

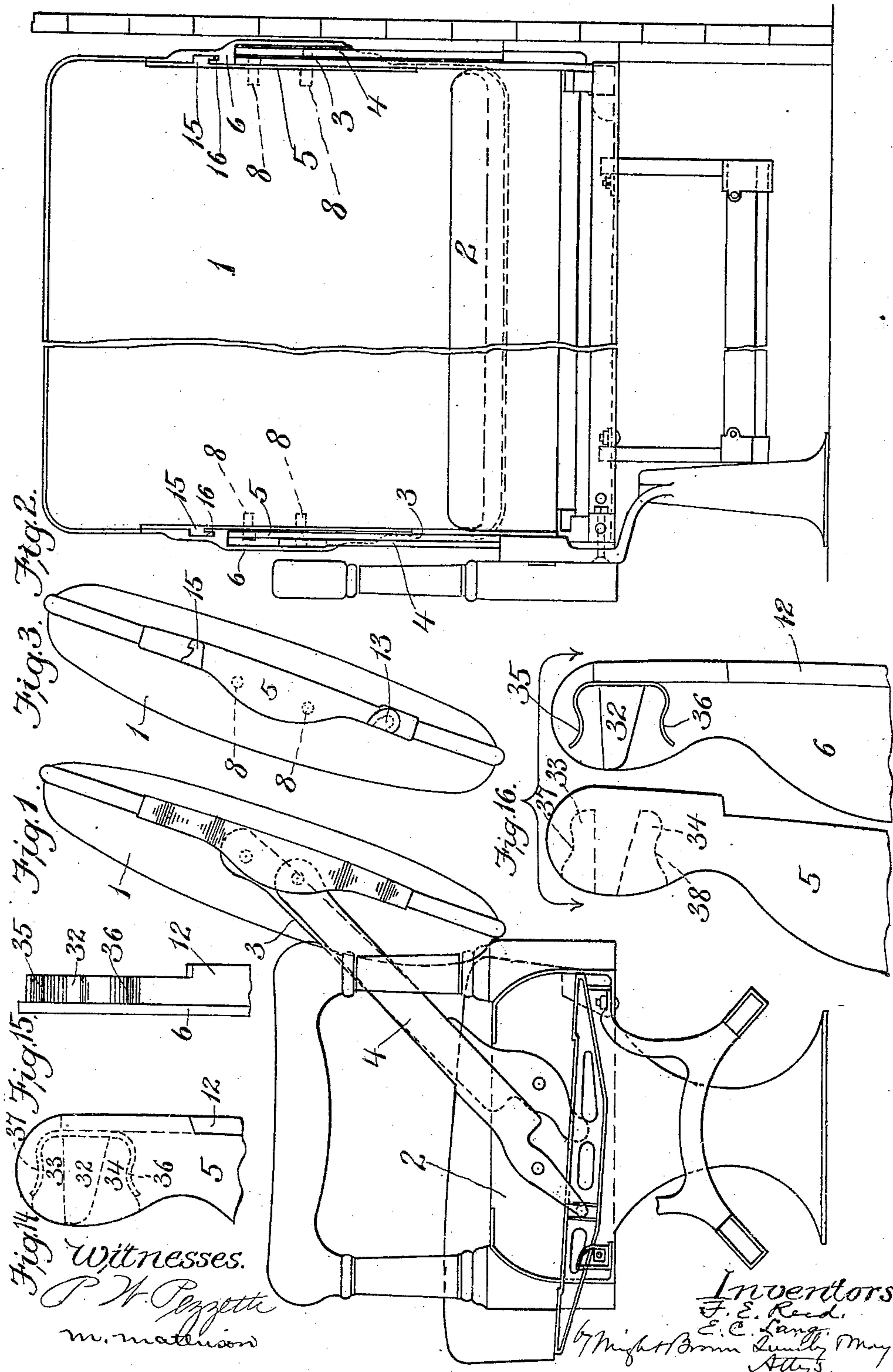
F. E. REED & E. C. LANG.
CAR SEAT.

APPLICATION FILED MAY 13, 1908.

908,424.

Patented Dec. 29, 1908.

