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BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDERS NILSSON and ANDERS JEPPSON

Appeal 2018-005506[1]
Application 14/248,202[2]
Technology Center 3700

Before PHILIP J. HOFFMANN, KENNETH G. SCHOPFER, and TARA L. HUTCHINGS, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the rejection of claims 31–48. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

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[1] Our decision references the Appeal Brief filed Sept. 11, 2017 ("Br."), the Examiner's Answer mailed Mar. 1, 2018 ("Ans."), and the Final Office Action mailed Dec. 9, 2016 ("Final Act.").

[2] According to Appellants, the real party in interest is Physio-Control, Inc. Br. 3.

BACKGROUND

According to Appellants, "[t]he present invention relates to an apparatus and a method for cardiopulmonary resuscitation." Spec. 1.

CLAIMS

Claims 31 and 42 are the independent claims on appeal. Claim 31 is illustrative of the appealed claims and recites:

> 31. A CPR apparatus, comprising:
>
> a chest compression unit comprising:
>
> a housing;
>
> a plunger disposed in the housing, the plunger having a compression member at one end of the housing that extends from the housing, wherein the plunger is configured to be driven in a reciprocating manner, and wherein the compression member is configured to deliver compressions to a patient's chest; and
>
> a control unit that includes a microprocessor configured to detect an initial chest height of the patient's chest by determining a resistance against compression by the patient's chest before delivering the compressions, to record the initial chest height of the patient, and to set a full compression depth of the compressions to a given fraction of the initial chest height, wherein the control unit further includes a memory configured to store the initial chest height; and
>
> a mounting device configured to mount the chest compression unit on the patient.

REJECTIONS

1. The Examiner rejects claims 31, 33–37, 39–41, and 47 under 35 U.S.C. § 103(a) as unpatentable over Nowakowski[3] in view of Myklebust.[4]

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[3] Nowakowski, US 5,327,887, iss. July 12, 1994.
[4] Myklebust et al., US 2008/0097534 A1, pub. Apr. 24, 2008 ("Myklebust").

2. The Examiner rejects claim 32 under 35 U.S.C. § 103(a) as unpatentable over Nowakowski in view of Myklebust and Kelly.[5]
3. The Examiner rejects claim 38 under 35 U.S.C. § 103(a) as unpatentable over Nowakowski in view of Myklebust and Tjolsen.[6]
4. The Examiner rejects claims 42–46 and 48 under 35 U.S.C. § 103(a) as unpatentable over Nowakowski in view of Steen.[7]

DISCUSSION

Claims 31–41 and 47

We agree with and adopt the Examiner's findings and conclusions with respect to claim 31. *See* Final Act. 4–5; Ans. 9–15. As discussed below, we are not persuaded of reversible error by Appellants' arguments.

Appellants argue that the combination "fails to teach or suggest determining a resistance against compression by the patient's chest to detect an initial chest height." Br. 7. Appellants assert that Nowakowski does not teach a control unit that detects and adjusts the system based on initial chest height, and instead teaches a system that requires the operator to perform span adjustment between the thumper and the base member. *Id.* at 8. Appellants also assert that Myklebust fails to cure this deficiency in Nowakowski because Myklebust teaches measuring the force exerted and depth traveled by the device during actual compressions and not before delivering the compressions, as required by the claims. *Id.* at 8–9.

We are not persuaded of error for the reasons provided by the Examiner. *See* Ans. 11–12. We agree that Appellants are inappropriately

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[5] Kelly, US 5,496,257, iss. Mar. 5, 1996.
[6] Tjolsen et al., US 2008/0092677 A1, pub. Apr. 24, 2008.
[7] Steen, US 2004/0230140 A1, pub. Nov. 18, 2004.

arguing against the references individually. The Examiner makes clear that the limitation requiring determining chest height is made obvious by the combination of Nowakowski and Myklebust, and not either reference alone. The Examiner finds that Nowakowski teaches "a manual means of setting the compression based on patient height . . . [and] that patient size and stroke length of compressions are related." Ans. 12. The Examiner also finds that Myklebust teaches a "signal processor and measuring devices to determine chest height from force sensors which measure resistance to compression by the patient's chest." *Id.* Based on these findings, the Examiner concludes that it would have been obvious to modify Nowakowski based on Myklebust to "provide an automated means for measuring patient's initial chest height to set compressions based thereon." *Id.* Thus, even if Myklebust does not explicitly disclose measuring chest height before any compressions are delivered, the Examiner's conclusion explains that this would be obvious in light of the teachings of both Nowakowski and Myklebust. Appellants' argument does not address the Examiner's findings and conclusion regarding the combination of references.

