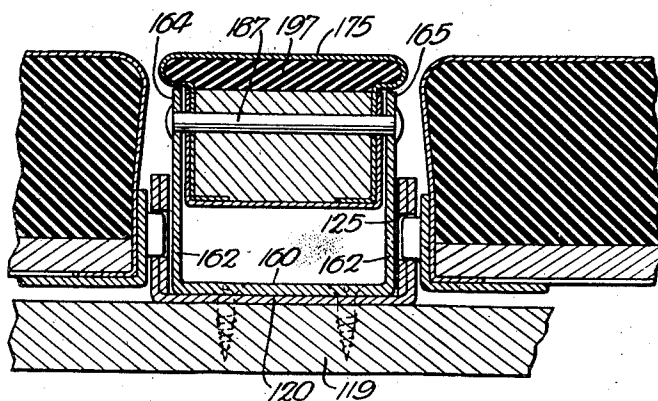
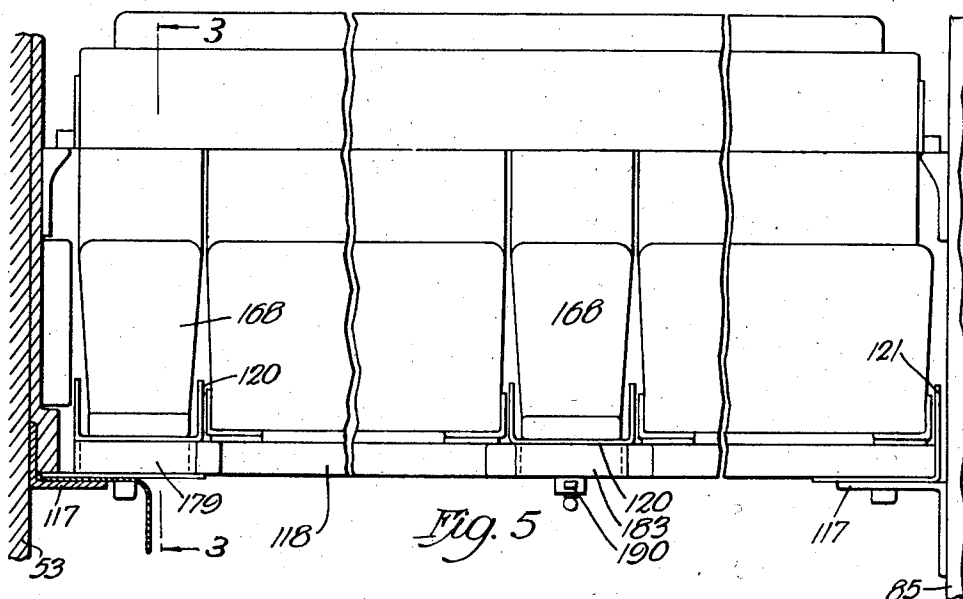
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ARM REST

