Jan. 26, 1971 W. S. SHORE ET AL 3,558,186

MULTIPURPOSE STACKABLE HIGH CHAIR

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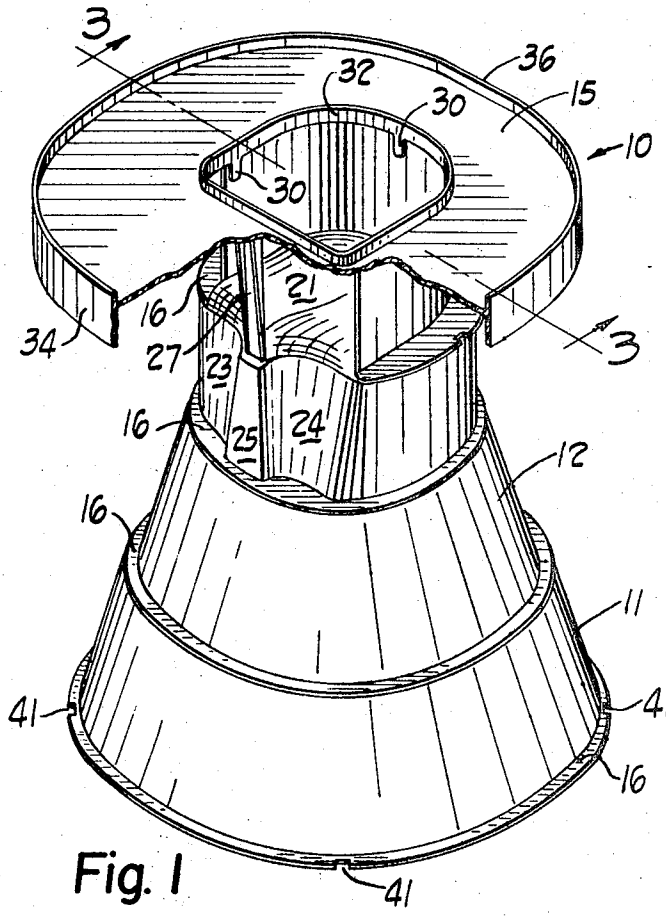


Fig. 1

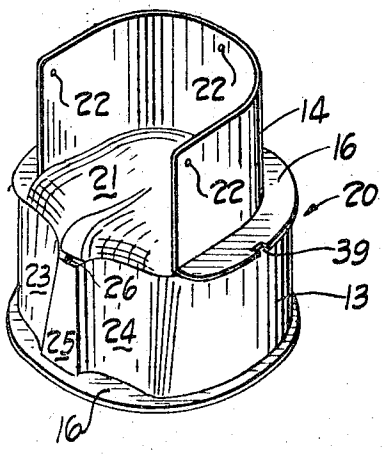


Fig. 10

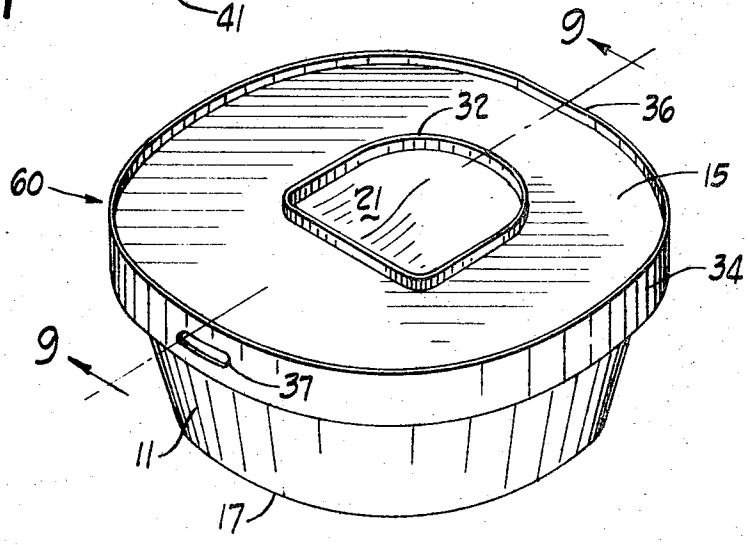


Fig. 2

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MULTIPURPOSE STACKABLE HIGH CHAIR

