

Jan. 3, 1967

E. M. WILLETTE
SAND AND WATER TOY
Filed Nov. 30, 1962

3,295,252

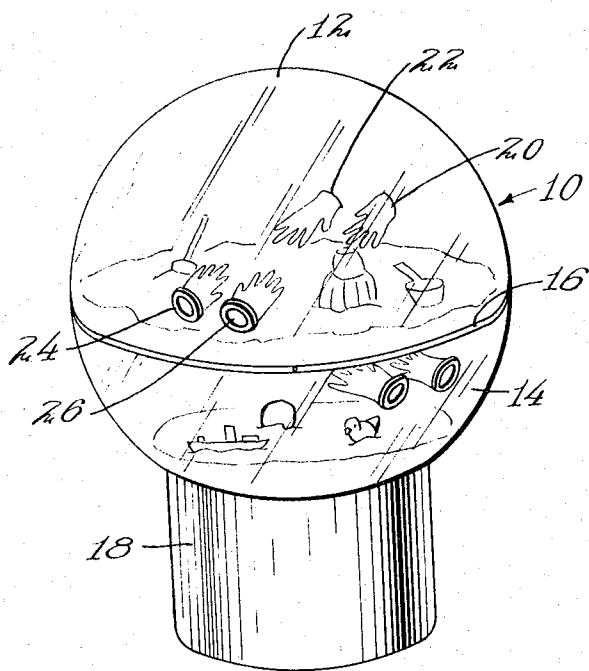


FIG. 1

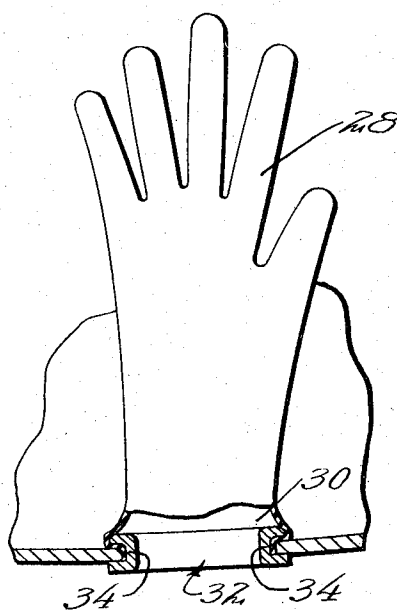


FIG. 2

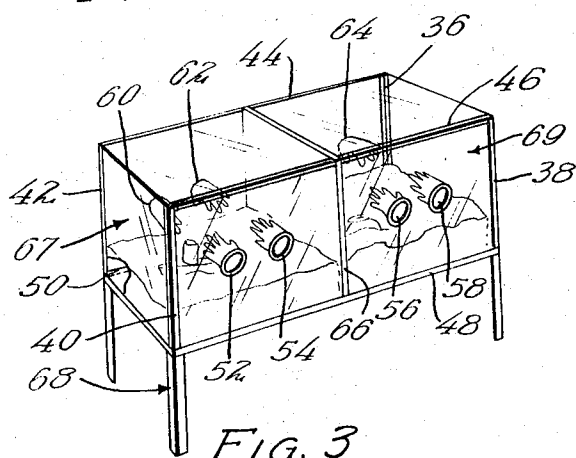


FIG. 3

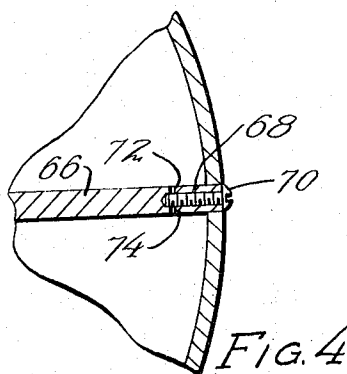


FIG. 4

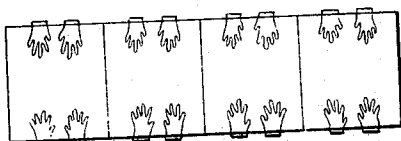


FIG. 5

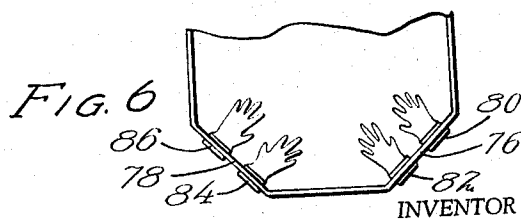


FIG. 6

INVENTOR
ERNEST M. WILLETTE

BY *Robert M. Dunning*
ATTORNEY

1

3,295,252

SAND AND WATER TOY
Ernest M. Willette, 794 Ashland Ave.,
Maiden Rock, Wis. 54750
Filed Nov. 30, 1962, Ser. No. 241,255
3 Claims. (Cl. 46—91)

This invention relates to a toy providing an enclosure for the retention of liquid materials such as water and the like, and for solid materials such as sand, sawdust, and the like, the liquid and solid contents of the enclosure being separated but accessible for play by a child without scattering or spillage.

Children have long delighted in playing with sand as is evident from the delight of children with sand boxes, tools, play at the beach and the like. It has been a particular source of enjoyment to children to have sand available for play in which some moisture is present, thereby providing a sand with sufficient cohesiveness to enable the children to build castles and other play structural forms. Children enjoy building make-believe roads and even such a simple activity as pouring sand back and forth into piles from their hands or containers. However, this activity in general has to be carried on out of doors, otherwise considerable spillage occurs, and even when spillage does not occur, the child tends to wipe his hands on his clothes, or to rub his hands together to let the sand fall on the floor, and in other ways create a mess which parents and teachers generally dislike.

Children take great delight in playing with water whether in tubs, wash basins, sinks, pools, or merely in puddles. Again, while children have been generally encouraged to enjoy themselves with water out of doors or in a bathtub, considerable reluctance is shown by parents to permit the children to play with water in "good" clothes, and in places in the house other than the bathroom.

Generally, it may be said that for most children, the joys of playing with water and sand are quite generally restricted to summertime activities. In some instances, kindergartens have encouraged use of sand boxes, but on a somewhat tongue-in-cheek basis.

