

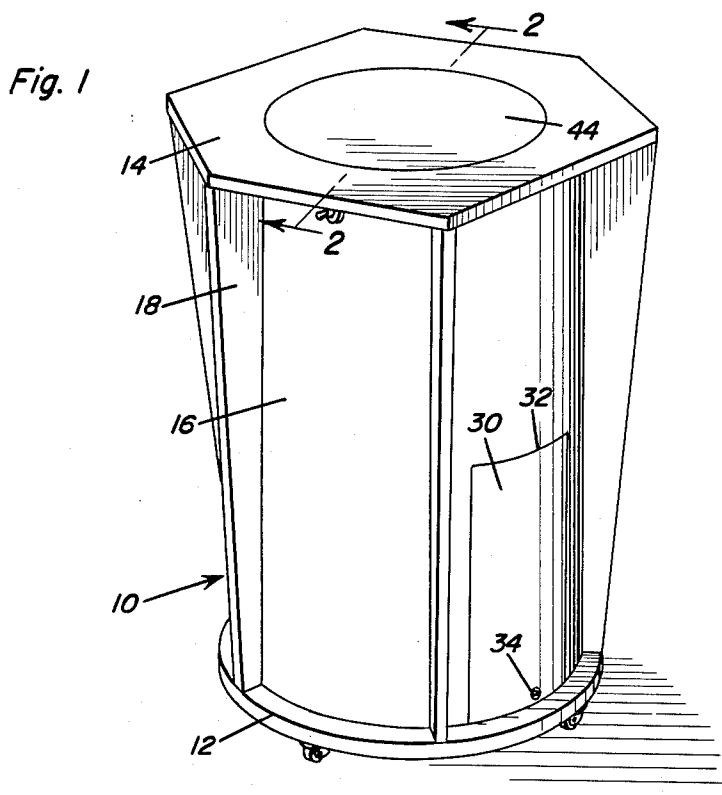
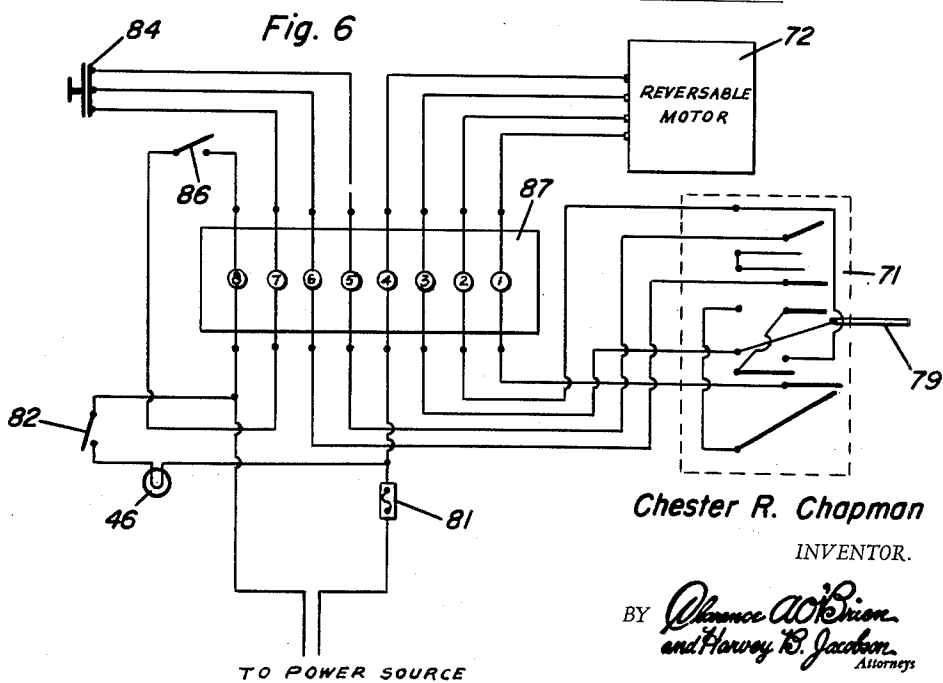
Nov. 20, 1962

