

April 17, 1956

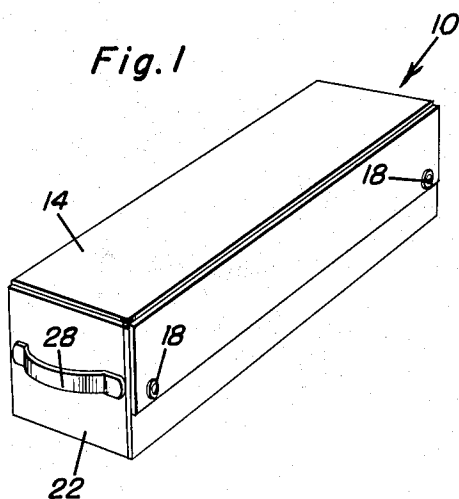
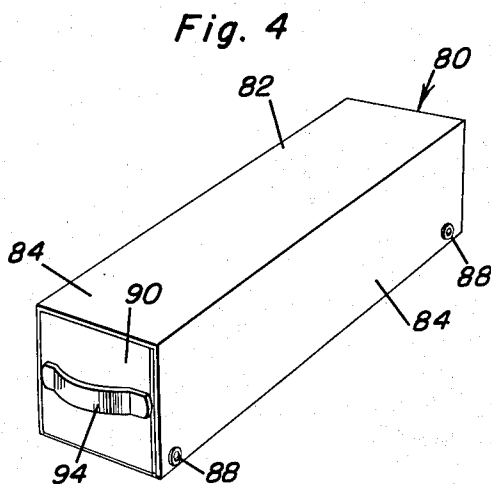
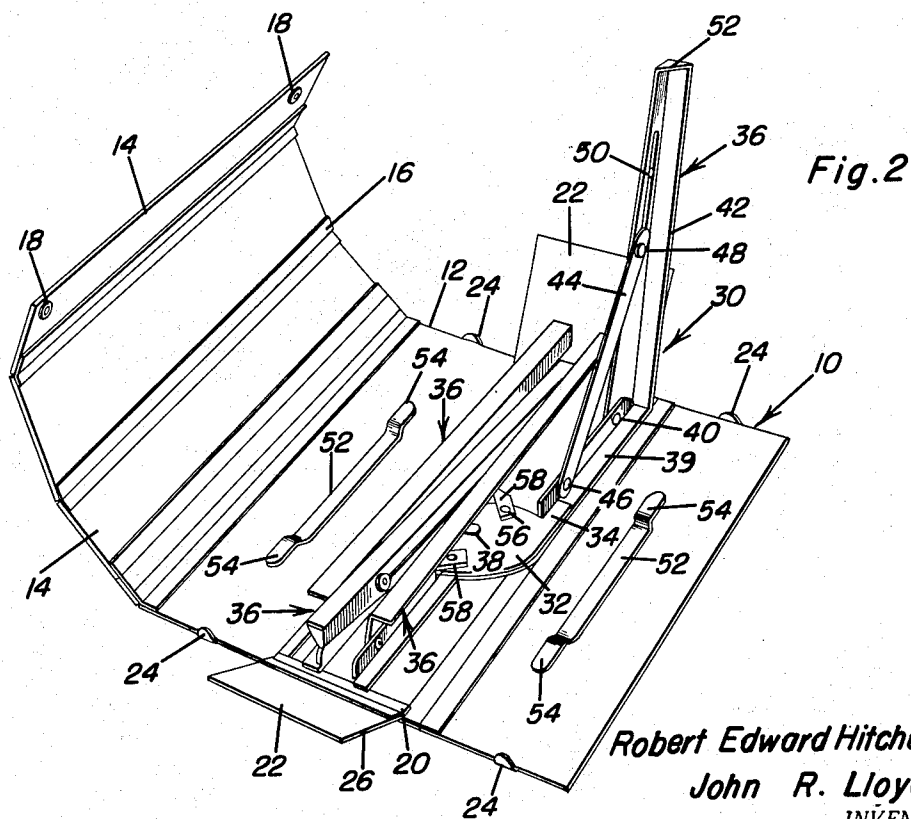
R. E. HITCHCOCK ET AL

