

OPINION UNDER SECTION 74A

Patent	EP 2381864 B1
Proprietor(s)	STORZ MEDICAL AG
Exclusive Licensee	
Requester	Duncan Morren (Splice Cast)
Observer(s)	
Date Opinion issued	23 April 2020

The request

1. The comptroller has been requested by Richard Lock (Lock IP) on behalf of Duncan Morren to issue an opinion as to whether European Patent EP 2381864 B1 is infringed by a product sold by the company Splice Cast.
2. The patent entitled, "Shockwave apparatus having a pneumatic drive" was granted on 5 September 2012 to STORZ MEDICAL AG and is still in force in the UK.
3. The request was received on 7 February 2020 and was accompanied by a statement explaining the request along with two pages of the user manual for the product.
4. No observations were received.

The patent

5. The patent relates to a shock wave apparatus for treating the human or animal body by mechanical shockwaves. Such apparatuses are particularly known in the area of lithotripsy where body concretions, i.e. stones in the body tissue, are disintegrated by focussed mechanical shockwaves. The patent has 15 claims, of which claim 1 is the only independent claim. It reads:
 1. *A shockwave apparatus (10) for treating a human or animal body having a pneumatic drive (32) for producing a shockwave to be coupled into said body and a compressor (34) of said pneumatic drive (32) for producing pressure gas, said compressor (34) comprising a compressor motor,*

***characterized in that** said shockwave apparatus (10) comprises a device (44) for adjusting the rotation rate of said compressor motor for setting an accelerating gas pressure.*
6. Figure 1 below shows a block circuit diagram of the working structure of a control part

of the claimed apparatus. Most notably, the rotation rate of an electric motor M2 is adjusted to manipulate the pressure producing the shockwave, and a pressure sensor S3 is integrated at the compressor output to detect an output pressure P_{meas} and provide it as a feedback value to a PID (proportional, integral and differential) feedback control circuit B10, B11 and B12. A control signal is passed via a limiter B13 to a motor output portion B14 and through a current detector element S4 to drive the motor M2. Thereby, the output pressure of the compressor is feedback controlled by manipulating the motor rotation rate to a target value.

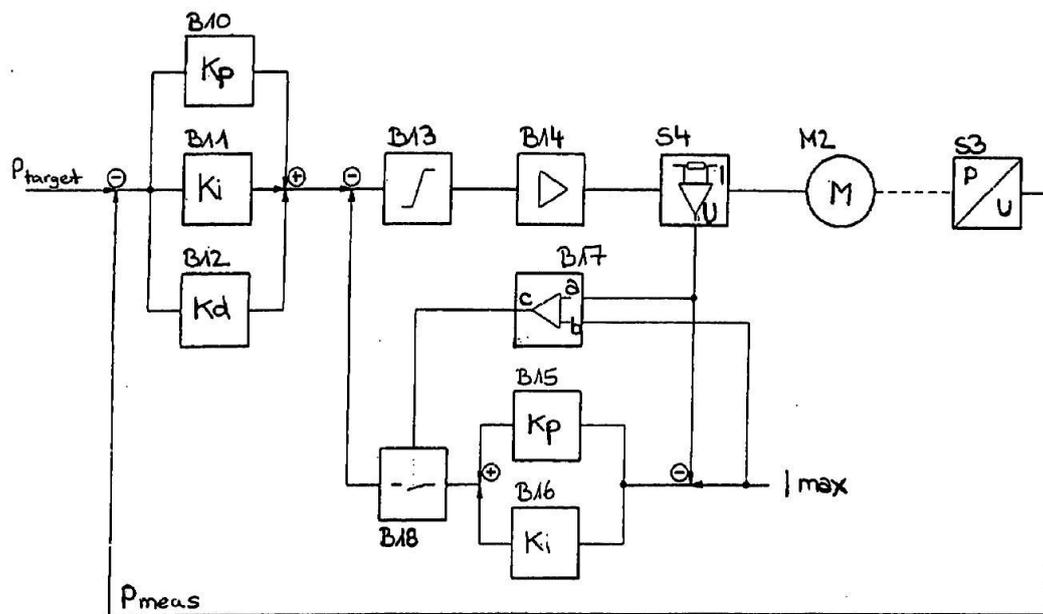


Figure 1: block circuit diagram of a control part of the patent

The product

7. The product in question is known under the trade name: "Power Shocker LGT-2500S". The product has two main parts: the first section is a handpiece 1, as illustrated in figure 2 below, which contacts a patient providing a vibrating massage against their skin and into their tissue in order to provide therapy; the second section is a remote power supply box, which has a built-in compressor. The handpiece is connected to the remote power supply via a cable 2 so that power is provided to the handpiece in use.



Figure 2: Handpiece

8. With reference to figure 3 below, the request states that the level of power or 'vibration'

that is delivered by the handpiece is controllable by an operator via a proportional valve located upstream of the handpiece (that is, downstream from the compressor) and that, in use, the compressor in the remote power supply box has two states only: on (operation at constant speed) or off. As shown in figure 3, a 'control signal of pressure regulating' is provided from the MCU to the proportional valve.