C. R. CHAPMAN
EXTENSIBLE BAR

3,065,037

Filed Dec. 29, 1959

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Fig. 2

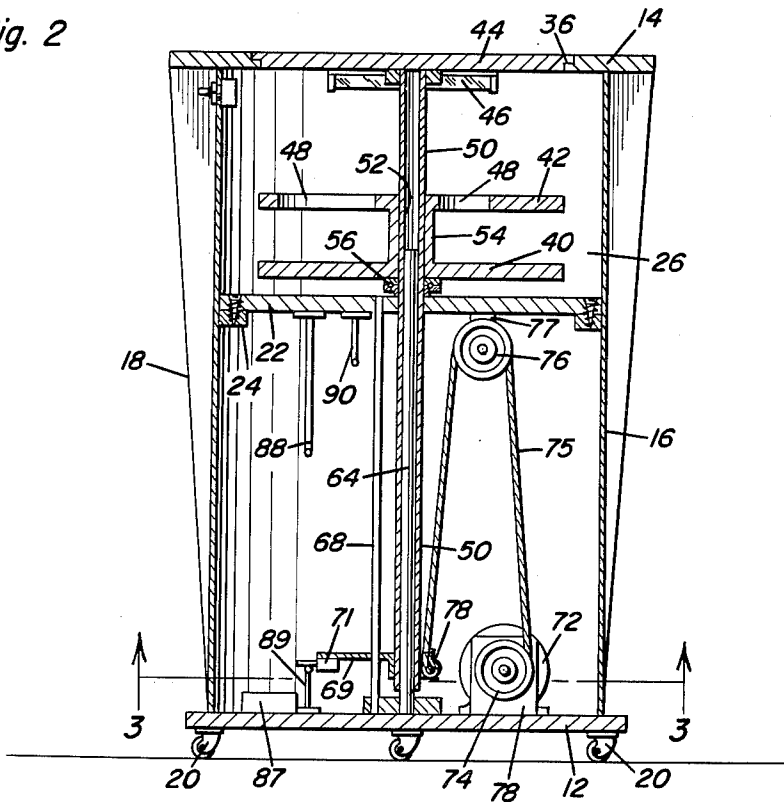
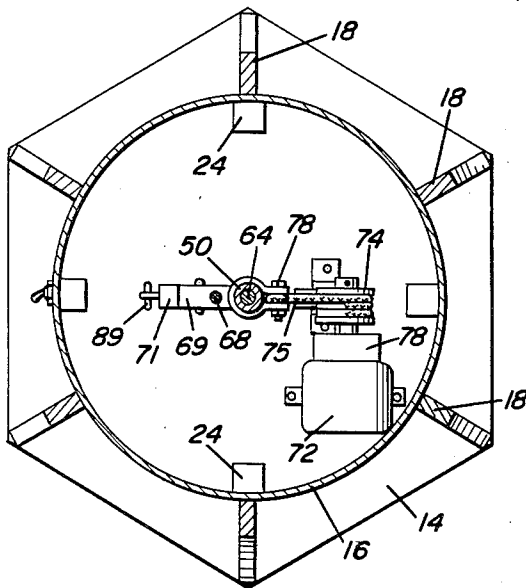


