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(54) **HEAT REFLECTIVE COVER FOR INFANT
OR CHILD CAR SEAT**

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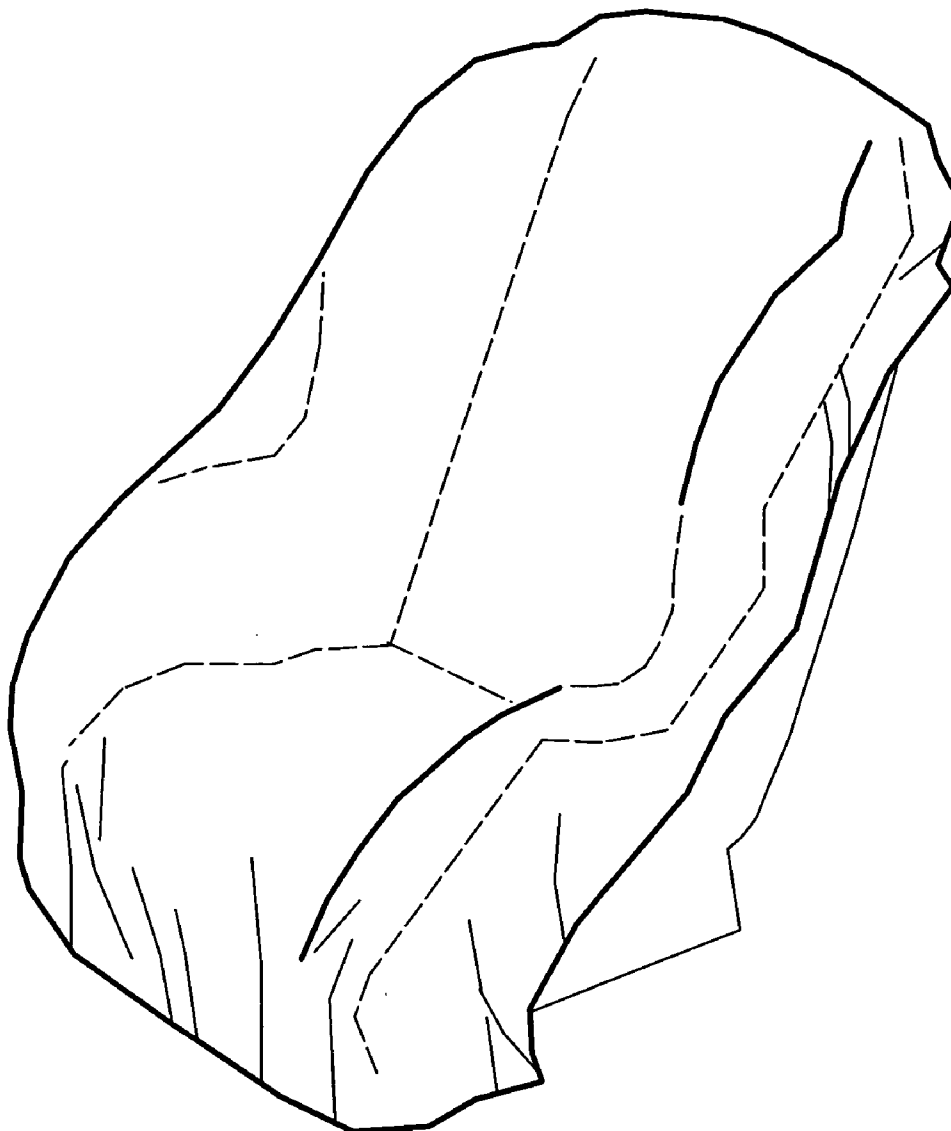
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ABSTRACT

A protective cover is disclosed that can be interchanged among a variety of infant or child car seats. It includes heat reflective fabric with fastening device to hold it securely to the car seat. This is a heat reflective device made to cover an infant or child car seat to reflect the heat of the sun and prevent the car seat fabric and fasteners from becoming hot enough cause discomfort or injury to an infant or child. Another feature of the present invention may include the ability of the present invention to be folded to a reduced state for easy storage .

