

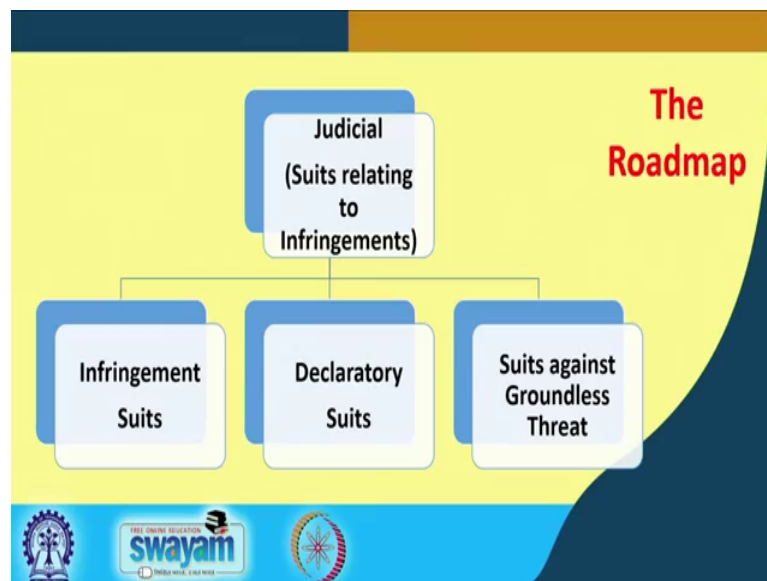
Patent Search for Engineers and Lawyers
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Lecture - 39

DOE

Welcome back to the subject of Patent infringement and the scope the requirement of patent search in the context of patent infringement. Now, in the last class we have seen, that we have seen the procedural aspect of patent infringement. And, we have seen that who can be parties to a patent infringement irrigation. And, what are the issues of evidence law, that needs to be taken into consideration while pursuing a case of patent infringement. Here actually, we will be getting into the substantive aspect of patent infringement in this class.

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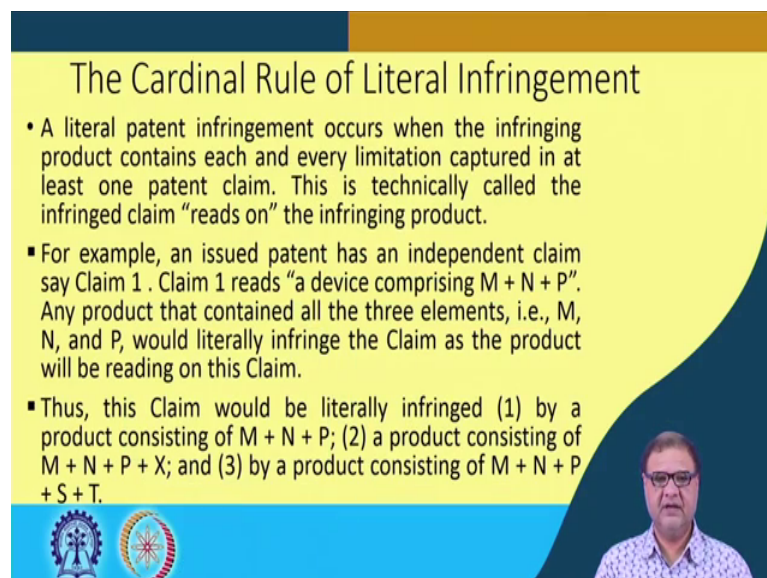
As we have seen in the last class the road map what we have learned, that they judicial the suits relating to infringed that it can be classified into 3 categories, infringement suit declaratory suit and suit against groundless threat. And, we were trying to understand infringement suit, but here we will try we will understand that a patent can be infringe in two ways.

It can be infringed, which is called directly and which is called literal patent infringement. And, it can also be infringed in a non-literal manner, which is indirect

patent infringement. Not in sense of indirect patent infringement also includes actually secondary patent infringement.

Here, we are not talking about secondary patent infringement, rather than we are say we are talking about patent infringement, which takes place; where the infringer has not taken the specific elements which are been mentioned in a patent specific in a patent claim or specification, but under certain such situation he also he or she may be liable. Now, first let us try to understand that what is literal patent infringement and which is very simple and straight forward.