2 SHEETS—SHEET 1.



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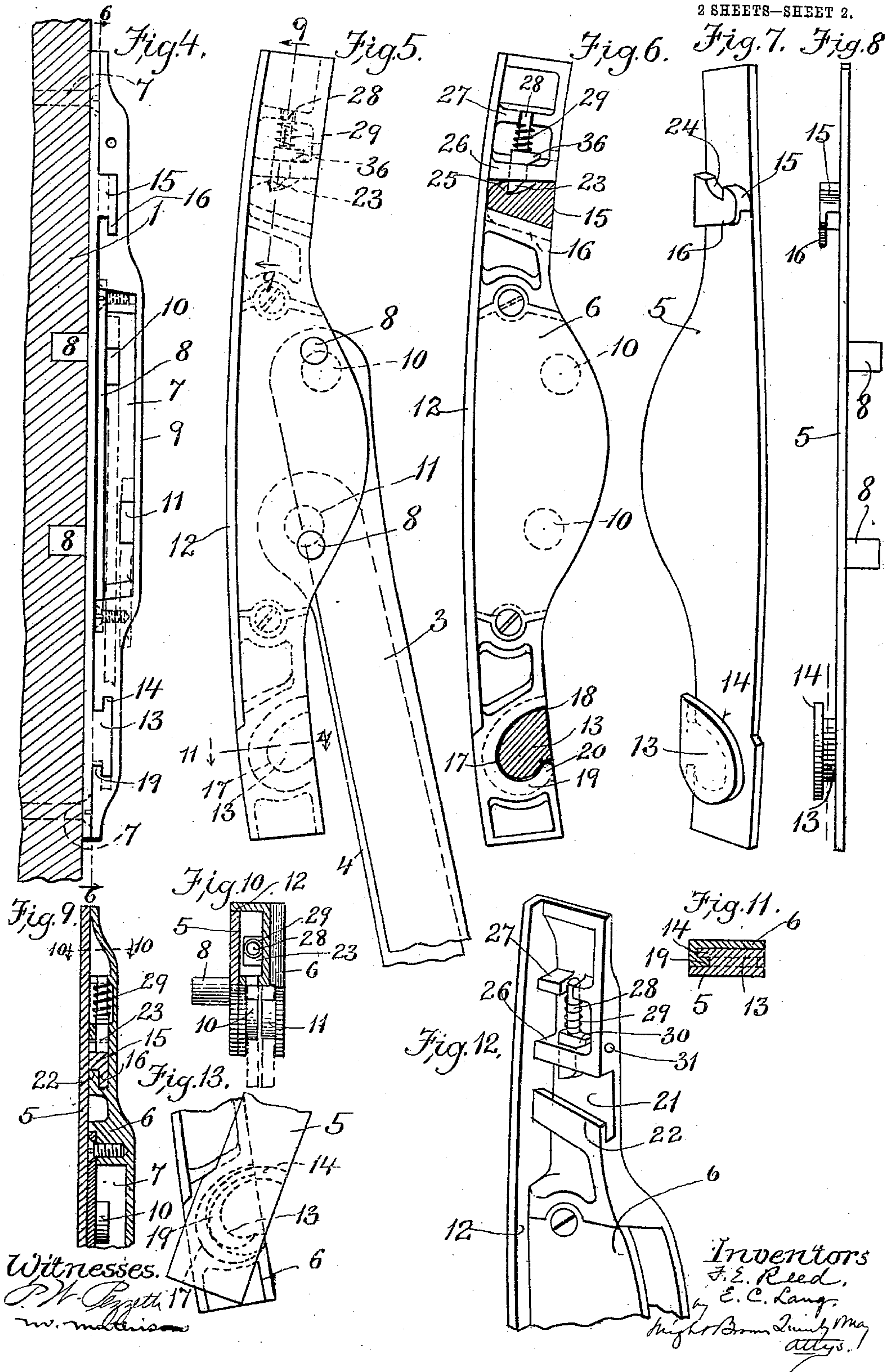
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UNITED STATES PATENT OFFICE.

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CAR-SEAT.

No. 908,424.

Specification of Letters Patent.

Patented Dec. 29, 1908.

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To all whom it may concern:

Be it known that we, FRANK E. REED and EDWARD C. LANG, of Wilmington and Melrose, respectively, both in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Car-Seats, of which the following is a specification.

This invention relates to car seats and consists specifically of an arrangement by which the backs of such seats may be connected with the arms or links in such a way as to permit their ready detachment for cleaning and reupholstering.

The device is adapted to be applied to any of those types of car seat in which the back is turned over so that the same side is always forward, whatever may be the direction in which the seat faces, as distinguished from seats of that character which are reversed by pushing the back from one side to the other of the seat bottom without turning it.

The object of the invention is to provide an attaching device which will rigidly support the back of a seat and prevent its being loosened by any direct pressure, however great, applied by a person leaning against the back, but which may be readily disconnected by a movement of the seat-back forwardly or toward the seat bottom when it is in its extreme or mid-position.

The invention consists, therefore, particularly in a cross-head consisting of two members or plates, one of which is secured to the seat-back and the other to the arm or pair of links by which the back is pivotally united to the seat body, there being two of these cross-heads for each seat, one being attached to each end of the back.