Next, Appellants argue that Myklebust is silent regarding the timing and function of the control signals relied upon by the Examiner. Br. 9. However, we agree with the Examiner that one of ordinary skill in the art would understand that "the control signals are used to control operation of the system, i.e. the chest compression device." Ans. 13. Further, to the extent this argument is related to Appellants' argument above regarding the timing of the chest measurements in Myklebust, we are not persuaded of error for the reasons discussed above.

Finally, Appellants argue that the combination "frustrates the purpose of adjusting the thumper compression force during the administration of the compressions of Nowakowski." Br. 10. Appellants assert that Nowakowski teaches adjusting compression force "for the instant patient, as opposed to the force or depth of the compressions data of Myklebust collected from the instant patient . . . and used only for future uses other than the instant patient." *Id.* This argument also appears to be related to Appellants' argument above regarding the timing of measurements calculated in Myklebust. We find that argument unpersuasive here as well.

Based on the foregoing, we are not persuaded of reversible error in the rejection of claim 31. Accordingly, we sustain the rejection of claim 31. We also sustain the rejections of dependent claims 32–41 and 47, for which Appellants do not present separate arguments.

Claim 42

We agree with and adopt the Examiner's findings and conclusions with respect to claim 42. *See* Final Act. 8–9; Ans. 15–17. As discussed below, we are not persuaded of reversible error by Appellants' arguments with respect to this claim.

Appellants argue that the combination of Nowakowski and Steen "fails to teach or suggest detecting damages to the patient's chest." Br. 10–11. Specifically, with respect to the Examiner's reliance on Steen, Appellants assert that Steen only discloses detecting increases in chest resistance that are indicative of revival of the patient's heart function, which is different than detecting damage to the chest before CPR is started, as required by claim 42. *Id.* However, we are not persuaded of error for the reasons provided by the Examiner. *See* Ans. 16–17. First, we agree with the

Examiner that the broadest reasonable interpretation of the claim does not require that damage is detected before CPR is started, as argued by Appellants. *Id.* at 16. Rather, the claim requires only determining resistance against compression before delivering compressions and does not preclude determining resistance during CPR before subsequent compressions are delivered. Further, the claim itself defines that detecting damage to the chest is based on determining resistance against compression, which Steen discloses. Steen provides monitoring of chest resistance to maintain compression depth and that doing so in the context of "changing chest resistance as the subject's heart function revives" is only given as an example of when monitoring chest resistance may be useful. *See* Steen ¶ 71. Finally, the Examiner makes clear that

> [t]he modification of Nowakowski in view [of] Steen involved providing the Nowakowski system with the ability to adjust the force/vigor of compressions based on changing chest resistance and therefore, if a patient has chest damage, the Nowakowski system will be able to detect this by the monitoring of chest resistance and will accordingly limit the force/vigor of further compressions based on the detection.

Ans. 17. Appellants' argument does not persuade us of error in the Examiner's findings.

Based on the foregoing, we are not persuaded of error in the rejection of claim 42. Accordingly, we sustain the rejection of claim 42. We also sustain the rejection of claims 44–46 and 48, for which Appellants do not present separate arguments.

Claim 43

Claim 43 recites:

> The CPR apparatus of claim 42, wherein the microprocessor is further configured to detect the damage by

> comparing data for resistance to chest compressions recorded in persons having a physically uncompromised chest with the determined resistance against compression by the patient's chest.
>
> The Examiner finds and concludes:
>
> > Regarding claim 43, the modified Nowakowski device is silent as to the microprocessor detecting damage by comparing data for chest compression resistance in a normal patient to the resistance data obtained for the patient prior to compressions; however, Steen teaches the use of empirical data for chest compression resistance (see Steen para. 0071) and it would have been obvious to use this as a comparison to initial patient chest status in order to provide a CPR device which is adaptive to the conditions of a particular user, from user to user.

Final Act. 9.

Appellants argue that "[n]either Nowakowski nor Steen teaches recording the chest resistance of persons with a physically uncompromised chest" or comparing the uncompromised chest resistance with the chest resistance of the patient's chest. Br. 12. We agree. Steen discloses only that data shows that compression force "decreases with time into the CPR administration." Steen ¶ 71. However, Steen does not disclose any comparison of compression resistance in a particular patient with compression resistance in patients with uncompromised chests or any other comparison between the instant patient and other patients, as required by the claim. Further, the Examiner does not explain why such a comparison would have been obvious in light of the disclosures in the art or the knowledge of one of ordinary skill in the art. In the Answer, the Examiner concludes that including such a comparison would have been obvious "to determine whether or not to adjust the force of compression." Ans. 18. However, that conclusion merely explains the logical result of making such a comparison without providing a reason for modifying Nowakowski or

Steen to make such a comparison. Accordingly, we are persuaded of error and we do not sustain the rejection of claim 43.

CONCLUSION

We AFFIRM the rejections of claims 31–42 and 44–48. We REVERSE the rejection of claim 43.

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).

AFFIRMED-IN-PART