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(54) **MEDICAL GARMENT**

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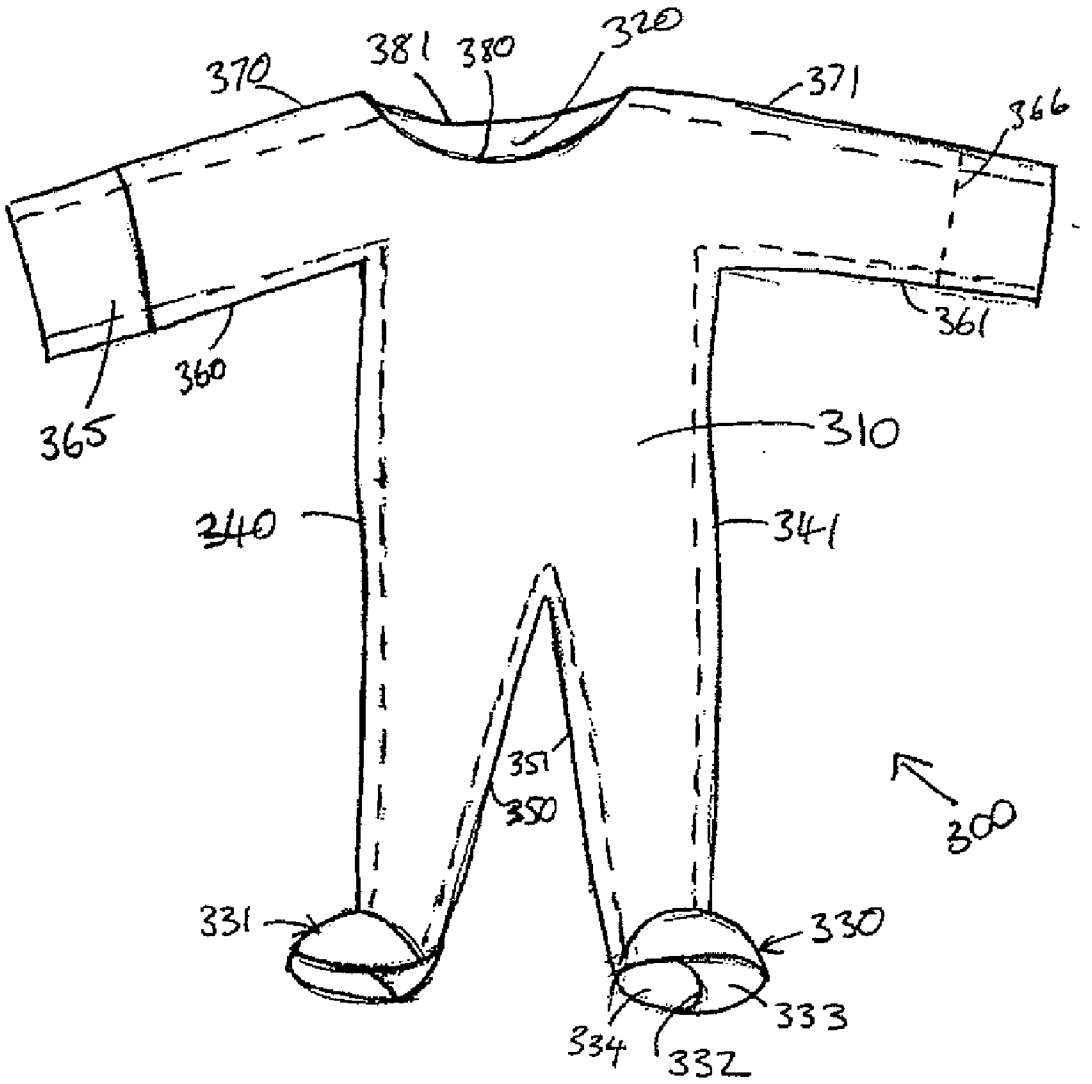
(57) **ABSTRACT**

A medical garment comprising a front piece and a rear piece, each piece having an outline shaped and sized to, when joined, fit around at least one of: the arms and torso; and legs and lower torso of a patient, and having cooperating fasteners along at least sections of the perimeter of the front piece and rear piece to releasably join the front and rear pieces together, around the patient, to clothe the patient.



