

Sept. 28, 1965

J. A. GALE

3,208,409

DESK DEVICE

Filed May 25, 1964

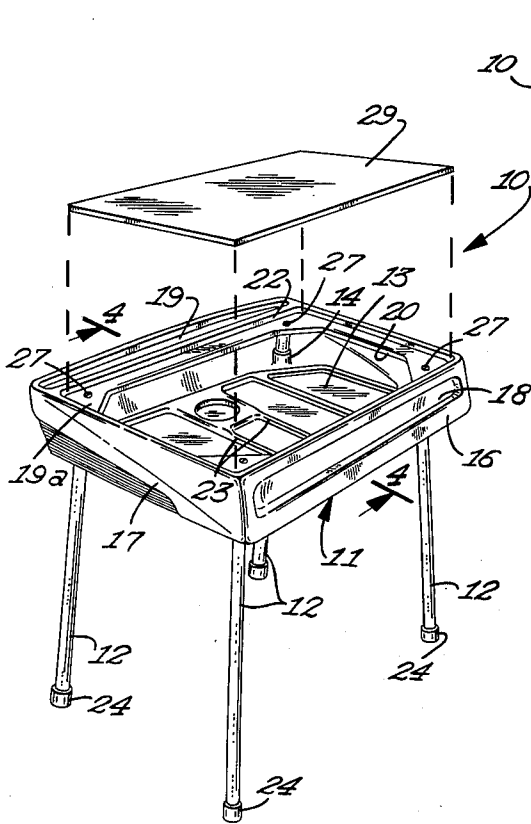


FIG 1

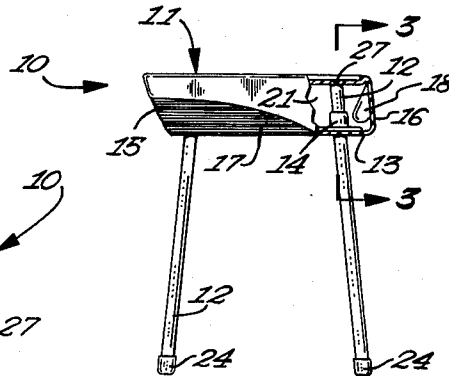


FIG 2

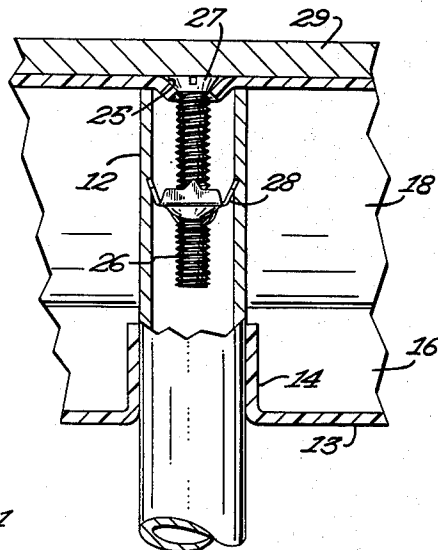


FIG 3

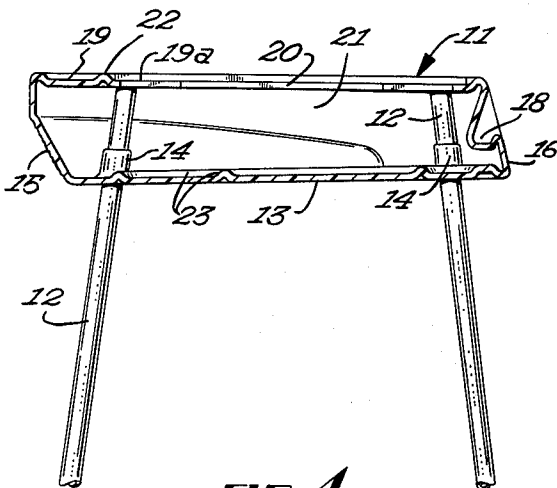


FIG 4

INVENTOR.

JOHN A. GALE

BY

Williamson & Palmatier

ATTORNEYS

1

3,208,409 DESK DEVICE

John A. Gale, Wayzata, Minn., assignor to John Gale Company, Minneapolis, Minn., a corporation of Minnesota

Filed May 25, 1964, Ser. No. 369,824
4 Claims. (Cl. 108-153)

This invention relates to desk devices.

An object of this invention is to provide a novel desk device including an integral unitary plastic upper desk structure formed through a molding operation, and having sockets therein for receiving the upper end of supporting legs, and coupling elements releasably securing the legs to the upper desk structure whereby the desk device may be arranged, when in a disassembled condition, into a compact package for shipment but which may be readily assembled by a user.

