In the

Supreme Court of the United States

LUTRELLE F. PARKER, ACTING COMMISSIONER OF PATENTS AND TRADEMARKS,

PETITIONER,

v.

DALE R. FLOOK,

RESPONDENT.

No. 77-642

Washington, D. C.
April 25, 1978

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LUTRELLE F. PARKER, Acting Commissioner of Patents and Trademarks,

Petitioner,

v. No. 77-642

DALE R. FLOOK,

Respondent.

Washington, D. C.

Tuesday, April 25, 1978

The above-entitled matter came on for argument at 10:37 a.m.

BEFORE:

WARREN E. BURGER, Chief Justice of the United States
WILLIAM J. BRENNAN, JR., Associate Justice
POTTER STEWART, Associate Justice
BYRON R. WHITE, Associate Justice
THURGOOD MARSHALL, Associate Justice
HARRY A. BLACKMUN, Associate Justice
LEWIS F. POWELL, JR., Associate Justice
WILLIAM H. REHNQUIST, Associate Justice
JOHN P. STEVENS, Associate Justice

APPEARANCES:

LAWRENCE G. WALLACE, Esq., Office of the Solicitor General, Department of Justice, Washington, D. C. 20530, for the Petitioner.

D. DENNIS ALLEGRETTI, Esq., 125 South Wacker Drive, Chicago, Illinois 60606, for the Respondent.

C O N T E N T S

P R O C E E D I N G S

MR. CHIEF JUSTICE BURGER: We will hear arguments next in No. 77-642, Parker against Flook.

Mr. Wallace, you may proceed whenever you are ready.

ORAL ARGUMENT OF LAWRENCE G. WALLACE

ON BEHALF OF PETITIONER

MR. WALLACE: Mr. Chief Justice, and may it please the Court: In this case, the the Court of Customs and Patent Appeals reversed a decision by the Board of Appeals of the Patents and Trademarks Office, which had sustained the Patent Examiner's rejection of respondent's patent claims as not constituting statutory subject matter within the meaning of Section 101 of the Patent Code. That was the sole ground for rejection of the claim, the sole statutory issue before the Court of Customs and Patent Appeals, and the only statutory section that is before the Court now.

At bottom, the Board of Appeals and the Court differed in their view of the scope and meaning of this Court's decision in Gottschalk v. Benson, 409 U.S. 63, which also involved a reversal of a decision of the court below.

The legal principles at issue in the case are fairly straightforward and can be addressed, I believe, without detailed discussion of the technology to which the patent claims relate in this case. We have set forth some description of that in the appendix to our brief.

Now, I should remind you that the Benson case, before I get to the facts of this case, involved a process patent claim, just as this case involved a process patent claim, and that in Benson the claim was on the method of programming a general purpose digital computer to convert signals from binary coded decimal form into pure binary form, another form of mathematical representation.

The Court there pointed out a definition of the word "algorithm," which crops up in these cases and which I seldom use in between these cases and have a tendency to forget what it means in between these cases. The Court there defined an algorithm as a procedure for solving a given type of mathematical problem. There are other possible definitions of algorithm, but we are talking about mathematical algorithms. They are rather similar to formulas, but they are not necessarily formulas. They can be expressed in other forms. But they are procedures for solving a mathematical problem for calculating a number, in effect. And the Court held that the procedures set forth in the claims in Benson are of that kind, a generalized formulation for programs to solve mathematical problems of converting one form of numerical representation into another in that particular case.

Now, the present case similarly involved a claim of novelty in a mathematical procedure. Here it was a procedure to be applied to familiar technology in adjusting what are

called the alarm limits that are imposed so that corrective action can be taken, alarm limits on process variables which are changeable conditions in the process of catalytic conversion of hydrocarbons, a commercial process involved in hydrocracking and the like.

The claims are set forth, and I think we can turn to the claims, on page 63A of the appendix. There are ten claims altogether, all of which were rejected as not being statutory subject matter. I should add that in one of the amicus presentations some question is raised about whether the formula set forth in claim 1, the series of mathematical solutions, is itself novel. No such question was decided below. We don't believe it's before this Court. In its present posture in this Court, we have to assume that the mathematical representations in claim 1 are novel. That question would be open to the Examiner on remand should the decision below be sustained, but nobody has decided it yet.

QUESTION: Mr. Wallace, you told me to turn to 63A, and I find that $B_1 = B_0$, etc. You don't want me to get involved in that, do you?

MR. WALLACE: Well, it isn't necessary to get involved in the details of the equations. I am just trying to point out what it is that the claims involve.

Claim 1 is the only independent claim. Claims 2 through 10 are all dependent upon claim 1 and state claim 1

with certain end use limitation. However, none of those limitations involve any novelty. That was the holding of the Patent Examiner and of both courts below and, as a matter of fact, this is admitted in the abstract that the respondent submitted along with his claim. And perhaps the most telling point about this is that four of the additional claims 2 through 10 had originally been rejected not only on Section 101 grounds by the Examiner, but also on Section 112 grounds, that is, insufficient specifications to disclose to people familiar with the art how to practice the invention. And in a petition for rehearing, the respondent said, "Oh, no, these are sufficiently disclosed because they are all conventional technology that are well known to practitioners of the art, there is no reason to have to spell them out." And he cited previous patents and other technical material to indicate this.

On page 44A of the appendix at the bottom, he sums it all up in saying that the means are conventional and well known in the art, and therefore the specifications are adequate to meet the requirements of Section 112. And the Examiner in response to this withdrew his objections under Section 112.

