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11/951,501

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EXAMINER

POLITO, NICHOLAS F

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 11/951,501	<b>Applicant(s)</b> DELVAUX ET AL.	
	<b>Examiner</b> Nicholas Polito	<b>Art Unit</b> 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) 20-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 30-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

1. Claims 1-4, 11, 18, 19, 30-33, 35 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotner et al. (US Patent No. 5,243,723) in view of VanSteenburg (US Patent No. 6,868,569).
2. Re claims 1 and 30, Cotner teaches in Figures 1 and 2 a mattress assembly (10) comprising: a lower portion for the support of a patient's legs (30); an upper portion for the support of the patient's torso (32,34), the upper portion including an enclosure defining an interior space and an evacuation assembly including a pump (42) communicating with the interior space such that the upper portion of the mattress supporting the patient's torso is lowered with respect to the lower portion of the mattress supporting the patient's legs, and such that the upper portion of the mattress becomes stiffer to facilitate CPR on the patient (col. 6, lines 17-28). Cotner does not teach a compressible material within the interior space and a vacuum pump operable to evacuate the interior space to a pressure below atmospheric pressure and compress the compressible material. VanSteenburg teaches in column 4, lines 17 to 26 a compressible material (22) within an interior space (30) and a vacuum pump (38) operable to evacuate the interior space to a pressure below atmospheric pressure and compress the compressible material. In view of VanSteenburg, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the compressible material and vacuum pump of VanSteenburg within the

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interior space provided by the mattress assembly of Cotner to aid in the prevention of decubitis ulcers.

3. Re claims 2 and 31, VanSteenburg teaches in Figure 1 wherein the compressible material includes at least one foam structure (22).

4. Re claims 3 and 32, Cotner also teaches in Figure 1 the mattress assembly, wherein the evacuation assembly includes a plurality of tubes (44,46,49) communicating with the vacuum pump (42) such that air is evacuated from the interior space (30,32,34) through the plurality of tubes under the influence of the vacuum pump.

5. Re claims 4 and 33, Cotner teaches in column 2, line 62 to column 3, line 2 the evacuation assembly further including a manifold communicating between the vacuum pump and the plurality of tubes to distribute suction evenly to the plurality of tubes.

6. Re claims 11 and 35, VanSteenburg teaches in Figure 1 the mattress assembly of claim 1, wherein the mattress includes outer surfaces defining a mattress envelope (24); and wherein substantially the entire evacuation assembly is contained within the mattress envelope.

7. Re claim 18, Cotner teaches in Figures 1 and 2 the mattress assembly (10) of claim 1, wherein the evacuation assembly includes a T- shaped joint (45) communicating between the vacuum pump (42) and the interior space (30,32,34); wherein the T- shaped joint facilitates communicating an airflow source in addition to the vacuum pump with the interior space; and wherein the airflow source provide at least one of atmospheric air and forced air to the interior space to assist at least one of evacuation and inflation of the compressible material.

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8. Re claims 19 and 39, Cotner teaches in Figures 1 and 2 the mattress assembly (10) of claim 1, wherein the lower portion (30) includes a fluid bladder fluidly connected to the enclosure (32,34); and wherein evacuated fluid from the enclosure is used to inflate the fluid bladder to raise the patient's legs (col. 5, lines 29-38).

9. Claims 5-9, 12-17, 34 and 36-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cotner in view of VanSteenburg as applied to claim 1 above, and further in view of Maier et al. (US Patent No. 6,223,369).

10. Re claims 5 and 34, Cotner in view of VanSteenburg teach the mattress assembly of claim 3. Cotner in view of VanSteenburg do not teach wherein the at least one foam structure includes open channels in which the plurality of tubes are received. Maier teaches in Figure 2 wherein at least one foam structure (24) including open channels (88, 90, 92, 94) in which the plurality of tubes (36, 38, 40, 42) are received. In view of Maier, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the foam structure of Maier in the mattress assembly of Cotner in view of VanSteenburg to effectively redistribute and equalize pressure forces at the interactions between the patient and the support surface (col. 1, lines 18-36).

11. Re claim 6, Maier teaches in Figure 2 the mattress assembly of claim 5, wherein the open channels open downwardly (88, 90, 92, 94).

12. Re claim 7, Maier teaches in Figure 2 the mattress assembly of claim 5, wherein the open channels (72, 76) open upwardly.

