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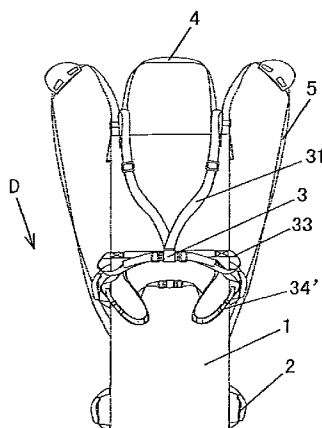
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本国际公布:

— 包括国际检索报告。

(54) Title: A RESCUING AND CARRYING DEVICE

(54) 发明名称: 救护运送装置



(57) Abstract: A rescuing and carrying device comprises a supporting portion (1) made of soft materials, handhold belts (2) made of soft materials, safety belts (3) made of soft materials and shoulder straps (5) made of soft materials. The handhold belts (2), the safety belts (3) and the shoulder straps (5) are fixed to the supporting portion (1) respectively.

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(57) 摘要:

一种救护运送装置，包括由柔性材料制成的承载部（1）、由柔性材料制成的手提带（2）和由柔性材料制成的安全带（3）及由柔性材料制成的肩背带（5）。手提带（2）、安全带（3）和肩背带（5）分别固定在承载部（1）上。

救护运送装置

技术领域

本发明涉及一种救护运送装置，特别是涉及一种担抬式的救护运送装置。

背景技术

救护运送装置是抢救伤病人员的常规器材，实践证明该类器材的应用极大地提高了抢救效果，其中担抬式救护装置占有重要的位置。传统的担抬式救护运送装置一般是担架，包括架框和如帆布之类具有一定强度的柔性材料制成的担架面。随着生活水平的提高和医疗技术的发展，传统的担架在功能上发生了很多改进，功能日趋集成化，如中国专利 CN1457752A 中所公开的巧担架，该担架内嵌固必备急救设备和器械与电源供给设备，可以对严重的伤病人员进行现场抢救和运送监护。但是，随着功能的集成化，担架的体积、重量和成本都不同程度的增加，这无疑增加了救护运送装置的携带和存放难度，不便于战场或者野外使用，也不便于普通居民存放备用。

中国专利 2547302Y 公开了一种旋转折叠式担架，该担架可以折叠成较小的体积，用于平时和战时。但其仍然具有把手、担架杆、横支撑、救护运送装置面、伤员固定带、以及铰链等部件，结构复杂，成本高，并且由于支撑杆等硬性材料的存在，折叠受限，不便于存放。

中国专利 CN2552520Y 公开了另一种医用方便担架，仅包括左杠、右杠和平行设置的几条平带。但是由于仍然包括左右杠等硬物，未能彻底克服上述缺陷。

所有以上的担抬式救护运送装置，都至少需要两个人前后抬运，无法应

对人手紧缺的紧急情况，并且，这种前后抬运的方式也会导致运送速度的降低。

发明内容

针对以上问题，本发明的目的在于提供一种结构简单、成本低廉的担抬式救护运送装置，这种救护运送装置不仅轻便、便于携带、节省人力，还能采用躺式或坐式对伤病人员进行运送救护。

针对上述目的，本发明提供了一种救护运送装置，该救护运送装置包括：由柔性材料制成的承载部；由柔性材料制成的手提带，其固定在所述承载部上；由柔性材料制成的安全带，其固定在所述承载部上；以及由柔性材料制成的肩背带，其固定在所述承载部上。采用柔性材料制成的救护运送装置重量轻，可以减轻运送重量，同时能折叠成很小的体积，便于携带和存放，适于战时、野外携带或普通居民家庭备用，进行急救。此救护运送装置平时还可放置于床垫下备用，紧急情况下，扣上安全带，即能作为救护工具使用，特别适用于战地或者野外医院或诊疗所。由于此救护运送装置具有肩背带，运送人员可以肩膀背带，抬起或背起救护运送装置，这不仅大大降低了运送人员纯以双手操作而造成腰、脊及手部劳损的可能，还可以使运送人员能腾出手来应付突发情况。

本发明的救护运送装置，其中，所述承载部为片状或袋状。通过这一结构，提供了关于承载部的可选结构。

本发明的救护运送装置，其中，所述手提带至少为两对，各对手提带以一定间隔设置于所述承载部的侧边缘，并且在所述手提带上还设置有位置可调的手部衬垫。通过这一结构，可以多人提起手提带，抬起救护运送装置，

进行近似于普通救护运送装置的救护。如果现场条件允许，还可以通过在手提带中穿上杆状硬物，从而将现有救护运送装置转变为普通担架，进行等同于普通救护运送装置的救护。

本发明的救护运送装置，其中，所述安全带选择包括肩部安全带、胸部安全带、腰部安全带或腿部安全带。通过这一结构，可以对伤病人员的相应部位进行固定，从而将平躺的伤病人员牢固限定在所述救护运送装置上，防止在运送途中因路面不平而造成的过于摇晃或意外将伤病人员抛出运送装置，对伤病人员造成不必要的损伤或加重伤病。

本发明的救护运送装置，其中，所述肩部安全带的一端固定在所述承载部上，另一端连接在所述腰部安全带上，其与所述腰部安全带的连接位置是可调节的。通过这一结构，可以对伤病人员的上身实施牢固地固定。本发明的救护运送装置，其中，所述腿部安全带是两根，分别固定在所述腰部安全带上。通过这一结构，可以固定病人的坐姿，及防止双腿过分摇晃，实现对伤病人员的坐式救护。

本发明的救护运送装置，其中，所述肩背带是一对，分别固定在所述承载部两侧，所述肩背带一端固定于所述承载部的上边端部，另一端固定于所述侧边的中下部。通过这一结构，运送人员可以肩膀背带，抬起或背起救护运送装置，这不仅大大降低了运送人员纯以双手操作而造成腰、脊及手部劳损的可能，还可以使运送人员能腾出手来应付突发情况。这种肩背结构可以很方便地运送不省人事的伤病人员；还可以避免因伤病人员处于休克状态时身体重量不平衡而使运送人员难以平衡，妨碍运送。同时，这种从两侧运送伤病人员的方式也可以减少对运送速度的影响。

本发明的救护运送装置，其中，所述肩背带上设有位置可调的肩部垫片。通过这一结构，可以提高背负舒适性，减弱背负重量可能对肩部造成巧的损伤。

本发明的救护运送装置，其中，所述肩背带上设有长度调节扣。通过这一结构，可以根据运送人员的不同高度进行调节，甚至可以在背负 / 运送伤病人员的过程中自由调节肩带长度，而不必先卸下伤病人员，从而减少了对伤病人员造成不必要的损伤，并能在最短时间内把伤病人员运送至救护车 / 站。

本发明的救护运送装置，其中，所述救护装置还包括至少一条由柔性材料制成的拖拉带，所述拖拉带固定于所述承载部上。通过这一结构，可以单人拖拉救护运送装置，因而适用于紧急情况下人手缺乏的情形，特别适用于医院或诊疗所在紧急逃难或疏散时以最少运送人员，尽快逃离灾难现场。

本发明的救护运送装置，其中，所述拖拉带的两端固定于所述承载部上边或下边。通过这一结构，提供了拖拉带的不同应用方案，进而能够提供不同方向的拖拉。

本发明的救护运送装置，其中，所述救护运送装置还包括由柔性材料制成的保护盖片，所述保护盖片和所述承载部周边连接在一起形成保护套，并且在所述保护盖片上设有能打开所述保护套的拉链。这一结构特别适合于尸体的运送，相对一密封的设计可减少尸体的气味溢出及防止液体渗出，还能节省包裹尸体所需的物料及程序，减轻运送重量。

本发明的救护运送装置，其中，所述保护盖片上设有窗口。通过这一结构，无需打开保护盖片，即可辨认死者身份。

本发明的救护运送装置，其中，所述安全带设置在保护盖片和承载部形

成的保护套内部。通过这一结构，可以将尸体牢靠固定在承载部和保护盖片构成的保护套内。

本发明的救护运送装置，其中，所述救护运送装置还包括保护盖片，所述保护盖片的长度小于承载部的长度，并且所述保护盖片的下边和侧边分别与所述承载部的下边以及部分侧边连接在一起，所述盖片的上边与所述承载部之间留有开口。根据这一结构，承载部和保护盖片形成人体保护套。通过将伤病人员的身体的一部分放置于保护套内，能避免体温迅速流失。此种保护套可以克服传统救护员需要同时携带救护运送装置及毛毯的不便。巧本发明的救护运送装置，其中，所述承载部呈矩形。通过这一结构，使承载部便于制作加工。

本发明的救护运送装置，其中，所述承载部呈与人的背部和腿部相匹配的形状，并包括有背部承载部和腿部承载部，所述腿部承载部上具有由柔性材料制成的腿部固定带。通过这一结构，适合一人背负伤病人员进行运送，适用于紧急情况下人手缺乏的情形。

本发明的救护运送装置，其中，所述肩背带包括设置在所述承载部背而的肩部固定带和腰部固定带。通过这一结构，运送人员可以单独一人以背对背的方式稳定背负伤病人员，而双手可没限制，以应付突发情形。同时，面向运送人员后方的伤病人员仍可以观察后方情况，且双手不受限制，可以应付各种情况。这种救护运送装置特别适用于战时运送局部受伤，但神志清醒，且双手仍可作战的伤病人员。

本发明的救护运送装置，其中，所述安全带包括肩部安全带、腰部安全带和腿部安全带，其中，所述肩部安全带和所述腰部安全带同时又作为肩部

固定带和腰部固定带。通过这一结构，运送人员可以稳定背负趴在其背上的运送人员，同时双手可不受限制，以应付突发情形。

本发明的救护运送装置，其中，所述柔性材料是无纺布。通过这一结构，可以防水、防霉且透气。

附图说明

图 1 是根据本发明第一实施例的救护运送装置的正视图；

图 2 是根据本发明第一实施例的救护运送装置的使用状态图；

图 3 是根据本发明第二实施例的救护运送装置的正视图；

图 4 是根据本发明第二实施例的救护运送装置的拉开拉链状态的正视图；

图 5 是根据本发明第三实施例的救护运送装置的正视图；

图 6 是根据本发明第三实施例的救护运送装置的后视图；

图 7 是根据本发明第四实施例的救护运送装置的正视图；

图 8 是根据本发明第四实施例的救护运送装置的后视图；

图 9 是根据本发明第四实施例的救护运送装置的使用状态图；

图 10 是根据本发明第五实施例的救护运送装置的正视图；

图 11 是根据本发明第五实施例的救护运送装置的后视图；

图 12 是根据本发明第五实施例的救护运送装置的使用状态图；

图 13 是根据本发明第六实施例的救护运送装置的正视图；

图 14 是根据本发明第六实施例的救护运送装置的使用状态图。

具体实施方式

下面参照附图详细说明本发明的优选实施例。其中，相同的部件采用相同的标号。

下面描述本发明的第一实施例。

请参见图 1 和图 2，图 1 和图 2 显示了根据本发明的第一实施例的救护运送装置。本实施例的救护运送装置 A 包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3、拖拉带 4 以及肩背带 5。

其中，承载部 1 成矩形，包括上边、下边和两侧边；承载部 1 的长度略长于一般人体的长度，宽度略宽于一般人体的宽度。根据需要，承载部 1 可以做成单片或者袋状，该单片可以设计为薄的单层织物；也可以选用具有一定厚度的柔性材料，以提高承载部 1 的舒适性，选材可因实际应用而定。

其中，手提带 2 设置为三对，成对固定于承载部 1 两侧边的上端、中部和下部；手提带 2 上具有位置可调的手部衬垫。

其中，安全带 3 包括两根肩部安全带 31、胸部安全带 32、腰部安全带 33 以及腿部安全带 34，各安全带上设有调节扣，以根据需要调节长度。两根肩部安全带 31 的上端分别固定在承载部 1 的上边缘，下端穿过胸部安全带 32，固定在腰部安全带 33 上，固定位置可以调节；胸部安全带 32、腰部安全带 33 和腿部安全带 34 均具有带扣，可以打开或扣合。安全带 3 共同作用，将伤病人员固定在救护运送装置上。

其中，拖拉带 4 设计成两条，分别固定于承载部 1 的上边和下边，其上设有调节扣，可以根据需要调节长度；同一拖拉带 4 的两端固定于该边上的不同位置；拖拉带 4 上也可以套设位置可调的手部衬垫。

其中，肩背带 5 设计为两根，分设于承载部 1 的两侧边，带子上端分别固定在上边端部，下端固定在侧边缘的中间偏下部位，即相应于被运送的伤病人员的臀部下部位；肩背带 5 上具有长度调节扣，以及位置可调的肩部垫片。

以上各部件都采用具有一定强度的柔性材料制成。使用时，打开安全带 3 的各带扣，将伤病人员平放于承载部 1 上；然后扣上所有带扣 3，将伤病人员牢靠固定在承载部 1 上；由两人背上肩背带 5，抬起伤病人员进行运送；也可以由两人或多人提起手提带 2 和 / 或拖拉带 4 进行运送；当紧急情况人手缺乏时，还可以由一人拖拉拖拉带 4 进行运送，此时根据伤病人员的病情需要以及当时的情况，选择拖拉头部或脚部拖拉带 4。

本实施例的救护运送装置 A 具有以下优点：

1、由于具有柔性材料制成的承载部，该救护运送装置平时可放于床垫下备用，紧急情况下，扣上带子即可成为急需的救护工具。

2、由于具有手提带，人手充足时，可以多人提起手提带，抬着伤病人员进行运送。

3、由于具有安全带，可以将伤病人员牢靠固定在救护运送装置上，防止运送途中因路面不平而导致过分摇晃或意外地将伤病人员抛出运送装置，对伤病人员造成不必要的损伤。

4、由于具有拖拉带，紧急情况人手不够时，还可以仅由一人拖拉着拖拉带进行运送，并且可以根据伤病人员的病情或实际情况选择拖拉带，使伤病人员的头部或者脚部向上。

5、由于具有肩背带，运送人员可以一边肩膀背带，另一侧手臂以垂直的方式提起手挽带，这不仅大大降低了运送人员纯以双手操作而造成腰、脊及手部劳损的可能，还可以使运送人员能腾出手来稳定被运送人员或应付突发情况。这种肩背结构可以很方便地运送不省人事的伤病人员；还可以避免因伤病人员处于休克状态时身体重量不平衡而使运送人员难以平衡，妨碍运送。肩部衬垫可以提高背负舒适性。并且，肩背带可以根据运送人员的高度进行调节，甚至可以在背负 / 运送伤病人员的过程中自由调节肩带长度，而不必先卸下伤病人员，从而减少了对伤病人员造成不必要的损伤，并能在最短时间内把伤病人员运送至救护车 / 站。