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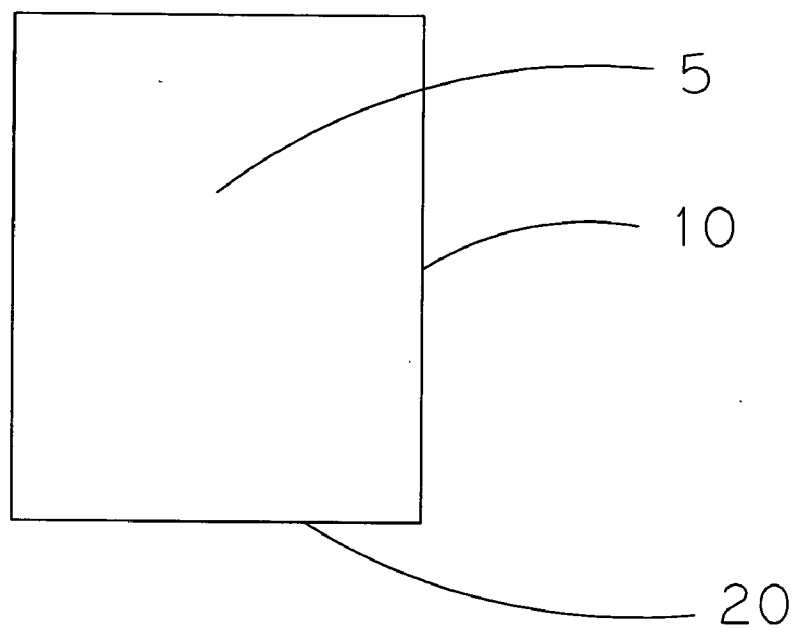


