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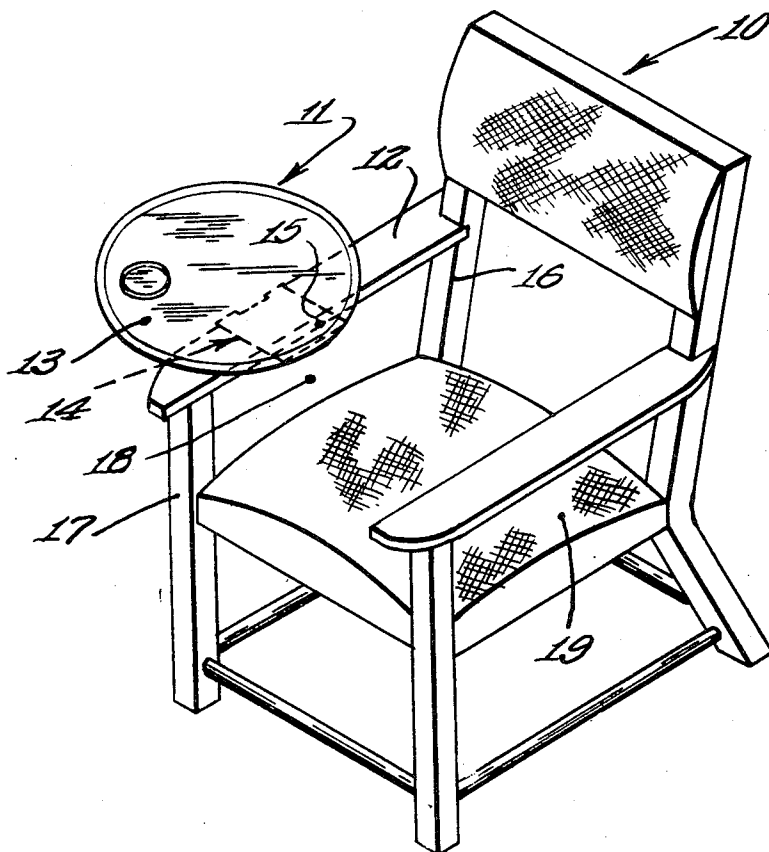
[54] **TRAY AND MOUNTING MEMBER THEREFOR**
 4 Claims, 6 Drawing Figs.

