Jan. 6, 1925. 1,522,030

C. O. ROBINSON

COLLAPSIBLE SUPPORTING DEVICE

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Fig. 1.

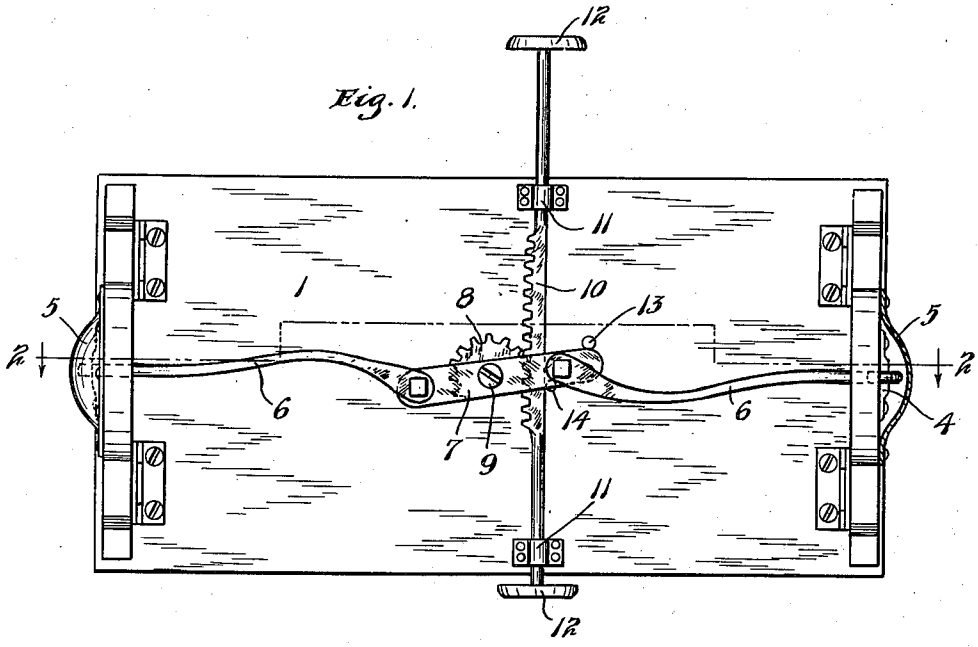


Fig. 2.

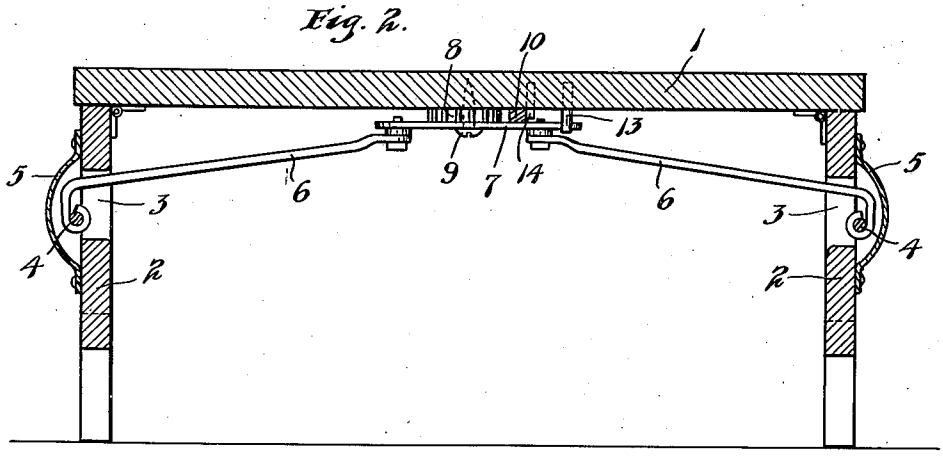
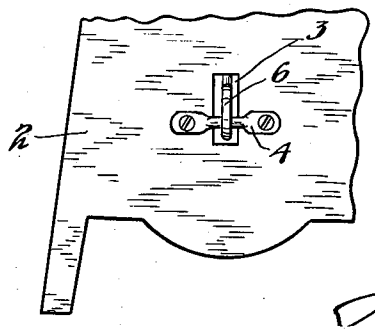


Fig. 3.



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Fig. 4.