本实施例的救护运送装置特别适合于医院或诊疗所，尤其战地医院或诊所以及野外救护站等，在紧急逃难或疏散时可利用最少的人力，尽快逃离灾难现场。

下面描述本发明的第二实施例。

请参见图 3 和图 4，图 3 和图 4 显示了本发明第二实施例的救护运送装置。本实施例的救护运送装置 B 包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3、拖拉带 4 以及肩背带 5。

其中，承载部 1 的结构和第一实施例中的承载部 1 相同。

其中，手提带 2 设计成两对，成对固定于承载部 1 的两侧边缘的中部和下部；手提带 2 上设有位置可调的手部衬垫。

其中，安全带 3 包括胸部安全带 32、腰部安全带 33 以及腿部安全带 34；

各安全带的结构和第一实施例中的安全带结构相同。

其中，拖拉带 4 设计为一根，其上设有调节扣，可以根据需要调节长度；拖拉带 4 的两端固定于承载部 1 一短边的左右两端；拖拉带 4 上也可以套设位置可调的手部衬垫。

其中，肩背带 5 和第一实施例中肩背带结构相同。

本实施例的救护运送装置 B 还包括一保护盖片 6，该保护盖片的长度和宽度均和承载部 1 相同或略大；保护盖片的四边缘和承载部 1 的四边缘固定在一起，构成封闭的保护套。在保护盖片 6 的宽度方向的中间位置，设有长度等于保护盖片长度的拉链 7，用以打开或封闭保护套。在靠近上部短边一侧的位置上，设有两个分别设置于中间拉链 7 两侧的窗口 8，窗口 8 用透明材料或透气绸布遮盖，用以在不打开保护套的情况下，识别被运送死者的身份。

以上各部件都采用具有一定强度的柔性材料制成。

使用时，先打开安全带 3，使伤病人员平躺于承载部 1 上；然后扣上安全带 3，将伤病人员牢靠固定在承载部 1 上；拉上拉链，将伤病人员封闭在保护套中；运送人员挎上肩背带 5，根据需要握住手提带 3，提起伤病人员，10 进行运送。当伤病人员需要平躺运送时，不使用肩背带 5，仅抬起拖拉带 4 和手提带 3，进行运送。紧急情况人手不够时，还可以仅由一人拖拉着拖拉带 4 进行运送。

本实施例的救护运送装置 B，除了具备上述第一实施例中的救护运送装置的优点外，还有以下优点：

- 1、保护套内的安全带能对被运送死者进行可靠的固定，防止运送过程中的摇晃减慢运送过程。

- 2、透明窗口可以不必打开保护套即能辨认死者的身份。

3、本结构特别适合于运送尸体，相对密封的设计可减少尸体的气味溢出及防止液体渗出，还能节省包裹尸体所需的物料及程序，减轻运送重量；20 安全带能固定尸体以保持重量平衡，易于运送；透明窗口可方便辨认尸体。

下面描述本发明的第三实施例。

请参见图 5 和图 6，图 5 和图 6 显示了本发明第三实施例的救护运送装置。本实施例的救护运送装置 C 包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3、拖拉带 4 以及肩背带 5。

其中，承载部 1 和第二实施例中的承载部的结构相同。

其中，手提带 2 和第二实施例中的手提带结构相同。

其中，安全带 3 包括两根肩部安全带 31、腰部安全带 33 以及腿部安全带 34'；安全带 3 上设有调节扣，可以根据需要调节长度；两根肩部安全带 31 的上端分别固定在承载部 1 的上边缘，下端固定在腰部安全带 33 之下位置上；腰部安全带 33 均分为两段，各段一端分别固定在承载部 1 的两侧边的对应位置，另一端设有可以相互扣合的带扣，两段可以通过带扣扣合连接。腿部安全带 34' 是两条，分别固定在腰部安全带 33 上。

其中，拖拉带 4 设计为一根，设置于承载部 1 的上边缘，带子两端分别固定在上边缘的两端位置。

其中，肩背带 5 和第二实施例中的肩背带结构相同。

本实施例的救护运送装置 C 还包括一保护盖片 6'，该保护盖片的宽度和承载部 1 相同或略大，长度约等于人体的腿部长度。保护盖片 6' 的下边缘和承载部 1 的下边缘固定在一起，两侧边与承载部 1 下边缘相邻的两边缘连接，并打有褶皱，以形成带有开口且具有一定内部空间的保护套。

可以根据需要保护的不同人体部位，调节保护盖片 6'， 的长度。例如，当需要对人体除了头部之外的其他部位进行全面保护时，保护盖片 6' 的长度可以设计成稍大于人体的肩部到脚的长度。

以上各部件都采用具有一定强度的柔性材料制成。

使用时，先打开肩部安全带 31、腰部安全带 32，使伤病人员平躺于承载部 1 上，腿部放入保护套中；然后扣上肩部安全带 31、腰部安全带 32，将伤病人员牢靠固定在承载部 1 上；之后，运送人员挎上肩背带 5， 根据需要握住手提带 3， 提起伤病人员，进行运送。当人体需要相对平置时，可以不使用肩背带 5， 仅抬起拖拉带 4 和手提带 3， 进行运送。紧急情况下，人手不够时，还可以仅由一人拖拉着拖拉带 4 进行运送。也可以不将伤病人员的双腿放入保护套，而使伤病人员直接坐在保护套外面，固定肩部安全带 31、腰部安全带 32 和腿部安全带 34'， 进行运送。

本实施例的救护运送装置 C，除了具备上述第一实施例的救护运送装置的优点外，还有以下优点：

1、由于本实施例中腿部安全带具有不同于第一实施例的结构，能固定病人的坐姿，防止双腿晃动，所以增加了伤病人员的固定稳定性。

2、由于具有人体保护套，可以对伤病人员的身体实施特殊保护，防止体温迅速流失。

3、由于本实施例中腿部安全带的特殊结构，能固定病人的坐姿，防止双腿晃动，所以增加了伤病人员的固定稳定性，避免伤病人员受不必要的损伤。

4、此救护运送装置的设计还可使伤病人员在运送期间头部自然向后仰卧，令伤者或病人的气门自然打开，畅通呼吸，复合救护的要求。

下面描述本发明的第四实施例。

请参见图 7、8 和图 9，图 7、8 和图 9 显示了本发明的第四实施例的救护运送装置。本实施例的救护运送装置 D 包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3，拖拉带 4 和肩背带 5。

其中，承载部 1 呈矩形，长度约等于人体肩部至大腿部的长度，宽度略宽人体的背部宽度。

其中，手提带 2 设计成一对，分别固定于承载部 1 的两侧边缘的下部；手提带 2 上带有可以滑动的手部衬垫。

其中，安全带 3 包括两根肩部安全带 31、腰部安全带 33 以及腿部安全带 34'；安全带 3 上设有调节扣，可以根据需要调节长度；肩部安全带 31 和腰部安全带 33 扣合于人体腰部，用以对伤病人员上身实施固定，将其固定在承载部 1 上；腿部安全带 34' 用以固定伤病人员的坐姿。

其中，拖拉带 4 设计成一根，设置于承载部 1 的上边缘，带子分别固定在该上边缘的两端位置。

肩背带 5 是两根，分设于承载部 1 的两侧边，带子上端固定在和侧边上端和上边交接处，下端固定在侧边缘的中间靠下部位；肩背带 5 上设有调节扣以及可以滑动的肩部垫片。

以上各部件都采用具有一定强度的柔性材料制成。

使用时，先打开安全带 3，使伤病人员平躺或坐于承载部 1，然后扣上安全带 3，将伤病人员牢靠限定其上；之后，运送人员挎上肩背带 5，根据需要

握住手提带 3，提起伤病人员，进行运送。当人体需要相对平置时，可以不使用肩背带 5，仅抬起拖拉带 4 和手提带 3，进行运送。紧急情况下，人手不够时，还可以仅由一人拖拉着拖拉带 4 进行运送。

本实施例的救护运送装置 D 具有以下优点：

1、由于具有肩背带，运送人员可以一边肩膀背带，另一侧手臂以垂直的方式提起手挽带，这不仅大大降低了运送人员纯以双手操作而造成腰、脊及手部劳损的可能，还可以使运送人员能腾出手来稳定被运送人员或应付突发情况。这种肩背结构可以很方便地运送不省人事的伤病人员；还可以避免因伤病人员处于休克状态时身体重量不平衡而使运送人员难以平衡，妨碍运送。肩部衬垫可以提高背负舒适性并减少背负部位劳损的可能。并且，肩背带可以根据运送人员的不同高度进行调节，甚至可以在背负 / 运送伤病人员的过程中自由调节肩带长度，而不必先卸下伤病人员，从而减少了对伤病人员 5 造成不必要的损伤，并能在最短时间内把伤病人员运送至救护车 / 站。

2、由于本实施例中腿部安全带的特殊结构，能固定病人的正确坐姿，防止病人 / 伤者在运送过程中身体过分摇晃而造成腰背不必要的负担，所以增加了伤病人员被运送时的坐姿稳定性，避免伤病人员受不必要的损伤。

3、由于具有手提带，可以在肩背的同时一利用手提带进行稳定，避免运送过程中的摇晃。

4、由于具有拖拉带，紧急情况人手不够时，还可以仅由一人拖拉着拖拉带进行运送。

5、此救护运送装置的设计还可使伤病人员在运送期间头部自然向后仰卧，使伤病人员的气门自然打开，畅通呼吸，符合救护的要求。

下面描述本发明的第五实施例。

请参见图 10、11 和图 12，图 10、11 和图 12 显示了本发明的第五实施例的救护运送装置。本实施例的救护运送装置 E。包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3 和肩背带 5。

其中，承载部 1 长度接近人体的肩部到大腿的长度，宽度接近人体背部的宽度。承载部 1 呈与人的背部和腿部相匹配的形状，并包括有背部承载部 1A 和腿部承载部 1B，所述腿部承载部上固定着柔性材料制成的腿部固定带 53。腿部固定带 53 的另一端上带有带扣，通过带扣，可以连接在腰部安全带 33 上。

其中，手提带 2 设计成两对，成对固定于承载部 1 的两侧边缘的上部和中部。

其中，安全带 3 包括肩部安全带 31、腰部安全带 33 和腿部安全带 34'。两根肩部安全带 31 的一端固定在承载部 1 的上边缘，另一端连接在腰部安全带 33 上，连接位置可以调整。腿部安全带 34' 是两条，分别固定在腰部安全带 33 上。安全带 3 上都带有调节扣，可以对长度进行调节。

其中，所述肩背带 5 包括固定在承载部 1 背面的肩部固定带 51 和腰部固定带 52。两根肩部固定带 51 的一端固定在承载部 1 的上边缘，另一端连接在腰部固定带 52 上，连接位置可以调整。肩部固定带 51 和腰部固定带 52 上具有调节扣，可以调节长度。另外，腰部固定带 52 分为两段，各段的一端固定在承载部 1 的侧边缘。具有带扣，可以扣合或打开。

以上各部件都采用具有一定强度的柔性材料制成。使用时，先打开安全带 3，调节安全带 3 的长度至适宜；将承载部 1 披在伤病人员背上，扣上腰部安全带 33；再将肩部安全带 31 绕过伤病人员的肩部，固定在腰部安全带 33

上；然后打开肩部固定带 51 和腰部固定带 52，运送人员与背运送人员背靠背站立，将肩部固定带 51 固定在肩上，扣上腰部固定带 52 之后，将腿部固定带 53 穿在被运动人员的腿上，然后套上腿部安全带 34'，通过调节扣调节位置至适当，固定伤病人员的坐姿，使运送人员反向背负伤病人员，进行运送。

采用本实施例中的救护运送装置 E，运送人员可以以背对背的方式稳定背负伤病人员，而双手可不受限制，以应付突发情形。同时，面向运送人员巧后方的伤病人员仍可以观察后方情况，且双手不受限制，可以应付各种情况，这种救护运送装置特别适用于战时运送局部受伤，但神志清醒，且双手仍可作战的伤病人员。

下面描述本发明的第六实施例。

请参见图 13 和图 14，图 13 和图 14 显示了本发明的第六实施例的救护运送装置。本实施例的救护运送装置 F 包括：承载部 1、固定在承载部 1 上的手提带 2、安全带 3 和肩背带 5。

承载部 1 和第五实施例中的承载部结构相同。

手提带 2 和第五实施例中的承载部结构相同。

安全带 3 包括肩部安全带 31 和腰部安全带 33。两根肩部安全带 31 的一端固定在承载部 1 的上边缘，另一端连接在腰部安全带 33 上，连接位置可以调整。安全带 3 上都带有调节扣，可以对长度进行调节。

本实施例中，安肩部安全带 31 相当于肩背带 5 中的肩部固定带 51，腰部安全带 33 相当于肩背带 5 中的腰部固定带 52。

以上各部件都采用具有一定强度的柔性材料制成。

使用时，先打开安全带 3，调节安全带 3 的长度至足以将伤病人员捆绑

在运送人员身上；接着将承载部 1 披在伤病人员背上，并使伤病人员趴在运送人员的背上，然后扣上腰部安全带 33，将运送人员和伤病人员固定在一起；再将肩部安全带 31 绕过伤病人员和运送人员的肩部，固定在运送人员腰部的腰部安全带 33 上；之后拉起腿部固定带 53，扣于腰部安全带 33 上，将伤病人员的双腿提起，使运送人员背负伤病人员，进行运送。

本实施例中的救护运送装置 F，可以确保运送人员稳定背负趴在其背上的伤病人员，而双手可不受限制，以应付突发情形，所以特别适合于战时使用。

权 利 要 求

- 1、一种救护运送装置，其特征在于，该救护运送装置包括：
由柔性材料制成的承载部；
由柔性材料制成的肩背带，其固定在所述承载部上
由柔性材料制成的手提带，其固定在所述承载部上；以及
由柔性材料制成的安全带，其固定在所述承载部上。
- 2、如权利要求 1 所述的救护运送装置，其特征在于，所述承载部为片状或袋状。
- 3、如权利要求 1 所述的救护运送装置，其特征在于，所述手提带至少为两对，各对手提带以一定间隔设置于所述承载部的侧边缘，并且在所述手提带上还设置有位置可调的手部衬垫。
- 4、如权利要求 1 所述的救护运送装置，其特征在于，所述安全带选择性地包括肩部安全带、胸部安全带、腰部安全带或腿部安全带。
- 5、如权利要求 4 所述的救护运送装置，其特征在于，所述肩部安全带的一端固定在所述承载部上，另一端连接在所述腰部安全带上，其与所述腰部安全带的连接位置是可调节的。
- 6、如权利要求 4 所述的救护运送装置，其特征在于，所述腿部安全带为两根，其分别固定在所述腰部安全带上，所述腿部安全带之间选择设有连接带。
- 7、如权利要求 1 所述的救护运送装置，其特征在于，所述肩背带是一对，分别固定在所述承载部两侧。
- 8、如权利要求 1 所述的救护运送装置，其特征在于，所述肩背带一端固

