

Feb. 26, 1963

B. L. SHEAHAN

3,078,478

TRAYS

Filed April 27, 1959

FIG. 1

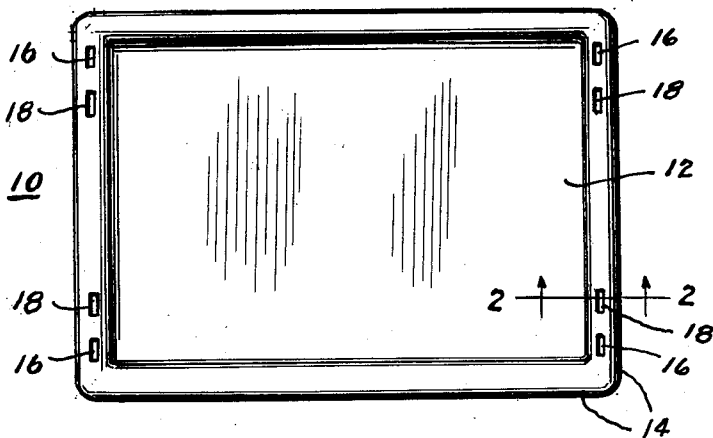


FIG. 3

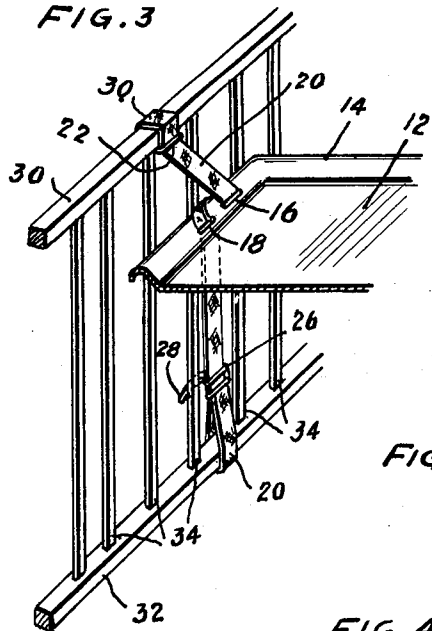


FIG. 2

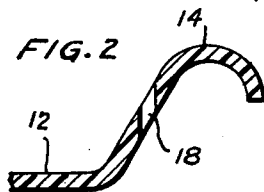


FIG. 5

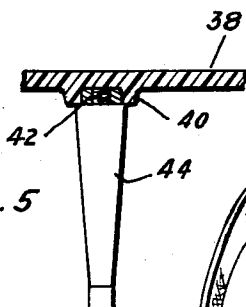
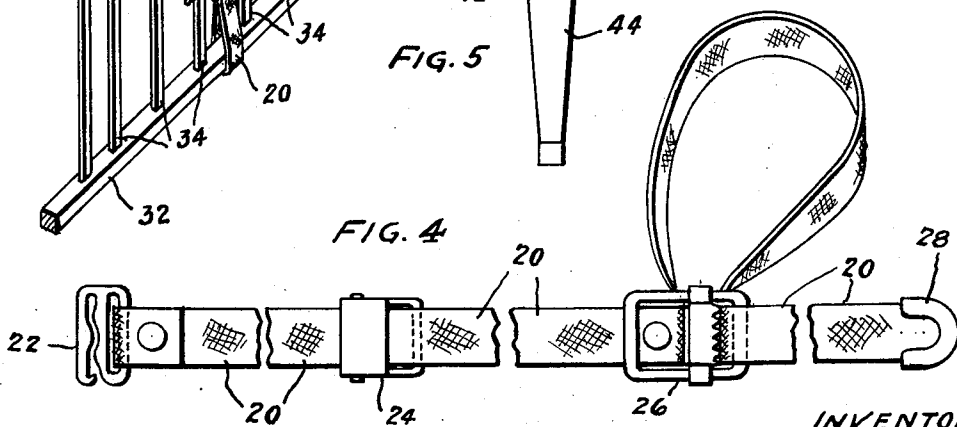


FIG. 4



INVENTOR
BETTIE LOU SHEAHAN
Ray Eilers ATT'Y.