So we have also collected on page 7 of our brief various citations to the record which show that these claims do not add anything inventive or new in stating their end use

limitations. They are, and their function in this case, little different, as we suggested in our brief, from an attempt to patent the Pythagorean Theorem about the relationship of --

QUESTION: That's only one ingredient of a combination. It's one element of a combination, isn't it? Can't you have a combination patent on a process as well as on a product?

MR. WALLACE: So far as I am aware, there never has been a combination --

QUESTION: That's what this is clearly, it's a combination. This is one element of a combination. The force of gravity is not patentable, but if some inventor came in, some applicant for a patent came in and showed a combination process and using gravity as one element that always before had been used by manpower or electric power or gasoline power, he could patent that combination, even though all the other elements were old.

MR. WALLACE: It could be a combination patent on a series of steps, processes, putting together processes that formerly had not been put together if you had the proper kind of an inventive contribution --

QUESTION: That depends on Sections 102 and 103, not 101, doesn't it?

MR. WALLACE: Well, that would.

QUESTION: Which was never reached by the --

MR. WALLACE: No. That may be that the decision in

this case is not based on any contention of combination patent.

QUESTION: It never got there.

MR. WALLACE: It never got there. It was never even claimed as a combination patent.

QUESTION: That's what it clearly is, isn't it? A series of steps. Maybe combination isn't the right word. I'm not an expert patent lawyer, but it's a series of steps in a process, is it not? One step --

MR. WALLACE: It's a process claim.

QUESTION: It's a method of process claim.

MR. WALLACE: And the claim is on the process set forth in part 1. Claims 2 through 10 are all dependent on that. They are not set up as if the overall claim is on a combination or processes. They are just variations of various applications.

QUESTION: A process consisting of several steps, only one of which is this --

MR. WALLACE: In a sense, claim 1 itself is a combination of steps. Any process is a combination of steps. You can think of it as a combination --

QUESTION: Which is a combination of elements.

MR. WALLACE: That's correct.

All I was trying to set the stage for here is that respondent has never claimed that claims 2 through 10 introduce anything novel, any more than it would be novel to say

application of the Pythagorean Theorem to surveying or to architecture would somehow limit the claim. Or if you wanted to say application of it to surveying east of the Mississippi River. They are limitations in that sense, but they are not limitations that go to the essence of the claim.

The essence of the claim, what all the litigation has been about, is contained in claim 1 and the four steps that are set forth in claim 1. That is what I want to turn the Court's attention to.

QUESTION: What do you think about my hypothetical case about an applicant for a patent, process patent, using the force of gravity where always before manpower or electric power had been used to produce what he says is a superior effect to the prior art because this gravity, in combination with the known and old elements, has synergistic effect. Would that be a valid application for a process patent?

MR. WALLACE: There is an old case in this Court that is very similar to that hypothetical, Eibel Process Co., which is cited in footnote 7 on page 5 of our reply brief. And the Court there upheld the claim because they found that the application was an inventive one, even though it was using the force of gravity in a paper manufacturing process.

I don't think the present case really presents the question whether that case was correctly decided. Obviously --

QUESTION: Obviously gravity itself is not

patentable.

MR. WALLACE: That is correct. And every process claim is a claim about a series of steps to achieve a result. They are all a combination in a sense.

QUESTION: Mr. Wallace, you say you can't patent the Pythagorean Theorem, but you say a transit used in surveying is not patentable just because it employs the Pythagorean Theorem to accomplish this result?

MR. WALLACE: Not at all. There may be product claims that are quite valid that utilize the theorem. But if the claim is to the theorem itself, to the process of using the theorem or using any mathematical formula or method of calculating a number, if that is the claim, then the fact that you want to claim it only in claim 2, using it for surveying, and claim 3, using it for architecture, and in claim 4, using it for some other conventional method of use, don't present material limitations on the claim, they don't show any inventive use of the claim, it's just a matter of draftsmanship, of spelling out various end uses,and you can spell out as many as you can think of in order to claim the mathematical process related to various end uses so as to get a process patent on the mathematical process.

QUESTION: You say this claim here didn't address itself to any of the equipment involved?

MR. WALLACE: It did not. It was not tied in with

any specifically designed apparatus. The whole thrust of the application was that you use the conventional methods that are now used of setting the alarm limits, but by putting this mathematical formula into the computer, you can calculate the numbers more easily and then apply them in the ordinary way that the numbers are applied in the existing technology. That's the essence of what the claim was.

And if we look at the setting forth of the claim on page 63A, there are four steps in claim 1, which is the only claim that is material to the argument, as I see it. The first is determining the present value, and the description says you do that the way you do it now. The claim doesn't try to fill in what the values would be of the process variables. It depends on the process that you are operating. You just go about it in your regular way.

Two and three, which have the formulas are the mathematical algorithm as it is defined in Benson, and then No. 4 is adjusting the alarm limit to the number that you calculated by means of steps 2 and 3. So 4 was added on and it is described as just doing what you would ordinarily do once you have the number.

To use a very homely analogy, it's as if 2 and 3 were a claim for a process of a new way to put together cake ingredients and then another step was added after you have put the ingredients together that way to put the cake in the oven

and bake it. That would be No. 4. It's what you would ordinarily do with the number, the process of calculation, and what is being done now with the numbers as they are calculated in the way that they have been calculated right along.

There is no element of novelty in No. 4.

The question, to use the cake analogy, is whether if the new method of putting together the ingredients was not a patentable process, the fact that you added a fourth step saying that after you have put them together, you put the cake in the oven and bake it would transform that into something that wouldn't be covered by the limitations of the Benson decision.