It will be generally conceded that children grow in coordination and dexterity through repeated large and small muscle activities which would include the sand and water activities previously described.

An object of the present invention is to provide a housing in which sand and water may be contained, the sand or water being accessible for handling and play, but retained within the enclosure so as to avoid spilling.

A further object of the present invention is to provide a housing for sand, water, and the like which may be partitioned so as to provide play areas positioned in side by side, or superposed relation.

In preferred construction, the housing containing the sand or water has access apertures through which gloves of rubber or other flexible waterproof material are inserted. The cuffs of the gloves are sealably engaged by the portions of the housing adjacent the access apertures, the hand portion of the glove, together with the desired wrist portions being inserted within the play area. Resilient grommets of rubber or similar flexible material having peripheral annular channels sealably engage the cuff portions releasably in engagement with the housing adjacent the aperture. In preferred construction the access apertures are paired so that both hands of the child may be used. In larger containers more than one child can play in cooperation with another by having the access apertures in opposed paired relation. Under these circumstances in a large enclosure, each child can be

2

required to cooperate with the other child by having the gloves of such a length as to permit each child to reach only half way across the enclosure.

Various shapes have been utilized for the toy. For example, toys having the water and sand compartments in side by side relation, and toys having the sand and water compartments in superimposed relation have been quite successful. The preference in structural shape is largely dependent upon the space available whether the compartments are to be used separately, whether additional toys are to be secured together to provide an elongated play structure for numerous children, and whether a particular shape is better adapted for a particular educational purpose when the structure is used within a school room.

It is an object of the present invention to provide a toy which may be inexpensively produced and which provides a container enclosure which is attractive in appearance, useful in function, and which may be of use as an educational and instructional device.