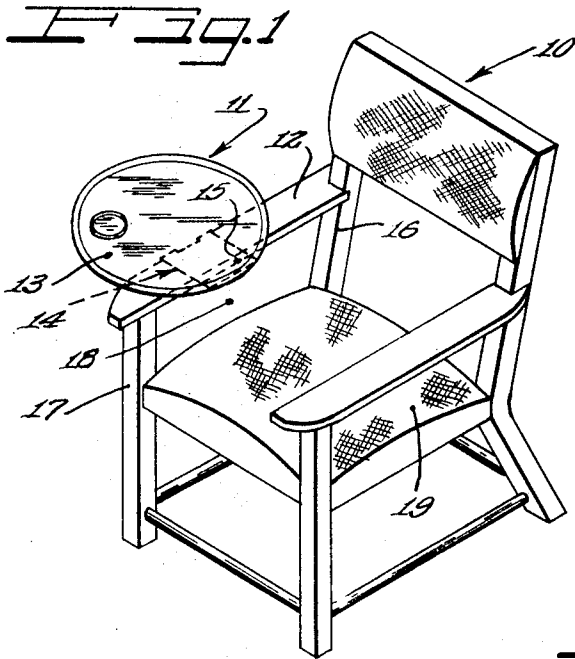
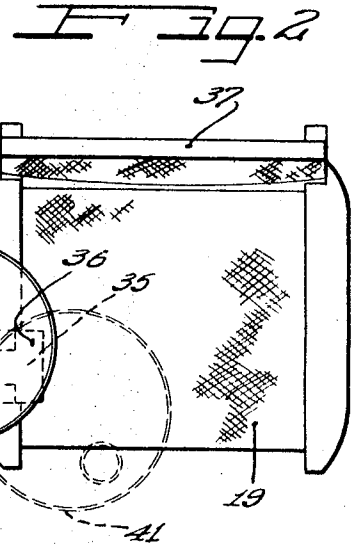
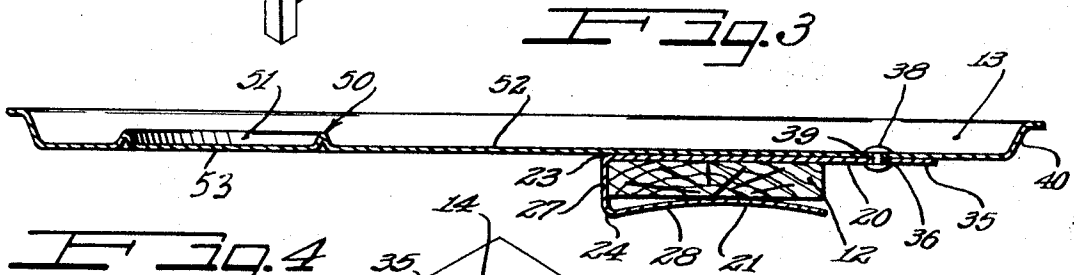
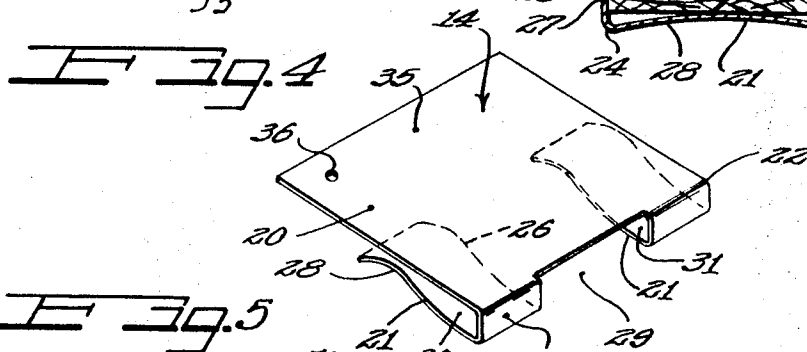
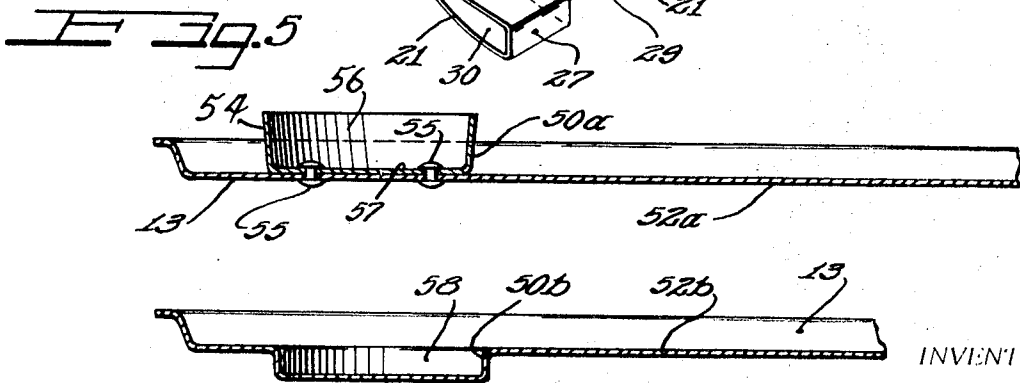
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 103; 206/19.5

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ABSTRACT: A tray for holding food, beverages and the like which is pivotably connected to a mounting plate having spring clamps thereunder for quickly mounting the plate and tray to the arm of a chair in a secure but nonpermanent manner. The tray is mounted to the plate at an offcenter pivot point which allows the tray to be swung in over the seat of the chair in a position convenient to a person sitting in the chair and swung out of the way to the side of the chair to allow ease of access in and out of the chair. In a preferred embodiment, the tray includes a holder for a cup or glass to prevent spillage therefrom during swiveling of the tray.





TRAY AND MOUNTING MEMBER THEREFOR

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to furniture accessories and more particularly to a demountable swivel tray for attachment to the arm of a chair.

