Jan. 22, 1957 W. SCHWEIZER 2,778,407

FOLDABLE DECK CHAIR

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Fig. 1

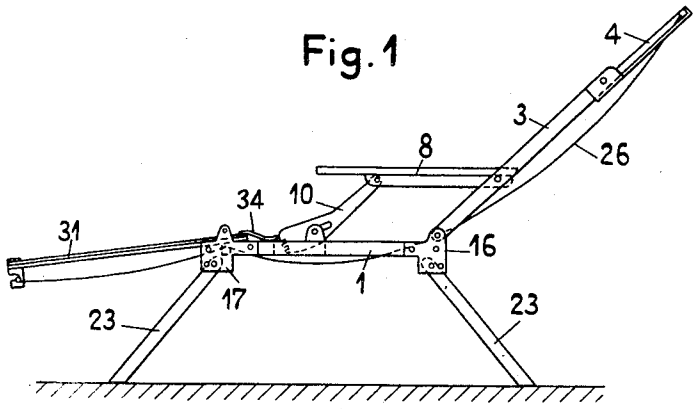
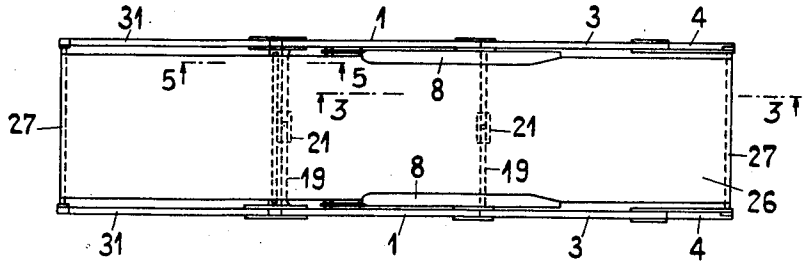