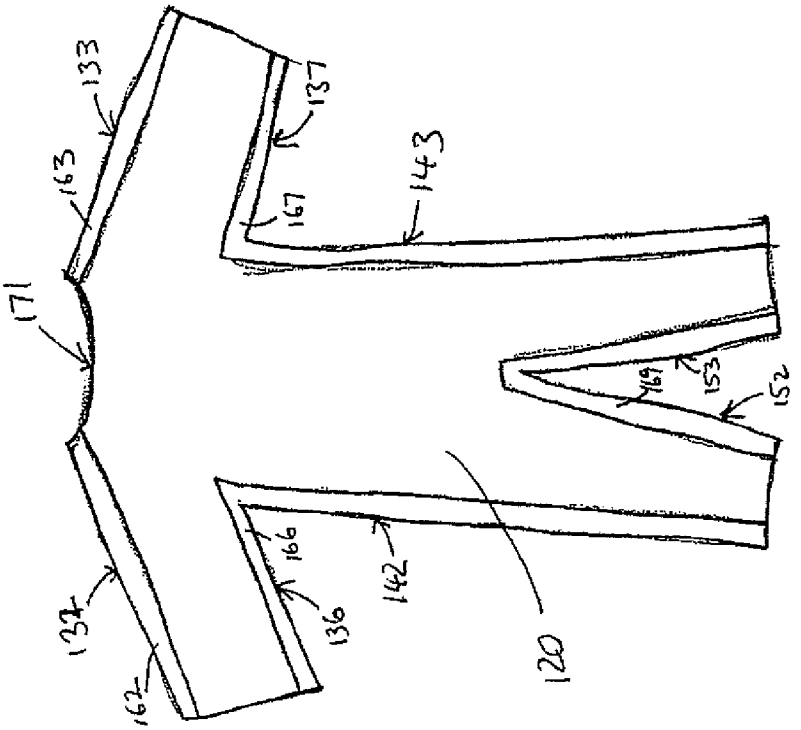


Figure 1b

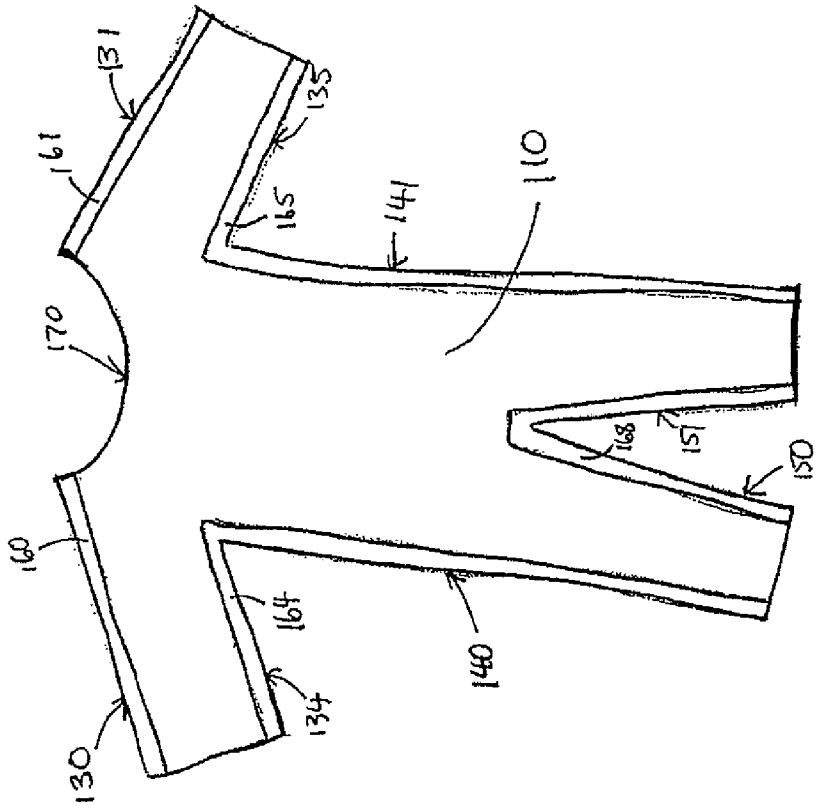
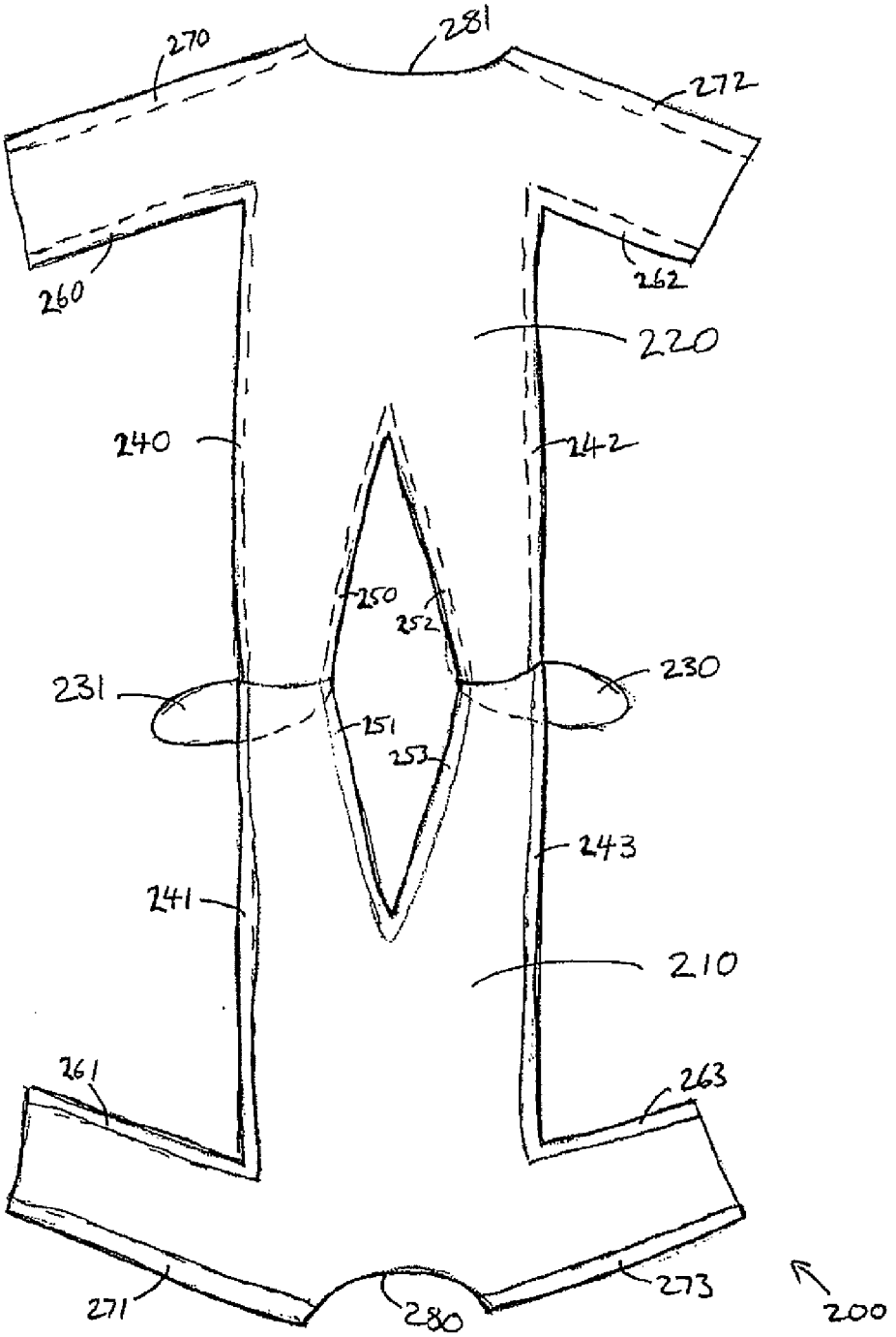


Figure 1a


270
281
272
260
262
220
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253
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210
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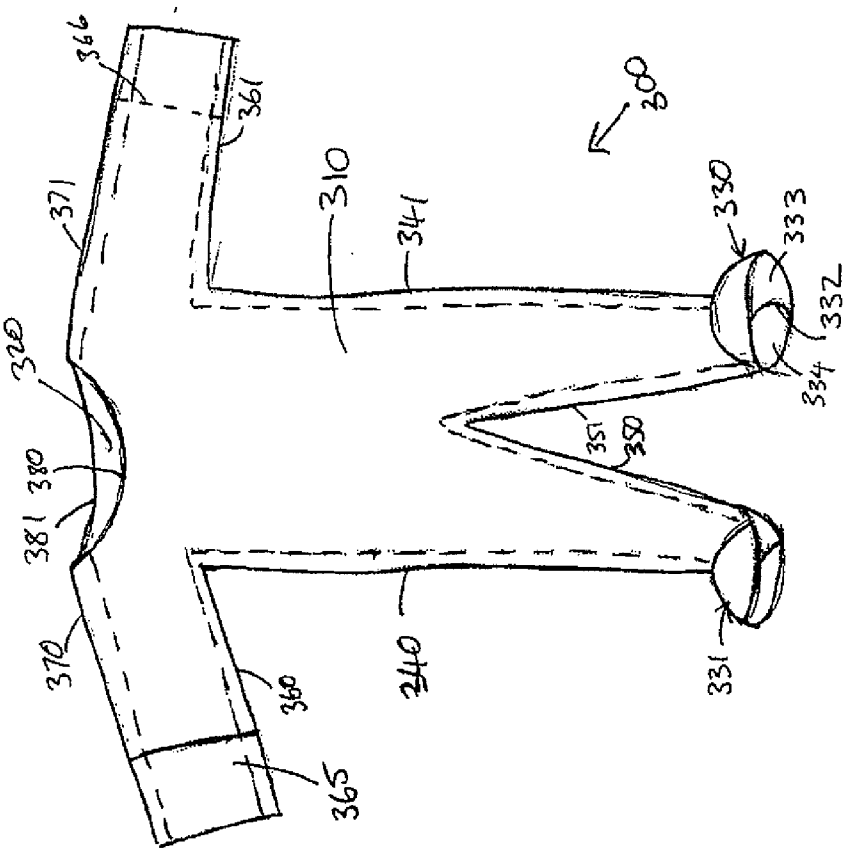
273
200

Figure 2.


