April 14, 1942. F. DEAK 2,279,748

COLLAPSIBLE EASY CHAIR

Filed March 28, 1939 3 Sheets-Sheet 1

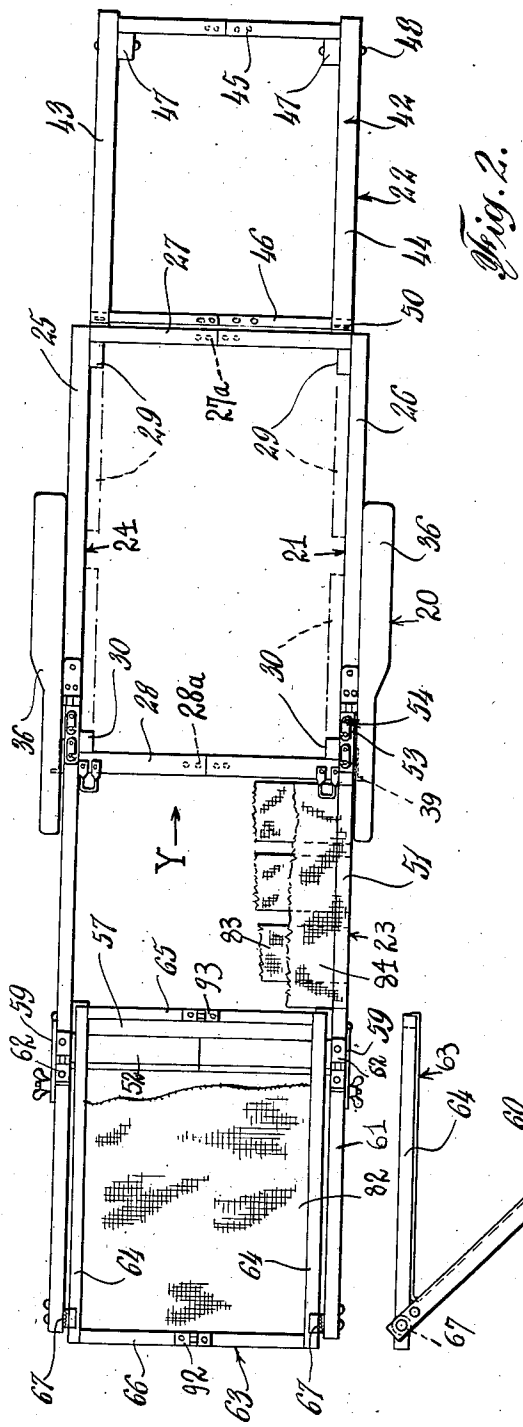


Fig. 2.