Fig. 3

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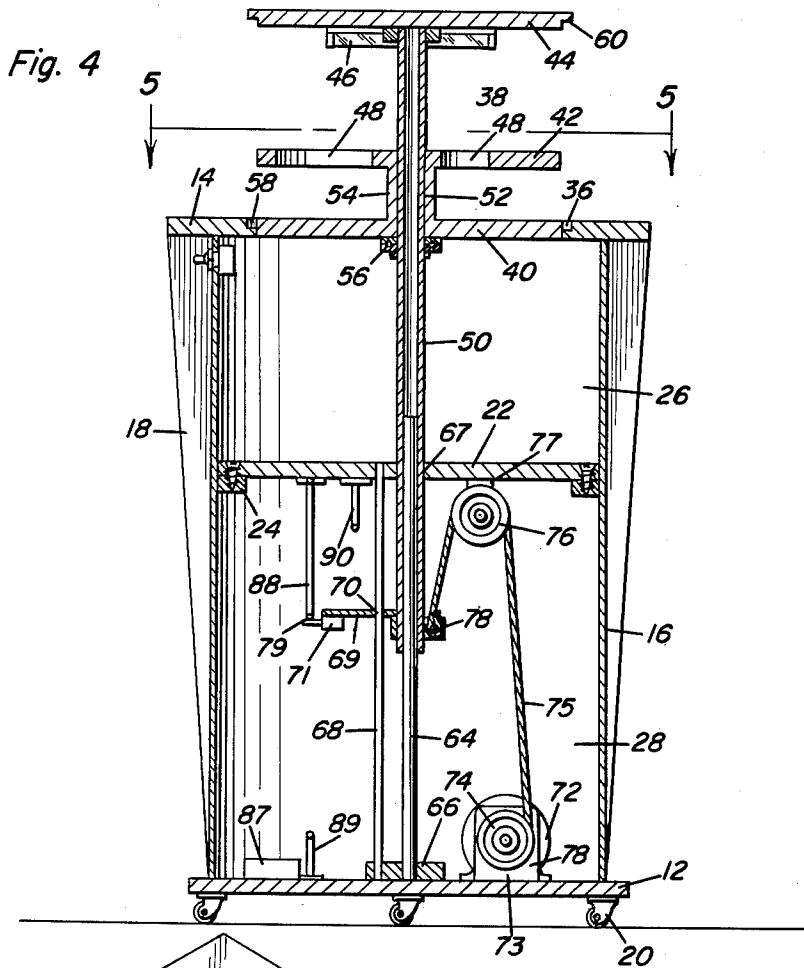
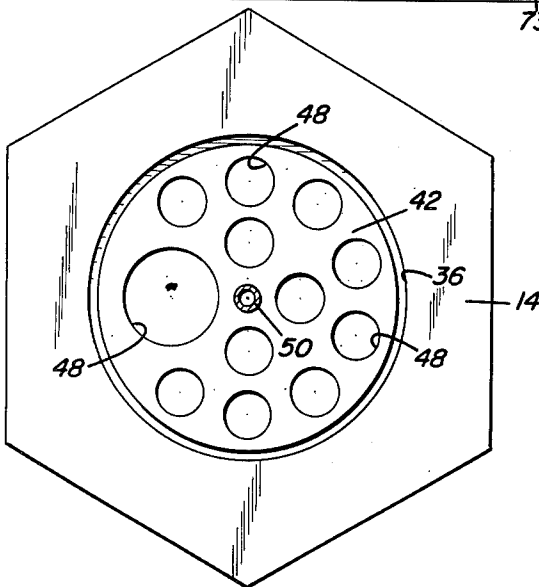
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3,065,037

EXTENSIBLE BAR

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Filed Dec. 29, 1959, Ser. No. 862,631

4 Claims. (Cl. 312-223)

This invention relates to articles of furniture and more particularly to a vertically extensible bar.

An object of the invention is to provide a vertically extensible bar which may be used as a table, bar, server and in other capacities.

Briefly, the invention is embodied in an article of furniture which is both ornamental and utilitarian, the furniture being essentially of cabinet construction but equipped with a vertically extensible assembly providing a lazy Susan arranged in tiers above the top of the cabinet structure.

An important feature of the invention is in the electrical circuit. The lazy Susan part of the cabinet structure is elevated from the power derived from an electric motor. There are safety switches arranged in the path of travel of a traveler which moves at a speed and through a distance proportional to the up and down travel of the lazy Susan. The assembly of limit switches enables the user to raise and lower the lazy Susan assembly and to be certain that the motor will not override the full up and the full down positions of the lazy Susan.

When the lazy Susan assembly is in the elevated position, the lowermost panel thereof is coplanar with the table top of the article of furniture forming an essentially continuous new table top. The same holds true for the intermediate panel of the lazy Susan and for the uppermost panel i.e. when in the lowered position, it nests within an opening in the table top forming an essentially smooth table top for the article of furniture.

It is preferred that one of the lazy Susan panels, for example the intermediate panel, have a number of openings therein by which to accommodate and support glasses, bottles, etc. This will prevent them from tipping over when the furniture is being used in any capacity.

Another feature of the invention is a source of illumination carried by the uppermost lazy Susan panel and at the undersurface thereof so as to direct the light rays downwardly toward the balance of the article of furniture.

Although a few of the possible uses of the furniture have been mentioned, it is to be clearly understood that numerous other uses will occur to various individuals and therefore, the several uses are given by way of example, it being further understood that the principles of the invention are equally well applicable regardless of the ultimate use of the furniture.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a perspective view of an article of furniture exemplifying the principles of the invention.

FIGURE 2 is a sectional view taken on the line 2-2 of FIGURE 1.

FIGURE 3 is a sectional view taken on the line 3-3 of FIGURE 2.