BY

1

3,078,478
TRAYS

Bettie Lou Sheahan, 31 W. Glendale Road,
Webster Groves, Mo.

Filed Apr. 27, 1959, Ser. No. 809,233

4 Claims. (Cl. 5-93)

This invention relates to improvements in trays. More particularly, this invention relates to improvements in trays which can be used with cribs, beds or the like.

It is therefore an object of the present invention to provide an improved tray that can be used with cribs, beds or the like.

It is frequently desirable to use trays to support the dishes, the toys, the magazines or other articles of children who are in cribs or beds or of adults who are in beds. However, the use of most trays entails the acceptance of the risk of spilling the dishes, toys, magazines or other articles, because most trays can not be held fixedly in position against tilting; and the child or adult can, therefore, inadvertently tilt those trays. As a result, the use of most trays can lead to the soiling of the bed linen and bedding and of the clothes of the child or adult. The present invention avoids any such soiling by providing a tray that can be fixedly held in position, relative to a crib, bed or the like, to prevent tilting of that tray. It is therefore an object of the present invention to provide a tray which can be used with a crib, bed or the like and which can be fixedly held in position relative to that crib, bed or the like.

The tray provided by the present invention is secured to the crib, bed or the like by straps; and those straps are secured adjacent the corners of the tray to keep that tray from moving upwardly or downwardly and to keep that tray from tilting. As a result, the child or the adult can not inadvertently tilt that tray and spill the dishes, the toys, the magazines or the like that are supported on that tray. It is therefore an object of the present invention to provide a tray that can be secured to a crib, bed or the like by straps adjacent the corners of that tray.

The straps can be separated from the tray, and this is very desirable because it makes it possible to sterilize the tray and the straps. Furthermore, the separability of the straps makes it possible for the user to replace any of the straps if they are accidentally cut or broken. It is therefore an object of the present invention to provide a tray with a number of separable straps.

The straps can be adjusted to set the tray at different levels; and those straps will thereafter hold that tray at those levels. If desired, the straps can be adjusted to hold the tray well above the level of the mattress of the crib, bed or the like, or, if desired, the straps can be adjusted to hold the tray closely adjacent the mattress of the crib, bed or the like. In the latter case, the tray can serve as a stop and help keep the child or adult from slipping down from a sitting position to a lying position. It is therefore an object of the present invention to provide a tray with straps that are adjustable and that can set and hold the tray at different levels.

The straps for the tray can be provided with stops that can be secured to those straps at various points along the lengths of those straps. Those stops will positively prevent downward movement of the tray relative to the straps. As a result, where desired, the tray can be used as a seat, within the crib, bed or the like, for a child. It is therefore an object of the present invention to provide stops that can be secured to the straps for the tray at various points along the lengths of those straps.

Other and further objects and advantages of the present invention should become apparent from an examination of the drawing and accompanying description.

2

In the drawing and accompanying description, two preferred embodiments of the present invention are shown and described but it is to be understood that the drawing and accompanying description are for the purpose of illustration only and do not limit the invention and that the invention will be defined by the appended claims.

In the drawing,

FIG. 1 is a plan view of one preferred embodiment of tray that is made in accordance with the principles and teachings of the present invention, and it shows that tray without its supporting straps,

FIG. 2 is a sectional view, on a larger scale, through the tray of FIG. 1, and it is taken along the plane indicated by the line 2-2 in FIG. 1,

FIG. 3 is a perspective view of a part of the tray of FIG. 1 and of a part of a crib to which that tray is secured, and it shows one of the four straps that secure that tray to that crib,

FIG. 4 is a broken view, on a still larger scale, of one of the four straps used to support the tray, and that view is partially in plan and partially in perspective, and

FIG. 5 is a sectional view through a modified form of tray which can have a leg secured to it.

Referring to the drawing in detail, the numeral 10 generally denotes a tray that is made in accordance with the principles and teachings of the present invention. That tray is rectangular in plan, and it is made with a large, flat, central area 12 and with an upstanding rim 14. The rim 14 is continuous and will serve to confine any dishes, toys, magazines or other articles supported by the tray 10. As indicated particularly by FIG. 2, the rim 14 extends upwardly from the central area 12 at an angle of approximately sixty degrees; and that rim is then bent outwardly and downwardly. The curvature at the upper edge of the rim 14 provides an attractive appearance for the tray, and also helps to stiffen that tray.