Fig. 2



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Fig.3

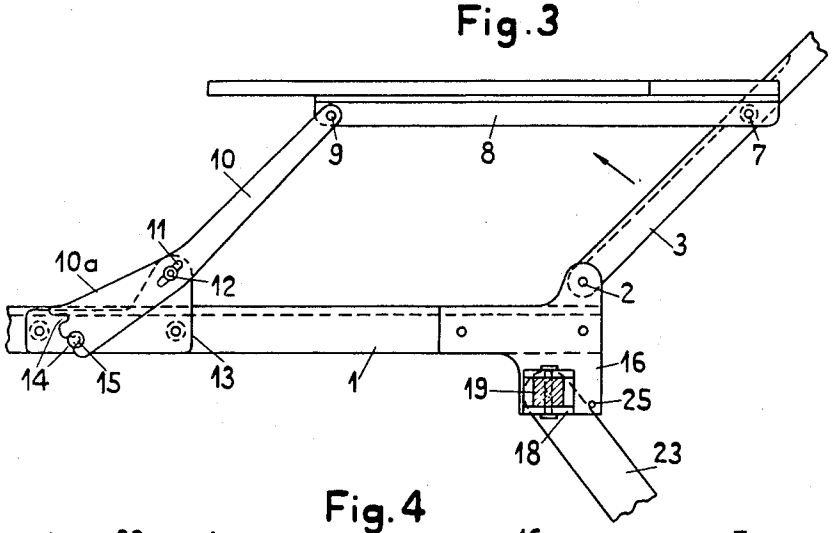


Fig.4

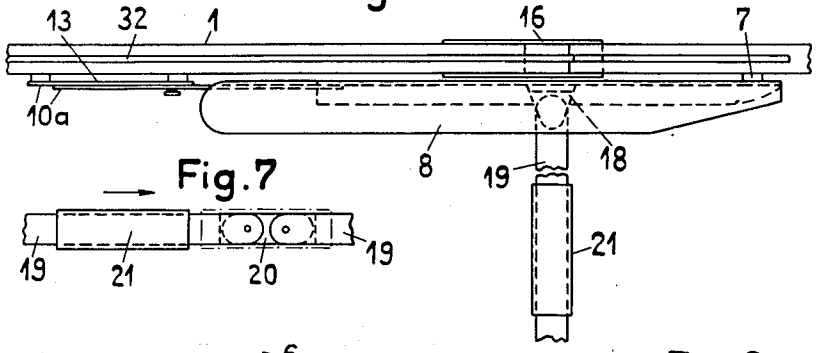


Fig.7

Fig.5

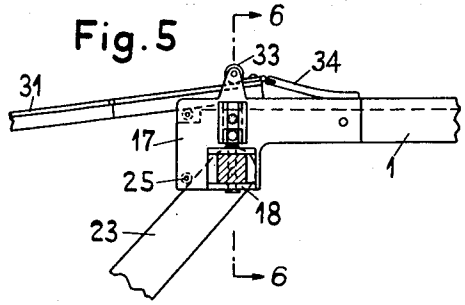
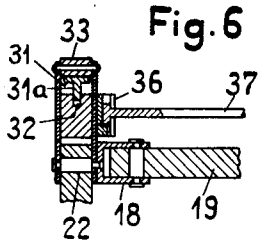


Fig.6



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FOLDABLE DECK CHAIR

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Fig. 8

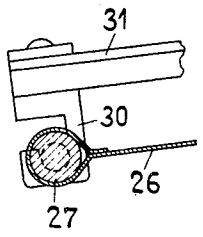


Fig. 9

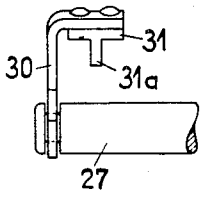


Fig. 10

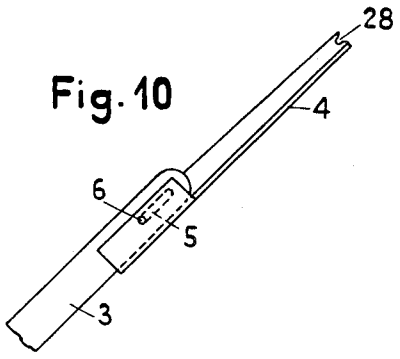
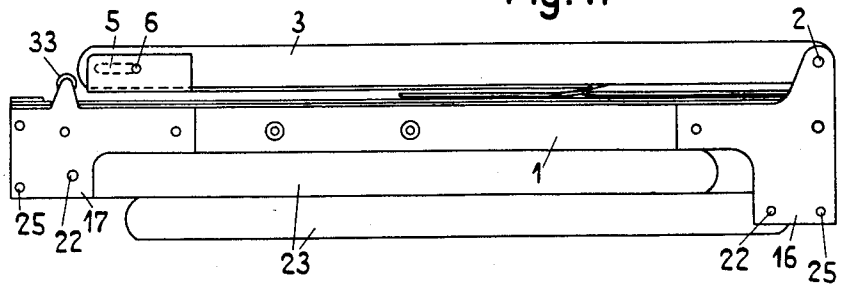


Fig. 11



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FOLDABLE DECK CHAIR

Walter Schweizer, Zurich, Switzerland

Application July 6, 1953, Serial No. 366,328

1 Claim. (Cl. 155—105)

The invention relates to a foldable deck chair of the kind comprising a seat portion, a back rest, four legs, and, if desired, a foot rest.

It is the object of the invention to provide a deck chair of the kind referred to which in the folded condition occupies a minimum of space and can be easily accommodated in a portable bag or casing.

It is another object of the invention to provide a deck chair of the kind referred to which can be readily folded together and erected.

With these and other objects in view I provide a foldable deck chair comprising in combination: two symmetrical frames each consisting of a seat portion, a back rest portion, an arm rest, an arm rest support and four legs all articulated to one another in the plane of the frame, spacing means connecting the said frames with one another, a canvas adapted to be spread betwen the said two frames forming the seat and back rest proper, part of the said seat portion, back rest portion, arm rest and the support thereof of each frame forming an articulated quadrilateral, and arrester means securing the said quadrilateral in the position desired.