Fig. 1

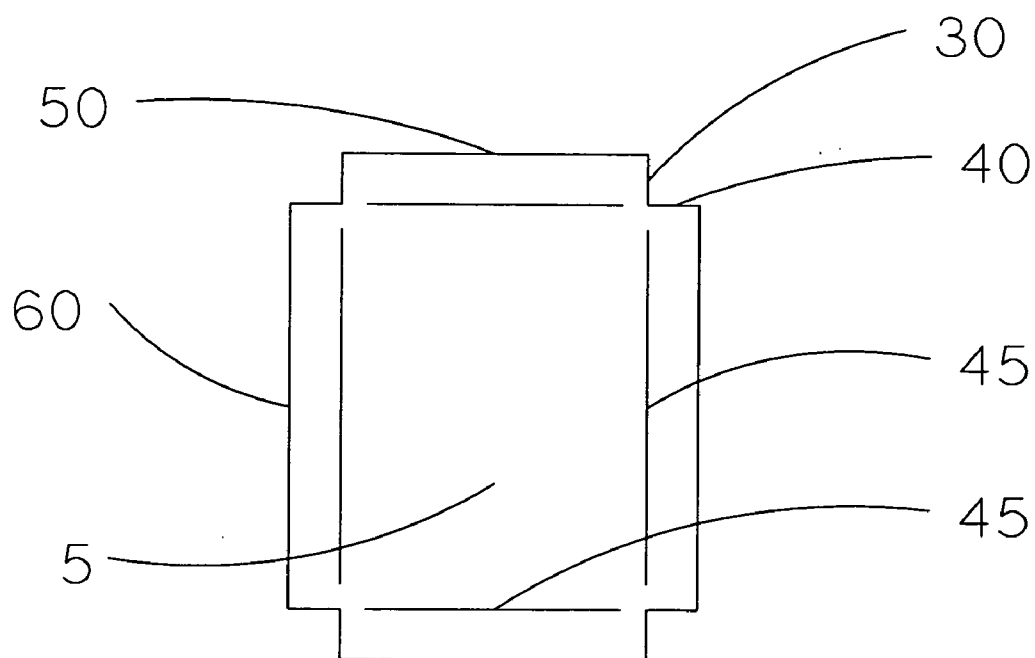


Fig. 2

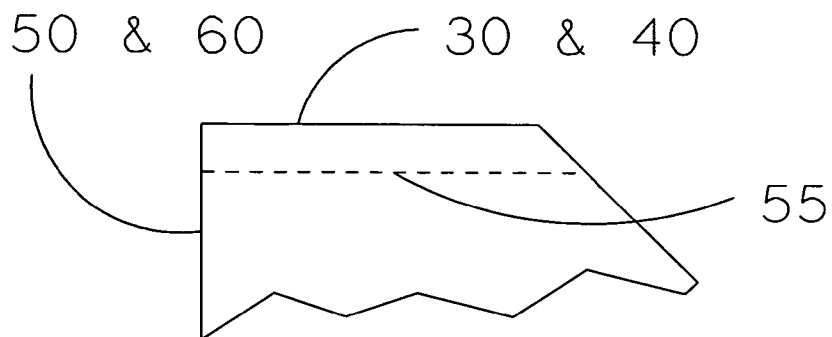


Fig. 3

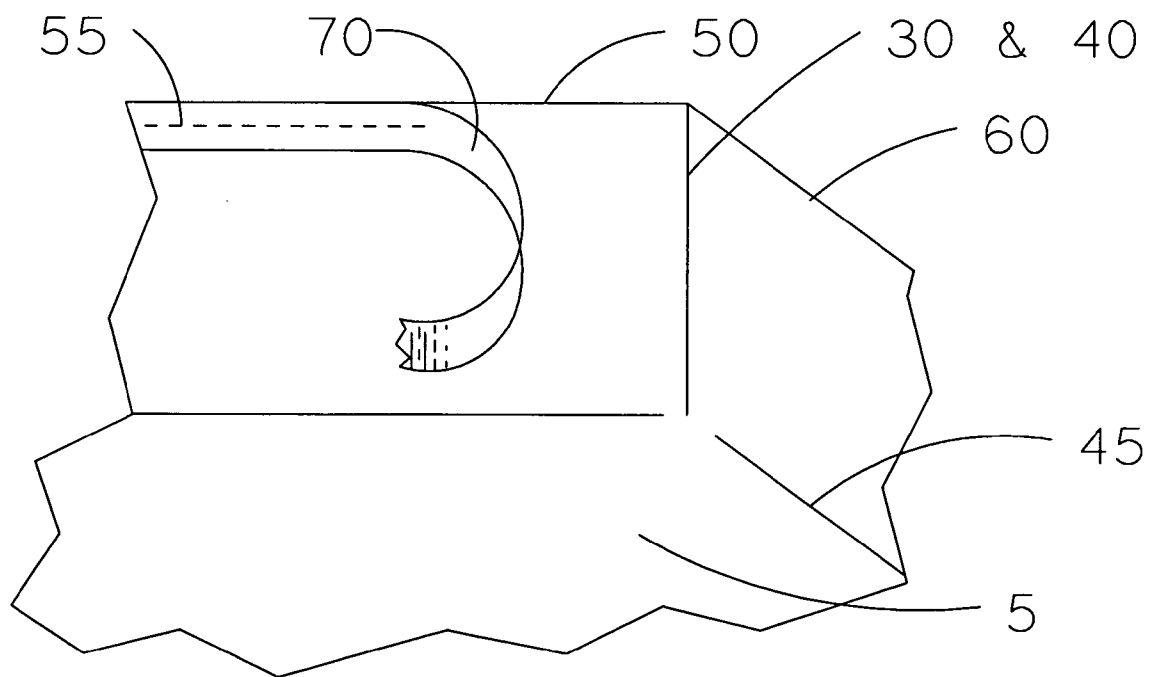


Fig. 4

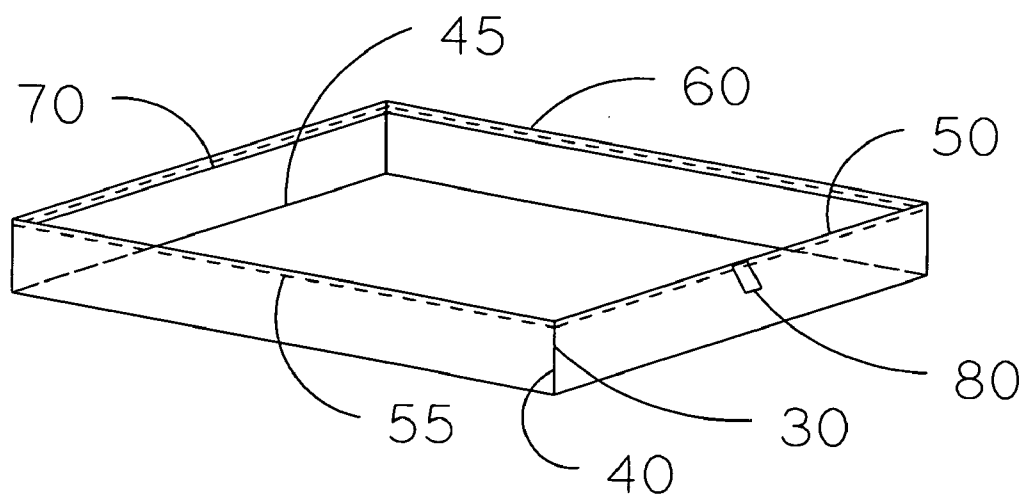


Fig. 5

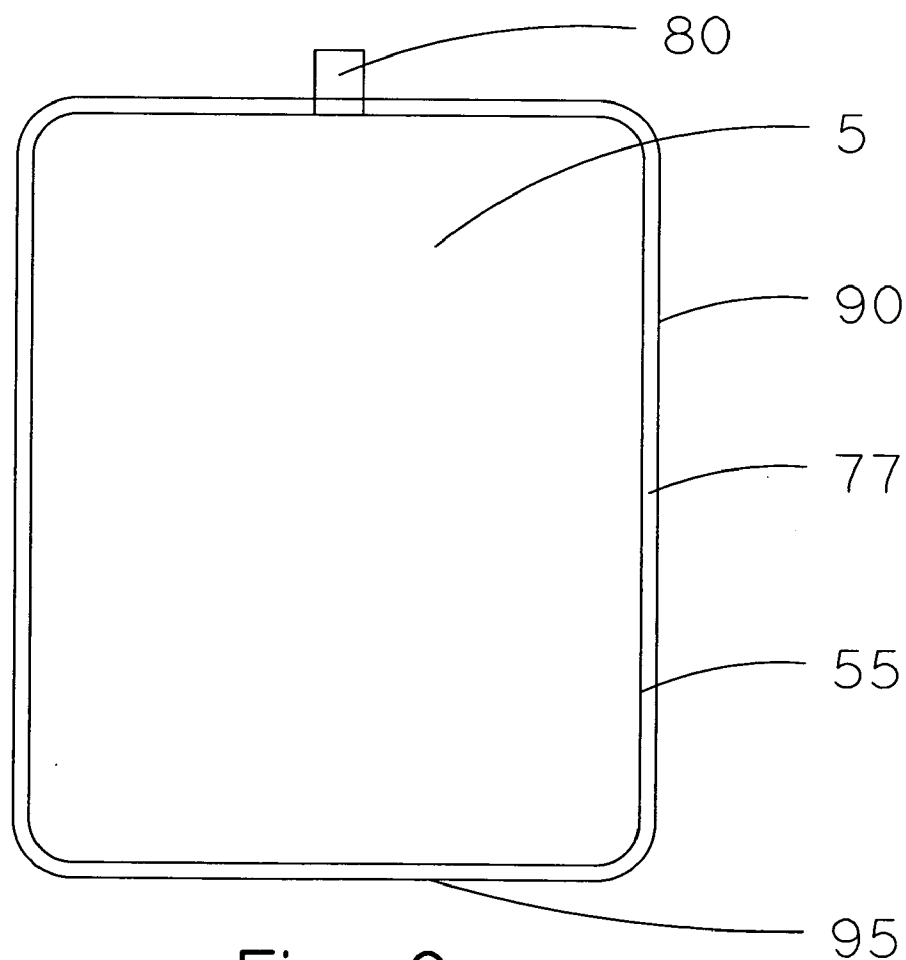


Fig. 6

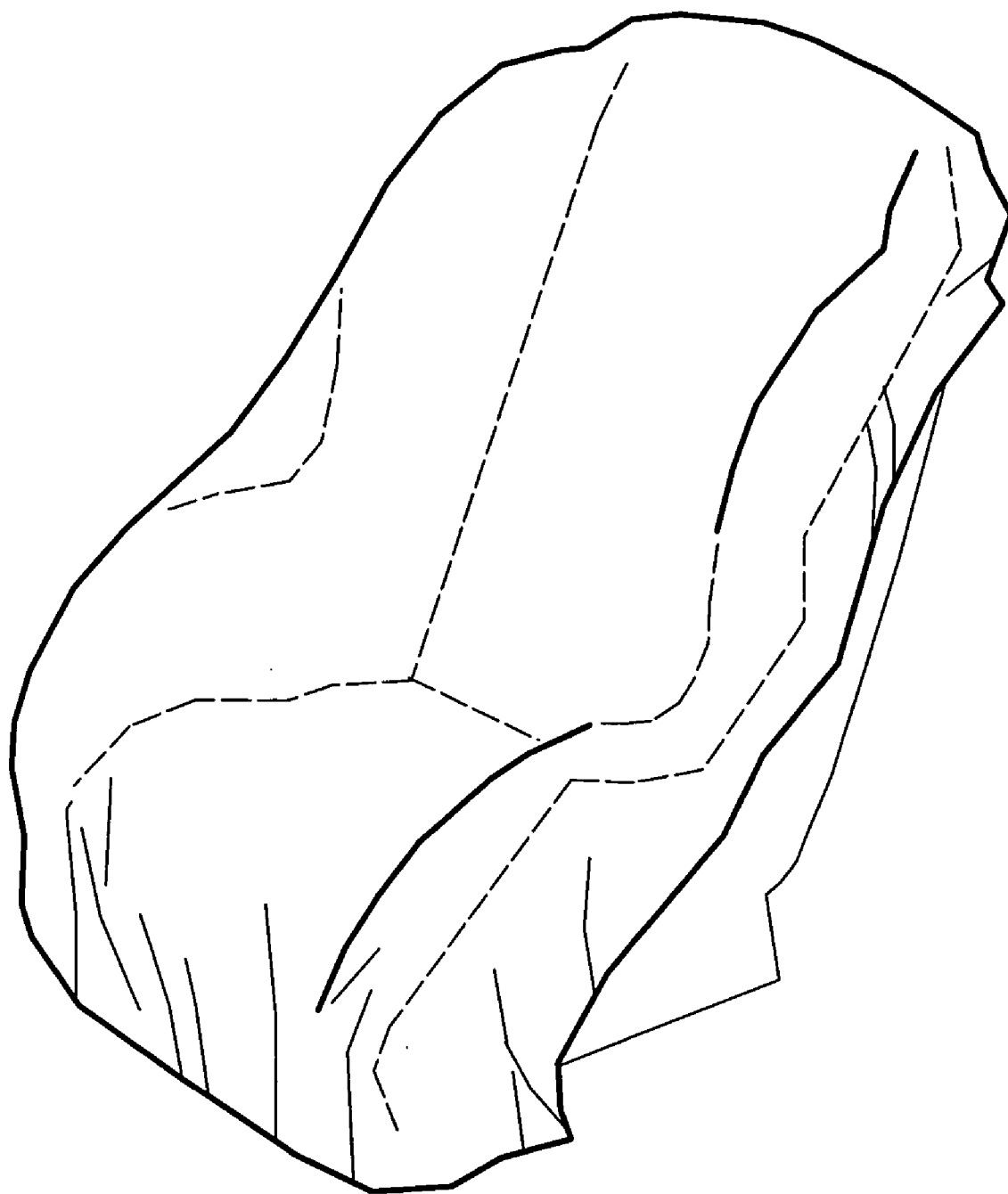


Fig. 7

HEAT REFLECTIVE COVER FOR INFANT OR CHILD CAR SEAT

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] Not Applicable

FEDERALLY SPONSORED RESEARCH

[0002] Not Applicable

SEQUENCE LISTING OR PROGRAM

[0003] Not Applicable

BACKGROUND OF THE INVENTION

Field of Invention

[0004] This invention generally relates to car seats, specifically to comfort and safety enhancements for infant or child car seats.

BACKGROUND OF THE INVENTION

Prior Art

[0005] Car seats are effective safety systems which protect infants and small children from death and injury when involved in car crashes. The importance of car seats to child safety is so widely recognized that all fifty states have enacted laws requiring infants and small children to ride in car seats while in the car. Car seats are not an unalloyed benefit, however. Car seats are sometimes