Original Filed July 31, 1940

4 Sheets-Sheet 3



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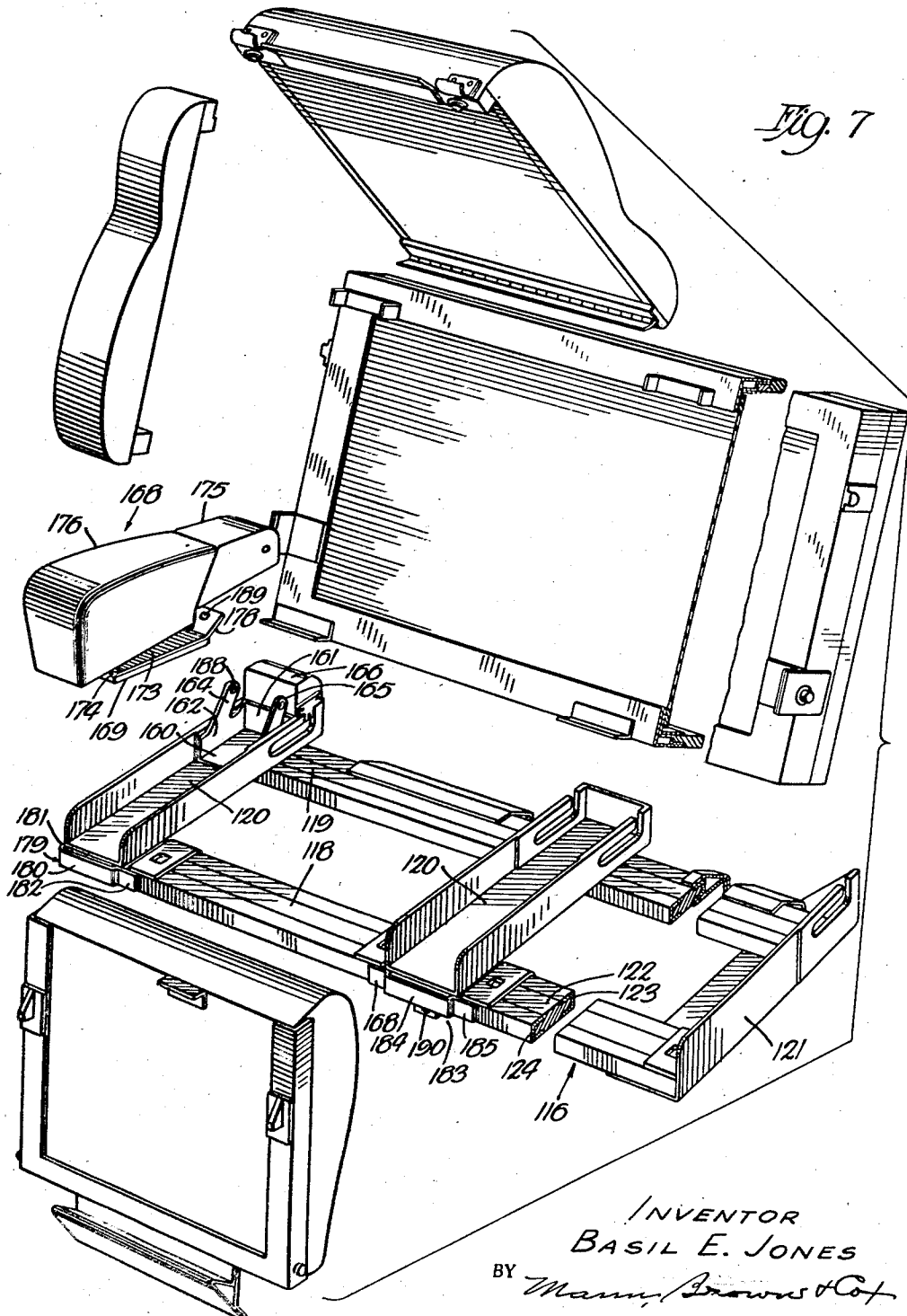
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ARM REST

Original Filed July 31, 1940

4 Sheets-Sheet 4



UNITED STATES PATENT OFFICE

2,337,557

ARMREST

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Original application July 31, 1940, Serial No. 348,670. Divided and this application April 8, 1941, Serial No. 387,396

7 Claims. (Cl. 155—198)

The arm rest forming the subject matter of the present invention can be shown in connection with a sofa which is divided into three individual seats, arm rests being provided on each side of each seat. Obviously other arrangements may be employed if desired.

The invention herein disclosed is particularly well suited for use in a railway passenger car.

The arm rest serves to define the limits of each seat, so as in effect to make each seat separate from the one next adjoining.

Each arm rest is sturdy and conveniently located for the user. When not in use it may be lowered in a pocket in the seat portion of the sofa so that its top face is flush with the tops of the seat cushions. It can be moved very easily and quickly from one position to another, and when in its inoperative position it is entirely out of the way and in fact forms a continuation of the seat cushion.

