Jan. 13, 1942. A. R. FERGUSSON 2,270,041

NESTED UTILITY DEVICE

Filed April 18, 1940 2 Sheets-Sheet 1

Fig. 1.

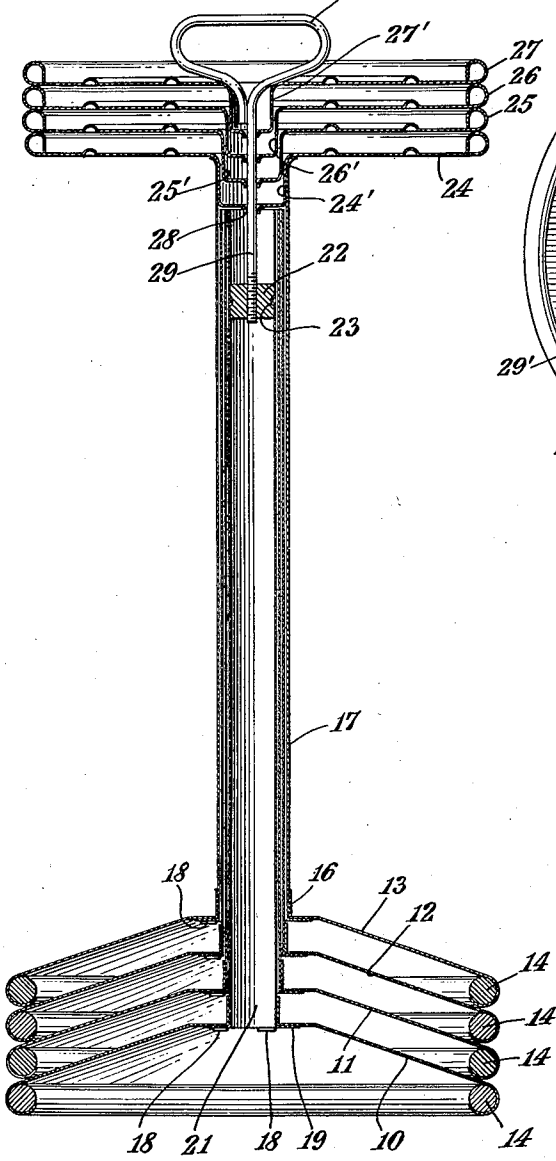


Fig. 2.

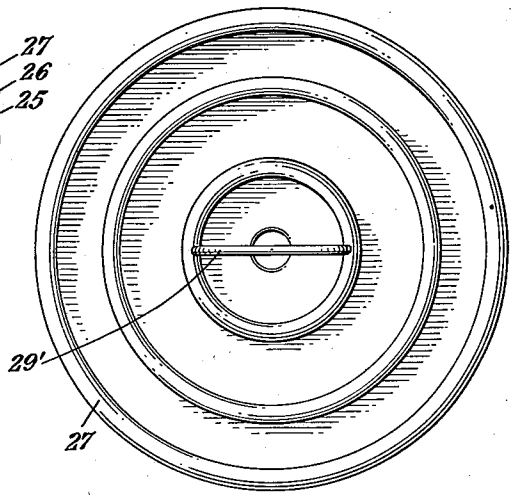


Fig. 3.

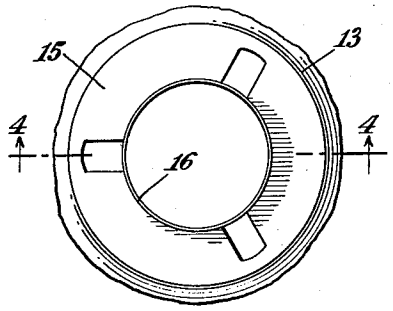


Fig. 4.

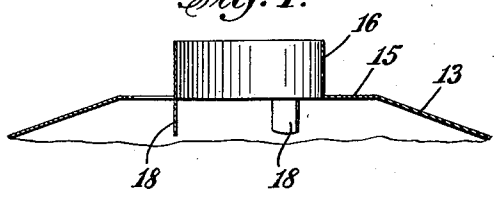
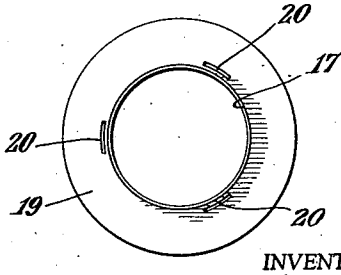


Fig. 5.