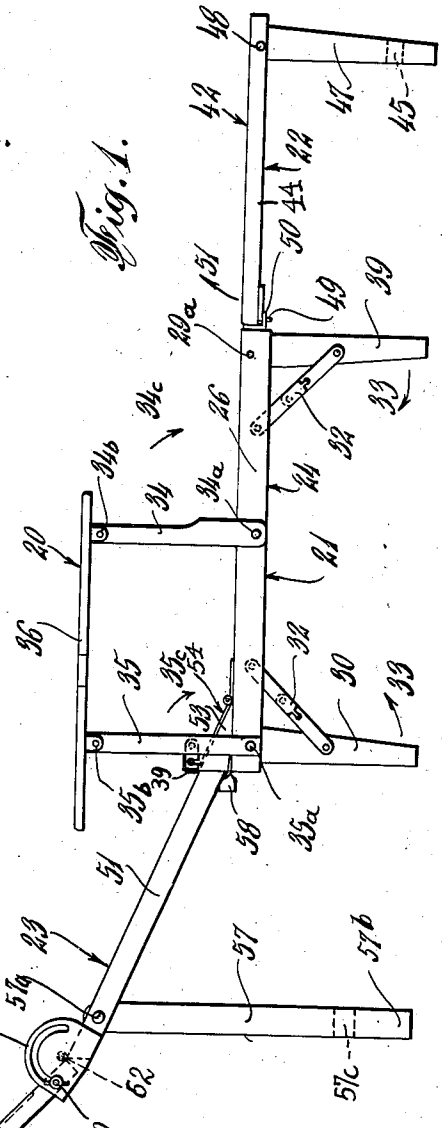


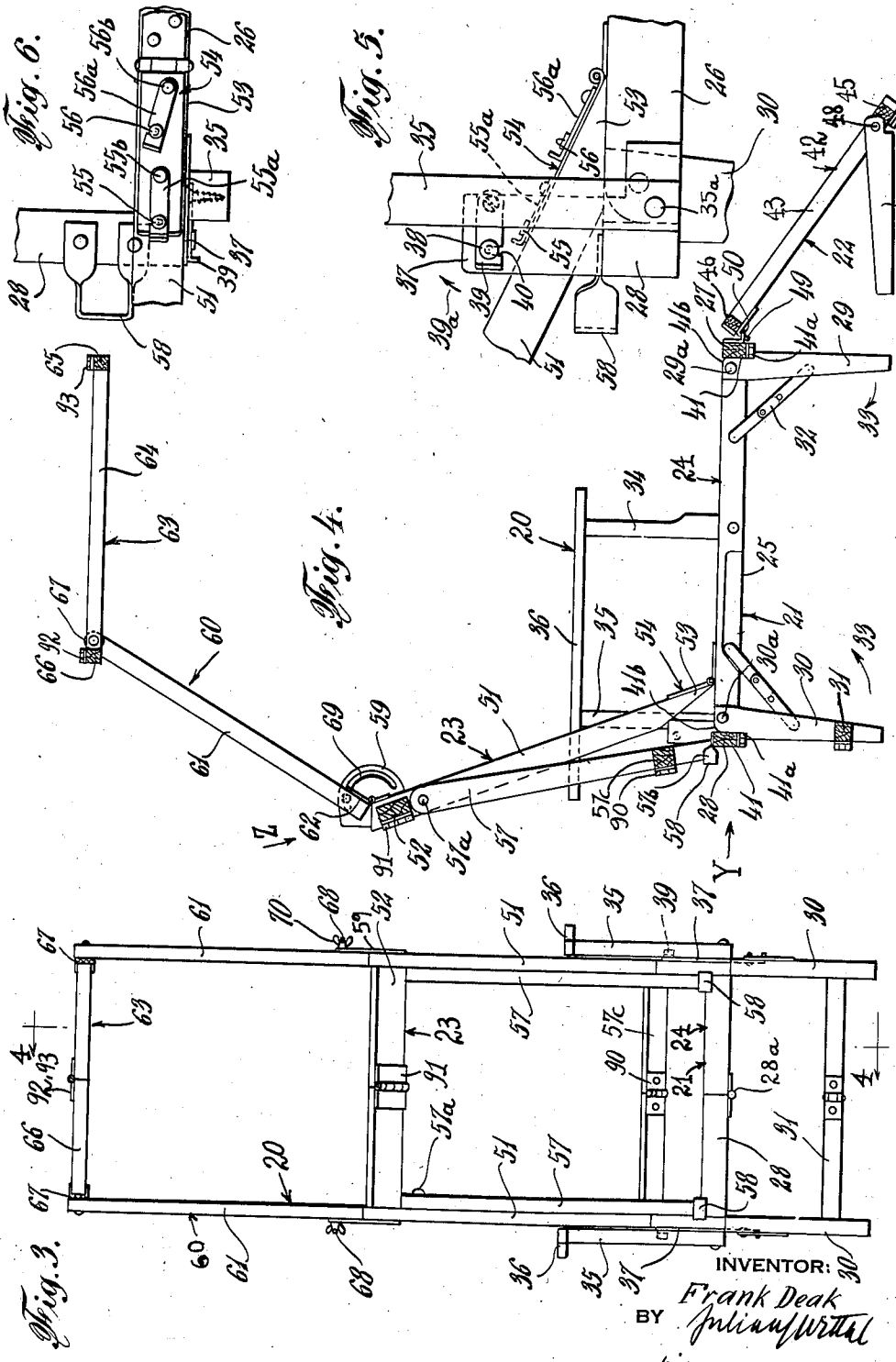
Fig. 1.