2,742,335

PORTABLE FOLDING FURNITURE ASSEMBLY

Filed July 8, 1953

3 Sheets-Sheet 1



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Fig. 5

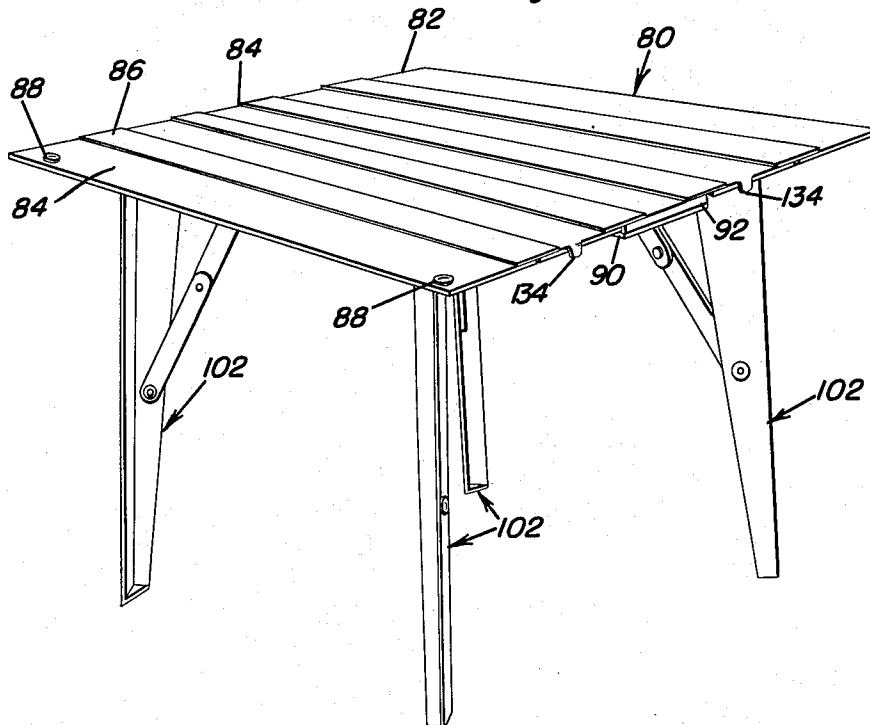
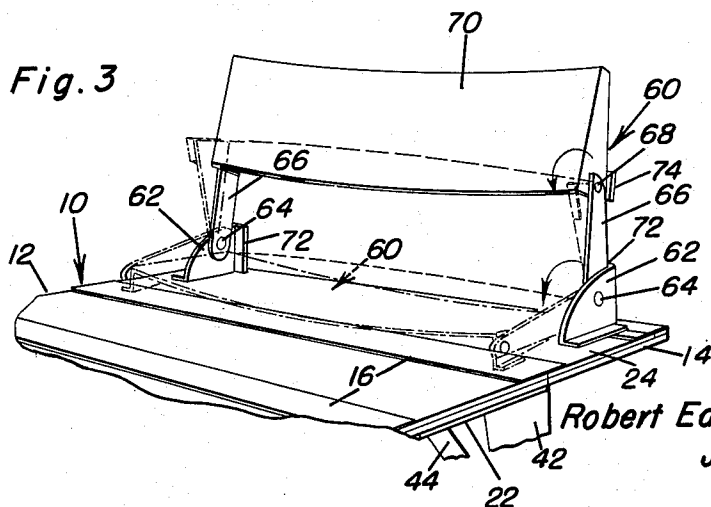


