

Diamond v. Diehr, 450 U.S. 175 (1981)

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Summary

On 3 March 1981, the U.S. Supreme Court (hereinafter: "the Court") upheld a decision by the Court of Customs and Patent Appeals to grant a patent on a process using an abstract formula under §101 (i.e. the US provision on patentable subject matter). It therewith held that an invention in the form of a process including an as such not patentable element is patent-eligible if it meets the requirements of patentability as a whole.

The facts

On 6 August 1975, the respondents filed a patent application claiming the invention of a process for molding raw, uncured synthetic rubber into cured precision products. Whereas the process was already possible using well-known time, temperature, and cure relationships to calculate when to open the press, the respondents held that their invention allows to exactly measure the temperature inside the mold which was so far an uncontrollable variable in the process. This innovation would enable the industry to obtain -hitherto impossible- uniformly accurate cures by constantly measuring the temperature inside the mold and feeding the data into a computer which then uses an existing equation to calculate the optimal cure time.

The patent examiner rejected the claims on the ground that they were drawn to non-patentable subject matter under 35 U.S.C. 101. The Patent and Trademark Office Board of Appeals agreed with the examiner.

The Court of Customs and Patent Appeals reversed, arguing that a claim drawn to a subject matter otherwise patentable does not become non-patentable because a computer is involved. The Court upheld on 3 March 1981 the decision by the Court of Customs and Patent Appeals.

The legal issues

The Court had to decide on whether the respondent's claims fall within the categories of potentially patentable subject matter.

First, it had to construe the word "process" as used in 35 U.S.C. §101, whose subject matter is defined as "any new and useful process, machine, manufacture or composition of matter, or any new or useful improvement (thereof)".¹ It affirmed the definition of a "process" given in *Cochrane v. Deener* (94 U.S. 780, 787-788 (1877)),

¹ Ch. 11, 1, 1 Stat. 318 of the Patent Act of February 21st, 1793. The word "process" replaced after the re-codification of patent laws in 1952 by Congress the previous wording "art". However, the definition of "art" prior to the 1952 re-codification included processes. Reports accompanying the 1952 Act inform that Congress intended the statutory subject matter to "include anything under the sun that is made by men". Rep. No. 1979, 82d Cong, 2d Sess., 5 (1952); H. R. Rep. No. 1923, 82d Cong., 2d Sess., 6 (1952).

which holds that "a process is a mode of treatment of certain materials to produce a given result. (...) If new and useful, it is just as patentable as a piece of machinery". Furthermore, the Court quoted its addition to the above definition as established in *Gottschalk v. Benson* (409 U.S. 63 (1972)):" Transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines". Processes as such can be patentable.²

Secondly, the Court then addressed the question of the patentability of processes including elements that are excluded from patentable subject matter. It confirmed that a process "is not unpatentable because it contains a law of nature or a mathematical algorithm"³ (*Parker v. Floor*) and went on to establish that in judging whether a claim or an invention at hand represent patentable subject matter, they need to be considered as a whole rather than being dissected into their various elements.⁴ The decisive factor in determining the patentability of a process under § 101 then is whether it, being considered as a whole, is performing a function which the patent laws were designed to protect: e.g. transforming or reducing an article to a different state or thing.⁵

Furthermore, it holds that concerning the determination whether an invention falls in general under patentable subject matter, it is irrelevant whether it meets the "novelty" requirements of 35 U.S.C. § 102 or the "non-obviousness" requirements of §103; these criteria only become important later on in the decision.⁶

The Court ruled that the respondents did not seek to patent a mathematical formula, but rather a protection for a process of curing synthetic rubber including a formula. The claims thus contain patentable subject matter.

Points of significance

- The Court reaffirms the definition of a "process" and holds that "transformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim".
- Processes are to be judged as a whole to determine their patentability, they can thus include old elements or laws of nature. This means that software-related inventions or business models are patentable when they are embedded in a proper claim and do not preempt abstract ideas.⁷ (Also see *Bilski et al. Kappos*, included in this database.)
- The "novelty" or "non-obviousness" requirements are irrelevant on determining the general patentability of a subject matter.

Key words

² Section II of the decision.

³ Section III of the decision.

⁴ The Court therewith moves away from an analytic dissection approach.

⁵ Pp. 450 U.S. S. 191-193.

⁶ Pp. 450 U. S. 185-191.

⁷ See D. Yang, "Software Protection: Copyrightability vs. Patentability?", *Journal of Intellectual Property Rights*, Vol. 17, March 2012, pp. 160-164, p. 160

Patent, U.S. Supreme Court, Title 35 U.S.C. § 101, patentable subject matter, patentability, invention, novelty, new forms, process, abstract formula, computer program, analytic dissection approach.

Available at: <http://supreme.justia.com/cases/federal/us/450/175/case.html>