The invention relates to a stroller (1), wherein the cover comprises: a canopy (240), removably fastened to the bassinet/seat in at least the side members of the bassinet/seat by detachable locking means; an outer removable bassinet/seat cover (200) attached to the seat (30) by detachable fastening means and covering at least the exterior back portion of the bassinet/seat (30); and preferably covering the exterior surfaces of the bassinet/seat (30); wherein the canopy (240) and the outer bassinet/seat cover (200) are interconnected, preferably separably connected by detachable fastening means. The invention also relates to a bassinet or seat and to a stroller having such covers.
Seat and stroller with seasonal cover

The invention relates to a stroller seat or bassinet having interchangeable seasonal covers, the interchangeable seasonal covers as such and a stroller or pram comprising such features.

Background for the invention

It is not possible today to specially adapt baby carriages to suit the seasons. This is true especially for children’s strollers or prams having a seat, i.e., those that do not consist of a traditional flat bassinet in which the child lies. For some carriages there are standard covers of varying thicknesses and fabric qualities, but the design of the covering is the same regardless of the season.

There is thus a desire to make possible a simple conversion of a stroller/pram so that it may easily be specially adapted to different weather conditions and so that the conversion may be carried out by ordinary consumers without the use of tools. In many geographical areas there are substantial temperature variations between summer and winter, and there is thus a need to be able to easily adapt the stroller/pram to the different seasons, also taking into consideration the trend toward increased travel activity, with the result that baby carriages are exposed to different climates.

General description

The invention comprises a stroller or pram wherein it is possible to change, through a simple operation by the user, between a standard covering for the average climate and coverings that have been specially designed for optimal effect in warm summer climates and cold winter climates. By “covering” is meant: an enveloping fabric around and over the outside of the portion on which the child sits or lies that is mounted on the stroller, such as a canopy, or outer covering for a seat or bassinet; but optionally also
on the sitting or lying surface for the child in the sitting and lying portion itself; and optionally a hand protection for caretakers.

Standard covering is factory-installed on the seat and lying portion, but fastening methods are used that do not require the use of tools to disassemble them. To convert the stroller to adapt to summer or winter use, the fabric on the interior sitting or lying portion for the child is preferably retained, whereas other parts of the covering that embrace the child are replaced, and all of the fabrics are washable.

To obtain insulation capabilities in winter, there are used an insulated canopy, an outer covering on the seat, a cover over the seat, and optionally hand protection for caretakers. These units are mounted and detached easily by the fastening system, which does not require the use of tools. Preferably, it is chosen to use fitted textiles and locking means such as Velcro®, snap fasteners, twist locks or locking buttons, splint locks, snap or click locks and the like. Ribs and other plastic parts may easily be mounted and detached by using similar locking devices, preferably snap locks.

By snap locks are meant locks where a male piece is inserted into a female piece, where the male or female piece has movable spring-loaded locking parts (often by virtue of the pliability of the material per se, such as plastic), which parts firmly snap onto the reciprocal piece, and which may be released by pressing together the spring-loaded locking parts to release one of the pieces.

To obtain an airy seat in summer, thin, lightweight fabrics or mesh are used on the canopy and the outer covering of the seat. Also, terry cloth fabric may preferably be used on the inside sitting surface and as a sun shade be used to cover and protect the child from the sun. These units are easily mounted and detached by the fastening system, which does not require the use of tools. It is preferably elected to use fitted textiles, Velcro®, and locking means such as snap fasteners, twist locks or locking buttons, splint locks, snap or click locks and the like. Ribs and other plastic parts may easily be mounted and detached through the use of snap locks.

One version of the invention relates to an interchangeable cover for a bassinet/seat for a stroller, where the cover comprises: a canopy, detachably fastened to the bassinet/seat in at least the side members of the bassinet/seat by detachable locking
means; an outer removable bassinet/seat cover that is attached to the seat by detachable fastening means and that covers at least the exterior back portion of the bassinet/seat; and preferably covers mainly the exterior surfaces of the bassinet/seat; wherein the canopy and the outer bassinet/seat cover are interconnected, preferably separably connected by detachable fastening means.

The covering may also comprise an interchangeable inside cover, fastened to the bassinet/seat in at least the upper and lower or rear and forward ends of the bassinet/seat, preferably by a pocket on the back side of the head portion of the inside cover which is pulled over the head portion of the bassinet/seat, preferably a pocket in mesh material; and preferably by fastening means on the lower portion of the inside cover that are attached to reciprocal fastening means on the lower end of the bassinet/seat, preferably by locking means that can also receive locking means from the outer cover.

The outer bassinet/seat cover may be fastened along the outer edges of the bassinet/seat, preferably to the head portion of the bassinet/seat, especially preferably to a head bar on the upper portion of the bassinet/seat, said head bar preferably extending beyond the head portion of the bassinet/seat and being positioned at a distance above the plane of said head portion. Optionally the canopy is additionally fastened to the head portion of the bassinet/seat and/or the upper portions of the outer bassinet/seat cover by one or more fastening means.

In one version, the locking means are selected from snap-locks, and the fastening means are selected from one or more of: Velcro®, zipper, snap fasteners, twist locks or locking buttons, splint locks, snap or click locks, elastic loops and toggles, or elastic bands.