Fig. 3



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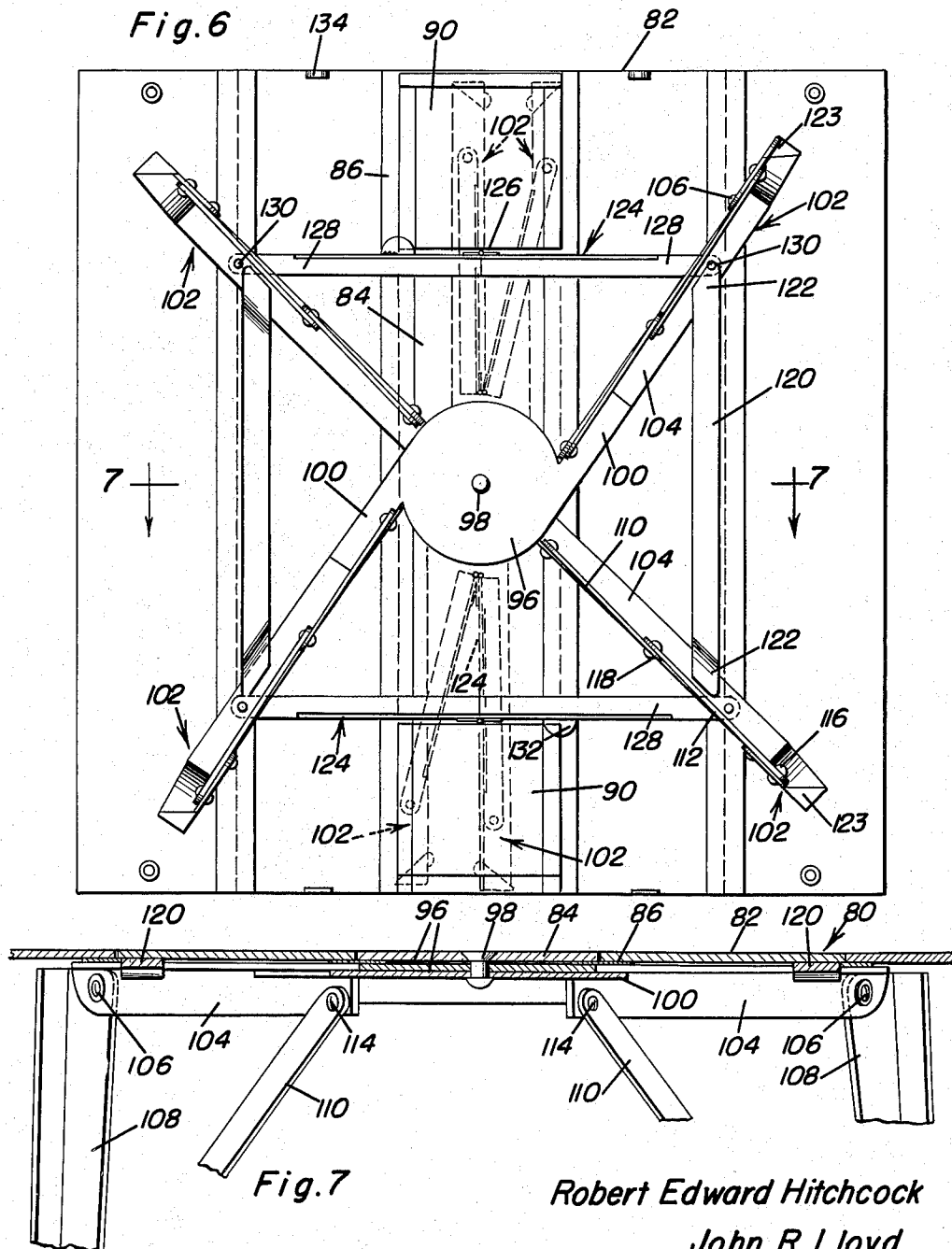
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PORTABLE FOLDING FURNITURE ASSEMBLY

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3 Sheets-Sheet 3



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2,742,335

PORTABLE FOLDING FURNITURE ASSEMBLY

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2 Claims. (Cl. 311—90)

This invention relates in general to improvements in folding supports, and more specifically to an improved portable folding furniture assembly which may be utilized either as a chair or as a table.

