

945,208.

The drawings illustrate a window frame assembly with the following components and features:

- Fig. 1:** A plan view of the window frame assembly. It shows a rectangular frame with a central opening. The frame is composed of a top rail (20), a bottom rail (13), and side rails (22). A central pane (6) is held in place by a muntin (27) and a muntin bar (e). The frame is mounted on a wall (10) using a bracket (14) and a screw (15). The frame is also secured by a latch (12) and a handle (13).
- Fig. 2:** A cross-sectional view taken along line A-A of Fig. 1. It shows the frame (20) and the pane (6) held in place by a muntin (27) and a muntin bar (e). The frame is mounted on a wall (10) using a bracket (14) and a screw (15). The frame is also secured by a latch (12) and a handle (13).
- Fig. 3:** A cross-sectional view taken along line B-B of Fig. 1. It shows the frame (20) and the pane (6) held in place by a muntin (27) and a muntin bar (e). The frame is mounted on a wall (10) using a bracket (14) and a screw (15). The frame is also secured by a latch (12) and a handle (13).
- Fig. 4:** A cross-sectional view taken along line C-C of Fig. 1. It shows the frame (20) and the pane (6) held in place by a muntin (27) and a muntin bar (e). The frame is mounted on a wall (10) using a bracket (14) and a screw (15). The frame is also secured by a latch (12) and a handle (13).

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UNITED STATES PATENT OFFICE.

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FOLDING SEAT.

945,208.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN G. ARTER, a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Folding Seats; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

This invention relates to improvements in folding-seats comprising a seat-section and a back-section which are adapted to be actuated out of the way when not in use, and this invention pertains more especially to a folding seat suitable for use in automobiles and passenger cars or other vehicles or in any place where the actuation of the aforesaid sections of the seat out of the way when not in use is desirable.

The primary object is to provide a folding seat comprising a pivotally supported seat-section arranged to swing in a vertical plane and being in its downwardly swung or in an upright position according as the seat-section is at the one or the other extremity of its range of movement, a back-section arranged in an upright position over the rear end of the seat-section in the downwardly swung position of the seat-section, such an operative connection between the back-section and the seat-section that the back-section is shifted rearwardly during the movement of the seat-section into its upright position and forwardly during the movement of the seat-section into its downwardly swung position and guided and retained in a vertical position during the said movements.

Another object is to provide improved means for limiting the movement of the seat-section.

Another object is to prevent rearward swinging of the back-section independently of the seat-section by pressure exerted against the forward side of the said section when the seat-section is in its downwardly swung position.

Another object is to provide a construction in which the component parts are readily assembled and which is simple and durable.

With these objects in view, this invention consists in certain features of construction,

and combinations of parts, hereinafter described, pointed out in the claims, and illustrated in the accompanying drawings.

In the said drawings, Figure 1 is a front view of a folding seat embodying my invention, and in this figure the seat-section and the back-section are in their downwardly swung position and forward position respectively. Fig. 2 is a vertical section on line 2—2, Fig. 1, looking in the direction indicated by the arrow. Fig. 3 is a vertical section corresponding with Fig. 2 except that in Fig. 3 the seat-section is in its upright position parallel with the back-section. Fig. 4 is a vertical section on line 4—4, Fig. 2, looking in the direction indicated by the arrow, except that in Fig. 4 the upholstery of the seat-section is omitted.

Referring to the drawings, A indicates a stationary casing which forms a chamber *a* having the dimensions required to render it capable of receiving the seat-section B and back-section D. The chamber *a* is open at the front of the casing, as at 6.

Two laterally spaced stationary brackets C are secured, preferably by means of screws 7, to the lower portion of opposite side walls respectively of the chamber *a*, and the seat-section B is pivoted, as at *b*, horizontally and widthwise of the casing A, to the lower ends of the said brackets and arranged to swing in a vertical plane between the brackets. The brackets C are provided, at their lower ends and below the pivots *b*, with laterally and inwardly projecting flanges 8, and the seat-section B is in its downwardly swung and horizontal position resting on the flanges 8, as shown in Fig. 4, or in a vertically arranged or upright position, as shown in Fig. 3, according as the seat-section is at one or the other extremity of its range of movement.

The back-section D is arranged in an upright position over the rear end of the seat-section B in the downwardly swung position of the seat-section and at the front of the casing A and preferably in the main forward of the chamber *a* as shown in Fig. 2.

The seat-section B comprises a body-portion 10 and two metal bars 12 and 12 suitably secured to the said body-portion and extending longitudinally of opposite side edges respectively of the seat-section, and the said body-portion is preferably provided with a

cushion or upholstered in any approved manner, as at 13, between the bars 12 and 12.

The bars 12 of the seat-section B, and consequently the said seat-section, are provided with members 14 projecting into recesses 15 which are formed in the brackets C, which recesses extend circumferentially of the axis of the seat-section from above the pivots *b* around the rear portions of the said pivots and have end walls 16 and 17 spaced circumferentially of the said axis, and the relative arrangement of the parts is such that one or the other end wall of each recess is engaged by the respective member projecting into the recess according as the seat-section is in its upwardly or downwardly swung position. Figs. 1, 2 and 4 show the seat-section in its downwardly swung and horizontal position, whereas in Fig. 4 the said seat-section is shown in its upwardly swung or upright position. Obviously the end walls 16 and 17 of the recesses 15 and the recess-engaging members 14 of the seat-section constitute means for limiting the movement of the seat-section.

The back-section preferably comprises a body-portion 20 and two metal bars 22 and 22 suitably secured to the said body-portion and extending up and down the said body-portion at opposite side edges respectively of the back-section, which bars are provided at their lower ends with forwardly projecting arms 25 which are pivoted parallelly with the axis of the seat-section, as at 26, to the bars 12 of the seat-section between the free end and the axis of the seat-section.