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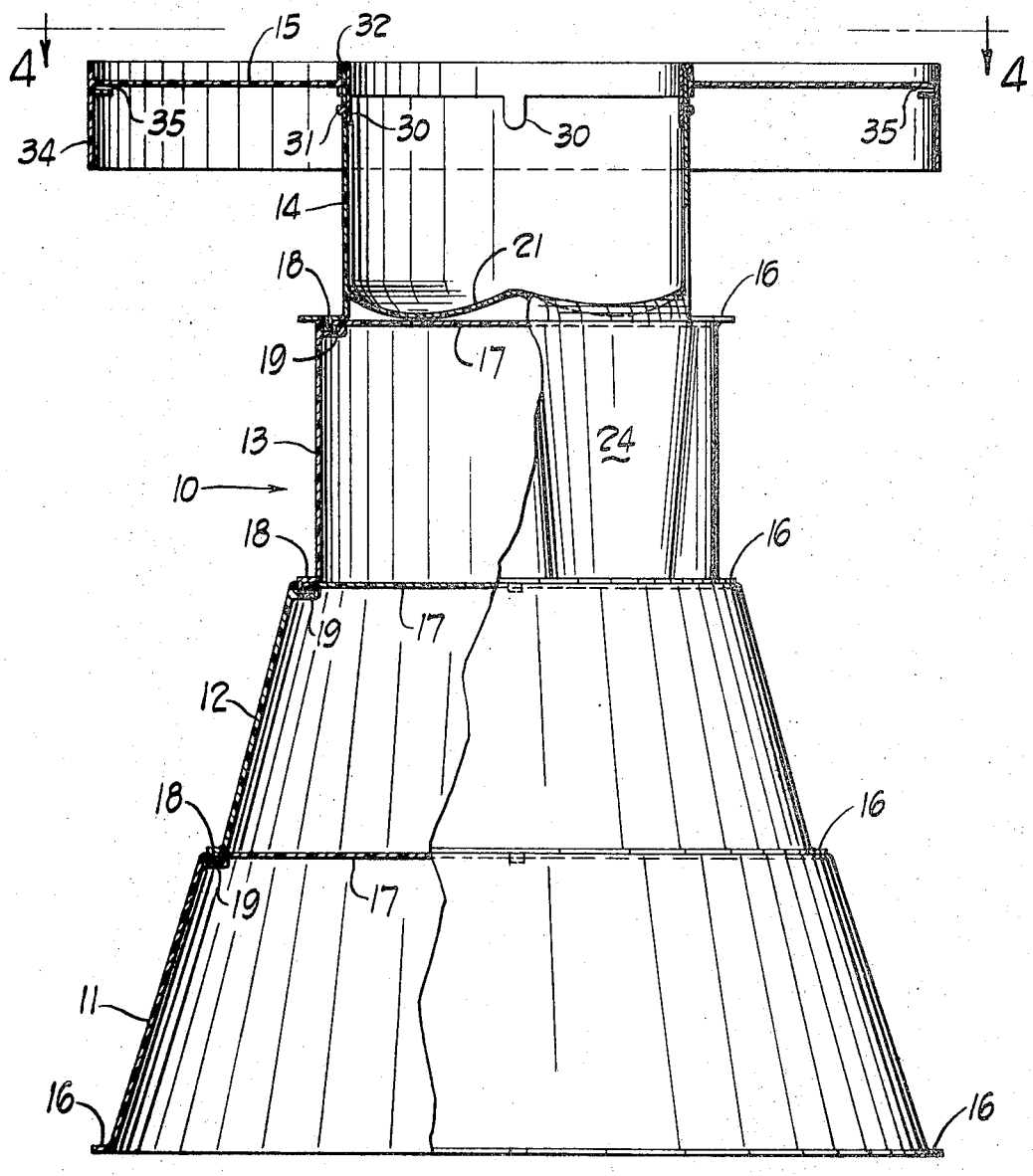