The primary object of this invention is to provide an improved folding support which may be either in the form of a chair or a table, said folding support being of such a nature whereby it may be conveniently folded to have the shape of an easily carried container and which may be selectively unfolded to form a flat supporting surface having depending legs supporting the same in an elevated position.

Another object of this invention is to provide an improved folding support which includes a supporting surface and supporting legs, the supporting legs being pivotally carried by the underside of the supporting surface for selective movement into and out of supporting positions, the individual supporting legs being foldable whereby the supporting legs may be positioned in side-by-side relation.

Another object of this invention is to provide an improved folding support which includes a supporting surface foldable into a container, the supporting surface having hingedly secured thereto flaps which form the ends of such container and enclose legs of the folding support, at least one of the flaps being provided with a handle whereby the foldable support may be conveniently carried.

A further object of this invention is to provide an improved foldable chair which includes a supporting surface having depending legs, the legs being foldable, said supporting surface also having an upstanding back rest, the back rest being foldable, said supporting surface being foldable to form a container receiving said supporting legs and back rest.

A still further object of this invention is to provide an improved supporting leg arrangement for foldable supports, said folding leg arrangement including supporting elements pivotally secured to the underside of a supporting surface, the supporting elements having rigidly secured thereto a pair of legs, the legs being individually foldable, the supporting elements being independently pivotable whereby the supporting legs may be pivoted and folded so as to be disposed in side-by-side relation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of a preferred form of foldable support and shows the same folded into the shape of a container for ease of transportation;

Figure 2 is a perspective view of the foldable support of Figure 1 in a partially unfolded position, one of the legs thereof being folded to a vertical position;

Figure 3 is a fragmentary perspective view of the upper portion of the foldable support of Figure 1 and shows

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the same in its unfolded state, the supporting surface of the foldable support being provided with a foldable back rest, the folded position of the foldable back rest being shown by dotted lines;

Figure 4 is a perspective view of a modified form of foldable support and shows the same folded into the shape of a container;

Figure 5 is a perspective view of the foldable support of Figure 4 in its unfolded state;

Figure 6 is an enlarged bottom plan view of the foldable support of Figure 4 in its unfolded state and shows the general relationship of the legs thereof, the folded positions of the legs being shown by dotted lines; and

Figure 7 is an enlarged fragmentary sectional view taken substantially upon the plane indicated by the section line 7—7 of Figure 6 and shows the manner in which the legs are pivotally and hingedly mounted.

Referring now to the drawings in detail, it will be seen that there is illustrated in Figures 1 and 2 the preferred form of folding support, the folding support being referred to in general by the reference numeral 10. The folding support 10 includes a supporting surface 12 which is formed by a plurality of individual segments 14 which are connected together in edge abutting relation by tape hinges 16. The segments 14 of the supporting surface 12 are so related whereby they may be conveniently folded to form a container, as is best illustrated in Figure 1. It will be noted that a segment 14 disposed at one edge of the supporting surface 12 is provided with a pair of female snap elements 18 which receive complementary male snap elements (not shown) carried by a segment 14 at an opposite edge of the supporting surface 12 whereby the supporting surface 12 may be retained in a container forming relation.

In order that the container formed by the supporting surface 12 may be of a closed type, there is hingedly connected to an intermediate segment 14 by a tape hinge 20 a pair of flaps 22, the flaps 22 being disposed at opposite ends of the segment. In order that the flaps 22 may be retained in container end forming positions, the segments 14 adjacent the segment to which the flaps 22 are secured are provided with tabs 24. The tabs 24 are received in slits 26 in the edges of the flaps 22 when the supporting surface 12 is in its container forming position. It will be noted that at least one of the flaps 22 is provided with a handle 28 to facilitate carrying of the folding support 10 when it is in its folded state.

