

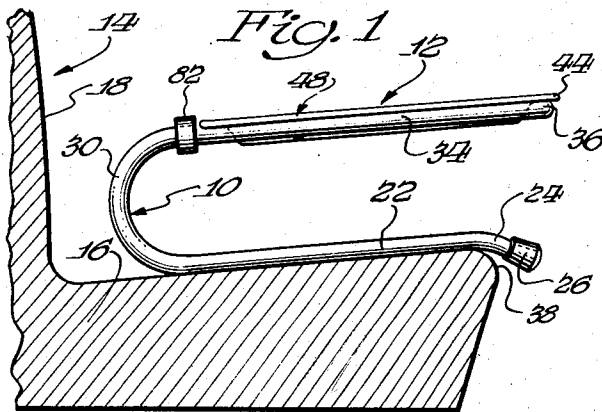
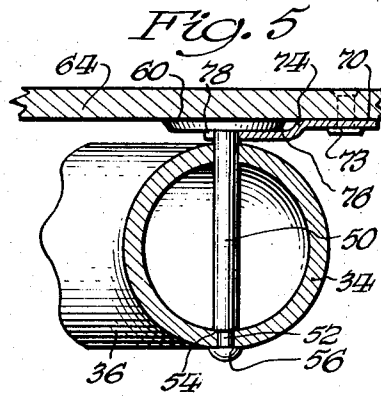
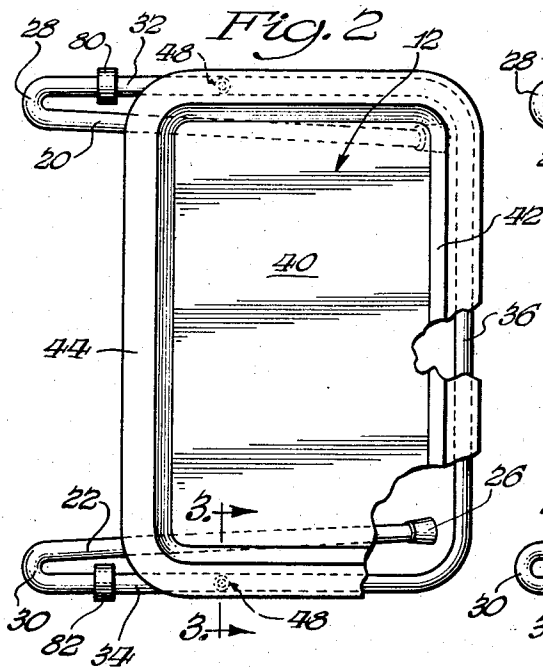
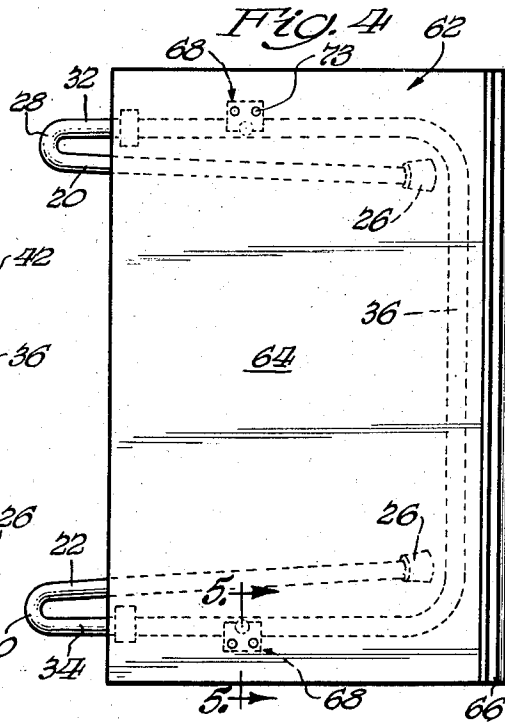
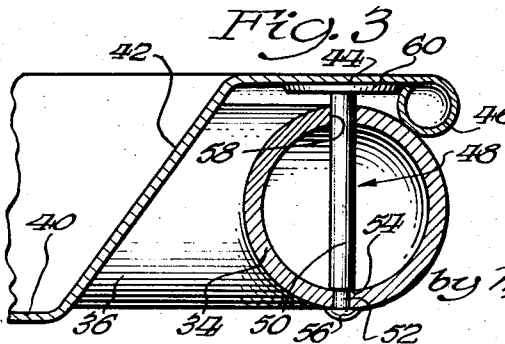
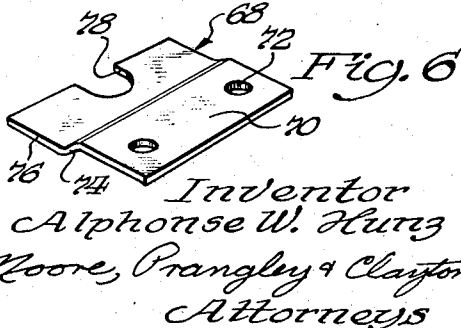
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2,869,948

