United States Patent [19]

Clark

[11] **4,285,543**

[45] **Aug. 25, 1981**

[54] **ROCKER ATTACHMENT**

[76] Inventor: **Chester V. Clark**, P.O. Box 644, Yarnell, Ariz. 85362

[21] Appl. No.: **103,994**

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[51] **Int. Cl.**[3] **A47D 13/10**

[52] **U.S. Cl.** **297/272**; 297/33; 297/133

[58] **Field of Search** 297/272, 133, 33

[56] **References Cited**

U.S. PATENT DOCUMENTS

875,903	1/1908	Flemming	297/133 X
2,662,581	12/1953	Gottfried	297/133
3,114,572	12/1963	Hopkins	297/133 X

FOREIGN PATENT DOCUMENTS

203171	5/1959	Austria	297/33
870938	5/1971	Canada	297/133
2014314	10/1971	Fed. Rep. of Germany	297/272

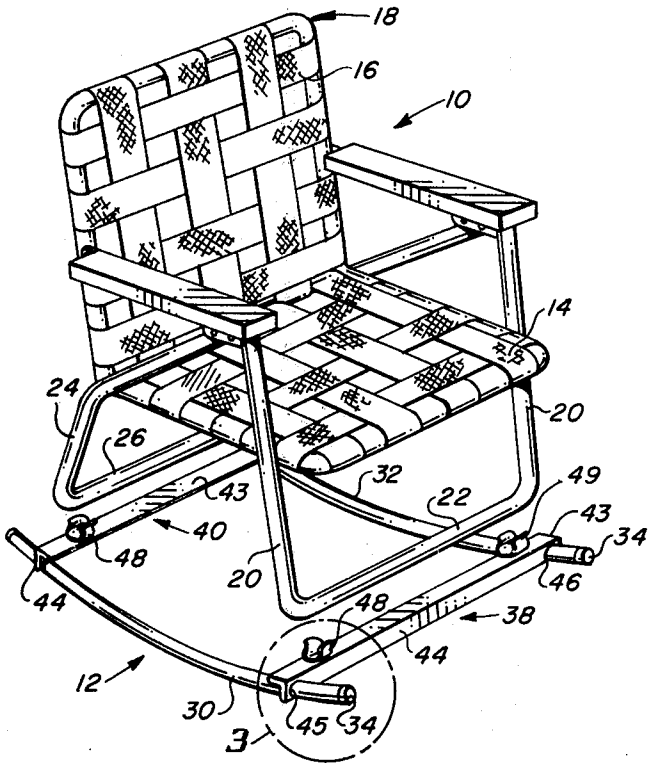
Primary Examiner—James T. McCall

Attorney, Agent, or Firm—Herbert E. Haynes, Jr.

[57] **ABSTRACT**

Rocker attachments for converting a stationary folding lawn chair into a rocking chair including a spaced pair of arcuate tubular rocking elements which are transversely interconnected by beam structures which are demountably attachable to the chair. The beam structures are demountably connected to the rocker elements for storage and shipping purposes and are movable on the rocker elements to accommodate various sizes of lawn chairs.

