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2,769,645

COLLAPSING SEAT FOR NESTING CARRIERS

Filed May 18, 1954

2 Sheets-Sheet 1

FIG. 1.

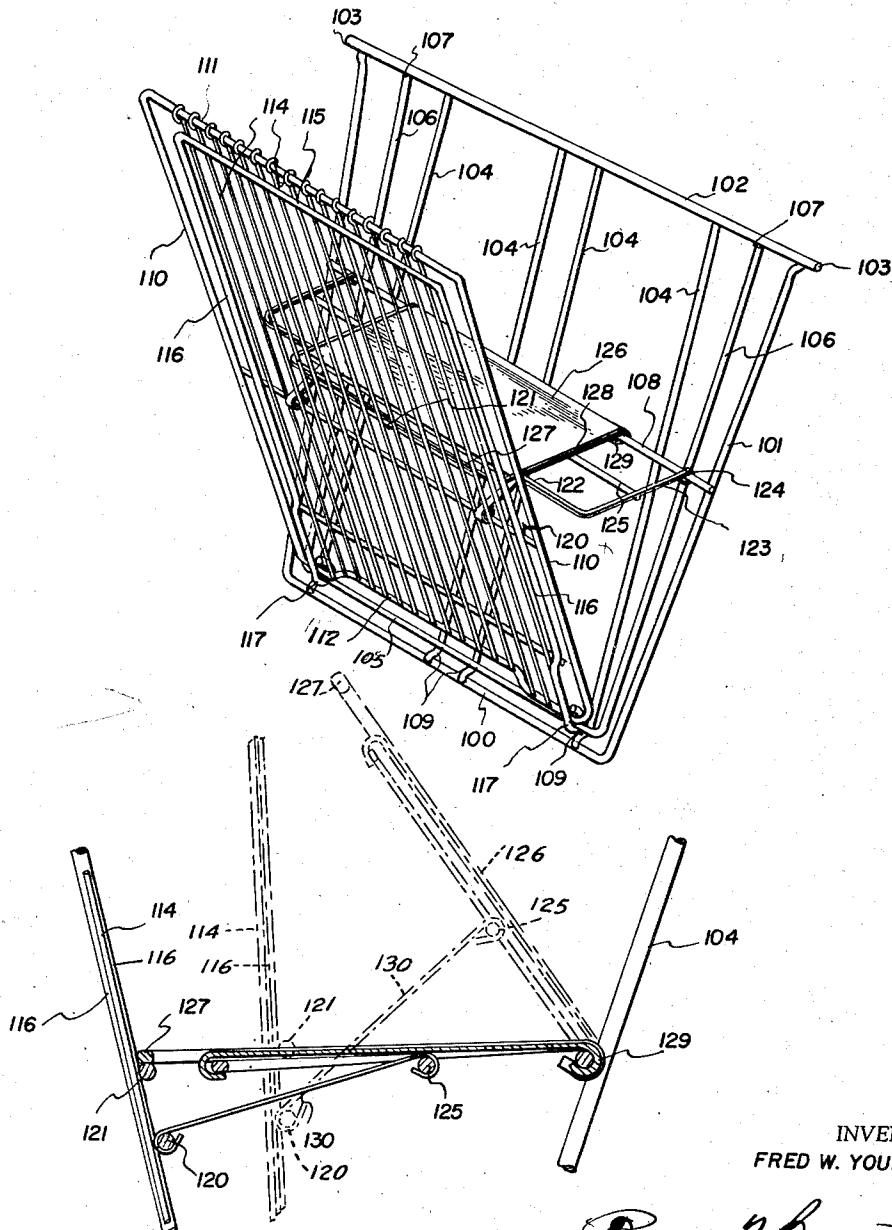


FIG. 2.