In one version the invention relates to a cover adapted to the summer season, wherein the cover comprises:

a) a canopy having at least one panel of mesh material; and

b) an outer bassinet/seat cover having at least one adjustable ventilation slot to achieve an exchange of air through air vents in the seat, preferably two adjustable ventilation slits along the entire length of the back portion of the bassinet/seat;
and optionally in addition comprises:
c) a sun shade extending from the upper forward edge of the canopy and to a lower part of the seat or optional foot support, and which preferably has a width approximately the same as the width of the bassinet/seat, preferably wherein the sun shade is fastened to a glide rim on the canopy permitting the sun shade to be turned from side to side along the edge of the canopy, wherein the sun shade optionally comprises two parallel panels to enable it to be mounted over a chassis having a central stem (or shaft) adapted to run between the panels; and/or
d) an air-permeable inside seat cover, for example made of terry cloth.

In one version the summer cover in addition comprises:
- that the canopy has an additional one or more panels of mesh material, preferably at least one panel on each right and left side, even more preferably that the access to one or more of the mesh panels may be regulated by an adjustable solid panel; and/or
- that the outer bassinet/seat cover has a mesh panel in the head portion of the cover, especially between the head portion of the bassinet/seat and an optional head bar extending beyond said head portion and positioned at a distance above the plane of said head portion.

In another version, the invention relates to a cover adapted to the winter season, wherein the cover comprises:
e) an insulated canopy; and
f) an insulated outer bassinet/seat cover;
and optionally in addition comprises:
g) an insulated over-cover which covers mainly the sitting portion of the bassinet/seat and optional foot support and narrows the opening of the canopy, preferably including a closable storm flap for further reduction of the opening, where the over-cover optionally comprises a zipper that divides the cover in the longitudinal direction at the middle, to permit mounting of the cover over a chassis having a central stem adapted to run between the panels, and to enable lifting of the child in and out of the carriage; and/or
h) a heat-insulated inside seat cover, preferably containing wool or insulation material.
In one version, the winter cover in addition comprises:
- a fur cuff on the forward edge of the canopy which narrows the opening of the canopy; and/or
- a separate or connected hand muff which envelopes portions of the handle of the stroller for the hands of the person pushing the stroller.

In another version, the invention relates to a cover adapted to an average season, wherein the cover comprises:
- a canopy having a ventilation slot capable of being opened; and
- an outer seat cover.

In one version, the invention relates to a stroller bassinet/seat capable of being adapted to different seasons by interchangeable covers in accordance with the covers above, wherein the covers are attached by the same fastening means to the bassinet/seat. The bassinet/seat may also comprise:
- an air vent in the plastic shell of the bassinet/seat, at least in the back portion and preferably also in the head portion;
- optionally a head bar extending beyond the head portion of the bassinet/seat and positioned at a distance above the plane of said head portion, preferably with fastening means for attaching an outer cover and/or canopy;
- optionally a height-adjustable foot support.

In one version, the stroller bassinet/seat comprises both a summer cover and a winter cover as mentioned above, optionally also a normal cover as mentioned, for adapting the bassinet/seat to ambient temperature.

In one particular version, the invention comprises a seat or bassinet for a stroller that may be adapted to different seasons by interchangeable covers, as mentioned above, the covers being attached by the same fastening means to the bassinet/seat, wherein the covers comprise at least one summer cover and one winter cover, wherein the winter cover comprises:
- an insulated canopy;
- an insulated outer seat cover which covers mainly the exterior surface of the seat;
- an insulated over-cover which covers mainly the sitting portion of the seat and narrows the opening of the canopy:
- a thermal insulating inside seat cover which, for example, contains wool or an insulating material; and
the summer cover comprises:
- a canopy having at least one panel of mesh material;
- an outer seat cover which covers mainly the exterior surface of the seat and has adjustable ventilation slits;
- a sun shade extending from the upper forward edge of the canopy and to a lower part of the seat, such as a foot support, and being adjustable in position from side to side on the forward edge of the canopy; and
- an air-permeable inside seat cover, for example of terry cloth material.

In still another version, the invention relates to a stroller, where the stroller comprises a bassinet/seat in accordance with that described above, and one or more covers in accordance with the covers above, wherein the covers may be changed whilst the bassinet/seat is mounted on the stroller without the aid of tools, and preferably wherein the parts of the cover may be combined and interchanged.

Detailed description

In the following the invention will be described in more detail with reference to the figures, which figures and embodiments shall not be interpreted as limiting for the invention.

Figures

Fig. 1 shows a frontal, side view of a seat without an outer cover, with an inside cover only.
Fig. 2 shows a rear view of the seat in Fig. 1.
Fig. 3 shows a side view of the seat in Fig. 1.
Fig. 4 shows the seat in Fig. 1 with a canopy and partially mounted outer cover.
Fig. 5 shows the seat in Fig. 1 with a canopy and partially mounted outer cover.
Fig. 6 shows the seat in Fig. 1 with a canopy and partially mounted outer cover.
Fig. 7 shows the seat in Fig. 1 with a canopy and mounted outer cover.

Fig. 8A shows a side view of a stroller with a seat, where the seat has a normal cover.
Fig. 8B shows the stroller in Fig. 10A with the seat mounted in the opposite direction.
Fig. 9 shows a frontal view of the seat with a cover in Fig. 8A and 8B, alone.
Fig. 10 shows the seat with a cover in Figure 8A and 8B, alone, viewed partially from the front and the underside.

Fig. 11 shows a side view of a stroller with a seat, where the seat has a summer cover.
Fig. 12 shows a more detailed view of the seat with a cover in Fig. 11, alone.
Fig. 13 shows a rear view of the seat with a cover in Fig. 11, alone.
Fig. 14 shows a frontal view of the seat with a cover in Fig. 11, alone.
Fig. 15 shows the seat with a cover in Fig. 11, alone, viewed partially from the rear and from above.
Fig. 16 shows the seat with cover in Fig. 11, also from above.
Fig. 17 shows the stroller in Fig. 11 viewed partially from the rear and the underside.
Fig. 18 shows the seat with a cover in Fig. 16, alone, in detail from below.