That is really the way the question was put in the Board of Appeals and before the Court of Customs and Patent Appeals in adjudicating the case, and the decision in the Board of Appeals and by the Examiner noted -- I am lumping these two together for brevity -- that once the number was calculated, no one expected results were achieved by simply using the number in the way you ordinarily use the number. And for that reason, granting the patent would in practical effect be a patent on the formula or the mathematics itself. That was the holding, because, as the Board of Appeals said, the respondent proposes to use just the conventional, automatic alarm-adjusting equipment to implement the invention in the ordinary way. So that the only element of novelty is the way of calculating the

numbers according to these formulas.

QUESTION: What if he had sought a patent with the algorithm and the conventional alarm adjusting equipment. He couldn't have been turned down solely on the basis that the whole thing was nonpatentable subject matter, could he?

MR. WALLACE: Excuse me. If he sought a patent on --

QUESTION: Supposing that the claim included not only the algorithm, but the machinery for putting the algorithm to use.

MR. WALLACE: Well, if it's tied into an apparatus which is itself an inventive contribution, an element of novelty, then the process can be claimed. That's the teaching of the Telephone & Telegraph cases.

QUESTION: Supposing I went tomorrow to the Patent Office and applied for a patent on the telephone. I assume I would be turned down, but not on the grounds it was non-patentable subject matter, but on the grounds it was not novel.

MR. WALLACE: Of course, if that was --

QUESTION: That would not be under 101, would it?

MR. WALLACE: That would not be under 101. But there your claim would be not on a method of calculating a number, not on a mathematical formula, but it would be a claim on a process for achieving a result in apparatus.

QUESTION: Mr. Wallace, do you think this patent would foreclose use of this algorithm for any other possible

imaginable purpose? The Court of Customs and Patent Appeals concluded that the present claims do not pre-empt the formula or algorithm contained therein.

MR. WALLACE: I think that's exactly right. I think that is the basis of their distinction of Benson. They say because this fourth step was added adjusting the alarm limit to update the alarm limit value, it ties the pre-emption of the formula into a particular use in the hydrocracking processes, a particular manufacturing process. And therefore, because solution of the algorithm itself would not infringe the patent, the Court distinguished this Court's decision in Benson.

That's the essence of what's involved here. It's the way the question was put in both courts below. As a matter of fact, it was all put in the context of a --

QUESTION: Then is the argument just how to construe the claims? Is that all it is?

MR. WALLACE: I don't think it's an argument about how to construe the claims.

QUESTION: You mean the Court is legally wrong even if it is true what they said here, what I just read to you?

MR. WALLACE: That is correct.

QUESTION: Let's assume that's correct.

MR. WALLACE: We say that it's legal error, that the Board of Appeals resolved the question correctly.

QUESTION: Mr. Wallace, let's assume that it is correct what the Court of Appeals said. The present claims do not pre-empt the formula, or algorithm, contained therein, because the solution of the algorithm per se would not infringe the claim.

MR. WALLACE: They added to that.

QUESTION: Let's assume --

MR. WALLACE: There may not be any other use for it at the present time that we know of, but somebody could solve the algorithm without infringing this --

QUESTION: Let's say they found another use for it, would it infringe these claims? The Court of Appeals says it would not. And if you agree with that that it would not --

MR. WALLACE: That is correct. That is exactly the issue, whether if in Benson, Benson had added to his claim that it would then be used in conventional telephone switchboard devices, that that would make Benson a valid patent claim. In other words, if the Court of Customs and Patent Appeals is correct here, then this Court's decision in Benson is really reduced to just a drafting obstacle in the drafting of patent claims. And if the claims are drafted so that one or more end uses are tacked on and you can tack on a list of them in separate claims as long as you can anticipate, think up, then you could get the executive patent that this Court denied in Benson.

QUESTION: But the Court of Appeals construed this patent as though it were just an application for a patent for a piece of machinery.

MR. WALLACE: No, no. It was a process application.

QUESTION: All right, then just an ordinary process application.

MR. WALLACE: But using this algorithm.

QUESTION: Using the algorithm. That's right.

MR. WALLACE: If I can focus exactly the way the controversy was put below, on page 12a of the appendix to our petition, the controvery concerned this quotation in the middle of page 12a, which was from a prior opinion of the Court of Customs and Patent Appeals applying this Court's decision in Benson. That was the Christensen case in which the Court struck down a patent claim on a method of determining mathematically the porosity of subsurface formations under the ground without having to dig into them. As we happen to be in the opinion of the Board of Appeals now in looking at this quotation from the Christensen case, and they focused on the formulation, the words, "the point of novelty," as the Court of Customs and Patents Appeals has said, "Is a method claim in which the point of novelty is a mathematical equation to be solved as the final step of the method, a statutory method?" And the holding was no, under Benson it cannot be.

But the contention was then made that point of novelty

is not the controlling language there; the controlling language is the final step, and it's only if the mathematics is the final step as well as the point of novelty that Benson would be controlling. And the Court of Customs and Patent Appeals agreed with that. So that by adding the final step to any of these claims, Benson in effect becomes a dead letter.

In a concurring opinion, which I had hoped to be able to read excerpts from, but I don't have time, a concurring opinion in Christensen, Judge Rich very candidly said that he really, as he said, he didn't understand the basis of the holding in Benson. It seemed to him that all of these processes were equally useful and that they really should confine Benson just to the situation where the mathematical step would itself be an infringement.

QUESTION: He is not the only one that feels that way about Benson, is he?

