

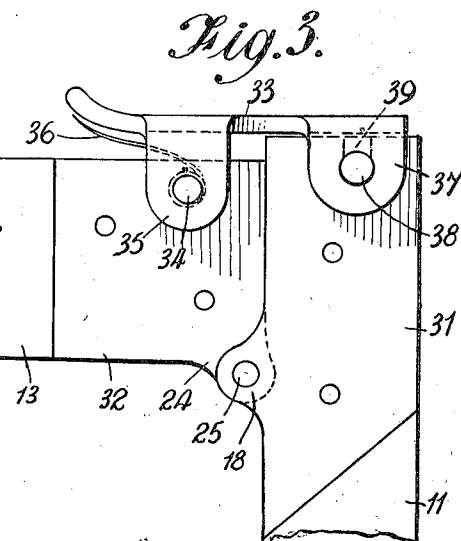
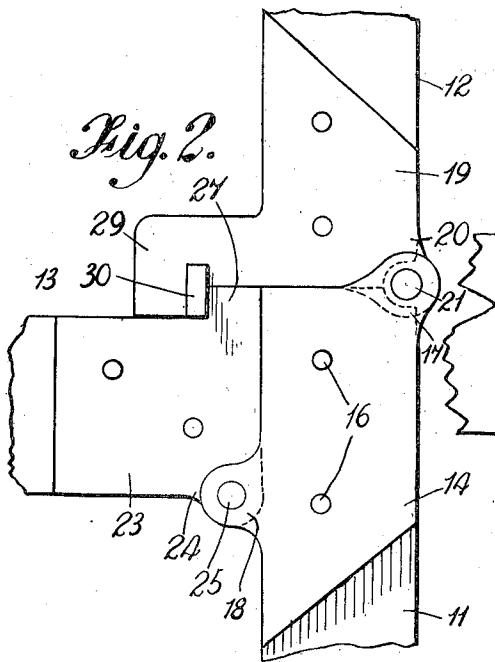
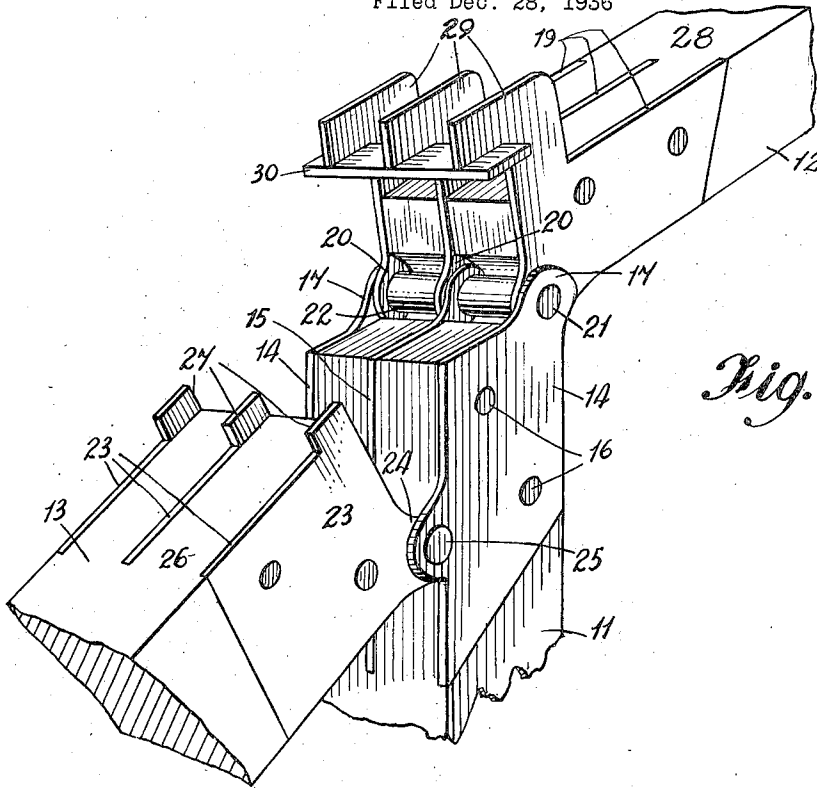
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2,108,774

HINGE

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HINGE

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3 Claims. (Cl. 287—99)

This invention relates to hinges which, though they may have a wide range of application, have been more particularly designed for use in folding furniture and the like, where it is necessary that when erected, the furniture shall be securely held against collapse and shall not be capable of "wobble".

An object of this invention is to provide an improved manner of locking a hinge in what will be called its "erected" position.

In accordance with this invention a hinge for joining together at their ends two bars adapted to be collapsed to lie adjacent and parallel with one another and to be erected into a limiting perpendicular position, in which position the end face of one bar is substantially contiguous with the outer edge face of the other, is characterized in that in the erected position the bars are held against dislodgment by a transverse catch-piece pivoted on one of said faces about an axis parallel with the hinge and engaging a shoulder or the like on the other face.

In accordance with a further feature of the invention, in a hinge for joining together at their ends three bars which are adapted to be collapsed to lie adjacent and parallel with one another and to be erected into a position in which one bar stands perpendicular to the other bars, which are in alignment, the bar that is adapted to be erected into the perpendicular is positively held against dislodgment when in that position by a catch piece on one of the other bars.

