

Jan. 30, 1962

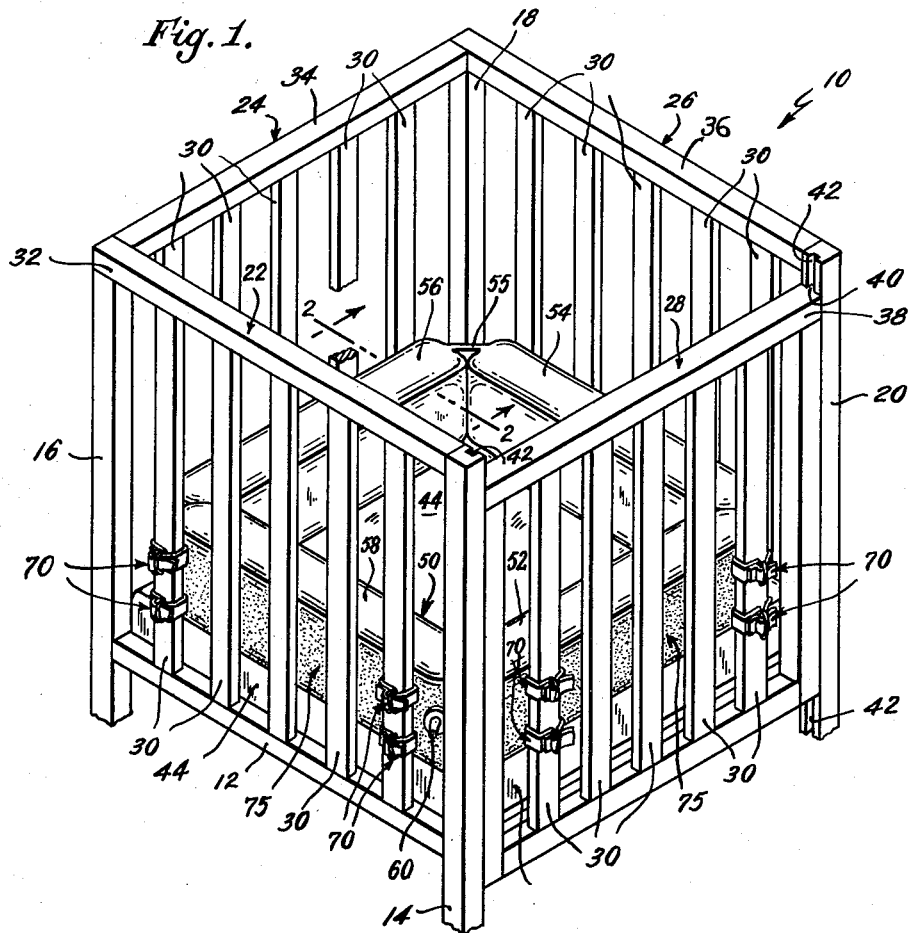
N. ROSEN

3,018,492

PROTECTIVE BUMPER DEVICE

Filed April 22, 1959

4 Sheets-Sheet 1



Inventor,  
Norman Rosen,  
by  
Levine Att'y.

Jan. 30, 1962

N. ROSEN

3,018,492

PROTECTIVE BUMPER DEVICE

Filed April 22, 1959

4 Sheets-Sheet 2

Fig. 3.