MR. WALLACE: Apparently his colleagues feel the same way. And they have construed Benson as I say. They are reducing Benson to be nothing but a drafting obstacle, whereas --

QUESTION: Benson -- in which I did not participate, but I have read -- stands for the proposition,for the old well-settled proposition, that a force of nature or the Einstein theory is not subject to being patented. That's what it stands for, isn't it?

MR. WALLACE: It does stand for that proposition. The

significance of it, as we see it, is that it applies Funk Brothers test which had been applied theretofore only to product claims about the test of invention under Section 101. And that was the basis of the holding in Funk Brothers, I mean, the mixture of bacteria was a composition of matter in a colloquial sense, but it was not an invention of a composition of matter within the meaning of Section 101 because the only element of novelty was the law of nature that was --

QUESTION: It was a natural phenomenon.

MR. WALLACE: -- a natural phenomenon that they would not inhibit each other. And Benson said that this same rule applies to process claims, and it applies to mathematical formulae. And if that is the only novelty, the mathematical formula, we can't pre-empt this basic currency of exchange of scientific and technical knowledge.

QUESTION: Anybody else who used the formula would infringe the patent.

MR. WALLACE: Well, that's the way the Court of Customs and Patents construes it.

QUESTION: Isn't that what Gottschalk said?

MR. WALLACE: It's not what Gottschalk said. I mean, it happened that there there was no end use at all specified for it. But you can achieve the same result by specifying every end use that you can now think of as a conceivable end use. And if that's all Benson means, it means nothing.

I would like to reserve the balance of my time.

MR. CHIEF JUSTICE BURGER: Mr. Allegretti.

ORAL ARGUMENT OF D. DENNIS ALLEGRETTI

ON BEHALF OF RESPONDENT

MR. ALLEGRETTI: Mr. Chief Justice, and may it please the Court: I would like to attempt in the time given to me to perform a dual role, if I may. My primary and principal role, of course, is as an advocate on behalf of my client to seek a basis for the granting of a patent to Mr. Flook. But my second role, and I think of equal if not surpassing importance, is to attempt to clarify the true significance of what appears to be, according to petitioner, a dispute on whether a given patent is patentable. I think it goes far beyond that.

The applicant Flook finds himself in the awkward circumstance of being in the middle of a cross-fire between the Court of Customs and Patent Appeals and the United States Patent Office. If the applicant adheres to and abides by the clear decisions which have evolved over a period of successive cases since Benson, he finds himself rejected by the Patent Office. If he seeks redress from the Court of Customs and Patent Appeals, he finds that the Patent Office still disagrees.

What we have here is a dispute as to the proper test to be applied to Section 101. The Court of Customs and Patent Appeals has evolved through a series of well-reasoned

decisions a proper application of the test of Benson. And that test is practical effect test. Examining the invention as claimed and examining the claim in its entirety, do we have simply an exercise in manipulating the English language by ingenious patent draftsmen? Is the effect of the claim truly to attempt to appropriate a category of subject matter that is not qualified by Congress under Section 101?

If that is the case, if in practical effect, all that is being claimed is a nonstatutory category of subject matter, it must be rejected.

What the Patent Office would do here is to substitute an entirely new theory, a new test, an inventiveness of implementation test. I find it very difficult to interpret what an inventiveness of implementation test is if it is not --

QUESTION: That isn't new in this case.

MR. ALLEGRETTI: They have argued for that type of test in previous cases before the Court of Customs and Patent Appeals. It is new before this Court.

QUESTION: Yes. Well, it's not new to the Patent Office.

MR. ALLEGRETTI: No, but they have been repeatedly overruled by the Court of Customs and Patent Appeals when they have attempted to apply such a test.

The recent decisions of the Court of Customs and Patent Appeals show how that contest has evolved. And if I

may, your Honors, there is a very current decision of the Court of Customs and Patent Appeals as yet unpublished which was unavailable for us to cite in our briefs, but which I think the Court might make reference to if for no other purpose than to ascertain what is the position of the Court of Customs and Patent Appeals with respect to the application of the Benson doctrine. And that is the decision of the Court in the matter of the application of Richard Don Freeman, Appeal No. 75-531.

The Court of Customs and Patent Appeals --

QUESTION: When was that handed down?

MR. ALLEGRETTI: I beg your pardon, your Honor? That was decided on March 30, 1978.

QUESTION: The number again?

MR. ALLEGRETTI: The number is 75-531.

QUESTION: Thank you. Freeman.

MR. ALLEGRETTI: Yes, your Honor, in the matter of the application of Richard Don Freeman.

In a series of decisions by the Court of Customs and Patent Appeals, there was specific consideration of the individual claim and an attempt, in the light of Benson, to ascertain whether as a matter of practical effect there was a claiming, an attempt to appropriate and pre-empt that category of subject matter, a mathematical algorithm as such, which cannot be patented. There is no dispute as to the basic concept

of the law enunciated in Funk. The Congress simply did not intend that discoverers, those who learn for the first time of an existing phenomenon of nature and expressed it in the form of a mathematical expression, were entitled to a patent.

QUESTION: Although the Constitution uses the word "discovery."

MR. ALLEGRETTI: Yes, your Honor, the Constitution --

QUESTION: It doesn't mean it in our popular understanding of that word.

MR. ALLEGRETTI: The Congress could have awarded patent grants for such discoveries had it chosen to do so within the constitutional power. They chose not to.

QUESTION: It's a theory that the meaning of that word is different in the 20th century from what it was in the 18th.

MR. ALLEGRETTI: Certainly, the way it has evolved, it is different, your Honor.