Fig. 19 shows a side view of a stroller with a seat, where the seat has a winter cover.
Fig. 20 shows a detailed view of the seat with a cover in Fig. 19 alone.
Fig. 21 shows a rear view of the stroller in Fig. 19.
Fig. 22 shows a frontal view of the seat with a cover in Fig. 19, alone.
Fig. 23 shows the stroller in Fig. 19, seen partially from the rear and from the underside.
Fig. 24 shows a detailed view of the seat with a cover in Fig. 23, alone.

**Embodiments of the invention**

The embodiments below use a stroller currently on the market where the chassis comprises a central stem on which a seat or bassinet is mounted for height and angular adjustment, but the skilled person will appreciate that the invention is not
restricted to this stroller and its seat, but can also be used for most other types of baby carriers, including the more traditional prams, strollers commercially available today, and future baby carriages.

In the description below, the following words and expressions are to be understood as follows:

- By "forward," "front side" or "from the front" is meant the horizontal direction toward which the face and chest of a carekeeper is turned under normal use or the face and chest of a child is turned who is sitting in a normal way in a seat in the stroller's direction of travel are turned, and
- by "behind," "rear" or "at the back of" is meant the opposite horizontal direction, i.e., the direction toward which the back of a carekeeper is turned under normal use or the back of a child is turned who is sitting in a normal way in a seat in the stroller's direction of travel is turned.
- By "transverse" side or direction is meant the horizontal direction perpendicular to the symmetrical plane through the seat or the stroller, and
- by "length," "depth" or "longitudinal direction" is meant the horizontal direction in the symmetrical plane of the seat or stroller.

Further, the word "seat" as used in the description is not limited to a traditional seat, since the configuration of child seats, and particularly seats for strollers and car seats may resemble both bassinets and seats. Therefore, by "seat" is also understood a relatively flat seat on which a child or a baby can lie down and sleep.

**Seat (or bassinet) and inner covering**

By inner covering is meant the fabrics and materials that are used inside the sitting and lying portion of the child's bassinet/seat that is mounted on the stroller, such as an inside seat cover and the underlying padding of the seat and its cover. The inner covering is preferably made of a breathable material to prevent the child's becoming sweaty and damp, but it may have various designs and qualities.

Figure 1 shows a seat 30 used on a stroller that is commercially available at the time of the invention. In addition to a seat portion in hard plastic or synthetic material, the seat comprises an inside seat cover 31 that is padded to give the child comfort, where the
seat cover 31 has a top section 32 directly above the child's head and a bottom section 33 under the legs or knees of the child. The bottom section 33 is in this embodiment also provided with lower attachment flaps 34 to attach seat cover 31 to the seat itself. Further, seat 30 is provided with a head bar 40, attached to the upper part of the seat's side members and positioned above the top section 32 of the seat cover and the seat 30. The function of head bar 40 is to suspend a canopy and an outer seat cover at a distance from the top edge of the seat and the child's head, as well as to provide protection for the child's head, and it is preferably padded. In addition, the seat in this embodiment is provided with a safety bar 50 which spans the middle part of the seat and which both protects the child and partially prevents it from coming out of the seat.

Figure 2 is a rear view of the seat showing that the inside top section 32 of seat cover 31 is connected to an exterior top section 35, where the two sections form a pocket which may be pulled down over the top edge of seat 30 in order to secure seat cover 31. In addition, seat 30 has air vents 36 in the back side thereof, to ventilate seat cover 31 and prevent the child's back from becoming damp and sweaty during use. The exterior top section 35 of seat cover 31 is thus made of a mesh material to permit ventilation through the air vents 36 in the solid head portion of the seat.

Figure 3 shows a side view of seat 30 and, in particular, how the head bar 40 is positioned, both upward and slightly forward relative to the top edge of seat 30. It shall be understood that seat 30, as in this example, belongs to a stroller that is made, as illustrated, so that it may be tilted and locked in various sitting positions where the angle of the back in relation to the chassis is adjustable. This is achieved by means of rotatable connectors 60 integrated in each of the two side members of seat 30, which each receive a respective reciprocal connector from a chassis through hole 61, and which are locked into connectors 60 and are releasable by release button 62. Seat 30 also comprises two toothed rails 63 on the underside of the seat which permit locking of the seat in a selected angular position by means of a locking rod provided on the chassis which engages with the notches in the toothed rail 63. Hence, the covering of seat 30 should preferably not affect the adjustment possibilities of seat 30 on its chassis, at the same time as it should be easy to change.
Outer covering

Figures 4-7 show how a seat 30, which in this example is made of a relatively hard shell material such as plastic, can be covered with an outer covering and an inner covering.

By outer covering is meant: an enveloping fabric, around and over the outside of the portion on which where the child sits or lies that is mounted on the stroller, such as a canopy, or outer covering for a seat or bassinet, and optionally hand protection for caretakers who push the stroller. Preferably all outer covering, except for outer covering made in mesh material, may be treated for water resistance, such as by impregnation or by use of fabric/materials having a certain water repellant effect, and optionally also a certain breathability effect.