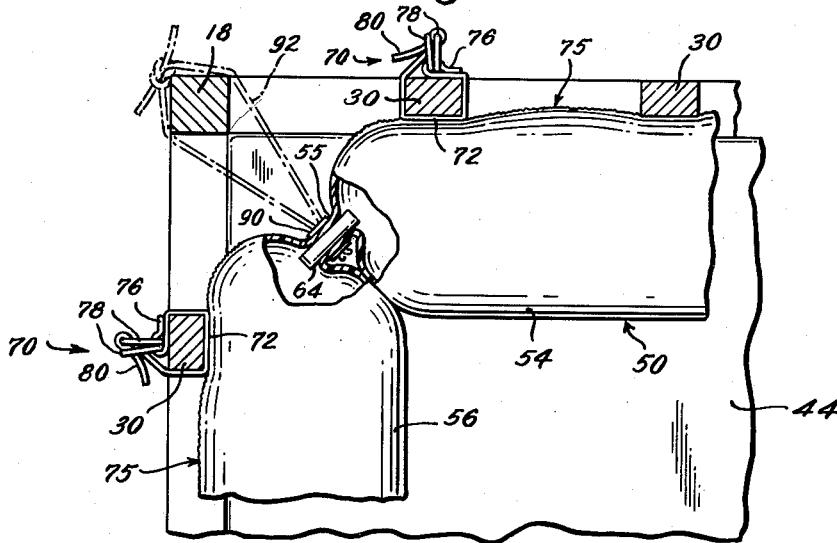
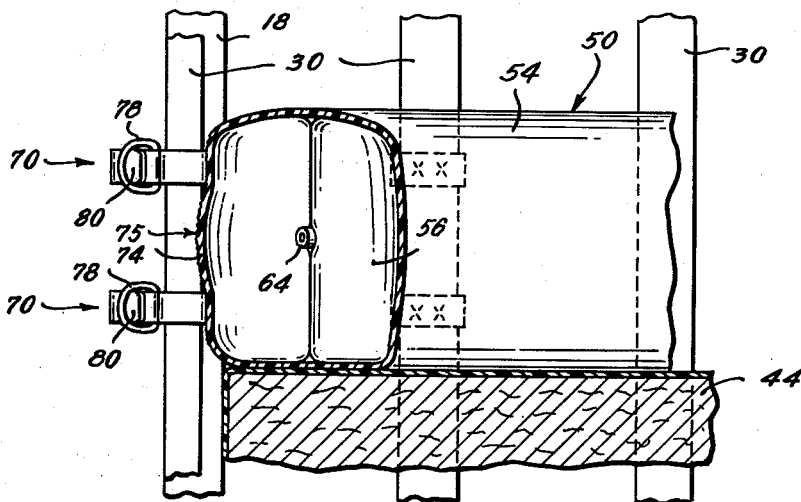


Fig. 2.



Inventor,  
Norman Rosen,  
by Harold Lorne Att'y.