The said arm rest supports are preferably arranged shiftable in their own longitudinal direction within predetermined limits and provided at their lower ends with recesses selectively engaging lateral pins on each seat portion and thus forming the said arrester means securing the said quadrilateral in the position desired.

The said spacing means are preferably formed by struts articulated to one another and to each of the said frames, securing means being provided to fix the said struts in their stretched position. A foot rest portion is preferably cantilevered from the seat portions of the frame, and made shiftable in its own longitudinal direction, the said canvas being extended to the said foot rest portions and forming, in addition to forming the seat and back rest proper, the foot rest proper.

These and other objects and features of my invention will become clearly apparent from the following description of a preferred embodiment of my improved deck chair given by way of example with reference to the accompanying drawings, in which:

Fig. 1 shows a deck chair in lateral elevation in the erected position,

Fig. 2 is a plan view to Fig. 1,

Fig. 3 is a section along the line 3—3 of Fig. 2 on a larger scale than Figs. 1 and 2,

Fig. 4 is a plan view to Fig. 3,

Fig. 5 is a section along the line 5—5 of Fig. 2 on the same scale as Figs. 3 and 4,

Fig. 6 is a section along the line 6—6 of Fig. 5,

Figs. 7 to 10 show details on the same scale as Figs. 3 to 6, Figs. 7 and 9 being in front elevation, Figs. 8 and 10 in side elevation, and Fig. 8 partly in section.

Fig. 11 is a lateral elevation of the deck chair in the folded condition, on the same scale as Figs. 3 to 10.

Referring to these drawings, the deck chair consists of two symmetrical frame members which are articulated

with one another. In view of the complete symmetry of these two frame members, it will be sufficient to describe one of them in detail and to refer to the other one merely in order to explain the assembly of the two frame members with one another.

Each frame member comprises a seat portion **1**, to which a back rest portion **3** is articulated by a joint **2** (Fig. 3). The back rest portion is adapted to be extended by a tiltable strut **4** (Fig. 10). Near the upper end of the back rest portion **3** a slot **5** is provided which is engaged by a pin **6**. The latter is fixedly connected to the strut **4** and can be shifted in the slot **5** so far as necessary to be able to tilt the strut **4** about it and to fold the same until it contacts the back rest portion **3**.

An arm rest **8** is articulated about a pin **7** to the back rest portion **3**, and a double-armed lever **10** is articulated to the said arm rest **8** about a pin **9**. The said double-armed lever **10** has a slot **11** (Fig. 3) into which a pin **12** fits. The latter is fixedly mounted on a bracket **13** which is rigidly attached to the seat portion **1** of the frame member. The arm **10***a* of the double-armed lever **10** is provided at its lower end with, say, two recesses **14** which can be engaged at will into a pin **15** fixedly mounted on the seat portion **1**. According to whether one or the other of the said recesses **14** engages the said pin **15**, the oblique position of the back rest portion **3** can be varied. The slot **11** in the double-armed lever **10** allows the same to be moved in its own longitudinal direction within predetermined limits in order to engage and disengage the recesses **14** and the pin **15** with one another.

As will be seen particularly well in Fig. 3, part of the back rest portion **3**, of the seat portion **1**, and of the arm rest **8**, forms with the arm rest support (double-armed lever **10**) an articulated quadrilateral, which can be folded so as to occupy a minimum of space when folding the deck chair.

On downwardly extending lugs **16** (Fig. 3 and Fig. 4) and **17** (Figs. 5 and 11) of brackets fixed to the seat portion **1** U-shaped brackets **18** are attached. In each bracket **18** an arm or strut **19** is pivoted. These struts **19** of the two frame members are pivotally connected to one another by means of a link **20** (Fig. 7). A shiftable sleeve **21**, the length of which exceeds that of the link **20**, can be pushed over the latter whereby the two struts **19** are secured in their stretched position as a rigid whole. The legs **23** of the chair are articulated about rivets **22** provided for the attachment of the brackets **18**. The position of the legs **23** as represented in Figs. 3 and 5 is made possible by the abutment pins **25** provided in the lugs **16** and **17**.