Another object of this invention is to provide a novel desk device including an integral open top upper desk structure formed through a molding operation from a somewhat resilient yieldable plastic, and including a bottom wall having leg receiving sockets therein, and having upstanding peripheral walls integral therewith, the peripheral walls having a continuous flange which forms a support for the desk top and which also presents a surface against which the upper ends of the legs of the desk device are clamped so that a very sturdy structure is presented.

A more specific object of this invention is to provide a desk device of the class described and which may be of diminutive size thereby permitting the same to be ideally used as a child's desk.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like character references refer to the same or similar parts throughout the several views, and in which:

FIG. 1 is a rear perspective view of the invention with the desk top positioned above the desk to reveal the underlying structure;

FIG. 2 is a side elevational view thereof with certain parts broken away for clarity;

FIG. 3 is a cross sectional view on an enlarged scale taken approximately along line 3-3 of FIG. 2 and looking in the direction of the arrows; and

FIG. 4 is a cross sectional view taken approximately along line 5-4 of FIG. 1 and looking in the direction of the arrows.

Referring now to the drawings, it will be seen that one embodiment of my novel desk device, designated generally by the reference numeral 10, is thereshown. It will be seen that the particular embodiment of the desk device 10 illustrated therein includes an upper desk structure 11 which is detachably mounted on a desk base which includes a plurality of legs 12.

The upper desk structure 11 is formed through a molding process and it is preferred that a rotational molding process be utilized although other molding processes may be used. In rotational molding processes, a mold unit will be employed and the plastic material fed thereto will be caused to flow over the inner surfaces of the mold unit since the mold unit will be rotated. Therefore the desk structure will be of hollow, integral construction and will have an external configuration corresponding to the inner surface configuration of the mold unit. The particular plastic materials used may be selected from those having the desired physical and chemical characteristics and it is preferred that a thermoplastic material such as polyethylene, polyvinyl, plastisol, or polyurethane be used. Of this group of materials, the one most preferred is polyethylene which may be fed into the mold unit,

2

the latter being heated during the molding operation. Any of the conventional rotational molding machines or any other molding machines may be employed in practicing the instant invention and these machines in addition to including the mold unit will also include the heating and cooling apparatus.

The upper desk structure 11 includes a substantially flat, generally rectangular shaped bottom member or wall 13 which has a plurality of generally vertically disposed cylindrically shaped socket elements integrally formed therewith an projecting upwardly therefrom adjacent the respective corners thereof. The bottom wall 13 has a front wall 15, a rear wall 16 and upstanding opposed side walls 17 integrally formed therewith and extending upwardly therefrom. It will be noted that the front wall 15 extends slightly forwardly while the rear wall 16 has an elongate recess 18 therein to thereby define a compartment in which pencils, erasers, pens and other writing material may be placed.

Referring now to FIGS. 1 and 4 it will be seen that a continuous substantially horizontal flange 19 is integrally formed with the front, rear and side walls of the upper desk structure 11 and it will be noted that the portions of the continuous flange 19 which project inwardly from the front and rear walls has a slightly greater width dimension than the portions of the flange which are integrally formed with the side walls 17. Thus it will be seen that the upper desk structure 11 is of hollow, open top construction, the opening 20 at the top thereof permitting access to the interior compartment 21 of the upper desk structure.

It will also be noted that the front portion of the continuous flange 19 has an upwardly projecting U-shaped rib 22 formed therein and this rib traverses the desk structure between the side walls and forms a compartment with the front wall 15 thereof to permit pencils, papers and other writing materials to be positioned thereat. Similarly, the bottom wall 13 has formed therein a plurality of fore-and-aft extending and transversely extending ribs 23 which project upwardly and which not only impart structural rigidity to the bottom wall but also permit the upper surface of the bottom wall to be formed into a plurality of compartments as best seen in FIG. 1.

Referring now to FIGS. 3 and 4 it will be seen that the legs 12 are inserted into the socket elements 14 and these legs 12 are preferably of elongate, tubular construction and are provided with small resilient cover elements 24 which are disposed over the lower ends thereof to prevent damage by the leg elements to a floor or other surface upon which the desk device is disposed. Although the legs 12 project through the socket elements 14, means are also provided for very effectively clamping and anchoring the upper ends of these legs so that the same are substantially anchored with respect to the upper desk structure.