The canopy 140 may be designed in several ways, but often includes a curved or quadrangular screen having a stiffened forward edge which defines the canopy's opening toward the bassinet/seat on which it is mounted, while an opposite edge is closed down into the bassinet/seat thus forming a protected space. In the examples the canopy is stiffened at the forward edge, such as by a main rib of steel or plastic, which main rib also comprises releasable locking means to detachably fasten the canopy into reciprocal locking means in the rigid side members of seat 30, such as by snap-locks.

In addition, the canopy has additional ribs, which may be somewhat softer than the main rib, distributed transversely in the longitudinal direction and inlaid in the canopy, thereby dividing the fabrics in the canopy into panels which fold together when the forward edge, for example, is turned back in order to open the canopy. The additional ribs may be connected to the locking means of the main rib, but not necessarily.

In Figure 4, an outer seat cover 100 is attached to seat 30 by connecting the upper end 103 of the cover, which is provided with fastening means 104 in the form of Velcro ® on the inside thereof, to the outside of head bar 40, the bar there being provided with reciprocal fastening means 41 such as a reciprocal Velcro ® fastener on its outer surface. The outer seat cover 100 also has fastening means 106, 107 in the form of snap fasteners along the vertical side edges thereof, which are attached to seat 30 where reciprocal fastening means are placed, as shown in Figure 5. The lower part 101
of the outer cover also comprises fastening means 102, 105 such as snap fasteners, here, that are attached to reciprocal fastening means on the lower portion of the seat; and in this embodiment one of the fastening means 105 is a double snap fastener which both fastens securely to seat 30 and receives a reciprocal snap fastener on the lower attachment flap 34 of inside seat cover 31, enabling seat cover 31 to be fastened at both the upper and lower edges of the seat, as is apparent from Figures 6 and 7. The upper end 103 of outer seat cover 100 also comprises a zipper panel 130a running along the entire upper edge of the seat and down to attachment points (such as snap-lock) for canopy 140 in the seat's side members, where the canopy at its lower side toward the seat is provided with a reciprocal zipper panel 130b enabling the two cover parts 100 and 140 to be joined in a seam 130 and to provide a tight protection for the child sitting in the stroller. As can be seen from Figure 6, the upper edge of outer seat cover 100 comprises a relatively broad protective flap 108 which remains positioned behind the zipper panels 130a and 130b when they are joined together as a protection against draft; this is an effect that the optional head bar 40 could also have if seam 130 were positioned over the bar where it would also shield seam 130 from unnecessary stresses such as tension and the like. As can be seen from Figures 6 and 7, the lower part 101 of outer cover 100 comprises flaps which cover the side surface of the seat on the exterior side portions, and provide an opening for the toothed rails 63.

**Normal cover**

Figure 8A shows a stroller 1 comprising a chassis 20 with a seat 30 having an outer covering. Seat 30 is in this figure clad in normal covering, i.e., a cover that is suitable for average temperatures, and where the child or baby who is to sit in the seat is dressed in clothing adapted to the temperature and the season, at the same time as the cover provides protection against wind and draft, noise, sun and moderate amounts of precipitation. The cover in this embodiment consists of an outer seat cover 100 and a canopy 140 that are joined together by means of a seam 130 which in this embodiment is a zipper.

Advantageously canopy 140 provides the possibility of opening a ventilation slot 141, also in this case a zipper, to achieve ventilation through the canopy to the opening in front when it is hot. Ventilation slot 141 may advantageously be lined with a mesh material on the underside thereof which is attached to the rest of the canopy's fabric.
panels in order to hold the shape of the canopy and assist in securing the rest of the canopy at the opening of slot 141. As can be seen from the figure, the particular seat in this embodiment is capable of being tilted as indicated by the double arrow A into a specific sitting angle, at the same time as the height of the seat may be adjusted as indicated by double arrow B.

Figure 8B shows the stroller in Figure 8A where the seat is mounted in the opposite direction of travel. This is possible on the stroller in the example, and seat 30 in this position may also be pivoted to the desired back angle and may be lowered or raised. In this direction, however, the central stem of the chassis 20 will run through the opening between the sitting portion of seat 30 and foot support 6, which precisely for this reason is longitudinally adjustably fastened to the side members of seat 30. As will be seen in the further description, the covers adapted to seat 30 may also be adapted to this function of reversibility of the sitting direction for the seat.

Figure 9 is a frontal view of seat 30, where head bar 40 is visible above the top edge 32 of seat 30 and secures the span of both outer seat cover 100 and canopy 140 in seam 130 (not visible). As can be seen from the figures, an open space is formed between the top edge 32 of the seat and head bar 40, which provides ample space for air circulation above the head of the child in the seat. Spanning seat 30 is a safety bar 50 which is padded with a soft material and upholstered in fabric which preferably matches the other covers, said safety bar being attached to the side members of seat 30 by snap fasteners. As indicated by double arrow C, foot support 60 may be adjusted upward and downward to adapt the length of seat 30 to the length of the child. The foot support adjustment is released by handle 61 on the underside of the foot support.

Figure 10 shows seat 30 from the underside and partially from the front and shows that outer seat cover 100 extends all the way in under the outer areas of the side sections and the sitting portion of seat 30 at lower parts 101 thereof, in the form of side flaps attached by snap fasteners 102 and 105 to seat 30. As previously mentioned, seat 30 is made of plastic or another synthetic material, and is provided with air vents 36 in all or parts of the seat's back and/or sitting portion in order to keep the seat from becoming damp for the child or the baby who is sitting/lying in seat 30, by permitting the circulation of air through the walls of the seat. Because of these air vents 36, it is necessary that the seat can be covered with a seat cover which closes tightly around
the exterior surfaces of the seat, i.e., those surfaces that do not face in toward the child/baby, in order to avoid unwanted draft against the back and buttocks of the child/baby. There is thus formed a thin air film between the outer cover and the seat back, where air from the inner side of the seat is able to circulate and any moisture can be carried away. Optionally, the seat may also be provided with spacers or grooves on the outer surface thereof to hold outer cover 100 at a fixed distance from the outer shell surface of the seat so that more air is able to circulate between the back side of the seat and the inside of the outer cover enabling moist air to be easily transported away.