A further object of the invention is to provide a toy having separate play compartments for liquids and solids, the compartment separation having a T-shaped bore interconnecting the separated compartment and extending to the outer surface of the housing. Where both sand and water are enclosed within a single housing, a separator or divider separates the enclosure into play areas to partition the liquid from the solid material. However, sand, which is a preferred type of play material, has a tendency to dry out and in a dry condition does not hold together as desired for play purposes. However, if a controlled amount of moisture is permitted to come into the play area containing the sand, the sand absorbs sufficient moisture so as to be moldable into various structural shapes. To accomplish desired transfer of moisture between the play areas, a removable stop is inserted into the T-bore, the stop being partially removed to permit moisture, either in the form of a liquid or vapor, to pass from one play area to another. When the stop is partially removed, sufficient moisture may transfer to keep the sand in desired condition. Further, with the stop partially removed air may be withdrawn from the compartments or play areas through the T-shaped bore to produce a partial vacuum within the areas. As a partial vacuum is created by the withdrawal of air from the play areas, atmospheric pressure causes the flexible gloves secured along the periphery of the access apertures to inflate within the play areas thereby enabling the child to insert his hands more readily into the gloves. The partial vacuum may be retained for a considerable period by re-engaging the stop with the T-bore to prevent entrance of air from the atmosphere.

Accordingly, it is an object of the present invention to provide a container having access apertures in which inflatable gloves are sealably secured, having access means to the play areas to which air may be withdrawn to induce a partial vacuum in the play areas thereby causing the said gloves to inflate by atmospheric pressure within the container so as to enable the person using the toy to readily insert his hands into the gloves.

A still further object of the present invention lies in a toy having play areas for sand and water which may be connected to similar toys in multiple relations so as to accommodate a larger group of children than could be accommodated by a single toy.

A further object of the present invention lies in a toy having therapeutic value in re-establishing muscular coordination and dexterity for the injured or physically handicapped and which is particularly attractive and interesting in both appearance and use. In this regard, it is evident that various modifications may be utilized to provide a toy to accomplish the desired purposes, the preferred shapes

being those of a sphere comprising hemispheres which may be separable, and generally rectangular structures.

These and other objects and advantages will become apparent from the specification taken in connection with the drawings herein, in which:

FIGURE 1 is a front elevation of one structural form of the invention illustrating a superposed compartmental relation.

FIGURE 2 is a top plan view of a flexible glove in sealed connection with the periphery of an access aperture.

FIGURE 3 is a perspective view of the toy having compartments in side by side relation.

FIGURE 4 is a broken section showing the T-shaped bore interconnecting the play compartment and the outside of the enclosure in a section of a divider.

FIGURE 5 is a top plan view of the side by side relation of the play compartment illustrating the use of the toy in attached relation to other toys for group play.

FIGURE 6 is a top plan view of a modified rectangular toy having the corner edges rounded with an access aperture on each side of the rounded corner.

FIGURES 1 and 3 provide an illustration of two structural forms of the toy. These particular shapes are provided for descriptive purposes, details common to various structural forms being illustrated; the applicant's intention not being to limit himself to these structural shapes alone as is evident by his providing the modified structure of FIGURE 6.

The toy is primarily intended to provide a housing enclosure to contain liquid materials such as water and solid materials such as sand, the enclosed materials being accessible to the user for play and manipulation, but prevented from spilling or leakage by means which will be further described.

FIGURE 1 illustrates a spheroid enclosure generally numbered 10 comprising a hollow upper hemispherical half 12, and a hollow lower hemispherical half 14, the upper and lower halves 12 and 14 being held in sealed engagement with a common closure and partition element 16. Where it is desired to have the hemispherical halves 12 and 14 separable, each half is provided with its own partition element rather than the common partition element shown.

Preferably the spheroid enclosure 10 is transparent and may be made of any suitable material such as plastic and the like which may be drawn or molded to desired shape. As will be evident, the shape of the toy is not particularly critical, the intention being to provide utility of structure, compactness, attractiveness of appearance, and low cost of manufacture.

The common partition element 16 is joined to the upper and lower hemispheres 12 and 14 in a sealed relation along the periphery of the partition element 16 to the rim surfaces of the hemispheres 12 and 14. Where separable hemispheres are provided, the separable hemispheres may be joined to provide the spheroid shape by suitable fastening means.