improperly installed, and sometimes children do not wish to ride in car seats due to the discomfort and boredom they experience in the seats. The present invention discloses a device for reducing the discomfort infants and children feel when riding in car seats.

[0006] When a car in which the car seat is installed is sitting in the sun, the interior of the car including the car seat heats up, the fasteners and fabric of the car seat get very hot. When the child is placed back in the car seat, the heat is very uncomfortable, and the hot fasteners may burn the child.

[0007] There are several approaches to addressing this problem with car seats as currently used. One simple approach is to leave the windows of the car open. In many situations, however, this solution is not adequate for security reasons: the car seat or other items in the car may be stolen. A related approach is to remove the car seat from the car while it is parked in the sun. This solution is unsuitable for many situations, when it is awkward to carry the car seat, and when the design of the car seat makes it hard to re-install in the car after every removal, and may lead to improper re-installation

[0008] Another solution is to tint the windows of the car to reduce the amount of heat entering the car. This has the disadvantage of reducing visibility while driving, however. A less permanent modification is a removable screen attached to the window of the car and partially shielding the car seat from direct sun. Such a device is disclosed in U.S. Pat. No. 4,944,548 issued Jul. 31, 1990 to G. Payne et al. This solution has the disadvantage of reducing visibility while driving as well as reducing the utility of the window

to which the screen is attached. Also, any approach which reduces visibility may make the child less comfortable while riding.

[0009] Yet another solution is a complicated hood made as part of the car seat to provide shade for the infant while riding in the car seat. U.S. Pat. No. 5,397,268 issued Mar. 14, 1995 to Chang, et. al. discloses such a device. A disadvantage to this approach is that the sun shield apparatus can be a crash risk for the infant, thus reducing the effectiveness of the car seat as a safety device. Additionally, such a device can be complicated for care givers to adjust and manipulate.