9 Claims, 8 Drawing Figures



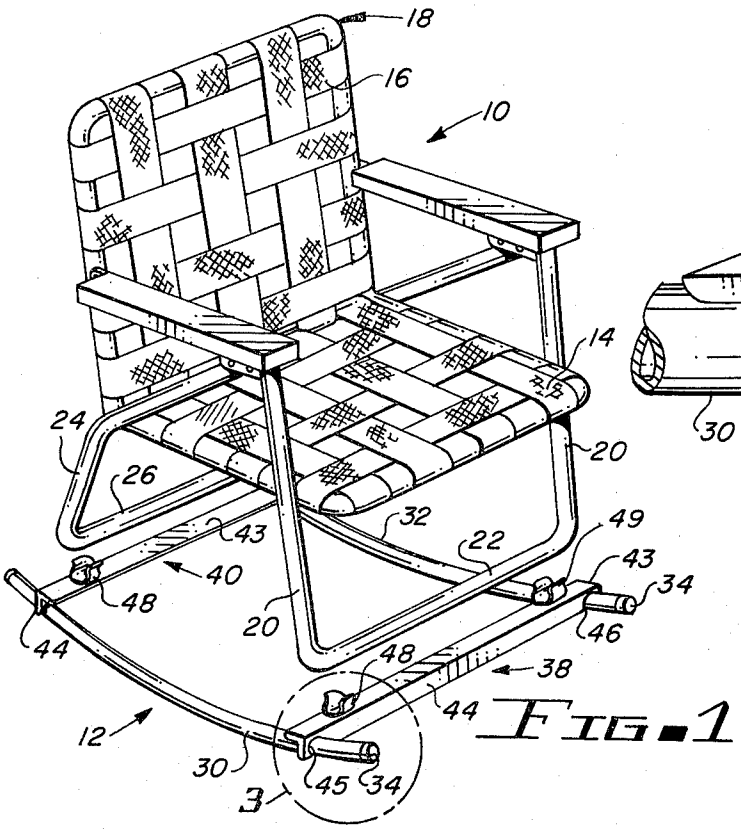


FIG. 1

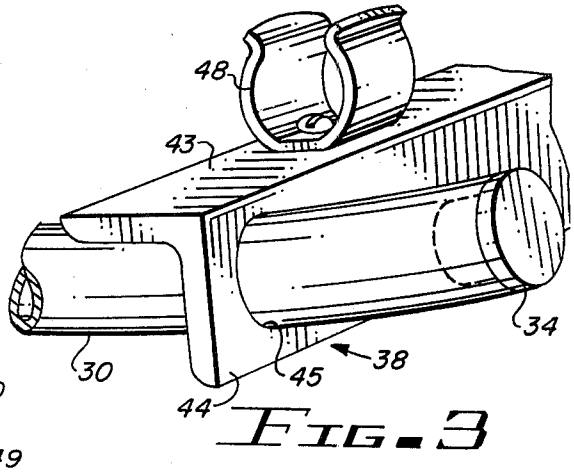


FIG. 3

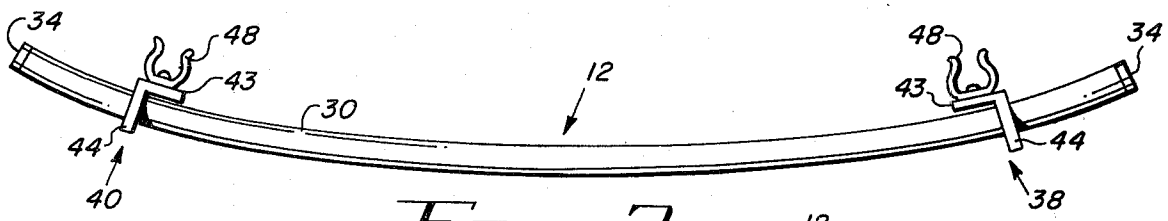


FIG. 2

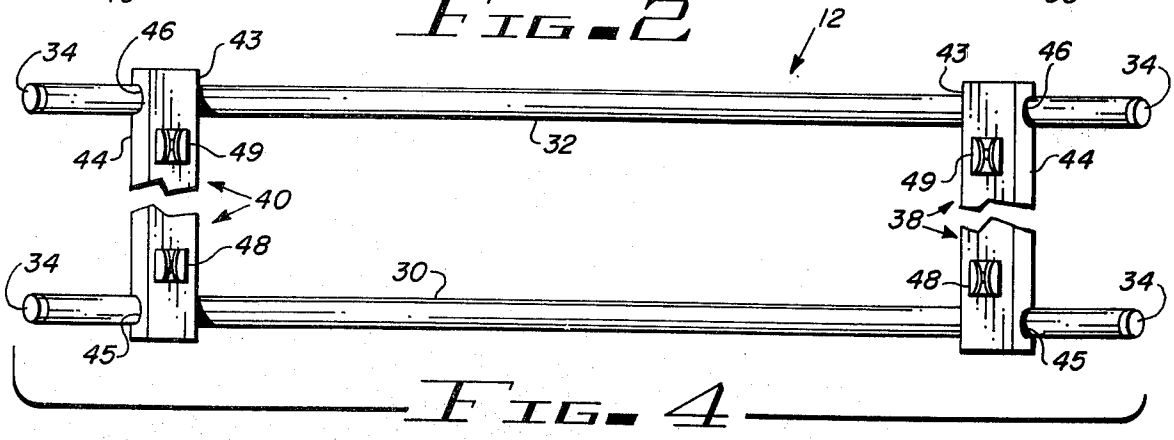


FIG. 4

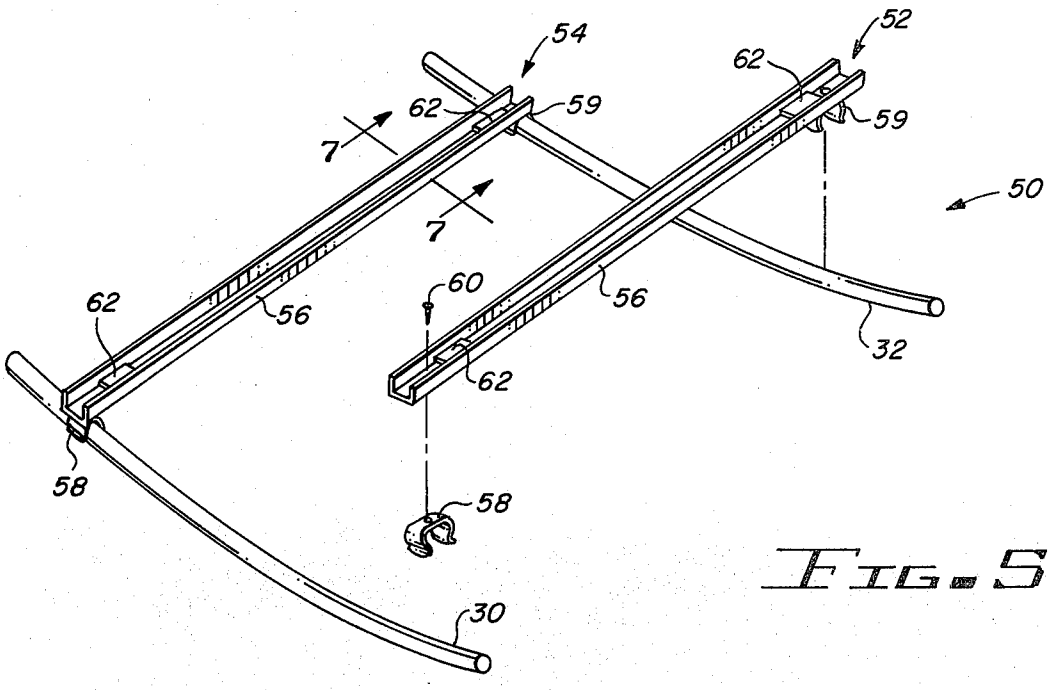


FIG. 5

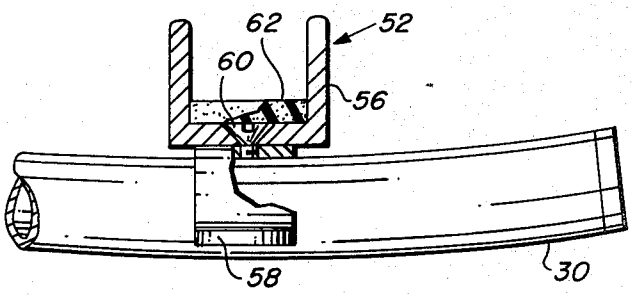


FIG. 6

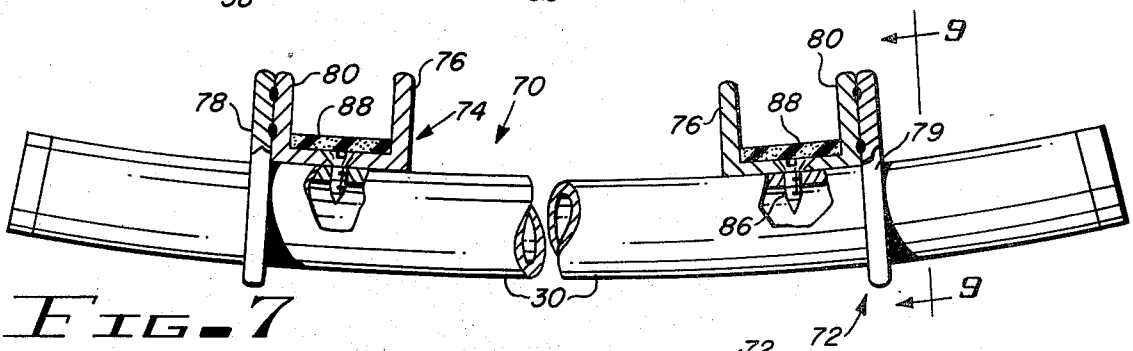


FIG. 7

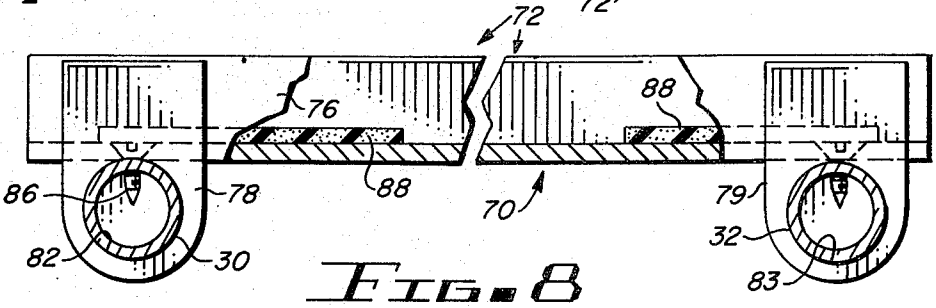


FIG. 8

ROCKER ATTACHMENT

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to rocker assemblies for attachment to stationary chairs and more particularly to a simple low-cost rocker assembly for use on folding chairs of the type commonly referred to as "lawn chairs".

2. Description of the Prior Art

Many attempts have been made over the years to develop a simple low-cost rocker assembly for converting a stationary chair into a rocker. Early developments in this art are exemplified by U.S. Pat. No. 1,231,151 issued to W. H. Gerrard, Jr. on June 26, 1917, and U.S. Pat. No. 1,295,382 issued on Feb. 25, 1919 