The invention will be described with reference to the accompanying drawing, wherein

Figure 1 is a perspective view of a hinge according to the invention, adapted to connect three rods or bars at their ends;

Figure 2 is a side elevation of the embodiment shown in Figure 1; and

Figure 3 is a side elevation of a hinge for two rods or bars.

Referring to Figures 1 and 2, it will be seen that to the end of a bar 11 are pivotally connected the ends of bars 12 and 13 of similar cross-section, in such a manner that the three bars can be folded into a "collapsed" position in which they lie adjacent to and parallel with one another, or can be arranged in an "erected" position in which the bars 11 and 12 are in alignment and the bar 13 stands out at right angles to them and is prevented from passing beyond this limiting position by contact of the end face of bar 13 against the inner edge face of bar 11. Such an arrangement is useful, for example, in folding

tudinal side members, the bar 12 one of the side members of the head rest, and the bar 13 a leg.

The end of the member 11 is cut away on its opposite sides to receive side plates 14, which lie flush with the side faces of the bar, and is also cut away in the middle to receive a reinforcing plate 15 similar to the plates 14, rivets 16 passing completely through the bar and the plates to secure the plates in position. The plates have a size and outline substantially the same as the end of the bar with which they are associated, but at one corner of the bar 11, and on one of the edges, a short distance from the end, are formed ears 17 and 18 respectively.

On the end of the bar 12, are arranged similarly to the plates 14 and 15, three plates 19 which have ears 20 shaped at the corner of the bar adjacent the ears 17. Passing through the ears 17 and 20 is a hinge-pin 21 conveniently fixed against dislodgment as by peening; while intermediate the plates are disposed spacing collars 22 on the pin 21.

Similarly plates 23 on the end of the bar 13 are formed with ears 24, and have pivotal connection with the plates 14, 15 by a hinge-pin 25 passing through ears 18 and 24.

Projecting outwardly from the edge 26 of the bar 13 are lugs 27 formed integral with the plates 23. Similarly from the edge 28 of the bar 12 project L-shaped portions 29, across which is rigidly fixed a catch piece 30 as by being forced into an under cut or slot.

Referring to Figure 2 it will be seen that when the bars are disposed in their erected position, the bar 13 is positively held in place by the engagement between the catch piece 30 and the lugs 27. The assembly is usually so arranged that the bar 12 is held in place by the forces resulting from the use; for instance where, as previously suggested, the bars 11 and 12 are the side members, and the bar 13 a leg, of a bed, the weight of the occupant will urge the head-rest bar 12 in an anti-clockwise direction as shown in Figure 2. In this connection it may be noted that the rearward ends of the plates 14 and 19 are mitred as shown thus adding strength to the joint between the plates and the bar.

Referring now to the embodiment shown in Figure 3, in this case the bar 12 has been eliminated and accordingly plates 31 replace plates 14 on the end of bar 11, and plates 23 on bar 13 are substituted by plates 32. As before, however, ears 18 and 24 are formed on the plates, and are pivotally interconnected by hinge pin 25.

In order to retain the elements in the erected

position, a spring catch member 33 is pivotally mounted upon bar 13 as by means of a bolt 34 passing through the bar or its plates and also through the lugs 35 formed on the catch member. A spring 36 constantly urges the catch member in a clockwise direction, while at the forward end the member overlaps the end of the bar and is formed with a second pair of lugs 37 connected by a transverse catch-piece in the form of a fixed rod 38. The plates 31 have a groove 39 cut therein, and with this groove the rod 38 engages as shown, to retain the bars 11 and 13 in the erected position. The groove 39 may extend into the end surface of the bar 11.

It will be understood that the invention is not limited to the embodiments illustrated but may take other forms, and that a hinge constructed in accordance with this invention will have a wide variety of applications, not limited to folding furniture.

What I claim is:—

1. A hinge for joining together at their ends three bars, two of which are pivoted on the third and are adapted to be collapsed to lie adjacent and parallel with the third along opposite edges thereof, and are adapted to be erected, one by a movement through two right angles into alignment with the third bar, and the second by a movement through one right angle into perpendicularity with the third bar, comprising in combination, side plates and reinforcing plates fixed in parallel in the ends of the bars and having projecting ears, hinge pins passing through co-operating ears on the plates of the first and third bars, and of the second and third, and a

transverse catch-piece carried by the plates of the first bar and engaging behind lugs on the plates of the second bar.

2. A hinge for joining together at their ends three bars, two of which are pivoted on the third and are adapted to be collapsed to lie adjacent and parallel with the third along opposite edges thereof, and are adapted to be erected, one by a movement through two right angles into alignment with the third bar, and the second by a movement through one right angle into perpendicularity with the third bar, comprising in combination, side plates and reinforcing plates fixed in parallel in the ends of the bars and having projecting ears, hinge pins passing through co-operating ears on the plates of the first and third bars, and of the second and third, and a transverse catch-piece carried by L-shaped extensions on the plates of the first bar and engaging behind lugs on the plates of the second bar.

3. A hinge for joining together at their ends three bars, two of which are pivoted on the third and are adapted to be collapsed to lie adjacent and parallel with the third along opposite edges thereof, and are adapted to be erected, one by a movement through two right angles into alignment with the third bar, and the second by a movement through one right angle into perpendicularity with the third bar, comprising in combination, side plates and reinforcing plates fixed in parallel in the ends of the bars and having projecting ears, and hinge pins passing through co-operating ears on the plates of the first and third bars, and of the second and third.

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