定于所述承载部的上边端部，另一端固定于所述侧边的中下部。

9、如权利要求 1 所述的救护运送装置，其特征在于，所述肩背带上设有位置可调的肩部垫片。

10、如权利要求 1 所述的救护运送装置，其特征在于，所述肩背带上设有长度调节扣。

11、如权利要求 1 所述的救护运送装置，其特征在于，所述救护装置还包括至少一条由柔性材料制成的拖拉带，所述拖拉带固定于所述承载部上。

12、如权利要求 11 所述的救护运送装置，其特征在于，所述拖拉带的两端固定于所述承载部上边或下边。

13、如权利要求 1 所述的救护运送装置，其特征在于，所述救护运送装置还包括由柔性材料制成的保护盖片，所述保护盖片和所述承载部周边连接在一起形成保护套，并且在所述保护盖片上设有能打开所述保护套的拉链、尼龙搭扣或纽扣。

14、如权利要求 13 所述的救护运送装置，其特征在于，所述保护盖片上设有窗口。

15、如权利要求 13 所述的救护运送装置，其特征在于，所述安全带设置在所述保护套的内部。

16、如权利要求 13 所述的救护运送装置，其特征在于，所述保护盖片采用透气性好的柔性材料。

17、如权利要求 1 所述的救护运送装置，其特征在于，所述救护运送装置还包括由柔性材料制成的保护盖片，所述保护盖片的一长度小于承载部的长度，并且所述保护盖片的下边和侧边分别与所述承载部的下边以及部分侧边连接在一起，所述盖片的上边与所述承载部之间留有开口。

18、如权利要求 1 所述的救护运送装置，其特征在于，所述承载部呈矩形。

19、如权利要求 1 所述的救护运送装置，其特征在于，所述承载部呈与
20 人体的背部和腿部相匹配的形状，并包括有背部承载部和腿部承载部，所述腿部承载部上具有由柔性材料制成的腿部固定带。

20、如权利要求 18 所述的救护运送装置，其特征在于，所述肩背带包括设置在所述承载部背面的肩部固定带和腰部固定带。

21、如权利要求 18 所述的救护运送装置，其特征在于，所述安全带包
25 括肩部安全带、腰部安全带和腿部安全带，其中，所述肩部安全带和所述腰部安全带同时一又作为所述肩背带中的肩部固定带和腰部固定带。

