Aug. 16, 1938. C. W. FREEMAN 2,127,398

FOLDABLE FURNITURE

Filed Feb. 11, 1937 2 Sheets-Sheet 1

Fig. 5.

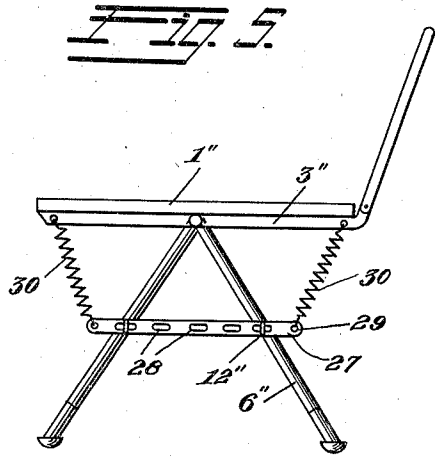


Fig. 1.

Inventor
Claud W. Freeman

By Watson E. Coleman
Attorney

Aug. 16, 1938. C. W. FREEMAN 2,127,398

FOLDABLE FURNITURE

Filed Feb. 11, 1937 2 Sheets-Sheet 2

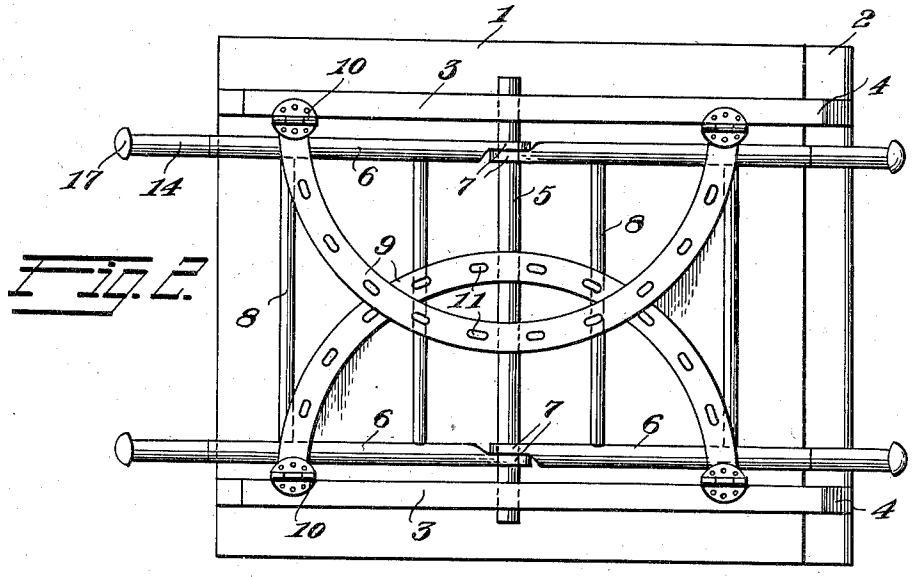


Fig. 2.

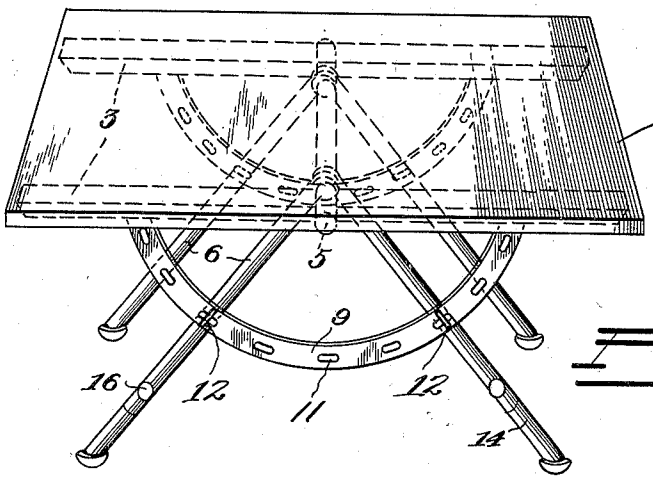


Fig. 3.

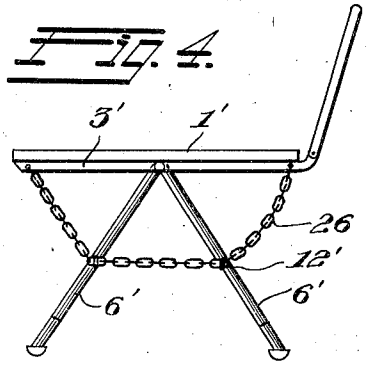


Fig. 4.

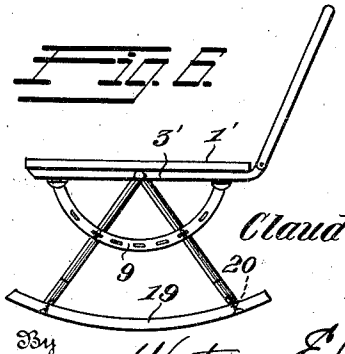


Fig. 5.

Inventor
Claud W. Freeman.