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13. Re claim 8, Maier teaches in Figure 2 the mattress assembly of claim 7, wherein the at least one foam structure includes a first foam structure (68) defining the upwardly-opening channels (72, 76) and a second foam structure (24) extending across the open channels.

14. Re claim 9, Maier teaches in column 8 lines 2 to 8 the mattress assembly of claim 8, wherein the second foam structure (24) has greater compressibility than the first foam structure (68).

15. Re claims 12 and 36, Maier teaches in Figures 1 and 4 the mattress assembly of claim 1, further comprising: a mattress frame (14) extending around the upper and lower portions; wherein an outer surface of the mattress frame defines a mattress envelope (12); and wherein the mattress frame includes a cut out (62) in which the pump (118) is received.

16. Re claim 13, Maier teaches in Figure 1 the mattress of claim 12, wherein the mattress frame (14) resists deflection during evacuation of the interior space to resist a patient rolling off the mattress (col. 8, lines 52-57).

17. Re claim 14, Maier teaches in Figure 2 the mattress assembly of claim 12, wherein the evacuation assembly includes a connecting conduit (58, 64) communicating between the pump (118) and the interior space (36, 38, 40, 42); wherein the mattress frame includes a perimeter channel (14); and wherein the connecting conduit is received in the perimeter channel (col. 6, lines 48-61). (The perimeter channel is formed as the space between the air cylinders and the perimeter bolster.)

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18. Re claim 15, Maier teaches in Figure 2 the mattress assembly of claim 14, wherein the cut out (62) is in an end portion of the mattress frame (18); wherein the perimeter channel extends along the end portion of the mattress frame, around a corner of the mattress frame, and along a side portion of the mattress frame; and wherein the connecting conduit is substantially L-shaped to follow the perimeter channel around the corner of the mattress frame.

19. Re claims 16 and 37, Maier teaches in Figure 8 the mattress assembly of claim 12, wherein the evacuation assembly includes a transportable power source within the mattress frame and within the mattress envelop (col. 12, line 62 – col. 13, line 3), the transportable power source being movable with the mattress assembly and providing power to the vacuum pump. In view of Maier, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the power source internally to efficient package the apparatus.

20. Re claims 17 and 38, Cotner teaches in column 6 lines 17 to 28 the mattress assembly of claim 1, further comprising a controller (72) initiating operation of the vacuum pump in response to detecting conditions consistent with cardiac arrest in the patient. Cotner does not teach a control system including a monitor to generate a signal. Maier teaches in column 12 lines 47 to 60 a control system (174) including a monitor to generate a signal. In view of Maier, it would be obvious to a person having ordinary skill in the art at the time of invention to combine the controller of Cotner with the feedback sensors of Maier in order to arrange an automatic response system for patient care which could dramatically reduce response time.

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21. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cotner et al. (US Patent No. 5,243,723) in view of VanSteenburg (US Patent No. 6,223,369) and Maier et al. (US Patent No. 6,223,369) as applied to claim 8 above, and further in view of Martens et al. (US PG-Pub. 2004/0074008).

22. Re claim 10, Cotner in view of VanSteenburg and Maier teaches the mattress assembly of claim 8. Cotner in view of VanSteenburg and Maier does not teach wherein the second foam structure includes a memory foam. Martens teaches in paragraph 18 wherein the foam structure includes a memory foam. In view of Martens, it would be obvious to a person having ordinary skill in the art to combine the second foam structure of Maier with the memory foam of Martens as memory foam conforms to the head and neck shape due to a combination of weight distribution and the increase in temperature associated with body contact. As the position of the head and neck changes, the viscoelastic foam adjusts to the resulting shape. It is thought that the combined effects of the contoured ridges and the shape-conforming properties of the viscoelastic foam would provide good support for the head and neck, thus maintaining neck-spine alignment. It is hoped that this would decrease neck discomfort and allow a more comfortable and restful sleep (¶18).

### ***Response to Arguments***

23. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.



***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Polito whose telephone number is (571) 270-5923. The examiner can normally be reached on Monday-Friday 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pete Cuomo can be reached on (571) 272-6856. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nicholas Polito/  
Examiner, Art Unit 3673

/Peter M. Cuomo/  
Supervisory Patent Examiner, Art  
Unit 3673

8/13/2009