Of the accompanying drawings, Figure 1 represents the invention applied to one type of car-seat of the turn-over character. Fig. 2 represents a front elevation of the same. Fig. 3 represents an end elevation of the back equipped with the device constituting our invention, but separated from the seat body. Fig. 4 represents, on an enlarged scale, an elevation of a device embodying the invention, showing the manner of its attachment to a seat-back. Fig. 5 represents a side elevation of the same, separated from the back. Fig. 6 represents a sectional elevation, showing the interlocking parts of the members of which the device is composed, the section be-

ing taken on line 6—6 of Fig. 4. Fig. 7 represents a perspective view of the member which is attached to the seat-back. Fig. 8 represents an elevation of the same. Fig. 9 represents a fragmentary sectional view on line 9—9 of Fig. 5. Fig. 10 represents a cross-section taken on line 10—10 of Fig. 9. Fig. 11 represents a cross-section on line 11—11 of Fig. 5. Fig. 12 represents a perspective view of the upper part of that member of the device which is attached to the arms or links which support the seat-back. Fig. 13 represents a fragmentary detail, showing the manner of connecting the parts together. Fig. 14 represents an elevation, showing a modification of the device. Fig. 15 represents an end elevation of the same. Fig. 16 represents an elevation, showing the two members of the device detached.

The same reference characters indicate the same parts in all the figures.

In the drawings, 1 represents the back of a car seat which is attached to the seat body 2 by the links 3 and 4. The seat as a whole shown in the drawings is one in common use and is depicted here as being merely representative of the character of seat to which our invention may be applied. There are many other types of seat in which, when the back is shifted to change the direction in which the seat faces, the back is turned over so that the same surface is always forward, and it is to any one of the different varieties of seat having this characteristic that our invention may be applied.

The invention consists of a cross-head consisting of the members 5 and 6, the first of which is a plate which is attached to the seat-back 1 by screws 7. It is also provided with dowel pins 8 which determine its position while the screws are being set. The other member 6 has a recess 7 bounded by walls 8 and 9 in which are studs 10 and 11 to pivotally engage the ends of the links 3 and 4. This part of the member 6 is not an essential feature of the invention, but is only employed to adapt the invention to seats of the character shown in Figs. 1 and 2, and where the invention is applied to seats of other types, this part will be properly modified.

The essential features of the invention are a rib or flange which is carried by the member 6 and overlies the rear edge of the mem-

ber 5, so as to prevent any pressure, however great, applied to the forward side of the back, from forcing the back away from the member 6, and the arms or links 3 4, and also in some form of attachment between the members which prevents their accidental disengagement in a forward direction, but will permit them to be readily separated when need arises. The rib is represented by 12, and is shown as extending laterally from the rear side of the member 6. The detachable connecting devices illustrated in Sheet 2 consist of a stud 13 having a flange 14 and a projection or rib 15 having a flange 16, both of which are on the member 5 and enter corresponding recesses in the member 6. The latter member has a socket 17 with a mouth 18 upon the forward side, and undercut to provide a locking flange 19 which takes under the flange or head 14 of the stud 13. This stud is eccentric, as shown most clearly in Fig. 6, and the socket is similarly formed. The mouth of the socket is large enough to receive the lower portion of the stud when the members are turned at an angle to each other, as shown in Fig. 13, but when the stud is inserted and the members turned into alinement or parallelism, the lower part of the stud lies behind a shoulder 20 which guards the mouth of the socket and prevents the direct removal of the stud from the socket. The projection or rib 15 enters a channel 21 in the upper part of the member 6, and its flange 16 lies under a flange 22. The cooperating and interlocking flanges 16 22 and 14 19 prevent lateral separation of the members of the cross-head, while separation of the projection 15 from the groove 21 is prevented by a latch 23 which extends into a notch 24 of the rib 15 and abuts against a shoulder 25. This latch is guided between flanges 26 27 formed in the member 6, and has a shank 28 which is surrounded by a spring 29 that tends to project the latch so that it will automatically slip behind the shoulder 25. There is a tongue 30 on the forward side of the latch which enables an instrument inserted into a hole 31 to raise the latch and disengage it from the shoulder 25. When the latch is so raised, the projection 15 can be slipped out of the groove and the plate 5 as a whole then rotated about the stud 13 as a pivot until the latter is turned sufficiently to clear the shoulder 20, whereupon it can be removed and the back bodily detached from the member 6 and the connected links. Re-attachment of the back is accomplished by a reversal of these movements, and when the rib 15 is completely inserted in the groove 20, the latch snaps into the recess 24 and locks the parts. When in this position the edge of plate 5 rests against flange 12, and the latter takes the stress applied by the user of the seat. In the foregoing descrip-

tion, the words "up" and "down" are used with reference to the position which the parts occupy in the drawings, but of course when the back is reversed, the latch and rib 15 are at the bottom and the stud 13 at the top, while when the back is midway between its two positions, the cross-head is horizontal, and the terms denoting the relative height should be read with these modifications in mind.