In enacting the patent statute, the Congress made it clear, in its first several sections of the statute, what its plan and pattern was. First, in Section 100, the definitions, an invention is described there. It's defined with a circular definition. Invention means discovery. But I think the Congress was attempting to say invention means what we all know it to mean. It has just got its common English language meaning. That's different from patentable invention.

Now we must determine whether it qualifies for patenting. In Section 101 they said whoever invents or discovers may qualify for patenting if the nature of his subject matter falls within certain defined categories. And the Congress said a process, a machine, a manufacture, composition of matter, or improvements in them.

Now, the discoverer of a previously unrevealed natural principle simply does not qualify under those categories, and no matter how he may attempt to express it, if what he is seeking to patent is simply the discovery of an existing phenomenon, however important that may be, he cannot patent it.

The example we like to use, because it has a little bit of drama to it, is Einstein's E equals MC^2, an extraordinary discovery of the human mind, certainly contributed immensely to science and its evolvement. But it simply would not be patentable under the patent statute.

Now, let us suppose you attempt to patent E equals MC^2 by converting it into the sequence of steps of a process. But if the sum and substance of the process you have defined has no practical application except the solving of that equation to determine how much energy there is in a given quantity of mass, it is not patentable.

Now, what this Court said in Benson was to re-establish clearly, unmistakably, that vital principle. He who discovers a hitherto unknown phenomenon of nature has no

claim to a monopoly of it which the law recognizes. If there is to be an invention from such a discovery, it must come from the application of the law of nature to a new and useful result.

Now, if the Commissioner suggests that there must be an inventiveness of implementation test, he applies a terribly discriminatory standard to an inventor who has discovered a new phenomenon -- an old phenomenon, but discovered it for the first time. His task is far more difficult than the putterer in the laboratory who may just chance upon something and not have the faintest idea why it works. And if I could illustrate that:

The inventor who understands and is the first to discover a phenomenon of nature, who ascertains and can set forth for the public knowledge an underlying scientific principle would be barred by his own implementation of that, however new his implementation might be, because the Patent Office would say he is simply doing what would naturally evolve from the suggestion of the principle, and in effect this is tantamount to claiming the principle. Whereas one who did not know the principle, did not discover it, and attempted to define a use of it would not be so barred.

The inventiveness of implementation test also disregards how to compare the inventor's contribution with the prior art. The Congress said in the 1952 Act it must not

only be new and useful and an invention, but it must be an invention in a patentable sense, which we say to mean, according to the prior cases, unobvious to one of ordinary skill in the art. It must also in its usefulness not have been disqualified from patentability. So we have two additional sections; we have Section 102 that lists the disqualifications. If the subject matter had become known to the public in some way, if it is in a printed article, public use, on sale, no matter how inventive it may have been, it may be too late to get a patent. Hence, it is disqualified.

Under 103 we must now compare the invention, assuming it is not disqualified, with the prior art. And focusing upon the difference with regard to the invention as a whole, we must ascertain whether it would have been not obvious to one of ordinary skill.

Now, here, if the inventiveness of implementation test is applied rather than the practical effect doctrine of Benson, we have an inventor hoist on his own petard . He is damned by his own discovery. He is not one of ordinary skill in the art. He is the discoverer and the inventor. If you say, Well, he knew the basic underlying principle so his implementation would naturally follow, he is in a worse position than a man who did not discover the underlying principle. This is an inappropriate standard to apply to him. The correct standard is the 103 standard.

QUESTION: What is the meaning of the last sentence of 103?

MR. ALLEGRETTI: I was coming to that, your Honor. If I may get a copy of 103 before me.

QUESTION: On A3 of your brief.

MR. ALLEGRETTI: I have found it. I have been getting lost with the number of briefs, and I do know my way through my copy of the statute book.

"Patentability shall not be negatived by the manner in which the invention was made."

This is an extremely important aspect of the statute, an express provision of 103. If the inventor is to be measured by the inventiveness of the implementation of that which he has discovered, he is not being accorded the benefits of the condition of 103.

QUESTION: Of course, in this case, the consideration never got beyond 101.

MR. ALLEGRETTI: That is correct, your Honor.

I drew the inference, perhaps erroneously, that the 112 rejection having been made and having been overcome resulted in a fallback rejection under 101. The 101 rejection was made at the very outset. It was persisted in throughout the prosecution.

QUESTION: And if something is not patentable under 101, one never gets to 102 or 103.

MR. ALLEGRETTI: That is correct, your Honor. But if one qualifies under the categories capable of being patented under 101 --

QUESTION: Then one moves to 102 and 103.

MR. ALLEGRETTI: Precisely, your Honor.

Now, one of the strongest criticisms raised by the Court of Customs and Patent Appeals with regard to the Commissioner's test is that the Commissioner dissects the claim. He says there is an algorithm in this claim, there is an equation in this claim, and that, as such, is unpatentable. We acknowledge that. Then he said, but the balance of the claim and all of its other steps are straightforward, routine, and therefore, because the point of novelty is non-statutory, we will reject the claim as a whole.

Not so, says the CCPA, and not so, we say on behalf of the applicant Flook. We must examine the claim in its entirety. We must look at all of the steps. We must look at it in its total environment.

Now, if I may, I would like to re-answer some of the questions that were put to the petitioner.

Mr. Justice Marshall looked with some horror at the formulary set forth in the claim and asked, "You don't want me to get involved with that?" And that is correct, your Honor. You need not focus on a particular --

QUESTION: I am formerly from the Second Circuit.

MR. ALLEGRETTI: I see, your Honor.

