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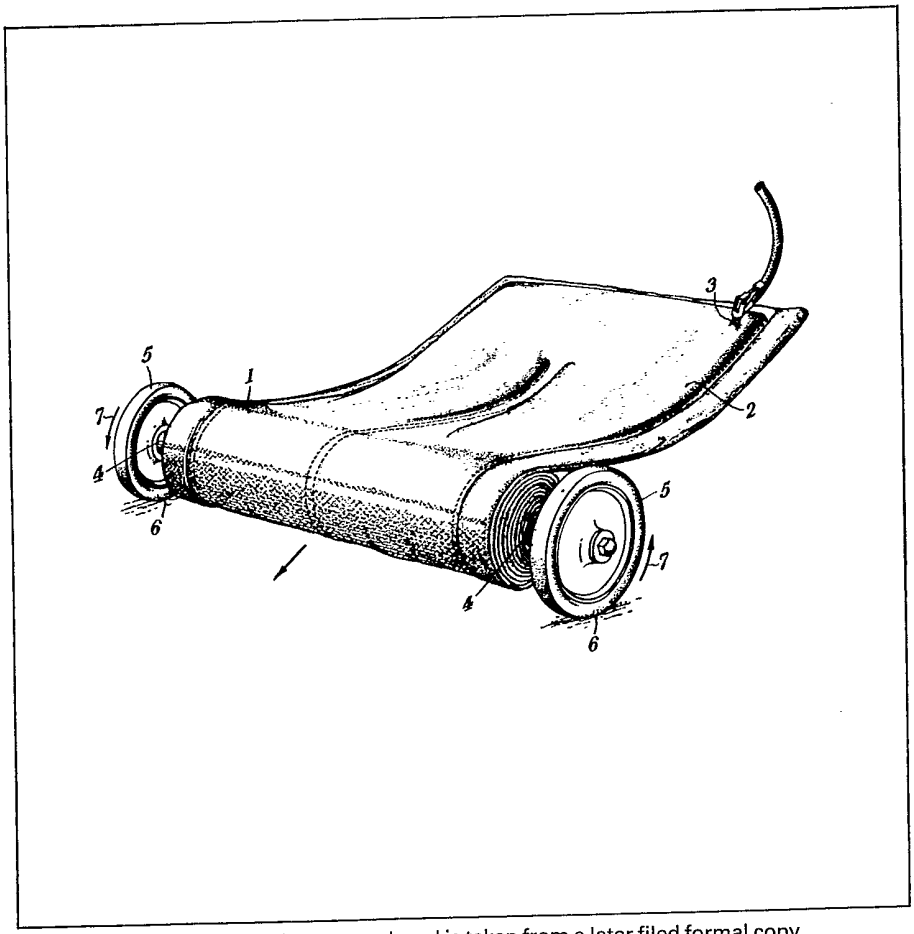
(54) **Stretcher**

(57) A stretcher comprising a supporting sheet (1) and inflatable compartment or compartments (2), which may be attached to or separate from the sheet, rolled around a shaft (4) having a freely rotatably wheel (5) at each end. On inflation of compartment or compartments (2), the stretcher unrolls and will raise a patient and extend itself beneath the patient. Longitudinal carrying members and transverse stretching members can then be fitted in position for lifting and carrying off the patient.



The drawing(s) originally filed was/were informal and the print here reproduced is taken from a later filed formal copy.