300
310
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341
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381

Figure 3

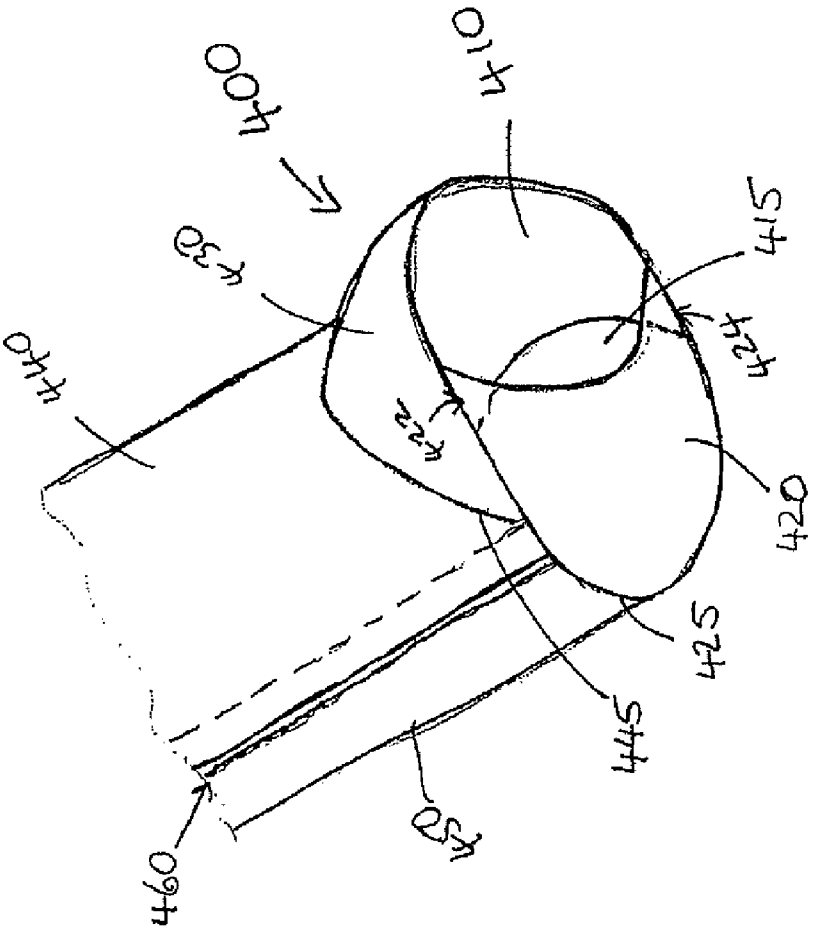

Figure 4

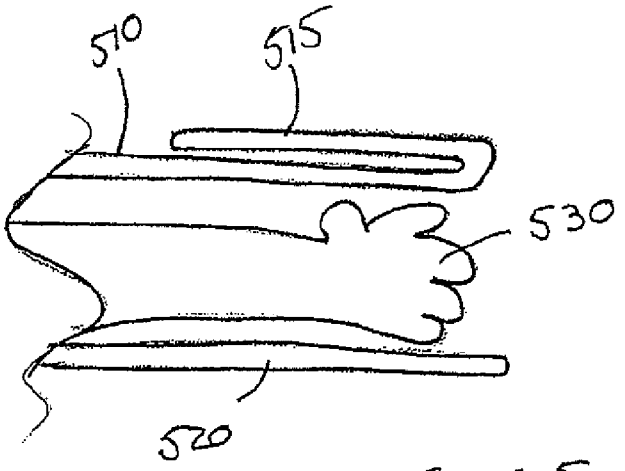

Figure 5a

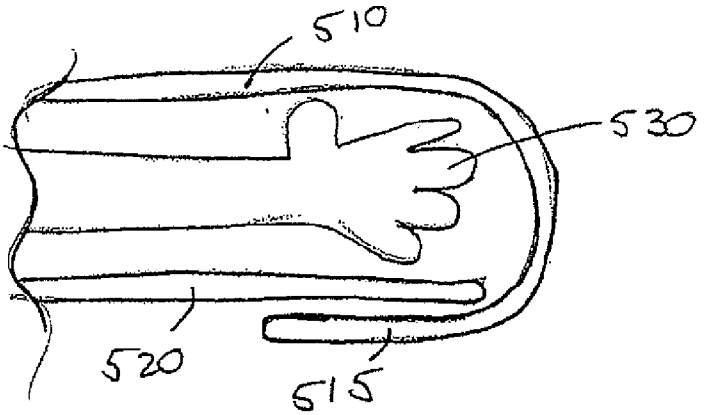

Figure 5b

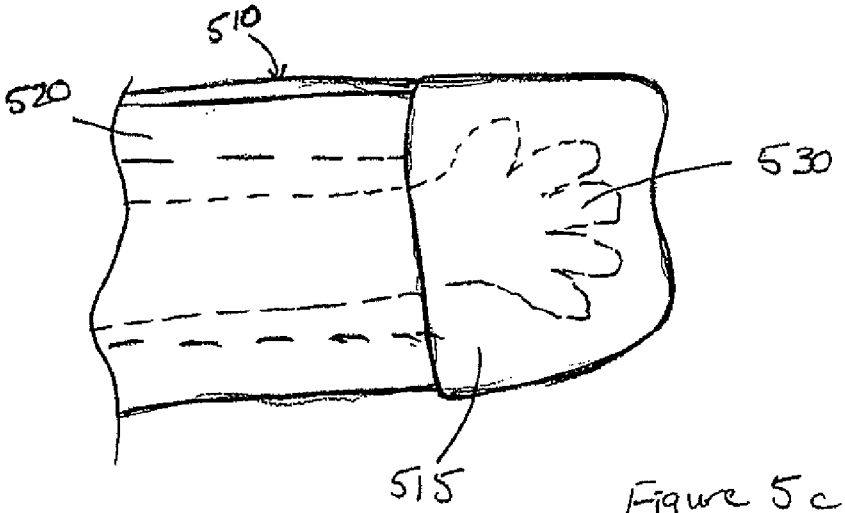

Figure 5c

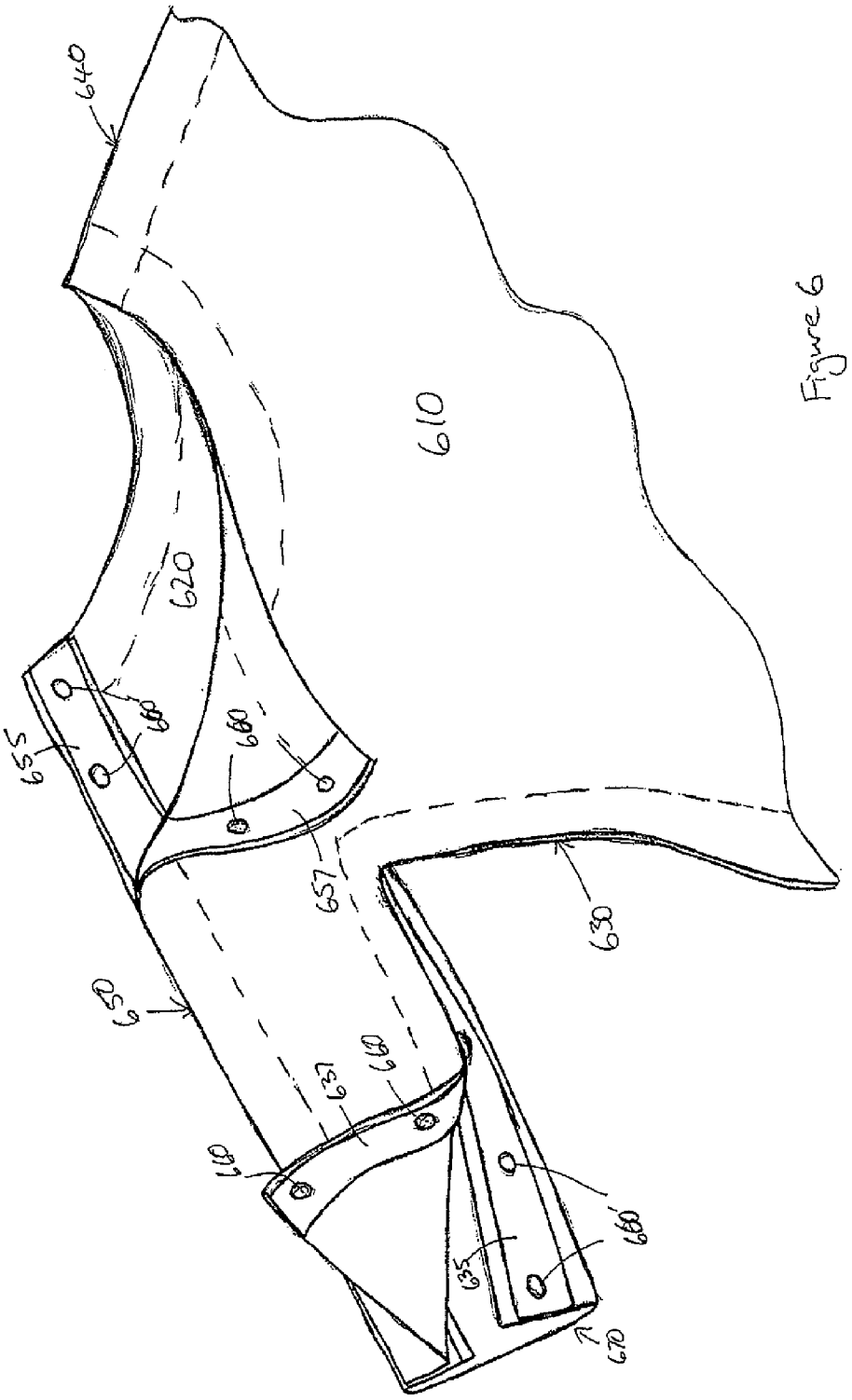

Figure 6

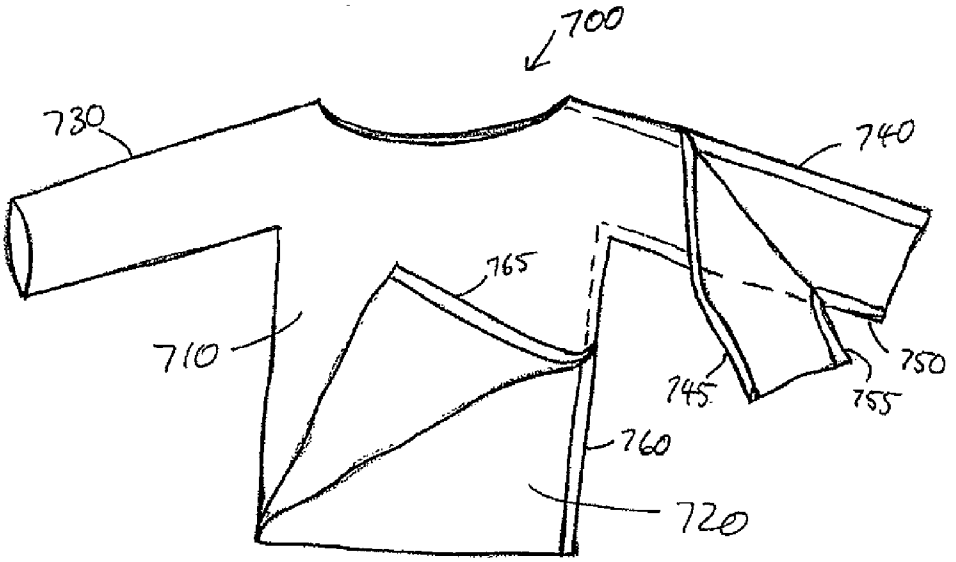

Figure 7

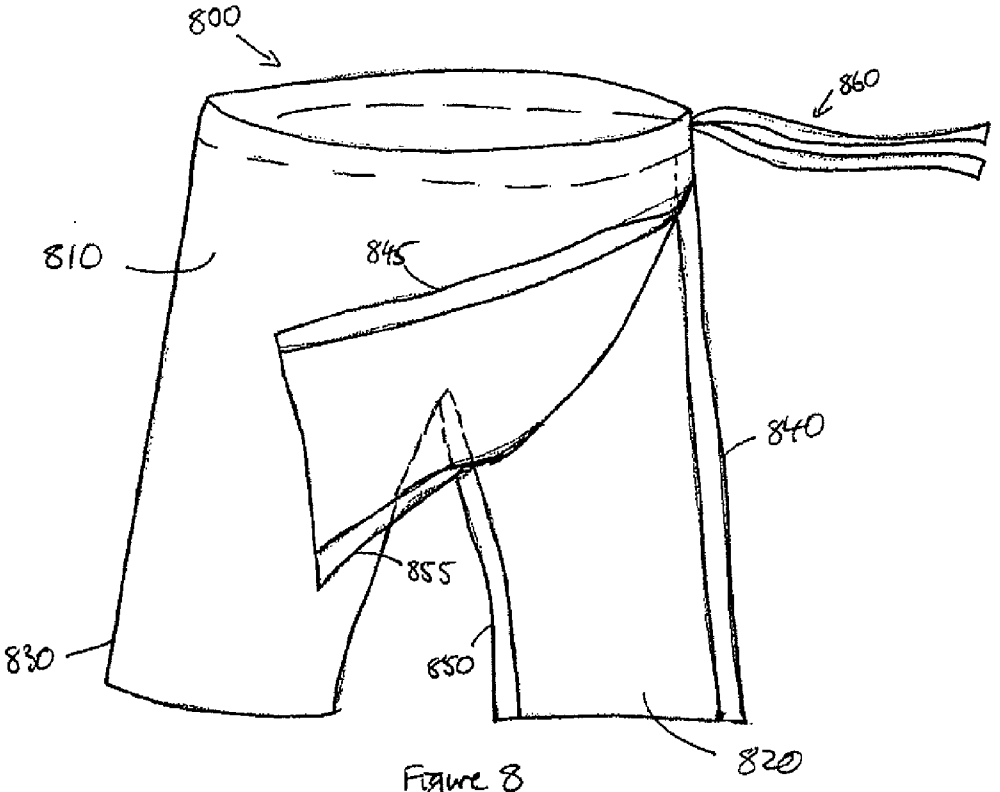

Figure 8

MEDICAL GARMENT

FIELD OF THE INVENTION

[0001] The field of the present invention is medical garments. An embodiment of the medical garment is particularly suitable for use with infants and young children.

BACKGROUND OF THE INVENTION

[0002] It is a known problem that clothing of infants or small children requiring paediatric monitoring or during recovery from surgery is difficult, impractical or impossible using known clothing. For example, in neonatal intensive care units, infants are typically left unclothed, wearing only a diaper, and maybe wearing head cover. This is because it is too difficult, too time consuming or potentially harmful to the infant for nursing staff to thread the required monitoring leads, tubes or drains through traditional infant clothing to dress the infant. This problem is again experienced when undressing the infant for changing diapers, performing doctors' checks, treatments, etc. Young children, for example toddlers, may also be left unclothed for similar reasons. Being unable to dress such children can be detrimental to recovery. For example, premature babies and infants in intensive often need to be kept in humidicribs or under heating lamps to try to keep them warm without clothing. However, such equipment may not always be available. As a consequence the infants often have trouble settling because they are cold. This can waste valuable energy and delay the infant's recovery or growth.

[0003] Psychological trauma for parents of seriously ill infants and young children is significant. The distress parents feel can be exacerbated by seeing their child naked, connected to medical instruments and uncomfortable. Further, without being able to clothe the infant or child, the extent of the wounds necessarily inflicted during surgery may be evident, which can be particularly distressing for parents.

[0004] There is a need for medical garments for such infants and young children.

SUMMARY OF THE INVENTION

[0005] According to one aspect of the present invention there is provided a medical garment comprising a front piece and a rear piece, each piece having an outline shaped and sized to, when joined, fit around at least one of: the arms and torso; and legs and lower torso of a patient, and having cooperating fasteners along at least sections of the perimeter of the front piece and rear piece to releasably join the front and rear pieces together, around the patient, to clothe the patient.

[0006] In an embodiment of the garment cooperating fasteners are provided along substantially the entire length of one or more of shoulder and outer arm, inner arm, side, outer leg and inner leg edges of the perimeter of the front piece and rear piece.

[0007] In an embodiment of the garment the cooperating fasteners are provided along substantially the entire length of all of shoulder and outer arm, inner arm, side, outer leg and inner leg edges of the perimeter of the front piece and rear piece.