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COLLAPSIBLE EASY CHAIR

Filed March 28, 1939 3 Sheets-Sheet 2



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COLLAPSIBLE EASY CHAIR

Filed March 28, 1939 3 Sheets-Sheet 3

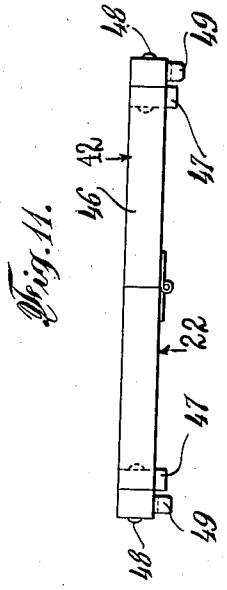


Fig. 11.

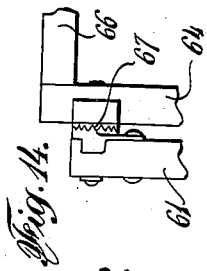


Fig. 14.

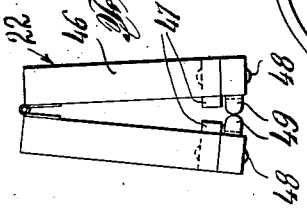


Fig. 12.

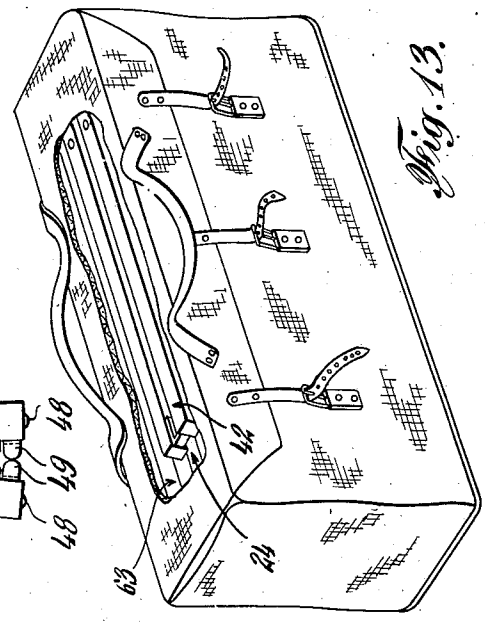


Fig. 13.

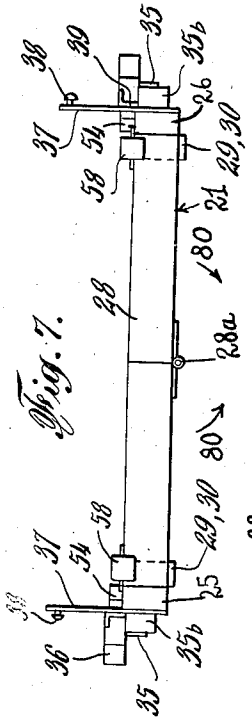


Fig. 7.

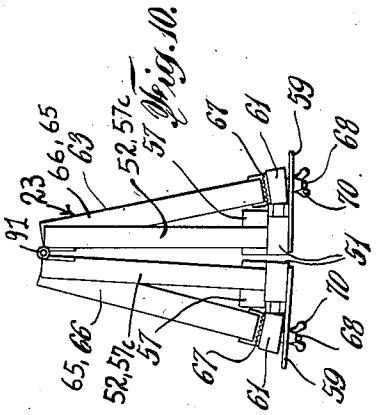


Fig. 10.