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The Cardinal Rule of Literal Infringement

- A literal patent infringement occurs when the infringing product contains each and every limitation captured in at least one patent claim. This is technically called the infringed claim "reads on" the infringing product.
- For example, an issued patent has an independent claim say Claim 1. Claim 1 reads "a device comprising M + N + P". Any product that contained all the three elements, i.e., M, N, and P, would literally infringe the Claim as the product will be reading on this Claim.
- Thus, this Claim would be literally infringed (1) by a product consisting of M + N + P; (2) a product consisting of M + N + P + X; and (3) by a product consisting of M + N + P + S + T.

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Now, the principal rule actually a pay a literal patent infringement happens, when the infringing product contains each and every limitations captured in at least one claim. That is technically and which is technically called the, the patent is the infringing product is reading on the infringing on the claim.

Now, here what has happen? What happen see here is this, the question is this that one it there are such we as we know that a patent application, specification content several claims. And, each claim contains several limitations. See, if the here the issue is very clear that the infringing product or the infringing process or the accused what you called device must infringe at least fully one claim.

Now, let me stand stated, let me what you call give you an example. Suppose, there is a patent and if that patent actually a it has 3 captures, 3 different limitations and these limitations are say for example, M N and P. Any product, which contains actually M N and P would be an infringing product.

Suppose, actually here the question is this that the claim number one contains M and P, and claim number K claim number 10, contains N in and if the infringing product is actually What you called covering M N and P together in that case it would not be a patent infringement, in the lot litre in non-lethal literal sense, but it actually it can also be an infringement within under the doctrine of what you called no obviousness. And, and therefore, the defendant in such a suit would claim that the patent is invalid, because it is hit by the provision of non-obviousness.

Now, suppose if there is a there are let us talk about three different product; one product is consisting of MNP clearly it violates the patent literally, another product it contains some additional features. Say for example, it contains MNP and in addition to that it also contains x. In that case it is also an infringement of patent, because M N P all the limitations of the claim are present in these product.

Similarly, if someone adds 2 more features to the existing what you called invention. Say for example, in addition to M N P the producer has added S and T still since M N P are common. And, in a in M N P are all the limitations of the claim number 1, therefore, it would constitute literal infringement. Now, in this regard let us try to understand that what is the scope and we will be we will be trying to understand it with the with the help of examples, and those examples are; obviously, case laws.

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Larami Corporation v. Amron, 27 U.S.P.Q.2d 1280 (E.D. Pa. 1993)

- This was a case involving toy water guns.
- The plaintiff Larami Corporation sought a declaration its "SUPER SOAKER" toy guns did not infringe the U.S. Patent No. 4,239,129.
- The defendants **Alan Amron** and **Talk To Me Products, Inc. (TTMP)** counter claimed that the "SUPER SOAKER" guns infringed the U.S. Patent No. 4,239,129 which was assigned to TTMP by the inventor.

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Now, here there is a case law which is coming and I think this would help you to better understand, the concept of literal infringement. In Larami Corporation versus Amron, what the issue was regarding a water toy gun. What was the plaintiff actually he the plaintiff which was basically they have filed a toy suit and which will come to know little later. The plaintiff were actually shorted declaration that actually it used to produce a toy gun, which could be filled with water and thing this are known as SUPER SOAKERS.

And, the plaintiff they discovered that there is a patent which belongs to the defendant. And, therefore, the patent the plaintiff that is actually Larami Corporation they filed a suit, for a declaration to the effect that actually their product does not infringe the patent of the defendant. When the suite, what has a happened the defendant here, there are two dependence here.

One is Allen Amron and then another company talk to be talk to me products incorporated, they have actually filed a counterclaim saying that the SUPER SOAKER guns they infringe the they have an U.S patent. And, this U.S patent actually you can see this in the screen and this patent was infringed by the product of the plaintiff and this was actually a counterclaim by the defendant.

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U.S. Patent No. 4,239,129

Claim 1: A toy comprising an elongated housing **having a chamber therein for a liquid**, a pump including a piston having an exposed rod end extending rearwardly of said toy facilitating manual operation for building up an appreciable amount of pressure in said chamber for ejecting a stream of liquid therefrom an appreciable distance substantially forwardly of said toy, and means for controlling the ejection.

