CLAIMS

1. A device for righting a boat or other water vessel following a capsize, the device comprising an inflatable body adapted to be stowed in a collapsed state when un-inflated, the inflatable body being provided with or adapted for connection to a source of compressed gas for inflating the body following a capsize and comprising a flexible skin forming first and second inflatable chambers, the device further comprising a valve arrangement for causing the chambers to inflate in a predetermined sequence in which the first chamber is inflated before the second, the first chamber being provided with means for securely mounting it upon the vessel whereas the second chamber is coupled to the first chamber and is arranged, when the body is inflated, to be supported by it, so that due to its buoyancy the second chamber is able to apply a righting moment which is transmitted through the first chamber to right the vessel.

2. A device as claimed in claim 1 in which the valve arrangement comprises at least one valve through which the first chamber is connectable to the second, the valve being arranged to open when pressure in the first chamber exceeds pressure in the second chamber by more than a threshold value.

3. A device as claimed in any preceding claim in which the first chamber comprises a plurality of layers each having upper and lower panels between which a plenum is defined.

4. A device as claimed in claim 3 in which the upper and lower panels of each layer are joined at multiple locations within the plenum by an internal structure which determines separation between the upper and lower panels when the layers are inflated.

5. A device as claimed in any preceding claim in which the first chamber comprises a plurality of layers of drop thread material.

6. A device as claimed in claim 5 in which the layers of drop thread material are stacked one upon another.

7. A device as claimed in any preceding claim in which the valve arrangement comprises (a) an inflation valve, opening of which permits gas to pass from the compressed gas source into the first chamber and (b) at least one stage valve controlling flow of gas from the first chamber to the second chamber, the stage valve being normally closed and adapted and arranged to open when pressure in the first chamber exceeds pressure in the second chamber by a predetermined margin.

8. A device as claimed in any preceding claim comprising a third chamber disposed above and coupled to the second chamber, the valve arrangement being adapted to cause the third chamber to be inflated after the second chamber.

9. A device as claimed in any of claims 1 to 7 comprising four or more chambers arranged to be inflated in predetermined sequence.

10. A device as claimed in any preceding claim in which straps are coupled to the first chamber and provide a means for mounting the righting device to the vessel.

11. A device as claimed in any preceding claim in which the second or subsequent chambers are oversized, in relation to the first chamber.

12. A method of righting a boat or other vessel following capsize, comprising providing an inflatable body comprising a flexible, gas impermeable outer skin forming first and second inflatable chambers, mounting the inflatable body upon the vessel and stowing it in a collapsed, uninflated state, following a capsize of the vessel, supplying compressed gas to the first inflatable chamber and then, following inflation of the first inflatable chamber, to the second inflatable chamber to deploy the inflatable body and cause it to right the vessel.

13. A method as claimed in claim 12 in which the inflatable body comprises three or more inflatable chambers disposed one above another, the method further comprising supplying gas to the inflatable chambers in order from the lowermost chamber to the uppermost.

CLAIMS

1. A device for righting a boat or other water vessel following a capsize, the device comprising an inflatable body adapted to be stowed in a collapsed state when un-inflated, the inflatable body being provided with or adapted for connection to a source of compressed gas for inflating the body following a capsize and comprising a flexible skin forming first and second inflatable chambers, the device further comprising a valve arrangement for causing the chambers to inflate in a predetermined sequence in which the first chamber is inflated before the second, the first chamber being provided with means for securely mounting it upon the vessel whereas the second chamber is coupled to the first chamber and is arranged, when the body is inflated, to be supported by it, so that due to its buoyancy the second chamber is able to apply a righting moment which is transmitted through the first chamber to right the vessel, and in which when the inflatable body is inflated and the vessel is right way up, the second inflatable chamber is disposed above the first inflatable chamber.

2. A device as claimed in Claim 1 in which the valve arrangement comprises at least one valve through which the first chamber is connectable to the second, the valve being arranged to open when pressure in the first chamber exceeds pressure in the second chamber by more than a threshold value.

3. A device as claimed in Claim 1 or 2, in which the first chamber comprises a plurality of layers each having upper and lower panels between which a plenum is defined.

4. A device as claimed in Claim 3 in which the upper and lower panels of each layer are joined at multiple locations within the plenum by an internal structure which determines separation between the upper and lower panels when the layers are inflated.

5. A device as claimed in any preceding claim in which the first chamber comprises a plurality of layers of drop thread material.

6. A device as claimed in Claim 5 in which the layers of drop thread material are stacked one upon another.

7. A device as claimed in any preceding claim in which the valve arrangement comprises (a) an inflation valve, the opening of which permits gas to pass from the compressed gas source into the first chamber and (b) at least one stage valve controlling flow of gas from the first chamber to the second chamber, the stage valve being normally closed and adapted and

arranged to open when pressure in the first chamber exceeds pressure in the second chamber by a predetermined margin.

8. A device as claimed in any preceding claim, further comprising a third chamber disposed above and coupled to the second chamber, the valve arrangement being adapted to cause the third chamber to be inflated after the second chamber.

9. A device as claimed in any of Claims 1 to 7, further comprising four or more chambers arranged to be inflated in predetermined sequence.

10. A device as claimed in any preceding claim in which straps are coupled to the first chamber and provide a means for mounting the righting device to the vessel.

11. A device as claimed in any preceding claim in which the second or subsequent chambers are oversized, in relation to the first chamber.

12. A method of righting a boat or other vessel following capsize, comprising providing an inflatable body comprising a flexible, gas impermeable outer skin forming first and second inflatable chambers, mounting the inflatable body upon the vessel and stowing it in a collapsed, uninflated state, and following a capsize of the boat or other vessel, supplying compressed gas to the first inflatable chamber and then, following inflation of the first inflatable chamber, to the second inflatable chamber to deploy the inflatable body and cause it to right the boat or other vessel, in which when the inflatable body is inflated and the vessel is right way up, the second inflatable chamber is disposed above the first inflatable chamber.

13. A method as claimed in Claim 12 in which the inflatable body comprises three or more inflatable chambers disposed one above another, the method further comprising supplying gas to the inflatable chambers in order from the lowermost chamber to the uppermost chamber.