Fig. 3

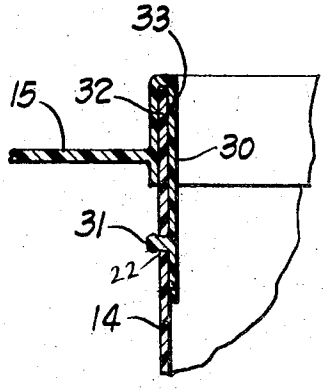


Fig. 7

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MULTIPURPOSE STACKABLE HIGH CHAIR

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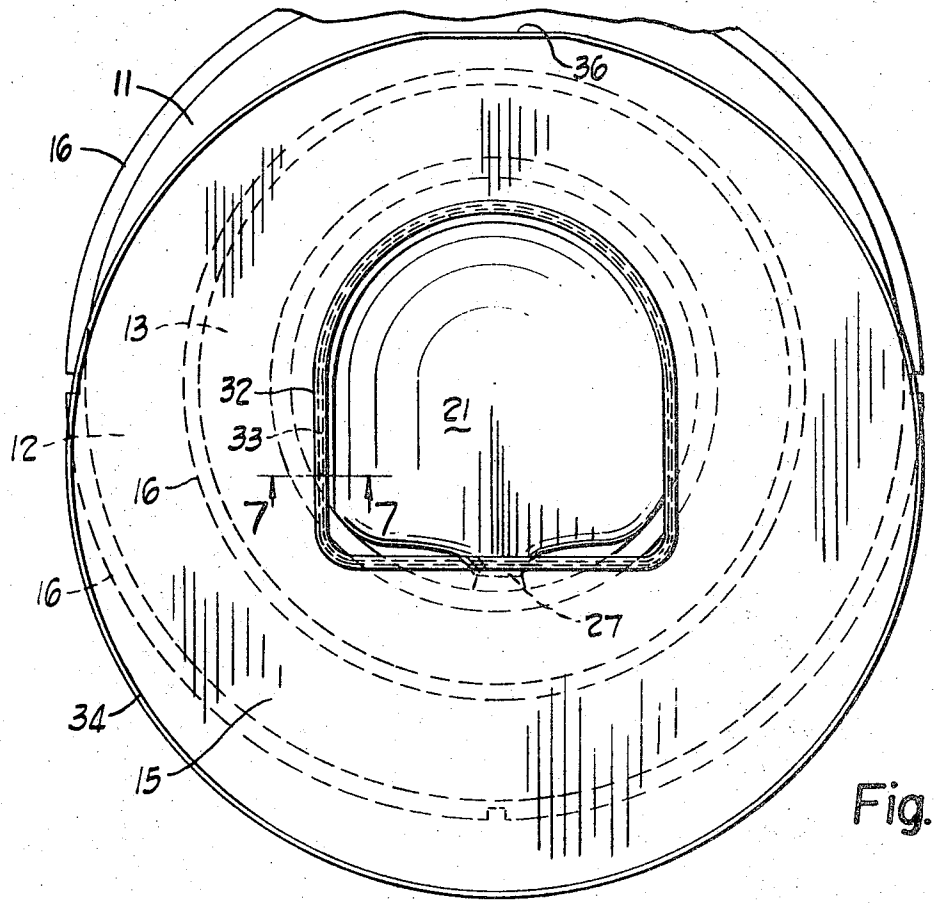