QUESTION: And I'm from the Sixth.

MR. ALLEGRETTI: We must look at the claim as a whole, and the claim is a sequence of steps which happens to also include an algorithm and an equation. That algorithm and equation we do not concede is old. The algorithm is novel. There is no rejection that it is not novel. In fact, it is conceded that it is the point of novelty. It is not an old equation because the values assigned to it are uniquely assigned for the specific purpose of this invention. The steps of solving the algorithm or solving the equation by means of the algorithm, however we state it, has not been done before. There is no contention that it is an old algorithm.

In Benson --

QUESTION: May I interrupt you right there?

MR. ALLEGRETTI: Yes, Mr. Justice Stevens.

QUESTION: Supposing that instead of this complicated formula you just had a formula four divided by two equals two in there and that was not new, could you nevertheless claim that even though 1, 2, 3, and 4 were all old, that the combination of 1, 2, 3 and 4 was in fact new and therefore patentable?

MR. ALLEGRETTI: Yes, indeed.

QUESTION: Why all the emphasis on novelty of one element when the ultimate question, as I understand it, is the novelty of the entire process?

MR. ALLEGRETTI: I must speculate, your Honor. I believe it is because the Patent Office takes the view that any claim which utilizes an algorithm is in the nature of a programmable computer type of claim and they simply are not equipped to examine that type of subject matter, and this is a convenient handle for rejection.

QUESTION: They got that impression out of Benson perhaps, did they?

MR. ALLEGRETTI: It has been so stated that that's what Benson stands for. I believe it does not stand for that. I believe the case is quite clear that the Court did not so state. Indeed, even some of the judges of the Court of Customs and Patent Appeals having dissenting opinions stated that that's what Benson stands for. But I do not believe that is correct. I do not believe this Court in Benson said that all programmable computer inventions are not patentable.

In Benson we had the classic example that fits the Funk rule. We had two kinds of numbering systems.

QUESTION: Mr. Allegretti, let me ask you one other question, if I may. Just looking at claim 1, it wouldn't necessarily have to use a computer, would it?

MR. ALLEGRETTI: Not at all. And claim 1 does not specify that there shall be a computer. Indeed, your Honor, no claim so specifies. There is no use of the word "computer," "program," or "software" in any of the claims. Claim 3, I

believe it is, says "automatically."

QUESTION: Under the Government's position, as I understand it -- I suppose this perhaps should be addressed to Mr. Wallace -- if you had a man watching the process and he found out that you could divide the temperature by the pressure, or take half the difference or something and then push another button, and it was brand new and it worked, that could not be patentable because some arithmetical computation took place in the process, is that right?

MR. ALLEGRETTI: That would be the petitioner's contention, your Honor.

QUESTION: Yes. It doesn't really have anything to do with software, as I understand the underlying theory.

MR. ALLEGRETTI: It does not. It has to do with the basic concept that a mathematical expression of a fundamental truth or scientific principle is not patentable. We concede that.

QUESTION: You concede that.

MR. ALLEGRETTI: Certainly. That's the Funk rule.

QUESTION: That's right.

MR. ALLEGRETTI: That's the foundation for this Court's ruling in Benson.

QUESTION: That's right.

MR. ALLEGRETTI: Benson says, "Let's not be deceived. Let's look deep into the claim. Let's see if it's

really condemned a la Funk or whether in fact some new process is being claimed." If it's no more than a fundamental principle of nature in the clothes of a process, it still is not statutory subject matter. And in Benson clearly the relationship between the two numbering systems was old and existent. It is a fundamental known concept -- unknown concept discovered by a particular applicant. When he then attempts to translate one to the other, he is just utilizing that concept for that sole purpose, and in effect would be pre-empting the relationship between the new numbering systems, which is not capable of being pre-empted.

Now, the Court of Customs and Patent Appeals in its decision, which is cited in the briefs, of deCastelet, which is reported at 562 F. 2d 1236, Chief Judge Markey rendering the opinion of the court, pointed out that since Benson they have attempted to evolve a standard. They stated that it was clear from their point of view that the nutshell language of Benson simply expressed the ancient rule, but practical application remains the key. What have you done with this discovery of an old concept?

They concluded that in the Benson case the court had simply said that the sum and substance of the claim, however characterized, was in effect claiming the basic principle.

The court then said, if I may read, "The distinction

may thus be fine indeed between statutory and nonstatutory subject matter considering the glorious flexibility and frustrating limitations of the English language on the one hand and the ingenuity of patent draftsmen on the other. Nonetheless, the line required by precedent and which must here be drawn is clear. The mathematical expression of scientific truth or principle is not itself patentable."

They concluded by pointing out that the case before them, deCastelet, fell on that side of the statutory-nonstatutory line occupied -- and then they recited their string of cases. On the one side, unpatentable because not qualified under the statutory requirement of 101, were the Morse case, Benson, their case in Christensen, and the Waldbaum and Richman decisions.

On the other side of this fine line, however, where the effect of the claim is not to appropriate a scientific principle under the guise of a statutory process, were the decisions by the CCPA in Chatfield, Deutsch, and Flook.

QUESTION: Do you agree with that categorization of the cases? I wouldn't think you would. Would you agree with that placement of Christensen?

MR. ALLEGRETTI: I examined the facts in each of them, your Honor, and I struggled a bit with Christensen. I believe the common denominator in the unpatentable cases is that however it's being characterized, it's something that was

old, maybe not known, but old. Whereas, in the cases which did qualify for patentability, there was not that oldness to the concept that was being described.

QUESTION: What about this algorithm on the oldness, that's what I am wondering.