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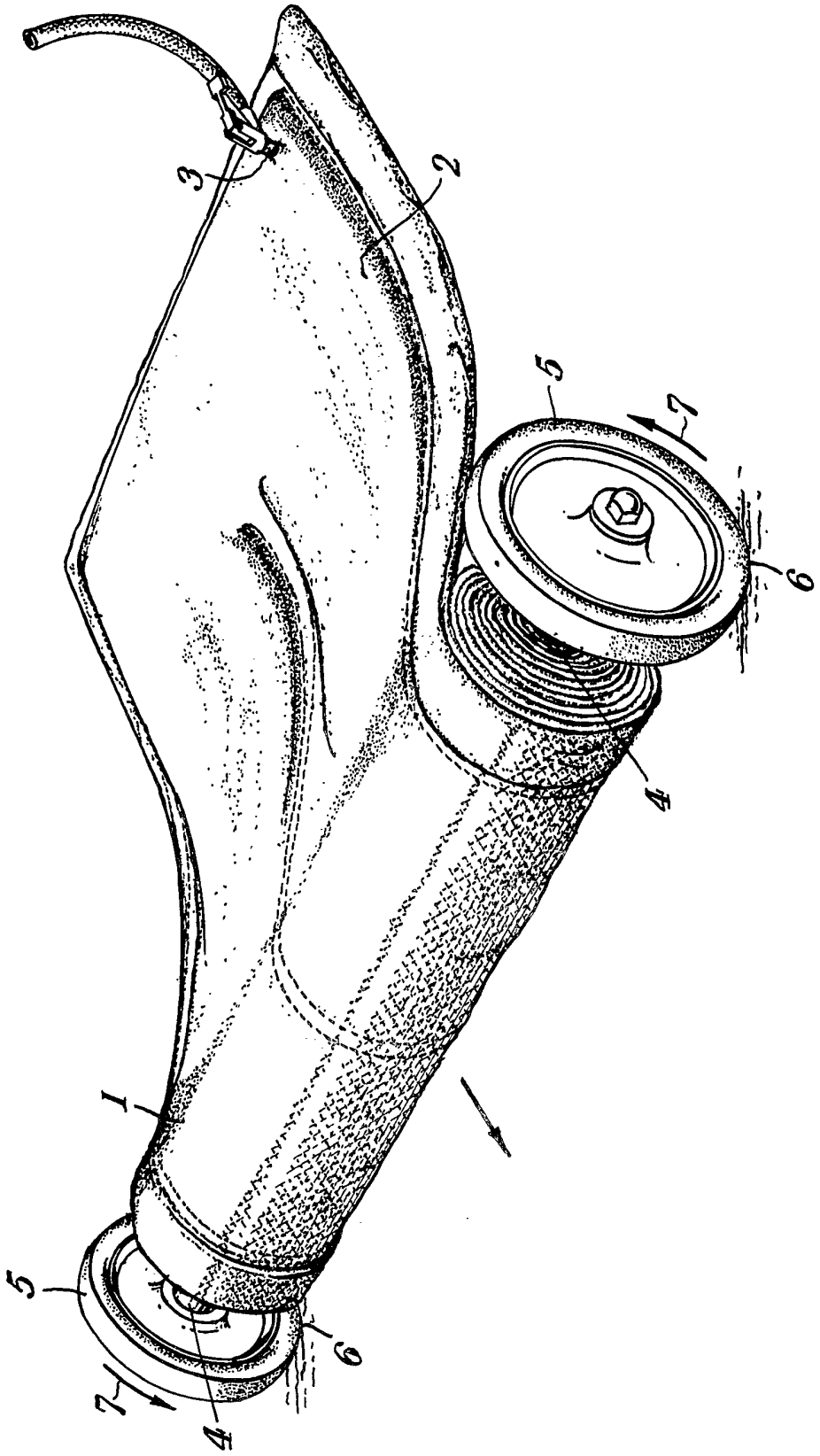
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SPECIFICATION

Stretcher

This invention concerns a stretcher which may be stored and transported to its place of use in a collapsed state, and assembled at its place of use into a form suitable for carrying a patient.

Collapsible or folding stretchers have been well known for a long period. Such stretchers, however, have generally been of a form which makes it necessary to lift a patient so that he or she may be lowered on to the stretcher. In another known type of stretcher, a flexible support has been rolled around longitudinal carrying members, but it has still been necessary to lift and support the patient while the stretcher is unrolled beneath him or her.

The object of this invention is to provide a stretcher which can be assembled beneath a patient, with minimum disturbance of the patient and no need for physical exertion, during the assembly, from those who are to carry the stretcher.

The present invention provides a stretcher which comprises a supporting sheet and one or more inflatable compartments adapted for connection to a source of compressed gas, the supporting sheet and inflatable compartment or compartments being wound around a shaft having at each end thereof a freely rotatable wheel.