Fig. 4

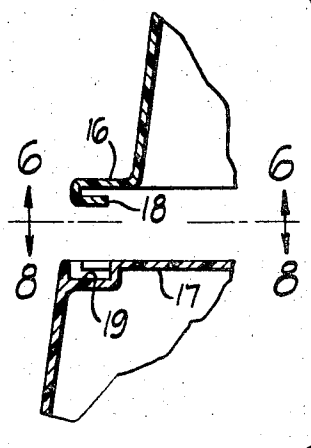


Fig. 5

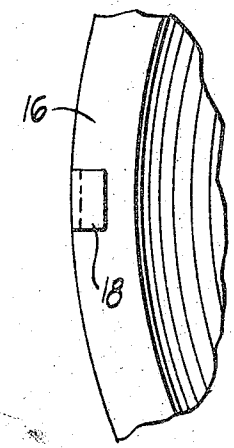


Fig. 6

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MULTIPURPOSE STACKABLE HIGH CHAIR

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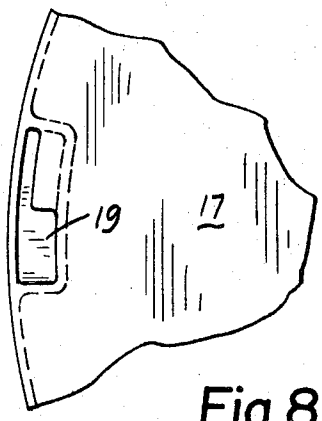