The rim 14 has four vertically-directed slots 16 through it adjacent the corners of the tray 10, and it also has four vertically-directed slots 18 through it. The slots 18 are disposed inwardly of the slots 16. As indicated by FIG. 2, the slots 16 and 18 are intermediate the top and bottom edges of the rim 14.

The numeral 20 generally denotes a strap which is equipped with a clip 22, an adjustable stop 24, a buckle 26, and a metallic tip 28. The strap 20 will preferably be made of a substantially inelastic, strong material such as webbing. The clip 22 is dimensioned so it can pass through the slots 16 and 18; and, in use, that clip will be passed upwardly through one of the slots 18, outwardly and down past the upper edge of the rim 14, and then upwardly through one of the slots 16. The adjustable stop 24 is dimensioned so it can not pass through the slots 18; and, in use, that stop will underlie one of the slots 18. The buckle 26 is rectangular in plan, it has a transverse divider spanning the center, and it has a slide with a serrated edge. The metallic tip 28 is dimensioned to extend through the open portions of the buckle 26. The clip 22, the adjustable stop 24, the buckle 26 and the metallic tip 28 are of standard and usual design; and the stop 24 is a clamp of the type used at the ends of men's suspenders.

Once the four straps 20 are assembled with the tray 10, the adjustable stops 24 can be clamped to those straps at the same distances from the clips 22. The tray 10 is then placed within the crib, bed or the like; and the clips 22 are passed upwardly over the top rails 30 of the crib, bed or the like and then downwardly and inwardly of those top rails. Thereupon, the clips 22 will have their slotted ends slipped over those portions of the straps 20 which are intermediate the top rails 30 and the tray 10 to form loops. The straps 20 will then

be shifted relative to the rim 14 of the tray 10 until the stops 24 underlie and abut the portions of rim 14 that define the slots 18. At such time, the metallic tips 28 on the ends of the straps 20 can be passed under the bottom rails 32, can be passed upwardly and inwardly of those rails, and can then be passed through those portions of the buckles 26 which are immediately adjacent the serrated slides of those buckles to form further loops, and one of those loops is emphasized in FIG. 4. Upward pulls on the portions of the straps 20 adjacent the metallic tips 28 will tighten the straps 20; and thereupon the serrated slides of the buckles 26 can be pressed into holding engagement with the straps 20. The metallic tips 28 can then be passed through those portions of the buckles 26 which are remote from the serrated slides. At such time, the clips 22 and the upper portions of the straps 20 will apply downwardly-directed forces to the upper rails 30, and the lower portions of the straps 20 and the buckles 26 will apply upwardly-directed forces to the lower rails 32. The vertically-directed spacers 34, which are interposed between the upper and lower rails 30 and 32, amply resist the forces applied to the rails 30 and 32; and the rails 30 and 32 and the spacers 34 coact with the straps 20 to provide a rigid support for the tray 10.

The frictional engagement of the straps 20 with the edges of the slots 16 and 18 and with the rim 14 strongly resist upward and downward movement of the tray 10. As a result, the straps 20 prevent accidental tilting of tray 10, and thereby avoid spilling of the dishes, toys, magazines or the like supported on the tray. Those straps are able to resist upward movement of the tray to such an extent that they enable that tray to help hold a child or adult in sitting position and to keep that child or adult from slipping down to a lying position.

If it is desired to use the tray 10 as a seat for a child, the stops 24 will be clamped to the straps 20 immediately adjacent the under faces of the slots 18. Those stops will provide positive restrictions against any and all downward movement of the tray 10. The stops 24 are readily movable to different positions along the lengths of the straps 20, and thus they can be set to hold the tray 10 at different levels.

In assembling each strap 20 with its clip 22 and its buckle 26, rivets can be used. Specifically, one end of the strap 20 can be passed through the loop in the clip 22 and then riveted to the adjacent portion of the strap 20. The metallic tip 28 of that strap can then be passed around the divider of the buckle 26, and then a rivet can be passed through the adjacent portions of the strap 20 to hold them in assembled relation with that divider. The portion of the strap 20 intermediate the metallic tip 28 and the divider of the buckle 26 will be long enough to provide the required adjustments for the length of the strap 20.