By Watson E. Coleman
Attorney

Patented Aug. 16, 1938

2,127,398

UNITED STATES PATENT OFFICE

2,127,398

FOLDABLE FURNITURE

Claud W. Freeman, Fort Worth, Tex.

Application February 11, 1937, Serial No. 125,322

3 Claims. (Cl. 155—77)

This invention relates to articles of furniture, and pertains particularly to a collapsible piece of furniture and more especially chairs.

The primary object of the present invention is to provide an improved article of furniture which is so designed that it may be conveniently folded up and may also be adjusted when in use to vary its height from the floor or other supporting surface.

Another object of the invention is to provide an improved foldable article of furniture which in addition to being adjustable as to height, may also be readily adjusted in such a manner as to change the plane of the top portion thereof, as for example, if the device is used as a chair the seat may be so adjusted as to tilt the same backwardly or forwardly, and if used as a table it may be adjusted so as to make it more convenient for a person sitting at the same to work upon the top.

A still further object of the invention is to provide an improved foldable article of furniture which may be readily converted from one form to another. As an example the same may be in the form of a chair of the type having the legs contacting directly with the floor, or it may be converted into a rocking type.

Still another object of the invention is to provide an improved chair structure which may be readily vertically adjusted and which is designed in a novel manner to facilitate using it as a spring rocker.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawings forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawings but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawings:

Figure 1 represents a chair constructed in accordance with the present invention.

Fig. 2 illustrates the chair structure in folded condition.

Fig. 3 illustrates the application of the present inventive concept to a table structure.

Fig. 4 represents a modified form of the invention.

Fig. 5 shows a further modification.

Fig. 6 illustrates the converted form of the chair from a fixed to a rocking type.

Referring now more particularly to the drawings, and referring particularly to Figs. 1 and 2, there is illustrated a chair structure having a conventionally illustrated seat or bottom 1 and a conventionally illustrated back 2. The seat 1 may be provided upon its underside with the spaced parallel bars 3 of rectangular or angular cross section as may be found most desirable, and each of these bars is disposed adjacent one side of the seat. At its rear end each bar has an upwardly extending portion 4 which constitutes a support for the back 2.

Disposed transversely of the underside of the seat and secured at its ends in the bars 3, is a shaft 5, and oscillatably mounted upon this shaft adjacent each of the reinforcing bars 3, is a pair of legs, each of which is indicated by the numeral 6. These legs at their upper ends are flattened, as indicated at 7, and are provided with suitable apertures for the passage of the shaft 5 and the flattened portions of each pair of legs lie in side-by-side contacting relation, and the legs of one pair are spaced from those of the opposite pair by the cross rounds 8 so that each pair of legs is maintained in position upon its side of the chair.

Disposed to extend across the outer sides of each pair of legs is an arcuate bar 9, the ends of which extend upwardly toward the underside of the chair seat and are pivotally attached thereto by the hinges 10 which are preferably secured to the adjacent reinforcing bars 3. These hinges are so constructed and arranged as to facilitate the swinging of the arcuate brake bars inwardly toward the underside of the seat when the legs are swung upwardly to assume positions parallel with the seat, thus bringing the parts of the chair structure into folded relation, as illustrated in Fig. 2.

Each arcuate bar is provided with the series of elongated slots 11. These slots are slightly arcuate conforming to the curvature of the bar in which they are formed, and they extend lengthwise of the bar, as illustrated.

Each of the legs 6, which is preferably of tubular material, has threaded into a suitable aperture therein a thumb screw 12 which has an elongated head 13 which is adapted to pass through a slot 11. These screws are placed upon the outer side of the legs 6, and when the legs are brought into the relation illustrated in Fig. 1 the arcuate bracing bar 9 can be swung into position against the outer sides thereof and the heads of the screws 12 passed through selected slots 11 and then turned to extend transversely of the slots,

thus fixing the connection between the legs and the adjacent bracing bar. It will be readily apparent from the description thus far given of the chair construction, that the pairs of legs may be adjusted so as to raise or lower the chair, the raising of the chair being effected by bringing the front and rear legs closer together and the lowering by separating the legs, and that after the legs have been brought into the desired adjusted relation they may be firmly fixed by engaging the thumb screws in the bracing bar apertures in the manner described. It will also be apparent that the chair seat may be readily disposed at any desired inclination from the horizontal by disengaging the thumb screws from the bracing bars and oscillating the seat into the desired position, and then re-engaging the legs and bars.

As previously described, the legs **6** are preferably of tubular material, and the lower portion of each leg has a separable section **14** which has a reduced upper end extension **15** which passes into the lower end of the leg proper to be fixed or held in place by the screw **16**. By this means the legs may be lengthened if desired, so as to take care of any inequalities in the supporting floor surface. In addition, the lower end of each separable leg portion **14** is provided with a detachable pad **17**. This pad may be fixed in any desired manner in the portion **14** as by the use of a threaded stud **18**, so that the pads may be removed and replaced by rockers, such as is illustrated at **19** in Fig. 6. When the rocker is placed in position between and connecting the lower ends of a pair of legs, a suitable securing screw **20** is passed thru the rocker and into the threaded passage from which the pad screw **18** was removed.

