Aug. 25, 1936. S. A. COONEY 2,052,450

LADDER CHAIR

Original Filed Aug. 12, 1933

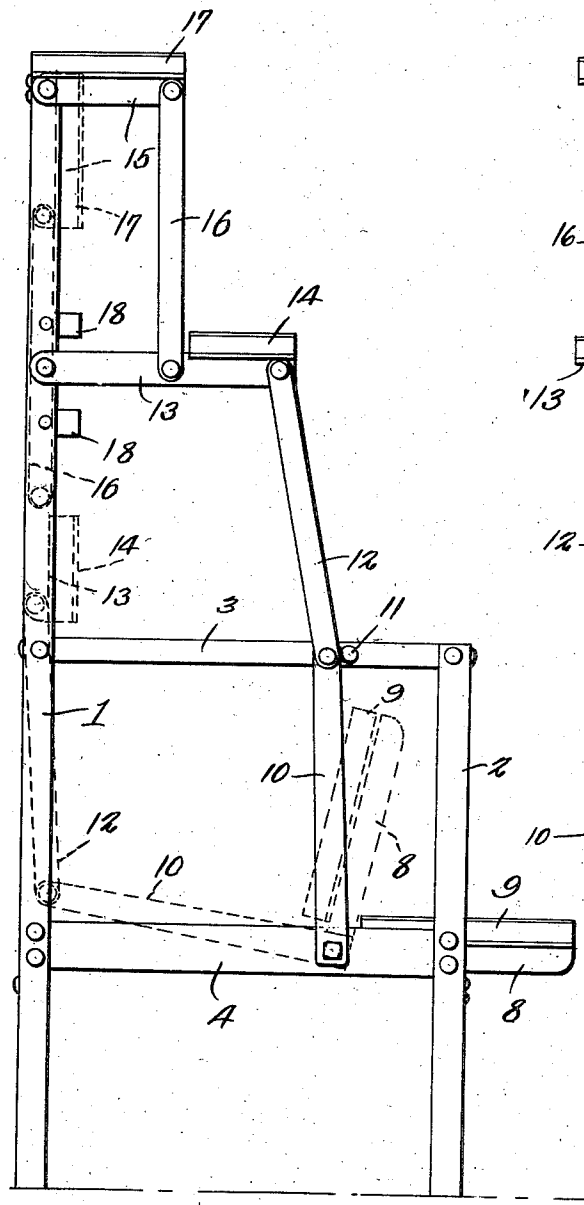


Fig. 1.

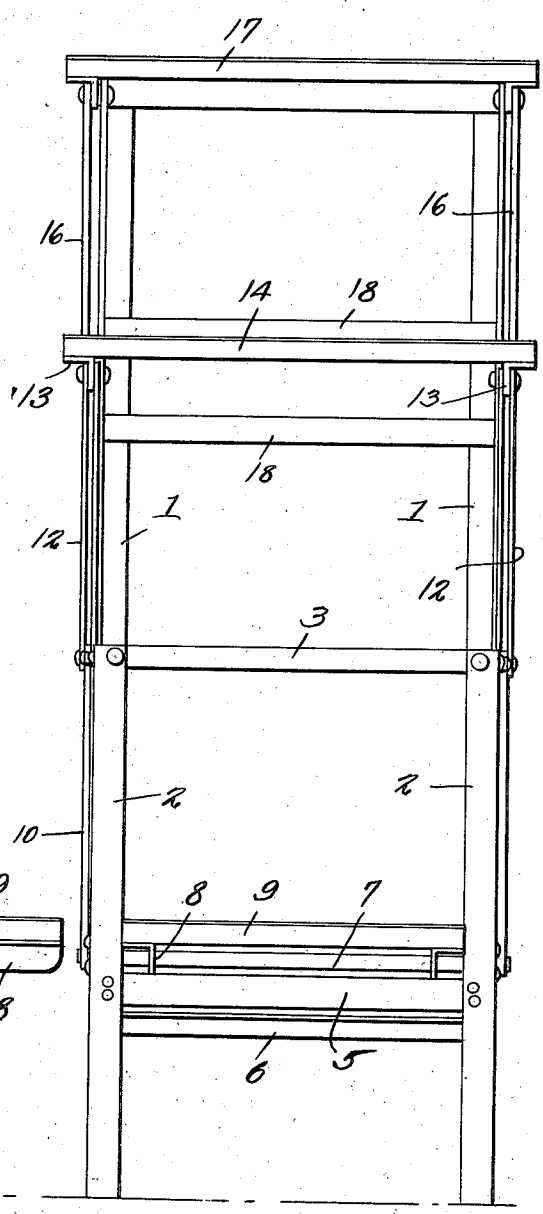


Fig. 2.

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LADDER CHAIR

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Refiled for abandoned application Serial No. 684,897, August 12, 1933. This application April 23, 1936, Serial No. 76,091

6 Claims. (Cl. 155—42)

This is a refile for abandoned application Serial No. 684,897, filed Aug. 12, 1933.

This invention relates to a ladder chair, one of the objects being to provide a simple, light and compact structure which when folded, forms an attractive chair suitable for kitchen use.

A further object is to provide a chair with back rests which can be brought quickly into position for use as the upper steps of a ladder, these steps cooperating with the seat and a foldable lower step to form a complete ladder.

Another object is to operatively connect the movable step members of the device so that they will move in unison into or out of active positions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a side elevation showing the device arranged for use as a step ladder, the positions of the movable parts, when in use as a chair, being illustrated by broken lines.

