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FOLDING ARTICLE OF FURNITURE

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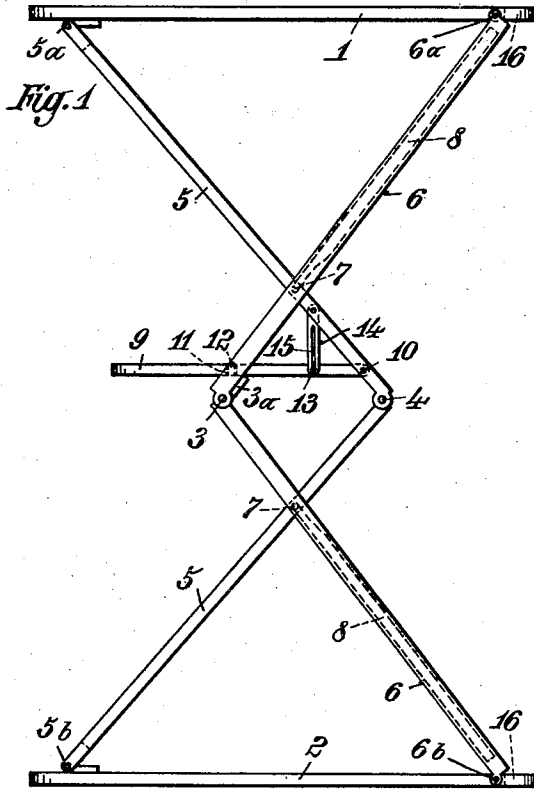
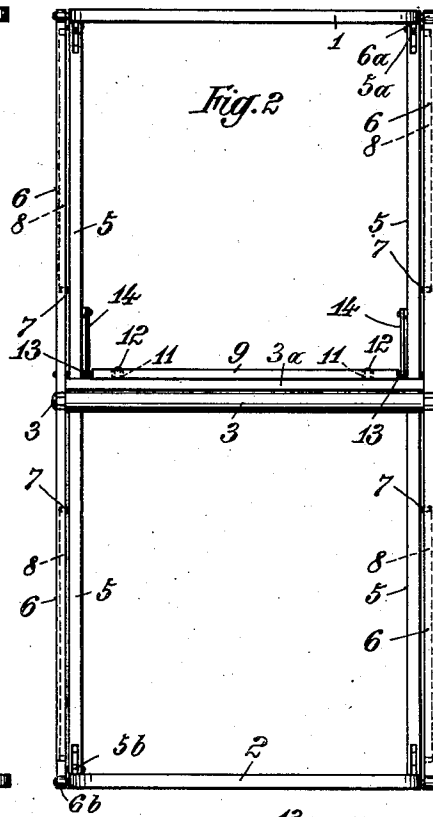
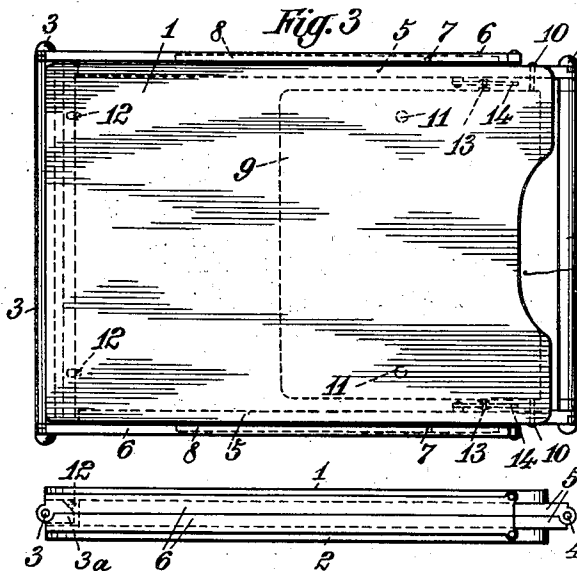
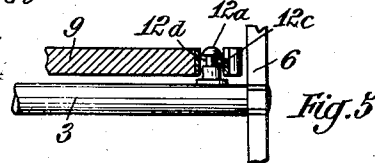
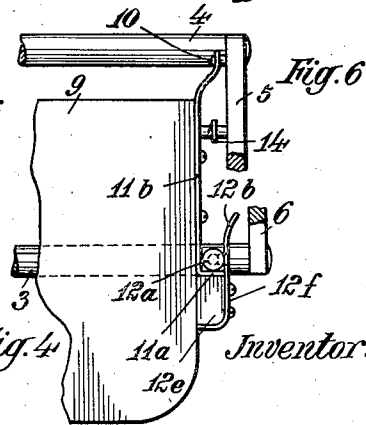