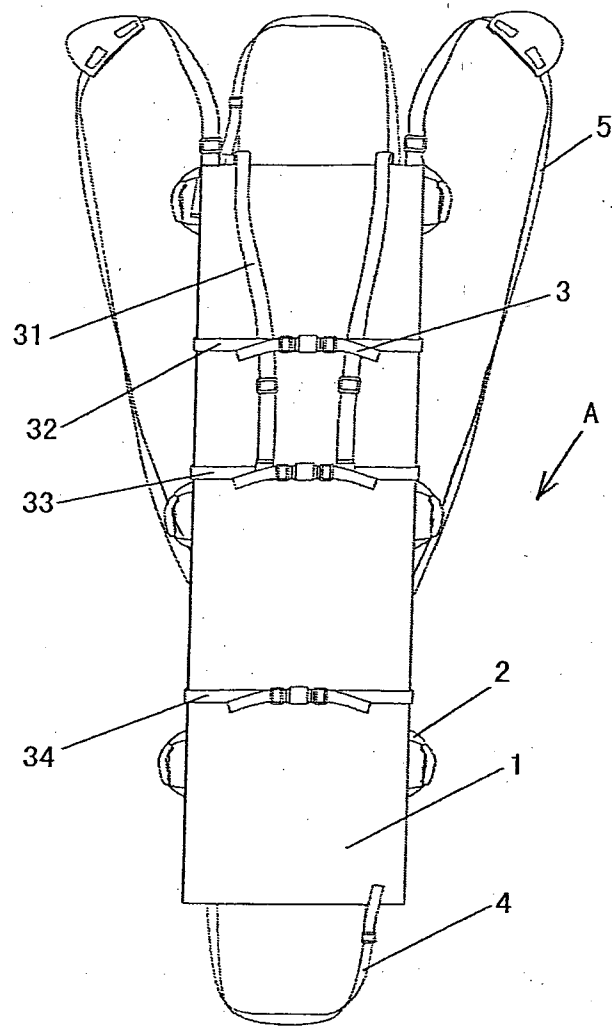


图 1

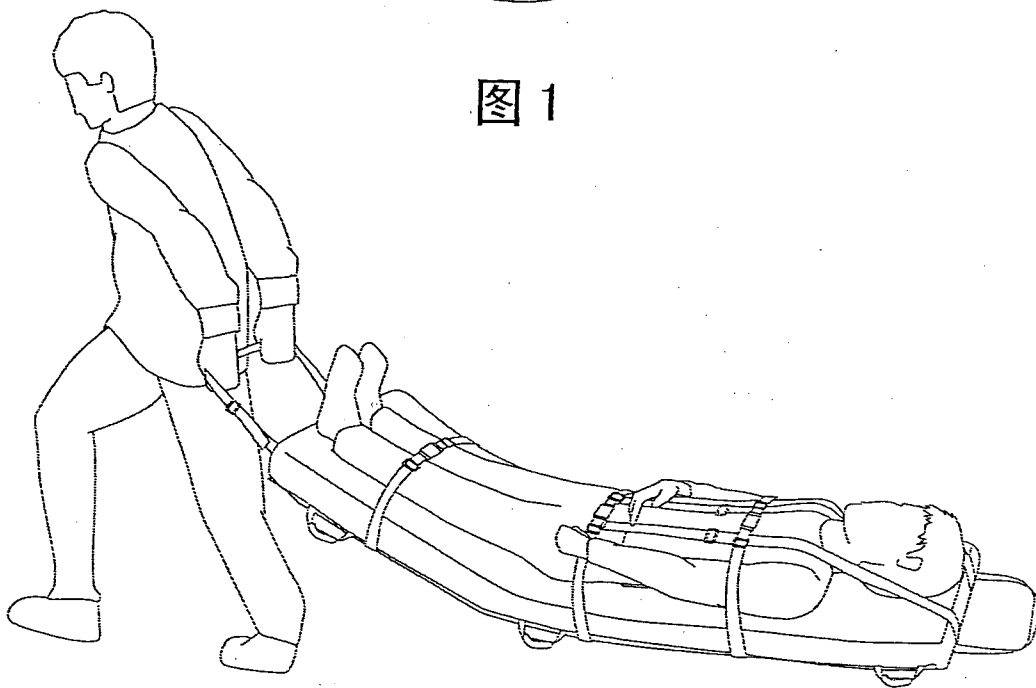


图 2

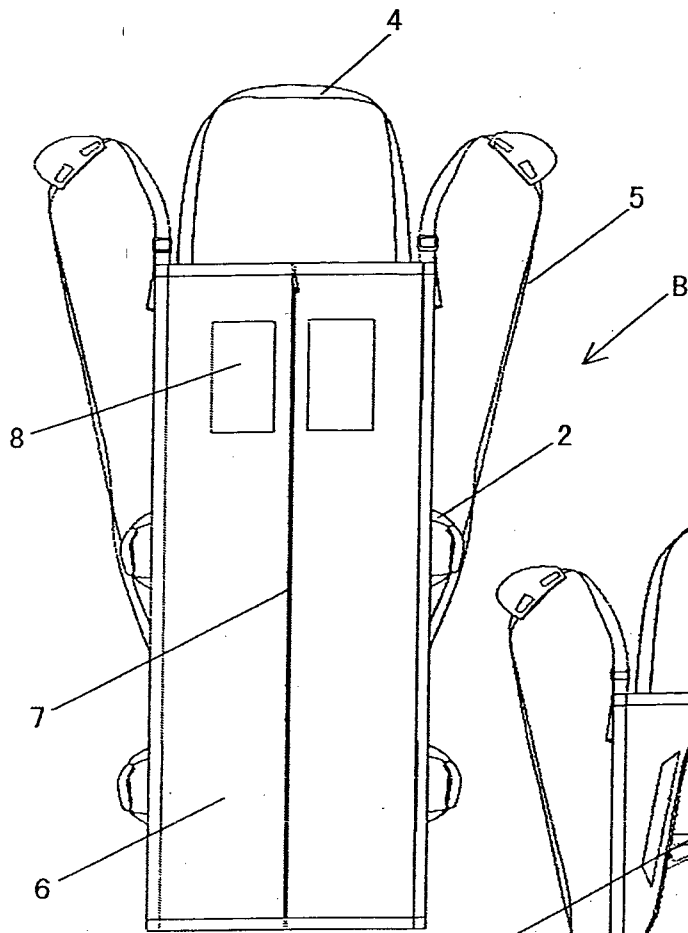


图 3

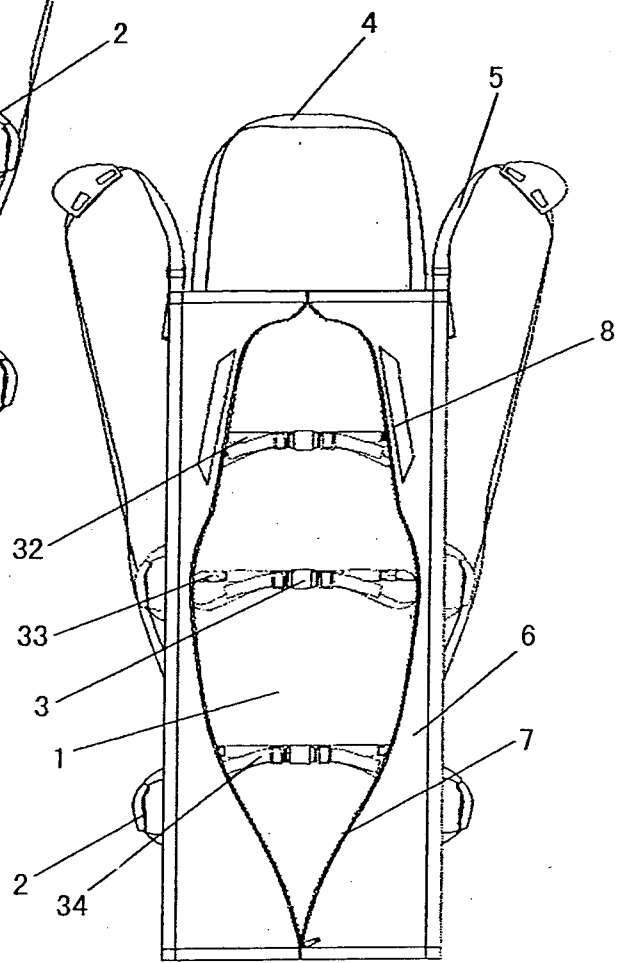


图 4

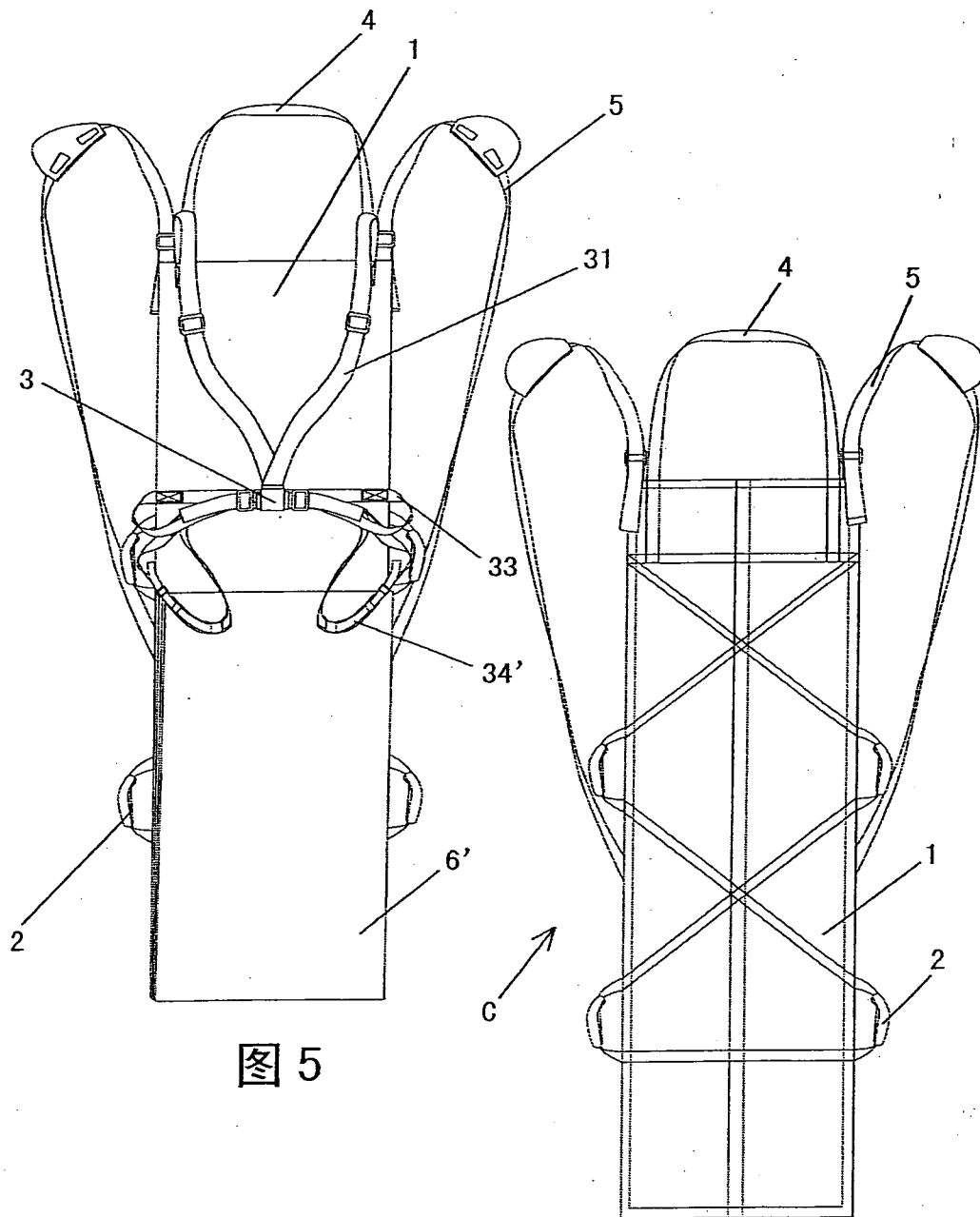


图 5

图 6

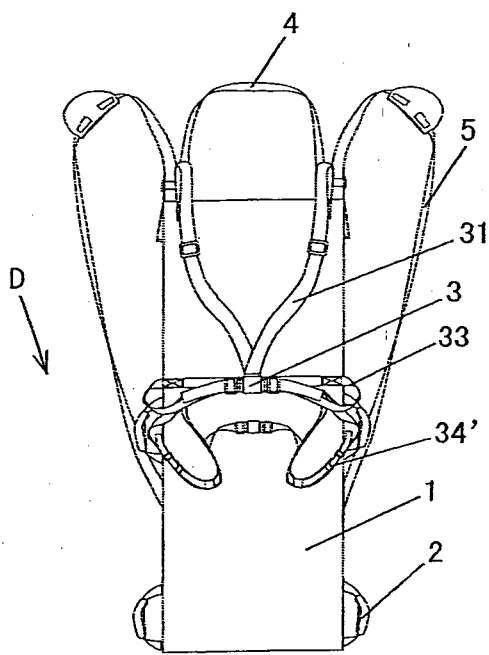


图 7

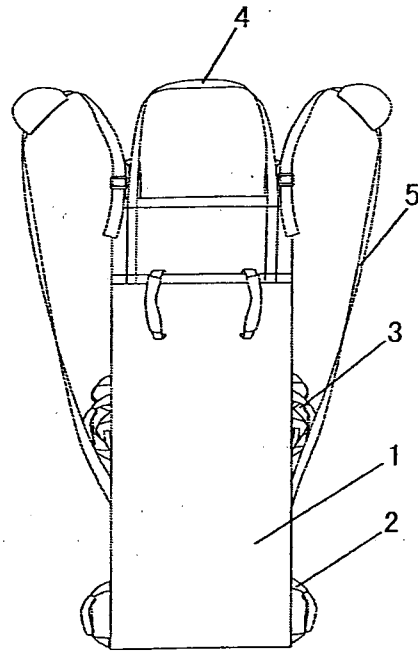


图 8

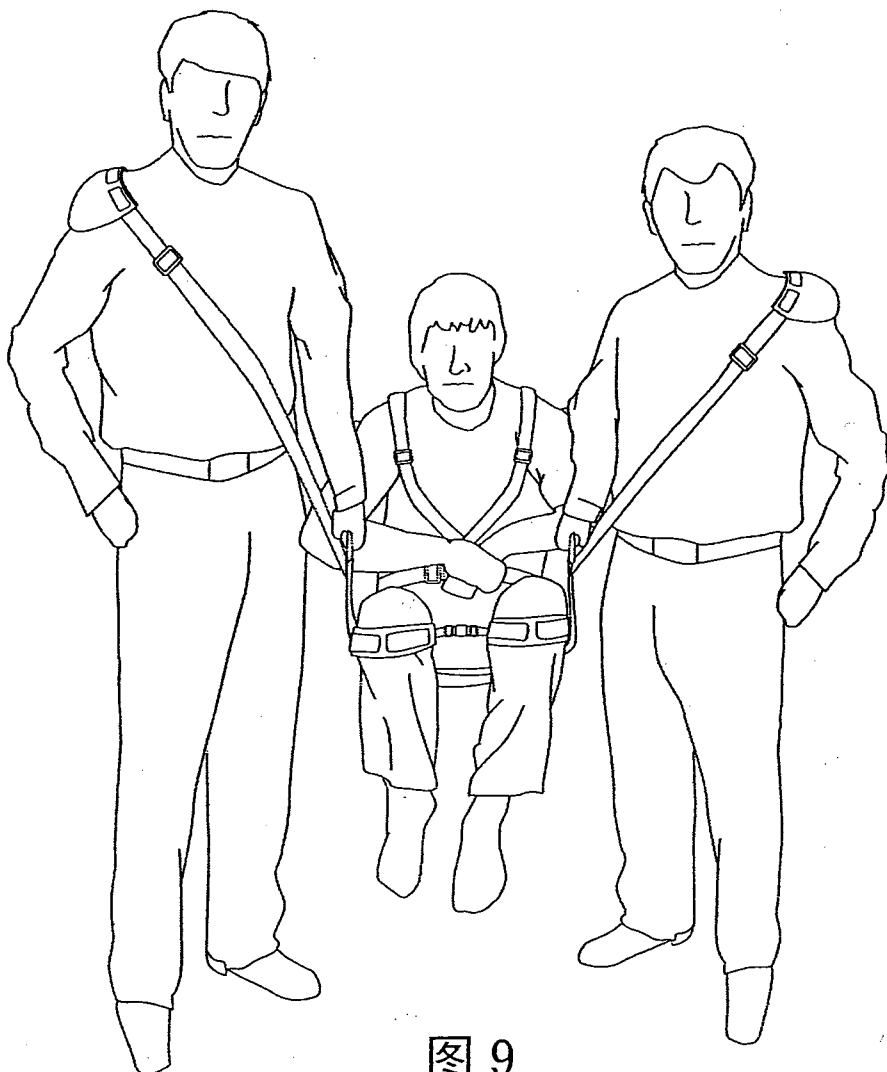


图 9



图 12

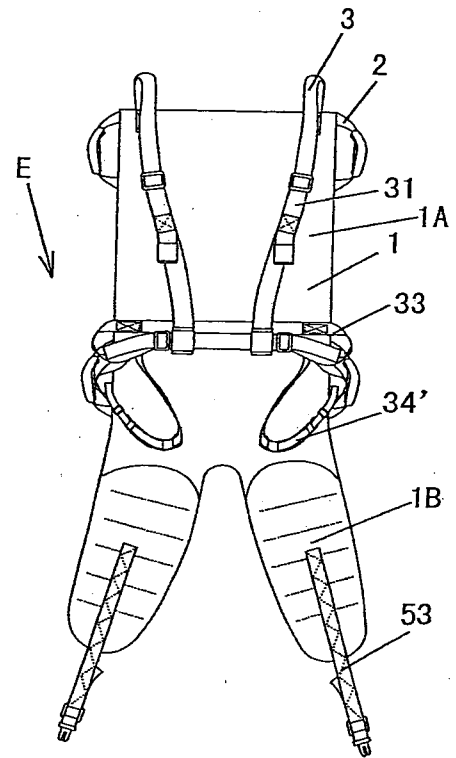


图 10

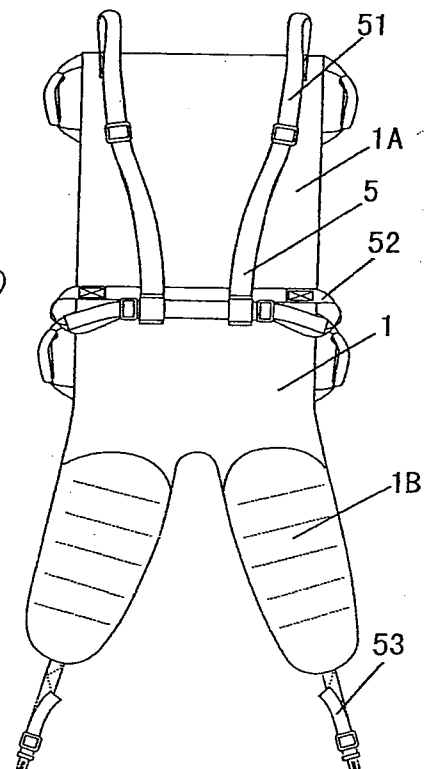


图 11



图 14

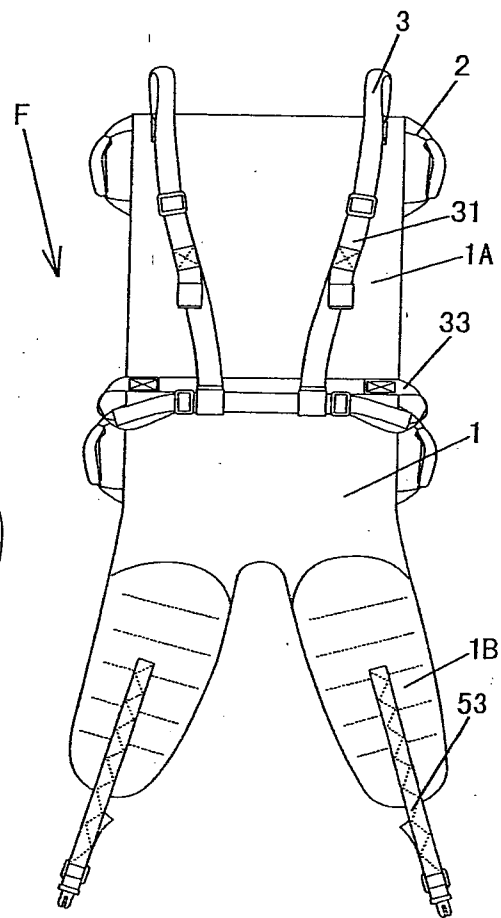


图 13

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2007/001525

A. CLASSIFICATION OF SUBJECT MATTER

A61G 1/013 (2006.01)i

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)

IPC: A61G, A47G, A41

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CPRS & CNKI:&WPI & EPODOC & PAJ: stretcher, relieve, strap, band, belt, slide fastener, carry, rescue, waftage

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP2001-258939A (YASUNAMI FUMIO) 25 Sep.2001 (25. 09. 2001) Column 1 line 10- Column 3 line 12 of the description, figure 1	1-21
Y	US5692655A (LISCO, INC., TAMPA.FLA.) 2 Dec.1997 (02. 12. 1997) Column 1 line 37- Column 5 line 24 of the description, figures 1-8	1-21
Y	CN2255254Y (SUN,Baoan) 4 Jun.1997 (04. 06. 1997) page 1 line 7- page 2 line 15 of the description, figure 1	2,3,13,17
A	CN2425639Y (SHI,Qiwang) 4 Apr.2001 (04. 04. 2001) the whole document	1-21

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

“A” document defining the general state of the art which is not considered to be of particular relevance

“E” earlier application or patent but published on or after the international filing date

“L” document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)

“O” document referring to an oral disclosure, use, exhibition or other means

“P” document published prior to the international filing date but later than the priority date claimed

“T” later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

“X” document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

“Y” document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

“&”document member of the same patent family

Date of the actual completion of the international search
05 Aug.2007 (05. 08. 2007)

Date of mailing of the international search report
30 Aug. 2007 (30.08.2007)

Name and mailing address of the ISA/CN
The State Intellectual Property Office, the P.R.China
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2007/001525

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN2780141Y (YU, Xinfu) 17 May 2006 (17. 05. 2006) the whole document	1-21
A	JP2006-129940A (CROSSLINE KK) 25 May 2006 (25. 05. 2006) the whole document	1-21
A	US5685466A (AN TIEN ENTERPRISE CO., LTD., CHANGHUA, TAIWAN) 11 Nov.1997 (11. 11. 1997) the whole document	1-21

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2007/001525

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
JP2001-258939A	25.09.2001	无	
US5692655A	02.12.1997	AU7169796A	22.05 1997
		WO9716096A	09.05. 1997
CN2255254Y	04.06.1997	无	
CN2425639Y	04.04.2001	无	
CN2780141Y	17.05 2006	无	
JP2006-129940A	25. 05. 2006	无	
US5685466A	11.11.1997	无	

国际检索报告

国际申请号
PCT/CN2007/001525

A. 主题的分类

A61G 1/013 (2006.01)i

按照国际专利分类表(IPC)或者同时按照国家分类和 IPC 两种分类

B. 检索领域

检索的最低限度文献(标明分类系统和分类号)

IPC: A61G, A47G, A41

包含在检索领域中的除最低限度文献以外的检索文献

在国际检索时查阅的电子数据库(数据库的名称, 和使用的检索词(如使用))

CPRS & CNKI: 担架, 救护, 运送, 柔性材料+柔+帆布, 带+条+手+肩, 肩背

WPI & EPODOC & PAJ: stretcher, relieve, strap, band, belt, slide fastener, carry, rescue, waftage

C. 相关文件

类 型*	引用文件, 必要时, 指明相关段落	相关的权利要求
Y	JP2001-258939A (YASUNAMI FUMIO) 25. 9 月 2001 (25. 09. 2001) 说明书第 1 栏第 10 行至第 3 栏第 12 行, 图 1	1-21
Y	US5692655A (LISCO, INC., TAMPA, FLA.) 2.12 月 1997 (02. 12. 1997) 说明书第 1 栏第 37 行至第 5 栏第 24 行, 图 1-8	1-21
Y	CN2255254Y (孙宝安) 4.6 月 1997 (04. 06. 1997) 说明书第 1 页第 7 行至第 2 页第 15 行, 图 1	2,3,13,17
A	CN2425639Y (史启旺) 4.4 月 2001 (04. 04. 2001) 全文	1-21

☒ 其余文件在 C 栏的续页中列出。

☒ 见同族专利附件。

* 引用文件的具体类型:

“A” 认为不特别相关的表示了现有技术一般状态的文件

“E” 在国际申请日的当天或之后公布的在先申请或专利

“L” 可能对优先权要求构成怀疑的文件, 或为确定另一篇引用文件的公布日而引用的或者因其他特殊理由而引用的文件

“O” 涉及口头公开、使用、展览或其他方式公开的文件

“P” 公布日先于国际申请日但迟于所要求的优先权日的文件

“T” 在申请日或优先权日之后公布, 与申请不相抵触, 但为了理解发明之理论或原理的在后文件

“X” 特别相关的文件, 单独考虑该文件, 认定要求保护的发明不是新颖的或不具有创造性

“Y” 特别相关的文件, 当该文件与另一篇或者多篇该类文件结合并且这种结合对于本领域技术人员为显而易见时, 要求保护的发明不具有创造性

“&” 同族专利的文件

国际检索实际完成的日期
05. 8 月 2007 (05. 08. 2007)

国际检索报告邮寄日期
30.8 月 2007 (30.08.2007)

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国际检索报告

国际申请号
PCT/CN2007/001525

C(续). 相关文件

类 型	引用文件, 必要时, 指明相关段落	相关的权利要求
A	CN2780141Y (虞信法) 17.5 月 2006 (17.05.2006) 全文	1-21
A	JP2006-129940A (CROSSLINE KK) 25.5 月 2006 (25.05.2006) 全文	1-21
A	US5685466A (AN TIEN ENTERPRISE CO., LTD.,CHANGHUA, TAIWAN) 11.11 月 1997 (11.11.1997) 全文	1-21

国际检索报告
关于同族专利的信息

国际申请号
PCT/CN2007/001525

检索报告中引用的 专利文件	公布日期	同族专利	公布日期
JP2001-258939A	25. 09.2001	无	
US5692655A	02.12.1997	AU7169796A	22.05.1997
		WO9716096A	09.05.1997
CN2255254Y	04.06.1997	无	
CN2425639Y	04.04.2001	无	
CN2780141Y	17.05.2006	无	
JP2006-129940A	25. 05.2006	无	
US5685466A	11.11.1997	无	



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(84) Designated Contracting States:
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(30) Priority: **24.08.2006 CN 200620132715 U**

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(54) **A RESCUING AND CARRYING DEVICE**

(57) A rescuing and carrying device comprises a supporting portion (1) made of flexible materials, handhold belts (2) made of flexible materials, safety belts (3) made of flexible materials and shoulder belts (5) made of flexible materials. The handhold belts (2), the safety belts (3) and the shoulder belts (5) are fixed on the supporting portion (1) respectively. With being made of flexible materials, the rescuing and carrying device is light and can be folded into smaller one. Additionally, it is convenient for storing and using on battle field or at home. Furthermore, the rescuing and carrying device can be stored under the mattress when not in use and be used as rescuing tools when emergency by fastening the safety belt, especially suitable for battle field or countryside hospital and clinics. With shoulder belts, the present rescuing and carrying device can be lifted or carried on the shoulders of the carriers. It increasingly reduced the possibility of hurt on the carrier's waists, backbones and hands which are resulted from operating only by hands, but the carriers can free their hands to deal with other emergency event.