to M. J. Stelzer. In these two prior art patents, the bottom ends of four depending legs of conventional chairs are received in especially configured socket-like fixtures that are carried on a spaced pair of arcuately shaped rockers.

U.S. Pat. No. 2,662,581 issued to L. Gottfried on Dec. 15, 1953 shows several rocker attachment configurations for use on various types of chairs. Of particular interest is the embodiment which is adapted to attach to a folding lawn chair of the type having U-shaped front and rear ground engaging members. The rocker attachment includes a spaced pair of arcuate rockers which are interconnected by a pair of spaced U-shaped in cross section channel members fixedly carried on the top of the rockers. The channel members are laid on their sides so as to be open on the sides which face each other. The bottom segments of the chair's ground engaging members are inserted into the channels of the rocker attachment during unfolding of the chairs, and are secured therein by spring bolts.

U.S. Pat. No. 4,079,991 issued on Mar. 21, 1978 to Harris discloses an especially configured pair of arcuate rocker devices which may be attached to either conventional chairs or to those referred to as folding lawn chairs. In the case of the lawn chairs, the U-shaped ground engaging members may either be tied to the arcuate rockers or may be snapped into special grooves formed transversely in the rockers.

In general, all the above discussed prior art devices are relatively complex and expensive to fabricate and this alone has contributed significantly to the lack of widespread commercial acceptance. More specifically, the structure disclosed in the Gottfried Patent cannot be adapted for use on different size chairs due to the fixed attachment of the channels on the rockers, and also attachment of the lawn chair can be an awkward task. The Harris Patent requires that the special rockers be fabricated of flexible and compressible materials such as plastic, and the cost of fabricating such special rockers is prohibitive in all but extremely high production.