2. Prior Art

Detachable tables for chairs have been suggested in the past. While some designs such as those evidenced by the subject of U.S. Pat. No. 2,650,651 to C. E. Choate have been relatively easily attachable, they have been limited to chairs of a certain design and have not provided a tray which can be placed in front of a person sitting in the chair. Other designs, as evidenced by U.S. Pat. No. 3,166,354, issued to A. Sorensen, have placed at least a portion of the tray in front of a person seated in the chair. However, they have not provided a method of moving the tray from in front of the person without demounting it from the chair.

In order to be fully utilitarian, a detachable service tray should combine stability with ease of attachment to the chair. In addition, since it is more convenient to eat from an area in front than to the side, it is desirable that such a tray may be brought to a position in front of a person seated in the chair to which the tray is attached. Further, in order to allow ease of entrance to and exit from the chair, it would be advantageous if the tray could be moved from such a position to a position out of the way where it will not interfere with sitting in or arising from the chair. The prior art has not provided all of these features in a single embodiment.

SUMMARY

This invention provides a utilitarian detachable service tray adapted to be stably attached to the arm of a chair and which can be moved from a position where the tray partially overlies the seat of the chair to a position where the majority of the tray lies to the side of the chair, thereby facilitating sitting down and standing up from the chair. This is accomplished without detaching the tray from the chair.

In a preferred embodiment, the invention includes a stabilizing baseplate having spring clamps attached thereto. The baseplate is designed to overlie the arm of a chair while the clamps underlie the arm thereby springingly entrapping the arm between the clamp and the plate to firmly attach the plate to the arm of the chair. The plate projects to one side of the arm of the chair and provides a swivel point for attaching a tray to the plate. The tray is attached at the swivel point off center with respect to the tray so that pivoting the tray around the swivel point will cause the major portion of the tray to move with respect to the chair arm from a position where it overlies the seat of the chair to a position where it is located to the side of the chair.

The tray may be of any design and construction, but is preferably made with a receptacle therein sized to hold a glass or cup. In this manner, protection is afforded against spillage when the tray is being pivotably moved or in those instances when the chair is located on unlevel ground.

It is therefore an object of this invention to provide a new and improved tray attachment for use in connection with articles of furniture.

It is a further object of this invention to provide an easily mountable and demountable service tray for use in connection with articles of furniture and the like.

It is yet another object of this invention to provide an easily mountable and demountable service tray for attachment to the arm of a chair in a stable manner.

It is yet another and more important object of this invention to provide a service tray which may be easily mounted upon and removed from the arm of a chair without damaging the chair, the tray being movable from a position substantially overlying the seat of the chair to a position alongside the chair.

It is still another and more important object of this invention to provide a service tray which may be easily and stably at-

tached to the arm of a chair and which is removable therefrom without damage to the chair and which is movable with respect to the seat of the chair by means of an offcenter pivot connection whereby the tray may be swung to a position in front of a person seated in the chair and to a position adjacent the side of the chair to allow access to and egress from the chair.

Other objects, features and advantages of the present invention will be readily apparent from the following detailed description of certain preferred embodiments thereof taken in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an arm chair equipped with the service tray attachment according to this invention.

FIG. 2 is a top plan view of the chair and tray of FIG. 1 showing underlying portions of the assembly by dotted lines and illustrating the pivotability of the tray.

FIG. 3 is a cross-sectional view of the tray assembly of FIGS. 1 and 2.

FIG. 4 is a perspective view of the baseplate of the tray assembly of FIG. 3 illustrating underlying portions by broken lines.

FIG. 5 is a fragmentary cross-sectional view of a modification of the tray of FIG. 3.

FIG. 6 is a fragmentary cross-sectional view similar to FIG. 5, illustrating another embodiment of the tray.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG. 1 illustrates a chair 10 having the detachable tray assembly 11 of this invention attached to an arm 12 thereof.

The assembly 11 consists of a tray 13, a baseplate 14, and a pivotable connection 15 therebetween.

The chair 10 is of the type which has the arm 12 projecting from a back leg 16 to a front leg 17 with a space 18 between the arm 12 and the seat 19.

