Jan. 3, 1956 S. VOLNEY 2,729,276

FOLDING CHAIR

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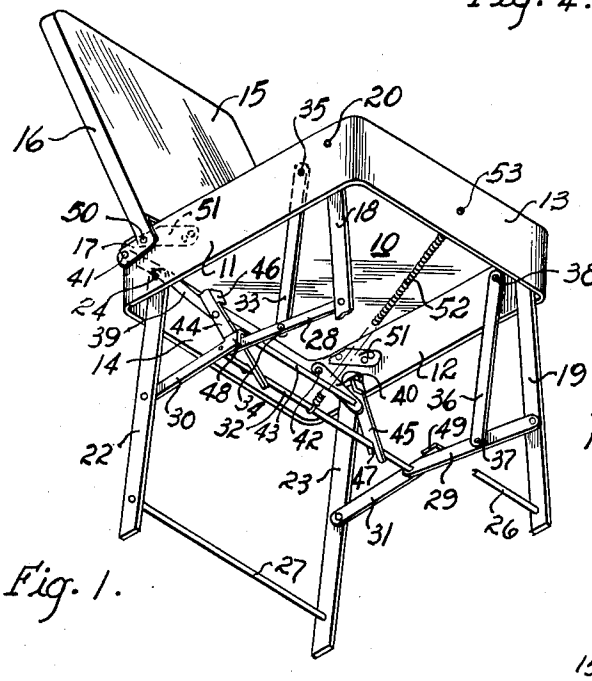

Fig. 1.

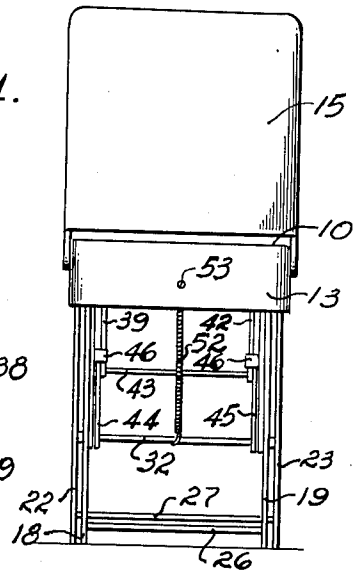

Fig. 4.

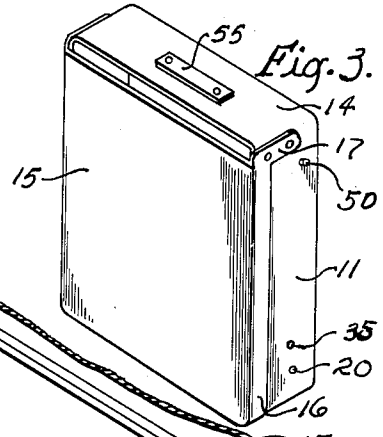

Fig. 3.

Fig. 2.

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FOLDING CHAIR

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3 Claims. (Cl. 155—148)

This invention relates to a chair, and has for an object to provide chair construction which may be easily set up for use, which, when so set up will be rigid and strong in construction. A secondary object of this invention is to provide a chair so constructed that it can be folded and nestled in a small space for convenience in carrying. A third object is to provide a construction which, after use can be folded and packed into a self-contained carrying case.

With the foregoing and other objects in view, the invention consists in certain novel features of construction and an arrangement of parts as will be more fully disclosed in connection with the accompanying drawings:

Figure 1 is a perspective view of the chair in open position, with parts partly broken away;

Fig. 2 is a perspective view of the chair in partly open position, with parts partly broken away;

Fig. 3 is a perspective view of the carrying case in closed position;

Fig. 4 is a front elevation of the chair in normal open position.

This invention relates more particularly to a chair which may be easily carried from place to place in collapsed condition for use both indoors and outdoors, especially in places with a limited amount of space. It may be quickly set up for use and easily folded into small space for transportation. The structure includes two pairs of legs, a back-rest and seat which are so constructed as to form a carrying case for the legs when folded.

As may be seen in the drawings, the chair has a seat plate **10** provided with depending side flanges **11** and **12**, a front flange **13** and a rear flange **14**, forming an open casing with the seat plate, and a back rest **15** provided with a rearwardly extending flange **16** about the top and the sides of the backrest and having flat members **17** extending rearwardly from the lower ends of flange **16**, which extends a short distance below back rest **15**. The flat members **17** are provided, adjacent their ends, with openings through which the back rest is pivotally mounted on the side flanges **11** and **12** of seat plate **10**.

Front legs **18** and **19** are mounted on the inner sides of flanges **11** and **12** by pivot means **20** and **21**, respectively, and rear legs **22** and **23** are similarly mounted on the inner sides of the same flanges by pivot means **24**. In order that the two pairs of legs may fold into the seat casing member, front legs **18** and **19** are spaced apart from the flange members **11** and **12** by suitable spacers **20'** and **21'** about the pivot means. Front legs **18** and **19** are connected adjacent their lower ends by bross bar **26**, and rear legs **22** and **23** are similarly connected by cross bar **27**. The inner surfaces of the lower edges of flanges **13** and **14** engage the adjacent sides of legs **18** and **19**, **22** and **23**, to limit the angular movement of the legs and to retain them in the normal open position.