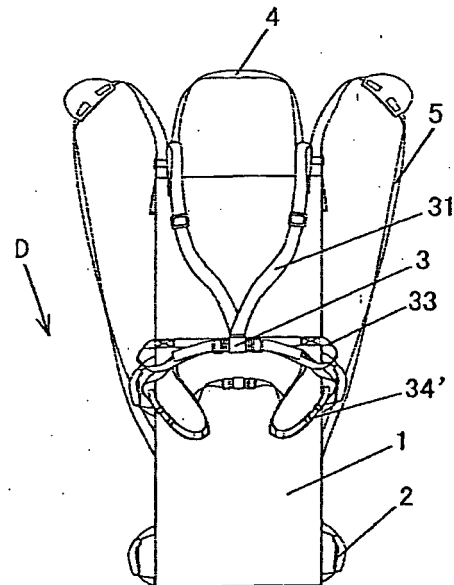


FIG. 7

Description

FIELD OF THE INVENTION

[0001] The invention relates to a rescuing and carrying device, more specifically, to a stretcher-type rescuing and carrying device.

BACKGROUND OF THE INVENTION

[0002] Rescuing and carrying devices are commonly used for rescuing the sick. It has been testified that these devices when applied have enhanced the effect of rescuing greatly. Among these devices, the stretcher-type rescuing and carrying device plays an important role. Traditional stretcher-type rescuing and carrying device generally refers to a stretcher, which comprises a frame and a supporting surface made of flexible materials with certain strength, such as canvas. With the living standard improved and the medical technology developed, functions of the traditional stretcher have been advanced so that they became increasingly integrated. Take it for example, In the stretcher disclosed in Chinese patent CN1457752A there are necessary first-aid device and appliance and power supplier embedded, which can salvage the seriously wounded in locale and ward them when carrying. However, with the stretcher increasingly integrated, the volume, weight and cost thereof are increased correspondingly, which may make the rescue and carry device more difficult to carry and store, and inconvenient to use on battle field or out county, and for resident to store as well.

[0003] Chinese patent 25473 02Y discloses a rotary foldable stretcher which can be folded into a smaller one for use in daily life and battle. However, this stretcher also has some parts such as a handle, a stretcher rod, a transverse support, surface of rescuing and carrying device, belts for fastening the sick, and gemels etc., thus its structure is complicated and the cost is high. Besides, with the stiff materials such as supporting rod, this stretcher may be difficultly folded, and be inconveniently stored.

[0004] Chinese patent CN2552520Y discloses another stretcher for medical use which comprises a left bar, a right bar and several belts in parallel. However, the defects mentioned above haven't been thoroughly overcome yet, since some stiff materials such as the bars are still included in these stretchers.

[0005] When carrying the stretcher mentioned above, at least two persons are needed, so it cannot be used under emergency situation with lacking of hands, and this kind of carrying method may slow down the speed for carrying.

BRIEF SUMMARY OF THE INVENTION

[0006] With regard to the above technical problem, the invention is directed to provide a stretcher-type rescuing

and carrying device with simple structure and low cost, which is not only light, portable and manpower saving, but can be used to carrying the sick and sick in laying and sitting way..

[0007] For the above object, the invention provides a rescuing and carrying device, comprising: a supporting portion made of flexible materials; handhold belts made of flexible materials which is fixed on said supporting portion; and safety belts made of flexible materials which is fixed on said supporting portion and shoulder belts made of flexible materials which is fixed on said supporting portion. With being made of flexible materials, the device is light for reducing the carrying weight and can be folded into smaller one. Additionally, it is suitable for storing and using on battle field or at home. And, the rescuing and carrying device can be stored under the mattress when not in use and be used as rescuing tools when emergency by fastening the safety belt, especially suitable for battle field or countryside hospital and clinics. With shoulder belts, the present rescuing and carrying device can be lifted or carried on the shoulders of the carriers. It increasingly reduced the possibility of hurt on the carrier's waists, backbones and hands which are resulted from operating only by hands, but the carriers can free their hands to deal with other emergency event.

[0008] According to the rescuing and carrying device of the invention, the supporting portion is in shape of sheet or bag, whereby the optional shape of the supporting portion can be provided.

[0009] According to the rescuing and carrying device of the invention, there are at least two pairs of handhold belts, with each pair spaced a certain distance from each other and fixed on the side borders of the supporting portion. And on the handhold belt, a hand liner which position can be adjusted is placed. In this way, the rescuing and carrying device can be lifted by more persons through raising the handhold belts for rescuing like the common device. Additionally, if allowed, the rescuing and carrying device can be transformed to the traditional stretcher for rescuing like the common rescuing and carrying device through inserting a hard rod-shaped stuff into the handhold belt.

[0010] According to the rescuing and carrying device of the invention, the safety belts optionally comprise shoulder safety belts, chest safety belts, waist safety belts and leg safety belts. In this way, when carried the corresponding part of the sick can be fixed on the device, for preventing them from out of the device accidentally or due to rumble-tumbling because of the rough road, which resulted to the unnecessary hurt or aggravate the injury.

[0011] According to the rescuing and carrying device of the invention, one end of the shoulder safety belt is fixed on the supporting portion, and the other end is connected at one position of the waist safety belt which can be adjusted. Whereby, the upper body of the sick can be fixed stably. In addition, there are two leg safety belts fixed to the waist safety belt respectively so that the sick can be rescued when sitting. In this way, the sitting pose

of the sick can be rooted and the two legs cannot be over swung.

[0012] According to the rescuing and carrying device of the invention, there are one pair of the shoulder belts respectively fixed on the both sides of the supporting portion, with one end mounted the top border of the supporting portion and the other end mounted on the middle-lower part of the side borders.

[0013] With shoulder belts, the present rescuing and carrying device can be lifted or carried on the shoulders of the carriers. It increasingly reduced the possibility of hurts on the carriers' waists, backbones and hands, which are resulted from operating only by hands, but also the carriers can free their hands to deal with other emergency event. Through using the structure, it is convenient to carry the sick which are unconscious, and it is avoided that the device cannot be balanced by the carrier due to the imbalance in weight of the unconscious body. Moreover, carrying the sick from two sides can also reduce the effect on the carry speed.

[0014] According to the rescuing and carrying device of the invention, there are shoulder gaskets placed on the shoulder belts, in which the position can be adjusted. By using this structure, the comfort of the carriers' back can be increased and the possibility of injuring the carriers shoulder can be reduced.

[0015] According to the rescuing and carrying device of the invention, there is a length adjustable member on the shoulder belt. Carriers can adjust the length of the belts according to the height of the sick, or adjust it freely even when carrying without offloading the sick, so as to eliminate the unnecessary injury to them and send them to the ambulance as soon as possible.

[0016] According to the rescuing and carrying device of the invention, the rescuing and carrying device also includes a drag belt made of flexible materials, which is fixed on the supporting portion. With this structure, the rescuing and carrying device can be dragged by a single carrier, so it is suitable for the situation in which there is lack of hands, especially for the situation where persons is escaping and evacuated so as to escape the disaster field with the least carrier as soon as possible.

[0017] According to the rescuing and carrying device of the invention, two ends of the drag belts are fixed on the upper side or lower side of the supporting portion so that the carriers can drag the device in different directions.

[0018] According to the rescuing and carrying device of the invention, the device also comprises a protection cover which is connected to the supporting portion for forming a protection sheath. In addition, a slide fastener is arranged on the protection cover to open the sheath, so it is suitable especially for carrying the corpse. Being comparatively airtight, it can reduce the effusion of body smell and prevent from liquid flowing out of the device. Furthermore, the material and process required for wrapping the corpse can be saved, and the carrying weight can be decreased.

[0019] According to the rescuing and carrying device of the invention, a window is arranged on the protection sheath, so that the identity of the decedent can be recognized without opening the protection sheath.

5 **[0020]** According to the rescuing and carrying device of the invention, the safety belts are set in the inner part formed by the protection cover and the supporting portion. In this way, the corpse can be fixed into the protection sheath formed by the supporting and the protection cover.

10 **[0021]** According to the rescuing and carrying device of the invention, it also includes the protection cover, which length is smaller than that of the supporting portion, and the bottom border and side borders of the cover are respectively connected to those of the supporting portion. And, there is an opening between the top borders of the cover and the supporting portion. In this way, the supporting portion together with the protection cover can form a body protection sheath. By putting the part of the body of the sick into the cover, it can avoid the quick loss of the body heat. With the protection sheath, it can overcome the inconvenience resulted from the need of taking the rescuing and carrying device and the blankets for the carriers. In the rescuing and carrying device, the supporting portion is in shape of rectangular. Thus, it is conveniently manufactured.

20 **[0022]** According to the rescuing and carrying device of the invention, the supporting portion has a shape which is corresponded to the shape of the backs and legs of persons. In addition, the device also comprises a back supporting portion, and a leg supporting portion on which leg fastener belts made of flexible materials are placed. With this structure, it is suitable for one person to carry the sick. Therefore, it is very useful when emergency and the hands are very few.

30 **[0023]** According to the rescuing and carrying device of the invention, the shoulder belts further comprise a shoulder fastener belt and a waist fastener belt which are set on the supporting portion. With this structure, the carrier can carry the sick on his back stably through back to back by oneself, and the two hands can deal with every event without any limitation. Meanwhile, the sick who faces to the backward of the carrier can watch the surroundings and his hands can deal with every event without any limitation. Especially, it is suitable for the device to carry the sick, which body is partly hurt but conscious is clear, and the hands can still fight when the battle taking place.

40 **[0024]** According to the rescuing and carrying device of the invention, the safety belts comprise shoulder safety belts, waist safety belts and leg safety belts, wherein the shoulder safety belts and waist safety can be used as shoulder fastener belts and waist fastener belts at the same time. With this structure, the carrier can carry the sick on his back stably and his hands can deal with the emergency.

55 **[0025]** According to the rescuing and carrying device of the invention, the flexible materials are non-woven fabric. With this feature, the device is waterproof, mildew-

proof and ventilate.

BRIEF DESCRIPTION OF TOE DRAWINGS

[0026]

Fig. 1 is a front view illustrating a rescuing and carrying device in accordance with the first embodiment of the present invention;
 Fig. 2 is a state diagram illustrating a rescuing and carrying device in use in accordance with the first embodiment of the present invention;
 Fig. 3 is a front view illustrating a rescuing and carrying device in accordance with the second embodiment of the present invention;
 Fig. 4 is a front view illustrating a rescuing and carrying device with the slide fastener open in accordance with the first embodiment of the present invention;
 Fig. 5 is a front view illustrating a rescuing and carrying device in accordance with the third embodiment of the present invention;
 Fig. 6 is a back view illustrating a rescuing and carrying device in accordance with the first embodiment of the present invention;
 Fig. 7 is a front view illustrating a rescuing and carrying device in accordance with the fourth embodiment of the present invention;
 Fig. 8 is a back view illustrating a rescuing and carrying device in accordance with the fourth embodiment of the present invention;
 Fig. 9 is a state diagram illustrating a rescuing and carrying device in use in accordance with the fourth embodiment of the present invention;
 Fig. 10 is a front view illustrating a rescuing and carrying device in accordance with the fifth embodiment of the present invention;
 Fig. 11 is a back view illustrating a rescuing and carrying device in accordance with the fifth embodiment of the present invention;
 Fig. 12 is a state diagram illustrating a rescuing and carrying device in use in accordance with the fifth embodiment of the present invention;
 Fig. 13 is a front view illustrating a rescuing and carrying device in accordance with the sixth embodiment of the present invention;
 Fig. 14 is a state diagram illustrating a rescuing and carrying device in use in accordance with the sixth embodiment of the present invention.

DETAILED DESCRIPTION OF THE DRAWINGS

[0027] The preferred embodiments of the prevention will be described in detail with reference to the accompanying drawings. Wherein, the similar numeric refers to the similar part.

[0028] See Fig. 1 and Fig. 2, a rescuing and carrying device in accordance with the first embodiment of the

present invention is shown. The rescuing and carrying device A of the embodiment comprises: a supporting portion 1, and handhold belts 2, safety belts 3, drag belts 4 and shoulder belts 5, which are fixed on the supporting portion 1.

[0029] The supporting portion 1 has a shape of rectangle, and includes a top border, a bottom border and two side borders. The length of the supporting portion is somewhat longer than the height of the ordinary person and the width is somewhat wider than that of ordinary person. Depending on demands, the supporting portion can be made into single sheet or bag. The single sheet can be designed as a single layer of thin fabric, or alternatively, flexible materials with certain thickness can be chosen to enhance the comfort of using the supporting portion. The selection of materials varies with the practical application.

[0030] Herein, there are three pairs of handhold belts 2, with each pair fixed on the upper end, middle part and lower end of the supporting portion's two side borders. And, a hand liner, the position of which can be adjusted, is placed on the handhold belt 2.