The above constitute some of the principal objects and advantages of the present invention, others of which will become apparent from the following description and drawings, in which

Fig. 1 is a fragmentary perspective view of a railway car showing the arm rests in position for use;

Fig. 2 is a vertical sectional view through the sofa showing one of the arm rests in position for day use;

Fig. 3 is a vertical sectional view through the convertible sofa taken on the line 3—3 of Fig. 5 and showing the sofa back folded down for nighttime use;

Fig. 4 is an enlarged vertical sectional view taken through the arm rest on the line 4—4 of Fig. 3;

Fig. 5 is a fragmentary vertical transverse sectional view through the room portion of a car, showing in front elevation the convertible sofa in condition for night use, the view being taken on the line 5—5 of Fig. 3;

Fig. 6 is an enlarged vertical sectional view taken through a portion of the convertible seat on the line 6—6 of Fig. 3, and

Fig. 7 is an exploded perspective view of the convertible seat and the arm rest showing the elements making up the complete assembly.

This application is a division of the co-pending application of Peter Parke, James K. Tully, Leif Anderson, and Basil E. Jones, Serial No. 348,670, filed July 31, 1940.

A specific embodiment of the present invention is selected for the purpose of complying with

section 4888 of the Revised Statutes. Obviously many modifications may be made in the particular form shown without departing from the scope of the invention.

Referring to the figures, the sofa in each room is arranged to provide three comfortable seats with arm rests on each side of each seat which may be in place for use or folded out of the way, depending upon the requirements of the individual occupant. Each seat may be individually adjusted to an upright or semi-reclining position to suit the needs of the occupant.

The sofa is supported on a frame generally indicated at 116 in Fig. 7, secured to the side wall 53 of the car and to the aisle partition 95 by brackets 117 (Fig. 5). Bosses 242 project down from the frame through holes in the brackets. This frame comprises a pair of spaced parallel beams 118 and 119 (Fig. 7) extending the full length of the sofa connected by a plurality of channel-shaped guide members 120 and an angle end guide member 121, all of which guide members extend crosswise with respect to the two beams 118 and 119. The angle member 121 is used on the end of the sofa frame adjacent to the aisle side, while the channel members are used in intermediate positions and on the car wall side of the sofa frame.

Each of beams 118 and 119 comprises a suitable core 122 bound on its sides by metal channel members 123 and 124. The seat guides 120 and 121 are fastened to the beams 118 and 119 by some suitable means, such as by screws, as shown in Fig. 6, and are so spaced that a seat cushion fits between two adjoining seat guide members.

The channel-shaped seat guide members 120 serve as casings into which arm rests 168 are folded (see Fig. 7). In each of these guide members 120 is a channel-shaped arm rest support bracket 160 having a rear flange 161 and two side flanges 162 (Fig. 7). Extending upwardly from the side flanges are projecting arms 164 and 165. The arm rest support bracket is spaced from the end of the seat guide member 120, and, as best shown in Fig. 3, a block 166 is inserted between the support and the end of seat guide member 120. This block is upholstered at 167 (Fig. 3) in any suitable manner.

The arm rest 168 (Fig. 7) fits between the upwardly extending flanges of the channel guide member 120 and comprises back, intermediate and front members 175, 176 and 169 respectively. The back and intermediate members 175 and 176 are hinged together at 172 (Fig. 3) and the

intermediate and front members 176 and 169 are hinged together at 174.

The intermediate member 176 serves as the arm support when the arm rest is in its raised position, the back and front members 175 and 169, respectively, supporting the intermediate member in its raised position. The back member 175 serves to close the space between the seat cushions directly in back of the intermediate arm rest member 176 when the arm rest is folded into the seat guide member 120. The front member 169 folds back underneath the intermediate member when the arm rest is lowered into the guide 120.

The forward member 169 comprises a plate 173 to the outer face of which is secured a block 173'. Suitable upholstering material covers this block.

The free end of the front plate 173 is provided with a flange 178 extending beyond the block 173' at an angle with respect to the plane of the plate 173.

The intermediate arm rest support member 176 comprises a base 193 (Fig. 3) on which is mounted an irregularly shaped supporting member 194. Sponge rubber 195 or other suitable cushion material covers the supporting member 194.