The body-portion of the back-section D is provided at its forward side with a cushion or otherwise upholstered, as at 23, between the bars 22. The arms 25 of the back-section D and the pivots 26 constitute such an operative connection between the back-section and the seat-section that the back-section is shifted rearwardly and upwardly during the movement of the seat-section into its upright position and forwardly and downwardly during the movement of the seat-section into its downwardly swung position.

Means whereby the back-section D is guided and retained in a vertical position during its movement are provided and preferably comprise a link *e* arranged rearwardly of the upper portion of the back-section centrally between the side edges of the back-section and pivoted at opposite ends, horizontally and parallelly with the axis of the seat-section, to the back-section and casing as at 27 and 28 respectively, which link extends downwardly and rearwardly to the casing from the back-section in the forward position of the back-section. Preferably the link *e* is arranged rearward of the upper portion of the back-section and has such length that the back-section moves at its upper end in unison with the movement of

its lower end during the actuation of the seat-section from the one to the other of its positions.

Each bar 12 of the seat-section B, and consequently the seat-section, is provided between the adjacent pivot 26 and the adjacent bracket C, as shown in Fig. 2, with an upwardly facing shoulder 18 which is engaged in the forward position of the back-section by a lug 30 formed on the connected bar 22 of the back-section, and the said shoulder and the said lug constitute means whereby the back-section in its forward position is prevented from being swung rearwardly independently of the seat-section by any pressure exerted against its forward side. The relative arrangement of the parts is preferably such that both the seat-section and the back-section are within the chamber *a* of the casing A and out of the way when the seat-section is swung into its upright position as shown in Fig. 3.

By the construction hereinbefore described it will be observed that the seat-section is pivotally supported from the casing A and arranged to swing in a vertical plane and is in its downwardly swung position externally of the chamber *a*, or in an upright position within the said chamber at the front of the casing, according as the seat-section is at the one or the other extremity of its range of movement, and that the back-section is in its forward position at the front of the said casing, or wholly within the chamber *a* at the rear of the seat-section, according as the seat-section is in its downwardly swung or upright position. It will be observed therefore that the back-section is arranged vertically both in its forward and rear positions and this vertical arrangement of the back-section is retained during its movement from the one to the other of the said positions. In other words, by my improved construction the back-section has both upper and lower ends thereof moving in unison during the actuation of the back-section from the one to the other of the said positions, and the back-section by its vertical arrangement does not project farther at its lower end than at its upper end from the chamber *a* in the forward position of the back-section, and consequently the space occupied by the folding seat in the downwardly swung position of the seat-section is reduced to a minimum.

What I claim is:

1. In a folding seat, two laterally spaced stationary brackets provided at their lower ends with laterally and inwardly projecting flanges, a seat-section pivoted to the brackets and arranged to swing in a vertical plane between the brackets and in its downwardly swung position resting on the aforesaid flanges, a back-section arranged in an upright position over the rear end of the seat-

section in the downwardly swung position of the seat-section, means whereby the back-section is shifted rearwardly during the movement of the seat-section into its upright position and forwardly during the movement of the seat-section into its downwardly swung position, and means whereby the back-section is guided and retained in an upright position during its movement.

2. In a folding seat, a stationary casing which forms a chamber for receiving the back-section of the seat, which chamber is open at the front of the casing; the seat-section pivotally supported from the casing and arranged to swing in a vertical plane and being in its downwardly swung position or in an upright position at the front of the aforesaid casing according as the seat-section is at the one or the other extremity of its range of movement; the back-section arranged in an upright position over the rear end of the seat-section and at the front of the casing or wholly within the aforesaid chamber and rearwardly of the seat-section according as the seat-section is in its downwardly swung or upright position; means whereby the back-section is shifted rearwardly during the movement of the seat-section into its upright position and forwardly during the movement of the seat-section into its downwardly swung position, and a link arranged rearward of the back-section and pivoted at opposite ends parallelly with the axis of the seat-section to the back-section and casing respectively and extending downwardly and rearwardly to the casing from the back-section in the forward position of the back-section, said link being arranged parallel with the back-section in the rear position of the back-section.

3. In a folding seat, the combination, with a pivotally supported seat-section arranged to swing in a vertical plane, of a back-section arranged over the rear end of the seat-section in the downwardly swung position of

the seat-section and comprising a body-portion and two metal bars secured to and extending up and down the said body-portion at opposite side edges respectively of the back-section, which bars are provided at their lower ends with forwardly projecting arms which are pivoted parallelly with the axis of the seat-section to the seat-section between the free end and the axis of the seat-section so that said arms project forwardly of the said axis in the downwardly swung position of the seat-section, and means whereby the back-section is guided and retained in an upright position during its movement.

4. In a folding seat, a pivotally supported seat-section arranged to swing in a vertical plane and comprising a body-portion and two metal bars secured to the said body-portion and extending longitudinally of opposite side edges respectively of the seat-section; a back-section arranged over the rear end of the seat-section in the downwardly swung position of the seat-section and comprising a body-portion and two metal bars secured to and extending up and down the said body-portion at opposite side edges respectively of the back-section, which bars are provided at the lower ends with forwardly projecting arms which are pivoted parallelly with the axis of the seat-section to the first-mentioned bars between the free end and the axis of the seat-section so that said arms project forwardly of the said axis in the downwardly swung position of the seat-section, and means whereby the back-section is guided and retained in an upright position during its movement.

In testimony whereof, I sign the foregoing specification, in the presence of two witnesses.

JOHN G. ARTER.

Witnesses:

C. H. DORER,

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