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2 Sheets-Sheet 2

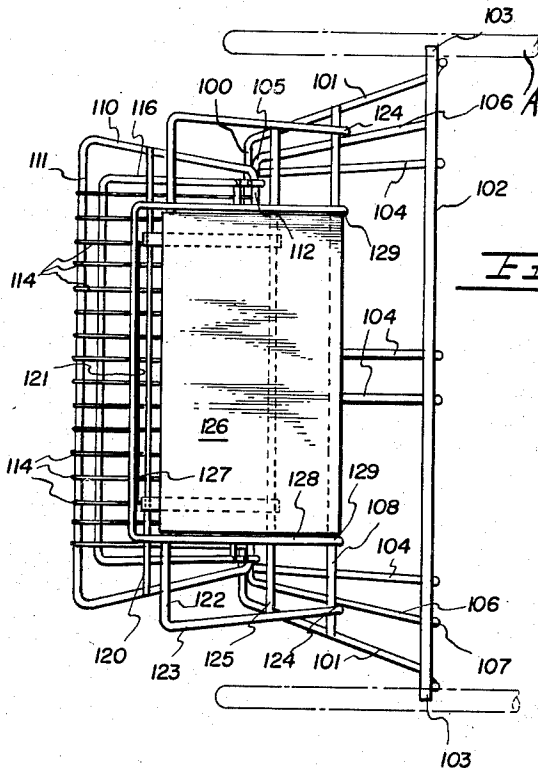


FIG. 3.

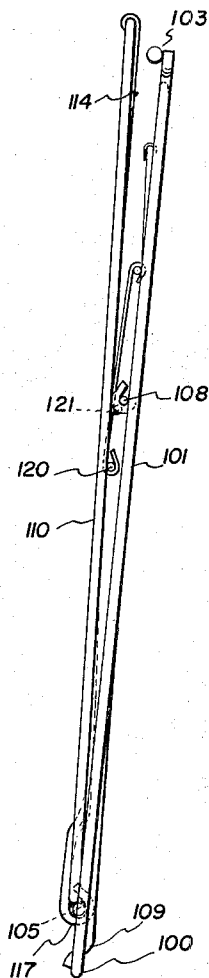
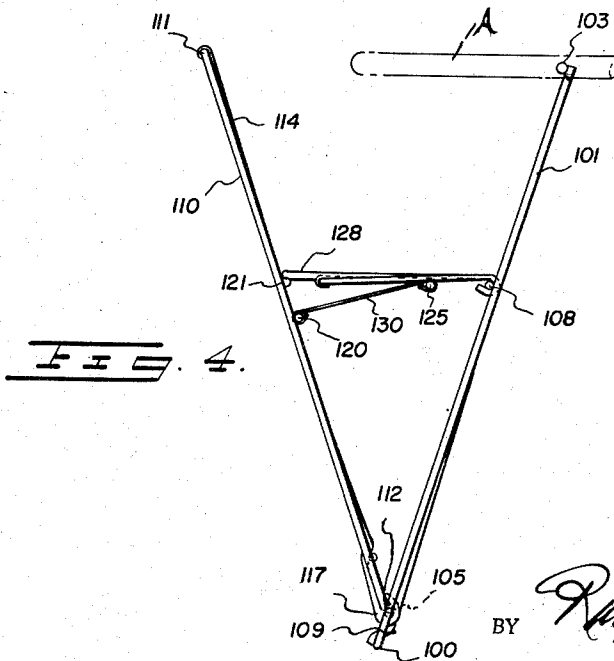


FIG. 5.



1

2,769,645

COLLAPSING SEAT FOR NESTING CARRIERS

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6 Claims. (Cl. 280—33.99)

This invention relates to improvements in my prior application Serial No. 421,622, filed April 7, 1954.

As in my prior application Serial No. 421,622, the present invention contemplates the provision of a folding child's seat to be mounted on the swinging gate of a nesting carrier, the construction and arrangement of the folding seat being such as to function when in folded or unfolded position to close leg apertures in the gate.