Therefore, a need exists for a new and improved rocker attachment for converting a stationary folding lawn chair into a rocker, with this attachment being simple to use, inexpensive to manufacture, and otherwise overcoming some of the drawbacks and shortcomings of the prior art.

SUMMARY OF THE INVENTION

In accordance with the present invention, new and improved rocker attachments of various configurations are disclosed for converting a stationary folding lawn chair into a rocking chair. Each embodiment of the present invention includes a pair of tubular rocker elements which are bowed into the desired arcuate configuration and are interconnected by a pair of transverse beam means which are adapted to demountably receive the ground engaging segments of the folding lawn chair. The beam means are movably mounted on the tubular rockers so as to be adjustably spaced to accommodate various sizes of chairs.

In a first embodiment, the beam means includes structural angle members which transversely interconnect and are slidably mounted on the tubular rockers and have upwardly opening spring clips for demountable connection to the transverse bars of the U-shaped ground engaging members of the folding lawn chair.

In a second embodiment, the beam means includes U-shaped in cross sectional channel members which transversely interconnect the tubular rockers. The channel members are disposed so as to open upwardly for demountably receiving the transverse bars of the U-shaped ground engaging members of the folding lawn chair, and the channels are demountable and adjustably connected to the tubular rockers by spring clips.

In a third embodiment, the beam means includes the same upwardly opening U-shaped channels for demountably receiving the transverse bars of the folding chair, and the channels are demountably and slidably connected to the tubular rockers by depending tabs having apertures formed therethrough. Once the proper spacing of the channels has been determined for a particular chair size, the channels can be fixed on the tubular rockers such as by screw fasteners.

The various embodiments briefly discussed above are inexpensive to manufacture in that all of the materials used are commercially available items which eliminates all special moldings, castings, fabrication and the like as required by prior art structures. These rocker attachments are adaptable for use on any size of folding lawn chair due to the adjustable mounting of the beam means and the rocker attachments are of the knock-down type for convenient shipping and storage due to the demountable connection of the beam means on the tubular rocker elements. Further, the rocker attachments of the present invention are simple to use in that once adjusted for the proper size, all that is required is for the chair to be placed atop the rocker attachment so that the transverse bar segments of the chair are in engagement with the beam means.

Accordingly, it is an object of the present invention to provide new and improved rocker attachments for converting a folding lawn chair into a rocking chair.

Another object of the present invention is to provide new and improved rocker attachments for converting a folding lawn chair into a rocking chair with the rocker attachment being inexpensive to manufacture and simple to use.

Another object of the present invention is to provide new and improved rocker attachments which are adjustable for use in converting variously sized folding lawn chairs into rocking chairs.

Another object of the present invention is to provide new and improved rocker attachments of the above described type which include a pair of tubular rocker elements of arcuate configuration.

Another object of the present invention is to provide new and improved rocker attachments of the above described character in which the tubular rocker ele-

ments are demountably interconnectable by a pair of beam means which are adapted to demountably receive the transverse bar portions of the folding lawn chair, with the beam means being adjustably movable to adapt to chairs of various sizes.

Another object of the present invention is to provide new and improved rocker attachments of the above described character in which the beam means comprises a pair of angle members demountable and slidably movable on the tubular rockers and having spring clips for attachment to the lawn chair.

Still another object of the present invention is to provide new and improved rocker attachments of the above described type in which the beam means comprises a pair of U-shaped in cross section channels which are demountably adjustably connected to the tubular rocker element by spring clips and which are disposed to open upwardly to demountably receive the transverse bars of the folding lawn chair.

Yet another object of the present invention is to provide new and improved rocker attachments of the above described character in which the beam means comprises a pair of U-shaped in cross section channels which are demountable and slidably movable on the tubular rocker elements by depending apertured tabs and are oriented so as to open upwardly for demountably receiving the transverse bar segments of the folding lawn chair.

The foregoing and other objects of the present invention, as well as the invention itself, may be more fully understood from the following description when read in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a folding lawn chair having the first embodiment of the rocker attachment of the present invention illustrated in exploded relationship therewith.

FIG. **2** is an enlarged side elevational view of the rocker attachment of the embodiment shown in FIG. **1**.