Each front leg is connected with the opposite rear leg by bracing members, including flat links **28** and **29**, which are pivotally mounted on the respective front legs **18** and **19**, and similar flat links **30** and **31** which are pivotally mounted on the respective rear legs **22** and **23**. At their junctions, flat links **28** and **30**, and flat links **31** and **29** are pivotally mounted on tie bar **32**. Links **30** and **31** are provided with stop portions **48** and **49** respectively adapted to engage with links **28** and **29**, respectively, when the chair is in the normal open position.

Positioning member **33** is pivotally connected at **34** with link member **28** and at **35** with the inner side of flange member **11**. In a similar manner, positioning member **36** is pivotally connected at **37** with link member **29** and at **38** with the inner side of flange member **12**. Positioning members **33** and **36** are connected with the respective links **28** and **29** at approximately their midpoints for a reason that will become apparent later.

Links **39** and **40** are pivotally mounted at **41** and **42** on the inner sides of flanges **11** and **12**, respectively, at points close to the rear flange **14**. At their lower ends, links **39** and **40** are connected by a tie bar **43**. Also, pivotally mounted on the tie bar **43** are bracing members **44** and **45**. Each bracing bar has a stop member **46** at its outer end adapted to engage with the link **39** or **40** and an open-end slot **47** at the lower end adapted to engage with tie bar **32**. A coil spring **52** is attached at **53** to the inside of front flange **13** of the seat and to tie bar **32** as shown.

Conventional spring actuated pins **50**, mounted in plates **51** on the inner sides of flanges **11** and **12** pass through the flanges and are received by openings **54** in flat members **17** of the back rest. These spring actuated pins acting in cooperation with the openings **54** hold the back rest in the normal open position.

A suitable handle **55**, shown in Fig. 3, is provided for easy handling when transporting the chair.

When the chair is to be opened, as shown in Figs. 1 and 4, first rear legs **22** and **23** and then front legs **18** and **19** are moved away from seat plate **10** until links **28** and **30** and links **29** and **31** extend in substantially straight lines and the legs bring up against the inner surfaces of the lower edges of the front and rear flanges. The positioning members **33** and **36** then extend downwardly, as shown in Fig. 1, and tend to hold the links **28** and **29** down and thus keep the chair in the open position. Stop portions **48** and **49** prevent links **28** and **30** and links **31** and **29** from continuing to move downwardly and thus collapsing the chair. Bracing members **44** and **45** also serve to keep the chair in the open position. These bracing members are swung on their pivotal mounting until slots **47** engage tie bar **32**. Stop members **46** keep the bracing bars from continuing to move downwardly and thus collapsing the chair. The spring **52** exerts a tension through tie bar **32** on bracing members **44** and **45** and thus holds the tie bar firmly in the end slots **47**.

When the chair is to be closed, bracing members **44** and **45** are swung to disengage end slots **47** from tie bar **32**, and the legs are turned inwardly, as best shown in Fig. 2. The front legs are turned about their pivotal mountings until they are completely within the casing formed by the seat plate and the flanges, and then the rear legs are folded into the casing. The back rest is disengaged from the spring actuated pins **50** and is turned on its pivots until it forms a cover for the casing, as shown in Fig. 3. The chair may be conveniently carried in this closed position by means of handle **55**.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim the following:

1. A folding chair comprising in combination a seat including a seat plate and a supporting frame; said supporting frame including a front and a rear flange and

two side flanges forming an open casing with said seat plate; a backrest; a joint connecting said backrest to said seat; said backrest swingable around the rear flange to cover the casing; releasable locking means holding the backrest in operative position relative to the seat; a pair of rear legs pivotally attached to the seat within the casing near the rear flange; a pair of front legs pivotally attached to the seat within the casing near the front flange; said legs adapted to fit into the casing when folded substantially parallel to the side flanges; and releasable locking means for the two pairs of legs adapted to hold the same in operative position and when released to permit their folding into the casing.

2. A folding chair comprising in combination a seat including a seat plate and a supporting frame therefor; said supporting frame including a front and a rear flange and two side flanges forming an open casing with said seat plate; a backrest; a joint connecting said backrest to said seat; said backrest swingable around the rear flange to cover the casing; releasable locking means holding the backrest in operative position relative to the seat; a pair of rear legs pivotally attached to the seat within the casing near the rear flange; a pair of front legs pivotally attached to the seat within the casing near the front flange; said legs adapted to fit into the casing when folded substantially parallel to the side flanges; and releasable bracing means connecting each front leg with the opposite

rear leg; said bracing means adapted to hold the legs in operative position and when released to permit their folding into the casing.

3. A folding chair as defined in claim 2, wherein said releasable bracing means includes foldable linkages having a first member connected to a front leg and a second member pivotally connected to the opposite rear leg, stop means limiting the downward movement of said link members, a positioning member pivotally connected at one end to a side flange and at the other end to said first link member, a tie bar connecting said releasable bracing means, and releasable means adapted to engage said tie bar and to maintain said linkage in opened position.

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