Jan. 30, 1962

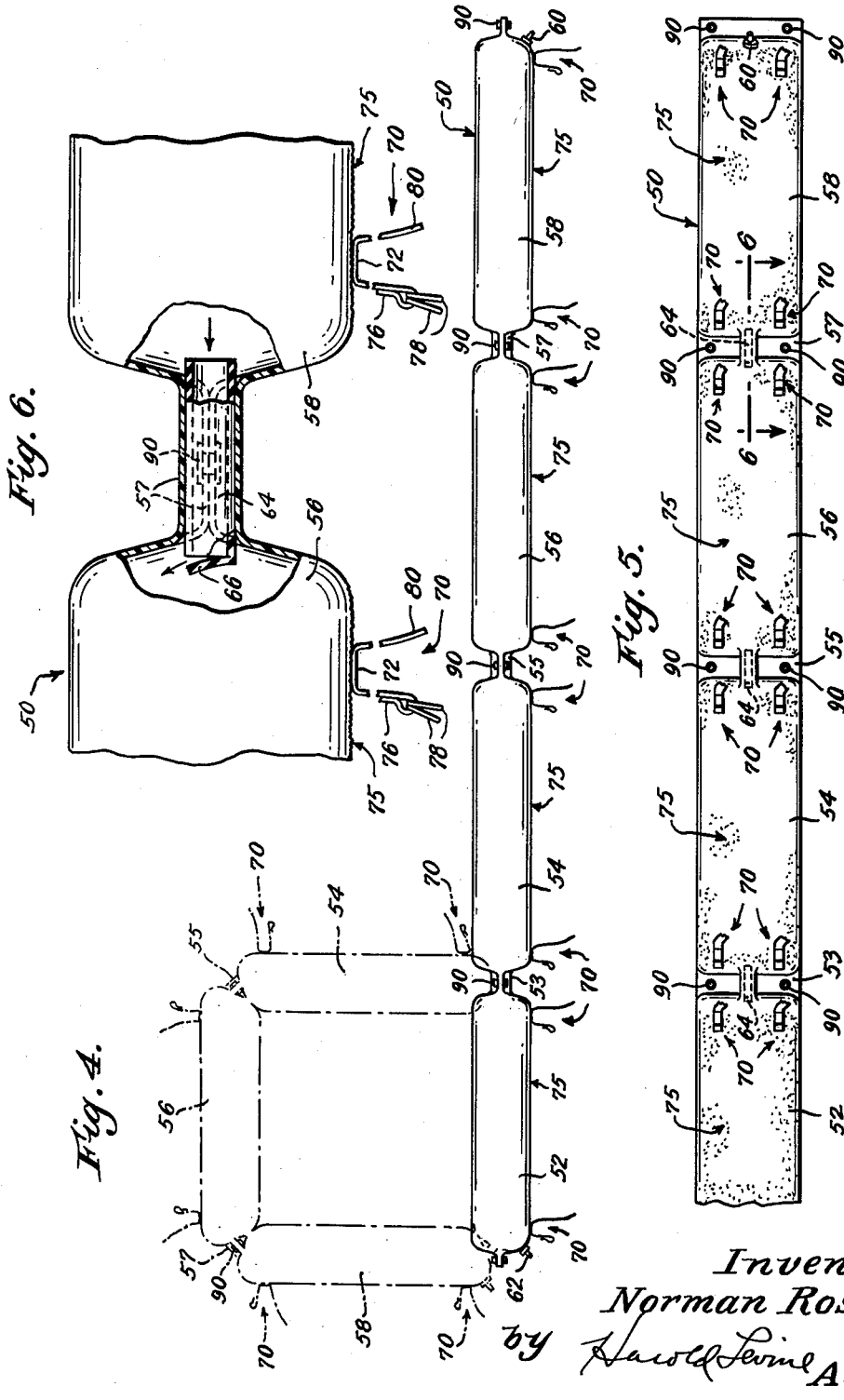
N. ROSEN

3,018,492

PROTECTIVE BUMPER DEVICE

Filed April 22, 1959

4 Sheets-Sheet 3



Inventor,  
Norman Rosen,  
by Harold Levine Att'y.

Jan. 30, 1962

N. ROSEN

3,018,492

PROTECTIVE BUMPER DEVICE

Filed April 22, 1959

4 Sheets-Sheet 4

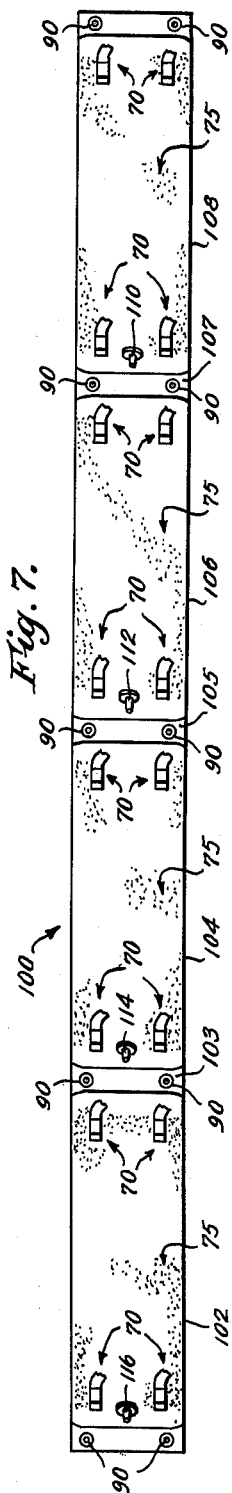


Fig. 7.