If desired, suitable attractive designs may be painted or decalco on the surfaces of the hemisphere to excite the interest of the user.

In preferred use, the spherical toy 10 is mounted on a support 18 suitable to the size and weight of the toy. Suitable suspension means may be employed to enable the toy 10 to be rotated on the support 18 if desired.

It has been found for example that where the support 18 has a slightly concave supporting surface in engagement with the toy 10 utilizing ball bearings to reduce the frictional engagement, that the toy is readily rotated.

The halves 12 and 14 are designed to be congruent for inexpensiveness to manufacture in order to reduce the number of molds required. Since the liquid used is normally greater in weight than the solid material, and since the liquid tends to shift more readily, the lower half 14 is preferably used for the water player. As will be evident, when the inner concave surface of the hemi-

sphere 14 provides the enclosure for water, solid material such as sand, sawdust, and the like in the upper hemisphere 12 resides upon the upper surface of the partition 16. Where the spheroid shape is used, it is preferable to use a strong adhesive to hold the hemispheres in engagement with the partition element so that the toy may be readily carried as a unit without any danger of coming apart. Because of the large number of common adhesives available for this purpose, further description of the method of joining the hemispheres to the partition is felt unnecessary. Each half is designed to be water and air tight to prevent leakage and to enable a partial vacuum to be induced in the play areas. Into each hemisphere access apertures are provided. In the preferred arrangement shown in FIGURE 1 for hemispherical construction, paired apertures 20 and 22, and 24 and 26 are provided in one congruent half. In preferred construction the paired apertures are in opposed relation so as to enable two children to play with the toy and to provide encouragement for the children to play together. While single access openings have been provided in some modified forms, it has been found preferable to provide the paired accesses so as to enable the child to use both hands.

Since the hemispheres which are to be joined to form a spherical toy such as 10 may be made in different sizes, it is of course possible to enable more children to play by providing a larger sphere with additional access openings preferably at right angles to the first paired openings. However, unless the hemispheres comprising the sphere are separated and used individually, it has been found that for the usual sphere of about thirty-six inches in diameter comprising joined hemispheres that children seem to prefer having only a single partner.

The access apertures illustrated in the figures preferably are cut or provided at the time of manufacture. Each generally circular aperture into the shell housing is closed by flexible manipulative material such as plastic, rubber, and the like which extends into the play area. A preferred form of construction utilizes an inflatable elongated glove adapted to receive the hand and at least a portion of the forearm or wrist of the user. The glove has a cuff portion adapted to engage the housing shell surrounding the aperture. An enlarged view of a glove is shown in FIGURE 2. The glove is generally numbered 28 and has individual compartments to receive the digits of the hand. Various modifications of the glove 28 have been used including various forms of flexible mittens both with and without compartments for the fingers and thumb, but the preferred form of construction is the glove form 28 illustrated.

The glove 28 has a cuff portion 30 which is sealably engaged against the shell housing surrounding the access aperture. The cuff 30 is held in sealed engagement by a flexible grommet 32 which may be made of rubber or other resilient material. The grommet 32 has an annular peripheral channel 34 adapted to engage the housing enclosing the aperture, the cuff 30 being tightly engaged within the channel and pressed sealably against the shell. The resilient grommet 32 may be removed from the access aperture to replace the glove or to permit addition of liquid or solid material or play toys to the play areas.

FIGURE 3 illustrates a rectangular toy structure which is advantageous where it is desired to have the play areas in side by side relation. It has been found that for the usual side by side compartmentalized structure that a difference in structural strength of the shell or housing is permissible from that of the spherical type previously described. This difference in structural strength is possible because each compartment supports only approximately its own weight whereas the lower hemisphere supports the weight of the upper hemisphere. Accordingly a wide range of weights of flexible material are available to provide the enclosing shell of the rectangular structure. While the heavy shell ordinarily used for the spherical toy may be employed, the difference in strength

5

required of the housing permits use of a rectangular frame having side supports 36, 38, 40, and 42 and end support members 44, 46, and 48, and 50 and having side, top, end, and bottom members which may be integral and secured to the frame supports to form the enclosure.