To this end, it will be noted that the corner portions 19a of the flange 19 are slightly enlarged and overlie the socket elements 14 as best seen in FIGS. 1 and 3. Each of these corner portions has a counter sunk opening 25 formed therein to permit the passage of an elongate threaded male coupling element 26 therethrough. It will be noted that the substantially flat head 27 of the male coupling element 26 is disposed in substantially coplanar relation with respect to the upper surface of the flange 19, as best seen in FIG. 3. The upper end portion of each of the legs 12 has a threaded female coupling element 28 positioned therein and which is spaced below the upper edge of the associated leg. The female coupling element 28 is in the form of a conventional Tinnerman fastener and may be adjustably positioned with respect to the leg 12. Thus it will be seen that when the male coupling element 27 is threaded into the female coupling ele-

ment 28, the upper peripheral edge of the associated leg will be clamped very firmly against the under surface of the flange 19. This coaction of the coupling elements cooperates with the socket elements to very firmly anchor and position the legs 12 with respect to the upper desk structure.

It will therefore be seen that not only is a very effective means of interconnecting the legs 12 to the upper desk structure provided but this manner of interconnecting the legs to the upper desk structure also permits ready disassembly and assembly of the desk device into a rather compact structure. It is pointed out that the legs 12 are of a length to fit within the interior 21 of the upper desk structure 11 so that the entire desk device may be very compactly packaged for handling and shipping thereof.

The desk device also includes a desk top 29 which is of substantially flat, generally rectangular configuration and is preferably constructed of a substantially rigid material. This desk top is dimensioned so that the peripheral edge portions thereof will seat upon the continuous flange 19 and will serve to close the opening 20. To this end, it is noted that the upper peripheral edges of the front, rear and side walls project upwardly slightly beyond the upper surface of the continuous flange 19 and these upper peripheral edges are also of substantially arcuate configuration. The desk top 29 is actually positioned upon the continuous flange 19 within the confines of an area defined by the upper peripheral edges of the side and rear walls and the rib 22. The desk top 29, as best seen in FIG. 4, has a thickness dimension which corresponds approximately to the distance between the upper surface of the continuous flange 19 and the upper surface of the upper peripheral edges of the side and rear walls and rib 22.

It is preferred that the desk device 10 be of diminutive size so that the same may be used as a child's desk. To assemble the desk device, the female coupling elements are first connected to one of the male coupling elements 26 in threaded engagement therewith and the female coupling element is thereafter inserted into the upper open end of one of the legs 12. This facilitates positioning of the female coupling element with respect to the upper peripheral edge of the associated leg to which it is applied. To this end, it is pointed out that it is desirable to have the female coupling element for each leg spaced below the upper peripheral edge of the associated leg. Thereafter the male coupling element for each leg is disconnected therefrom and the legs are inserted through the socket elements of the upper desk structure. Thereafter the male coupling elements 26 are inserted through the counter sunk openings 25 in the corner portions 19a of the continuous flange 19 and threadedly engage the female coupling element 28 of the associated leg. Further threaded engagement of each male coupling element with respect to the associated female coupling element causes the upper ends of the legs 12 to be urged into engaging relation with respect to the underside of the flange 19 and these legs 12 will thereby have their respective upper ends firmly anchored with respect to the upper desk structure 11. It will therefore be seen that the upper end portions of each of the legs 12 will not only be gripped and held by one of the socket elements 14 but the coaction between the male and female coupling elements associated therewith and the clamped relation against the under surface of the flange 19 provides a very effective connection.

The entire upper desk structure may be constructed of a resilient compressible plastic material which is substantially impact resistant so that the desk device may withstand substantially rough treatment. It will further be noted that even though children will use such a desk device, there will be little tendency, if any, of the plastic upper desk structure damaging other furniture even when moved into substantially violent contact therewith. It will further be noted that the unitary construction of the upper desk structure minimizes any tendency of damage

thereto. The desk top 29 will be positioned upon the continuous flange 19 after the legs 12 have been attached to the upper desk structure and this desk top may be easily removed by a child to gain access to the interior 21 of the upper desk structure.

From the foregoing it will be seen that I have provided a compact desk device including a unitary upper desk structure formed through a molding operation from a resilient somewhat yieldable plastic material such as polyethylene or the like and which is provided with leg members which may be releasably but firmly attached thereto.

It will be noted from the preceding paragraphs that my novel desk device may be readily assembled and disassembled into a package or structure of relatively small compass to facilitate carrying thereof. To this end, it will be seen that the leg members may be positioned within the upper desk structure and the entire assembly may be carried by a user when the compartment 18 and the rear wall is grasped.