In order that the supporting surface 12 of the folding support 10 may be retained in an elevated position, there is secured to the underside thereof a leg structure which is referred to in general by the reference numeral 30. The leg structure 30 includes a pair of superimposed support elements 32 which are pivotally secured to the center of the segment 14 to which the flaps 22 are connected. The support elements 32 are in the form of generally circular disks having integral ears 34. Connected to each of the ears 34 for pivotal movement with its associated support element 32 is a foldable leg which is referred to in general by the reference numeral 36. It will be understood that each pair of foldable legs 36 is rotatable with its associated support element 32 about a pivot pin 38 which pivotally connects the support elements 32 to the supporting surface 12.

Each of the legs 36 includes a horizontal portion 39 which is rigidly connected to its associated ear 34 and projects outwardly therefrom in alignment therewith. Hingedly connected to the outer end of the horizontal portion 39 by a pivot pin 40 is a vertical leg portion 42. Extending between the inner end of the horizontal portion 39 and the vertical leg portion 42 is a hinged brace 44. The brace 44 is hingedly connected to the horizontal portion 39 adjacent its associated ear 34 by a pivot pin 46.

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The opposite end of the hinged brace 44 is provided with a pivot pin 48 which is disposed in an elongated slot 50 in the vertical leg portion 42. The free end of the vertical leg portion 42 is provided with a small foot 52 to facilitate the engagement thereof with a supporting surface, such as the ground or the like.

As is best illustrated in Figure 2, the legs 36 are mounted in pairs secured to the support elements 32. The ears 34 of the support elements 32 are so arranged that the legs 36 have their horizontal portions 39 disposed in parallel offset relation. It will also be noted that the individual legs 36 may be selectively folded. The relationship of the legs 36 and their support elements 32 is such that the legs 36 may be disposed in side-by-side relation with the total width of the legs 36 and the support elements 32 being equal to or slightly less than the width of the segment 14 to which they are connected so that the supporting surface 12 may be conveniently folded to form a container having disposed therein the legs 36.

After the individual legs 36 have been unfolded, each pair of legs 36 is pivoted about the pivot pin 38 so as to be disposed in generally rectangular relationship. In order that the legs 36 may be retained in such relationship, there is provided a stop member 52 secured to each of the segments 14 on opposite sides of the segment to which the legs 36 are connected. The stop member 52 is provided with slightly elevated end portions 54 which receive horizontal portions 38 of associated legs 36. It will be understood that the elevated portions 54 are spaced from the segment 14 to which they are attached a distance whereby there is a frictional fit between the horizontal portion 38 and the elevated portion 54 and the associated surface of the segment 14 to retain the legs 36 in supporting positions.

Hingedly connected to the exposed supporting element 32 by pivot pins 56 are latch members 58. The latch members 58 are so positioned on the supporting element 32 whereby when the supporting element 32 is rotated to properly position the legs 36 carried thereby, the latch members 58 are disposed adjacent the flaps 22 and may overlaid edges thereof to retain them in out-of-the-way positions.

It will be noted that the supporting surface 12 has the segments 14 thereof so arranged that when it is properly folded into an article supporting position, it is of a double thickness. When so arranged, as is best illustrated in Figure 3, the supporting surface may form the top of a table or a seat of a chair, depending on the size of the folding support 10. When the folding support 10 is in the form of a chair, as is best illustrated in Figure 3, the supporting surface 12 is provided with a folding back rest which is referred to in general by the reference numeral 60.

The foldable back rest 60 includes a pair of spaced mounting brackets 62 so secured to the supporting surface 12 so that the same may be disposed at the upper surface thereof adjacent an edge thereof when the same is in an article supporting position. Pivotaly carried by the mounting brackets 62 and secured thereto by pivot pins 64 are links 66. Pivotaly secured to the upper ends of the links 66 by pivot pins 68 is a back rest forming element 70.