Another object of the invention is to provide a folding child's seat structure which can be moved from open to closed position to collapsed position with the least possible resistance resulting from frictional engagement between the cooperating moving parts, whereby the seat structure can be operated with the least possible effort by engagement with the swinging back panel at any point in the panel structure.

In the prior art, associated links and other elements have been utilized which tend to become distorted and to bind when shifting the seat position. In the present development there are no inter-engaging links between the relatively moving parts, such parts merely being provided with hinges and the seat structure being free and independent insofar as frictional engagement is concerned.

Further objects of the invention will more clearly hereinafter appear by reference to the drawings forming a part of the instant application, wherein like characters of reference designate the corresponding parts throughout the several views, in which:

Fig. 1 is a perspective view showing the seat in open position;

Fig. 2 is a transverse section through the seat body;

Fig. 3 is a top plan view with the seat structure in open position;

Fig. 4 is a side elevation with the seat structure in open position; and

Fig. 5 is a side elevation showing the seat in closed position.

In the present invention a swinging gate is shown as comprising an outer frame of U-shaped form, the frame embodying the base 100 and vertical legs 101, the latter being connected to the hinge bar 102. The hinge bar 102 has extremities 103 suitably pivotally mounted in the frame A of the upper rear edge portion of the conventional nesting carrier basket, permitting the gate structure to swing inwardly to facilitate nesting of such devices. Between the base 100 of the outer frame of the gate and the hinge bar 102, a series of vertical stays 104 are provided, these vertical stays 104 being so spaced as to provide relatively wide portions to permit a child's legs to extend freely therebetween, while at the same time including center portions to prevent the child from sliding from the seat.

A second U-shaped frame having a base 105 and vertical legs 106 is welded to the inner face of the vertical stays 104 near their bottom faces and extending upwardly for fixed connection with the hinge bar 102, as shown at 107. Medially of the hinged gate assembly is the transverse stay 108 which normally is fixed as by welding to the con-

2

tacting parts, whereby this transverse stay is held rigidly and braces the gate structure. It will be noted that the vertical stays 104 are offset at their lower extremities as at 109 to provide for the flush arrangement of the base 105 of the inner U-shaped frame. To the base 105 of the inner frame is hinged a mesh panel provided by an outer rectangular frame formed of vertical side frame members 110, top connecting frame member 111 and lower horizontal connecting member 112, the latter for a substantial portion of its length being offset upwardly to reduce the area of contact between the hinged parts. A multiplicity of vertical stays 114 connect the upper horizontal frame member 111 and the lower horizontal frame member 112, the construction and arrangement of these vertical stays being such as to prevent the passage of parcels which may be contained in the basket through the leg apertures of the gate assembly. An inverted U-shaped frame member has its base 115 welded to the stays 114 adjacent their upper connections with the frame member 111 and leg members 116, the latter having their ends offset to form loops 117 which are wrapped about the base 105 of the inner frame of the gate to hingedly support the panel and to permit it to swing freely thereon toward and away from the gate structure.

The inner face of the seat panel is provided with a transverse brace element 120 welded at points of intersection with the stays 114, this brace element being generally medially of the vertical length of the gate panel. Above this transverse brace 120 is a top bar 121 upon which the seat normally rests.

The seat embodies an elongated frame including an outer U-shaped main frame member having a base 122 and arms 123, the latter terminating in hooks 124 which hingedly engage the transverse brace bar 108 of the gate structure. Extending lengthwise of this main seat frame 122—123 is a medial rod-like support 125 which is welded at its extremities to the arms 123 of the outside frame substantially medially of their length. A second U-shaped frame member is provided for supporting the seat plate 126, this frame including a base element 127 and arms 128, the latter terminating in hooks 129 which hingedly engage the transverse brace 108 of the gate frame. The seat panel may be of any material such as sheet metal or the like and may be protected by a coating or cover as desired. Links 130 terminate in hooks which pivotally connect the medial seat brace 125 with the transverse brace 120 of the seat panel to act as operating links to move the seat panel toward the hinged gate when the seat is swung vertically on its hinge connections 124 and 129, the link being of such length and the parts being so relatively arranged as to provide the swinging and folding function for the associated parts. The base 127 of the inner seat frame rests freely upon the supporting bar 121 and provides the necessary support for sustaining the load which may be placed upon the seat structure.