FIGURE 4 is a sectional view showing the furniture in the extended position.

FIGURE 5 is a sectional view taken on the line 5-5 of FIGURE 4.

FIGURE 6 is a diagrammatic view showing a typical electric circuit of the invention.

In the accompanying drawings reference is first made

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to FIGURES 1-5. There is an illustration of an article of furniture 10. This article of furniture may be used in numerous capacities as briefly discussed previously. It is essentially of cabinet construction and consists of a base 12, a top 14 and a cylindrical side wall 16 joined to the base and to the top. A number of vertical tapered ribs 18 are secured to the lower surface of the top 14 and to the upper surface of the base. Top 14 is shown hexagonal, although this is an arbitrary selection in that the top may be made in other shapes. The same holds true of the side wall and the base, the latter being circular. A number of castors 20 are connected to base 12 and these support the furniture so that it may be easily moved from one place to another.

A transverse partition 22 is attached within the confines of side wall 16, for instance it may be secured to a plurality of blocks 24 glued or otherwise secured to the inner surface of the side wall 16. The partition 22 subdivides the cabinet into an upper compartment 26 and a lower compartment 28, access to which is obtained by way of door 30 and a door opening 32 formed in side wall 16. The door may be mounted on a hinge or otherwise held in place, and it is within the contemplation of the invention to use a key controlled lock 34 for security purposes. Access is had to upper compartment 26 through central opening 36 in top 14.

A lazy Susan structure 38 is operatively connected with the cabinet. It is made of three shelves or tiers 40, 42 and 44, and they line in parallel planes and are vertically spaced from each other. A source of illumination, for instance fluorescent lamp 46, is secured to the bottom surface of tier 44 and is arranged to direct light rays downwardly toward tiers 42 and 40. Tier 42 has a number of openings 48 of various sizes and shapes therein in order to support bottles or the like by having them slipped therethrough and rested upon tier 40.

Vertical sleeve 50 is secured at its upper end to the center of tier 44, and it extends through bore 52 of sleeve 54 to the upper and lower ends of which tiers 42 and 40 respectively are connected. The sleeve 54 is rotationally secured i.e. mounted for rotation on sleeve 50. Antifriction bearing 56 pressed or otherwise secured to the sleeve 50 constitutes a support for tier 40 thereby rotationally mounting tiers 40 and 42 together with their connecting sleeve 54 on sleeve 50.

The edge of opening 36 is routed or otherwise has a groove 58 formed therein, and shoulder 60 at the periphery of tier 44 nests within this groove when the lazy Susan structure 38 is in the lowermost position (FIGURE 2). The diameters of tiers 40 and 42 are such that they fit through opening 38 (FIGURE 4) when the lazy Susan structure is elevated.

Vertical spindle or shaft 64 is fixed at its lower end, for example by block 66, to the base 12. It is sufficiently long to extend through an opening 67 in partition 22, and sleeve 50 is sufficiently long to telescope over spindle 64 and also extend through opening 67. Guide rod 68 is held parallel to shaft or spindle 64 and it is secured at its upper and lower ends to partition 22 and block 66 respectively. Traveling arm 69, fixed to sleeve 50 and protruding laterally therefrom, has an aperture 70 therein through which rod 68 passes as the lazy Susan structure is raised and lowered. This prevents rotation of sleeve 50. The arm also serves as a structural support for switch 71 which will be mentioned again subsequently.

There are means for elevating the lazy Susan structure, and these means are seen best in FIGURES 2-4. They consist of an electric motor 72 attached by motor mount 73 to base 12 and located within compartment 28. Pulley 74 is secured to the shaft of the motor and it has a rope or cable 75 attached thereto and reeved

thereover. The rope is also entrained over a guide pulley 76 mounted by hanger 77 beneath partition 42. The extremity of the rope is secured to a clamp 78 which is fixed to sleeve 50 so that upon rotation of the shaft of motor 72, rope 75 is either payed out or wound on shaft 74 depending on the direction of rotation of the motor. This will result in raising and lowering of the lazy Susan structure.

The upper and lower limits of the motion of the lazy Susan structure is established by limit switches. These switches may be incorporated as a single control switch 71 which has an operating lever 79 (FIGURE 6) projecting therefrom. The motor 72 is a reversible motor and therefore switch 71 is wired conventionally to energize the reversible motor and control it. Further, inasmuch as commercially available reversible electric motors ordinarily operate at a speed which is entirely too high for safe operation of the lazy Susan structure, it is preferred that a speed reducer 78 be interposed between the shaft of motor 72 and the pulley 74.