As is understood from the description above, it is very easy for the outer covering consisting of outer seat cover 100 and canopy 140 to be put on and taken off the seat, and for the cover and canopy to be separated from one another, and these operations may easily be carried out while seat 30 is mounted on chassis 20, at the same time as the covering does not prevent the movement and angular adjustment of seat 30 on chassis 20.

**Summer cover**

The summer cover preferably comprises light and airy fabrics, and particularly preferred are fabrics in light colors, optionally heat-reflecting fabrics, but having the same main attachment points and connecting arrangements as the normal cover for easy changing of the covers or the parts thereof. Certain parts of the summer cover may well comprise mesh material for good ventilation.

Figure 11 shows a stroller 1 comprising a chassis 2 with a seat 30. Seat 30 is in this figure clad in a summer cover, i.e., a cover that is suitable for relatively warm temperatures, and where the child or baby who will be sitting in the seat is dressed in clothing adapted to the temperature and the season. The cover consists in this embodiment of an outer seat cover 200 and a canopy 240 which are joined together by means of a seam 230 which in this embodiment is also a zipper, and an optional sun shade 250.

Figure 12 shows a more detailed view of seat 30 in Figure 11, and, as can be seen, canopy 240 has an upper ventilation panel 242 on the canopy's upper rear portion which may be opened in order to allow air to flow through the canopy's front opening
and optional side openings when it is hot. Ventilation panel 242 may be closed, however, to provide full shade if the sun is striking the panel, and it lies over a mesh panel 243 which is attached to the rest of the canopy's fabric panels to order to hold the shape of the canopy and to keep the rest of the canopy secured at the opening of ventilation panel 242. The side sections of the canopy 240 preferably also comprise panels 245, 246 of mesh material to provide good ventilation around the child/baby and to prevent the canopy from generating heat.

In addition to the canopy, the summer cover may also optionally be provided with a sun shade 250, comprising one or more fabric panels, fastened to the forward edge of the canopy 240 and stretched down to the lower edge of foot support 60. The mounting of canopy 240 is in this embodiment achieved by loops 251 on sun shade 250 which run along a glide rim 260 on the outside of the canopy behind the canopy's forward edge. Glide rim 260 may be attached to the canopy's lower side portions, approximately where canopy 240 is attached to the side members of seat 30. The glide rim is advantageously somewhat narrower in circumference than the canopy's front bridle edge, with a placement in back of the canopy edge that prevents glide rim 260 from tipping forward and over the edge of the canopy. This method of securing the sun shade enables it to be turned from side to side around the curved edge of the canopy, depending on the position of the sun, to provide as much shade as possible for the child who is sitting or lying in seat 30. The attachment to foot support 60 can be done with suitable connecting means, and in this case by elastic loops as mentioned, which are stretched around toggles 62 adapted to receive them (see Figure 18) on the underside of foot support 60. As glide rim 260 is tightened against the edge of the canopy when sun shade 250 is attached to foot support 60, the upper end of the sun shade may be turned along the edge of the canopy and will stay in place in the desired position due to the locking friction effect of glide rim 260 against the canopy edge.

To contribute further to ventilation inside the canopy, outer seat cover 200 also comprises a ventilation panel 206 of mesh material in this embodiment, as shown in Figure 13, situated directly over the upper edge of seat 3 and on the underside of seam 230 between seat cover 200 and canopy 240. As can be seen in Figure 12, this panel is approximately vertical, depending on the position into which the seat 30 is tipped, and the sun thus will not normally shine on this panel.
To achieve airing of the seat 3 itself, outer seat cover 200 also comprises one or more ventilation slits 207 on a rear section thereof which may be opened and closed by a zipper. Ventilation slits 207 are positioned generally vertically on the left and right sides, respectively, of the rear portion of outer seat cover 200 and when opened can aid in the airing of seat 30 through air vents 36 in the seat 30 itself which are situated almost directly behind it. In Figure 13 the left ventilation slit 207 has been opened by pulling the zipper down to the lower position, and the slit may be widened to the desired degree as illustrated by double arrow D, and may be closed by pulling the zipper up as illustrated by arrow E. The right ventilation slit 207 is closed in this example, but may be opened by pulling the zipper downwards as illustrated by arrow F, partially or all the way, for the desired degree of airing by opening the ventilation slit to the desired extent as illustrated by double arrow D. As mentioned earlier, an air layer may be formed between the outer rear wall of seat 30 and the outer seat cover 200 by virtue of grooves or spacers on the back side of the seat wall, and this air layer may have an insulating effect as it is partially circulated with the inside of the seat that is warmed up by the child who is sitting in it. By opening of one or both of slits 207, this air layer may be replaced by fresh, cooler air to prevent the child's back from becoming warm and damp. In addition, when both of the air slits are open, a draft between the slits can be created for maximum ventilation of the seat's rear wall and air vent.

In the embodiment for the summer cover, the covering may also comprise an inside seat cover 31 in a material suited to a warm climate, such as an airy terry cloth material that does not stick to the child's back and assists in bringing air to the back that lies against the inside seat cover and to transport air and moisture away from the back, through the cover and through the air vents in the seat back.