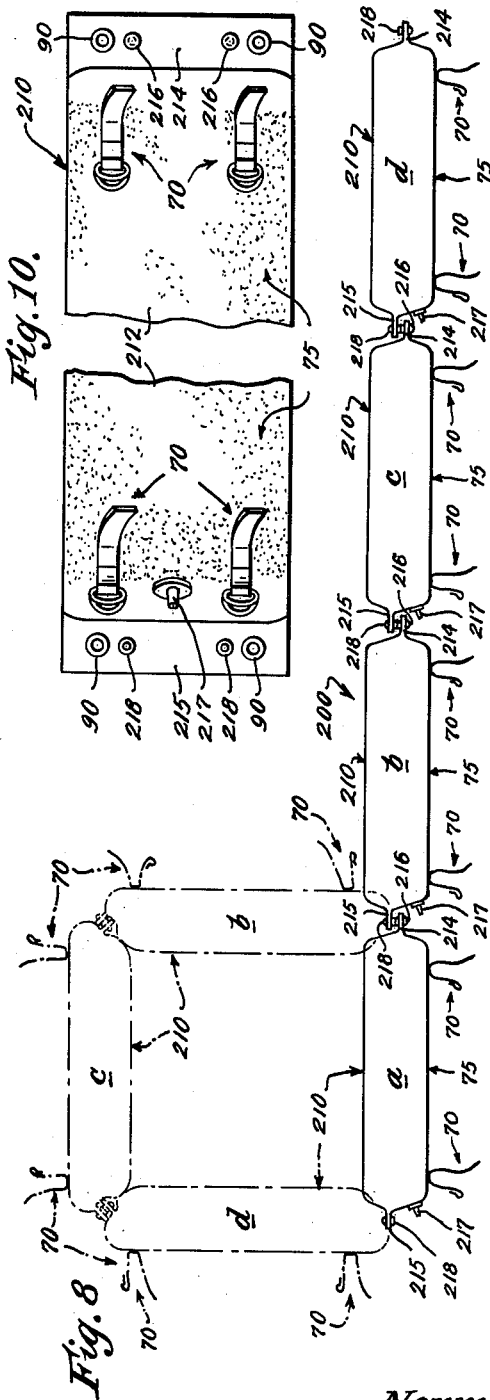


Fig. 10.

Fig. 8.

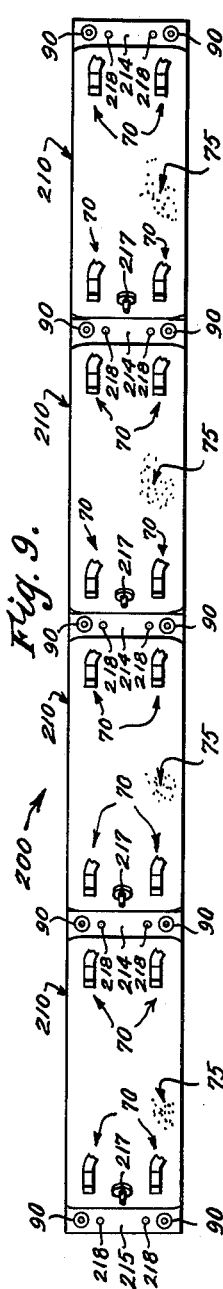


Fig. 9.

Inventor,  
Norman Rosen,  
by Harold Levine Att'y.

1

3,018,492

**PROTECTIVE BUMPER DEVICE**

Norman Rosen, 128 Isabelle St., Metuchen, N.J.

Filed Apr. 22, 1959, Ser. No. 808,127

8 Claims. (Cl. 5-93)

The instant invention relates to protective bumper devices and more particularly to such devices as are especially suited for infant enclosures which by way of example and not limitation, include cribs, playpens, carriages, bassinets, and the like.

Presently known protective bumpers, and particularly those in the form of crib bumpers have many disadvantages and defects. Such bumpers are generally of the type which are stuffed with a compressible filler material. Some of the filler materials employed are of a toxic nature and when the outer cover is torn open or punctured, there is always present the danger that the infant will pull such stuffing out and place it in his mouth.

Presently known protective bumper devices are also generally difficult to maintain in a clean and sanitary condition. These devices are generally of a non-water-tight construction and because of the stuffed filler material are not submersible in water or a cleaning medium for cleaning purposes.

Other disadvantages of presently known devices also include difficulty in storage, handling and shipment because of the bulky and unwieldy nature of the stuffed type devices.