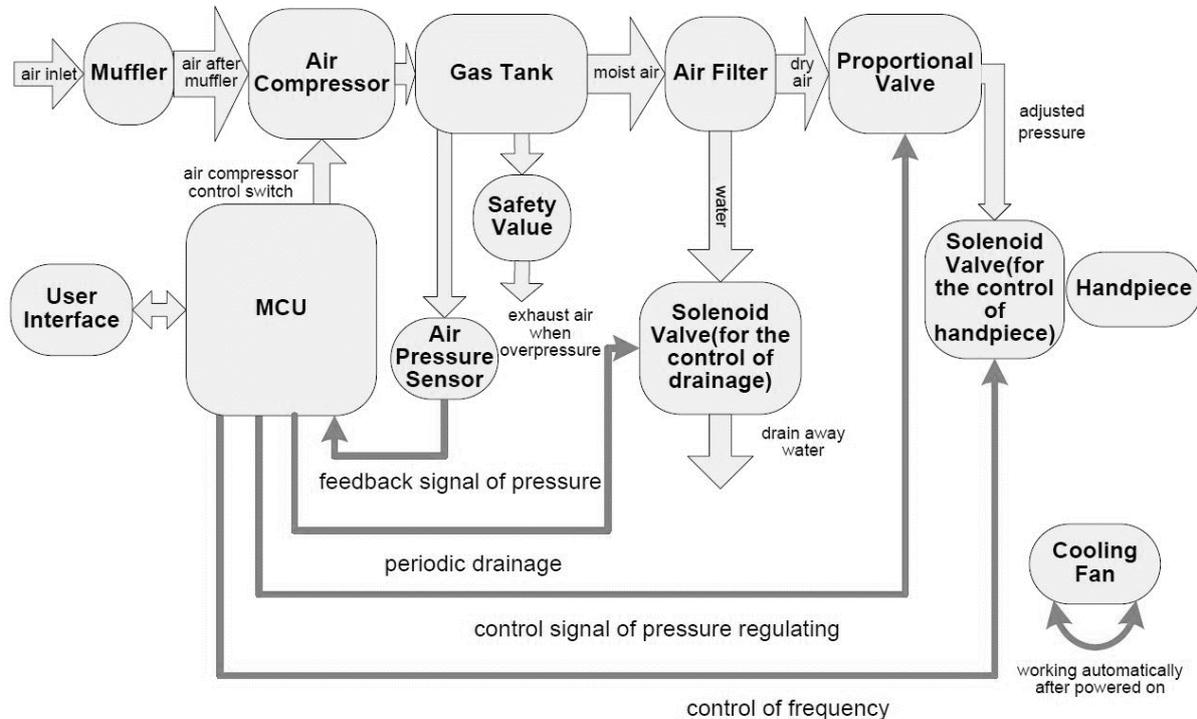


Figure 3: Working Principle

Infringement

9. Section 60 of the Patents Act governs what constitutes infringement of a patent:

(1) *Subject to the provision of this section, a person infringes a patent for an invention if, but only if, while the patent is in force, he does any of the following things in the United Kingdom in relation to the invention without the consent of the proprietor of the patent, that is to say -*

(a) *where the invention is a product, he makes, disposes of, offers to dispose of, uses or imports the product or keeps it whether for disposal or otherwise;*

(b) *where the invention is a process, he uses the process or he offers it for use in the United Kingdom when he knows, or it is obvious to a reasonable person in the circumstances, that its use there without the consent of the proprietor would be an infringement of the patent;*

(c) *where the invention is a process, he disposes of, offers to dispose of, uses or imports any product obtained directly by means of that process or keeps any such product whether for disposal or otherwise.*

10. In the Supreme Court in *Actavis v Eli Lilly*¹, Lord Neuberger stated that the problem of

¹ *Actavis UK Limited and Others v Eli Lilly and Company* [2017] UKSC 48

infringement is best approached by addressing two issues, each of which is to be considered through the eyes of the notional addressee of the patent in suit, i.e. the person skilled in the relevant art. Those issues are:

(i) does the variant infringe any of the claims as a matter of normal interpretation; and, if not,

(ii) does the variant nonetheless infringe because it varies from the invention in a way or ways which is or are immaterial?

11. If the answer is “yes”, there is infringement; otherwise there is not.

Claim construction

12. Before I can determine whether the patent is infringed by the product, I must first construe the claims. This means interpreting the claims in light of the description and drawings as instructed by section 125(1) of the Patents Act. In doing so, I must interpret the claims in context through the eyes of the person skilled in the art. Ultimately, the question is what the person skilled in the art would have understood the patentee to be using the language of the claims to mean. This approach has been confirmed in the recent decisions of the High Court in *Mylan v Yeda*² and the Court of Appeal in *Actavis v ICOS*³.

13. Section 125 of the Act states that:

(1) For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

14. The request provides no specific definition of the person skilled in the art. In my view, this skilled person is a product designer or engineer working in the area of shock wave technology for medical disciplines.

15. Claim 1 is generally clear and straightforward to construe. The request focusses solely on the interpretation of one particular feature of claim 1:

“... [the] shockwave apparatus (10) comprises a device (44) for adjusting the rotation rate of said compressor motor...”