Figure 14 shows a frontal view of seat 30. As can be seen, the sun shade 260 here is divided into two panels by a split 262, which separates the shade into two parts vertically at the middle. This division enables sun shade 260 to be opened to give the child a forward view, but it also permits the use of the shade when seat 30 is positioned in the opposite direction of travel on chassis 20, as is possible for the stroller in this embodiment in accordance with Figure 8B. The shaft of the chassis then runs through the opening between foot support 60 and seat 30, and also through split 262 between the panels of sun shade 230. By positioning seat 30 in this direction, opposite to the
direction of travel, the attending adult also has the child facing him/her and thus can easily check on the condition of the child by opening split 262 between the panels.

As shown in Figure 15, the sun shade provides a considerably larger shaded area over seat 30 and the child or baby sitting in the seat as compared to parasols that are ordinarily used on strollers/prams, and it also covers *inter alia* the child's legs, which a parasol is usually unable to reach over. Despite the large shaded area, there are still good ventilating openings 280 laterally, as also shown on Figure 12, from the side between sun shade 260 and seat 30, for ventilation, which is further assisted by diffusible mesh material in the side panel portions 245, 246 and the optional top panels 243 on the canopy, as well as rear panel 206 in the seat cover.

Figure 16 shows a top view of seat 30 and, in particular, ventilation panel 242, which includes a fastening device in the form of a snap fastener which is attachable to a reciprocal fastening device further in on canopy 240 when ventilation panel 242 is to be opened, in order to hold it open so that it does not blow shut.

Figure 17 shows stroller 1 from the underside and the rear with a seat with a summer cover. As can be seen from Figure 18, which is a more detailed illustration of seat 30, the strap loops 262 are secured around toggles 62 suited to receive them on the underside of foot support 60. The strap loops 262 are preferably elastic, permitting the foot support to be adjusted upward and downward in relation to the rest of the seat and adapted to the child's legs, at the same time as the legs are protected against sun and the sun shade 260 is kept securely suspended from the canopy. In addition, the legs receive ventilation from the underside through the opening between foot support 60 and the rest of seat 30. Optionally, sun shade 260 may be made of a partially elastic material to ensure that it is securely suspended within all positioning possibilities for foot support 60.

**Winter cover**

Figure 19 shows a stroller 1 comprising a chassis 20 with a seat 30. Seat 30 in this figure is clad in a winter cover, *i.e.*, a cover suitable for relatively cold temperatures, and where the child or baby who is to sit in the seat is dressed in clothing adapted to the temperature and the season, but where the outer cover in addition provides extra
protection and insulation against cold, wind and precipitation, especially snow. The cover in this embodiment consists of an outer seat cover 300 and a canopy 340 that are joined together by means of a seam 330 as in the embodiments described earlier, such as a zipper, and optionally a waterproof zipper.

Figure 20 shows a more detailed illustration of seat 30 in Figure 19 and, as can be seen, the canopy 340 has a padded design, which is evident from the indentations in the seam lines in the cover. Canopy 340 and outer seat cover 300 have no ventilation slits as in the versions above, and both the canopy and the seat cover are padded and insulated to increase the insulating capability and protect the child/baby against cold and wind.

In addition to seat cover 300 and canopy 340, the winter cover may optionally also be provided with an over-cover 350, also called a storm cover, which covers most of the top side of seat 30 and foot support 60 and narrows the opening of the canopy. The over-cover extends with a lower portion 351 over the lower edge of foot support 60 and can be held in place by an elastic band on the terminal edge which forms a pocket around foot support 60 at the same time as it is secured to the canopy or seat 30 by fastening devices, such as snap fasteners 356 in this embodiment, fixed to the outer side members of seat 30. The over-cover thus covers some parts of the side members that are not covered by outer seat cover 300. The over-cover comprises an upper portion 352 that covers the front edge of canopy 340, and it can be secured to the canopy by an elastic band in the end of the upper portion 352 of the over-cover which can be stretched over the forward edge of the canopy, where the elastic band is somewhat narrower in circumference than the forward bridle edge of the canopy so that a placement behind the canopy edge prevents the upper portion 352 of the over-cover from being drawn over the canopy edge. If an even more secure attachment is desired, the upper portion 352 of the over-cover may alternatively or additionally be fastened to the canopy edge by snap fasteners or a zipper. The attachment to the foot support may also be done, as mentioned earlier, by suitable connecting means such as elastic loops that are stretched around toggles suited to receive them, on the underside of the foot support, but an elastic edge that is stretched over the entire foot support is preferable since loops are difficult to handle in the cold, especially when wearing gloves. The over-cover, like the canopy and the outer seat cover, may also be padded.
and insulated, such as with insulating material in the form of synthetic fiber, down, or the like.

To provide protection for the adult person pushing stroller 1, the winter cover may also comprise a separate hand protector in the form of a handle muff 70, which covers the handle and provides insulation around the user's hands. Figure 21 shows in particular how the muff has an opening 71 for each hand, here with opening 72 edged in fur in order to prevent snow and wind from getting into the muff. Muff 70 makes it more likely that the user will keep both hands on the handle, instead of having one hand on the handle and one hand in a pocket and then switching hands, which reduces the safety of pushing the stroller. The handle muff is, of course, padded and insulated so that the user is able to get warmth into the hands quickly.