[0010] Another simple solution is to put a blanket over the car seat. This solution helps to keep the seat cool, but a reflective material and a snug fit keeps significantly more heat from the car seat.

[0011] What is needed is a heat reflective covering that would fit snugly over the car seat to decrease the heat of the fasteners and fabric of the car seat, so a baby can be placed in it comfortably and safely.

BACKGROUND OF THE INVENTION

Objects and Advantages

Several objects and advantages of the present invention are:

[0012] 1) To provide a covering for an infant or child car seat that would diminish the impact to the occupants comfort and safety caused by the heat of the sun by keeping the fasteners and fabric cool.

[0013] 2) To provide such a covering in a form that is simple and easy for care givers to use.

[0014] 3) To provide maximum heat resistance by incorporating heat reflective material.

[0015] 4) To provide flexible patterns of use. Since the cover is not a part of the car seat, it can be left in the car if the car seat is temporarily removed from the car. The cover can also be removed and used with a car seat installed in a separate car.

In addition, further objects and advantages will become apparent from a consideration of the ensuing description and drawings.

SUMMARY

[0016] The present invention consists of a removable device which covers an infant or child car seat and reflects the light and heat of the sun. The device maintains a cooler temperature of the fabric and fasteners of the seat which provides for improved comfort of the infant or child.

DRAWINGS

[0017] Figures

[0018] FIG. 1 shows the diagram of the piece of fabric used for the preferred embodiment.

[0019] FIG. 2 shows the diagram of the pattern used to make the fitted corners of the preferred embodiment.

[0020] FIG. 3 shows the diagram of the sewing of the fitted corners.

[0021] FIG. 4 shows a diagram of attaching the elastic element to the car seat cover, after the corners have been sewn.

[0022] FIG. 5 shows a diagram of an oblique view of the finished preferred embodiment, including the tab.

[0023] FIG. 6 shows a diagram of the alternate embodiment, the fabric cut with the elastic element attached.

[0024] FIG. 7 shows a diagram of the car seat cover installed on the car seat.

DRAWINGS

[0025] Reference Numerals

[0026] 5. Indicates a heat reflective fabric out of which the covering is constructed. This fabric is cut into a rectangle with dimensions a few inches larger than the width and length of the car seat for which the covering is to be used.

[0027] 10. Indicates the longer dimension of the heat reflective fabric.

[0028] 20. Indicates the shorter dimension of the heat reflective fabric.

[0029] 30. Indicates a four inch cut four inches from each corner on the side of the shorter dimension.

[0030] 40. Indicates a four inch cut four inches from each corner on the side of the longer dimension.

[0031] 45. Indicates the fold lines for the finished product of the preferred embodiment.

[0032] 50. Indicates the shorter dimension with the four inch corners removed.

[0033] 55. Indicates the sewn seam.

[0034] 60. Indicates the longer dimension with the four inch corners removed.

[0035] 70. Indicates the elastic element.

[0036] 80. Indicates the tab.

[0037] 90. Indicates the long dimension of the heat reflective fabric with rounded corners.

[0038] 95. Indicates the short dimension of the heat reflective fabric with rounded corners.

DETAILED DESCRIPTION

[0039] FIGS. 1, 2, 3, 4 and 5

PREFERRED EMBODIMENT

[0040] A preferred embodiment of the present invention consists of a rectangle of heat reflective fabric with fitted corners, with an elastic band sewn around the perimeter to hold it snugly against the car seat. A universally configured cover that could be used on a wide variety of baby seats could be approximately thirty two inches wide and forty inches long with an elastic element attached around the perimeter to hold it snugly against the car seat. The best fabric for this covering would be a lightweight aluminized fabric with the highest possible reflectivity. The fabric would be non-toxic, be able to be folded easily and repeatedly without wearing or degrading the reflectivity.

The fabric would be easily sewn, durable and rip-proof.

[0041] A preferred embodiment of the child car seat cover of the present invention is illustrated in FIG. 12, 3, 4 and 5. The device is constructed as follows: A heat reflective fabric 5 will be cut to a rectangle (FIG. 1) of about forty inches 10 by about thirty-two inches 20. In the preferred embodiment, squares, about four inches on a side 30 and 40 (FIG. 2) will be cut out of each of the corners of the fabric rectangle. The two respective sides near each corner 30-40 (FIG. 3) approximately four inches long, will be placed together, right sides facing each other, with edges of fabric 50 and 60 placed together. A seam will be sewn about three eighths of an inch from the edges of 30-40 to make a fitted corner in the fabric, this will be repeated on all four corners of the fabric (FIG. 2). These seams will all be sewn on the back side of the fabric in the manner of a fitted bed sheet. These seams will be finished.