[0008] In some embodiments the garment may be sized for an infant or young child.

[0009] An embodiment of the medical garment further comprises a bootie at the end of each leg to cover the patient's foot.

[0010] The front piece and rear piece are joined to each bootie in some embodiments.

[0011] Each bootie can have an opening for access to the foot of the patient when the garment is worn.

[0012] In some embodiments of the medical garment either the front piece or rear piece is provided with mitt portions toward the end of each arm.

[0013] In an embodiment each mitt portion is a flap which is integral to the piece and attached to the arm edges in a hand region to form a pocket. For example, the pocket can be formed to be on an outer side of the garment and, in use, can be turned inside out and pulled over the opposite piece, when joined, to cover the patient's hand.

[0014] In some embodiments the cooperating fasteners are adapted to fasten around and provide a passageway for any medical tubing, medical wiring or medical treatment means connected to the patient.

[0015] The fasteners can be further adapted to aid in holding in place any medical tubing, medical wiring or medical treatment means connected to the patient.

[0016] In an embodiment the cooperating fasteners are a plurality of fasteners provided spaced along the sections of the perimeter.

[0017] The cooperating fasteners can be non-metallic press stud type fasteners. For example, the press stud type fasteners can be plastic.

[0018] In an alternative embodiment the cooperating fasteners are hook and loop type fasteners.

[0019] The cooperating fasteners can be sections of hook and loop type fasteners

[0020] The garment can be made to measure for a given patient.

[0021] According to another aspect of the present invention there is provided a method of clothing a patient under medical treatment requiring connection of medical tubing, medical wiring or medical treatment means connected to the patient, the method comprising the steps of:

[0022] placing the portion of the patient to be clothed on a rear piece of a medical garment shaped and sized to the portion of the patient to be clothed;

[0023] arranging a front piece of the medical garment, shaped and sized to join with the rear piece of the garment around the patient, over the patient and oriented to join with the rear piece of the garment; and

[0024] joining the front and rear pieces of the garment around the patient and any medical tubing, medical wiring or medical treatment means connected to the patient using releasable fasteners along at least sections of the perimeter of the front and rear pieces of the garment.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] An embodiment, incorporating all aspects of the invention, will now be described by way of example only with reference to the accompanying drawings in which:

[0026] FIGS. **1***a* and **1***b* illustrate an example of a medical garment according to an embodiment of the invention

[0027] FIG. **2** illustrates an alternative embodiment of a medical garment

[0028] FIG. **3** illustrates an embodiment of a medical garment representing how this would look when worn

[0029] FIG. **4** illustrates an embodiment of a bootie portion of an embodiment of a medical garment

[0030] FIGS. **5***a-c* illustrate an embodiment of an integral hand covering which may be included in some embodiments of the medical garment

[0031] FIG. **6** illustrates in detail a section of an embodiment of the medical garment showing how the pieces fasten together

[0032] FIG. **7** illustrates an alternative embodiment of a medical garment

[0033] FIG. **8** illustrates a further alternative embodiment of a medical garment

DETAILED DESCRIPTION

[0034] Medical garments proposed herein comprise a front piece and a rear piece, each piece being shaped and sized to, when joined, fit around at least one of: the arms and torso; and legs and lower torso of a patient. The front and rear pieces are provided with cooperating fasteners along at least sections of the perimeter of the front and rear pieces for releasably joining the front and rear pieces along these sections. This enables a patient to be clothed by joining the front and rear pieces together around the patient along these sections. An advantage of such a garment is the patient can be clothed with minimal disruption to any medical tubing, medical wiring or connected medical treatment means that may be connected to the patient. The front piece and rear piece of the garment can simply be fastened around any medical tubing, wires or other equipment connected to the patient.

[0035] Examples of medical tubing can include tubes for intravenous fluid supply, tubes to dialysis machines, feeding tubes, air supply tubes, tubes connected to catheters, fluid drains etc. Medical wiring can include wires or lines connecting probes or electrodes attached to the patient to medical equipment such as ECG monitors, blood oxygen saturation monitors etc. Other connected medical treatment means can be any medical device or part thereof connected to the patient either in close proximity or via lines or wires. The garment may be connected around part of the device itself or any connected lines or wires. For example, a medical treatment means may provide support or traction for an injured limb. Alternatively a medical treatment means may be a device adapted to stimulate muscle activity. Another example is a device for providing medical treatment such as light, sound wave or heat therapy which may require a portion of the medical device to be connected to or held in contact with the patient for a period of time. Any device for providing or aiding medical treatment of the patient is envisaged within the scope of the term medical treatment means.

[0036] An aspect of the invention provides a method of clothing a patient under medical treatment requiring connection of medical tubing, medical wiring or medical treatment means connected to the patient. The portion of the patient to be clothed is placed on a rear piece of a medical garment shaped and sized to the portion of the patient to be clothed. For example, if the patient is a toddler subject to surgery on a leg or foot, a medical garment only clothing the lower part of the body, like trousers, may be used. Such a garment could be worn with a regular pyjama top. In another example, if the patient is an infant, then the medical garment may be shaped to clothe the whole body of the infant. The front piece of the medical garment, shaped and sized to join with the rear piece of the garment around the patient, is arranged over the patient and oriented to join with the rear piece of the garment. The front and rear piece of the garment are then joined around the patient and any medical tubing, medical wiring or medical treatment means connected to the patient using releasable fasteners along at least sections of the perimeter of the front and rear pieces of the garment. Thus the patient can be clothed around any medical tubing, medical wiring or connected medical treatment means. This had an advantage of enabling the patient to be clothed with minimal disturbance to any connected medical tubes or wires.

[0037] In an embodiment the sections of the perimeter of the front and rear pieces provided with cooperating fasteners extend along substantially the entire length of one or more of shoulder and outer arm, inner arm, side and inner leg edges of the front and rear pieces. Where the fasteners extend along a section of the perimeter of the garment this section can be opened and closed for ease of clothing the patient and for access for ongoing medical treatment and observation. In some cases it is desirable that substantially the entire length of one or more edges of the garment can be selectively opened and closed. The extent to which the edges of the garment are provided with fasteners can be dependent on the requirements for the patient and their medical treatment.

[0038] In an embodiment of the medical garment each of the front and rear pieces has an outline formed of shoulder and outer arm, inner arm, side and inner leg edges shaped and sized to, when joined, fit around the arms, torso and legs of a patient. Such an embodiment is particularly suitable for clothing infants or young children. For example, such a garment may be easily joined together around an infant without disturbing any connected medical wires, lines or tubes. Further, an infant or young child will typically not aid the carer during the clothing process as an older child or adult might be able to. It is therefore desirable for the garment to be easy to do up around the patient's limbs and torso.

[0039] Embodiments of the medical garment can be shaped and sized suitably for any patient. For example, a medical garment sized for an adult or youth may be adapted to clothe only the torso and arms. This garment can form a top which and can be worn with regular pyjama bottoms or shorts. This medical garment may be provided with cooperating fasteners along sections of the shoulder and outer arm, inner arm and side edges of the perimeter of the front and back pieces. An example of use of such a garment is for clothing a patient after heart surgery where they may have a number of monitor leads and other drains or tubes connected to their chest. The garment enables the patient to be clothed around these lines, without requiring any disconnection of lines or threading lines through clothing.

[0040] Similarly, a medical garment, like a pair of trousers, pyjama bottoms or shorts, for a patient's legs and lower torso may be provided. The garment can be provided with fasteners along sections of the side and outer leg and/or inner leg edges. The fasteners enable the garment to be done up around the patient's legs and lower torso. For example, such a garment may be convenient for use with patients having undergone lower limb surgery as the garment can be done up around the patient's limbs rather than needing to be slid over any dressings or casts. The garment can also be fastened around any drains, monitor lines, catheter tubes etc.

