

UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte NICOLA GHELLI, IVO PANZANI, and GABRIELE TOMMASI

Appeal 2008-1845
Application 10/382,692
Technology Center 3700

Decided June 16, 2008

Before LORA M. GREEN, RICHARD M. LEBOVITZ, and
JEFFREY N. FREDMAN, *Administrative Patent Judges*.

FREDMAN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 involving claims to a vacuum assisted venous blood reservoir which the Examiner has rejected as anticipated. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

Background

“It is known that many surgical procedures entail the need to divert the blood of the patient into an extracorporeal circuit that comprises blood accumulation reservoirs” (Spec. 1). The Specification notes that “[o]ne of the reservoirs is the so-called venous reservoir, which receives the blood, known as venous blood, from the patient before it is passed through an oxygenation apparatus, which is also included in the extracorporeal circuit,” (Spec. 1).

Appellants teach the “aim of the present invention is therefore to provide a venous reservoir that ensures intensive drainage of the blood of the patient without any limitation in selecting its location. Within this aim, an object of the invention is to devise a venous reservoir combined with a cardiotomy reservoir” (Spec. 1).

Statement of the Case

The Claims

Claims 6-8 are on appeal. Claim 6 is representative and reads as follows:

6. A vacuum assisted venous reservoir system adapted to be connected to a vacuum source, the vacuum assisted venous reservoir system comprising:

a sealed blood chamber having a blood inlet and a blood outlet;

a vacuum port connected at an upper portion of the chamber, the vacuum port adapted for connection to the vacuum source;

and a vacuum controller connected to sense pressure in at least two locations within the blood chamber and, in response to the sensed pressure, to regulate the amount of vacuum applied by the vacuum source at the vacuum port.

The prior art

The Examiner relies on the following prior art reference to show unpatentability:

Cambron US 6,017,493 Jan. 25, 2000

The issue

The rejection as presented by the Examiner is as follows:

Claims 6-8 stand rejected under 35 U.S.C. § 102(e), as being anticipated by Cambron (Ans. 3).

35 U.S.C. § 102(e) rejection over Cambron

Appellants argue that “Cambron does not disclose nor teach all limitations set forth in claim 6” (App. Br. 5). Appellants specifically contend that “[a]lthough Cambron discloses the use of multiple sensors, including pressure sensors, to regulate vacuum, Cambron does not disclose the use of separate pressure sensors to sense pressure in at least two locations in the blood chamber and to regulate the amount of vacuum applied based on the sensed pressure as required by claim 6” (App. Br. 5).

The Examiner responds that “Cambron teaches that sensors may be positioned at ***critical locations*** (emphasis plural) for measuring pressure and that the pressure can be sensed and/or controlled with a programmable microprocessor” (Ans. 4). The Examiner contends that “Cambron further teaches that the amount of vacuum can be applied to the reservoir as a result of the sensor and controller system (Col. 11, line 56-Col. 12, line 5).” (Ans. 4).

In view of these apparently conflicting positions, we frame the anticipation issue before us as follows:

Does Cambron teach a reservoir with a vacuum controller connected to sense pressure in at least two locations within the blood chamber?

Findings of Fact (FF)

1. Cambron teaches “a vacuum assisted venous drainage system” (Cambron, col. 2, l. 51).

2. Cambron teaches that the system has a “cannula **26** and return line **28**, in combination with a venous reservoir **30** supplied with a negative pressure from a wall vacuum **32”** (Cambron, col. 5, ll. 22-24). Cambron teaches that the cannula is the blood inlet and the return line is the blood outlet (*see* Cambron, fig. 2)

3. Cambron teaches that a “vacuum regulator **34** and indicator **36** are provided in a vacuum line **38** between the wall vacuum **32** and the reservoir **30”** (Cambron, col. 5, ll. 28-30).

4. Cambron teaches “a controller **40** which receives input from sensors in various locations within the system **20”** (Cambron, col. 5, ll. 31-32).

5. Cambron teaches that “[f]or example, a pressure sensor **42** may be provided in the venous return line **28** to sense overpressure caused by blockage Another sensor **44** may be provided to sense the pressure within the reservoir **30”** (Cambron, col. 5, ll. 32-36).

6. Cambron teaches that within the reservoir 134 shown in Figure 6, a “second pressure regulator **170** communicates with the interior of the reservoir **134** via a conduit **172”** and a “third pressure regulator **180** communicates with the interior of the reservoir **134** via a conduit **182”** (Cambron, col. 10, ll. 51-60).

7. Cambron teaches that “sensors may be positioned around system **130** for monitoring pressures, flows, temperatures, blood levels, etc. A microprocessor **194** may be provided to control the three pressure regulators **164, 170 and 180”** (Cambron, col. 11, ll. 8-11).

Discussion of 35 U.S.C. § 102(e) rejection over Cambron

Cambron teaches a vacuum assisted venous reservoir system (FF 1) with a sealed blood chamber with blood inlet and outlet (FF 2), a vacuum port connected to the chamber (FF 3) and a vacuum controller connected to sense pressure in at least two locations and to regulate the amount of vacuum (FF 4-7).

The disputed difference between Cambron and the claim 6 is whether Cambron teaches that the vacuum controller is “connected to sense pressure in at least two locations within the blood chamber”. However, claim 6 has no specific location that is required for the sensors, only that the controller has inputs which will provide pressure information regarding two locations within the blood chamber (*see Claim 6*). We therefore interpret the presence of two or more pressure sensors at two different locations in the device that are sensitive to the pressure in the blood chamber and which function to inherently provide pressure information on the blood chamber. *See In re Hyatt*, 211 F.3d 1367 at 1372 (Fed. Cir. 2000) “[d]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification.”).

Applying this broadest reasonable interpretation of “sense pressure in at least two locations within the blood chamber”, we find that Cambron teaches the use of two sensors which will detect pressures at two different

locations in the blood chamber (*see FF 5*). Specifically, Cambron teaches “a pressure sensor **42** may be provided in the venous return line **28** to sense overpressure caused by blockage Another sensor **44** may be provided to sense the pressure within the reservoir **30**” (Cambron, col. 5, ll. 32-36). The pressure sensor 44 is clearly a sensor within the blood chamber and the pressure sensor 42 will also sense pressure from the blood chamber as it enters return line 28, Cambron even noting that blockage in the line would be detected by this sensor 42 (*see Cambron, col. 5, ll. 32-36*).

Additionally, we are not persuaded by Appellants arguments since Cambron teaches that “sensors may be positioned around system **130** for monitoring pressures, flows, temperatures, blood levels, etc. A microprocessor **194** may be provided to control the three pressure regulators **164, 170 and 180**” (Cambron, col. 11, ll. 8-11). The pressure regulators 170 and 180 are both involved in regulating pressure from the reservoir (*see FF 6, “at upper and lower locations of the reservoir” (Ans. 3)*). Consequently, when Cambron teaches the use of sensors and a microprocessor to independently control these two regulators 170 and 180, Cambron is reasonably construed as teaching two pressure sensors to inform the microprocessor of the state of the regulators 170 and 180, which are both involved in regulation of the reservoir pressure (FF 6-7).

We affirm the rejection of claim 6 under 35 U.S.C. § 102(e) over Cambron. Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2006), we also affirm the rejections of claims 7-8 as these claims were not argued separately.

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CONCLUSION

In summary, we affirm the rejection of claim 6 under 35 U.S.C. § 102(e) over Cambron. Pursuant to 37 C.F.R. § 41.37(c)(1)(vii)(2006), we also affirm the rejections of claims 7-8 as these claims were not argued separately.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv)(2006).

AFFIRMED

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