[0042] This fabric will be finished all the way around the edge. An elastic element 70 (FIG. 4) about three eighths of an inch wide, will be sewn to the fabric along the perimeter, gathering the fabric. At the same time that the elastic is attached to the edge of the fabric, a tab 80 (FIG. 5) will be attached to the center of the top edge. A good elastic band for this purpose is one which maintains its elasticity over a large number of uses, sews easily, and is not too wide to easily snug under the corners of the car seat.

FIG. 4. ALTERNATIVE EMBODIMENT

[0043] An alternate embodiment of the present invention of the child car seat cover is illustrated in FIG. 1 and 6. A heat reflective fabric will be cut into a rectangle, about thirty two inches 20 by about forty inches 10. The corners will be rounded 90 and 95 (FIG. 6) taking off approximately 2 inches of fabric on the corner. The fabric will be finished all the way around the edge. Elastic 70 will be sewn along the perimeter of the fabric, gathering the fabric. At the same time that the elastic is attached to the edge of the fabric, a tab 80 will be attached to the center of the top edge.

Operation

[0044] The manner of using the invention is: grasp the cover at the tab, and place the tab at the middle of the top of the child car seat. The elasticized edge of the top of the cover will then be secured around the top edge of the child car seat. Then the elasticized edge of the bottom of the cover will be secured around the bottom of the child car seat. The sides of the cover are to be outside the car seat, but not necessarily under the edges of the car seat. If the child car seat is facing the rear of the car, as for an infant, the application can start at the bottom of the car seat and repeat the above steps in reverse. An illustration of the fully installed child car seat cover is shown in FIG. 7.

[0045] The manner of using the alternate embodiment of the invention is the same as the preferred embodiment, the difference is that the fitted corners on the preferred embodiment allow for a closer fit on certain car seats.

[0046] This child car seat cover is intended to keep the fabric and fasteners of the child car seat cooler than the ambient temperature of the interior of the car, when the car seat is sitting in the sun.

[0047] The car seat cover disclosed in this invention is not intended to be used while the car seat is occupied.

Advantages

[0048] From the description above, a number of advantages of my heat reflective car seat covering become evident:

[0049] a) This car seat cover would provide a needed way to keep infant or child car seats cool when the sun is shining in the window of the car. Prototypes constructed of a suitable heat reflective fabric have been demonstrated to provide an environment under the covering which is up to 50 degrees Fahrenheit cooler than the ambient environment inside the car. This maintains the fabric and fasteners at a cooler temperature, decreasing the possibility of discomfort or heat injuries to the child.

[0050] b) The car seat cover is simple to attach to a car seat and can easily be removed with one hand while holding the child or infant in the other arm.

[0051] c) The covering is more effective than a towel, blanket or other multi-purpose fabric which could be used to shield a car seat from the sun.

CONCLUSION, RAMIFICATIONS, AND SCOPE

[0052] As has been described, the covering disclosed in the invention provides an enhancement to the safety and comfort of an infant or child occupying a car seat by maintaining the fabric and fasteners of the seat cool when the vehicle in which the seat is installed is parked in the sun.

[0053] Since this situation occurs very frequently during the summer months in parking lots, outside a residence, or at a place of employment, the invention will greatly improve the experience of infants and children while being placed back into the car seat and reducing the possibility of being burned or discomfited by the extremely hot fabric and fasteners of the car seat. It does this by:

[0054] being constructed of a heat reflective fabric,

[0055] being easily attached and detached from the car seat, so that it can be easily operated by care givers,

[0056] being configured for use on a variety of shapes of car seats.

In addition, the covering can be folded and compactly stored while not in use, as well as removed and used in multiple vehicles.

[0057] While my above description contains many specifics, these should not be construed as limitations on the scope of the invention, but as merely providing an exemplification of one presently preferred embodiment thereof. Many other variations are possible. For example, a covering made of a non-reflective material would be cheaper to construct, while not as effective.

[0058] The covering could lack an elastic element and simply hang loose, which would also be not as effective. The corners can be cut in a variety of different fashions so as to more closely fit particular models of infant or child car seats. The covering can be fitted with closures which attach tightly to particular attachments on a given model of car seat, thus providing for better insulation, while limiting the reusability and versatility of the covering. The covering can be used for other similar purposes, such as keeping a bag of groceries in a vehicle cooler while on another errand. A pocket could be sewn to the underside of the covering, which could hold an ice pack to maintain a cooler temperature, or for the cov-

ering to fold up and stow within. The covering could have one edge attached permanently, or semi-permanently to the top or bottom of the car seat in an integrated way, to allow for retractable deployment of the covering.