The electric circuit in FIGURE 6 is a rather rudimentary circuit including a pair of conductors adapted to connect with the power source and having one side of the line fused as at 81. The electric light 46, preferably fluorescent, is connected across the lines on the fused side thereof, and there is a control switch 82 to cause the electric light to be energized. Control switch 71 which is vertically movable with the lazy Susan, has a pair of switch sections which are connected with a double throw single pole switch 84 and with the reversible motor 72 to enable the switch 84 to energize motor 72 i.e. the separate windings thereof causing the motor to be operated successively in the clockwise and counter-clockwise directions after switch 71 is energized. Safety control switch 86 is connected with one side of the power lines to open the circuit immediately upon abrasion of switch 86. All wiring is through a junction block as junction box 87 for both safety and convenience.

Switch 71 is operated by motion of the switch operator 79 caused by engaging upper and lower stops 88 and 89 respectively which are secured to partition 22 and to base 12 and located in the path of travel of the switch operator 79 (FIGURES 2 and 4). Emergency stop 90 is a mechanical stop secured to partition 22 and in the path of travel of arm 69.

The light switch 82 and the double throw single pole operating switch 84 are conveniently located, for instance on side wall 16 in a position concealed or essentially concealed by being located closely beneath the top 14.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A convertible article of furniture adapted to be used as a portable bar comprising a cylindrical cabinet having a vertical axis and a top provided with an aperture, a horizontal partition having a small bore therethrough and dividing said cabinet into upper and lower chambers, a lazy Susan structure including a plurality of tiers normally concealed in said upper chamber member with the upper tier coplanar with said top and enclosing said opening, a vertical shaft rigidly fixed to the bottom of the lower chamber, a sleeve connecting the tiers and slidably guided on said shaft and in said bore for preventing tilting of said tiers, power means in said lower chamber for

raising said lazy Susan operatively connected to said sleeve, the lower two of said tiers being mounted rotationally on said sleeve and the top tier being fixed to said sleeve.

2. A convertible article of furniture adapted to be used as a portable bar comprising a cylindrical cabinet having a vertical axis and a top provided with an aperture, a horizontal partition having a small bore therethrough and dividing said cabinet into upper and lower chambers, a lazy Susan structure including a plurality of tiers normally concealed in said upper chamber member with the upper tier coplanar with said top and enclosing said opening, a vertical shaft rigidly fixed to the bottom of the lower chamber, a sleeve connecting the tiers and slidably guided on said shaft and in said bore for preventing tilting of said tiers, power means in said lower chamber for raising said lazy Susan operatively connected to said sleeve, said means for raising said lazy Susan structure including an electric motor, an electric circuit connected with said motor and adapted to be connected with a source of electrical potential, and said electric circuit having a reversing control switch structurally fixed to said sleeve at its lower end and adapted to move therewith, fixed stops in the path of travel of a portion of said switch to operate said switch when said lazy Susan structure has reached its upper and lower limits respectively, a light fixed below said upper tier and connected to said circuit.

3. A convertible article of furniture adapted to be used as a portable bar comprising a cylindrical cabinet having a vertical axis and a top provided with an aperture, a horizontal partition having a small bore therethrough and dividing said cabinet into upper and lower chambers, a lazy Susan structure including a plurality of tiers normally concealed in said upper chamber member with the upper tier coplanar with said top and enclosing said opening, a vertical shaft rigidly fixed to the bottom of the lower chamber, a sleeve connecting the tiers and slidably guided on said shaft and in said bore for preventing tilting of said tiers, power means in said lower chamber for raising said lazy Susan operatively connected to said sleeve, said power means comprising an electric motor driving a reel, a pulley rotatably fixed to the underside of said partition, and a flexible elongated member extending over said pulley and having its ends secured to said sleeve and reel respectively, a vertical member located in said lower chamber and spaced laterally from said shaft and secured to said partition and said bottom, said vertical member being slidably splined to said sleeve for preventing rotation of the sleeve and a control switch for the motor mounted on the sleeve.

4. The subject matter of claim 3 wherein an intermediate tier constitutes part of the lazy Susan structure and has openings to receive and steady bottles and the like which pass therethrough and are supported on the lower tier.

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