There is also the danger with presently known devices which is present when such a device is in position for example, in a crib, that an infant can easily get its hand under the device, lift or raise it and get his head caught between the vertical slats of the crib or between the device and the crib mattress or pillow.

The above are merely exemplary of some of the disadvantages in presently known protective bumper devices which the instant invention overcomes.

It is accordingly one object of the instant invention to provide a new and improved protective bumper device which overcomes the above mentioned defects and disadvantages.

It is another object of the instant invention to provide a protective bumper device which does not require or employ any stuffing material, toxic, or otherwise.

It is yet another object of the instant invention to provide a protective bumper device which is relatively durable and not easily susceptible to tearing, puncturing or breaking.

It is yet another object of the instant invention to provide a protective bumper which is easy to clean and maintain in a sanitary condition and which is completely submersible in water and other cleaning media.

It is a further object of the instant invention to provide a protective bumper device which is lightweight, and which can be stored, transported or shipped in a compact minimal volume thereby permitting reduced marketing, storing and shipping costs.

It is yet another object of the instant invention to provide a protective bumper device which is easy and inexpensive to manufacture.

It is yet another object of the instant invention to provide a protective bumper device which is safe for infants and children and which can also be used as a toy when not employed as an infant enclosure protective bumper device.

It is yet another object of the instant invention to provide a protective bumper device which is easily and quickly assembled into operative position.

These objects and other objects and advantages will

2

become apparent upon making reference to the specification and claims following, taken in conjunction with the drawings wherein various exemplary embodiments of the instant invention are illustrated and wherein:

5 FIGURE 1 is a perspective view of an infant enclosure with one embodiment of the protective bumper of the instant invention;

FIGURE 2 is a fragmentary sectional view taken on line 2-2 of FIGURE 1;

10 FIGURE 3 is a plan view of FIGURE 2;

FIGURE 4 is a plan view of bumper shown in FIGURE 1 with the operative position of the bumper in an infant enclosure device being illustrated by the dashed line portions;

15 FIGURE 5 is an elevational view of the bumper shown in FIGURE 4;

FIGURE 6 is an enlarged sectional detail view taken on line 6-6 of FIGURE 5;

20 FIGURE 7 is an elevational view, similar to FIGURE 5, of another embodiment of the instant invention;

FIGURE 8 is a plan view of yet another embodiment of the instant invention wherein the bumper device comprises a plurality of individually inflatable, separate, sections shown releasably secured together as a unit, with the operative position of the bumper unit in an infant enclosure being illustrated by the dashed line portions;

25 FIGURE 9 is an elevational view of the bumper device shown in FIGURE 8;

30 FIGURE 10 is an enlarged fragmentary elevational view of an individual bumper section of the unit shown in FIGURE 8.

Referring now to the drawings wherein like reference numerals indicate similar elements throughout, in FIGURE 1, an infant enclosure device is shown indicated generally at 10. The device 10 may take the form of a crib, playpen, combination crib-playpen, carriage, bassinet, or the like to which by way of example and not limitation, the protective bumper of the instant invention in all its embodiments to be described below, is applicable. The device 10 may be provided with a base 12, upstanding supporting posts 14, 16, 18, and 20 suitably secured to base 12 and upstanding side wall sections generally indicated at 22, 24, 26, and 28. Each of side wall sections 22, 24, 26, and 28 include a plurality of upstanding vertical slats 30, secured respectively, to base 12 and cross members 32, 34, 36, and 38. Side wall section 28 may be constructed so as to be vertically movable with respect to base 12 by any conventional means such as for example by tongue and groove connections 40 and 42 between side wall section 28 and posts 14 and 20. Device 10 may also be provided with a pad or mattress 44.