As illustrated best in FIG. 3 and 4, the baseplate 14 consists of a flat member 20 which may be of metal and which is illustrated as being rectangular in form. Spring clamps 21 depend from one edge 22 of the member 20. The clamps may be formed by bending the metal of the baseplate 20 at the edge 22 into substantially a U-shaped cross section with a 90° bend 23 at the edge 22 and a second 90° bend 24 spaced a short distance from the bend 23. The clamp then consists of a portion 26 of the member 20, a bight portion 27 formed between the bends 23 and 24 and a spring leg portion 28 projecting from the bend 24 underlying the portion 26. The spring leg 28 is preferably arcuately bent away from the portion 26 of the member 20 to an extent such that its midpoint is closer to the bottom of the portion 26 than either of its ends.

Because the baseplate is preferably made of a semielastic metal such as spring steel, the arcuate bend together with the spring flexibility of the bends 23 and 24 will allow the leg 21 to be moved away from the main portion 26 of the baseplate without rebending the metal so that it will always attempt to return to its normal free state. In this manner, any object which is placed between the top side of the leg 21 and the underside of the portion 26 of the baseplate 14 will be retained therein by the spring clamp action entrapping the object therebetween.

FIG. 4 illustrates the plate 14 as having a central section 29 of the bight 27 and leg 28 cut away, thereby forming two independent clamps 30 and 31. In this manner, the plate is adapted to be attached to an arm rest with the clamps 30 and 31 acting independently so as to account for variances in arm thicknesses and level.

It can therefore be seen that the baseplate will be retained upon the arm of a chair in a stable position when it is slipped over the arm such that the arm lies between the bottom of the portion 26 and the top of the clamps 30 and 31, as is illustrated in FIG. 3. Because the baseplate acts as a simple clamp, it will not damage the arm of the chair either when being mounted thereon or removed therefrom.

Although the arm 12 of the chair 10 as illustrated in FIG. 3 has a rectangular cross section, it is to be understood that the clamp arrangement herein can be used with the majority of standard chair arms including, for example, those that are made out of side-by-side tubular pieces.

The member 20 is dimensioned so as to extend beyond the arm 12 on the side thereof opposite the bight 27. This is illustrated in FIGS. 1 and 2 as resulting in a portion 35 of the baseplate overlying the seat 19 of the chair. The portion 35 which extends beyond the arm 12 of the chair and overlies the seat 19 has a hole 36 bored therethrough. The hole 36 is preferably positioned off center adjacent the corner of the portion 35 closest to the back 37 of the chair. The hole 36 provides a pivot mount.

The tray 13 is attached to the top side of the baseplate 20 by a rivet 38 which extends into the hole 36 of the baseplate through a concentric hole 39 in the tray. The holes 36 and 39 and the rivet 38 make up the pivotable connection 15. The pivot mount provided by the hole 39 in the tray 13 is placed off center on the tray adjacent the side 40 thereof. The rivet 38 is dimensioned so as to allow the tray to freely pivot around the connection 15.

Because the pivot mount 39 is off center on the tray, revolving the tray 13 around the pivotable connection will move the tray's center point with respect to the position of the base plate 20 and the chair arm 12. Thus, the tray 13 may be pivoted to a point where the majority of it overlies the seat 19 as indicated by the position 41 in FIG. 2. Or, it may be pivoted to where the majority of it lies to the side of the chair as is illustrated at 42 in FIG. 2. The nonconcentric pivotability of the tray with respect to the baseplate thereby allows the tray to be moved from a position overlying the seat to a position alongside the chair allowing ease of access to and from the seat without removing the tray from its clamped attachment to the arm 12.

The tray 13 may be formed of any material in any desired shape and is illustrated as being circular only as a preferred embodiment. Due to the fact that chairs when placed out of doors do not always rest on level ground, and because of the pivotability of the tray, FIGS. 3, 5 and 6 illustrate a cup or glass holder in connection with the tray. The holder 50 illustrated in FIG. 3 comprises a raised annular lip 51 which is formed on the bottom 52 of the tray adjacent the side 40 thereof on a diametrical line with the pivot point 15 but on the opposite side of the centerpoint of the tray. The raised lip 51 encircles a central area 53 and provides an abutting, encircling wall therefor. A cup or glass placed in the central area 53 will be retained therein by contact against the raised lip 51 thereby preventing the container from sliding across the surface of the tray. Thus spillage is avoided.