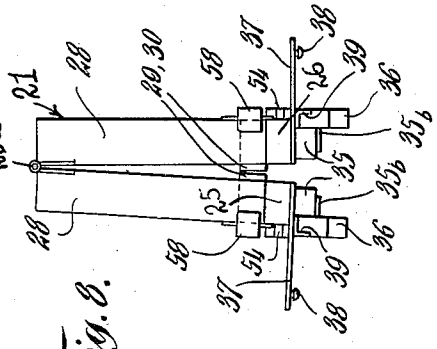


Fig. 8.

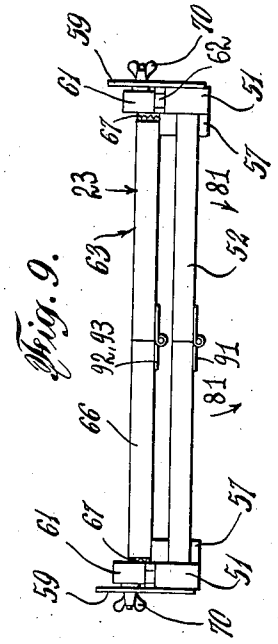


Fig. 9.

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UNITED STATES PATENT OFFICE

2,279,748

COLLAPSIBLE EASY CHAIR

Frank Deak, New York, N. Y.

Application March 28, 1939, Serial No. 264,548

4 Claims. (Cl. 155—162)

This invention relates to easy chairs and has for its main object to provide a device of this type which may be easily folded into a compact small formation so as to be adapted to be carried in a bag.

Another object of this invention is to provide a device, as characterized hereinbefore which may be changed quickly and easily into various forms, like an arm chair, an easy chair, a lounge, etc.

Still another object of this invention is to provide a collapsible easy chair with the above characteristics, made up of sections, easily and quickly assembled or disassembled.

Still further objects of this invention will be apparent as the specification of the same proceeds, and, among others, I may mention: to provide a device of this character which will have an adjustable sun shade incorporated therein, which will be simple in construction, inexpensive to manufacture, easily and quickly set into its various formations and conditions, and which will be durable in use.

In the drawings, accompanying this specification and being a part thereof:

Fig. 1 is a side elevation of my invention in its assembled form set to be used as a lounge;

Fig. 2 is a plan view thereof in the position illustrated in Fig. 1, and

Fig. 3 is a rear elevation of my device set in the position wherein it is used as an easy chair with a sun shade thereover, the view being taken as indicated by the arrow Y in Fig. 4, and,

Fig. 4 is a sectional elevation, the section being taken about on the line **4**—**4** of Fig. 3.

Figs. 5 and 6 are side elevation and plan view, respectively, of the portion of my device wherein the chair proper thereof has the back support and sun shade portion detachably secured to it.

Figs. 7 and 8 are views showing two phases in the collapsing or folding of the chair proper portion of my device.

Figs. 9 and 10 show phases in the folding of the rear back support and sun shade portion of my device, while,

Figs. 11 and 12 are views showing phases in the folding of the front or leg rest part of my device;

Fig. 13 shows the manner in which the folded portions may be arranged in a side by side and one above the other relation in a comparatively small bag, and,

Fig. 14 indicates the construction of a yielding pivot used between the two sections of the sun shade attached to my device.

Referring now to the drawings more in detail by characters of reference, my assembled device is generally indicated by the numeral **20** and is composed of three parts, detachable from one another, but adapted to be assembled into one unit in a quick and easy manner, and into various formations for various purposes and each part being collapsible and foldable independently into a compact small unit.

The said three main portions of the device are: the central or chair proper portion generally indicated by the numeral **21**, a front leg and foot rest portion generally indicated by the numeral **22**, and the rear back support and sun shade portion generally indicated by the numeral **23**.