Releasably secured in position within infant enclosure device 10, on pad 44, is a protective bumper 50, as clearly shown in FIGURE 1, forming the embodiment illustrated in FIGURES 2-6. Bumper 50, as well as each of the bumper embodiments to be described below, is inflatable and formed of a resilient, flexible, air tight material such as, for example, rubber, latex, or plastic material. The inflatable bumper 50, as illustrated in FIGURES 1-6 has four integrally formed inflatable sections 52, 54, 56, and 58, each individually inflatable by a common source 60 and deflatable at a common point 62. Each of sections 52, 54, 56, and 58, as well as each of the bumper sections of the remaining embodiments to be described below, when in inflated condition are substantially rectangular in cross section as best seen in figures 1 and 2. The bottom surface of each of the bumper sections has maximum surface contact with pad 44 which in cooperation with the rectangular cross-sectional shape of the bumper section makes it difficult for a child to get his hand underneath the bumper to lift or raise it

above its head and create the dangerous situation described above, in the objects of the invention.

Each of bumper sections 52, 54, 56, and 58 are formed integrally with and connected by relatively flat, non-inflatable, flexible connecting portions 53, 55, and 57. Inflating means 60 and deflating means 62, which may be of a conventional form, are provided on end sections 58 and 52, respectively. Connecting sections 53, 55, and 57 are each provided with communicating air passages provided by a flexible tubular member 64 housed within connecting portions 53, 55, and 57, as best seen in FIGURES 2, 3, and 6. Tubular member 64 is provided with a flexible check valve portion 66 (FIGURE 6) formed integral therewith and which is effective to permit passage of air from inflating means 60 or to deflating means 62, from right to left as seen in FIGURES 4 and 5, between adjacent bumper sections and to prevent passage of air therebetween from left to right, thereby assuring uniform inflating of all of the sections.

Each of the bumper sections 52, 54, 56, and 58, as well as each of the bumper sections of the remaining embodiments to be described below, are provided with flexible tie means, generally indicated at 70, for securing the bumper sections to the vertical slats 30 of infant enclosure device 10. Tie means 70 comprises an integral tie member bonded or otherwise secured at its midportion or at a portion 72 intermediate its ends to the outside wall 74 of each of the bumper sections as shown. One end 76 of tie means 70 is provided with two D rings through which is inserted the other free end 80 of tie means 70 to releasably secure the bumper sections to the vertical slats 30 of infant enclosure device 10, as clearly shown in FIGURES 2 and 3. Tie means 70 is advantageous in that it is adjustable to many different sizes of slats 30 and since tie means 70 is bonded to the outer surface of the bumper sections, they are less susceptible to tearing and breakage. The tie means 70 also permits the bumper sections to remain in operative position when movable section 28 of infant enclosure device 10 is moved vertically.

Outer surface 74 of each of the bumper sections 52, 54, 56, and 58, as well as each of the bumper sections of each of the remaining embodiments to be described below, is in surface contact with and bears against the inner surfaces of slats 30 and is provided with frictional means 75 which may for example take the form of an abraded outer roughened surface or an adhesive layer. Frictional surface 75 serves to frictionally maintain the bumper sections in engagement with the vertical slats 30 and to limit relative sliding movement therebetween so as to minimize the possibility of a child lifting or raising the bumper above his head and creating the dangerous situation described above.

Connecting portions 53, 55, and 57 of bumper 50, may be provided with grommets 90, as shown, which can serve as additional means for releasable attachment of the bumper 50 to infant enclosure device 10. As best seen in FIGURE 3, in dashed lines, a flexible tie 92, may be inserted through grommet 90 and tied around post 18. In the event that tie means 70 breaks loose from the bumper, grommets 90 will be particularly advantageous.

Turning now to FIGURE 7, there is illustrated another embodiment of the instant invention generally indicated at 100. Bumper 100 is similar to bumper 50 and is provided with tie means 70, frictional surfaces 75, grommets 90 and four inflatable sections 102, 104, 106, 108, which are or may be substantially identical to sections 52, 54, 56, and 58 of bumper 50 except as noted below. Each of bumper sections 102, 104, 106, and 108 are integrally formed with and connected by relatively flat, non-inflatable, flexible portions 103, 105, and 107. Connecting portions 103, 105, and 107, unlike their counterparts 53, 55, and 57 of bumper 50, do not have communicating air passages therein. Instead, each of sections 102, 104, 106, and 108 is constructed air-tight and

separately, individually inflatable and deflatable, and each are provided with an individual conventional inflating and deflating means 110, 112, 114, and 116, respectively.