The canvas **26** forming the seat and back rest proper (Figs. 1 and 2) is provided at each end with a seam, into which a rod **27** is inserted. The outer ends of the arms **4** are each provided with a recess **28** (Fig. 10) into which the rod **27** at the upper end of the canvas **26** can be engaged. The lower end of the canvas **26** can be attached by means of its rod **27** into hooks **30** (Figs. 8 and 9) which are provided on the supporting rails **31** of the foot rest. These supporting rails are preferably made of T-profile the web **31***a* of which is guided in a groove **32** of the seat portion **1** of each frame member (Figs. 5 and 6). When not in use, the rails **31** rest along their full length on the seat portions **1** of each frame member. Near the front ends of the latter, rollers **33** are journalled which allow an effortless shifting of the rails **31**. Moreover these rollers **33** hold the foot rest portion in its extended position, as shown in Figs. 1 and 5. Below the rollers **33** a guide **36** is fixed at each seat portion **1**, in which guide a strut **37** is shiftably inserted (Fig. 6) which serves as a support for the canvas **26**. Between the strut **37** and the upper rod **27** the

canvas **26** lies loose, in the usual manner. Retaining means **34** may be provided at the end of rail **31**.

Prior to folding the deck chair as a whole, firstly the two rods **27** are lifted out of their rest at the ends of the arms **4** (Fig. 10) and of the rails **31** (Fig. 1), and the canvas **26** is rolled around one, or both, of them. Then the recesses **14** are disengaged from the pins **15**, and the back rest portions **3** are tilted in the direction of the arrow (Fig. 3) until the same abut on the seat portions **1** (Fig. 11). Moreover firstly the front legs **23** are tilted until they abut on the seat portions **1**, and then the rear legs **23** are folded on top of the folded front legs (Fig. 11). Finally the sleeve **21** is pushed over one of the struts **19**, so that the two frames can be brought into contact with one another by folding the struts **19** about their pivotal connections to the said frame members and to the link **20**. Erection of the deck chair is effected in the inverse sequence.

As will be seen from Fig. 11 the deck chair occupies in its folded condition comparatively very little space, so that it can be easily accommodated in a portable bag or case. Folding and assembling of the deck chair can be carried out in a short time.

While I have described and illustrated what may be considered a typical and particularly useful embodiment of my said invention, I wish it to be understood that I do not limit myself to the particular details and dimensions described and illustrated, for obvious modifications will occur to a person skilled in the art.

What I claim as my invention and desire to secure by Letters Patent is:

A foldable deck chair comprising in combination two symmetrical frame members and a flexible fabric body supporting member which is not directly attached to either of said frame members, each of said frame members comprising a portion adapted to form a side of a back rest part of the unfolded deck chair, a portion adapted to form a side of the seat part of said unfolded chair, two legs, and an arm rest, means for pivotally connecting the two legs adjacent the ends of the seat side part so that, in folding, said legs may be pivoted inwardly to a position below and substantially parallel to the seat forming part, stop means limiting the outward pivotal

movement of said legs, means for pivotally connecting the back rest side part of said frame to the seat side part adjacent one end of the latter so that said back rest side part may be pivoted inwardly to a position above and substantially parallel to said seat side part, means pivotally mounting one end of said arm rest on said back rest side part, adjustable means at the other end of said arm rest for selectively holding the back rest side part in one of at least two positions with respect to said seat side part, at least two collapsible means for holding said two frame members in spaced relation when said chair is in open unfolded position, said flexible fabric body supporting member having a relatively inflexible rod member at each end thereof, means adjacent the top of each of the back rest side parts of the frame members receiving the ends of said inflexible rod member when the chair is in open unfolded position, means adjacent the opposite ends of said chair for receiving the other of said inflexible rod members, said seat side part of each of said frame members comprising a track groove in which a foot rest part is slidably mounted, retaining means comprising a roller extending over said foot rest part to position the said foot rest part with respect to the track groove.

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