The back member 175 of the arm rest 168 comprises a supporting block 196 on which is secured a cushion 197 of rubber or the like.

Suitable upholstering material indicated at 177 covers the back and intermediate members.

Referring again to Fig. 7, adjacent to the end of the frame along the front edge of beam 118 of the seat frame and directly below the channel-shaped seat guide member 120 is an end arm rest support bracket 179. This bracket is an angle member having a front flange 180 and a side flange 181, the latter of which is secured to the end of beam 118. The front flange 180 of the bracket is spaced from the beam 118 across the area directly below the seat guide member 120, and is secured to the forward flange of beam 118 along the flange 182.

Directly below the intermediate channel-shaped seat guide members 120 are intermediate arm rest fastening brackets 183 having an intermediate outwardly offset portion 184 spaced from the forward edge of beam 118 directly below the seat guide member 120, and flanges 185 and 186 extending beyond the ends of the intermediate portions 184 and secured to the forward edge of beam 118.

As best shown in Fig. 2, the arm rest 168 is provided with trunnions 187 on the opposite sides of the back member 175, which are journaled in holes 188 in the upper ends of projections 164 and 165 on the arm rest support bracket 160. When the arm rest is in position for use, it is raised out of the seat guide member 120 with the intermediate arm rest cushion member 176 spaced in horizontal relationship above the seat and the back and front members 175 and 173, respectively, extending substantially vertically downward from the intermediate member. The projecting flange 178 on the end of plate 173 is inserted in the opening in bracket 179 (in the case of the end arm rest, or in bracket 183 in the case of an intermediate arm rest support).

As best shown in Fig. 7, a slot 189 is placed in flange 178 of the arm rest 168, and, when the arm rest is in position for use, a dead-bolt 190 (Fig. 2) is moved forward and inserted in slot 189 to lock

the arm rest in position. This dead-bolt may or may not be used.

The arm rest 168 is lowered into the seat guide member 120 by first unlocking the dead-bolt 190 and raising the flange 178 of the plate 173 out of the arm rest support bracket. Then, as shown in Fig. 3 the plate 173 is folded under the end and intermediate sections 175 and 176 of the arm rest 168, and the assembly is lowered into the seat guide member 120.

The forward edge of the back member 175 of the arm rest 168 is inclined at 191, and the rear end of the intermediate member 176 is similarly inclined at 192, so that when the arm rest is in place in the seat guide member 120 these two inclined surfaces become complementary to each other, so that there is only a slight crack between the intermediate and the back members 176 and 175, respectively.

When the arm rest is not in use and is folded into the seat guide member 120, the top surface of both the intermediate and the back members 176 and 175, respectively, are flush with the seat cushion, and the front edge of the intermediate member 176 is flush with the front edge of the seat cushion, so that, in effect, when in its collapsed position, the arm rest forms a part of the seat cushion.

Summary

The arm rest shown is inexpensive and very simple to manipulate. If desired the abutting faces of the various segments may be heavily padded so as to protect the fingers of the person adjusting the arm rest. This can be accomplished with sponge rubber or other suitable material.

The complete arm rest assembly includes the channel member 120 which constitutes the support and housing for the arm rest segments. The arm rest is sturdy and when in position for use is strong and secure. When folded to its inoperative position it in effect forms a continuation of the sofa seat, both in appearance and function, and, therefore, in no way detracts from the seat comfort.

There is a wide range of choices for materials to be employed in the various parts making up the arm rest forming the subject matter of the present invention. As specific examples of suitable materials, however, such elements as the blocks 166, 173', 193, and 196 can be made of wood, whereas the plates 173 and 194 can be made of metal.

I claim:

1. An arm rest including an intermediate member, a downwardly extending back member hinged to one end of the intermediate member and a downwardly extending front member hinged to the other end of the intermediate member, an upwardly opening casing for the arm rest, a support bracket on the casing adjacent to one edge thereof, means for pivotally mounting the back member adjacent to its free end to the support bracket, means adjacent to the end of the casing opposite to the support bracket for detachably holding the free end of the front member, the arm rest being adapted to be folded into the casing, the front member folding against the underneath face of the intermediate member.