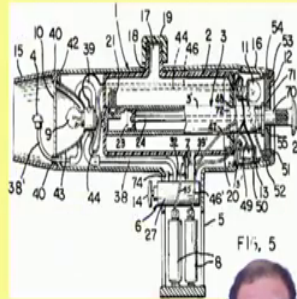


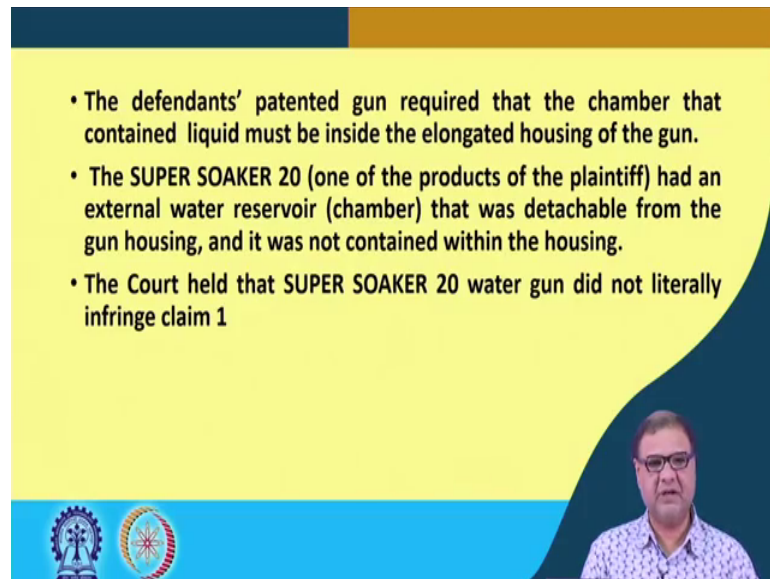
Fig. 5



Now, let us examine what are the two things. And, this is actually what you can see in the screen is the drawing and claim number one of the U.S patent. And, if you read it you will find that it is saying that a toy comprising of an elongated housing having a chamber there in for a liquid a pump including a piston having an exposed rod, in extending rearwardly of said toy facilitating, manual, operation, for building up an appreciable amount of pressure in the said chamber, for ejecting a stream of liquid, there from an appreciable distance substantially forwardly of set toy and means for controlling the ejection.

So, this is actually a simple toy gun, where one can actually draw water and the liquid containing chamber to be very precise this the reservoir is located inside the gun.

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- The defendants' patented gun required that the chamber that contained liquid must be inside the elongated housing of the gun.
- The SUPER SOAKER 20 (one of the products of the plaintiff) had an external water reservoir (chamber) that was detachable from the gun housing, and it was not contained within the housing.
- The Court held that SUPER SOAKER 20 water gun did not literally infringe claim 1

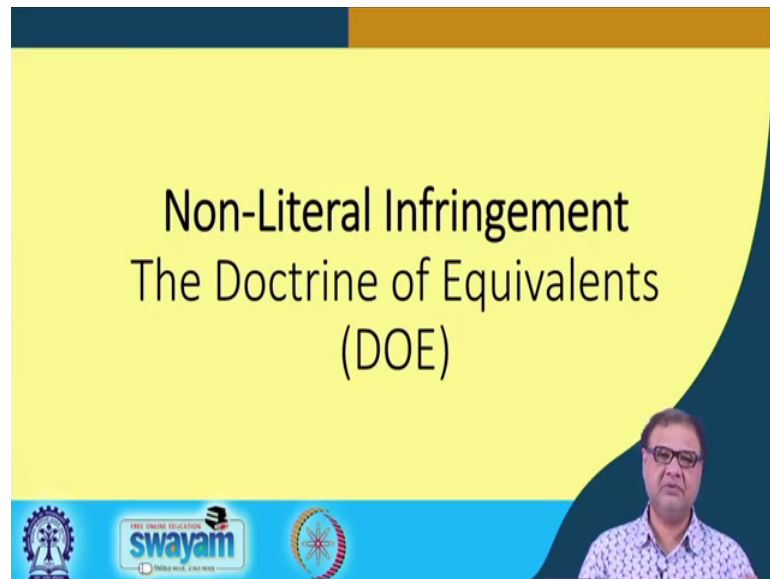
Now, the question that comes up before this the defendant patented gun it actually as you see that the liquid actually is stored in a reservoir, which is a part of the gun. Now, look at the product of the plaintiff. And, the as we know that as we have as you have learned that the plaintiff has filed the declaratory suit. The SUPER SOAKER 20 had an external water reservoir and that was detachable.