[0031] The safety belt 3 comprise two shoulder safety belts 31, a chest safety belt 32, a waist safety belt 33 and a leg safety belt 34, on each of which an adjusting member is arranged to enable their length to be adjusted. The upper ends of the two shoulder safety belts are fixed on the top border of the supporting portion 1 respectively, the lower ends of the two shoulder safety belts respectively go through the chest safety belt and are fixed on the waist safety belt 33, in which the fixed position is adjustable. The chest safety belt 32, the waist safety belt 33 and the leg safety belt 34 all have buckles which can be opened and closed. Here, the safety belts 3 cooperate to fasten the sick on the rescuing and carrying device.

[0032] Wherein, it is designed to have two drag belts 4, with each fixed respectively on the top border and the bottom border of the supporting portion 1. In addition, adjusting members are also placed on the drag belts to adjust the length depending on the needs. The two ends of the drag belt 4 are respectively fixed at a different position of the corresponding border, and there are the hand liners with their position adjustable placed on the drag belt.

[0033] Wherein, it is designed to have two shoulder belts 5, with each arranged on the two side borders of the supporting portion 1. The upper end of the belt is fixed on the end of the top border, and the lower end is fixed on the lower-of-middle part of the side border, which corresponds to the lower part of the haunch of the sick. Moreover, the length adjusting members and the shoulder gasket are arranged on the shoulder belts 5.

[0034] Each of the above components is made of flexible materials which have certain tenacity.

[0035] When using the device, open each buckle 3 of the safety belt 3 and put the sick horizontally on the supporting portion 1; then buckle all the buckles 3 to make the sick be fixed stably on the supporting portion 1; two

carriers then put the shoulder belts 5 on the shoulder to carry the sick; Alternatively, two or more carriers can take the handhold belts 2 and / or drag belts 4 for carrying. Where the hands are not enough, the drag belts 4 can also be taken by one carrier to carry, and then the carrier can decide to draw the head part belt or the leg part belt 4 according to the situation at that time.

[0036] The rescuing and carrying device A of the present embodiment has following advantages:

1. With the supporting portion made of flexible materials, the rescuing and carrying device can be stored under the mattress, and in an emergency, the device can be used as rescuing equipment by just fastening the belt.
2. With the handhold belts, the device can be carried by more carriers through taking the handhold belts if the hands enough.
3. With the safety belt, the sick can be fastened stably on the device so as to prevent them out of the device, accidentally or due to rumble-tumbling because of the rough road when carrying, which results to the need-less injury.
4. With the drag belts, the device can be managed by one carrier through towing the drag belts when the hands are not enough.
5. Because the device has shoulder belts, the carrier can carry the belts on the shoulders and simultaneously other arm can lift the handhold belts. In this way, It can reduce significantly the possibility of hurts on the carriers' waists, backbones and hands, which are resulted from operating only by hands, but also the carriers can free their hands to deal with other emergency event. Through using the structure, it is very convenient to carry the sick who are unconscious, and it is avoided that the device cannot be balanced by the carrier due to the imbalance in weight of the unconscious body. And the shoulder sheath can enhance the comfort of carrying. Moreover, the length adjustable member on the shoulder belt can be adjusted to make the length of the belts match the height of the sick, or it can be adjusted freely even when carrying without offloading the sick, so as to eliminate the unnecessary injury to them and send them to the ambulance as soon as possible.

[0037] The present embodiment is suitable for using in hospitals or clinic, especially in battle field hospitals or clinics and field aid stations etc., where persons is escaping and evacuated so as to escape the disaster field with the least carrier as soon as possible.

[0038] The second embodiment of the invention will be described as follows.

[0039] Fig. 3 and Fig. 4 illustrate a rescuing and carrying device in accordance with the second embodiment of the present invention. The rescuing and carrying device B of the present embodiment comprises: a support-

ing portion 1, and handhold belts 2, safety belts 3, drag belts 4 and shoulder belts 5, which are fixed to the supporting portion 1.

[0040] Here, the structure of the supporting portion 1 is the same as that of the first embodiment.

[0041] There are two pairs of handhold belts 2 fixed in pairs on the middle part and lower end of the supporting portion's two side borders. And, a hand liner, the position of which can be adjusted, is placed on the handhold belt 2.

[0042] The safety belts 3 comprise a chest safety belt 32, a waist safety belt 33 and a leg safety belt 34, which structure is respectively same as that of the first embodiment. The upper ends of the two shoulder safety belts are fixed on the top border of the supporting portion 1 respectively.

[0043] Here, the device is designed to have one drag belt 4, on which the adjusting members are arranged for changing the length depending on the needs. The two ends of the drag belts 4 are fixed respectively on the two ends of the shorter border of the supporting portion 1. Alternatively, there is a hand liner, the position of which can be adjusted, arranged on the drag belt 4.

[0044] Here, the shoulder belts 5 are same as those of first embodiments.

[0045] The rescuing and carrying device B of the embodiment also includes a protection cover 6, which length and width are equal to or somewhat larger than those of the supporting portion 1. The four borders of the protection cover are connected to those of the supporting portion for forming a close protection sheath. Also, there is a slide fastener 7 which length is same as that of the protection cover arranged on the middle of the protection cover 6 for opening the sheath. On both sides of the slide fastener 7, there are two windows 8 placed, which are covered by transparent materials or ventilate silk for recognizing the decedent identity without opening the protection sheath.

[0046] Each of the above components is made of flexible materials with certain tenacity.

[0047] When using the device, open the safety belt 3 and put the sick horizontally on the supporting portion 1; then buckle the safety belts 3 to make the sick be fixed stably on the supporting portion 1; and then the sick is closed into the protection sheath through sliding the slide fastener up; the carrier can put the shoulder belts 5 on the shoulder and hold the handhold belts 3 depending on the needs for lifting the sick. Where the sick needs to be carried in lay way, the shoulder belts 5 can be in no use, but only the drag belt 4 and the handhold belts 2 are used for carrying. Where the hands are not enough and in emergency, the drag belts 4 can also be taken by one carrier to carry.

[0048] The rescuing and carrying device B according to the embodiment further has the following advantages besides those of the first embodiment:

1. The safety belts inside the protection sheath can make the decedent be fixed stably, for preventing

the carrying speed slowing down because of the shaking of the device during carrying.

2. The decedent identity can be recognized through the transparent window directly without opening the protection sheath.

3. The structure is especially suitable for carrying corpse. Being comparatively airproof, it can reduce the effusion of body smell and prevent from liquid flowing out of the device. Furthermore, the material and process required for enwrapping the corpse can be saved, and the carrying weight can be decreased. The safety belts can fix the corpse for balancing the weight on the device to make the carrying easy. The transparent windows are used conveniently for identifying the corpse.

[0049] The third embodiment of the invention will be described as follows.

[0050] Fig. 5 and Fig. 6 illustrate a rescuing and carrying device in the third embodiment of the present invention. The rescuing and carrying device C of the embodiment comprises: a supporting portion 1, handhold belts 2, safety belts 3, a drag belt 4 and shoulder belts 5; wherein the handhold belts 2, the safety belts 3, the drag belt 4 and the shoulder belts 5 are fixed to the supporting portion 1.

[0051] The structure of the supporting portion 1 is the same as that of the second embodiment.

[0052] The structures of the handhold belts 2 are the same as those of second embodiment.

[0053] Here, the safety belts 3 comprise two shoulder safety belts 31, a waist safety belt 33 and a leg safety belt 34'; and there are adjusting members placed on the safety belts 3 to adjust the length thereof depending on the needs. The upper ends of the two shoulder belts 31 are respectively fixed on the top border of the supporting portion 1, and the lower ends are fixed on some part under the waist belt 33. The waist safety belt 33 is divided into two segments, one end of which is respectively fixed on the both side borders of the supporting portion 1, and on the other end of which is placed a buckle for buckling them together. There are two leg safety belts 34', with each fixed on the waist safety belt 33.

[0054] The number of the drag belt 4 is one, and it is placed on the top border of the supporting portion 1, with the two ends of the belts fixed on those of the top border.

[0055] The shoulder belts 5 are the same as those of second embodiments.

[0056] The rescuing and carrying device of the embodiment also includes a protection cover 6', which width are equal to or somewhat larger than those of the supporting portion 1, and which length is substantially equal to that of the body leg. The bottom border of the protection cover 6' is connected to that of the supporting portion, and the two side borders of the protection cover 6' are ruffled and connected to those adjacent to the bottom border of the supporting portion 1, thereby a close protection sheath which has an opening and occupies certain room is

formed.

[0057] The length of the protection cover 6' can be adjusted according to the specific part of human body. For example, if other parts of body except for the head need to be protected fully, the length of the protection cover 6' can be designed to be somewhat larger than that of body from the shoulder to the foot.

[0058] The above components are made of flexible materials with some tenacity.

[0059] When using the device, open the shoulder safety belt 31 and waist safety belt 32 first, and put the sick horizontally on the supporting portion 1, with the legs inside the protection sheath; and then, buckle the shoulder safety belt 31 and the waist safety belt 32 for fix the sick on the supporting portion stably. After that, carriers can put the shoulder belts on their back and hold the handhold belts 3 depending on the needs to carry the sick. If the sick needs to be carried in lay way, the shoulder belts 5 can be in no use, but only the drag belt 4 and the handhold belts 2 are used for carrying. Where the hands are not enough and in emergency, the drag belts 4 can also be taken by one carrier to carry. Besides, the sick can sit outside the protection sheath with the legs out thereof, and then the shoulder safety belt 31, waist safety belt 32 and leg safety belt 34' are fastened for carrying.

[0060] The rescuing and carrying device C according to the embodiment further has the following advantages besides those of the first embodiment:

1. With the structure being different from that of the first embodiment, the leg safety belt can fix the sitting position of the sick for preventing the two legs swinging, thus the stability can be enhanced.
2. With the protection sheath for the body, specific part of the sick can be protected for preventing the loss of body heat.
3. With the special structure of the embodiment, the leg safety belt can fix the sitting position of the sick for preventing the two legs swinging, thus the stability can be enhanced. The unnecessary hurt to the sick can be avoided.
4. With the rescuing and carrying device being designed specially, the respiration valve of the sick can be opened naturally for breathing freely, because the head is raised backward when he/she is carried. It complies with the requirement for rescuing.

[0061] The fourth embodiment of the invention will be described.

[0062] Fig. 7, Fig. 8 and Fig. 9 illustrate a rescuing and carrying device in accordance with the fourth embodiment of the present invention. The rescuing and carrying device D of the embodiment comprises: supporting portion 1, handhold belts 2, safety belts 3, a drag belt 4 and shoulder belts 5; wherein the handhold belts 2, the safety belts 3, the drag belt 4 and the shoulder belts 5 are fixed on the supporting portion 1.

[0063] The supporting portion 1 has a shape of rectan-

gle, which length is equal to that of body from the head to the foot, and width is somewhat larger than that of the human back.

[0064] Here, the number of the handhold belts 2 is one pair, which are fixed respectively on the lower part of the two side borders of the supporting portion 1. On the handhold belts 2, there are slidable hand liners arranged.

[0065] And, the safety belts 3 comprise two shoulder safety belts 31, a waist safety belt 33 and a leg safety belt 34', on which adjusting members are arranged for adjusting the length of the belts depending on the need. The shoulder safety belt 31 and waist safety belt 33 are buckled at the waist part of the sick to fasten the upper part of the sick stably on the supporting portion 1; the leg safety belts 34' are used to fix the sitting position of the sick.

[0066] The number of the drag belt 4 is one, and it is placed on the top border of the supporting portion 1, with two ends fixed on the both ends of the border.

[0067] Two shoulder belts 5 are set on the two side borders of the supporting portion 1 respectively, which upper end is fixed on the joint of the upper end of the side border and the top border, and lower end on the lower-of-middle part of the side border. Moreover, the length adjusting members and the slidable shoulder gas-kets are arranged on the shoulder belts 5.

[0068] Each of the above components is made of flexible materials which have certain tenacity.

[0069] When using the device, open the safety belt 3 and let the sick lie or sit on the supporting portion 1; then buckle all the buckles 3 to make the sick be fixed stably on the supporting portion 1; two carriers then put the shoulder belts 5 on the shoulder to carry the sick; Alternatively, two or more carriers can take the handhold belts 2 and / or drag belts 4 for carrying. Where the hands are not enough, the drag belts 4 can also be taken by one carrier to carry.

[0070] The rescuing and carrying device D according to the embodiment further has the following advantages:

1. Because the device has shoulder belts, the carrier can carry the belts on the shoulders and simultaneously other arm can lift the handhold belts. In this way, It can reduce significantly the possibility of hurts on the carriers' waists, backbones and hands, which are resulted from operating only by hands, but also the carriers can free their hands to deal with other emergency event. Through using the structure, it is very convenient to carry the sick who are unconscious, and it is avoided that the device cannot be balanced by the carrier due to the imbalance in weight of the unconscious body. And the shoulder sheath can enhance the comfort of carrying and decrease the possibility of hurt on back part. Moreover, the length adjustable member on the shoulder belt can be adjusted to make the length match the height of the sick, or it can be adjusted freely even when carrying without offloading the sick, so as to eliminate

the unnecessary injury to them and send them to the ambulance as soon as possible.

2. With the special structure in the embodiment, the leg safety belt can fix the sitting position of the sick for preventing the unnecessary load on the back resulted from body swaying too much, so it can increase the stability of the sitting position when the sick is carried and prevent any unnecessary hurt to him/her.

3. With the handhold belt, the carriers can stable the device to prevent any swaying during the carry when they are putting the shoulder belts on their back.

4. With the drag belt, where the hands are not enough and in emergency, the drag belt can also be taken by one carrier to carry.

5. With the rescuing and carrying device being designed specially, the respiration valve of the sick can be opened naturally for breathing freely, because the head is raised backward when he/she is carried. It complies with the requirement for rescuing.

[0071] Fig. 10, Fig. 11 and Fig. 12 illustrate a rescuing and carrying device of the fifth embodiment of the invention. The rescuing and carrying device E of the embodiment comprises: supporting portion 1, handhold belts 2, safety belts 3 and shoulder belts 5; wherein the handhold belts 2, the safety belts 3 and the shoulder belts 5 are fixed on the supporting portion 1.

[0072] The length of the supporting portion 1 is almost equal to that of body from the head to the foot and the width thereof is almost equal to the width of the human back. The supporting portion 1 has a shape matching with that of the back and leg of human body. And, the supporting portion 1 further comprises a back supporting portion 1A and a leg supporting portion 1B. On the leg supporting portion, there are leg fastener belts 53 made of flexible materials placed, which end has a buckle for using to connect with the waist safety belt 33.