Figure 2 is a front elevation of the structure shown in Figure 1.

Referring to the figures by character of reference, 1 designates the back standards of the ladder chair and 2 designates the front standards. The upper ends of the standards 2 are connected to the back standards and to each other by a seat 3 of any desired construction so that those portions of the standards 1 below the seat form the back legs of the chair while the standards 2 constitute the front legs.

Side strips 4 connect the front and back legs while additional strips 5 and 6 connect the legs at the front and back.

Mounted for rotation in the side strips 4 is a cross rod 7 to which are fixedly secured strips 8 on which is fastened a bottom step 9. Strips 8 are adapted to rest on strip 5 and thus support the step in a forwardly extended horizontal position as shown.

Secured to the ends of rod 7 so as to move therewith are arms 10 adapted to thrust forwardly at their upper ends against stop studs 11 on the sides of seat 3 when the step is extended forwardly. These upper ends of the arms are pivotally connected to links 12 which, in turn, are pivotally attached to intermediate levers 13 connected to the standards 1. An intermediate movable step 14 connects the free end portions of levers 13.

Arranged above levers 13 are upper levers 15 pivotally attached at one end to the upper ends of standards 1 and having their other ends connected by links 16 to levers 13. An upper movable step 17 connects the levers 15.

The several levers, links and arms are so proportioned and assembled that when the lower movable step 9 is extended forwardly to active position the joints between arms 10 and links 12 are slightly past dead centers. Thus the steps 14 and 17 will be held in forwardly extended active positions. These steps cooperate with the forward portion of seat 3 and with the lower step 9 to form a stepladder which is strong and compact and is capable of supporting a person safely while standing on any one of the steps.

When it is desired to collapse the ladder and use the device as a chair it is necessary merely to swing the step 9 upwardly. This will move arms 10 past their dead centers and downwardly to a position such as shown by broken lines. At the same time the upper movable steps will be relieved of their supporting means and, consequently, will swing downwardly against the standards 1, thereby forming back rests for the occupant of seat 3. As step 9, at this time, is under seat 3, the chair can be occupied without inconvenience.

To extend the device for use as a stepladder the operator pulls forwardly and upwardly on one of the steps 14 or 17. This causes all of the movable steps to assume the full line positions shown in the drawing at which time the cooperating arms 10 and links 12, being past their dead centers and in engagement with stops 11, will hold the parts in their proper positions for use.

The device can be made of any suitable materials and the design can of course be changed without departing from the spirit of the invention.

If desired strips 18 can be secured to the standards 1 adjacent to levers 13 so as to constitute supplemental back rests when the device is in use as a chair.

What is claimed is:

1. The combination with a chair structure comprising a framework having back standards and a seat, of back rests movably connected to the standards to swing from a vertical position adjacent said standards to a horizontal position

forwardly thereof, a movable step supported upon said framework and normally positioned beneath the seat, and means operated by the movement of said step to load supporting position below and in front of the seat for shifting the back rests into position for use as the upper steps of a ladder.

2. The combination with a chair structure comprising a framework having back standards and a seat, of back rests movably connected to the standards to swing from a vertical position adjacent said standards to a horizontal position forwardly thereof, a movable step supported upon said framework and normally positioned beneath the seat, an arm mounted to swing with the step, and means operated by the arm when the step is moved to active position below and in front of the seat, for swinging the back rest to horizontal position to form the upper steps of a ladder.

3. The combination with a chair structure comprising a framework having back standards and a seat, of upper and lower back rests movably connected to the standards to swing from a vertical position adjacent said standards to a horizontal position forwardly thereof, a step supported upon said framework below and adapted to swing into or out of position beneath the seat, and means operated by the outward movement of the step for swinging the back rests to horizontal position to constitute the top steps of a ladder.

4. The combination with a chair structure comprising a framework having back standards and a seat, of upper and lower back rests movably connected to the standards to swing from a vertical position adjacent said standards to a horizontal position forwardly thereof, a step supported upon said framework below and adapted to swing into or out of position beneath the seat, and means operated by the outward movement of the step for swinging the back rests to horizontal position to constitute the top steps of a ladder, said means including an arm adapted to swing with the step, and lever and link connections between the arm and back rests.

5. The combination with a chair structure comprising a framework having back standards and a seat, of upper and lower back rests movably connected to the standards to swing from a vertical position adjacent said standards to a horizontal position forwardly thereof, a step supported upon said framework below and adapted to swing into or out of position beneath the seat, and means operated by the outward movement of the step for swinging the back rests to horizontal position to constitute the top steps of a ladder, said means including an arm adapted to swing with the step, and lever and link connections between the arm and back rests, said arm being movable past a dead center during the upward movement of the back rest, and means for limiting the movement of the arm in one direction past its dead center.

6. The combination with a chair structure comprising a framework having back standards and a seat, of upper levers pivotally connected to the standards, an upper back rest connecting the levers, lower longer levers connected to the standards, a lower back rest connecting the same, the upper and lower levers being mounted to swing from vertical positions adjacent said standards to horizontal positions forwardly thereof, links connecting the levers, a step supported upon said framework and mounted to swing into and out of position beneath the seat, arms movable with the steps, link connections between the arms and lower levers and means for stopping the movement of the arms and their links after moving in one direction past their dead centers.

ANA B. COONEY,
Administratrix of the Estate of Sebern A. Cooney, Deceased.