So, here what happened? The patented product had a reservoir which is located inside the gun and where as in the other product, the SUPER SOAKER product, it was something which was located outside the gun. And, it was actually something which could be attached and which could be disassembled, which could be actually detached when the circumstance needed so.

Now, the court held that is SUPER SOAKER 20 gun did not literally infringe patent claim number 1. This is very very clear, see the striking difference between these two is this that in the patented product, it was located inside the gun and when it comes to the SUPER SOAKER gun, which is also a toy gun, it is located outside the outside the gun.

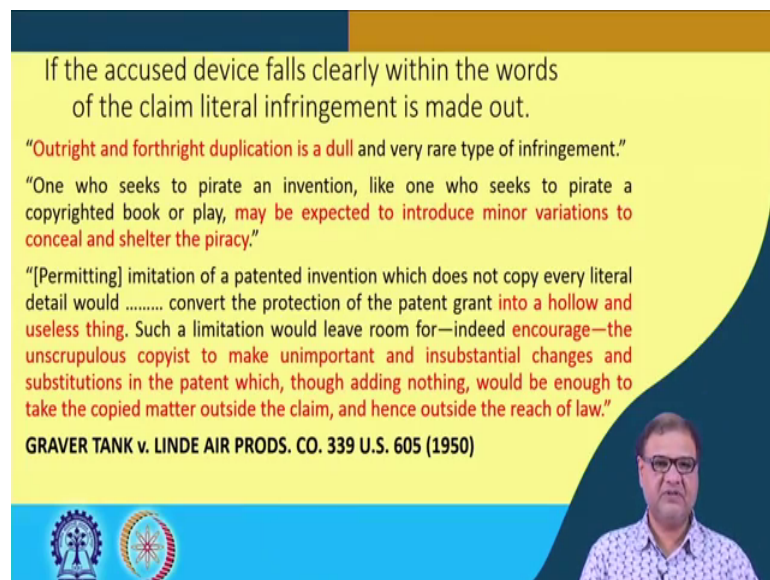
And, therefore, the court held that it is not a case of literal infringement. Now, the question is this that we will try to find out later that, whether this can also constitutes something which is called the non-literal infringement.

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Now, let us come to the understanding of non-literal infringement. The understanding of non-literal infringement in India, we will discuss it later in the last in the coming class, but let us try to understand that how, this non literal the concept of non-literal infringement comes into existence and how it performs a very important function in the policy of patent law.

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Now, to be very precise, here what has happened, what we have learned? If, the see the patent claim should be given their claim plain and the simple dictionary meaning. And, if the accused device is falling within that dictionary and plain meaning, it would it would

be a case of literal infringement. But, here you can see some of the most important paragraph in the doctrine of doctrine of equivalents.

And, and I am quoting in 1950 case, and this case was decided prior to the enactment of the 1952 U.S. Patent Act. So, the issue what we you can see in the screen, that actually the court has captured, that actually a person who is trying to imitate someone.

He actually being an intelligent copier, he would not be imitated he would not be copying formatting, rather than what he will do, he will try to add here and there certain cosmetic changes. So, that to someone who is purchasing that product or who is using the product and think that it is altogether a different product.

Now, these are this these are the parameters, which you can see in the in the screen, which tells us suppose here actually the court first says, in this case I N this is a decision coming for the Supreme Court of United Sates, which says that out right and 4 right and forth right duplication is dull and very rare type of infringement.

So, here as I have said that a person who is intelligent enough, he would not copy formatting, rather than he would make changes here and there should be making certain cosmetic variations in amendment. So, that it appears to the others to be a product coming from him and not to be an infringing product. In addition to that, one who seeks to pirate invention, like one who seeks to pirate a copyrighted book or play, may be expected to introduce minor variations to conceal and shelter the piracy, just now I have mentioned this.

This is the wording used by the supreme court of united states. Then comes the logic. Permitting as I have this is let us understand this paragraph first and then we will try to understand what implication it does have.