FIG. 5 illustrates the holder 50a being formed from a separate cup-shaped member 54 which is attached to the bottom 52a of the tray 13 by means such as rivets 55. The cup-shaped member has a side wall 56 projecting from a bottom wall 57. The wall 57 is bottomed on the top of the tray 13 and provides a base for a cup or glass received in the holder 50a. The sidewall 56 will then retain the glass or cup therein during pivoting of the tray and irrespective of the levelness of the chair thereof.

FIG. 6 illustrates another embodiment of the tray 13 which has a formed recessed cup portion providing the holder 50b. In this instance, the holder 50b is formed as a part of the tray bottom 52b and comprises a cup-shaped recess consisting of a depending annular sidewall 58 and a bottom wall 59. The bottom wall 59 provides a base for a cup or glass received in the holder while the sidewall 58 retains it therein against slippage.

It can therefore be seen from the above that my invention provides for a service tray which is easily demountably attachable to the arm of a chair or the like piece of furniture and which includes a one-piece baseplate having spring clamps on

the underside thereof which are adapted to mount the baseplate to a wide variety of chair arms in a secure but undestructive manner. The baseplate has an upper portion which extends beyond the side of the arm and which carries a pivot mount for attaching the tray atop the baseplate. A second pivot mount is positioned off center on the tray so that rotating the tray around a pivotable connection between the mounts will cause the majority of the tray to either project over the seat of the chair or alongside of the chair. In this manner, a person may move the tray to the side of the chair without demounting it from the chair arm in order to sit in or rise from the chair and may thereafter move the tray to a position partially over the seat of the chair and in front of the person sitting therein. The tray includes a formed or attached receptacle thereon which provides a holder for a glass or cup and which will retain the same in a given place on the surface of the tray preventing movement thereof irrespective of the position of the tray thereby restricting spillage.

It will be appreciated that both the baseplate and tray are of an uncomplicated yet sturdy design which may be economically manufactured.

Although I have herein set forth my invention with respect to certain specific principles and details thereof, it will be understood that these may be varied without departing from the spirit and scope of the invention.

I claim:

1. A service tray for detachable mounting to the arm of a chair which comprises: a baseplate, said baseplate having a substantially U-shaped cross section, one of the legs of the said U-shaped plate spring-biased toward the other of said legs whereby an object placed between said legs will be retained therebetween by the spring clamping thereof, the other of said legs having a length greater than said one leg and having a pivot mount therein at a point beyond the end of said one leg, a tray having a substantially flat base portion, said tray having a pivot mount therein, said pivot point on said tray located off center, and said tray and said baseplate pivotally attached together at said pivot mounts whereby pivoting of said tray with respect to said baseplate moves the centerpoint of the said tray with respect to the arm of a chair encamped between the said legs of the said U-shaped baseplate.

2. The tray of claim 1 wherein the said one leg comprises two spaced-apart portions each of which is spring biased towards the other of said legs.

3. A service tray assembly adapted to be demountably attached to the arm of a chair including: a base member having a side-to-side dimension larger than the width of the arm, one side thereof having a portion depending therefrom at substantially a right angle thereto, spring clamp means integral with said portion projecting therefrom and underlying in spaced relation a part of said base member, said clamp means spring-biased towards said base member, said base member, said portion and said clamp means dimensioned to entrap the arm of the chair therebetween to demountably affix said baseplate to the arm, the side of said base member opposite the said portion adapted to project beyond a side of the arm into a position overlying the seat of the chair, said base member having a pivot mount overlying the seat of the chair, a tray member, said tray member having a bottom portion, said bottom portion having a pivot mount spaced from the centerpoint of said tray member, and said tray member and said base member pivotally attached at said pivot mount whereby the said tray member may be swung from a position substantially overlying the seat of the chair to a position substantially alongside the said chair without detaching the said base plate from the arm of the chair.

4. The assembly of claim 3 wherein the said tray member includes means for retaining a container within a defined area of the said base of the said tray.