The invention will be further described with reference to the accompanying Drawing which is a perspective view of a stretcher constructed in accordance with one preferred embodiment.

Referring now to the Drawing, a stretcher comprises a supporting sheet 1, associated with which is at least one inflatable compartment 2, provided with an inlet 3 for inflating compartment 2 with compressed gas, generally compressed air, from a pump or other source of compressed gas. The supporting sheet 1 and inflatable compartment or compartments 2 are rolled around shaft 4 which is provided at each end thereof with a freely rotatable wheel 5.

When a compressed gas fills the inflatable compartment or compartments 2, the stretcher, the shaft 4 and wheels 5 will unroll away from the source of compressed gas. If the rolled stretcher is placed at the head or feet of a patient, and compartment or compartments 2 is or are then inflated, the stretcher will unroll beneath the patient and will lift and support the patient, so that the patient will be completely supported at all times. It is important that when the stretcher is inflated in this way, the inflated portions of the compartment or compartments should run over the top of shaft 4, so that the wheels 5 bear on a surface supporting the stretcher at the position indicated by reference numeral 6, and rotate in a direction indicated by the arrow 7. The stretcher would not efficiently lift a patient if it were inverted with the shaft 4 above the inflated portion of the compartment or compartments.

Once the compartment or compartments 2 is or are inflated, with the supporting sheet 1 completely unrolled and a patient supported on top of the stretcher, longitudinal carrying members can be connected to the edges of supporting sheet 1. These may for instance be poles slipped into longitudinal pockets at the edge of sheet 1, or fastened to sheet 1 in some other way, such as by a zip fastener. It is preferable also to provide transverse stretcher members to hold the longitudinal carrying members at a predetermined distance apart.

Once the stretcher has unrolled beneath the patient, it is generally desirable to deflate compartment or compartments 2, before the stretcher is lifted and the patient carried away. Because of this, it is not necessary for inlet 3 to constitute a value that would maintain pressure within compartment 2. It can, however, be such a value if desired.

In the embodiment shown in the Drawing, there are two inflatable compartments 2, extending longitudinally of the sheet 1. It is possible, however, to have more than two such compartments, or only a single compartment.

If there are more than two such compartments, it is possible to construct them so that their width is varied along their length. By this means it is possible to provide additional lifting power at the wider portions of a patients body, e.g. the shoulders or hips. Where there is more than one compartment, they may be provided with a single inlet for filling all the compartments, or each compartment may be provided with its own inlet.

The inflatable compartment or compartments 2 may be fastened permanently to sheet 1, or sheet 1 may form one wall of such compartments. Alternatively the inflatable compartment or compartments 2 can be completely separate from the supporting sheet 1. In the latter case, once they have been inflated and unrolled, and the carrying members and stretcher have been installed, the stretcher can be lifted, leaving the inflatable compartment or compartments behind.

The supporting sheet 1 can, if desired, be fastened to shaft 4, or it may be separate. If it is fastened, shaft 4 can optionally constitute a transverse stretching member. In this case, another transverse member will be required to provide a stretching effect at the other end of the stretcher.

The stretcher according to the invention can be used also for lifting weighty objects other than patients. It is known to use inflatable bags for such purposes, but these have not heretofore been associated with a shaft and wheels in the manner described above.

CLAIMS

1. A stretcher which comprises a supporting sheet and one or more inflatable compartments adapted for connection to a source of compressed gas, the supporting sheet and inflatable compartment or compartments being wound around a shaft having at each end thereof a freely rotatable wheel.

2. A stretcher as claimed in Claim 1 wherein one end of the supporting sheet is fastened to the shaft.

3. A stretcher as claimed in Claim 1 or 2 wherein the inflatable compartment or compartments is or are fastened permanently to the supporting sheet.

4. A stretcher as claimed in Claim 1 or 2 wherein the inflatable compartment or compartments is or

are separate from the supporting sheet.

5. A stretcher as claimed in Claim 1 or 2 wherein the supporting sheet forms one wall of the inflatable compartment or compartments.

6. A stretcher as claimed in Claim 1 and substantially as hereinbefore described with reference to the accompanying Drawing.

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