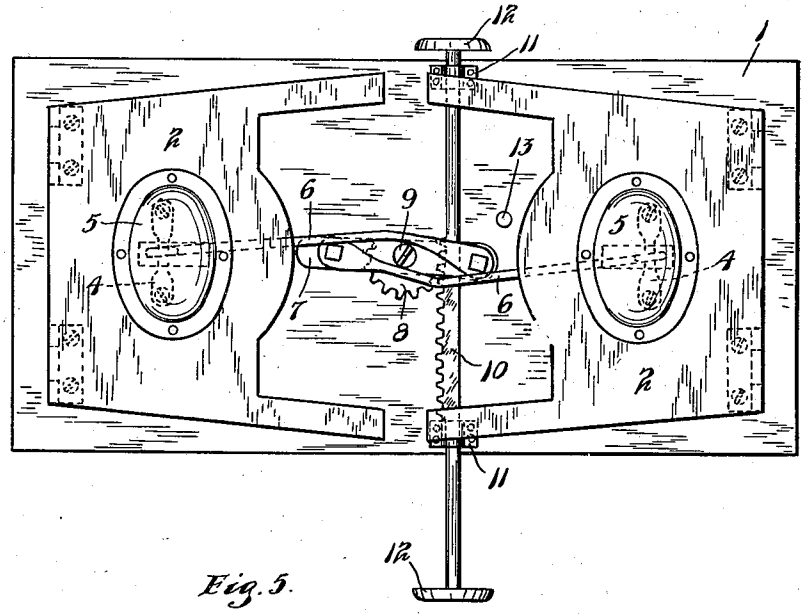
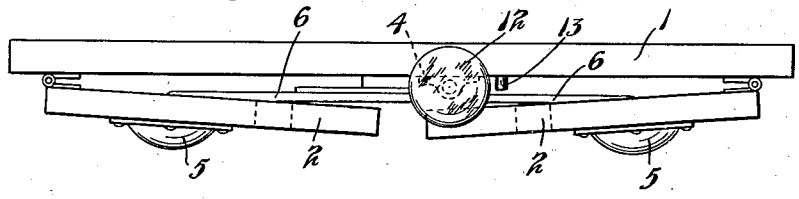


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES O. ROBINSON, OF BISMARCK, NORTH DAKOTA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO ROBINSON-HALLUM MANUFACTURING COMPANY, OF MINNEAPOLIS, MINNESOTA, A CORPORATION OF MINNESOTA.

COLLAPSIBLE SUPPORTING DEVICE.

Application filed March 10, 1922. Serial No. 542,530.

To all whom it may concern:

Be it known that I, CHARLES O. ROBINSON, a citizen of the United States, residing at Bismarck, in the county of Burleigh and State of North Dakota, have invented certain new and useful Improvements in a Collapsible Supporting Device; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a collapsible support adapted to serve as a table, chair, bassinet stand, or other similar supporting device. In small apartments and where closet room is scarce it is often desired to fold up a table or other supporting device so that the same can be conveniently stored in a small space.

It is an object of this invention, therefore, to provide a supporting device having legs swingingly mounted and adapted to be quickly and easily folded into position close to the supporting surface of the member and to be easily and quickly extended to operative position.

It is a further object of the invention to provide a very simple and efficient means for simultaneously swinging the legs quickly to operative or inoperative position.

These and other objects and advantages of the invention will be fully set forth in the following description made in connection with the accompanying drawings in which like reference characters refer to the same parts throughout the different views, and in which

Fig. 1 is a bottom plan view of the table or supporting device with the legs in extended position;

Fig. 2 is a vertical section on the line 2—2 of Fig. 1, as indicated by the arrows;

Fig. 3 is a partial end view of the device;

Fig. 4 is a bottom plan view of the device in collapsed position; and

Fig. 5 is a side view as seen from the bottom of Fig. 4.