[0073] There are two pairs of handhold belts 2 fixed in pairs on the upper and middle part of the two side borders of the supporting portion 1.

[0074] The safety belts 3 comprise shoulder safety belts 31, a waist safety belt 33 and a leg safety belt 34'. One end of the shoulder safety belt 31 is fixed on the top border of the supporting portion 1, and the other end is connected to the waist safety belt 33, in which the position of the joint can be adjusted. There are two leg safety belts 34', with each fixed on the waist safety belt 33. And, on all the safety belts, there are adjusting members set for adjusting length thereof.

[0075] The shoulder belts 5 comprise shoulder fastener belts 51 and a waist fastener belt 52 which are fixed on the back of the supporting portion 1. One end of the shoulder fastener belt 51 is fixed on the top border of the supporting portion 1, and the other end is connected to the waist fastener belt 52. There are adjusting members set on the shoulder fastener belts 51 and the waist fastener belt 52 to adjust the length thereof. In addition, the

waist fastener belt 52 is divided into two segments, one end of which are respectively fixed on the both side border of the supporting portion 1. And on the belts, there are buckles placed which can be opened or closed.

[0076] Each of the above components is made of flexible materials which have certain tenacity. When using the device, open the safety belt 3 and adjust its length to adapt to that of the body; then put the supporting portion 1 on the back of the sick and fasten the waist safety belt 33; let the shoulder safety belts round the shoulder and be fixed on the waist safety belt 33; then open the shoulder fastener belt 51 and waist fastener belt 52, the carriers and the sick stand with back to back, and the shoulder being fixed by the shoulder fastener belt 51. After the waist fastener belt 52 is fastened, the leg fastener belt 53 is put on the legs of the sick and the leg safety belt 34' is put for fixing the sitting position of the sick through adjusting the position of its adjusting members.

[0077] By using such a device, carriers can put the sick on the back so as to free their hands to deal with any emergency. At the same time, the sick on the back of the carriers can watch the situation behind them with the hands having no limit to deal with any emergency situation. This device is especially suitable for carrying those partly wounded but the hands can fight in the battle field.

[0078] The sixth embodiment of the invention will be described as follows.

[0079] Fig. 13 and Fig.14 illustrate a rescuing and carrying device in accordance with the sixth embodiment of the present invention. The rescuing and carrying device F of the embodiment comprises: a supporting portion 1, handhold belts 2, safety belts 3 and shoulder belts 5, wherein the handhold belts 2, the safety belts 3 and the shoulder belts 5 are fixed on the supporting portion 1.

[0080] The structure of the supporting portion 1 is the same as that of the fifth embodiment.

[0081] The structure of the handhold belts 2 are the same as those of the fifth embodiment.

[0082] The safety belts 3 comprise shoulder safety belts 31 and a waist safety belt 33. One end of the shoulder safety belts 31 are fixed on the top border of the supporting portion 1 and the other end is connected to the waist safety belt 33, in which the position of the joint can be adjusted. And, on all the safety belts, there are adjusting members set for adjusting length thereof

[0083] In the embodiment, the shoulder safety belts 31 correspond to the shoulder fastener belts 51 in the shoulder belts 5 and the waist safety belt 33 corresponds to the waist fastener belt 52 in the shoulder belts 5.

[0084] Each of the above components is made of flexible materials which have certain tenacity.

[0085] When using the device, open the safety belts 3 first, and adjust the length thereof to make sure that the belt can be bonded onto the sick; then, put the supporting portion 1 on the back of the sick and let the sick grovel onto the carrier's back, and buckle the waist safety belt 33 to fix the sick and the carrier together; subsequently, fix the shoulder safety belt 31 to the waist safety belt 33

at the waist of the carrier through making the shoulder safety belt 31 cross the shoulders of the sick and the carriers; after that, pull up the leg fastener belt 53 for being buckled on the waist safety belt 33, and raise the legs of the sick for carrying him/ her on the back of the carrier.

[0086] By using the rescuing and carrying device F, it makes sure that the carriers can carry the sick on their backs stably, while their hands are free to deal with any emergency situation, thus the device is especially suitable for battle use.

Claims

1. A rescuing and carrying device, **characterized in** comprising:

a supporting portion made of flexible materials; shoulder belts made of flexible materials, which are fixed on said supporting portion; handhold belts made of flexible materials, which are fixed on said supporting portion; and safety belts made of flexible materials, which are fixed on said supporting portion.

2. The rescuing and carrying device according to claim 1, **characterized in that** said supporting portion is in shape of sheet or bag.

3. The rescuing and carrying device according to claim 1, **characterized in that** there are at least two pairs of said handhold belts, with each pair spaced a certain distance from each other and fixed on the side borders of said supporting portion, and there is a hand liner, the position of which can be adjusted, placed on said handhold belt.

4. The rescuing and carrying device according to claim 1, **characterized in that** said safety belts comprise: shoulder safety belts, chest safety belts and leg safety belts.

5. The rescuing and carrying device according to claim 4, **characterized in that** one end of said shoulder safety belt is fixed on said supporting portion, and the other end is connected to said waist safety belt, the connection position of which can be adjusted.

6. The rescuing and carrying device according to claim 4, **characterized in that** there are two leg safety belts fixed on said waist safety belt respectively, and connection belts are optionally placed between said leg safety belts.

7. The rescuing and carrying device according to claim 1, **characterized in that** there are one pair of shoulder belts which are fixed on both sides of said sup-

porting portion respectively.

8. The rescuing and carrying device according to claim 1, **characterized in that** one end of said shoulder belt is fixed on the end of the top border of said supporting portion, and the other end is fixed on the lower-of -middle of the side border of said supporting portion. 5
9. The rescuing and carrying device according to claim 1, **characterized in that** there are shoulder gaskets arranged on said shoulder belts, in which the position can be adjusted. 10
10. The rescuing and carrying device according to claim 1, **characterized in that** there is a length adjustable member on said shoulder belt. 15
11. The rescuing and carrying device according to claim 1, **characterized in** further including at least one drag belt made of flexible materials, which is fixed on said supporting portion. 20
12. The rescuing and carrying device according to claim 11, **characterized in that** two ends of said drag belts are fixed on the top border or bottom border of said supporting portion. 25
13. The rescuing and carrying device according to claim 1, **characterized in** further comprising a protection cover made of flexible materials, which is connected with the four borders of said supporting portion to form a protection sheath with a slide fastener or button for opening said sheath. 30
35
14. The rescuing and carrying device according to claim 13, **characterized in that** a window is also placed on said protection sheath.
15. The rescuing and carrying device according to claim 13, **characterized in that** said safety belts are arranged in the inner part of said protection sheath. 40
16. The rescuing and carrying device according to claim 13, **characterized in that** said protection cover is made of flexible materials with good air permeability. 45
17. The rescuing and carrying device according to claim 1, **characterized in** further comprising a protection cover made of flexible materials, which length is smaller than that of said supporting portion, and the bottom border and the side borders of said cover are respectively connected to those of the supporting portion, with an opening between the top borders of said cover and said supporting portion. 50
55
18. The rescuing and carrying device according to claim

1, **characterized in that** said supporting portion is in shape of rectangle.

19. The rescuing and carrying device according to claim 1, **characterized in that** said supporting portion has a shape which is corresponded to the shape of the backs and legs of persons, and said device also comprises a back supporting portion, and a leg supporting portion on which leg fastener belts made of flexible materials are placed
20. The rescuing and carrying device according to claim 18, **characterized in that** said shoulder belts further comprise a shoulder fastener belt and a waist fastener belt which are set on said supporting portion.
21. The rescuing and carrying device according to claim 18, **characterized in that** said safety belts comprise shoulder safety belts, waist safety belts and leg safety belts, wherein said shoulder safety belts and waist safety belts can be used as shoulder fastener belts and waist fastener belts in said shoulder belts at the same time.