16. The requester suggests that the term ‘*adjusting*’ should be interpreted to mean over a range of operating values, highlighting paragraph 0027 of the patent: *“...the compressor 34 has a typical operation range up to about 10 bar wherein only about up to 5 bar or up to 8 bar are needed.”* The requester also suggests that this is a direct adjustment of the rotation rate, not an adjustment of the output of the compressor.

17. I agree with the requester’s interpretation of the term ‘*adjusting*’. In fact, the specification of the patent as a whole presents this interpretation as the main characterising feature of the invention, i.e.: *“characterized in that the rotation rate of*

² *Generics UK Ltd (t/a Mylan) v Yeda Research and Dev. Co. Ltd & Anor* [2017] EWHC 2629 (Pat)

³ *Actavis Group & Ors v ICOS & Eli Lilly & Co.* [2017] EWCA Civ 1671

said compressor motor is adjustable” (paragraph 0005); *“The basic idea of the invention is to be able to adjust the motor rotation rate of the compressor motor”* (paragraph 0007). This is presented as an alternative to prior art arrangements, i.e.: *“steadily running compressor motors are used in the prior art and the pressures are predetermined by adjusting pressure reducing valves at the output side of the compressors.”* (paragraph 0008). Furthermore, the patent specification states that, in the arrangement of the invention, *“the pressure reducing valve or a pressure regulating means that has been necessary in the prior art can be omitted”* (paragraph 0010).

Does the product infringe the patent as a matter of normal interpretation?

18. Figure 3 above provides the only available information regarding the operation of the product. Although this information is limited, it shows that:
- (i) The “Air Compressor” of the product is controlled by an “air compressor control switch” signal from the MCU;
 - (ii) A “Proportional Valve” is provided towards the output side providing an “adjusted pressure” towards the “Handpiece”. The “Proportional Valve” receives a “control signal of pressure regulating” from the MCU.
19. Based on this information, I consider that the “Air Compressor” of the product is of the “steadily running” type referred to in the patent’s discussion of the prior art. The presence of the “Proportional Valve” to provide an “adjusted pressure” (which I consider to be analogous to the *“pressure reducing valve or a pressure regulating means”* in the patent’s discussion of the prior art) would not be required if the rotation rate of the “Air Compressor” of the product was adjustable.
20. Therefore, I consider that the product does not comprise *“a device for adjusting the rotation rate of said compressor motor”*. Hence, I am of the opinion that the product does not infringe claim 1 of the patent as a matter of normal interpretation in accordance with section 60(1)(a) of the Act.

Does the product infringe the patent because it varies in an immaterial way?

21. In *Actavis v Eli Lilly*¹, the Court provided a reformulation of the three questions in *Improver*⁴ to provide assistance in determining whether a variant infringes. These reformulated questions are:
- (i) *Notwithstanding that it is not within the literal meaning of the relevant claim(s) of the patent, does the variant achieve substantially the same result in substantially the same way as the invention, i.e. the inventive concept revealed by the patent?*
 - (ii) *Would it be obvious to the person skilled in the art, reading the patent at the priority date, but knowing the variant achieves substantially the same result as the invention, that it does so substantially the same way as the invention?*
 - (iii) *Would such a reader of the patent have concluded that the patentee nonetheless intended that strict compliance with the literal meaning of the relevant claim(s) of the patent was an essential requirement of the invention?*

⁴ *Improver Corporation v Remington Consumer Products Ltd* [1990] FSR 181

22. To establish infringement in a case where there is no literal infringement, the answer to the first two questions would have to be “yes” and the answer to the third question would have to be “no”.
23. I would say that the product does achieve substantially the same result as the invention claimed in the patent – namely, both the product and the patent achieve a controllable gas pressure in a shockwave apparatus. However, it is clear from the patent that the inventive concept involves “*adjusting the rotation rate of said compressor motor*”. Therefore, the product does not achieve the same result in substantially the same way. As discussed above, the product uses a “steadily running” type of “Air Compressor” and achieves a controllable gas pressure via a “Proportional Valve” at the output of the compressor. Hence, in my view, the answer to question (i) above is “no”. Necessarily, it follows that the answer to question (ii) would also be “no” since a person skilled in the art would not consider the product to be achieving the result in substantially the same way.
24. Although it is not necessary to consider the third question, for completeness I opine that the reader of the patent would conclude that strict compliance with the literal meaning of claim 1 was essential to the invention – namely, the “*rotation rate of said compressor motor*” must be directly adjustable to set it apart from the acknowledged prior art in which the compressor motor is “steadily running” and control of the gas pressure is via a “pressure reducing valve or a pressure regulating means”. So, in my opinion, the answer to the third question would be “yes”.
25. Therefore, in my opinion, the product does not vary from the patent in a way that is immaterial.

Opinion

26. It is my opinion that the product, “Power Shocker LGT-2500S”, does not infringe the patent, EP 2381864 B1.

Application for review

27. Under section 74B and rule 98, the proprietor may, within three months of the date of issue of this opinion, apply to the comptroller for a review of the opinion.

Dan Hickery
Examiner

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.