[0041] An example of a full body medical garment is illustrated in FIGS. **1***a* and **1***b*. In this embodiment, the garment is provided in two separate pieces, a front piece **110** and a rear piece **120**. As illustrated, each of the front piece **110** and rear piece **120** have an outline which is shaped to the arms, legs and torso of a patient, for example, an infant.

[0042] The front piece has shoulder and outer arm edges **130**, **131** which match to shoulder and outer arm edges **132**, **133** of the rear piece **120**. Inner arm edges **134**, **135** of the front piece **110** match to inner arm edges **136**, **137** of the rear piece **120**. Similarly, side edges **140**, **141** of the front piece **110** match to side edges **142**, **143** of the rear piece **120**. As is illustrated in FIGS. **1***a* and **1***b*, the side edges **140** to **143** define the edges of the section for the torso of the patient and the outside leg edge. The inside leg edges **150**, **151** of the front piece match to the inside leg edges **152**, **153** of the rear piece. The front piece **110** also has a neck edge **170** and similarly the rear piece **120** has a rear neck edge **171**.

[0043] The shoulder **130** to **133**, arm **134** to **137**, side **140** to **143** and inside leg **150** to **153** edges of each of the front and rear pieces are provided with cooperating fasteners along substantially their entire length. The cooperating fasteners enable the front **110** and rear **120** pieces to be releasably joined together around the patient to clothe the patient.

[0044] In the embodiment illustrated in FIG. **1***a*, the front piece **110** has a strip of shoulder fasteners **160** attached along the shoulder outer arm edge **130**. And similarly a strip of fasteners **161** attach along the shoulder, outer arm edge **131**. A single strip of fasteners **164** may be provided along the inner arm edge **134** and side edge **140** and similarly a strip of fasteners **165** can be provided along the inner arm edge **135** and side edge **141**. In some embodiments separate strips or separate fasteners may be provided for the inner arm edges **134**, **135** and side edges **140**, **141**. Along the inner leg edges **150**, **151** a strip of fasteners **168** is also provided. Again, a separate strip of fasteners may be provided for each inner leg edge or a single strip of fasteners may be used.

[0045] The rear piece **120** has shoulder fasteners **162**, **163** along shoulder outer arm edges **132**, **133**. These shoulder fasteners **162**, **163** can be joined to shoulder fasteners **160**, **161** of the front piece **110** to form releasable shoulder seams for the garment. Similarly, the fasteners **166**, **167** provided along the inner arm and side edges **136**, **142**, **137**, **143** respectively can be joined to fasteners **164**, **165** of the front piece to form releasable arm and side seams and the fastener **169** on the inner leg edges **152**, **153** of the rear piece **120** can be joined to the inner leg fastener **168** of the front piece **110** to form releasable inner leg seams.

[0046] It should be appreciated that by providing releasable fasteners along edges of the garment this enables the front and back pieces to be joined together around the patient. This enables the patient to be clothed in a way that provides minimal disruption to the patient and any drains, tubes or lines attached to the patient. The fasteners may be strips of snap or press stud style fasteners. Discrete press stud or snap style fasteners placed periodically along the length of the garment edges may also be used. Alternatively the fasteners may be strips or sections of hook and loop style fasteners such as Velcro. Any suitable fasteners may be provided and all such fasteners are contemplated within the scope of the present application. Some embodiments may also use adhesive style fasteners or a combination of fasteners may be used depending on the embodiment. For example, an embodiment of the garment designed to be used only for a limited period of time, for example immediately pre or post surgery, the garment may be disposable. In such embodiments adhesive style fasteners may be satisfactory as the garment would not need to withstand the rigours of long term use.

[0047] In some embodiments the fasteners are made from materials that are compatible with diagnostic imaging equipment, such that the patient can remain clothed during imaging procedures. For example, metallic snap fasteners can interfere with X-ray images. The metallic fasteners would be visible in the X-ray and may obscure physical details of interest to the doctor. This is problem is alleviated by using fasteners which do not obscure details on the X-ray image, for example, fasteners made from plastic or nylon. Such fasteners can also be suitable for wearing during magnetic resonance imaging (MRI) as the fasteners do not interfere with the magnetic field as some metallic fasteners could. For example, plastic snap fasteners or nylon hook and loop fasteners could be used for a garment compatible with X-ray and MRI equipment.

[0048] Providing fasteners instead of seams along the edges of the garment also enables the fasteners to be connected together around any lines, tubes etc attached to the patient. This may have an advantageous effect of holding such lines and tubes in place. This may reduce the likelihood of such lines, tubes and drains becoming detached as the patient moves. This may also reduce the risk of the patient pulling at such lines and tubes. For example, in the case of infants and small children these patients tend to pull at and try to remove any lines, tubes and drains connected to them because these are typically causing discomfort and pain. Such infants and small children are too young to understand that they must leave these alone for their own good. Securing the lines, tubes and drains between the fasteners can make these harder for the infant to grasp or disturb.

[0049] An alternative embodiment of the medical garment is illustrated in FIG. **2**. In the garment of FIG. **2**, the front piece **210** and rear piece **220** are attached at the lower leg region to booties **230**, **231** for the patient's feet. For example, this embodiment could be suitable for infants in neonatal intensive care. It is important to keep these infants warm and it is therefore desirable to keep their feet covered.

[0050] In this embodiment, the infant would be placed lying on top of the rear piece **220** and their feet placed into the booties, **230**, **231**. The front piece **210**, can then be lifted up and laid on top of the patient. Starting from the foot region the inner leg seam fasteners **251**, **250** and **252**, **253**, and the fasteners along the side edges **240**, **241** and **242**, **243** can be connected together. These can be connected together working up the patient's body, connecting the fasteners around any tubes or lines connected to the patient. The inner arm edges **260**, **261** and **262**, **263** and shoulder edges **270**, **271** and **272**, **273** can be connected together around the patient's arms and again these can be connected around any tubes or lines as necessary. The patient's head will protrude through the neck opening formed by the neck edges **280**, **281**.

[0051] There is an advantage to dressing the patient from the feet up in this manner. For example, typically more monitors, drains and tubes are connected around the head and chest area of the infant than around the lower torso and feet. For example, in neonatal intensive care, babies are typically connected to heart monitors on their chest and breathing and feeding apparatus around their head. In the embodiment of the garment illustrated in FIG. **2**, as the front of the garment is brought from the feet up to the chest of the patient, the front of the garment **210** does not need to be threaded through or around this equipment.

[0052] Further, by joining the garment along the shoulder, arm and side seams, no front opening is required for the garment. Medical practitioners can obtain access to the infant's chest for observation or connecting monitors by

opening along the side edges **240**, **241**, and **242**, **243**. This can have advantages for heat conservation because the infant's chest does not need to be exposed. Further, having fasteners located along the sides of the garment minimises possible irritation from the garment and weight in the chest area compared to embodiments where the garment opens down the front. For example, it should be appreciated that an embodiment of a front opening garment would require fasteners to be placed down the baby's chest. This increases the weight of the garment in this area. In particular with premature infants or newborns having heart and lung problems or undergoing heart surgery it is desirable to minimise the pressure placed on the chest area. Further, there is potential for any fastenings or openings down the centre front of a garment to cause irritation of the infant's skin or any wounds necessarily inflicted during surgery. It is known that, in some cases of infant open heart surgery, very minimal dressing of wounds is done in order to aid the healing process. Any fasteners or openings down the front of the garment could cause unacceptable irritation.

[0053] Providing fasteners along substantially the entire length of the side, shoulder and arm seams of the garment minimises the need for any lines or tubes to be threaded through the garment. Also, any lines, tubes or drains can be held in place by the fasteners. Thus, the lines, tubes and drains can exit the garment at virtually any point along the shoulder, arm, side and leg seams. This has an advantage of enabling these lines to exit the garment at the most convenient point.