It will be noted that the mounting brackets 62 are provided with vertical flanges 72 which are in alignment and which face each other. The vertical flanges 72 engage the rear edges of the links 66 to limit rearward pivoting thereof. It will also be noted that the back rest forming element 70 is provided with a pair of outwardly directed flanges 74 which are intended to engage the back edges of the upper parts of the links 66 so as to limit pivoting of the back rest forming element 70 with respect to the links 66. Due to this relationship, when the back supporting element 70 is in the position illustrated in Figure 3, rearward pivoting thereof is resisted.

When it is desired to fold the back rest 60, the back

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rest forming element 70 is pivoted forwardly in the direction of the uppermost arrow until it is disposed in substantial alignment with the links 66. The links 66 and the back rest forming element 70 are then pivoted in the direction of the lowermost arrow to the dotted line position of Figure 3. It will be understood that the container formed by the supporting surface 12 is of a sufficient size to enclose both the legs 36 and the back rest 60.

It will be understood that the folding support 10 is particularly designed for use in a chair construction, although, as pointed out above, it may be utilized in a table construction or the like. Due to the position of the foldable back rest 60, the folding support 10 must fold into a container of such size as to have a normal size supporting surface 12 for a seat. Accordingly, the supporting surface 12 was enlarged so as to permit the double thickness thereof when in its article forming state. It will be obvious that the supporting surface 12 could have been made thick enough so as not to require the double thickness. However, as pointed out above, it would then have a wrong size for a chair.

Referring now to Figures 4 through 7, inclusive, it will be seen that there is illustrated a folding support which is specifically designed for use as a table. The folding support is referred to in general by the reference numeral 80 and includes a supporting surface 82. The supporting surface 82 is formed of five equal size segments 84 which are hingedly connected together in edge-to-edge relation by tape hinges 86. The segments 84 are intended to be folded so as to form the sides of a container as is best illustrated in Figure 4. It will be noted that the outermost segment 84 is provided with a pair of fasteners 88. The fasteners 88 are of the snap type and are engaged with complementary fasteners (not shown) carried by another of the segments 84.

As is best illustrated in Figures 4, 5 and 6, secured to the centermost of the segments 84 at opposite ends thereof are flaps 90. The flaps 90 are hingedly secured to the centermost segment 84 by tape hinges 92 and form ends of the container illustrated in Figure 4. At least one of the flaps 90 is provided with a handle 94 to facilitate carrying of the folding support 80 when in a folded state.

Referring now to Figure 6 in particular, it will be seen that secured to the underside of the centermost segment 84 in a central position is a pair of superimposed support elements 96. The support elements 96 are pivotally connected to the supporting surface 82 by a centrally located pivot pin 98 and are in the form of generally disk-like members. The supporting elements 96 are provided with ears 100 which are in diametrically opposite relation, the ears also being offset and being in spaced parallel relation. Carried by each of the ears 100 is a leg which is referred to in general by the reference numeral 102.

Each leg 102 includes an upper horizontal portion 104 which is rigidly secured to its associated ear 100 and which forms an extension thereof. Pivotaly connected to the other end of the horizontal portion 104 by a pivot pin 106 is a vertical leg portion 108. The vertical leg portion 108 is braced relative to the horizontal portion 104 by a two-piece brace which includes an upper link 110 and a lower link 112. The upper link has its upper end hingedly connected to the horizontal portion 104 by a pivot pin 114. The lower link 112 has its lower end hingedly connected to a lower part of the vertical leg portion 108 by a pivot pin 116. The links 110 and 112 are hingedly connected together at their opposed ends by a pivot pin 118.