FIG. **3** is an enlarged fragmentary perspective view of that portion of the rocker attachment which is indicated in the dashed line circle identified as **3** in FIG. **1**.

FIG. **4** is a fragmentary plan view of the rocker attachment of the embodiment shown in FIG. **1**.

FIG. **5** is a perspective view of a second embodiment of the rocker attachment of the present invention with portions thereof being shown in exploded relationship to illustrate the various features thereof.

FIG. **6** is an enlarged fragmentary side elevational view of the structure shown in FIG. **5** and which is partially broken away to illustrate the various features thereof.

FIG. **7** is a fragmentary side elevational view of a third embodiment of the rocker attachment of the present invention with portions thereof broken away to show the various features.

FIG. **8** is a fragmentary sectional view taken along the line **8**—**8** of FIG. **7**.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring more particularly to the drawings, FIG. **1** illustrates a typical type of folding chair of the type commonly referred to as a folding lawn chair, with the chair being indicated generally by the reference numeral **10**. In FIG. **1**, the folding lawn chair **10** is shown in exploded relationship with respect to a first embodiment of the rocker attachment of the present invention, with this configuration of the rocker attachment being indicated in its entirety by the reference numeral **12**.

As shown, the folding lawn chair **10** includes the usual seat portion **14**, back rest **16** and foldable tubular frame structure **18**. The frame **18** includes front legs **20** having the depending ends thereof interconnected by an integral transverse bar **22**, and the rear legs **24** (one shown) which are similarly interconnected by a transverse bar **26**.

The rocker attachment **12**, as shown in FIGS. **1–4**, includes a pair of rocker elements **30** and **32** which are elongated hollow tubular members of circular cross section that are bent or bowed along their lengths into the desired arcuate configuration. The opposite ends of each of the rocker elements **30** and **32** are closed by suitable plugs **34**. The tubular rocker members **30** and **32** are in spaced parallel relationship with respect to each other and are transversely interconnected adjacent their aligned front ends by a front beam means **38**, and are similarly interconnected adjacent their aligned rear ends by an identical rear beam means **40**.

Since the front and rear beam means **38** and **40** are identical, it will be understood that the following description of the front beam means **38** also applies to the rear beam means **40**.

The front beam means **38** includes an elongated angle beam of right angle cross section which defines an elongated upper flange or leg **43** and a depending flange or leg **44**. The depending leg **44** has a pair of apertures **45** and **46** formed therethrough with each aperture formed adjacent a different opposite end thereof. The front end of the rocker element **30** passes through the aperture **45** of the depending leg **44** and the front end of the rocker element **32** passes through the other aperture **46** thereof. The apertures **45** and **46** formed through the depending leg **44** are sized to frictionally grip the rocker elements **30** and **32** and yet allow the rockers to be slidably mounted therein for reasons which will hereinafter be described in detail. The upper flange or leg **43** has fastener means in the form of a pair of spring clips **48** and **49** mounted on the upwardly facing surface thereof and disposed so as to open upwardly. The spring clip **48** is fixedly mounted adjacent one end of the upper leg **43** and the spring clip **49** is similarly mounted adjacent the opposite end of the upper leg.

The hereinbefore described slidably movable feature of the beam means **38** and **40** on the rocker members **30** and **32** allows the rocker attachment **12** to be disassembled for shipping and storage purposes and also allows the spacing between the beam means to be varied so that the rocker attachment **12** may be employed with folding lawn chairs having various dimensions between the front and rear legs thereof.

With the rocker attachment **12** assembled and adjusted to match the spacing between the transverse bars **22** and **26** of the folding lawn chair **10**, the chair is demountably mounted on the rocker attachment by simply snapping the front transverse bar **22** into the spring clips **48** and **49** of the front beam means **38** and similarly snapping the chair's rear transverse bar **26** into the spring clips **48** and **49** of the rear beam means **40**.

Referring now to FIGS. **5** and **6** wherein a second embodiment of the rocker attachment of the present invention is shown, with this second embodiment being indicated in its entirety by the reference numeral **50**. The rocker attachment **50** includes the hereinbefore

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