Fig. 8

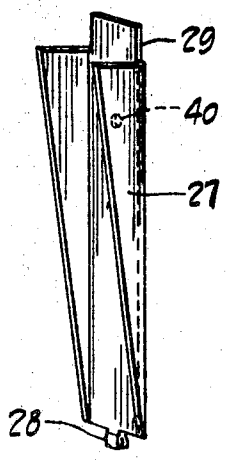


Fig. 13

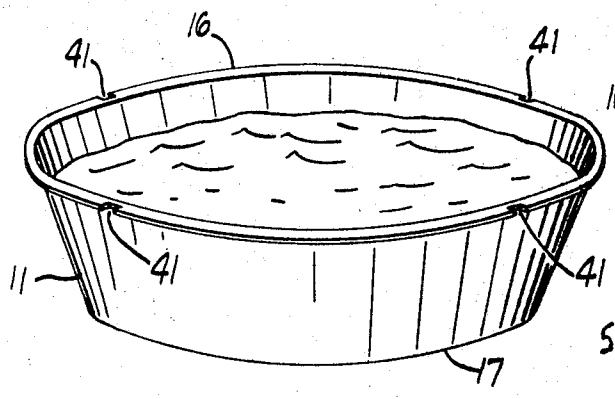


Fig. 11

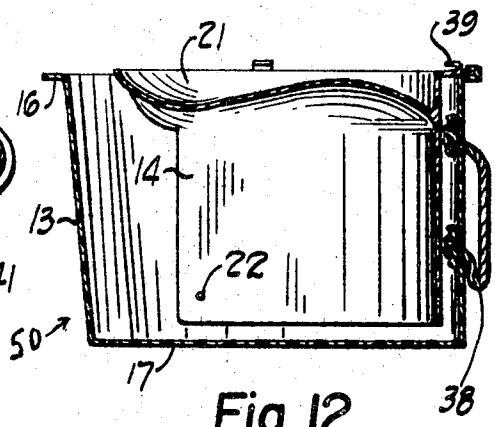


Fig. 12

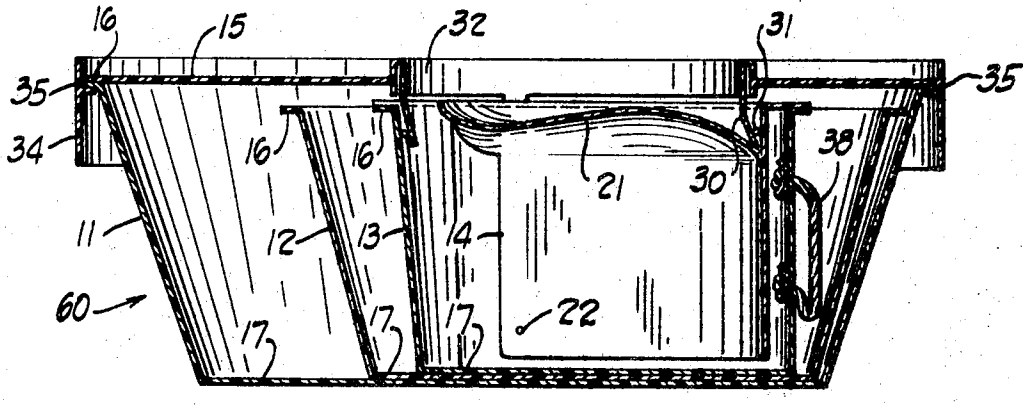


Fig. 9

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MULTIPURPOSE STACKABLE HIGH CHAIR

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Int. Cl. A47c 4/00
U.S. Cl. 297—136 4 Claims

ABSTRACT OF THE DISCLOSURE

A child's high chair consisting of a plurality of hollow cylinders of successively smaller diameter, a chair, and a feeding tray. The cylinders being adapted to be stacked, one upon the other, and secured together, to form a high base for the chair and the feeding tray mounted thereon. When disassembled, the several components being nestable, one within the other, to form a compact carrying package of which the feeding tray forms the cover.

The primary object of the invention is to provide a child's high chair made up of a number of separate hollow sections that can be either, nested for easy storage, and carrying, or stacked, to provide a sturdy child's high chair including a feeding tray.

Another object is to provide a device of the type stated whose several components can be used individually, or in varied combinations, to provide a bathinet, a portable baby utility case, a youth chair, or a stool.

These and other objects of the invention will be come apparent from a reading of the following specification and claims, together with the accompanying drawing, wherein like parts are referred to and indicated by like reference numerals, and wherein:

FIG. 1 is a perspective view of the Multipurpose Stackable. High Chair that is the subject of our invention, showing it in its stacked condition, with a portion of the feeding tray broken away, and in section;

FIG. 2 is a perspective view, showing the several components in their nested condition, to provide a compact package, ready for storage, or carrying;

FIG. 3 is a vertical sectional view taken along the line and in the direction of the arrows 3—3 of FIG. 1, with portions in full elevation;

FIG. 4 is a top plan view taken along the line and in the direction of the arrows 4—4 of FIG. 3;

FIG. 5 is an exploded view of a portion of two of the hollow cylinders, in their stacked condition, at one of the flange inter-locking means;

FIG. 6 is a bottom plan view taken along the line and in the direction of the arrows 6—6 of FIG. 5;

FIG. 7 is a vertical sectional view taken along the line and in the direction of the arrows 7—7 of FIG. 4;

FIG. 8 is a top plan view taken along the line and in the direction of the arrows 8—8 of FIG. 5;

FIG. 9 is a vertical sectional view taken along the line and in the direction of the arrows 9—9 of FIG. 2;

FIG. 10 is a perspective view of a low youth's chair, formed by stacking two of the components;

FIG. 11 is a perspective view showing one of the cylindrical components resting on its top wall, and serving as a bathinet;

FIG. 12 is a vertical sectional view of the utility case, formed by nesting the chair component upside-down in one of the cylindrical members; and,

FIG. 13 is a perspective view of the chair crotch piece, in its unmounted condition.

Referring more particularly to the drawing, there is seen in FIG. 1 the Multipurpose Stackable High Chair that is the subject of the invention, broadly indicated by reference numeral **10**, in its fully assembled condition.

The assembled high chair **10**, as seen in FIGS. 1 and 3, comprises three hollow cylindrical sections, or members, **11**, **12** and **13**, of successively smaller diameter, which are stacked, one upon the other, to form a high base for the chair member **14** and its attached feeding tray **15**.

The several components may be fabricated from any moldable or formable material, combining the required physical properties of strength, rigidity and lightness, so that the several members, when nested together to form a compact package, as described hereinafter, can be easily carried. Suggested materials are, thermo-plastics, such as polypropylene or polyethylene; or thermo setting resins, fiber-glass re-inforced, polyesters, etc.