Whenever the tray 10 has been used to serve a child or adult who has had a contagious disease, the straps 20 will be separated from the tray 10; and then those straps and that tray will be sterilized. To separate those straps from the tray, it is only necessary to pass the clips 22 back through the slots 16 and 18.

When the straps 20 are separated from the tray 10, that tray can be used as a regular tray. Also, if desired, legs with suction cups at the tops thereof could be pressed into engagement with the under face of the central area 12 of the tray 10. However, the real value of the tray 10 is attained when it is used with the straps 20.

If desired, the tray provided by the present invention could be provided with four downwardly-extending bosses. One such tray is denoted by the numeral 38 in FIG. 5, and one of the bosses for that tray is denoted by the numeral 40. A threaded recess 42 is provided in the boss 40, and that recess can accommodate a thread on the upper end of a short leg 44. The bosses 40 and the legs

44 will enable that tray to be set in position above the lap of the user.

If desired, each strap 20 could be replaced by two shorter straps; and each of those straps would have one end thereof secured to that tray. Preferably, each of those straps would have a clip 22 and a buckle 26; and the clips 22 would secure the straps to the tray adjacent the slots 16 and 18 while the buckles 26 would secure the straps to the upper and lower rails 30 and 32. The use of the shorter straps is not as desirable as is the use of the straps 20, because such use requires eight, rather than just four, adjustments. In using the shorter straps, the clips would be drawn up tight and thereafter the buckles would be tightened; much in the manner in which the clips 22 are set tightly against the upper rails of the crib, bed or the like before the buckles 26 are tightened. If desired, the clips could be replaced by protuberances that were too large to pass through the slots and would thereby hold the straps in engagement with the tray.

The tray 10 will preferably be made of plastic material, but it can also be made of metal, wood, impregnated paper, or the like. That tray must be stiff and of a material that is resistant to water and to potables. If desired, that tray could have designs of various kinds molded in it, painted on it, or applied to it by decalcomania transfers.

The use of two slots 16 and 18 adjacent each corner of the tray 10 is preferred; but, if desired, one long slot could be used adjacent each corner. Such a slot would have to be long enough to permit a strap to pass upwardly through it and then to pass upwardly through it a second time after it had been passed outwardly beyond and then downwardly below the rim of that tray.

The rim 14 is very desirable, but a tray could be made without such a rim. Where that was done, the slots 16 and 18 would be formed in the tray itself, or slot-forming brackets or loops could be formed integrally with, or secured to, the tray.

The stops 24 are inexpensive and are readily adjustable, and hence they are preferred. However, other stops could be used. Also, while flat straps are preferred, circular straps such as cord or thin ropes could be used. The various straps will preferably be secured to the upper and lower rails of the crib, bed or the like by clips and buckles, but other fasteners could be used. It would even be possible to tie the straps directly to those rails, but the clips and buckles are preferred.

Whereas the drawing and accompanying description have shown and described two preferred embodiments of the present invention it should be apparent to those skilled in the art that various changes may be made in the form of the invention without affecting the scope thereof.

What I claim is:

1. A tray that is stiff and that has a central area and an upwardly and outwardly inclined peripheral rim, a pair of vertically-directed slots in said rim adjacent each corner of said tray, said slots being intermediate the upper and lower edges of said rim, four straps that are dimensioned to extend through said slots, said straps being selectively separable from said slots and said tray, said straps being flexible but substantially inelastic, clips for the upper ends of said straps that are selectively engageable with portions of the upper ends of said straps to form loops, adjustable stops for said straps that can be set at different positions along the lengths of said straps, and buckles adjacent the lower ends of said straps, said buckles being selectively engageable with portions of said lower ends of said straps to form loops, said adjustable stops being adapted to underlie those portions of said rim which define one slot of each of said pairs of slots, said clips being adapted to pass over the upper rails of a crib, bed or the like and then engage said portions of said upper ends of said straps to define loops that encircle said upper rails and hold said upper ends of said straps fixed relative