Taking the three portions, one after the other, and describing in detail, the central chair proper portion **21** has seat frame **24** composed of a right hand member **25** and a left hand member **26**, a front cross member **27** and a rear cross member **28**. Two foldable pivoted front legs **29** and two foldable pivoted rear legs **30** are provided at the respective forward and rearward ends of the side frame members **25** and **26**. A cross member **31** is secured between the two rear legs **30** so that they may fold upwardly and downwardly together as one unit. Collapsible braces, well-known in this art, are provided between the respective side members **25** and **26**, and the legs **29** and **30** so that said legs may be set into their operative positions around their respective pivots **29***a* and **30***a* and secured therein by the braces **32** or said brace members caused to be released and collapsed and the legs **29** and **30** folded up along the inner sides inside of the frame members **25** and **26** as will be understood, and as indicated by the arrows **33** in Fig. 1 and by the dot and dash line showing of said legs in Fig. 2 and as also indicated in part by dotted lines in Fig. 7.

Two pivoted arms **34** and **35** are secured on each of the side frame members **25** and **26** as indicated at **34***a* and **35***a*, respectively, and an arm rest **36** is secured pivotedly to the upper ends of each pair of arms **34** and **35**, as indicated at **34***b* and **35***b*, so that said arms **34** and **35** will serve as pivoted link members to permit the raising of said arms and said rest **36** into their operative position, as indicated in Figs. 1, 3 and 4, serving as an arm rest, or swinging the arms **34** and **35** downwardly, in the direction of arrows **34***c* and **35***c*, along side of the respective side frame members **25** and **26**, the arm rests proper **36** in this case also being folded along side of the mentioned side frame members **25** and **26**, and over

the folded support arms 34 and 35, as indicated in the folded rear view of the seat member proper device, in Fig. 7.

Means are provided for releasably securing the arm rest structure of 34, 35 and 36 in its raised position said means being more clearly illustrated in Figs. 5 and 6.

As shown in said figures at the rear end of each of the respective side frame members 25 and 26 is secured an upstanding plate 37 and the respective rear arm 35 of the arm rest structure is arranged pivotedly on the outside of said plate 37 which is provided with a lower extension part 37*a*, (Fig. 5). A pin 38 projects from the top portion of the plate to the rear of said pivoted arm 35 and said arm carries a swinging hook device 39, a slot 40 of which will be caused to engage said pin 38 when it is desired to secure the arm 35 in its upstanding position, thereby securing the whole respective arm rest in its raised position. When it is desired to fold the arm rest alongside the frame members 25 and 26, the hook 39 will be freed from the pin 38 by swinging the same upwardly as indicated by the arrow 39*a*.

I also want to remark that the upper ends of the legs 29 and 30 of the central seat section proper are provided with set back portions 41 forming shoulders 41*a* on which the respective cross members 27 and 28 may rest when the legs are in their open position as shown in Fig. 4.

It is also to be noted that the upper ends of said reduced portions are rounded, as indicated at 41*b*, to permit an upward swinging of said legs as indicated by arrow 33 when folding the device.

The second, front, foot rest portion 22 of my device is formed of an upper rectangular frame (Figs. 1, 2 and 4) generally indicated by the numeral 42 and composed of the two side members 43 and 44, a front member 45 and the rear member 46.

Two foldable legs 47 are provided at the front of the foot rest structure 22 pivoted as at 48 and otherwise being of similar construction to legs 29 and 30 of the middle seat proper section. Downward hooks 49 are secured on the underside at the rear ends of the side members 43 and 44 which may engage into appropriate loops 50 secured on the front side of the seat proper section 21 so that when it is desired the foot rest section 22 may be attached to the front of the seat proper section 21, as indicated in Figs. 1, 2 and 4, or it may be removed by lifting the downward hooks 49 upwardly out of the loops 50, as indicated by the arrow 51 in Fig. 1.

In Fig. 4, I illustrate the foot rest 22 as placed into an inclined position which is attained by turning its legs 47 rearwardly, the engagements of hooks 49 with loops 50 permitting such an arrangement on account of the wide openings in loops 50.