While the back **2** may be of any suitable construction, there is here illustrated a bar **21** which extends across the lower portion of the back and through the upturned ends **4** of the chair seat bars **3**. These upturned ends position in recesses **22** in the chair back and each end terminates in a portion **23** of reduced width which forms a shoulder **24** which co-acts with a similar shoulder in the upper part of the recess **22** so as to maintain the back in the upright position shown but permitting it to be swung forwardly and downwardly onto the top of the seat **1**.

Fig. 3 illustrates the application of the idea to a backless chair or table. In other words this figure may illustrate a chair of the stool type, or if the structure is made sufficiently large the top **25** may be used as a table top instead of a stool seat. The only distinction between this structure and the structure shown in Fig. 1, is that the structure of Fig. 3 is without a back, therefore the same reference numerals may be used to indicate the parts of the under or supporting structure.

Fig. 4 illustrates a slightly modified form of the structure of Fig. 1. In this form the seat **1'** having the reinforcing bars **3'** upon its underside and the legs **6'** connected to the bars in the same manner as stated in connection with Fig. 1, has a unit coupling the legs and seat which consists of a chain loop **26** at each side of the seat, the ends of each loop being attached to the adjacent reinforcing seat bar **3'** so that the loop will normally hang down against the sides of the adjacent pair of legs. The legs are provided with thumb screws **12'** and these are passed through the selected links of the chain loops and the chain thus acts to maintain the legs in the desired spaced relation, in the same manner as the rigid arcuate bars **9**. In Fig. 4 the chain is shown drawn tight between the legs, and from the nearest front leg to the forward edge of the seat, thus indicating that the seat tends to oscillate backwardly and thus slacken the portion of the chain between the rear legs and the rear edge of the seat. If the seat were occupied and the weight of the occupant thrown upon the forward edge thereof, then the portion of the chain between the front legs and the front edge of the seat would slacken and the opposite portion of each chain would be drawn tight. The section of each chain between each pair of legs will, however, be maintained tight at all times, thus holding the legs against spreading.

Fig. 5 illustrates a further modification of the invention, wherein the chair seat, indicated by the numeral **1''** has the same reinforcing under bars **3''** and the pairs of legs **6''** secured to each reinforcing bar so as to be foldable against the underside of the seat. Each leg also has a thumb screw **12''** secured therein, but in this form of the invention each pair of legs is held in the desired adjusted position by a unit which consists of a straight bar **27** which is provided with longitudinally elongated slots **28** to receive the thumb screws, and a contractile spring at each end of the bar which has one end engaged in an aperture **29** formed in the adjacent end of the bar while the other end is attached to the overlying seat bar **3''**. With this construction it will be readily apparent that the two springs **30** at each side of the chair, being of the same tensile strength, will tend to maintain the chair seat horizontal, but that an occupant of the chair may rock back and forth, the seat oscillating about the pivotal point where the legs are attached to the seat bars. This form of chair thus becomes a spring rocker, and it will be apparent that by the provision of the slots **28** in the bars **29**, the legs may be secured in adjusted relation so as to raise or lower the seat.

While the present invention is directed primarily to a foldable chair which may be readily adjusted for height or may be fixed so that the seat will assume a desired inclined position relative to the underlying supporting surface, it is to be understood that the invention is not to be restricted to chairs as it will be readily seen that the idea can be applied to tables, stools, or like structures.

I claim:

1. A chair of the character described, comprising a bottom, a pair of leg members disposed adjacent each of two opposite sides of the bottom, each pair of leg members being pivotally joined together and to the under-side of the bottom whereby the legs of each pair may be swung relatively to one another and to the chair bottom, a headed screw member carried by each leg upon its outer side, a slotted bar extending across each pair of legs and receiving said headed screw members in the slots thereof, and spring means connecting the ends of each of said bars with the underside of the chair bottom.

2. A chair of the character described, comprising a seat, a pair of leg members adjacent each of two opposite sides of the seat, each pair of leg members being pivotally connected together and to the seat whereby the legs of each pair may be swung relatively to one another and to the underside of the seat, a chain member disposed adjacent each pair of legs and having one end attached to the seat adjacent the front edge of the latter and having its other end attached

to the seat adjacent the rear edge of the latter, means for selectively coupling each chain with the adjacent pair of legs whereby the portion of the chain therebetween may be maintained taut and the legs locked against separating movement, and the portions of the chain between the points of attachment thereof with the legs and the seat being of a length to permit limited oscillatory movement of the seat when the legs are locked.

3. A chair of the character described, comprising a bottom, a pair of leg members disposed adjacent each of two opposite sides of the bottom, each pair of leg members being pivotally joined together and to the underside of the bottom whereby the legs of each pair may be swung relatively to one another and to the bottom, a unit attached to the bottom at each side and depending therefrom upon the outer side of the adjacent pair of legs and consisting of a portion extending between the adjacent pair of legs and outer portions coupling the first portion with the bottom adjacent the front and rear of the latter, means coupling each pair of the legs with the said unit portion extending therebetween whereby the legs are locked to prevent their separation, and the said outer portions being flexible to permit oscillation of the seat bottom when the legs are locked.

CLAUD W. FREEMAN.