July 24, 1956 G. ROBIN 2,755,845

UTILITY TRAY AND SUPPORT FOR ATTACHMENT TO CHAIRS

Filed Nov. 3, 1954

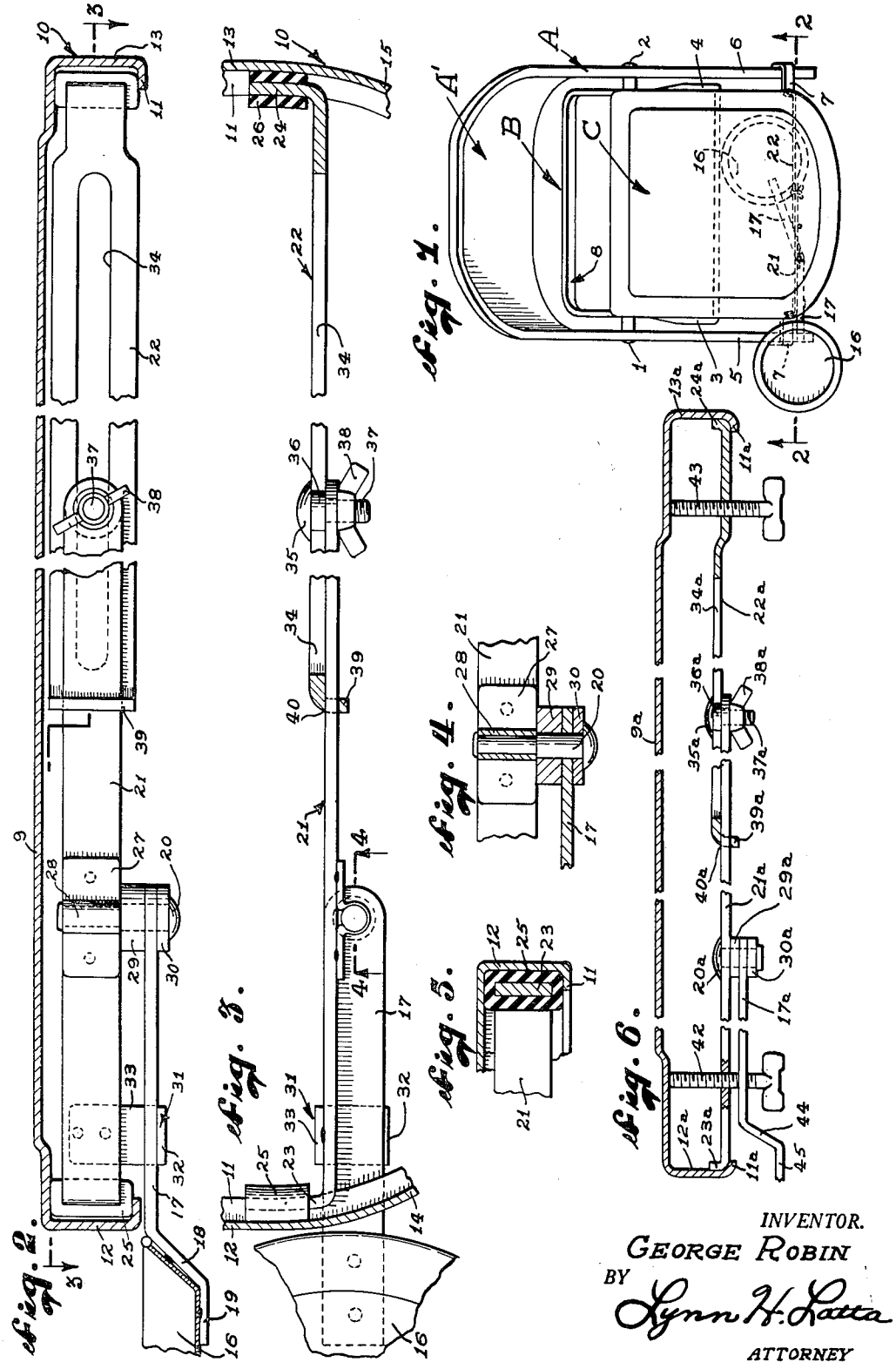


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

INVENTOR.
GEORGE ROBIN
BY Lynn H. Latta
ATTORNEY

United States Patent Office 2,755,845 Patented July 24, 1956

2,755,845

UTILITY TRAY AND SUPPORT FOR ATTACHMENT TO CHAIRS

George Robin, Santa Monica, Calif.

Application November 3, 1954, Serial No. 466,535

1 Claim. (Cl. 155—188)

The invention relates to a collapsible type chair equipped with an all-purpose utility tray, the tray being mounted for retraction beneath the seat of the chair when not in use.

One object of the invention is to provide a collapsible type chair with a utility tray having pivotal connection with the underside of the chair seat near one of the front corners thereof whereby the tray may be swung to a retracted position beneath the chair seat when not in use.