5

to said upper rails, said portions of the lower ends of said straps being adapted to pass under the lower rails of said crib, bed or the like and engage said buckles to define loops that encircle said lower rails and that hold said lower ends of said straps fixed relative to said lower rails, the frictional engagement between said straps and the edges of said slots and of said rim strongly resisting upward and downward movement of said tray and thereby fixedly securing said tray to said crib, bed or the like while suspending said tray above the level of the mattress of said crib, bed or the like, said straps being adapted to be loosened and then tightened to permit adjustment of the vertical position of said tray relative to said mattress, said adjustable stops positively limiting downward movement of said tray relative to said straps, said straps passing upwardly through the said one slots of said pair of slots and then bending outwardly and downwardly to pass under said rim and then pass upwardly through the other slots of said pairs of slots, said straps experiencing a bending of approximately three hundred and sixty degrees, said straps being dimensioned so said clips and said portions of said upper ends of said straps can hold said upper ends of said straps fixed relative to said upper rails while said buckles and said portions of said lower ends of said straps simultaneously hold said lower ends of said straps fixed relative to said lower rails.

2. A tray that can be fixedly secured to a crib, bed or the like and that can be set at different levels relative to the mattress of that crib, bed or the like and that has a central area and a rim, a pair of vertically-directed slots in said rim adjacent each corner of said tray, said slots being intermediate the upper and lower edges of said rim, four straps that are dimensioned to extend through said slots, said straps passing around said rim of said tray to provide frictional engagement between said straps and the edges of said slots and said rim, clips for the upper ends of said straps, adjustable stops that can be set at different positions along the lengths of said straps, and buckles adjacent the lower ends of said straps, said adjustable stops underlying those portions of said rim which define four of said slots, said clips passing over the upper rails of said crib, bed or the like and then engaging adjacent portions of said upper ends of said straps to hold said upper ends of said straps fixed relative to said upper rails, the lower ends of said straps passing under the lower rails of said crib, bed or the like and then engaging said buckles to hold said lower ends of said straps fixed relative to said lower rails, the frictional engagement between said straps and the edges of said slots and said rim strongly resisting upward and downward movement of said tray, said adjustable

6

stops preventing downward movement of said tray, said straps being dimensioned so said clips and said adjacent portions of said straps can hold said upper ends of said straps fixed relative to said upper rails while said buckles and said lower ends of said straps simultaneously hold said lower ends of said straps fixed relative to said lower rails.

3. A substantially rectangular tray that is stiff and unyielding and that has a strap releasably securable adjacent each corner thereof, each of said straps having an upper portion extending above the tray and having means thereon adapted to secure said upper portion to the upper rail of a crib, said strap having a lower portion having means thereon to secure said lower portion to the lower rail of a crib, said straps being flexible but substantially inelastic whereby said straps can be rendered tight to hold said tray fixed in position above, and against vertical movement relative to the mattress of said crib.

4. A substantially rectangular tray that is stiff and unyielding and that has a strap releasably securable adjacent each corner thereof, each of said straps having an upper portion extending above the tray and having means thereon adapted to secure said upper portion to the upper rail of a crib, said strap having a lower portion having means thereon to secure said lower portion to the lower rail of a crib, said straps being flexible but substantially inelastic whereby said straps can be rendered tight to hold said tray in fixed position above and against vertical movement relative to the mattress of said crib, said tray being securable to each of said straps at a plurality of points along the lengths of said straps, whereby said tray can be set and held at different distances above said mattress.

References Cited in the file of this patent

UNITED STATES PATENTS

147,969	Peabody	Feb. 24, 1874
289,924	Morris	Dec. 11, 1883
431,580	Haggard	July 8, 1890
633,112	Bartlett	Sept. 19, 1899
1,152,006	Clarke	Aug. 31, 1915
2,091,868	Mattson	Aug. 31, 1937
2,192,666	Roos	Mar. 5, 1940
2,653,709	Cunningham	Sept. 29, 1953
2,766,087	Marcus	Oct. 9, 1956
2,883,678	Heffernan et al.	Apr. 28, 1959

FOREIGN PATENTS

25,808	Great Britain	1903
492,508	Great Britain	Sept. 21, 1938