Supreme Court of the United States
Robert GOTTSCHALK, Acting Commissioner of Patents,
Petitioner,
v.
Gary R. BENSON and Arthur C. Tabbot.

No. 71—485.
Argued Oct. 16, 1972.
Decided Nov. 20, 1972.

Proceeding on application for patent on method for converting binary-coded-decimal numerals into pure binary numerals for use with general purpose digital computer of any type. The Board of Appeals of the United States Patent Office, serial No. 315,050, affirmed rejection of claims and applicant appealed. The United States Court of Customs and Patent Appeals, 441 F.2d 682, reversed and Acting Commissioner of Patents obtained certiorari. The Supreme Court, Mr. Justice Douglas, held that computer program, a mathematical formula without substantial practical application except in connection with digital computer, was not a patentable process.

Reversed.

Mr. Justice Stewart, Mr. Justice Blackmun, and Mr. Justice Powell took no part.

West Headnotes

[1] Patents 291 16.2

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.2 k. Ideas and abstract principles. Most Cited Cases
(Formerly 291k6.2)

An idea of itself is not patentable.

[2] Patents 291 16.2

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.2 k. Ideas and abstract principles. Most Cited Cases
(Formerly 291k2)

A principle, in the abstract, is fundamental truth, an original cause, a motive, and these cannot be patented, as no one can claim in any of them an exclusive right.

[3] Patents 291 16.3

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.3 k. Natural or scientific phenomena or principles. Most Cited Cases

Phenomena of nature, although just discovered, mental processes, and abstract intellectual concepts are not patentable as they are basic tools of scientific and technological work.

[4] Patents 291 16.3

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.3 k. Natural or scientific phenomena or principles. Most Cited Cases

He who discovers hitherto unknown phenomenon of nature has no claim to a monopoly of it which law recognizes and if there is to be invention from such discovery, it must come from application of law of nature to new and useful end.

[5] Patents 291 16.4

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.4 k. Results and means of producing. Most Cited Cases

Transformation and reduction of article to different state or thing is clue to patentability of process claim that does not include particular machines. 35 U.S.C.A. §§ 100(b), 101.

[6] Patents 291 7

291 Patents
291I Subjects of Patents
291k4 Arts
291k7 k. Process or methods in general. Most Cited Cases

Patents 291 16.4

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.4 k. Results and means of producing. Most Cited Cases

It is not necessarily the case that no process patent may ever qualify without meeting requirements of prior precedents, that no program for serving computer, such as program for analog computers, is patentable, or that process patents are frozen to old technologies. 35 U.S.C.A. §§ 100(b), 101.

[7] Patents 291 7.14

291 Patents
291I Subjects of Patents
291k4 Arts
291k7.14 k. Particular processes or methods as constituting invention. Most Cited Cases
(Formerly 291k4)

Patents 291 16.4

291 Patents
291II Patentability
291II(A) Invention; Obviousness
291k16.4 k. Results and means of producing. Most Cited Cases

Computer program involving method of converting binary-coded-decimal numerals into pure binary numerals, a mathematical formula without substantial practical application except in connection with digital computer, was not a patentable process. 35 U.S.C.A. §§ 100(b), 101.

[8] Constitutional Law 92 2518

92 Constitutional Law
92XX Separation of Powers
92XX(C) Judicial Powers and Functions
92XX(C)2 Encroachment on Legislature
92k2499 Particular Issues and Applications
92k2518 k. Intellectual property. Most Cited Cases
(Formerly 92k70.3(9.1), 92k70.3(9))

If programs for digital computers are to be patentable, problems are raised which only congressional committees can manage, and question is policy matter to which court is not competent to speak.

****253 *63** Richard B. Stone, Washington, D.C., for peti-

tioner.

Hugh B. Cox, Washington, D.C., for respondents.

***64** Mr. Justice DOUGLAS delivered the opinion of the Court.

Respondents filed in the Patent Office an application for an invention which ****254** was described as being related 'to the processing of data by program and more particularly to the programmed conversion of numerical information' in general-purpose digital computers. They claimed a method for converting binary-coded decimal (BCD) numerals into pure binary numerals. The claims were not limited to any particular art or technology, to any particular apparatus or machinery, or to any particular end use. They purported to cover any use of the claimed method in a general-purpose digital computer of any type. Claims 8 and 31[FN1] were rejected by the Patent Office but sustained by the Court of Customs and Patent Appeals, 441 F.2d 682. The case is here on a petition for a writ of certiorari. Gottschalk v. Benson, 405 U.S. 915, 92 S.Ct. 934, 30 L.Ed.2d 784.