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Filed April 18, 1940 2 Sheets-Sheet 2

Fig. 6.

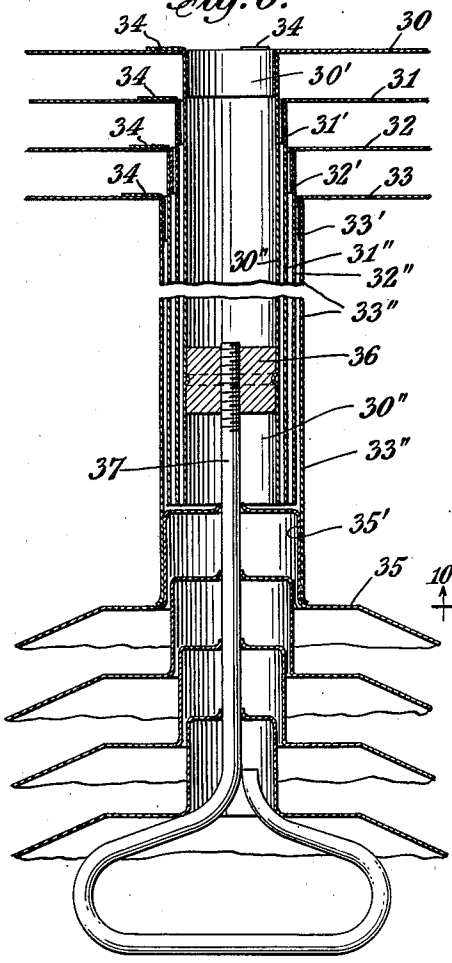
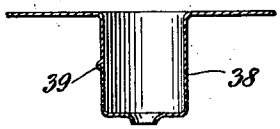


Fig. 7.



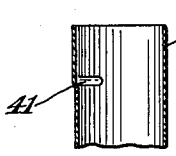
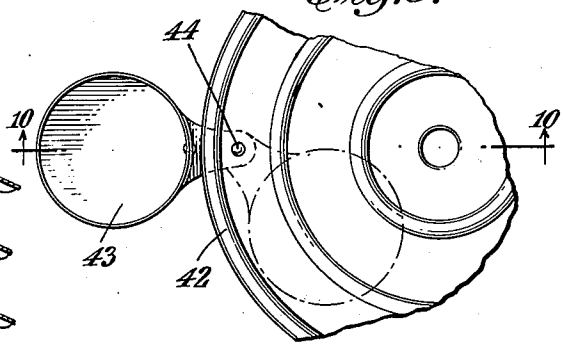


Fig. 8.

Fig. 9.



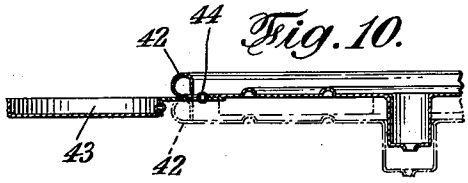


Fig. 10.

Fig. 11.

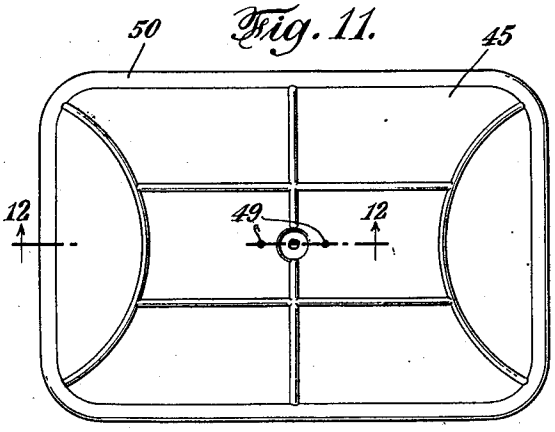
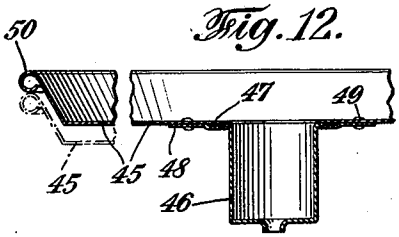


Fig. 12.