2. An arm rest comprising a substantially horizontal intermediate member, a back member extending downwardly from and hinged to one end of the intermediate member, a front member extending downwardly from and hinged to the

other end of the intermediate member, a flange projecting beyond the free end of the front member, an arm rest support, means adjacent to the rear edge of the arm rest support for pivotally mounting the free end of the arm rest back member on the support, a bracket adjacent to the front edge of the arm rest support providing a slot into which the flange on the front member is inserted, and means for locking the front member in place, the arm rest being adapted to be lowered onto the support with the back and intermediate members lying substantially in one plane and the front member folded against the underneath face of the intermediate member.

3. An arm rest for use on a seat having a seat portion and a back and comprising three hinged segments in tandem, means adjacent to the free end of one of the end segments for pivotally supporting said segment on the seat, and detachable means for rigidly supporting the free end of the other end segment, the arm rest when in use assuming substantially the form of an inverted U and being collapsible independently of the back with the intermediate and one of the pivoted segments together assuming substantially a linear position and the other segment folding underneath the intermediate segment, the pivotally supported and intermediate segments being so shaped relative to each other that the top surfaces form a continuation of one another in a smooth curve when the segments are disposed in the linear position.

4. An arm rest for use on a seat having a seat portion and a back and comprising three hinged segments in tandem, an upwardly opening channel member of the seat portion substantially coextensive in length with the combined lengths of the intermediate and one end segments, means adjacent to one end of the channel member for pivotally supporting the free end of said end segment on the seat portion, and means adjacent to the other end of the channel member for detachably supporting the free end of the other end segment on the seat portion, the arm rest when in use assuming substantially the form of an inverted U and disposed substantially directly above the channel member and being collapsible independently of the back into the channel member with the intermediate and one of the pivoted segments together assuming substantially a linear position and being so shaped relative to each other that their top surfaces are flush and form a continuation of one another in a smooth curve and the other segment folding underneath the intermediate segment.

5. An arm rest for use on a seat having a seat

portion and a back and comprising three hinged segments in tandem, an upwardly opening channel member on the seat portion and substantially coextensive in length with the combined lengths of the intermediate and one end segments, means adjacent to one end of the channel member for pivotally supporting the free end of said end segment on the seat portion, and means adjacent to the other end of the channel member for detachably supporting the free end of the other end segment on the seat portion, the arm rest when in use assuming substantially the form of an inverted U and disposed substantially directly above the channel member and being collapsible independently of the back into the channel member with the intermediate and one of the pivoted segments together assuming substantially a linear position and being so shaped relative to each other that their top surfaces are flush and form a continuation of one another in a smooth curve and the other segment folding underneath the intermediate segment, the intermediate member being padded and on its bottom side being narrower than the distance between the upwardly extending flanges of the channel member.

6. For use on a seat, an arm rest including an intermediate member, downwardly extending back and front members hinged, respectively, to the opposite ends of the intermediate member, the combined lengths of the back and intermediate members being substantially equal to the distance from the front to the back of the seat, means for pivotally supporting the free end of the back member, and detachable means for supporting the free end of the front member, the intermediate and back members being so shaped relative to each other that their top surfaces are flush and form a continuation of one another in a smooth curve.

7. For use on a seat, an arm rest including an intermediate member, a downwardly extending member hinged to each end of the intermediate member, means for pivotally supporting the free end of one of said downwardly extending members, the combined lengths of the intermediate member and said last named downwardly extending member being substantially equal to the distance from the front to the back of the seat, and means for detachably supporting the free end of the other downwardly extending member, the intermediate and back members being so shaped relative to each other that their top surfaces are flush and form a continuation of one another in a smooth curve.

BASIL E. JONES.

CERTIFICATE OF CORRECTION.

Patent No. 2,337,557.

December 28, 1943.

BASIL E. JONES.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, first column, line 36, claim 4, for "of" read --on--; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 29th day of February, A. D. 1944.

Leslie Frazer

Acting Commissioner of Patents.

(Seal)