The third or rear section of my device is the back rest and sun shade structure 23 and its construction is as follows:

The back rest proper thereof has two side frame members 51 interconnected by an upper rigidly secured cross member 52, the lower end 53 of each side member 51 is cut off at an inclination to form a narrow terminating edge for the same and a metal strip hinge device 54 is secured at the rear upper surface of each of the side members 25 and 26 of the seat structure proper (Figs. 5 and 6) to receive the respective end 53.

Two pins 55 and 56 are projecting from the upper surfaces of the lower end 53 of each member 51 and appropriate holes are provided in the pivoted securing metal plates or metal strips 54 to engage said pins 55 and 56 when it is desired to secure the rear back rest portion on the central seat proper portion of my device. To further secure the parts together, pivoted metal strip hooks 55*a* and 56*a* are provided which may be swung around their pivots 55*b* and 56*b* to engage said pins 55 and 56 or to disengage them as will be understood.

An inner pivoted member 57 is also secured on each member 51, pivoted as at 57*a*, and sockets 58 are secured at appropriate places at the rear upper end of the seat proper section 21, said sockets being adapted to receive the lower ends 57*b* of the respective inner member 57, when the member 51 are secured by the pivoted securing plates 54, and said inner members 57 are swung somewhat rearwardly, as illustrated in Fig. 4. In the embodiment shown, the sockets 58 are formed by appropriate bending of a strip of metal.

Two adjusting and securing plates 59 are arranged at the upper ends of the respective members 51 to aid in adjusting the position of the sun shade portion of my device, generally indicated by the numeral 60. Said sun shade portion is also formed with two side members 61, the lower ends of which are hingedly secured on the respective upper ends of the back rest members 51, as indicated at 62.

A pivoted frame or sun shade proper, generally indicated by the numeral 63, is secured to the upper ends of the side members 61, said frame having two side members 64, a front cross member 65, and a rear cross members 66. Locking means at pivots 67 are arranged between the inner end of the sun shade frame proper 63 and the upper ends of the members 61, the construction of such locking means having a tendency of retaining the sun shade frame proper 63 in any desired position as it is well-known in this art. One form of the same is indicated in Fig. 14, said form being the one applied in the embodiment of my device shown in the drawings.

The use and operation of my device will be obvious from the herein description thereof, but I desire to offer the following remarks to further explain the same:

Normally my foldable sectional combination easy chair is assembled as shown in Figs. 1 to 4, by setting up the central seat section proper, with its legs and arm rests raised and secured, and by attaching thereto in the rear the back rest and sun shade portion 23, as indicated in Fig. 4, and as will be obvious from the earlier description of the respective releasable securing devices, and by attaching to the front of said central portion 21 the foot rest portion 22.

When it is desired to use my device as an easy chair, it will be set about into the position in Fig. 4.

In this position, the members 61 of the sun shade section are arranged in a somewhat forwardly inclined position with relation to the back rest members 51 and secured in such position through the use of the mentioned plate 59. For this purpose, screw pins 68 are provided at the lower ends of the members 61, riding in the arcuate slots 69 of the plates 59. Wing nuts 70 are provided to secure the parts in their desired relative positions.

Similarly, the sun shade frame proper 63 will be set into the position shown in Fig. 4 or any

desired position by turning the same yieldably held against swinging about pivots 67.

The foot rest section 22 will be hooked to the front of the seat proper section 21, as has been described hereinbefore and set into the inclined position shown in Fig. 4.

When it is desired to use my device as a lounge, it will be set about into the position shown in Figs. 1 and 2.

In this case, the inner swingable members 57 of the back rest section 23 will be lifted out of the sockets 58 and turned into a generally vertical position, their lower ends 57b now resting on the floor and providing the necessary support for the rear of the lounge, the outer frame members 51 of the back rest section 23 also being turned downwardly and rearwardly to a lower inclination, as shown in Fig. 1, as against their more upward position shown in Fig. 4, such a movement being permitted by the pivoted securing device 54 and by the wedge shape lower ends 53 of said members 51.