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Patented Jan. 13, 1942 2,270,041

UNITED STATES PATENT OFFICE

2,270,041

NESTED UTILITY DEVICE

Alan R. Fergusson, New Rochelle, N. Y., assignor to Snackstands, Inc., New York, N. Y., a corporation of New York

Application April 18, 1940, Serial No. 330,231

2 Claims. (Cl. 311—1)

This invention relates to portable, nestable, utility devices, and particularly to what may be termed nested tables, servers, or the like.

The prime objects of the present invention are to provide a relatively inexpensive, highly efficient, light-weight device of this kind, which is very simple in construction and operation, and which may be handled without the employment of tools by persons having no mechanical knowledge.

Another object of this invention is to provide a nestable utility device consisting of a plurality of simple and effective units, which may be connected with one another to provide a single, easily transportable piece of furniture, and which may be just as easily and quickly separated into individual tray units at short notice, and which individual units are completely self-contained and self-supporting.

Another object of this invention is to provide a nested serving device consisting of a plurality of units, each of the units being provided with an individual base and an individual tray, both associated with a standard connecting the base with the tray, and which standard of one unit is adapted to telescope with the standards of the other units, and wherein either the tray or the base is fixedly united with one end of the standard.

A still further object of this invention is to provide a nested serving device, consisting of a plurality of independently serviceable units, and wherein the device is equipped with suitable detachable means for holding the units together and carrying them, while in their nested position.

The foregoing and still further objects and advantages of this invention will become more readily apparent from the ensuing description and the accompanying drawings, in which—

Fig. 1 is a vertical cross section through one of the embodiments of my invention;

Fig. 2 is a top view of Fig. 1;

Fig. 3 is a detail view of the center portion of the base;

Fig. 4 is an enlarged cross-sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is a top view of a telescoping element used in my device;

Fig. 6 illustrates a vertical cross section through another embodiment of my invention;

Fig. 7 is a partial detail view of the center portion of a tray with a cylindrical attaching extension;

Fig. 8 illustrates a section through an end portion of a telescoping unit;

Fig. 9 illustrates a portion of a tray with an auxiliary, retractable tray element;

Fig. 10 is a section taken on line 10—10 of Fig. 9, with an underlying tray illustrated in broken lines.

Fig. 11 is a top view of another tray construction, and

Fig. 12 is an enlarged partial cross-sectional view taken on line 12—12 of Fig. 11.

Referring now specifically to the Figures 1, 2, 3, 4 and 5, numerals 10, 11, 12 and 13 denote the superimposed bases of the different units of my device. These bases are provided with peripheral edges which are turned inwardly upon themselves for accommodating and holding weight rings 14. In Figures 3 and 4 are illustrated enlargements of the center portion of base 13, the construction of which is substantially identical for all the rest of the bases. The top of the base is flattened at 15, and has a neck or extension 16, the latter being adapted to accommodate tubular element or standard 17, clearly illustrated in Figure 5. From the flattened portion 15 there are stamped out lugs 18, while tubular member 17 is provided with an end flange 19, into which are cut slots 20 for the reception of lugs 18, which latter are bent about flange 19 in the manner indicated in Fig. 1. By this construction the bases are fixedly secured with the flanged ends of their respective standards.

From Fig. 1 it will be observed that the innermost standard 21, attached to base 10, is of the smallest diameter. The next larger standard, attached to base 11, is of a sufficient inside diameter to accommodate standard 21, the next larger standard attached to base 12 is of a sufficient inside diameter to receive the standard of base 11, and the largest or outermost standard 17, extending from base 13, houses the standard of base 12. Thus all standards are in telescoping relation to one another.

Standard 21 is provided near its upper end with a nut 22, which is preferably grooved along its center portion, as shown at 23, and into which groove the material of the standard is forcibly rolled in. Thus nut 22 is immovably secured within standard 21.

Resting upon standard 17 is a tray member 24 which is provided with a central, cup-like extension 24', adapted to telescope with the upper end of standard 17. This extension is of a sufficient length to securely hold tray member 24 against accidental disengagement from the standard.

Superimposed upon tray 24 is a tray 25, con-

structed similarly to tray 24, with the exception that its central downward extension 25' is so dimensioned as to be capable of telescopingly and securely engaging the standard of base 12 and to accommodate extension 24'. Upon tray 25 rests tray 26, provided with cylindrical extension 26', designed to telescopingly engage the standard of base 11. Upon tray 26 rests the top tray 27 with a central cylindrical extension 27' so dimensioned as to telescopingly engage the upper end of standard 21 of base 10.