Fig. 4

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FOLDING ARTICLE OF FURNITURE

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6 Claims. (Cl. 311-83)

My invention relates to folding articles of furniture, such as a folding table which may be used by travellers, pathfinders, sporting people, etc.

It is an object of my invention to provide an article, and particularly a table, which is readily portable, handy, easily erected and as easily folded, and stable in erected condition, so that it will not collapse under the influence of shocks and vibrations.

The aforesaid properties have never been combined in the articles as designed heretofore.

With the object of my invention in mind, I provide a top and a bottom member in combination with four frames, each with a pair of parallel legs. Each frame is pivoted to one of the members at one end while its other end is pivoted to that frame which is pivoted to the other member in the corresponding position. Consider, by way of example, the frame which is pivoted to the top plate at the right. This frame which has two parallel legs, is pivoted at its free end to the free end of the frame which at its other end is pivoted to the bottom plate. The frames which are pivoted to the top and bottom plates at the left, are similarly connected so that the frames pivoted to opposite sides of the same member or plate, are arranged crosswise. A locking member which may be a third plate, is pivoted to one of the frames at one end and adapted to be anchored to that frame which extends crosswise to the frame to which the locking member is pivoted.

In the accompanying drawing, a folding table embodying my invention is illustrated diagrammatically by way of example.

In the drawing

Fig. 1 is a side elevation, and

Fig. 2 is an end elevation of the erected table,

Fig. 3 is a plan view, and

Fig. 4 is an elevation of the folded table,

Fig. 5 is a fragmentary sectional elevation of a modification, and

Fig. 6 is a sectional plan view of Fig. 5.

Referring now to the drawing, and first to Figs. 1 to 4, the table has a top plate 1 and a bottom plate 2. The two plates are connected by four frames each having a pair of parallel legs 5 or 6. The frames 5, 5 and 6, 6 are pivoted to the top plate 1 at 5a and 6a, and to the bottom plate 2 at 5b and 6b. Their inner ends are pivotally connected by cross bars 3 and 4.

It will appear that, as explained above, the frame 6, 6 which is pivoted to the top plate 1 at the right, at 6a, and to the corresponding

frame at 3, crosses with the frame 5, 5 which is pivoted to the top plate 1 at the left, at 5a, and to the corresponding frame at 4.

Where two of the legs cross, means are provided for guiding them with respect to each other and for limiting the height of the erected table. One of the legs, in the present instance the leg 5, has a pin 7 which engages in a slot or groove 8 of the other leg 6. When the table is erected the pins 7 bear on the ends of the slots or grooves 8 so that the relative angular movement of the legs, and thereby the height of the erected table, is limited.

Means must be provided for locking the erected table against collapsing. The locking member is a plate 9 which is pivoted to the legs 5, 5 of the upper frame at 10 and has holes 11 for the reception of bolts 12 on a rib 3a of the transverse bar 3. The locking member might also be anchored directly on the bar 3.

14 are links which are pivoted to the legs 5, 5 to which the locking member 9 is pivoted at 10, and 15 are slots in the links which engage pins 13 on the locking member 9, so that the pins and links will not interfere with the folding of the table.

The locking member is preferably designed as a plate so that articles may be placed on it but it might also be a frame, or of any other design. The base plate 2 may also serve for the reception of articles but it need not be a plate either.

By designing a folding table in the manner described, with only two frames pivoted to each plate 1 and 2, permits attaining the usual height of the table while making the legs 5, 6 of the frames so short that they do not project beyond the plates 1 and 2 when the table is folded, as shown in Figs. 3 and 4.

One of the transverse bars may serve as a handle for carrying the folded table. In the example illustrated in Fig. 4, the bar 4 is the handle, and the plates 1, 2 and 9 are cut away at 16 to make room for the hand. Obviously, the bar 4 might be crooked for the same purpose.