LOW TABLE UNIT

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LOW TABLE UNIT

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2 Claims. (Cl. 311—17)

This invention relates to portable table units and particularly to combinations including a support stand and interchangeable trays and desk tops.

It is desirable at times to have a table or work surface for use while sitting on a chair or sofa, while reclining in bed, or while riding in an automobile or the like. Such a table is desirable when partaking of food or drinks, when performing light home tasks such as writing, typing, reading, drawing, needlework, school home work and study, report writing and for amusement purposes such as playing cards, games, solving crossword and jigsaw puzzles and similar pastimes. Such combinations also are useful in sick rooms for the sick, the handicapped and the convalescent.

On certain occasions it is desirable to have a table in which the work surface is in the form of a tray and in other cases it is desirable to have a work surface in the form of a desk top.

Accordingly, it is an important object of the present invention to provide an improved table unit of the type set forth.

Another object of the invention is to provide a combination support frame and tray unit in which the tray may be readily removed from and applied to the support frame.

Still another object of the invention is to provide an improved construction for removably mounting a tray on a support frame by which the tray may be more readily and simply mounted upon and removed from the support frame.

Yet another object of the invention is to provide an improved combination of a support frame with a desk top in which the desk top can be easily and readily removed from and applied to the support frame.

A further object of the invention is to provide an improved support frame having improved tray and desk top attaching structure forming a part thereof whereby a tray or desk top can be quickly and readily interchanged on the same support frame.

A still further object of the invention is to provide an improved desk top which can be readily applied to and removed from a support frame of the type set forth above.

These and other objects and advantages of the invention will be better understood from the following description when taken in conjunction with the accompanying drawings. In the drawings wherein like reference numerals have been utilized to designate like parts throughout:

Figure 1 is a side elevational view illustrating the combination of a serving tray and the improved frame of the present invention in operative position upon an easy chair;

Figure 2 is a plan view with certain parts broken away of the combination of the support frame and serving tray illustrated in Figure 1 of the drawings;

Figure 3 is an enlarged partial view in vertical section

substantially as seen in the direction of the arrows along the line 3—3 of Figure 2 illustrating the structure for mounting the serving tray upon the support frame;

Figure 4 is a plan view similar to Figure 2 illustrating a desk top mounted on the improved support frame of the present invention;

Figure 5 is a fragmentary enlarged view in vertical section substantially as seen in the direction of the arrows along the line 5—5 of Figure 4 illustrating the structure for mounting the improved desk top upon the improved frame; and

Figure 6 is an enlarged perspective view of the cleat used in mounting the desk top on the support frame of Figures 4 and 5.

Referring to the drawings and particularly to Figure 1 thereof there is shown an improved support frame generally designated by the numeral 10 having mounted thereon a serving tray generally designated by the numeral 12, the support frame 10 being made in accordance with and embodying the principles of the present invention. Support frame 10 has been shown mounted upon an easy chair 14 including a seat 16 and a back 18. Preferably frame 10 is formed as one piece from a continuous piece of hollow metallic tubing. It has been found that a hollow tubing having an outer diameter of $\frac{5}{8}$ inch is satisfactory in use. The tubing comprising frame 10 is bent to provide a pair of base portions or members 20 and 22 which are spaced apart a distance such that they fit along the sides of the hips of the user. In this way the hips and legs of the user can be used to stabilize and anchor support frame 10 during use.