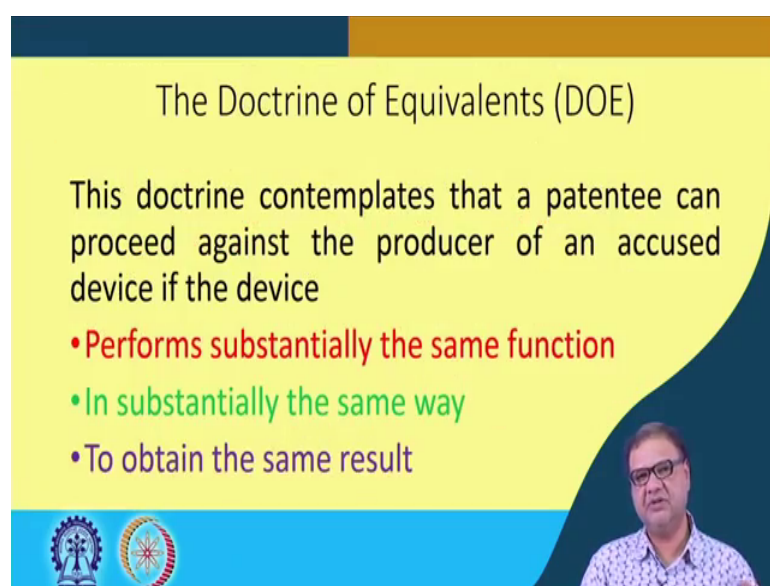
Permitting invitation of a patented invention, which does not copy every literal detail would convert the protection of patent grant into a hollow useless thing. Such a limitation would leave room for indeed encourage, the unscrupulous copyist to make unimportant and insubstantial changes and substitutions in the patent which, though adding nothing, would be enough to take the copied matter outside the claim, and here out and hence outside the reach of law.

Let us go back to the first class, where we have understood the logic the justification for patent. It ensures that the patent law ensures that the public domain is actually safeguarded. At the same time it ensures, that a person who has come out with an invention which is genuinely new. He should be getting a reward for the invention and this reward is given in the form of a mono poly alike structure and that monopoly alike structure is actually a protection for a limited period of 20 years.

Now, this is also we have seen the three fold incentive of patent; incentive to create, incentive to invest, incentive to disclose. Now, here if a person find if the if the patent holder, if he finds, that a person who has make, what cosmetic alter alteration edition here and there. And, by that way he is actually trying to escape his liability for patent infringement. No one would actually try would dare to invest in things, which are actually very valuable in nature.

And, therefore, doctrine of equivalents actually goes beyond the literal meaning of the patent, it also captures things which in a reasonable manner should be a part of the patent claim. And, from there the non literal patent infringement doctrine, which is basically, which is known as doctrine of equivalence in United States has come into existence. Now, let me further go de go into the in depth understanding of this doctrine of equivalence.

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The Doctrine of Equivalents (DOE)

This doctrine contemplates that a patentee can proceed against the producer of an accused device if the device

- Performs substantially the same function
- In substantially the same way
- To obtain the same result

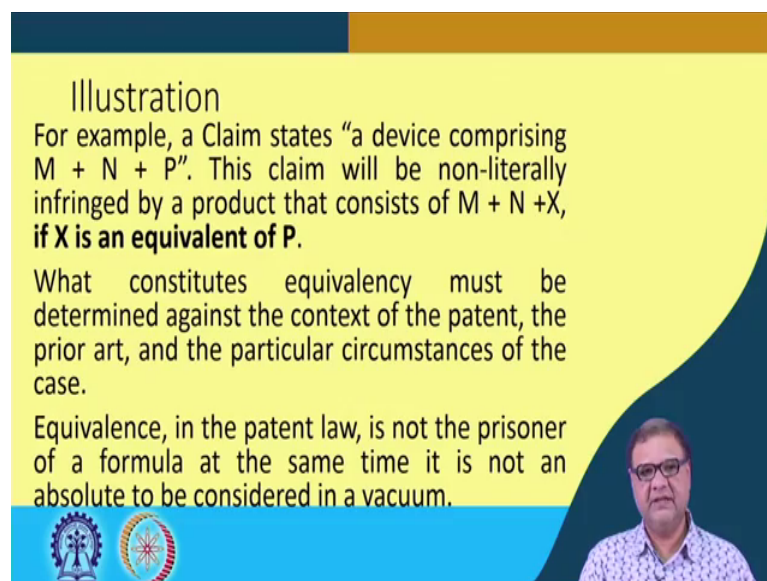
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And, again this is actually the this quotation comes from gizzard trunk, the case law of which I have just now referred. And, this quote what does it say that the doctrine contemplates, that a patentee can preceding is the producer of an accused device. If, the device there are three cardinal principles which are let down, what are the three cardinal principles, that the accused device perform substantially the same function. What you call is a kind of what you called similarity equivalence of functionality.