FN1. They are set forth in the Appendix to this opinion.

The question is whether the method described and claimed is a 'process' within the meaning of the Patent Act.[FN2]

FN2. Title 35 U.S.C. s 100(b) provides:

'The term 'process' means process, art or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.'

Title 35 U.S.C. s 101 provides:

'Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.'

***65** A digital computer, as distinguished from an analog computer, operates on data expressed in digits, solving a problem by doing arithmetic as a person would do it by head and hand.[FN3] Some of the digits are stored as components of the computer. Others are introduced into the computer in a form which it is designed to recognize. The computer operates then upon both new and previously stored data. The general-purpose computer is designed to perform operations under many different programs.

FN3. See R. Benrey, Understanding Digital Computers 4 (1964).

The representation of numbers may be in the form of a time series of electrical impulses, magnetized spots on the surface of tapes, drums, or discs, charged spots on cathode-ray tube screens, the presence or absence of punched holes on paper cards, or other devices. The method or program is a sequence of coded instructions for a digital computer.

The patent sought is on a method of programming a general-purpose digital computer to convert signals from binary-coded decimal form into pure binary form. A procedure for solving a given type of mathematical problem is known as an 'algorithm.' The procedures set forth in the present claims are of that kind; that is to say, they are a generalized formulation for programs to solve mathematical problems of converting one form of numerical representation to another. From the generic formulation, programs may be developed as specific applications.

***66** The decimal system uses as digits the 10 symbols 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9. The value represented by any digit depends, as it does in any positional system of notation, both on its individual value and on its relative position in the numeral. Decimal numerals are written by placing digits in the appropriate positions or columns of the nu-

merical sequence, i.e., 'unit' (100), 'tens' (101), 'hundreds' (102), 'thousands' (103), etc. Accordingly, the numeral 1492 signifies (1 103) (4 102) (9 101) (2 100).

The pure binary system of positional notation uses two symbols as digits—0 and 1, placed in a numerical sequence with values based on consecutively ascending powers of 2. In pure binary notation, what would be the tens position is the twos position; what would be hundreds position is the fours position; what would be the thousands position is the eights. Any decimal number from **255 0 to 10 can be represented in the binary system with four digits or positions as indicated in the following table.

[Note: The following table/form is too wide to be printed on a single page. For meaningful review of its contents the table must be assembled with part numbers in ascending order from left to right. Row numbers, which are not part of the original data, have been added in the margins and can be used to align rows across the parts.]

********** This is piece: 1 **********

1	Shown as the sum of powers of 2
2	
3	

********** This is piece: 2 **********

1
2
3

[Note: The following table/form is too wide to be printed on a single page. For meaningful review of its contents the table must be assembled with part numbers in ascending order from left to right. Row numbers, which are not part of the original data, have been added in the margins and can be used to align rows across the parts.]

********** This is piece: 1 **********

1	2^3	2^2	2^1	2^0
2				

****
********** This is piece: 2
****

1
2

[Note: The following table/form is too wide to be printed on a single page. For meaningful review of its contents the table must be assembled with part numbers in ascending order from left to right. Row numbers, which are not part of the original data, have been added in the margins and can be used to align rows across the parts.]

****
********** This is piece: 1
****

1	Decimal		(8)		(4)		(2)		(1)	Pure
2										
3	0	=	0	+	0	+	0	+	0	=
4	1	=	0	+	0	+	0	+	2^0	=
5	2	=	0	+	0	+	2^1	+	0	=
6	3	=	0	+	0	+	2^1	+	2^0	=
7	4	=	0	+	2^2	+	0	+	0	=
8	5	=	0	+	2^2	+	0	+	2^0	=
9	6	=	0	+	2^2	+	2^1	+	0	=
10	7	=	0	+	2^2	+	2^1	+	2^0	=
11	8	=	2^3	+	0	+	0	+	0	=
12	9	=	2^3	+	0	+	0	+	2^0	=
13	10	=	2^3	+	0	+	2^1	+	0	=

****
********** This is piece: 2
****

1	Binary
2	

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