Each hollow cylindrical member **11**, **12** and **13** has a flat top **17**, continuous side walls which terminate in a peripheral flange **16**, and is open to the bottom. Each cylinder top wall **17** has four diametrically spaced slot sockets **19** cast therein at the peripheral edge thereof, as seen most clearly in FIGS. 5 and 8. Each flange **16** has similarly spaced fingers **18**, as seen FIGS. 5 and 6, adapted to inter-fit the sockets **19** and lock the stacked cylindrical members together, upon clock-wise rotation, as seen in FIG. 3.

It is, of course, to be understood that other means might be used to provide inter-locking of the stacked members.

The so stacked and locked cylinder members **11**, **12** and **13** provide a base for the chair member **14**, of a height to position a child seated in the chair at the proper height at a conventional dining table. It is to be understood that we do not intend to limit the present invention to any particular number of cylindrical members.

The chair member **14** has a contoured seat **21** and a peripheral mounting flange **16** including locking fingers **18** which inter-fit the sockets **19** of the top cylindrical member **13**, to anchor the chair **14** securely on top of the so assembled base.

The front portion of the cylindrical member **13** is contoured at **23** and **24** to provide comfortable support for the legs of a child sitting on the seat **21** of the chair member **14**.

Reference numeral **15** indicates a feeding tray adapted to be mounted on the top edge of the chair member **14**, as seen in FIGS. 1, 3 and 4. The tray **15** has an inner opening bounded by a rim **32** and a peripheral rim **34**. The inner rim **32** has a continuous slot **33** centered therein which is adapted to receive the upper edge of the chair therein, as seen in FIG. 7. The so mounted tray **15** is locked in place on the chair **14** by three spaced tabs **30** having lock buttons **31** which interfit similarly spaced holes **22** in the chair wall as again seen most clearly in FIGS. 7 and 10.

The outer rim **34** of the tray has four circumferentially spaced, inwardly extending, lock fingers **35**, each of which is spaced downwardly of the underface of the tray,

and parallel thereto, a distance equal to the thickness of the flange **16** of the cylindrical member **11**; for a purpose to be disclosed hereinafter.

The flange **16** of the cylindrical member **11** has four similarly spaced notches **41**, cut therein, of a width to clear the fingers **35** of the tray.

Reference numeral **27** indicates a crotch piece which is positioned at the front of the chair **14**, extending in a vertical plane between the seat **21** and the tray rim **32**, as seen in FIG. 1. The crotch piece **27** is centered between the legs of a child seated in the chair, and serves to prevent the child from falling or sliding forward, out of the chair.

The crotch piece **27** is removably mounted in place by means of a button **28** at its lower end which seats in a hole **26** centered in the cylindrical member **13** between its contoured sections **23** and **24**, as is most clearly seen in FIG. 10. The upper end of the crotch piece has a tongue **29** which is inserted into the inner tray rim slot **33** and anchored in place by the button **31** of a fourth rim tab **30**, not visible in FIG. 1, which interfits a hole **40** immediately below the tongue **29**, as seen in FIG. 13.

The so stacked and locked unit is all-of-a-piece, and the wide diameter of the lowest cylindrical member **11** provides a structure that is stable and non-tipable.

To dismantle the unit for storage or transporting, the following procedure is followed:

The tray **15** is disengaged from the chair **14** and the crotch piece **27**; the crotch piece is removed; the chair member **14** is rotated counter-clockwise to disengage its locking means from the base; the cylindrical members **13**, **12** and **11** are similarly released from one another.

The largest diameter cylinder **11** is inverted and made to rest on its top wall **17**, as seen in FIG. 9. Cylinders **12** and **13** are similarly inverted and nested within cylinder **11**. The chair member **14** is nested inside cylinder **13** with its seat **21** uppermost.