As in the previously described construction, a water-tight and air-tight construction is provided through use of an overlying covering of transparent plastic or other suitable material secured to the frame having access apertures which are preferably paired and which are numbered 52, 54, 56, 58, 60, 62, and 64, one of the paired accesses not being shown. The preferred construction has one pair of apertures opposed to a similar pair on the opposite sides such as apertures 52, and 54 which are in paired opposition to apertures 60 and 62 thereby providing for more than one user of a play area. Additional apertures may be provided in the ends of the shell housing if desired. The access apertures, grommets, and manipulative devices such as the gloves previously described are similar to those used for the hemispherical and spherical toys described.

At least one divider partition such as 66 which may be integral with the overlying covering and supporting frame structure is provided to partition the rectangular structure into play areas. In the illustration of FIGURE 3, one of the play areas is used as a water play area and the other as a sand play area. It will, of course, be obvious that either area may be used as a water or sand play area by providing the necessary liquid or solid matter in the area.

The rectangular toy structure is supported upon a suitable stand 68 or other supporting medium such as a table at an appropriate height for the age group who are to use the device.

An obvious modification is illustrated in FIGURE 5 in which the rectangular toy is extended either in manufacture or by connecting several rectangular toys together to obtain an elongated rectangular toy providing space, play areas, and necessary access apertures for several users. The particular structure illustrated in FIGURE 5 provides a convenient form for use in classrooms and other types of institutions where several children may be grouped. The overall construction in FIGURE 5 for the elongated structure is similar to that previously described, the only difference being that more play areas are made available so that larger numbers of children may use the device.

A further modification is shown in FIGURE 6 employing the general rectangular form of FIGURE 3 but having corners angled diagonally to provide play positions at the corners rather than in the sides and ends. The edges of the diagonal corners may be curved or rounded and faired into the adjacent sides and ends to eliminate sharp edges. FIGURE 6 illustrates a generally rectangular toy having diagonal corners 76 and 78 and apertures 80, 82, 84, and 86 having flexible manipulative gloves extending into the enclosure, the apertures of the diagonal corners providing the users of the toy with a different perspective and enabling a smaller toy to provide more "elbow room."

It will be noticed from the views of FIGURES 1 and 3 that each play area may be made more attractive to the children by inserting appropriate toys into the play areas through the access apertures, such as water toys for the water play area and small cars, spoons, etc., into the sand play area. As has been pointed out, the play areas may be used for water alone or solid material such as sand, sawdust, and the like alone or one of each if desired. In addition it has been found that the enclosed play areas provide an excellent enclosure for the use of toy guns and other shooting devices which shoot darts of various kinds since the projectile from the shooting device is contained within the play area.

To enable the glove 28 to receive the hand and forearm

6

more readily, a T-shaped bore is provided in the divider partition 66, the bore interconnecting the play areas 67 and 69 and the outside atmosphere. A view of the T-shaped bore positioned in the divider partition is provided in FIGURE 4, the bore being generally numbered 68. The bore 68 has lateral openings extending between the play areas 67 and 69 through the partition or divider 66 and generally perpendicular to the outside of the shell enclosure. A stop plug 70 is adjustably inserted into the T-bore 68, the plug 70 when fully inserted extending between the lateral openings 72 and 74 of the bore 68 so as to prevent transfer of moisture or air from one area to another. In preferred construction, the plug 70 is of the screw type, the bore 68 being suitably threaded so that the plug may be readily loosened or tightened. When the plug 70 is partially removed, air may be withdrawn from both the play areas at the same time through the interconnecting bore either by placing the mouth of the user over the bore 68 and inhaling or by use of a suction device such as an air bulb. As air is withdrawn from the play areas, atmospheric pressure causes the gloves 28 within the housing to inflate so that the hands of the toy user may be readily inserted into the inflated gloves. When the gloves are inflated, the plug 70 is retightened to prevent further loss or gain of air or moisture within the enclosure. As would be expected when sand is used within a play area, the sand tends to dry out. However, where the adjacent play area is a water play area, sufficient moisture in the form of water vapor may be permitted to transfer from one play area to another merely by loosening the plug 70. It is obvious that more refined means of removing air from the areas are available than those described, but such devices are incidental to the present disclosure so that further description is not felt necessary.