Another object of the invention is to provide a collapsible chair having a retractable utility tray mounted on the underside of the chair seat in such a position that the chair can be collapsed into condition for storage without removing the tray.

Another object of the invention is to provide a utility tray for attachment to the underside of the seat of a collapsible chair wherein the supporting structure for the tray can be quickly mounted relative to the chair seat and provides a rigid support for the tray.

Another object of the invention is to provide a utility tray for attachment on the underside of the seat of a collapsible chair wherein the support for the tray may be adjusted to accommodate different types of chairs having seats varying in width as well as side flanges varying in depth.

Another object of the invention is to provide a utility tray for attachment to the underside of the seat of a collapsible chair which may be quickly installed or removed therefrom without the need of any hand tools.

Another object of the invention is to provide a utility tray for a chair which is inexpensive and simple to manufacture.

Other objects and advantages of the invention will be apparent from the ensuing specification and appended drawing in which:

Fig. 1 is a plan view of a collapsible type metallic chair with the utility tray mounted to the underside of the chair seat;

Fig. 2 is a fragmentary sectional view taken on the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary sectional view taken on the line 3—3 of Fig. 2;

Fig. 4 is a fragmentary detail sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a fragmentary detail sectional view of the end of one of the support straps; and

Fig. 6 is a sectional view similar to Fig. 3 and showing a modified form of the invention.

In the form of the invention as shown in Figs. 1 through 5, I have shown a collapsible type chair including the outer U-shaped frame member A and the inner frame member B both of which are mounted on the pivot pins 1 and 2 as well as the chair seat C. The upper ends 3 and 4 of the inner frame member serve to support the chair seat when the chair is opened for use as shown in Fig. 1. The lower ends 5 and 6 of frame member A are tied together by means of the cross strap 7 and serve as the forward legs of the chair while the upper

portion A' thereof serves as the back rest. The U-shaped lower end portion 8 of the inner frame member serves as the rear leg support of the chair.

The chair seat is fabricated of sheet metal including the base portion 9 which spans the length and width of the seat and the downwardly depending peripheral flange indicated generally by the numeral 10 which circumscribes the entire border of the base portion of the seat. The flange has an inwardly turned lip which may be identified generally by the numeral 11, the lip circumscribing the entire border of the seat flange. The seat flange may include the side flanges 12 and 13 which extend parallel to each other and then terminate with the rounded portions 14 and 15 which continue to form the front flange of the chair seat.

The utility tray 16 may be of suitable diameter so as to support one or more articles (such as an ash tray and a drinking glass) and the tray is rigidly secured to a supporting arm 17 which is preferably bent downwardly at 18 to follow the angle of inclination of the tray rim and is then bent inwardly at 19 to provide a support for the bottom of the tray. The tray may be spot-welded to the arm if desired and the inner end of the arm is provided with an aperture through which the shank of bolt 20 projects. The supporting structure for the tray arm includes the elongated straps 21 and 22, the outer ends of which are turned inwardly at 23 and 24 to receive the rubber sleeves 25 and 26. The supporting strap 21 has a clip 27 fixed thereto as by means of spot welding, the clip having a loop 28 formed therein to provide a generally cylindrical bearing for receiving the reduced shank 28 of rivet 20. A pair of washers 29 and 30 are positioned on either side of the tray arm 17, the washer 29 serving to space the tray arm from the chair seat lip 11 so that the arm will clear the underside of the chair seat when the tray is swung out to the position as shown in Fig. 1. An L-shaped bracket 31 may be secured to the strap 21 as by means of spot welding and the outwardly projecting leg 32 thereof serves as a support for the tray arm when it is swung outwardly to the position as shown in Fig. 1. Thus the tray arm is supported at the bolt 20 and in addition thereto receives additional support by means of the bracket 31. The end leg 33 of the bracket also serves as a stop, being engaged by the tray arm when the tray is swung outwardly to the position as shown in Fig. 1.

The strap 22 has an elongated slot 34 and a bolt 35 has an enlarged shank portion 36 received within the slot and a reduced shank portion 37 which extends through a suitable aperture in the end of strap 21 and a wing-nut 38 is threaded onto the shank of the bolt 35. The inner end of strap 22 is turned outwardly forming the tab 39 which has an aperture 40 therein through which the strap 21 projects to assure that the two straps will be maintained in longitudinal alignment with each other when adjusted to the desired length.

These supporting straps for the tray are arranged on the underside of the chair seat, the wing nut 38 being loosened to permit longitudinal movement of the straps relative to each other until the rubber sleeves 25 and 26 are engaged with the opposed side flanges 12 and 13 respectively. Then the wing nut 38 is tightened to lock the straps relative to each other in the extended position wherein the rubber sleeves are resting on the lips 11 of each side flange thereby preventing any possibility of the supporting straps being disengaged from the underside of the chair seat until such time as the thumb screw 38 is loosened and the straps are moved relative to each other to shorten the overall length so as to permit removal from the chair seat. By mounting the supporting straps 21 and 22 in vertical positions relative to the chair seat, the bolt shank 37 lies in a horizontal position adja-

cent the base 9 of the chair seat and there are no obstructions to the swinging of the tray arm 17 into the retracted position as shown in dotted lines in Fig. 1.