The legs 47 of the foot rest section 22 will be opened up and the upper frame section 42 of said foot rest will be placed substantially in alignment with the seat of my device, the lounge so produced being supported at four places by the pairs of legs formed by the members 57, 30, 29 and 47, respectively. The sun shade portion may be set to any desired angle.

In case I want to use my device as a plain arm chair with a back and a sun shade, it will be set into about the position of Fig. 4, but the front foot rest section 22 will be entirely removed.

The removal of the foot rest section will be obvious from the description of the same and will be executed by lifting the hooks 49 out of the loops 50 whereupon a comfortable arm chair is produced with a back rest, and a sun shade, placed into an appropriate position thereover.

When it is desired to disassemble, fold and store or transport my device, it may be done in the following manner:

First the back rest and sun shade portion 23 will be removed from the seat proper portion 21 by releasing the lower ends of its members 51 from the hinges 54 (Figs. 5 and 6) as will be obvious, after which the members 57 of the back rest will be lifted out of the sockets 58. The operation may be made in the reverse manner also, members 57 first being lifted out of sockets 58 and then members 51 released from the hinge securing means 54.

In a similar manner, the foot rest portion 22 will be removed from said seat proper portion 21.

My device now is taken apart into its three main sections and each section will be folded separately.

Referring to Figs. 7 and 8, the seat proper section 21 will be folded in the following manner:

Hooks 39 will be lifted out of pins 38 (Fig. 5) whereupon the legs 35 and 34 of the arm rests 36 may be folded down, outside and along of the side frame members 25 and 26, as will be obvious and as indicated in Fig. 7, said figure being a rear view, observed as indicated by the arrow Y in Figs. 2 and 4, of the seat proper in the middle phase of its collapsing or folding.

The braces 32 are now released and the legs 29 and 30 folded inside and along side of said side frame members 25 and 26, as indicated in said Fig. 7, and also in Fig. 2, by the dot and dash lines.

The seat proper portion now appears as shown in Fig. 7, viewed as indicated by arrow Y in Fig. 2. The two halves of the partly collapsed seat proper are now folded on the hinges 28a, as indicated by the arrows 80, the final folded position of said seat proper being shown in an end view in Fig. 8, the length thereof being equivalent to the length of side frame members 25 and 26, and the respective pairs of the folded cross members 27 and 28 projecting upwardly from the longitudinally folded two groups of frame members 25 and 26 and respective legs 29 and 30, arm rests 36 and their supports 34 and 35, at about the two ends of said longitudinally folded two groups of elements.

In folding the back rest and sun shade portion, I proceed as follows:

The members 57 of the back rest portion are lifted out of the sockets 58 and the members 51 are released from the hinges 54, as will be obvious. Now the members 57 will be turned on their pivots 57a into the plane of the members 51. The upper sun shade frame 63 is now rocked around its pivot 67 into the plane of the members 61 and the whole folded sun shade is now folded down upon the plane of the back rest member 51, on the hinges 62, wing nuts 70 being first loosened. The back rest members 51 and 57 are now in one plane and the sun shade members 60 and 63 in another plane slightly thereover as indicated in Fig. 9 which is an end view of the folded back rest and sun shade from the rear in the direction of the arrow Z in Fig. 4. Thereupon the two sets of members, in upper and in the lower planes, are both turned on the hinges 90, 91, 92 and 93, in the cross members of the back rest and sun shade frames, as indicated by the arrows 81 in Fig. 9, whereupon the back rest and sun shade will appear substantially as shown in Fig. 10, which is an end view of the finally folded position thereof.

It is to be understood that the cross members 65 and 52 in Fig. 9 are in different vertical planes, 65 being somewhat to the rear of 52, and similarly the hinges 92 and 90 in the cross member 66 of the sun shade and in the cross member 57c between the pivoted members 57 of the back rest, respectively, are also in different vertical frames, one in back of the other, so that nothing will be in the way of the folding as shown by the arrows 81, the two halves of the cross members 52, and the cross member 57c, to the rear thereof, appearing nearer to the center, almost vertical, while the folded halves 66 of the sun shade frame, and 65, in the back of them, will appear somewhat outwardly inclined, as indicated in Fig. 10. The location of the other members will be obvious from said figures.