[0059] Thus the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the examples given.

I claim:

1. A reflective cover comprising
 - a. a heat reflective material cut into an appropriate shape
 - b. to fit snugly over an article to be kept cool, with
 - c. a means for gathering the perimeter of the material, placed around the perimeter of said material,
 - d. which device can be removably placed around said article to shield said article from heat in its environment.
- 1a. The covering of claim 1, where said means of gathering said reflective material is an elastic element.
- 1b. The covering of claim 1, where said means of gathering said reflective material is a drawstring.
- 1c. The covering of claim 1, where said means of gathering said reflective material is a rigid hoop or hoops.
- 1d. The covering of claim 1, where said device is semi-permanently attached to an enclosing structure or automobile.
- 1e. The covering of claim 1, where said device is permanently attached to an enclosing structure or automobile.
2. A reflective cover for a car seat comprising
 - a. a heat reflective material cut into an appropriate shape for covering an infant or child car seat
 - b. to fit snugly over said car seat, with
 - c. a means for gathering the perimeter of said material, placed around the perimeter of said material,
 - d. which device can be removably placed around said car seat to shield it from heat in its environment.
- 2a. The covering of claim 2, where the snug fit is achieved by a rectangular shape with square fitted corners.
- 2b. The covering of claim 2, where the snug fit is achieved by a rectangular shape with rounded fitted corners.
- 2c. The covering of claim 2, where the snug fit is achieved without fitted corners, but is reliant on said means for gathering the material snugly.
- 2d. The covering of claim 2, where said means of gathering said reflective material is an elastic element.
- 2da. The covering of claim 2d, where the snug fit is achieved by a rectangular shape with square fitted corners.
- 2e. The covering of claim 2, where said means of gathering said reflective material is a drawstring.
- 2f. The covering of claim 2, where said means of gathering said reflective material is a rigid hoop or hoops.
- 2g. The covering of claim 2f, where the rigid hoop or hoops are comprised of metal.

- 2h. The covering of claim 2f, where the rigid hoop or hoops are comprised of plastic.
- 2i. The covering of claim 2, where said covering is attached snugly to said car seat by a means for semi-permanently attaching a portion of said covering to said car seat.
- 2j. The covering of claim 2i, where said means for attaching said covering to said car seat is comprised of buckles, straps, hook and loop closures, or snaps.
- 2k. The covering of claim 2i, where said means of gathering said reflective material is a rigid hoop or hoops.
- 2l. The covering of claim 2i, where said covering is attached to said covering on one portion of its perimeter, and a rigid hoop is attached to the remaining portion of the perimeter, which enables said covering to be deployed over said car seat in a canopy.
- 3. A reflective cover for groceries comprising
 - a. a heat reflective material cut into an appropriate shape for covering a means for collecting and enclosing said groceries
 - b. and fit snugly over said groceries, with
 - c. a means for gathering the perimeter of said material, placed around the perimeter of said material,
 - d. which device can be removably placed around said groceries to shield said groceries from heat in the environment.
- 3a. The covering of claim 3, where said means of gathering said reflective material is an elastic element.
- 3b. The covering of claim 3, where said means of gathering said reflective material is a drawstring.
- 3c. The covering of claim 3, where said means of gathering said reflective material is a rigid hoop or hoops.
- 3d. The covering of claim 3, where said covering is semi-permanently attached to an enclosing structure by a means of buckles, straps, hook and loop closures, or snaps.
- 3e. The covering of claim 3d, where said covering is permanently attached to an enclosing structure or automobile and is deployed over said groceries.
- 4. A reflective automobile steering wheel cover comprising
 - a. a heat reflective material cut into an appropriate shape for covering a steering wheel
 - b. and fit snugly over said steering wheel, with
 - c. a means for gathering the perimeter of said material, placed around the perimeter of said material,
 - d. which device can be removably placed around said steering wheel to shield said steering wheel from heat inside an automobile.
- 4a. The covering of claim 4, where said covering is cut to a circular shape.
- 4b. The covering of claim 4a, where said means of gathering said reflective material is an elastic element.
- 4c. The covering of claim 4a, where said means of gathering said reflective material is a drawstring.
- 5. The covering of claim 1, where the article to be shielded is picnic items.
- 6. The covering of claim 1, where the article to be shielded is electronic items.

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