A modified construction of the cross-head is shown in Figs. 14, 15 and 16, wherein yielding instead of positive locks are employed. In this form, the member 6, which has the back rib 12, is provided with an undercut projection or tongue 32 which enters between two members 33 34 on the plate 5. The inner surfaces of the members 33 34 fit the sides of the member 32, and both are beveled so that lateral separation is impossible. Forward separation is yieldingly resisted by bowed springs 35 36 which extend over rounded bulges on the outer surfaces of the members 33 34 and enter recesses 37 38. When, however, it is necessary to remove the back from the seat, it can be readily done by exertion of sufficient force in a forward direction at right angles to the plane of the back, or downwardly when the seat is partly turned over. In this modification, both ends of the members of the cross-head are identical.

We claim:—

1. In a car-seat, the combination with a back and an arm therefor, of a cross-head, one member of which is connected to the back and the other to the arm, said members having interengaging abutments detachably connected together so as to permit the back to be detached by a forward movement and the abutment of the arm-connected member overlying the other member at the rear thereof to prevent its detachment rearwardly.

2. A car-seat including a back, pivoted arms by which the back is enabled to turn from one side to the other of the seat, and cross-heads by which the back is detachably connected to the arms; each cross-head consisting of a member connected to an arm and another member attached to the back, said arm-connected member having a rigid stop arranged at the rear of the other member so as to prevent separation of the back from the arms by rearward pressure thereon, while permitting such separation by a movement in a different direction.

3. A car-seat including a back, pivoted arms by which the back is enabled to turn from one side to the other of the seat, and members connected respectively to the arms and the ends of the back, said members having inter-engaging overlapping lugs to prevent sidewise separation thereof, and the arm-connected member having a rigid rib

at its rear against which the back-connected member is held by the pressure of the user upon the back.

4. A car-seat including a back, pivoted arms 5 by which the back is enabled to turn from one side to the other of the seat, members connected respectively to the arms and the ends of the back, said members having undercut ribs on their adjacent sides whereby they 10 are detachably connected together and prevented from separating by sidewise movement, and a rib on the rear of the arm-connected member overlying the other member so as to receive the pressure applied to the 15 back by a user of the seat and prevent removal of the back rearwardly.

5. A car-seat including a back, pivoted arms by which the back is enabled to turn from one side to the other of the seat, members 20 connected respectively to the arms and the ends of the back, said members having undercut ribs on their adjacent sides whereby they are detachably connected together and prevented from separating by sidewise movement, and a yielding retainer for keeping said 25 ribs in engagement and resisting separation of the members in a forward direction, but being readily disengageable to permit such separation.

6. A car-seat including a back, pivoted arms by which the back is enabled to turn from one side to the other of the seat, members 30 connected respectively to the arms and the ends of the back, said members having undercut ribs on their adjacent sides whereby they are detachably connected together and prevented from separating by sidewise 35 movement, a rib on the rear of the arm-connected member overlying the other member so as to receive the pressure applied to the back by a user of the seat and prevent removal of the back rearwardly, and a retainer 40 for keeping said ribs in engagement and resisting forward separation of the members,

said retainer being yieldingly disengageable to permit such separation.

7. A cross-head for detachably connecting a seat-back to the seat, consisting of two plates, one of which has undercut projections arranged to slip into locking relation 50 with cooperating ribs on the other, and the second of which has a back flange overlying the rear edge of the first member.

8. A cross-head for detachably connecting a seat-back to the seat, consisting of two 55 plates, one of which has undercut projections arranged to slip into locking relation with cooperating ribs on the other, and the second of which has a back flange overlying the rear edge of the first member, and a 60 spring latch opposing separation of said projections and ribs, but being disengageable from its locking relation against a yielding resistance.

9. A cross-head for detachably connecting 65 a seat-back to the seat, consisting of two plates, one of which is attached to the back and the other is connected to the seat, said first member having a headed eccentric stud and the second member an undercut socket 70 shaped to correspond to said stud, the socket having a mouth in one side into which the stud may slip when the plates are out of their operative relation, and in which the stud is locked when the plates are opera- 75 tively located, cooperating overlapping flanges on said plates located so as to engage when said stud and socket are locked together, and a latch on one of the members engaging the other to maintain the engage- 80 ment of said flanges.

In testimony whereof we have affixed our signatures, in presence of two witnesses.

FRANK E. REED.

EDWARD C. LANG.

Witnesses:

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WILL M. DOW.