All central tray extensions telescope with one another, when the units are in their nested position, and are preferably provided with apertured necks 28, serving for guiding connecting rod 29 towards nut 22 in standard 21. The lower end of connecting rod 29 is threaded to engage the threaded portion of nut 22, whereby the units are securely and immovably held together in their nested position. The upper end of the rod is formed into handle 29' to facilitate the transportation of the device.

The trays shown in Figs. 1 and 2 are of a circular shape and are preferably reenforced by ribs formed from the tray material, as clearly indicated. The shape of the trays, as well as the shape of the bases, may vary. In Fig. 11 I have illustrated a tray of an oblong type.

Referring now to Fig. 6, in this illustration, compared with the construction shown in Fig. 1, the attaching arrangement of the telescoping elements with their respective bases and trays is reversed. Here the trays 30, 31, 32 and 33 are provided, respectively, with downwardly extending attaching necks 30', 31', 32' and 33', which engage, respectively, the interiors of tubular elements 30'', 31'', 32'' and 33''. At the upper ends of the tubular elements are formed lips 34, which are passed through suitable apertures provided in the trays adjacent to their necks. In this manner the trays are permanently associated with the top ends of their respective tubular telescoping standards. The bases, on the other hand, are provided with central, upward cylindrical extensions which are adapted to telescope with their respective standards. Thus the upper base 35 is provided with an extension 35', engaging the interior of tubular standard 33''.

Within the innermost tubular element 30'' is again secured a nut 36, adapted to accommodate a connecting rod 37, for joining the units with one another and for keeping them in their nested formation.

From the foregoing description of Figures 1 and 6, it becomes clearly evident that either the trays or the bases may be detachably united with the telescoping standards.

In order to more securely hold the removable trays or bases against inadvertent disengagement from their standards, when the units are separated for individual use, I preferably provide the cylindrical extension of either the trays or the bases with an easily operably locking arrangement, such as a bayonet lock, illustrated in Figs. 7 and 8. Extension 38 of either a tray or base is shown provided with a projection 39, pressed out from the material of extension 38, and tubular member 40, is equipped with a bayonet groove 41, for the reception and locking of projections 39.

Referring to Figures 9 and 10, a disk-like tray member 42 may not accommodate all the objects which are intended to be placed upon the trays. For this reason I may provide one or more auxiliary and retractable tray elements 43. I preferably pivot such tray element at 44, so that it may be turned out of the way and beneath the bottom surface of tray 42, when the tray element is not to be used.

Instead of disk trays, oblong trays, such as shown at 45 in Figures 11 and 12, may be employed. Also this type of trays may have rib reinforcements, as clearly indicated in Figure 11, or they may have a central reinforcement, as illustrated in Figure 12. In Figures 1 and 7 the central extensions of the trays were shown to be drawn from the tray material. Where such procedure is not desirable specially fabricated cup elements may be employed thereinstead, such as shown in Figure 12. In this construction cup element 46 is preferably provided with an upper flange 47, which latter is held against the edge of the central aperture, cut in tray 45, and which flange is secured to the tray by a reenforcing disk 48, riveted at 49 to the tray. The edges of all tray types are preferably reenforced.

While in the foregoing description specific forms of my invention were described, it is quite obvious that in the course of manufacture of the device changes and improvements may become necessary, and I therefore reserve for myself the right to make such changes and improvements, provided they do not depart from the broad scope of my invention, as defined in the annexed claims.

I claim:

1. In a portable utility device, a plurality of nestable units, each unit consisting of base and tray members and a tubular standard connecting them, one of the members being permanently secured at one end of the standard, the other being removably associated with the other standard end; the standards of all units being adaptde to telescope with each other, and the base and tray members being adapted to respectively overlay each other when the units are nested; means provided at one end of the standards and at the centers of the permanently secured members for effecting a fixed union between these members and the standards, the other members having cup-like central extensions with apertured central guide necks, said extensions being adapted to telescope and to interlock with the free ends of their respective standards when the units are separated, and to telescope with one another when the units are nested, handle attaching means provided within the innermost standard, and a carrying handle for the device, in its nested position, adapted to pass through the central extension guide necks of the removable members and to engage said attaching means.

2. In a portable utility device, as set forth in claim 1, said base members having inwardly turned peripheral edges and weight rings held within the latter.

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