Figure 22 shows a front view of the seat, where the details of the over-cover/storm cover 350 are visible. Over-cover 350 has a lower portion 351 which covers seat 30 and the legs of the child all the way down to the foot support. Over-cover 350 is divided in the lower and middle section by a zipper 353, optionally a waterproof zipper, which may be opened partly or completely, to allow air to circulate if the child becomes warm and to facilitate taking the child in and out of the seat 30. Further, the zipper may advantageously be a two-way zipper that is closable from two sides, which allows the cover to be used if the seat is mounted the opposite way on the chassis, where the central stem runs through an opening in the zipper, which opening is thereby adjustable in the longitudinal direction to enable the best possible closure even when the bassinet/seat is pivoted to the desired position. Further, the over-cover comprises a canopy constriction 354, which reduces the opening of the canopy 340 by framing in the canopy opening, suitable in combination with a storm flap 355, which may easily be folded up toward the canopy constriction 354 and fastened thereto, for example, by snap fasteners, for maximum reduction of the canopy opening while maintaining a reasonable degree of access to air. Storm flap 355 may easily be opened and folded down in order to see the child. Canopy 340 in this embodiment in principle has a detachable fur collar 341 fixed along the entire edge of the canopy opening, where part of this fur collar 341 is visible in Figure 22. The fur collar reduces the opening of the canopy when the over-cover is not used, or if the canopy constriction has not been not mounted, and provides extra protection for the child by deflecting wind and breaking up turbulence. When used together with the canopy constriction 354 on over-
cover 350, the fur collar 341 also contributes toward sealing and insulating the seam between the upper portion 352 of the over-cover and the edge of the canopy.

In Figure 23 the stroller 1 is seen from the underside and slightly from the rear, with seat 30 having an outer covering in the form of a winter cover. Figure 24 is a more detailed illustration of seat 30 with a winter cover, and shows that not only the upper side of seat 30, but also the underside and the side of the seat facing the direction of travel (which may be any one of the ends of the seat) are well padded and protected against weather and wind by outer seat cover 300, canopy 340 and over-cover 350. In an alternative embodiment, over-cover 350 also comprises a pouch which contains the entire foot support 260, preventing wind from coming in from the back side of the foot support and under the over-cover. Further, the outer seat cover may also comprise a middle flap covering the seat area between the toothed rails in addition to side flaps 301, in order to attain maximum insulation of seat 30.

The outer seat cover 300 insulates the seat and prevents the inner shell of the seat from becoming cold. As mentioned above, there may be a thin layer of air between the inside of outer seat cover 300 and the outer wall of seat 30 permitting exchange and circulation of air through the seat via air vents 36 in the back of the seat. By using a padded and insulated outer seat cover 300, one prevents the warmer air on the inside of the cover from condensing and attains a circulation of warmed air with the inside of seat 30, providing additional warmth for the child.

Summary

The covers described above for different seasons are fastened directly to the seat or bassinet for a child or baby, which seat may used as a seat in a stroller, and especially a detachable seat in a stroller. In a particular embodiment the covers are adapted for a seat that may be detachable fastened to a trolley chassis with only one central stem on which the seat may be height adjusted.

The covers according to the present invention are fastened directly to the seat and thereby contribute to change the characteristics, functionality and comfort of the seat itself and not the trolley framework or whatever structure the seat is placed in. By the outer cover, the seat or bassinet may be additionally insulated by a winter cover, or
controllably ventilated in summer by an outer summer cover comprising ventilation slits that may be open to varying degrees to regulate ventilation or closed to block such ventilation and provided with adjustable shadow from a sun sail. Hence, the present invention allows the care keeper to adjust the properties of the seat or bassinet according to seasonal changes and weather by applying the above described covers directly onto the outer and/or inner surfaces of the seat. Said covers have qualities and functions that cooperate with the seat or bassinet, such as ventilation holes in the seat structure that are activated by the outer cover being opened or shut, or providing additional or enhancing properties such as additional insulation in winter or shadow against annoying direct sunlight protecting the eyes and skin of a child or baby.
Patent Claims:

1. Interchangeable cover for a bassinet/seat for a stroller, characterized in that the cover comprises:
   - a canopy, detachably fastened to the bassinet/seat in at least the side members of the bassinet/seat by detachable locking means;
   - an outer removable bassinet/seat cover that is attached to the seat by detachable fastening means and that covers at least the exterior back portion of the bassinet/seat; and preferably covers mainly the exterior surfaces of the bassinet/seat;

   wherein the canopy and the outer bassinet/seat cover are interconnected, preferably separably connected by detachable fastening means.

2. A cover according to claim 1, which also comprises an interchangeable inside cover, fastened to the bassinet/seat in at least the upper and lower or rear and forward ends of the bassinet/seat, preferably by a pocket on the back side of the head portion of the inside cover which is pulled over the head portion of the bassinet/seat, preferably a pocket in mesh material; and preferably by fastening means on the lower portion of the inside cover that are attached to reciprocal fastening means on the lower end of the bassinet/seat, preferably by locking means that can also receive locking means from the outer cover.

3. A cover according to claim 1 or 2, wherein the outer bassinet/seat cover is fastened along the outer edges of the bassinet/seat, preferably to the head portion of the bassinet/seat, especially preferably to a head bar on the upper portion of the bassinet/seat, said head bar preferably extending beyond the head portion of the bassinet/seat and being positioned at a distance above the plane of said head portion.

4. A cover according to any one of the preceding claims, wherein the canopy is additionally fastened to the head portion of the bassinet/seat and/or the upper portions of the outer bassinet/seat cover by one or more fastening means.
A cover according to any one of the preceding claims, wherein
the locking means are selected from snap-locks, and the fastening means are selected
from one or more of: Velcro®, zipper, snap fasteners, twist locks or locking buttons,
splint locks, snap or click locks, elastic loops and toggles, or elastic bands.