The free ends of base members 20 and 22 are bent downwardly to provide portions 24 which are in turn provided with rubber caps 26. The other ends of base members 20 and 22 have formed integral therewith curved connecting portions 28 and 30, respectively. Curved portions 28 and 30 extend upwardly and outwardly with respect to each other and are formed integral with a pair of support members, 32 and 34, respectively. Support members 32 and 34 extend forwardly and past the ends of base members 20 and 22 and are interconnected at the forward ends thereof by a cross bar 36. Preferably support members 32 and 34 are disposed parallel to each other and in a plane that is substantially parallel to the plane in which lie base members 20 and 22.

Although the relative dimensions of frame 10 may be of any desired values provided the desired shape is retained, it has been found that the following dimensions provide a useful frame. The maximum outside width measured from the outer edges of support members 32 and 34 may be for example $17\frac{1}{4}$ inches. The length of support members 32 and 34 may be 14 inches. The distance between the inner sides of base members 20 and 22 at the point at which they join curved portions 28 and 30 may be for example $14\frac{1}{2}$ inches. The distance between the inner sides of portions 24 may be only 12 inches because of the converging relationship of base members 20 and 22. With dimensions such as those illustrated, base members 20 and 22 may have a length of 12 inches.

As is illustrated in Figure 1 of the drawings frame 10 in operative position may rest upon seat 16 of the easy chair 14. Base members 20 and 22 are adapted to be positioned upon seat 16 with the end portions 24 curving downwardly over the forward edge 38 of seat 16. Portions 24 thereby aid in steadying frame 10.

In Figures 1, 2 and 3 of the drawings frame 10 has been shown supporting the serving tray 12. Tray 12 includes a support portion 40 from which extend upwardly at an obtuse angle therewith sides 42 which

terminate in an outwardly extending flange 44. Sides 42 and flange 44 extend around the entire periphery of the support surface 40 and preferably flange 44 is disposed in a plane parallel to that of support surface 40. A rolled edge or bead 46 is provided around the periphery of flange 44 (see Figure 3 particularly).

Means is provided to mount tray 12 upon frame 10 in the form of a pair of attachment studs generally designated by the numeral 48. Referring to Figure 3 of the drawings the details of construction of attachment stud 48 will be described. Stud 48 includes a shank 50 having a reduced end 52 which extends through a complementarily shaped aperture in the associated support member 34. The junction between shank 50 and reduced portion 52 provides a shoulder 54 which positions shank 50 with respect to support member 34. The lower end of reduced portion 52 is beveled over to form a head 56 which in conjunction with shoulder 54 fixedly mounts shank 50 upon support member 34.

The upper end of shank 50 extends through an aperture 58 in support member 34 which is in axial-alignment with the aperture through which extends reduced portion 52. Shank 50 extends a short distance above support member 34 and the end thereof is provided with a flat attachment head 60. Preferably attachment head 60 is circular in shape and extends a substantial distance outwardly from shank 50. The outer periphery of attachment head 60 is adapted to fit beneath bead 46 on tray 12.

By providing two attachment studs 48 as is illustrated in Figure 2 of the drawings, it is possible firmly to mount tray 12 upon frame 10 with no additional clamping structure. The width of tray 12 is chosen so that attachment head 60 of the two studs 48 fit beneath the beads on both sides of tray 12. Frame 10 is sufficiently resilient so that support members 32 and 34 can be moved toward each other whereby to provide clearance between attachment heads 60 and the beads 46. This permits ready removal of tray 12 from frame 10. By pressing support members 32 and 34 toward each other and dropping tray 12 into place and thereafter releasing support members 32 and 34, tray 12 is easily mounted upon frame 10. More specifically the attachment heads 60 are moved outwardly under the resilient action of support members 32 and 34 into engagement under beads 46.