It should be understood that it is within the purview of the invention in each of the species of FIGURES 1-6 and 7, to provide only three or even two sections of the integrally formed inflatable units if desired.

Turning now to FIGURES 8-10, there is illustrated yet another embodiment of the instant invention generally designated at 200. Bumper unit 200 comprises a plurality (by way of example, four being illustrated in FIGURES 8 and 9) of separately formed, individually inflatable bumper sections generally indicated at 210. Each section 210 as best seen in FIGURE 10, includes an inflatable portion 212 of substantially rectangular cross-section similar to inflatable portions 52, 54, 56, and 58 of bumper 50 and formed of the same material. Each section 210 includes an outer frictional surface 75 and tie means 70, as clearly shown in FIGURES 8-10 and a single inflating and deflating means 217 which is or may be substantially identical to means 110, 112, 114, and 116 of bumper 100. Integrally formed with inflatable section 212 and at each end thereof, are relatively flat, flexible, non-inflatable connecting portions 214 and 215. Each connecting portion 214 and 215 is provided with a pair of grommets 90 for purposes described above for bumper 50. Connecting portion 214 is provided with a spaced pair of snap fastening members 216 having male portions and connecting portion 215 is provided with a pair of spaced snap members 218 having female portions. Male snap members 216 of connecting portions 214 cooperate with and snap together under spring tension with female snap fastening members 218 of connecting portions 215 of an adjacent bumper section 210 so as to releasably secure the two adjacent bumpers together as a unit as shown in FIGURES 8 and 9. In FIGURE 8, there is shown four individual bumper sections 210 releasably secured together by snap members 216 and 218, into a unit and in the dashed line portions the unit is shown in operative position for an infant enclosure device. When a desired number of sections are releasably secured together as a unit, grommets 90 of overlapping connecting portions 214 and 215 are in alignment and provide a means to secure the bumper unit to an infant enclosure device in the manner shown in FIGURE 3 and described above, in addition to tie means 70. It should be understood that if desired, tie means similar to tie means 70 could be substituted for snap members 216 and 218 to releasably secure adjacent bumper sections together.

The protective bumper of the instant invention in all of its various embodiments described above, provides a versatile device which can be stored easily and compactly in deflated condition when not in use and will not deteriorate, mildew or decompose during prolonged storage. The bumper of the instant invention and all of its embodiments can also be used as a buoyant recreational device for swimming.

From the above, it is clear that the bumper of the instant invention in all its various embodiments described above fulfills the objects of the invention and provides other advantageous results.

It should be understood that numerous changes and modifications may be made of the invention described above without deviating from the broader aspects of the invention and the scope of the claims.

I claim:

1. The combination comprising an infant enclosure device, such as a crib or the like, including means providing a plurality of upstanding side surfaces forming an enclosure; protective bumper means associated with said surfaces, said bumper means including a plurality of sections; means releasably securing each one of said plurality of sections to a respective one of said surfaces, each of said plurality of sections being formed of fluid imper-

5

vious resilient material providing portions adapted to be inflated; inflating means operatively associated with said plurality of inflatable portions, at least a portion of one surface of one of said plurality of sections being disposed for engagement with a part of the respective enclosure surface to which said one section is releasably secured; said portion of said one surface having frictional means for frictionally maintaining said portion of said one surface in engagement with said part of the said respective surface to limit relative sliding movement therebetween; the cross-sectional shape of said one of said plurality of sections being substantially rectangular and each of said plurality of sections of said bumper means comprising an individually inflatable, separate unit; and means releasably connecting adjacent ones of said plurality of sections.