MR. ALLEGRETTI: Mr. Justice Marshall, I am sorry, I didn't get that.

QUESTION: The oldness, in quotes, of the algorithm.

MR. ALLEGRETTI: I believe under 101 "old" means it's there in the public domain, it has existed, but it may be undiscovered, it may not previously have been revealed, but nevertheless, is part of the scientific tools.

QUESTION: How is it in the public domain if it has never been revealed? That eludes me a little bit.

MR. ALLEGRETTI: Rather than in the public domain, it is not capable of being patented, it does not fall within one of the categories of 101.

In 102, however, we now deal with old in a different way. Old in the sense that the public knows about it by some means. It is now prior art.

QUESTION: But this has been here forever, hasn't it?

MR. ALLEGRETTI: "This" will mean what, your Honor?

QUESTION: The algorithm in this case.

MR. ALLEGRETTI: The algorithm in that case, no, your

Honor, we do not concede that that's an old algorithm.

QUESTION: Why not?

QUESTION: Well, it's just been waiting for some mathematician to come along, hasn't it?

MR. ALLEGRETTI: I don't even believe it's that, your Honor. I don't think it's like Benson's algorithm at all. This is simply the manipulating of certain values by the inventor in a way it has not been manipulated.

QUESTION: But it has just been waiting for somebody to come along and manipulate it.

MR. ALLEGRETTI: Yes, your Honor. And apply it to some useful and practical purpose.

QUESTION: What was the opinion of the Court of Customs and Patent Appeals that you were describing to us.

MR. ALLEGRETTI: The deCastelet, your Honor?

QUESTION: I can't seem to find it in the index to your brief.

MR. ALLEGRETTI: Perhaps my colleague can find the page. The citation is 562 F. 2d 1236.

QUESTION: That's the 14 Court of Appeals opinion.

MR. ALLEGRETTI: Court of Customs and Patent Appeals, your Honor.

QUESTION: 526 F. 2d?

MR. ALLEGRETTI: 562 F. 2d 1236.

QUESTION: Thank you.

QUESTION: What you have just described, is that characteristic of a good many of the patents that have been allowed in hydraulic mechanisms and processes, that is, the utilization of ancient laws of physics but combined in a way that produced a new use of hydraulic power?

MR. ALLEGRETTI: Certainly, your Honor.

Mr. Justice Stewart's question with respect to the Eibel decision is directly in point with regard to that where the force of gravity was being utilized, but the force of gravity was not being claimed; it was the novel application of it to a new use and result which was being claimed.

Every invention is in some way a utilization of basic concepts and principle of nature, but it is the claiming of such which is forbidden, even though newly discovered.

QUESTION: The claiming of such per se.

MR. ALLEGRETTI: Yes, your Honor.

If I may conclude in this way, in the Freeman case in the Court of Customs and Patent Appeals which was newly decided and yet unreported, as I indicated to the Court, a test was suggested there which I think makes good common sense and seems to be what the Court of Customs and Patent Appeals has been doing ever since Benson and Talbot. The Court said that a two-step analysis is appropriate to determine whether there is qualification under Section 101. First, it must be determined whether the claim directly or indirectly recites an

algorithm in the Benson sense of that term. The Benson sense of that term meaning the mathematical expression of an old principle, even though it may have been previously undiscovered.

Second, the claim must then be analyzed to ascertain whether in its entirety, not dissected for some alleged point of novelty, but whether the claim in its entirety wholly pre-empts that algorithm. And under the facts of our case with regard to Mr. Flook and his modest invention in the field of process controls, he does not claim an algorithm of the Benson sense. We do not concede that his expression of the equation is in any sense an old expression, and there is no rejection of novelty.

He claims it in a very specific environment, the catalytic, chemical, hydrocarbon conversion process. He does not attempt to claim all other uses.

Mr. Justice White asked the question would this patent foreclose use of this algorithm for other uses? It certainly would not.

QUESTION: Are there any of the uses he is --

MR. ALLEGRETTI: Yes, your Honor. The petitioner's brief at appendix page 8A suggests many such other uses.

I would have to step outside the record to confirm that, but I think it is a true statement.

QUESTION: Mr. Allegretti, can I ask the other side of the coin for a moment? Does your position mean that every

time a software person is requested to solve a particular problem, in this case how to compute a new alarm limit or adjust it or how to figure out how much fuel to be added to the process, or something like that, a novel, something that hasn't been worked out with computers before, the idea that if you work it out it's obvious, he comes up with some mathematical formula that will solve that particular problem, and it was not obvious because it took him five weeks to work it out with a lot of tough mathematics, and it was new, nobody had done it before, it's automatically patentable? Every computer solution, every software solution to a new problem.

MR. ALLEGRETTI: No, your Honor, I don't contend that it's automatically patentable.

QUESTION: Why not?

MR. ALLEGRETTI: I contend that if it's properly claimed and if --

QUESTION: The point of novelty, their argument is -- they seek to direct our attention to a case in which the only point of novelty is the new formula, new algorithm.

MR. ALLEGRETTI: All right. Although I contend that is not the case in Flook, I will accept the assumption of a fact situation where the only point of novelty is the equation. I think that that would qualify for patent examination and the determination must be is the use of that algorithm for that purpose unobvious? I think it would have

to be determined.

QUESTION: The use of the algorithm -- of course the use of the algorithm would have been unobvious because he had to work it out, it was new.

MR. ALLEGRETTI: Then it would be patentable.

QUESTION: But then isn't every new software program patentable?

MR. ALLEGRETTI: No, your Honor.