The tray **15** is then positioned over the flange **16** of cylinder member **11**, with its four lock fingers **35** aligned with the four flange notches **41**, and rotated until the fingers **35** clear the notches and engage the flange **16** to provide a compact package **60** having the tray **15** for a cover, with the inverted chair seat **21** acting as a closure for the central opening of the tray, as seen in FIG. **2**.

The tray rim **34** has a hand-grip opening **37** and a flattened section **36**, diametrically opposite the hand-grip, which acts to prevent rolling of the package **60** when it is set down on its edge.

The several members may be used individually or in varied combinations to provide the following useful items:

(1) *A bathinet.*—Cylindrical member **11** may be used as bathinet by inverting it, with its top wall **17** down, and filling it with water, as seen in FIG. 11. The use of cylindrical members **12** or **13** in the same way will provide smaller units.

(2) *A stool.*—Created by stacking the cylindrical members **11**, **12** and **13**, only, omitting the chair member **14**.

(3) *A low, youth's chair.*—Created by using cylindrical member **13**, only, as the base for the chair member **14**, and omitting the tray **15**, as seen in FIG. 10.

(4) *A portable baby utility case.*—Created by nesting the chair member **14** within the cylindrical member **13**, in an inverted position, and securing them together through locking means **39**, as seen in FIG. 12, and identified by reference numeral **50**. The utility case **50** can be used to carry various baby supplies such as diapers, dusting-powder, etc. A cord handle **38**, for carrying the case is mounted on the side wall of cylindrical member **13**.

It will now be clear that there is provided a device which accomplishes the objectives heretofore set forth.

While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment thereof, as described and illustrated herein, is not to be considered in a limited sense, as there may be other forms or modifications of the invention which should also be

construed to come within the scope of the appended claims.

We claim:

1. A multipurpose stackable high chair, comprising in combination:

(a) a plurality of rigid hollow cylindrical members of diminishing cross-section;

(b) each having a flat top wall and a continuous side wall, open to the bottom, bounded at its lower edge by a peripheral flange;

(c) an upstanding chair member having a peripheral flange at its lower edge;

(d) a circular feeding tray member of a diameter equal to that of the largest cylindrical member flange; the tray having a peripheral rim and a rimmed central opening adapted to fit around the chair member at the upper edge thereof;

(e) the cylindrical members being stackable, one upon the other, to form a base for the chair member;

(f) co-operating lock means positioned on the cylindrical member top walls and the flanges of said cylindrical and chair members;

(g) said co-operating lock means being movable between first, engaged, and second, disengaged, positions upon relative rotation of the stacked members;

(h) when in their first position the lock means engage to join the stacked members inseparably together; when in their second position the lock means disengage to release the stacked members; which then may be nested, one within the other, with the tray member peripheral rim fitted and secured to the peripheral flange of the largest diameter cylindrical member, to provide a compact package for which the tray member serves as a cover.

2. A multipurpose stackable high chair, as in claim **1**, wherein the co-operating lock means comprise a plurality of circumferentially spaced female socket elements formed in the top wall of each cylindrical member, at the peripheral edge thereof, and a plurality of similarly spaced, inwardly projecting, male finger elements on the flanges, engageable with said female sockets, to secure said mating parts together, upon relative rotation of the stacked members.

3. A multipurpose stackable high chair, as in claim **1**, wherein the inner rim of the tray member has a groove in the lower edge thereof adapted to fit over and seat on the upper edge of the chair member; said inner rim having lock means engageable with the chair member, at the rim, to secure the tray and chair members together.

4. A multipurpose stackable high chair, as in claim **1**, wherein the feeder tray member outer rim has a plurality of circumferentially spaced, inwardly projecting, fingers, spaced downwardly of the under face of the tray a distance equal to thickness of the flange of the largest diameter cylindrical member; said flange having a plurality of similarly spaced notches cut in the peripheral edge thereof of a width to clear the fingers when aligned therewith in pressed engagement with the under face of the tray; said tray being locked to the cylindrical member through its flange when the fingers are rotated out of alignment with the flange notches.

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U.S. Cl. X.R.

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