It will be further understood that the T-shaped bore 68 will merely have to be provided in an L-shape, for example, if a single play area by itself were to be used. It is further obvious from the disclosed construction that the intention of the inventor is not to limit himself solely to the particular T-shaped bore for withdrawing air to create the partial vacuum.

It has been found that the practice of using inflatable gloves proves very attractive to children. It is, of course, apparent that inflatable gloves are not the only type which could be used, since other gloves are readily available into which the hands may be inserted easily without inflation. However, small children particularly enjoy the process of inflating the gloves to make it easier to insert the hands and forearms, and where the intention is to provide not only an object of enjoyment but one of educational value as well, this construction is preferred.

It will be apparent that a very useful, educational, and interesting toy has been provided which may be made in a variety of structural shapes and which will enable the user, whether child or patient to engage in large and small muscle activities involving sand or equivalent materials and water or similar liquids without muss. Particularly where there is an allergic condition of the user to sand or water, it will be apparent that the device has provided means of enjoyment for such allergic persons.

I have endeavored to illustrate and describe preferred forms of construction while being aware of the modifications available through the use of lighter enclosure material, and providing accesses through a bracing structure, but I have not described these because of their obviousness, and I desire to have it understood that while I have endeavored to set forth the best embodiment of my invention, obvious changes and modifications may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A toy comprising:

(a) a substantially fluid-tight hollow housing at least a portion of which is transparent,

- (b) said housing including a partition dividing said housing into a pair of independent enclosed play areas,
- (c) movable toy elements in said play areas,
- (d) access apertures in said housing opening into the interior of said play areas, 5
- (e) flexibly manipulative closures extending into the interior of said play areas and closing said apertures, said closures each being adapted to receive the hand and a portion of the forearm of the user, 10
- (f) said housing having bore means establishing communication between said play areas and therebetween and the exterior of the housing through which air may be withdrawn from said housing to establish a partial vacuum therein, 15
- (g) and plug means in said bore means for maintaining said partial vacuum in the housing,
- (h) and support means underlying said housing and supporting said housing at a height above floor level wherein said closures are convenient to the user's hands and arms. 20
2. A toy comprising:
- (a) a substantially fluid-tight hollow housing at least least a portion of which is transparent,
- (b) said housing including a partition dividing said housing into a pair of independent enclosed play areas, 25
- (c) movable toy elements in said play areas,
- (d) access apertures in said housing opening into the interior of said play areas, 30
- (e) flexibly manipulative closures extending into the interior of said play areas and closing said apertures,

- said closures each being adapted to receive the hand and a portion of the forearm of the user,
- (f) said housing having bore means including an opening extending through said partition for communication between said play areas and a bore portion connecting said opening in the exterior of said housing,
- (g) and a plug element movable between selected positions in said bore portion, said plug in one position thereof closing said opening, in a second position thereof establishing communication between said play areas, and in a third position thereof establishing communication between said play areas and the exterior of said housing through said opening and bore portion,
- (h) and support means underlying said housing and supporting said housing at a height above floor level wherein said closures are convenient to the user's hands and arms.
3. The toy of claim 2 in which said closures comprise elastic gloves, there being at least a pair of said closure-equipped access openings to each of said play areas.

References Cited by the Examiner

UNITED STATES PATENTS

2,600,240	6/1952	Grieb	128—1
2,786,740	3/1957	Taylor et al.	128—1 X
3,051,163	8/1962	Trexler	128—1
3,077,697	2/1963	Fry	128—1 X
3,084,684	4/1963	Saunders	128—1

RICHARD C. PINKHAM, *Primary Examiner.*