QUESTION: You aren't backing away from the whole thing, are you?

MR. ALLEGRETTI: Because, as Mr. Justice Marshall says, if you examine them in their entirety to see what has really been done and you apply the practical effect test of Benson, they will either stand or fall on the merits of the contribution that has been made in applying it.

QUESTION: Well, every new software program that has some practical value it is worth spending enough money to hire somebody to work for six weeks to find the answer.

MR. ALLEGRETTI: I think the decisions of the CCPA in Deutsch, which is cited in the deCastelet case, and in other decisions as well, Richman, did find patentability in a computer software application to a new use.

QUESTION: I am not saying it's necessarily wrong, but I don't really see where we draw the line between new software that is patentable and new software that is not

patentable when it's produced in response to some kind of industry request for a particular answer to a particular problem.

MR. ALLEGRETTI: If properly claimed so as to qualify under 101 in the way in which I have been describing it, I think the way it's determined is under 103, is it an obvious use? Does it qualify for patentability under the other provisions of the statute?

I would simply sum up, if I may, with the view that the Flook claims are directed to a series of combination steps and the statute itself, section 112 of the statute, clearly contemplates combination step inventions, including process inventions. It's appropriate to claim such an invention in a combination format.

The practice of the algorithm that's included in that combination of steps in and of itself would not infringe the claim, that's not being pre-empted and appropriated. The claim is not to some use west of the Mississippi; it's very explicit; it's in a catalytic, chemical conversion process with hydrocarbons. It is a process that has never been performed before. The use of the algorithm for this purpose has never been done before. If it is unobvious, it should clearly be patentable and capable of being examined for patentability in accordance with section 101 of the statute.

Thank you, your Honors.

MR. CHIEF JUSTICE BURGER: Mr. Wallace, do you have anything further?

REBUTTAL ARGUMENT OF LAWRENCE G. WALLACE

ON BEHALF OF PETITIONER

MR. WALLACE: In the limited time I have remaining, I have to take issue with respondent's characterization of the Funk case and with his analogy to the putterer in the laboratory. The putterer in the laboratory who comes up with a new apparatus, although he didn't know the phenomenon of nature he was applying, gets a patent only on that apparatus. Someone applying for a process patent on the phenomenon of nature as applied to this end use pre-empts all use of that phenomenon of nature regardless of what other apparatus someone might design for this end use. It's a much broader pre-emption of the phenomenon of nature that we are talking about here, limited only by an end use, and end uses can be listed along.

QUESTION: Mr. Wallace, in this particular patent, this relates to conversion of hydrocarbons. You wouldn't say the patent would preclude the use of this algorithm to make bathtubs or something like that?

MR. WALLACE: No, because he didn't -- if he had listed it to make bathtubs, then it would have precluded it to make bathtubs also. It's just a matter of drafting the claim.

QUESTION: It's a matter of finding out whether the

algorithm --

MR. WALLACE: The point of novelty is in the algorithm.

QUESTION: But he didn't make that claim.

MR. WALLACE: He didn't make it, but we are talking about whether he can get it for whatever end uses he specifies if the only thing new is the algorithm, which is comparable to a phenomenon of nature.

Now, the Funk case, I have to emphasize, was a case in which this Court held that the standard of invention under Section 101 must be applied to the application of the phenomenon of nature. This is not a novel question before this Court. This is the significance of the holding in Funk. The claim in Funk was not on the discovery that these bacteria do not inhibit one another; the claim in Funk was on the product of a mixed inoculant that was commercially valuable, that was being marketed to farmers for use on their leguminous plants in which these bacteria were intermixed, and that, the Court said, was the application of the phenomenon of nature. It used the very word "application." And then it said, "However ingenious the discovery of the underlying natural principle may have been in this case, the application of it is hardly more than an advance in the packaging of the inoculants." The application didn't meet the standard of invention. And the very last paragraph of the opinion says, "We conclude that

the product claims do not disclose an invention or discovery within the meaning of the patent statutes." And at that time Section 103 was not in the patent statute. That was merely common law about obviousness. What was in the patent statute was that it must be an invention or discovery of a new and useful product, and it wasn't because there was no novelty in the application of the phenomenon.

QUESTION: Let me ask one other question about the Government's position I am not entirely clear on. If not only the algorithm were novel and new, but also the concept of using any algorithm to compute adjustable alarm limits was also new, would the Government say that the fact that an algorithm, a new algorithm, was used disqualify the entire process from being patentable subject matter?

MR. WALLACE: We would say there has to be novelty in the end use. It either has to be tied in --

QUESTION: Let me ask you this. If there is novelty --

MR. WALLACE: The novelty itself must produce an unexpected result.

QUESTION: I understand that. Just try and listen to my question, if you will. If there is novelty in the end use and also novelty in an algorithm that is part of the process, is the subject matter patentable in the Government's view?

MR. WALLACE: That is a patentable process patent, but tied into that end use or that apparatus. That is what we understand Benson and Funk to mean, and Benson saying that Funk applies to process patents. That is our position. Otherwise you do get all computer programming subject to patentability with all the difficulties that are pointed out in an amicus brief which I haven't had time to refer to, but which I do call the Court's attention to, filed on behalf of the Computer & Business Equipment Manufacturers Association, which points out both international problems and problems of trying to set up a search system for this. These are matters that do require legislative attention. The present patent laws are not designed for this.

Thank you.

MR. CHIEF JUSTICE BURGER: Thank you, gentlemen.

The case is submitted.

(Whereupon, at 11:37 a.m., the oral arguments in the above-entitled matter were concluded.)