In the form of the invention as shown in Fig. 6 the supporting straps 21*a* and 22*a* are of the same general construction as those of Figs. 1 through 5, however, the rubber sleeves are eliminated at the ends of said straps and the extent of the inwardly turned flanges 23*a* and 24*a* need only to be such as to provide additional supporting strength at the ends of said straps where they overlie the chair seat lip 11*a*. The strap 22*a* has the elongated slot 34*a* and the outwardly turned tab 39*a* with a suitable aperture 40*a* therein through which the strap 21*a* extends. The bolt 35*a* may have the enlarged shank portion 36*a* received within the slot 34*a* and a suitable wing nut 38*a* is threaded onto the bolt shank 37*a*, the strap 21*a* having a suitable aperture in the end thereof through which the bolt shank 37*a* projects.

The tray arm 17*a* has an aperture in its end through which the shank of rivet 20*a* extends and suitable spacer washers 29*a* and 30*a* are provided on either side of the tray arm, the washer 29*a* serving to space the tray arm sufficiently from strap 21*a* so that the arm will clear the underside of the chair seat lip 11*a* when the tray is swung outwardly to the position as shown in Fig. 1.

Suitable thumb screws 42 and 43 are threaded through the straps 21*a* and 22*a* respectively adjacent the ends thereof and the shanks of these thumb screws may be of sufficient length so that the ends of said screws will engage the base 9*a* of the chair seat even though the side flanges 12*a* and 13*a* may be variable in depth on different types of chairs. Thus the tray supporting strap structure can be utilized with a chair having side flanges of a depth of less than one half inch up to a depth of one and one half inches or more if desired, the length of the shanks of the thumb screws 42 and 43 determining the capacity with reference to flange depth. The supporting strap assembly is arranged beneath the underside of the chair seat, the wing nut 38*a* having been loosened to permit shortening of the strap assembly. Then the straps are extended until the ends are engaged with the side flanges 12*a* and 13*a* whereupon the strap ends will overhang the flange lip 11*a*. Then the thumb screws 42 and 43 are tightened until the ends thereof bear against the underside of the seat base thereby tightening the strap ends against the lip 11*a* to assure a rigid and non-movable support for the tray arm 17*a*.

The tray arm may extend outwardly from the bolt 20*a* sufficiently far so that the shank of thumb screw 42 serves as a stop, being engaged by the tray arm when the tray is swung out to the position as shown in Fig. 1 and then the tray arm may have an offset portion indicated generally by the numeral 44 so that the outer portion 45 of the tray arm will clear the cap end of thumb screw 43 when the tray is swung back to the retracted position beneath the chair seat as shown in dotted lines in Fig. 1.

I claim:

A container support for attachment to a chair having a seat embodying a rim including spaced opposed side rim portions projecting downwardly, said support comprising: bracket means including aligned arms, one having an elongated slot on its major axis and the other having a threaded stud projecting through said slot and a nut on said stud engageable with said one arm to lock the arms to one another, said one arm having an end portion overlapping said other arm and formed with an integral finger bent at right angles thereto and received in said slot at a point spaced from said stud and cooperating with said stud to maintain the longitudinal alignment of said arms, said arms being of flat bar section and in face-to-face engagement in a common plane, for relative sliding movement when said nut is loosened, to provide for extending and retracting movements to selectively adjust the over-all length of said bracket means; said arms having remote end portions bent at right angles to said common plane to provide clamping jaws; bands of relatively soft, compressible elastic material encircling said jaws and providing at the remote faces thereof friction pads for engagement against inner faces of said side rim portions of the seat, for attaching said bracket means to the seat on the under side thereof, with said common plane disposed vertically; a bearing yoke attached to one of said arms and providing a vertical bearing axis disposed intermediate the center and one end of said bracket means; a container supporting tray; an arm secured to and supporting said tray at one end thereof and having at its other end a pivot pin projecting upwardly therefrom at right angles to the common plane of said tray and supporting arm, said pivot pin being received in said bearing yoke to provide a pivot connecting said supporting arm to said bracket means for swinging movement of the tray in a horizontal plane, said supporting arm being of a length such as to carry said tray in a position projecting beyond the side of said seat nearest to said pivot, and being operable to swing said tray in a horizontal plane from said projecting position to a stowed position concealed beneath said seat.

References Cited in the file of this patent

UNITED STATES PATENTS

683,803	Ruebusch	Oct. 1, 1901
878,043	Chrisman	Feb. 4, 1908
2,244,459	Jett et al.	June 3, 1941
2,316,389	Atkinson	Apr. 13, 1943
2,510,351	Simjian	June 6, 1950
2,607,399	O'Connor	Aug. 19, 1952