It will be understood that the legs 102 are mounted in pairs on their respective supporting elements 96 and that the same may be disposed in side-by-side relation similar to that shown relative to the legs 36. However, as is best illustrated in dotted lines in Figure 6, when

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the legs 102 are disposed in side-by-side relation, a pair of adjacent legs are moved towards each other on opposite sides of the pivot pin 98 so that while the individual legs 102 are not in alignment, the four legs are not in edge abutting relation.

In order that the legs 102 may be retained in supporting positions, the underside of the supporting surface 82 is provided with a stop member 120. The stop member 120, like the stop member 52, is provided with elevated ends 122. The elevated ends 122 receive the horizontal portions 104 of the legs 102 to retain the same in their supporting positions. In order that the legs 102 may conveniently engage a supporting surface, such as the ground, the lower ends thereof are provided with small feet 123.

In order that the legs 102 may be retained in engagement with the elevated ends 122 of the stop member 120, adjacent legs 102 are connected together by foldable braces which are referred to by the reference numeral 124. The foldable braces 124 include a pair of links which are pivotally connected at their abutting ends by hinges 126. The free ends of the links, which are referred to by the reference numeral 128, are pivotally connected to their associated legs 102 by a pivot pin 130.

It will be noted that the flaps 90 which form the ends of the container of Figure 4 are disposed beneath the supporting surface 82 when not in use. It will also be noted that the flaps 90 are retained in out-of-the-way positions by tabs 132 carried by one link 128 of each foldable brace 124.

Referring now to Figure 6 in particular, it will be seen that the segments 84 disposed on opposite sides of the centermost segment 84 are provided with tabs 134. The tabs 134 are disposed at right angles to the planes of the segments and are intended to be received in slots in adjacent edges of the flaps 90 in the same manner as set forth above relative to the tabs 24. These tabs, when the supporting surface 82 is folded to form a container, retain the flaps 90 in container end forming positions and prevent the same being pulled out due to the weight of the folding support 80 when the folding support is carried by the handle 94.

In view of the foregoing, it will be seen that there has been illustrated and described a pair of suitable folding supports which may be utilized in the formation of chairs and tables which are extremely rigid when in their unfolded state so that they may be utilized by persons either attending parades or in the engagement of other pastimes which may require either a suitable seat or both seats and a table. The folding supports are formed of relatively light materials so that the same may be conveniently handled. Thus, it will be seen that the folding

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supports of this invention are of such a nature whereby they may be readily transported. Due to their relatively small size, the folding supports may be conveniently stored.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. A folding support comprising a supporting surface, supporting legs, said supporting surface being foldable to form a container receiving said supporting legs, said supporting legs being pivotally secured to said supporting surface, said supporting legs being foldable, flaps pivotally carried on an edge of said supporting surface for forming ends of said container, support means on said supporting legs retaining them in a relatively fixed position when the support surface and legs are unfolded, and flap retaining means extending from said support means for overlying said flaps and retaining them in face-to-face engagement with a lower surface portion of said support surface.
2. A folding support comprising a supporting surface, supporting legs, said supporting surface being foldable to form a container receiving said supporting legs, said supporting legs being pivotally secured to said supporting surface, said supporting legs being foldable, flaps pivotally carried on an edge of said supporting surface for forming ends of said container, said flaps including slotted edge portions and said supporting surface including downwardly extending vertical tabs engageable in said slotted edge portions of said flaps for retaining said flaps in container end forming positions.

References Cited in the file of this patent

UNITED STATES PATENTS

1,103,869	Duchez	July 14, 1914
1,236,012	Schmitt	Aug. 7, 1917
1,391,833	Kaiser	Sept. 27, 1921
1,741,576	Lewis	Dec. 31, 1929
2,215,006	Kovats	Sept. 17, 1940
2,389,930	Pendry	Nov. 27, 1945
2,425,370	Giberson	Aug. 12, 1947

FOREIGN PATENTS

197,414	Great Britain	May 14, 1923
275,915	Great Britain	Aug. 18, 1927