From the foregoing structure it will be apparent that the links 130 limit the amount of hinged movement of the panel 111 on its hinges 117, so that the base 127 of the seat will normally rest upon the cross bar or tie rod 121. Other than this link connection the seat is free to swing upwardly on its hinges 129 to the position shown in Fig. 5 and the movement of the freely swinging seat 126, by virtue of the link connections 130, carries with it the panel structure 114—115. The parts are freely moving so that the seat may be normally in closed position as in Fig. 5 and will not interfere with the basket or cart. By the arrangement shown it is not necessary to move the panel to collapsed position with respect to the gate by manipulation of any specific element or elements, the parts as heretofore stated, being freely swinging on their hinges at 117 and controlled by the links 130. By having the cross bar 112 offset, the contacting area of this cross bar 112 with

3

the base element 105 is restricted to a minimum, thus reducing friction and interference of movement of the associated parts.

It will be noted that the link 130 has fixed pivots at 120 and 125 so that the base 127 has a fixed position with respect to the gate 104 and the panel 114. Due to this arrangement, the base 127 can never be closer to the panel 114 than its initial position on the stop 121. In the drawing, the base 127 is shown slightly spaced from the panel 114 when in its horizontal position, although this is immaterial because even should the base 127 in this position touch the panel 114 it would, upon movement of the panel, swing in its arc on its pivot 129 away from the panel due to the rigid link 130 connecting the seat to the panel. This structure prevents any sliding engagement between the seat and the panel and thus eliminates unnecessary friction between the parts which eventually would cause wear at the engaging faces and produce roughened surfaces interfering with the smooth and even operation of the device.

What I claim is:

1. In a folding seat structure for use in a nesting carrier, said seat structure including in combination with a swinging gate, a panel structure forming a seat back swingably hinged to the base portion of the gate, a seat hinged to a medial portion of the gate structure for movement from an upper position against the gate to a horizontal seating position, a stop member fixed to the panel structure for supporting the seat when in horizontal seating position, and hinged link means pivotally connected to the under side of the seat and pivotally connected to the panel structure at a point below the stop member for moving said seat on its hinges.

2. The structure of claim 1 characterized in that the panel is connected to the gate frame by loops and the base of the panel is provided with spaced bearing areas engaging the base of a gate U-frame.

3. The structure of claim 1 characterized in that the seat structure includes a pair of superimposed U-frames

4

rigidly fixed at their points of intersection, the extremities of the U-frames being looped about a portion of the gate to provide aligned hinges for the parts.

4. The structure of claim 1 characterized in that the links connecting the seat and the gate are of such a length as to provide for the movement of the seat panel to a position overlying the gate frame.

5. The structure of claim 1 characterized in that the stop means comprises a transverse bar fixed to the swinging panel above the adjacent end of the hinged link.

6. In a folding seat structure for use in a nesting carrier, said seat structure including in combination with a swinging gate formed with leg openings, a panel structure forming a seat back swingably hinged to the base portion of the gate, a seat hinged to a medial portion of the gate structure for movement from an upper position against the gate closing said leg openings to a horizontal seating position, a stop member fixed to the panel structure for supporting the seat when in horizontal seating position, and link means extending between the panel and the seat, said link means being pivotally connected to the panel below the stop member and being pivotally connected to the seat inward of its free edge, the pivotal connections at the ends of the link means being free from play to retain the associated parts against relative movement except as defined by the linkage.

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