A cover according to any one of the preceding claims, wherein the cover comprises:
   a) a canopy having at least one panel of mesh material; and
   b) an outer bassinet/seat cover having at least one adjustable ventilation slit to
      achieve an exchange of air through an air vent in the seat, preferably two
      adjustable ventilation slits along the entire length of the back portion of the
      bassinet/seat;

A cover according to claim 6, wherein the cover in addition comprises:
   c) a sun shade extending from the upper forward edge of the canopy and to a
      lower part of the seat or optional foot support, and which preferably has a width
      approximately the same as the width of the bassinet/seat, preferably wherein
      the sun shade is fastened to a glide rim on the canopy permitting the sun shade
      to be turned from side to side along the edge of the canopy, wherein the sun
      shade optionally comprises two parallel panels to enable it to be mounted over
      a chassis having a central stem adapted to run between the panels; and/or
   d) an air-permeable inside seat cover, for example made of terry cloth.

A cover according to claim 6 or 7, wherein the cover in addition comprises:
   that the canopy has an additional one or more panels of mesh material,
   preferably at least one panel on each of the right and left side,
   even more preferably that the access to one or more of the mesh panels may
   be regulated by an adjustable solid panel; and/or
   that the outer bassinet/seat cover has a mesh panel in the head portion of the
   cover, especially between the head portion of the bassinet/seat and an optional
   head bar extending beyond said head portion and positioned at a distance
   above the plane of said head portion.
9. A cover according to any one of the claims 1-5 adapted to the winter season, wherein the cover comprises:
   e) an insulated canopy; and
   f) an insulated outer bassinet/seat cover.

10. A cover according to claim 9, wherein the cover in addition comprises:
   g) an insulated over-cover which covers mainly the sitting portion of the bassinet/seat and optional foot support and narrows the opening of the canopy, preferably including a closable storm flap for further reduction of the opening, where the over-cover optionally comprises a zipper that divides the cover in the longitudinal direction at the middle, to permit mounting of the cover over a chassis having a central stem adapted to run between the panels, and to enable lifting of the child in and out of the carriage; and/or
   h) a heat-insulated inside seat cover, preferably containing wool or insulation material.

11. A cover according to claim 9 or 10, wherein the cover in addition comprises:
   - a fur cuff on the forward edge of the canopy which narrows the opening of the canopy; and/or
   - a separate or connected hand muff which envelopes portions of the handle of the stroller for the hands of the person pushing the stroller.

12. A cover according to any one of the claims 1-5, adapted to an average season, wherein the cover comprises:
   - a canopy having a ventilation slot capable of being opened; and
   - an outer seat cover.

13. A stroller bassinet/seat characterized in that it is capable of being adapted to different seasons by interchangeable covers in accordance with any one of the
claims 1-12, wherein the covers are attached by the same fastening means to the bassinet/seat.

14. A stroller bassinet/seat according to claim 13, wherein said bassinet/seat comprises:
   - an air vent in the plastic shell of the bassinet/seat, at least in the back portion and preferably also in the head portion;
   - optionally a head bar extending beyond the head portion of the bassinet/seat and positioned at a distance above the plane of said head portion, preferably with fastening means for attaching an outer cover and/or canopy;
   - optionally a height-adjustable foot support.

15. A stroller bassinet/seat according to claim 13 or 14, comprising both a summer cover according to any one of the claims 6-8 and a winter cover according to any one of the claims 9-11, optionally also a normal cover according to claim 12, for adapting the bassinet/seat to ambient temperature.

16. A seat or bassinet for a stroller according to claim 13, comprising interchangeable covers adapted to the seasons, the covers comprising at least one summer cover and one winter cover, wherein
   the winter cover comprises:
   - an insulated canopy;
   - an insulated outer seat cover which covers mainly the exterior surface of the seat;
   - an insulated over-cover which covers mainly the sitting portion of the seat and narrowing the opening of the canopy;
   - a thermal insulating inside seat cover which, for example, contains wool or an insulating material; and
   the summer cover comprises:
   - a canopy having at least one panel of mesh material;
   - an outer seat cover which covers mainly the exterior surface of the seat and has adjustable ventilation slits;
- a sun shade extending from the upper forward edge of the canopy and to a lower part of the seat, such as a foot support, and being adjustable in position from side to side on the forward edge of the canopy; and
- an air-permeable inside seat cover, for example of terry cloth material.

17. A stroller, characterized in that the stroller comprises a bassinet/seat according to any one of the claims 13-16, and one or more covers according to claims 1-12, wherein the covers may be changed whilst while the bassinet/seat is mounted on the stroller without the aid of tools, and preferably wherein the parts of the cover may be combined and interchanged.

18. A cover according to any one of the claims 1-12, a bassinet or seat according to any one of the claims 13-16 or a stroller according to claim 16, principally as described herein with reference to every embodiment presented.

19. A cover according to any one of the claims 1-12, a bassinet or seat according to any one of the claims 13-16 or a stroller according to claim 16, principally as described herein with reference to the attached drawings.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. B62B9/14

**ADD.**

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols:)

B62B B6CN

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

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**X** Further documents are listed in the continuation of Box C. **X** See patent family annex.

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**Date of the actual completion of the international search**

16 May 2011

**Date of mailing of the international search report**

23/05/2011

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Wochinz, Rennmar
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