Instead of tray 12 a desk top generally designated by the numeral 62 can be mounted upon the frame 10 with no change in the construction of frame 10. Desk top 62 includes a substantially flat board 64 which may be formed of any suitable material such as wood, plastic, "Masonite" or the like. A support ledge 66 is suitably secured thereto such as by screws or other appropriate fasteners. Preferably ledge 66 extends the entire width of board 64 and may be used to hold pencils, papers, books and the like during use.

In order to mount desk top 62 upon frame 10 and particularly the attachment studs 48 thereof, board 64 is provided with a pair of cleats generally designated by the numeral 68. By referring to Figure 6 of the drawings the construction of one of the cleats 68 will be described in detail. There is provided an attachment portion 70 having a pair of spaced apart apertures 72 therein adapted to receive attachment rivets 73 (see Figures 4 and 5 also). Extending downwardly from attachment portion 70 and at an obtuse angle therewith is a flange 74 which connects with a flange 76. Flange 76 is therefore offset from attachment portion 70 and is positioned to lie in a plane parallel to the plane of attachment portion 70. The edge of flange 76 opposite flange 74 has a U-shaped notch 78 formed therein which has a size to receive shank 50 of attachment studs 48.

By referring to Figure 4 of the drawings, it will be seen that the cleats 68 are mounted upon the under side of board 64 along a line parallel to one of the longitudinal edges of board 64 and with notches 78 facing inwardly toward each other. The distance between cleats 68 is

such that when support members 32 and 34 are released the upper ends of shanks 50 beneath attachment heads 60 slide into notches 78.

In order to mount desk top 62 upon frame 10 it is necessary only to press support members 32 and 34 inwardly toward each other and place desk top 62 on top thereof. Upon release of support members 32 and 34, the stud shanks 50 are moved into notches 78 thereby clamping desk top 62 to frame 10. The vertical offset between flange 74 and attachment portion 70 that is provided by flange 76 is such as to clear heads 60 so that the under side of board 64 rests upon and is supported by the attachment heads 60.

For use with desk top 62 frame 10 is provided with a pair of collars or washers 80 and 82. Collars 80 and 82 are cylindrical in shape and are mounted upon support members 32 and 34, respectively. The purpose of collars 32 and 34 is to provide a support for the edge of desk top 62 positioned toward the user thereby providing four points of support for board 64. The thickness of collars 80 and 82 is substantially equal to the distance from the top of the support member (such as support member 24 as viewed in Figure 3) and the top of attachment heads 60. A preferred material of construction for the collars 80 and 82 is rubber or some other yieldable material.

It will be seen that there has been provided an improved support frame and an improved desk top which fulfill all of the objects and advantages set forth above. Although certain preferred forms of the invention have been shown for purposes of illustration, it is to be understood that various changes and modifications can be made therein without departing from the spirit and scope thereof. Accordingly, the invention should be limited only as set forth in the following claims.

I claim:

1. A portable table unit comprising in combination, a resilient tubular U-shaped member having opposed side members, a pair of leg members integrally joined to the corresponding ends of the opposed side members of said U-shaped frame, said leg members extending downwardly and forwardly in substantially parallel relation to each other and co-operating to provide a support for said frame, upright studs secured to the opposed side members of said frame, a rectangular planar top member positioned co-extensively over said frame and seated thereon, said top member having downwardly extending means thereon adapted to engage the studs on the side members of said U-shaped frame, thereby to detachably secure the top member to said frame, the resiliency of said frame constantly urging the studs on the side members of said frame into engagement with the downwardly extending means on the top member.

2. A portable table unit comprising in combination a resilient tubular U-shaped member having opposed side members, a pair of leg members integrally joined to the corresponding ends of the opposed side members of said U-shaped frame, said leg members extending downwardly and forwardly in substantially parallel relation to each other and cooperating to provide a support for said frame, upright studs secured to the opposed side members of said frame and each having an enlarged disc-like head, a rectangular planar top member positioned co-extensively over said frame and seated thereon, said top member having downwardly extending means thereon adapted to engage the peripheral edges of said heads and thereby detachably secure said top member in position on the supporting frame.

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