[0054] Further, any lines or tubes which are draped across the patient's chest will be underneath the garment and therefore more difficult to grasp and therefore remove or disturb. It has been observed that infants will tend to grasp at items held in front of them or grasp at objects around at their chest or torso area. In particular, if this area is where the child is experiencing pain or irritation, it has been observed that the child will try to grab or push away articles in this region. It is more difficult for an infant to disturb or dislodge any attached medical equipment if this is underneath their clothing as it is harder for them to grasp onto or pull any tubes or lines. The applicant believes that it is less likely that an infant will disturb tubes or lines that exit the garment from areas along the sides or shoulders of the infant. This is because these lines are remote from the area where the pain and irritation is experienced. The infant may not associate the lines and tubes exiting their clothing from areas remote from where they are experiencing pain and irritation with that pain and irritation and therefore be less likely to grab at the lines and tubes. Further, the infant cannot reach and grasp these lines as easily as any lines readily accessible in the chest area.

[0055] FIG. **3** illustrates how an embodiment of a medical garment **300** would look when it is worn with all the releasable fasteners connected. The garment illustrated in FIG. **3** is similar to that of FIG. **2** and comprises a front piece **310**, rear piece **320** permanently joined in the foot region where booties **330** and **331** are provided. Side seams **340**, **341**, inner leg seams **350**, **351** and arm seams **360**, **361** and shoulder and outer arm seams **370**, **371** together using releasable fasteners.

[0056] The garment **300** illustrated in FIG. **3** includes some additional optional features. For example, the booties **330**, **331** of this embodiment are provided with an opening in the sole to enable access to the infant's feet for connection of monitors. In particular in the case of infants who have heart problems or are undergoing heart surgery monitors are often attached to the infant's hands and feet. These are typically adhesive probes which monitor oxygen saturation in the blood. These probes are placed at the body's extremities to monitor circulation. Providing an opening in each bootie enables these monitors to be attached to the infant's feet while the infant remains clothed.

[0057] In the embodiment illustrated in FIG. **3** the sole of the bootie **330** is formed in two pieces which have some overlap. For example, the sole of the bootie comprises a toe piece **333** and a heel piece **334**. An opening **332** exists between the toe **333** and heel **334** pieces to enable access to the infant's foot.

[0058] An embodiment of the bootie is illustrated in more detail in FIG. **4**. The bootie **400** is constructed from a toe piece **410**, a heel piece **420** and an upper foot piece **430**. The upper foot piece **430** is attached to the foot end of the front leg piece **440** along seam **445**. A sole seam **425** connects the toe piece **410** and heel piece **420** to the upper foot piece **420** and connects the upper foot piece **420** of the bootie to the foot portion of the front piece **440** and the foot portion of the back piece **450**. The front piece **440** and back piece **450** are joined together using the releasable fasteners. A portion of the inner leg fasteners **460** is illustrated in FIG. **4**.

[0059] In regions **422** and **424** of the sole seam **425** the toe piece **410** and heel piece **420** overlap. The flexibility of the fabric from which the garment is constructed enables the toe piece **410** and heel piece **420** to be moved to form gap **415** to which the infant's foot can be accessed to attach or detach monitors etc. It should be appreciated that the position of this gap may be moved by changing the relative length of the toe piece and heel piece.

[0060] Alternatively the bootie may be constructed using two overlapping sole side pieces so that the gap opens along the length of the infant's foot rather than across the infant's foot. It should be appreciated that many variations may be envisaged and all such are contemplated within the scope of the present invention. By overlapping slightly the edges of the toe and heel piece, fasteners do not need to be provided for the gap **415** which would normally remain close. However, in some embodiments fasteners may be provided. For example, for a garment provided for a toddler or larger baby having slightly larger feet may have one or more fasteners provided to keep the gap **415** closed.

[0061] The garment **300** illustrated in FIG. **3** also illustrates an optional mitt provided in the hand regions of the arms. The mitt **365** in this embodiment comprises a flap of material normally folded rearwardly from the end of the arm and sewn along the side seams to provide a rearwardly facing pocket at the end of the arm portion, illustrated in FIG. **3** by dotted line **366**. This pocket can be turned inside out and drawn from the back to the front of the garment over the hand portion and form a mitt **365**.

[0062] The above described mitt is illustrated in more detail in the example shown in FIGS. **5***a* to **5***c*. FIG. **5***a* represents a cross section through the sleeve and hand area of the garment. The back piece **510** folds over to form a pocket **515** in FIG. **5***a*. FIG. **5***b* shows the pocket **515** turned over the front piece **520** to form a mitt covering the patient's hand **530**. FIG. **5***c* is an example illustrating a view from the front with the pocket **515** folded over the front piece **520** to form a mitt over the patient's hand.

[0063] An advantage of such mitts is they make it harder for an infant patient to grasp at any lines or tubes when their hands are covered. The mitts can also stop the infant scratching their face or scratching at any dressings. Further, covering the baby's hands can also assist in keeping the baby warm.

Having fold over mitts as described above means that they may easily be put on and removed. As the mitts are integral to the garment they also cannot be lost or misplaced. The fold over style mitts are also difficult for a baby to remove.

[0064] FIG. **6** illustrates in more detail how the front **610** and **620** pieces of the garment are joined. This example shows joining the front piece **610** and back piece **620** in the arm and shoulder region. In the illustrated embodiment shoulder seam **640** and side seam **630** are shown already joined. In the illustrated embodiment fasteners are provided in the form of strips of press stud style cooperating snap fasteners. For example, along the side seam **630** the front piece **610** is provided with a strip **637** of fasteners **660** which cooperate with fasteners **660'** provided on strip **635** on the back piece **620**. For example, snap fasteners having socket parts **660** which cooperate with spigot parts **660'**. It can also be seen from the region around the hand **670** that in this embodiment the back piece edges are rolled over to the inside of the garment for securing with the fasteners **660**. Similarly a strip of fasteners **655** are shown along the rear piece **620** shoulder edge **650** which cooperate with the strip of fasteners **657** provided on the front piece shoulder edge **650**.

[0065] The embodiment illustrated shows press stud style fasteners being used. In some embodiments these fasteners are made of plastic or nylon so that the garment does not need to be removed for some diagnostic imaging procedures such as taking of X-ray and MRI images. Although the fasteners are shown in the embodiment of FIG. **6** provided along a strip, discrete fasteners may be used. Alternatively, hook and loop style fastening strips or sections thereof may be used as an alternative to snap or press stud style fasteners.

[0066] Cooperating fasteners are provided along substantially the entire length of the edges of the front and back pieces of the garment in the above embodiments. In some alternative embodiments the front and back pieces may have some sections of some edges permanently joined, for example around the feet and lower legs and/or inside legs. Alternatively sections may be permanently joined around the hands and wrists or on one side. Various embodiments may be provided. Different embodiments may be suitable for use for different patients based on surgical or ailment requirements. For example, a toddler with a leg injury may use a garment where sections of the shoulder and arm edges are permanently joined but the side and leg regions have cooperating fasteners along the edges. In an alternative infant garment seams around the wrists may be permanently joined and hand regions may be provided with mitts similar to the booties described above.

[0067] The garment may be made of any suitable material with an example of such suitable material being lightweight knit fabric, for example lightweight cotton jersey knit fabric. However, other fabrics or types of materials such as combinations of natural and synthetic fibres may be used. It is desirable for the fabric to be soft and non-abrasive for use on infants. However, other types of fabrics such as terry or fleece fabrics may be suitable for slightly older children such as babies more than 12 months old, toddlers and children as their skin is not as delicate as those of newborns or premature infants. Garments for youths and adults may be made using any suitable knit or woven fabrics. The type of fabric used may also be chosen based on the warmth required to be provided by the garment. A heat insulating fabric may be chosen where an objective is to keep the patient warm. For example, where it is undesirable or difficult to cover a patient with blankets or it is desirable for the patient to spend some time out of bed, then a warmer fabric may be chosen for the garment. A less insulating fabric may be chosen for the garment for a patient confined to bed who can easily be covered with blankets to keep them warm.