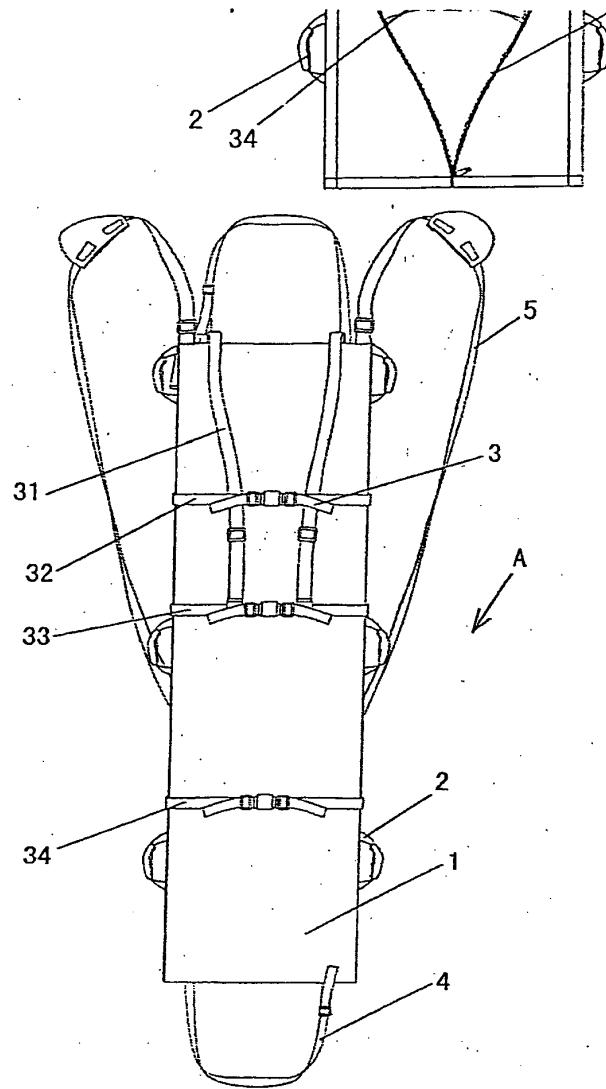


FIG. 1

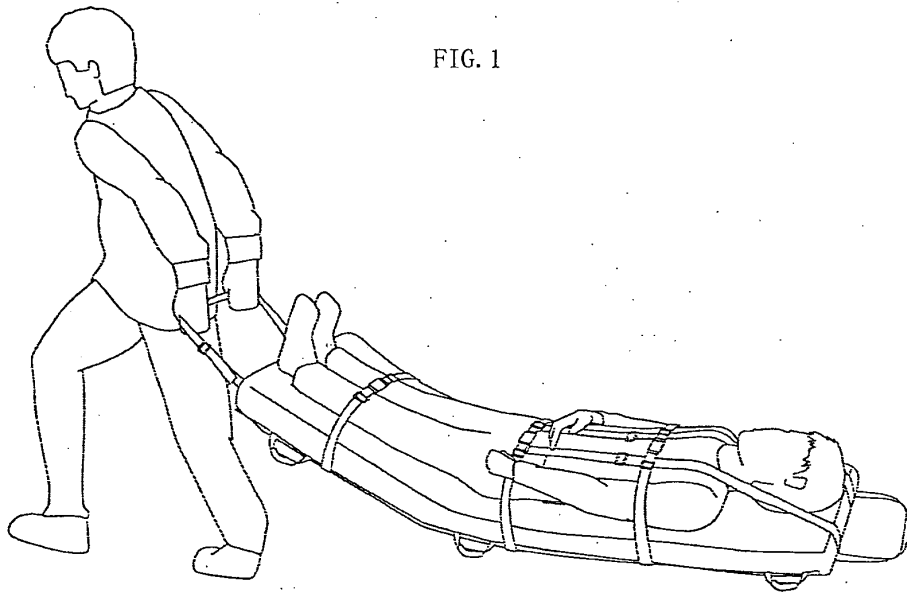


FIG. 2

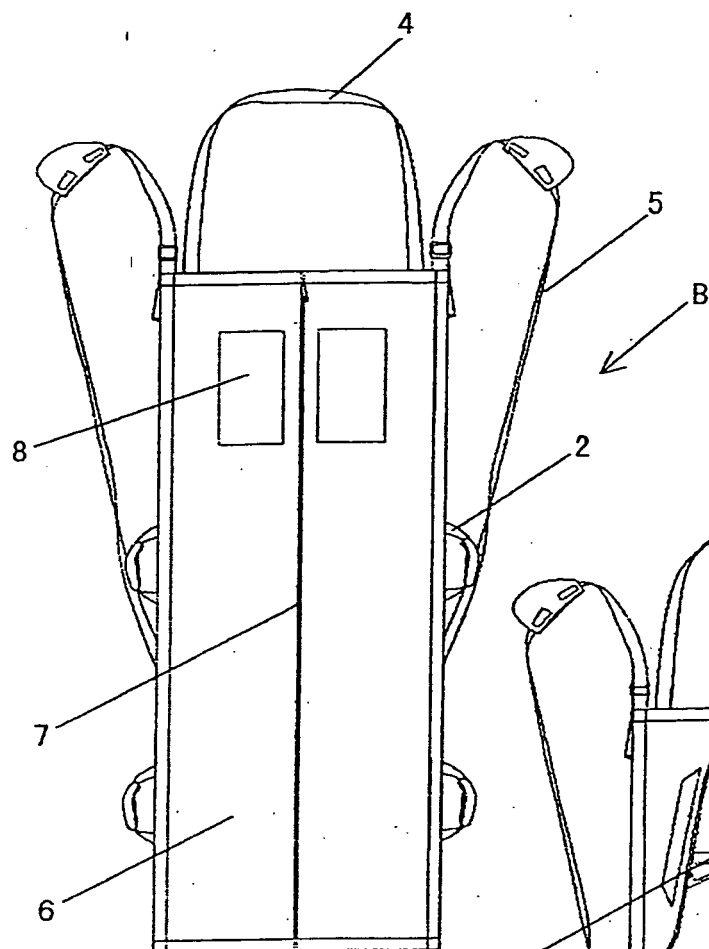


FIG. 3

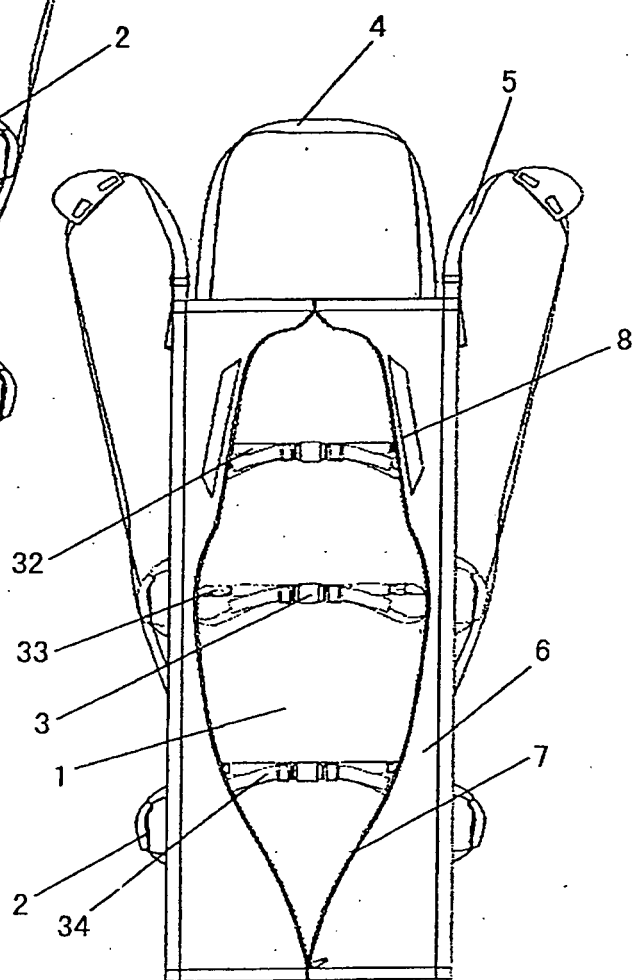


FIG. 4

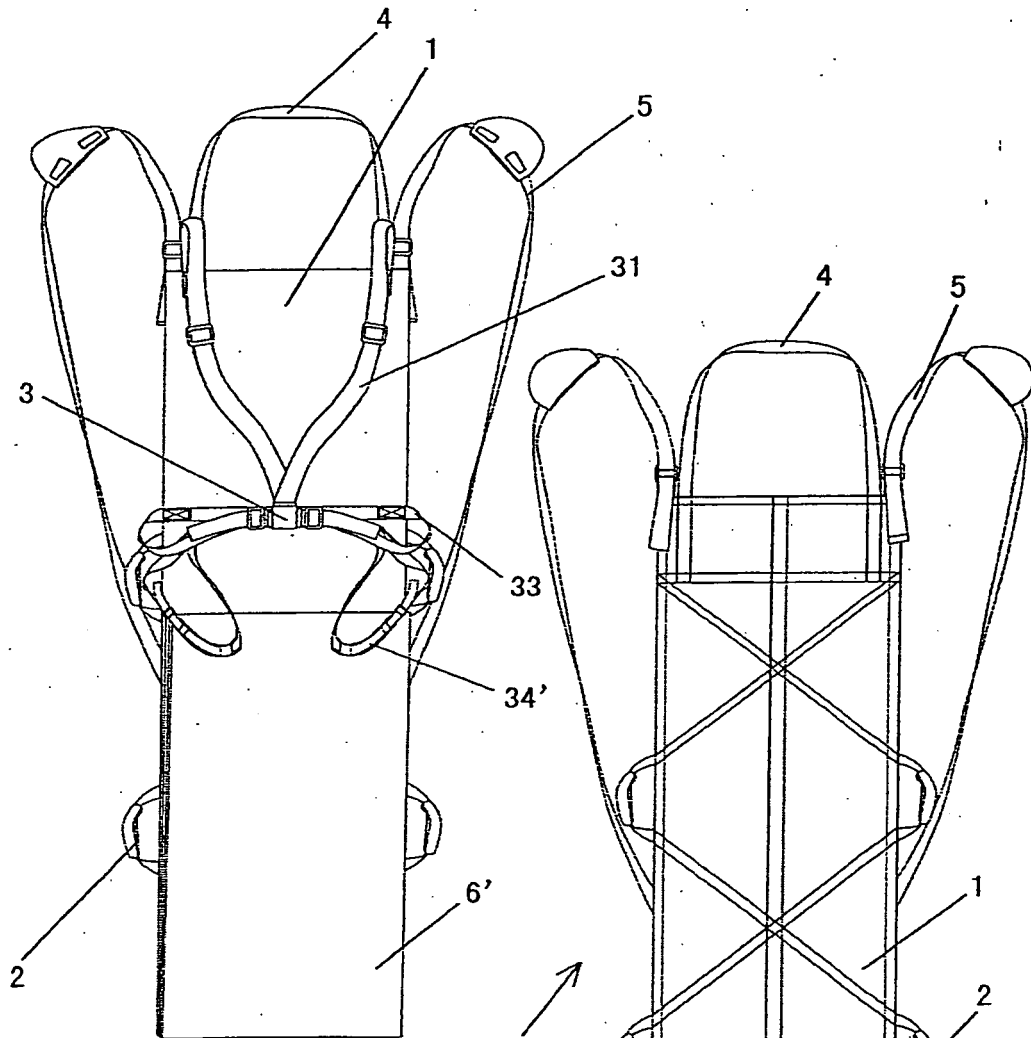


FIG. 5

FIG. 6

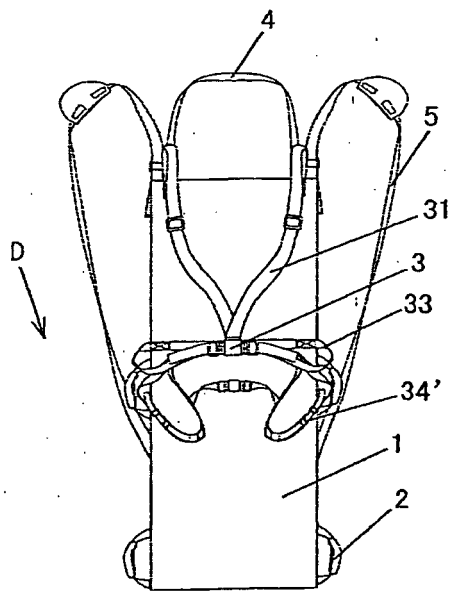


FIG. 7

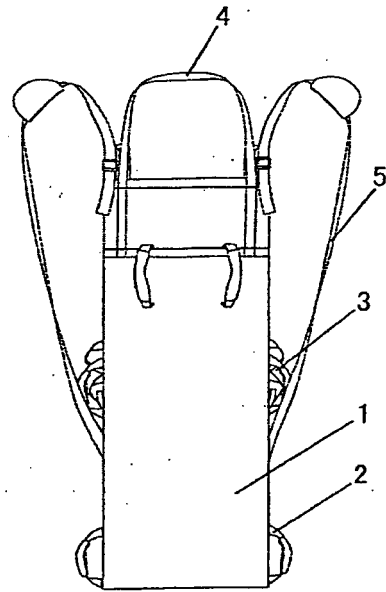


FIG. 8

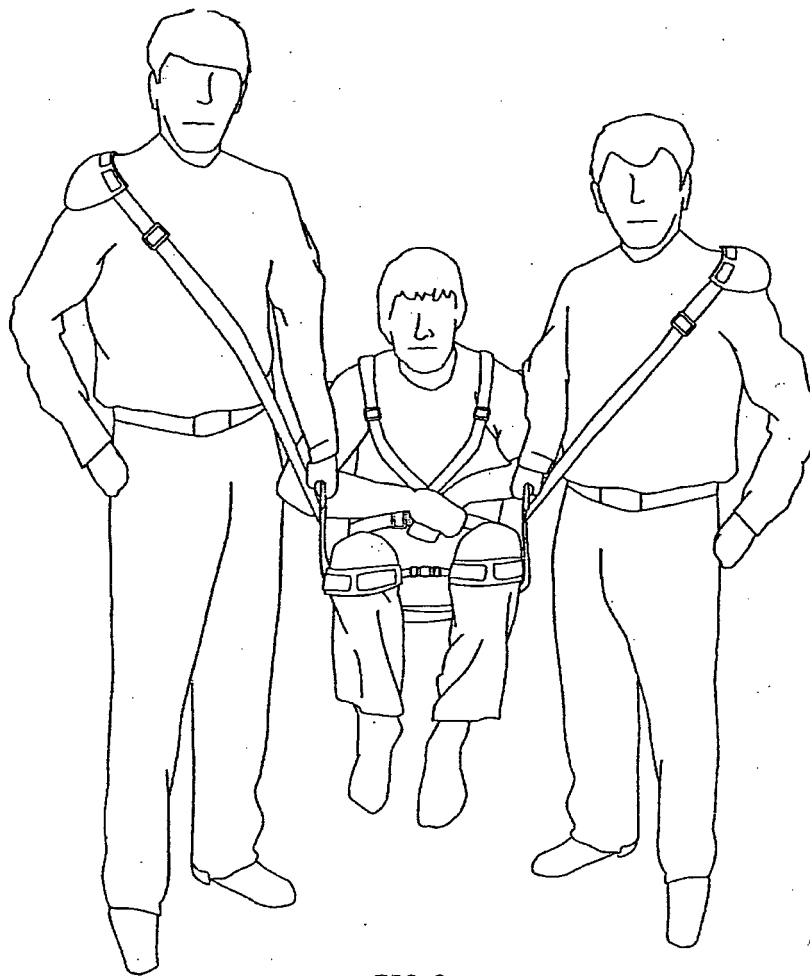


FIG. 9



FIG. 12

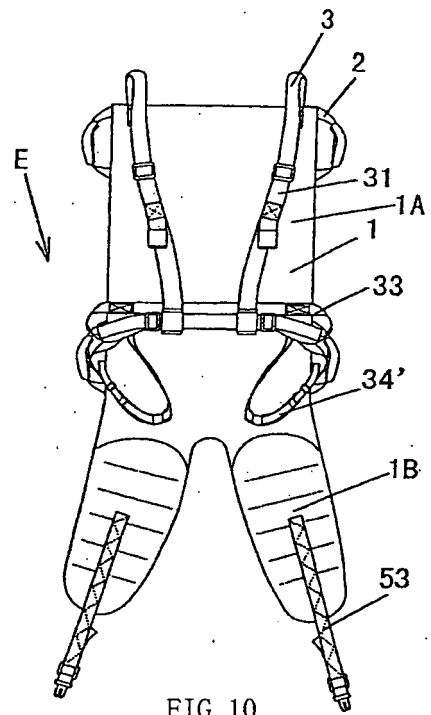


FIG. 10

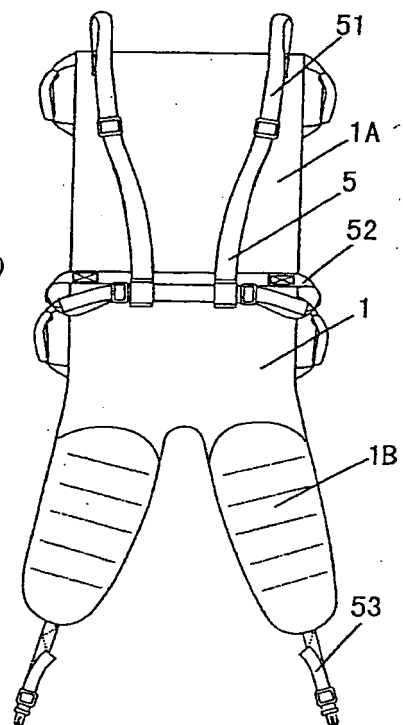


FIG. 11



FIG. 14

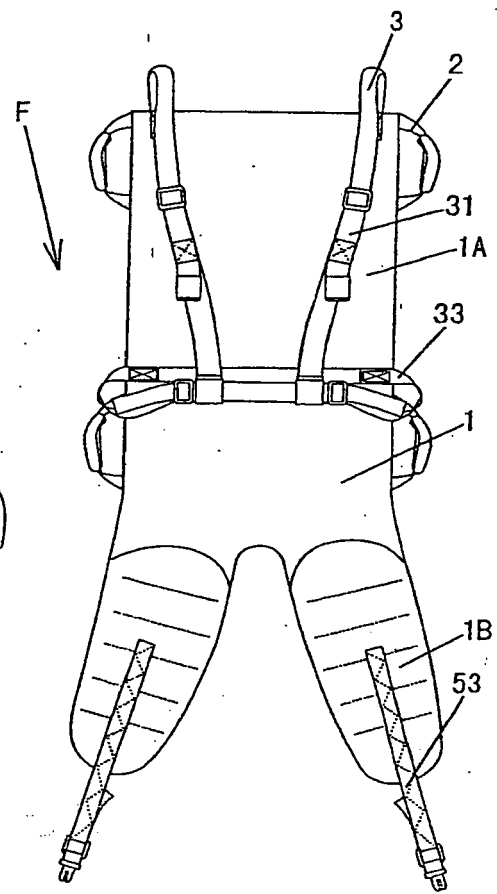


FIG. 13

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2007/001525

A. CLASSIFICATION OF SUBJECT MATTER

A61G 1/013 (2006.01)i

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)

IPC: A61G, A47G, A41

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CPRS & CNKI:WPI & EPODOC & PAJ: stretcher, relieve, strap, band, belt, slide fastener, carry, rescue, waftage

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP2001-258939A (YASUNAMI FUMIO) 25 Sep.2001 (25. 09. 2001) Column 1 line 10- Column 3 line 12 of the description, figure 1	1-21
Y	US5692655A (LISCO, INC., TAMPA.FLA.) 2 Dec.1997 (02. 12. 1997) Column 1 line 37- Column 5 line 24 of the description, figures 1-8	1-21
Y	CN2255254Y (SUN,Baoan) 4 Jun.1997 (04. 06. 1997) page 1 line 7- page 2 line 15 of the description, figure 1	2,3,13,17
A	CN2425639Y (SHI,Qiwan) 4 Apr.2001 (04. 04. 2001) the whole document	1-21

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

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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

05 Aug.2007 (05. 08. 2007)

Date of mailing of the international search report

30 Aug. 2007 (30.08.2007)

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2007/001525

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN2780141Y (YU, Xinfu) 17 May 2006 (17. 05. 2006) the whole document	1-21
A	JP2006-129940A (CROSSLINE KK) 25 May 2006 (25. 05. 2006) the whole document	1-21
A	US5685466A (AN TIEN ENTERPRISE CO., LTD., CHANGHUA, TAIWAN) 11 Nov. 1997 (11. 11. 1997) the whole document	1-21

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2007/001525

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
JP2001-258939A	25.09.2001	无	
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		WO9716096A	09.05. 1997
CN2255254Y	04.06.1997	无	
CN2425639Y	04.04.2001	无	
CN2780141Y	17.05 2006	无	
JP2006-129940A	25. 05. 2006	无	
US5685466A	11.11.1997	无	

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REFERENCES CITED IN THE DESCRIPTION

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- CN 2547302 Y [0003]
- CN 2552520 Y [0004]