Referring now to Figs. 5 and 6, the rib 3a on the transverse bar 3 is dispensed with and the bolts 12a are secured directly on the transverse bar 3, and equipped with annular grooves 12d. The plate or locking member 9 is without the holes 11 and instead is equipped with spring catches. 11b are rails at the sides of the plate 9 which are perforated for the reception of the pins 10 at their inner ends, and bent over at right angles at their outer ends 11a for engaging the bolts 12a. 12e are blocks at the sides of the plate

9 and 12b are springs which are secured to the blocks 12e by screws 12f and engage the grooves 12d in the bolts 12a by means of projections 12c. Only one of the bolts 12a and its catch are shown in Figs. 5 and 6 but it is understood that the members are duplicated at the other side of the plate 9.

The projections 12c prevent lifting of the plate 9. When it is desired to lift the plate the springs 12b are pressed to move the projections 12c out of the grooves 12d of the bolts 12a. When the table is erected the springs are forced aside by the rounded heads of the bolts 12a whereupon they automatically engage the grooves 12d.

For erecting the table the top plate 1 is held and the base plate 2 will now fall down until the pins 7 of the legs 5 engage the ends of the grooves 8 in the legs 6. By means of the links 14 the locking member 9 enters the space between the upper pin 7 and the bar 3, engaging the bolts 12 or 12a with its holes 11 or spring catches 12b, 12c, as the case may be, and holding the table in its erected position by preventing the bars 3 and 4 from moving apart. To fold the table the locking plate 9 is thrown out of engagement with the bolts 12 or 12a and a slight pressure is exerted on the top plate 1. The table now collapses and is ready to be carried by the bar 4, or to be stowed away in a trunk, a handbag, etc.

My novel table is particularly suitable for serving railway passengers. The automatic locking of the table by the plate 9 permits serving dishes on the folded table as on a tray, and to erect the table before the passenger so that the dishes, glasses, etc., are presented to him. Things that are not wanted on the top plate 1, such as empty bottles and the like, may be placed on the locking plate 9 and/or the bottom plate 2.

I claim:

1. In a folding article of furniture, a top and a bottom member, four frames each including a pair of parallel legs, each frame being pivoted to one of said members at one end, and to the frame which is pivoted to the other member in the corresponding position, at the other end, so that the frames pivoted to the same member cross, an automatic locking member pivoted to one of said frames, and anchoring means for said member on the crossing frame.

2. In a folding table, a top and a bottom plate, four frames each including a pair of parallel legs, each frame being pivoted to one of said plates at one end, and to the frame which is pivoted to

the other plate in the corresponding position, at the other end, so that the frames pivoted to the same plate cross, an automatic locking member pivoted to one of said frames, and anchoring means for said member on the crossing frame.

3. In a folding article of furniture, a top and a bottom member, four frames each including a pair of parallel legs, each frame being pivoted to one of said members at one end, and to the frame which is pivoted to the other member in the corresponding position, at the other end, so that the frames pivoted to the same member cross, means operatively connecting said frames at the crossing points for limiting the relative angular displacement of said frames, an automatic locking member pivoted to one of said frames, and anchoring means for said locking member on the crossing frame.

4. In a folding article of furniture, a top and a bottom member, four frames each including a pair of parallel legs, each frame being pivoted to one of said members at one end, and to the frame which is pivoted to the other member in the corresponding position, at the other end, so that the frames pivoted to the same member cross, an automatic locking member pivoted to one of said frames, a link, also pivoted on this frame, for guiding said locking member, and anchoring means for said locking member on the crossing frame.

5. In a folding article of furniture, a top and a bottom member, four frames each including a pair of parallel legs, each frame being pivoted to one of said members at one end, and to the frame which is pivoted to the other member in the corresponding position, at the other end, so that the frames pivoted to the same members cross, a transverse bar forming part of the pivotal connection of the other ends of said frames and adapted to serve as a handle, an automatic locking member pivoted to one of said frames, and anchoring means for said member on the crossing frame.

6. A folding table comprising a top plate, a bottom plate, four frames arranged as crossed legs and connected to the plates, a locking member connected to the frames, and a sliding connection between each pair of crossing frames for controlling and limiting the movements of the same.

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