2. The combination comprising an infant enclosure device, such as a crib or the like, including means providing a plurality of upstanding side surfaces forming an enclosure; protective bumper means associated with said surfaces, said bumper means including a plurality of sections; means releasably securing each one of said plurality of sections to a respective one of said surfaces, each of said plurality of sections being formed of fluid impervious resilient material providing portions adapted to be inflated; inflating means operatively associated with said plurality of inflatable portions, at least a portion of one surface of one of said plurality of sections being disposed for engagement with a part of the respective enclosure surface to which said one section is releasably secured; said portion of said one surface having frictional means for frictionally maintaining said portion of said one surface in engagement with said part of the said respective surface to limit relative sliding movement therebetween; the cross-sectional shape of said one of said plurality of sections being substantially rectangular, and said plurality of sections of said bumper means comprising a unit; means interconnecting each of said plurality of sections; said inflating means being disposed adjacent one end of said unit; valve means operative for deflating said unit; and said interconnecting means including air passages provided with check valve means therein.

3. The combination comprising an infant enclosure device, such as a crib or the like, including means providing a plurality of upstanding side surfaces forming an enclosure; protective bumper means associated with said surfaces, said bumper means including a plurality of sections; means releasably securing each one of said plurality of sections to a respective one of said surfaces, each of said plurality of sections being formed of fluid impervious resilient material providing portions adapted to be inflated; inflating means operatively associated with said plurality of inflatable portions, at least a portion of one surface of one of said plurality of sections being disposed for engagement with a part of the respective enclosure surface to which said one section is releasably secured; said portion of said one surface having frictional means for frictionally maintaining said portion of said one surface in engagement with said part of the said respective surface to limit relative sliding movement therebetween; the cross-sectional shape of said one of said plurality of sections being substantially rectangular, and said plurality of sections of said bumper means comprising a unit; means interconnecting each of said plurality of sections; said inflating means comprising an individual inflating device provided on each one of said plurality of inflatable portions, said individual inflating devices also

6

being operative to deflate its respective inflatable portion.

4. A protective bumper unit for a crib or the like having upstanding sides; said unit comprising a plurality of elongated inflatable sections; each of said sections being formed of fluid impervious material; each of said inflatable sections being mutually interconnected together; adjacent ones of said plurality of mutually interconnected sections being angularly positionable relative to each other to assume a protective conforming configuration and position within said crib along the upstanding sides thereof; means operatively interconnected with said unit for inflating and deflating each of said sections; surface portions of said unit being arranged for engagement with said upstanding sides of said crib when said unit is in its protective configuration and is positioned in said crib; said surface portions having friction means in the form of a roughened surface thereon for frictionally maintaining said unit in engagement with said crib to limit relative sliding movement therebetween; and connecting means on said unit for securing said unit to said crib.

5. The protective bumper unit as set forth in claim 4 and wherein each of said plurality of interconnected sections has a substantially rectangular cross sectional configuration.

6. The protective bumper unit as set forth in claim 4 and wherein each of said plurality of sections is detachably mutually interconnected together to form said unit.

7. A protective bumper unit for a crib or the like having upstanding sides; said unit comprising a plurality of elongated inflatable sections; each of said sections being formed of fluid impervious material; each of said inflatable sections being mutually interconnected together; adjacent ones of said plurality of mutually interconnected sections being angularly positionable relative to each other to assume a protective conforming configuration and position within said crib along the upstanding sides thereof; means operatively interconnected with said unit for inflating and deflating each of said sections; surface portions of said unit being arranged for engagement with said upstanding sides of said crib when said unit is in its protective configuration and is positioned in said crib; said surface portions having friction means in the form of an adhesive surface thereon for frictionally maintaining said unit in engagement with said crib to limit relative sliding movement therebetween; and connecting means on said unit for securing said unit to said crib.

8. The protective bumper unit as set forth in claim 7 and wherein each of said plurality of interconnected sections has a substantially rectangular cross sectional configuration.

#### References Cited in the file of this patent

##### UNITED STATES PATENTS

Re. 24,805	Morrill	Mar. 29, 1960
232,234	Bickerton	Sept. 14, 1880
949,389	Almgren	Feb. 15, 1910
2,128,978	Akin	Sept. 6, 1938
2,644,173	James	July 7, 1953
2,834,970	Nappe	May 20, 1958

##### FOREIGN PATENTS

805,685	Germany	May 25, 1951
---------	---------	--------------