Referring to the drawings, the device comprises a supporting member 1 having a substantially flat upper surface. While this member may be of any shape, it is illustrated as having substantially rectangular form. Adjacent each end of the member 1 on the undersurface of the same is pivoted a supporting member 2, the lower part of which is cut away to form supporting legs. At approximately the transverse center of the members 2 and somewhat adjacent the upper end thereof are formed slots 3 and a pivot bar 4 has its ends flattened and secured to the outer side of the members 2 so that the central cylindrical portion thereof extends across said slot. Plates 5 of semi-spherical shape are shown as attached to the outer sides of members 2 and cover the slot 3 and member 4. These plates can be made of ornamental design and can also carry the trade mark or trade name of the device. Pivoted to each of the members 4 is a link 6 having its outer end passing through the slot 3 and downturned at substantially a right angle, the extreme end being bent about the center of member 4. The links 6 are shown as made of round rods and said links have their inner ends flattened and pivotally secured at equal distances on each side of the fulcrum of a lever 7. The lever 7 has secured thereto a mutilated gear or segment 8 and both are rotatable on a screw or stud 9 secured in the undersurface of the member 1. The gear or segment 8 meshes with a rack bar 10, the ends of which are formed of cylindrical shape and guided in brackets 11 secured adjacent each side of the table. Outside of the brackets the bar 10 is provided with cylindrical buttons or handles 12, the outer surface of which may be knurled or ornamented as desired. The lever 7 extends beyond the pivot of one of the links 6 and a screw or pin 13 is secured in the underside of the table with which the said lever contacts when the legs are moved to operative position in a plane substantially normal to the surface of member 1. A pin or other guiding member 14 is also secured between the sides of the table with which the outer side of the rack bar 10 contacts and by which it is held in meshing relation with the gear 8.

When it is desired to extend the members 2 and supporting legs to operative position, one of the buttons 12 is pressed upon and the rack bar 10 moved transversely of member 1. Gear 8 and lever 7 are thus oscillated and the links 6 push the members 2 to the position shown in Figs. 1 and 2. In this po-

sition, as shown, the end of the lever contacts with the member 13. The links are also in substantial alinement with the lever 7 so that these members are in sort of a dead center position or slightly past dead center and form, in effect, a straightened toggle. The members snap into this position and the lever 7 cannot be rotated by end pressure of the links or by any pressure on the leg members 2 acting to collapse the same. When it is desired to collapse the leg members to fold the same practically against the underside of member 1, the handle or disk 12 on the other side of the table is pressed upon. The rack member 10 is then moved in the reverse direction and the toggle formed by the parts 6 and 7 is broken, the lever 7 is oscillated and links 6 pull the members 2 into folded or collapsed position, as shown in Figs. 4 and 5. In this position it will be seen from Fig. 4 the pivot points of links 6 and lever 7 also lie substantially in a straight line and thus come to a dead center or slightly past dead center position. The said lever and links snap into this position and cannot be moved therefrom by any end pressure on the links. The said links, it will be noted, are slightly bent at their inner ends to provide clearance of the parts. Movement of the rack bar 10 easily moves the links 6 and lever 7 when it is desired to extend the legs.

From the above description it is seen that applicant has provided an extremely simple and efficient mechanism for moving the foldable legs of the supporting device into operative and inoperative position. The device has been particularly designed as a stand to hold a bassinet or body of a baby crriage, but, as previously stated, the same is equally applicable to any supporting member, such as a table or chair. If desired, the rod 10 may be of shorter length and the manipulating members 12 arranged to be disposed beneath the supporting members 1. The parts of the device are few, simple and when once assembled have no tendency to become disarranged. The device can be quickly and inexpensively made and has been found very efficient for the purposes had in view.

It will, of course, be understood that various changes may be made in the form, details and arrangement of the parts without departing from the scope of applicant's invention, which, generally stated, consists in the matter shown and described and set forth in the appended claims.

What is claimed is:

1. A supporting device having in combination, a flat top member, flat end supporting members pivoted adjacent each end of the undersurface of said member having central apertures therethrough, pivot rods extending across said apertures, a lever bar pivoted to said undersurface substantially centrally thereof, links pivotally connected to said bar at each side of its pivot and connected at their other ends to said pivot rods, a gear segment rigidly secured to said lever to rotate about the fulcrum thereof, a rack bar mounted in bearings adjacent each side of said top member for moving transversely thereof and meshing with said gear segment, and means at each side of the table secured to said bar for moving the same to swing said lever and simultaneously move the legs to operative or inoperative position.

2. A supporting device comprising a substantially flat top member, members pivoted at each end of said top member at the underside thereof and constructed and arranged to constitute supporting legs therefor, links connected to said legs and extending toward the center of said top member, a swinging bar mounted substantially centrally on the underside of said top member to the respective ends of which said links are pivotally connected, a gear secured to said bar, a rack bar extending transversely of said top member engaging said gear and having a handle-equipped portion extended beyond said top member, said swinging bar being adapted to be swung with said links slightly past dead center when the legs are in extended position and a stop means on said top member engaged by said bar whereby a locking means is formed for said legs.

In testimony whereof I affix my signature.

CHARLES O. ROBINSON.