[0068] It should be appreciated that garments as described above are well suited for clothing infants or young children in hospital or intensive care situations. This can have advantages in improving the speed of healing or recovery as the patients can be kept more warm and comfortable. Further, such garments having fasteners around the perimeter of the garment which can help hold various tubes, lines and drains in position can help in enabling greater access for parents or carers to maintain contact with the child. Simply being able to clothe the child enables the child to look more normal and hide some of their wounds, dressings and connections to medical equipment from view. This can make the child appear more normal to parents and carers which can help relieve some of the stress on parents and carers of sick children.

[0069] The garment also has advantages of allowing access to the child without removal of clothing. In embodiments where plastic or nylon fasteners are used the clothing need not even be removed for some diagnostic imaging procedures. The garment minimises weight on the chest area of the child by having opening and fasteners around the sides. This can be particularly advantageous for infants or young children with cardiac and respiratory problems.

[0070] Embodiments of the garments may also be provided which cover only part of the body. For example, embodiments may be provided in the form of tops or bottoms. Such embodiments may be made for children, adolescents and adults. For example, a medical garment top my take a form similar to a short or long sleeved T-shirt or night dress selectively openable along sections or all of one or more seams using releasable fasteners. An example of such a garment is illustrated in FIG. **7**. The garment **700** is in the form of a long sleeved T-shirt having a front piece **710** and rear piece **720**. In the illustrated embodiment one side of the garment and sleeve **730** has seams sewn closed as is normal for such a top. However, the opposite side has at least part of the shoulder and outer arm, inner arm and side seams selectively openable and closable using cooperating fasteners. In the illustrated embodiment strips of fasteners adapted to enable the front **710** and back **720** pieces to be releasably joined together are provided along the outer arm edges **740**, **745**, inner arm edges **750**, **755** and side edges **760**, **765**. Thus, the garment can be fully opened along one side. To clothe a patient they simply slip one arm into the sleeve **730** and the fasteners along the outer arm edges **740**, **745**, inner arm edges **750**, **755** and side edges **760**, **765** are then done up around the patient's other arm and body and any connected medical tubing or medical wiring. The garment may be designed to be reversible such that the same garment may be used with the opening on either the left or right side of the patient. For example, where a person has a injury to their left side the front piece **710** is worn as the front of the garment, and where a person has an injury to their right side, the front piece **710** is worn as the back of the garment. Ideally the fit of the garment is the same regardless of whether the front piece **710** is worn to the front or back of the patient.

[0071] In another embodiment the torso section of the garment may be long enough to extend part way down the patient's legs, like a night dress. Such a garment may be a desirable alternative to traditional medical gowns which tie

closed down the back of the garment which can cause embarrassment to the patient if the ties come undone.

[0072] A medical garment bottom may take a form similar to short or long pyjama bottoms selectively openable along sections or all of one or more seams using releasable fasteners. An example of such a garment in the form of a pair of shorts is illustrated in FIG. **8**. The garment **800** has a front piece **810** and a rear piece **820**. In the illustrated garment the seams of one side and leg **830** are sewn permanently closed. Cooperating fasteners are provided along at least sections of the opposite side edges **840**, **845** and inner leg edges **850**, **855** which enable the garment to be fastened around the patient. A drawstring **860** can be threaded through the waist band of the garment to enable the waist band to be adjusted to fit the patient and tied closed. Alternatively, the waist of the garment may be elasticised. A fastener, for example a button and buttonhole, hook and eye, hook and loop or snap fastener may be used, if necessary, to join the front **810** and rear **820** pieces of the garment at the waist. A drawstring may also be provided in addition to an elasticised waist. In the embodiment illustrated the drawstring ties at one side of the garment, at the side which opens. This is desirable for a garment designed to be reversible where the front piece **810** can be worn to the back of the patient, as the drawstring would always tie conveniently at one side of the patient. Whereas a centre front drawstring would end up tying in the middle of the patient's back if the garment was worn in reverse. This could make tying the drawstring awkward and potentially cause discomfort if the patient lies on the knot. However, embodiments where the drawstring ties at the centre front or in another area are also envisaged. For example, an embodiment may be provided where the rear piece **820** is adapted to join to the front piece **810** along the front of the leg. In such an embodiment the drawstring may tie to one side of the patient's front, where the front **810** and rear **820** pieces join.

[0073] In the claims which follow and in the preceding description, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

[0074] It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art, in Australia or any other country.

1. A medical garment comprising a front piece and a rear piece, each piece having an outline shaped and sized to, when joined, fit around at least one of: the arms and torso; and legs and lower torso of a patient, and having cooperating fasteners along at least sections of the perimeter of the front piece and rear piece to releasably join the front and rear pieces together, around the patient, to clothe the patient.

2. A medical garment as claimed in claim **1** wherein cooperating fasteners are provided along substantially the entire length of one or more of shoulder and outer arm, inner arm, side, outer leg and inner leg edges of the perimeter of the front piece and rear piece.

3. A medical garment as claimed in claim **2** wherein the cooperating fasteners are provided along substantially the entire length of all of shoulder and outer arm, inner arm, side, outer leg and inner leg edges of the perimeter of the front piece and rear piece.

4. A medical garment as claimed in claim **3** sized for an infant or young child.

5. A medical garment as claimed in claim **4** further comprising a bootie at the end of each leg to cover the patient's foot.

6. A medical garment as claimed in claim **5** wherein the front piece and rear piece are joined to each bootie.

7. A medical garment as claimed in claim **6** wherein each bootie has an opening for access to the foot of the patient when the garment is worn.

8. A medical garment as claimed in claim **4** wherein either the front piece or rear piece is provided with mitt portions toward the end of each arm.

9. A medical garment as claimed in claim **8** wherein each mitt portion is a flap which is integral to the piece and attached to the arm edges in a hand region to form a pocket.

10. A medical garment as claimed in claim **9** wherein the pocket is formed to be on an outer side of the garment and, in use, can be turned inside out and pulled over the opposite piece, when joined, to cover the patient's hand.

11. A medical garment as claimed in claim **1** wherein the cooperating fasteners are adapted to fasten around and provide a passageway for any medical, medical wiring or medical treatment means connected to the patient.

12. A medical garment as claimed in claim **11** wherein the fasteners are further adapted to aid in holding in place any medical tubing, medical wiring or medical treatment means connected to the patient.

13. A medical garment as claimed in claim **1** wherein the cooperating fasteners are a plurality of fasteners provided spaced along the sections of the perimeter.

14. A medical garment as claimed in claim **13** wherein the cooperating fasteners are non-metallic press stud type fasteners.

15. A medical garment as claimed in claim **13** wherein the press stud type fasteners are plastic.

16. A medical garment as claimed in claim **1** wherein the cooperating fasteners are hook and loop type fasteners.

17. A medical garment as claimed in claim **16** wherein the cooperating fasteners are sections of hook and loop type fasteners

18. A medical garment as claimed in claim **1** wherein the garment is made to measure for a given patient.

19. A method of clothing a patient under medical treatment requiring connection of medical tubing, medical wiring or medical treatment means connected to the patient, the method comprising the steps of:

placing the portion of the patient to be clothed on a rear piece of a medical garment shaped and sized to the portion of the patient to be clothed;

arranging a front piece of the medical garment, shaped and sized to join with the rear piece of the garment around the patient, over the patient and oriented to join with the rear piece of the garment; and

joining the front and rear pieces of the garment around the patient and any medical tubing, medical wiring or medical treatment means connected to the patient using releasable fasteners along at least sections of the perimeter of the front and rear pieces of the garment.

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