Thus it will be noted that I have provided a novel and improved desk device which is not only of simple and inexpensive construction but one which functions in a more efficient manner than any heretofore known comparable device.

It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of my invention.

What is claimed is:

1. In a desk device,

an integral, hollow, molded, resilient, plastic, open-top, upper desk structure including a substantially flat, horizontally disposed bottom wall having front, rear and side walls integrally formed therewith and extending upwardly therefrom,

said bottom wall having a plurality of cylindrically shaped socket elements integrally formed therewith and projecting substantially normally therefrom,

a continuous horizontally disposed flange integrally formed with the upper peripheral edges of said front, rear and side walls and projecting inwardly therefrom and overlying said socket elements,

a substantially flat rigid desk top member removably supported upon said continuous flange,

a plurality of elongate leg members each having its upper end extending through one of said socket elements and engaging the lower surface of said flange,

and releasable coupling means for coupling each of said legs to said upper desk structure, said means for each leg including a pair of releasable coupling elements, one of which is secured to one of the associated legs and the other attachment element engaging said continuous flange, each pair of attachment elements releasably engaging each other to clamp the upper end of the associated leg against lower surface of said continuous flange.

2. In a desk device,

an integral, hollow, molded, resilient, plastic, open-top, upper desk structure including a substantially flat, horizontally disposed bottom wall having front, rear and side walls integrally formed therewith and extending upwardly therefrom,

said bottom wall having a plurality of cylindrically shaped socket elements integrally formed therewith and projecting upwardly and substantially normally therefrom,

a continuous horizontally disposed flange integrally formed with the upper peripheral edges of said front, rear and side walls and projecting inwardly therefrom and overlying said socket elements,

a substantially flat rigid desk top member removably supported upon said continuous flange,

a plurality of elongate leg members each having its upper end extending through one of said socket ele-

5

ments and engaging the lower surface of said flange, releasable coupling means for releasably coupling each of said legs to said upper desk structure, said coupling means for each leg including a male and female coupling element, one of which is secured to the associated leg and the other coupling element engaging said continuous flange, each pair of said coupling elements releasably engaging each other to clamp the upper end of the associated leg against the lower surface of said continuous flange.

3. In a desk device,
 an integral, hollow, molded, resilient, plastic, open-top, upper desk structure including a substantially rectangularly shaped, flat, horizontally disposed bottom wall having front, rear and side walls integrally formed therewith and extending upwardly therefrom, adjacent of said upstanding walls being integrally joined together at their adjacent ends, said bottom wall having a plurality of cylindrically shaped socket elements integrally formed therewith and projecting upwardly and substantially normally therefrom adjacent the respective corners thereof,
 a continuous, horizontally disposed flange, integrally formed with the upper peripheral edges of said front, rear and side walls and projecting inwardly therefrom and overlying said socket elements,
 a substantially flat, generally rectangular shaped, rigid desk top member removably supported upon said continuous flange,
 a plurality of elongate tubular leg members each having its upper end extending through one of said socket elements and engaging the lower surface of said flange,
 and releasable coupling means for coupling each of said legs to said upper desk structure, said means for each

6

leg including a male and female coupling element, one of which is positioned within the upper end portion of the associated leg and the other coupling element engaging said continuous flange, each pair of coupling elements releasably engaging each other to cause the other upper end of the associated leg to be clamped against the lower surface of said continuous flange.

4. The desk device as defined in claim 3 wherein said continuous flange is provided with a plurality of apertures therein, each of said female coupling elements being positioned within the upper end portion of the associated leg, and each of said male coupling elements projecting downwardly through one of said apertures in said continuous flange and engaging the associated female coupling element.

References Cited by the Examiner

UNITED STATES PATENTS

20	1,747,691	2/30	Bellows	108—156
	1,760,036	5/30	Bellows	108—153
	2,016,571	10/35	Barrett	312—233 X
	2,488,222	11/49	Morgan	312—235
	2,659,649	11/53	Kump	312—232 X
25	2,811,402	10/57	Irwin	108—159
	2,916,114	12/59	Flora	151—41.75 X
	2,921,623	1/60	Humphries et al.	297—172
	2,947,587	8/60	Navellier	108—159
	2,961,282	11/60	Close	108—156
30	2,982,989	5/61	Heyer	151—41.73 X
	3,031,244	4/62	Stopek	108—153
	3,032,375	5/62	Lalandre	297—440

FRANK B. SHERRY, *Primary Examiner.*