When folding the foot rest, finally, its legs 47 with their cross member 45 are first folded, generally into the plane of the frame 42, as shown in a rear view in Fig. 11, whereupon the cross members 45 and 46 will be folded on their respective hinges, and the whole device, will appear as viewed from the rear end, as indicated in Fig. 12.

I want to remark that obviously the sun shade frame may be covered by an appropriate canvas or other material, as indicated at 82 in Fig. 2, and similarly the back rest, the seat and the foot rest may have transverse straps 83 secured thereon, possibly covered by a fabric, like canvas, as indicated at 84, to provide support for the

parts of the body. These covers will not in any way prevent the folding of my device. Of course, any desired removable pillows, or the like, may be placed on appropriate portions of my device, which will have to be removed before folding the same.

In Fig. 14, I show a side view of a yielding frictional connection at the pivot between the lower and upper portions of the sunshade. Such frictional pivots are well-known in this art and any appropriate one may be used. The one indicated is more fully described in my co-pending application for Letters Patent for a Collapsible sun shade.

What I claim as new is:

1. In a folding easy chair and lounge, a seat proper section and a back rest section, a longitudinal frame member in each side of each of said two sections, a releasable hinged connection between the respective longitudinal frame members in said two sections, an upstanding plate on the outside of each longitudinal frame member of said seat proper section, a foldable arm rest structure on each side of said section pivoted on the respective longitudinal frame member in said seat section and adapted to be folded generally into the plane of the seat, a hook device on a member of said foldable arm rest structure, a pin on said upstanding plate, said hook device being adapted to be secured on said pin when said arm rest is in a raised operative position, and thereby secure said arm rest in said position, and said hook device being adapted to be released from said pin when it is desired to lower said arm rest into an inoperative folded position.

2. In a folding easy chair and lounge, a seat proper section and a back rest section, a longitudinal frame member in each side of each of said two sections, a releasable hinged connection between the respective longitudinal frame members in said two sections, a leg member pivoted at the upper end of each of the longitudinal frame members in said back rest, adapted to be set at various angles in relation thereto and having a free lower end whereby to rest on the ground and support said back rest in a less inclined nearer to the horizontal position when it is desired to form a lounge, and means at the rear end of said seat frame adapted to removably receive the free ends of the respective leg members for said back rest when it is desired to set said back rest in a more inclined position nearer to the vertical.

3. In a foldable easy chair and lounge, as set forth in claim 2, said hinged connections being formed by a first plate secured on the upper surface of each longitudinal member in the seat frame adjacent to its rear end, a second plate hingedly secured to the rear end of each of said first plates and removably secured to the upper side of the lower end of the respective longitudinal frame member in said back rest, the underside of each of said lower ends being cut inclined to bring said end to a point and to permit the rocking of said back rest member with relation to the respective longitudinal member in said seat frame for the various positions of said back rest and to cause said back rest frame member to be supported by said inclined cut surface on the respective longitudinal frame member in the seat frame when said back rest is set into a less inclined nearly horizontal position to form a lounge.

4. In a foldable easy chair and lounge, as set forth in claim 2, a transverse member between said longitudinal members in said seat frame, a transverse member in said back rest frame above the pivots for said legs thereof, a transverse member between the lower ends of said legs, said legs being pivoted on the inside of said longitudinal frame members in the back rest, and a hinge in each transverse member permitting its folding upon itself in the longitudinal center axis of the device, whereby the back rest, upon its separation from said frame, may have its legs folded into the plane of its frame and then folded doubled upon itself in a longitudinal direction, and said seat frame also folded doubled in the longitudinal axis of the device.

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