And, then the second point it substantially in substantially the same way, the manner of functioning the way. The clay what you called the infringing or the accused device is functioning, it must function in the same way in the manner of functioning.

And, then the ultimately the end result of both the infringing product and as well as the infringed product are one and the same. If, these three are complained with no matter what the language says, what is the what is the interpretation of this the court will find that the accused product has infringed patent.

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Illustration

For example, a Claim states "a device comprising M + N + P". This claim will be non-literally infringed by a product that consists of M + N + X, **if X is an equivalent of P.**

What constitutes equivalency must be determined against the context of the patent, the prior art, and the particular circumstances of the case.

Equivalence, in the patent law, is not the prisoner of a formula at the same time it is not an absolute to be considered in a vacuum.

But, at the out set I must inform you, that it is it is very difficult to it is one of the most complex doctrine of patent law. And, at there are at times it becomes very very difficult to apply this toxin, but let us try to understand it further.

For example, take the same example there is a patent claim with regard to a device comprising of M N and P. This claim would be say for example, for happens actually in

order to avoid literal infringement. A person comes out with a product which consists of M N and some other feature which is x.

Now, as we have we have seen that the limitation of literal pay literal patent infringement is this, that all the claim limitation must be present in the infringing device and it must be related to a single claim.

Now, here in order to avoid that as we have seen that the imitator the plastid is what he did, he has come out with a additional feature, which says X. Now, M N he has taken from the claim, but X he has not taken from the claim in order to ensure, that he does not land up in literal patent infringement.

Now, here if the patent owner can prove that X is nothing, but an equivalent of P, he would be able to succeed in establishing a non-literal patent infringement. Now, here the most as I was mentioning, it is one of the most complex doctrine why, because what constitutes equivalency must be determined against the context of the patent, number 1 the context of the patent, the prior art and the particular circumstances of the case.

Equivalence, in patent law, is not the this is the most important issue there is no hard and fast rule, at the same time it is also know not actually suspending in a vacuum. So, equivalence in patent law is not the prisoner of a formula, at the same time it is not an absolute to be consider in vacuum.




So, there are guidelines, but there is no what you called there is no straight forward, straight jacket, one time formula to determine what is equivalent and what is not equivalent. And, there are guidelines and these guidelines have to looked into in view of the prior art which was existing, the particular circumstances of the case and as well as the context of patent.


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**GRAVER TANK v. LINDE AIR PRODS. CO. 339 U.S. 605
(1950) [Two electric welding compositions or fluxes]**

<p>Patented composition- Unionmelt Grade 20</p> <ul style="list-style-type: none"> • This claims a combination of alkaline earth metal silicate and calcium fluoride. • However, it actually contains silicates of calcium and magnesium (two alkaline earth metal silicates). 	<p>Accused composition - Lincolnweld 660</p> <ul style="list-style-type: none"> • This composition substitutes silicates of calcium and manganese. (manganese is not an alkaline earth metal) for silicates of calcium and magnesium. • In all other respects, the two compositions are alike.
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The mechanical methods in which these compositions are employed are similar



Let us try to understand because I was referring to I was giving you quotations from this case law, which is called graver tank versus Linde air product a sorry Linde air products company. Here, the, what is the subject matter? Let us try to understand the technological back drop and will try to understand the legal back drop later.

Here these the two the two pack products which were litigated they were relay related to electric welding composition. We are using actually fluxes for electric welding and one was patented and another was something which is actually used by the defendant, who against whom the suit for infringement first file.

Now, the patented one actually is was known as uni on omelet om onmelt great 20 and this is this claims a combination of alkaline, earth metal silicate and calcium fluoride. So, earth metal silicate plus calcium fluoride. However, what has happen, because it was talking about earth metal silicate, alkaline earth metal silicate, but it in fact, used two particular what you call elements, which are there two particular silicates. It actually contain silicate of it use calcium and magnesium.

And, as we know that calcium and magnesium these two are, alkaline earth metal silicates. Now, the in the accused composition; accused composition as you see in the screen the name of the accused comb composition was Lincolnweld 650 660.

This is this come in this actually accuse composition, this is actually this used silicates of calcium and manganese. Look at in the earlier what was used the patented product uses

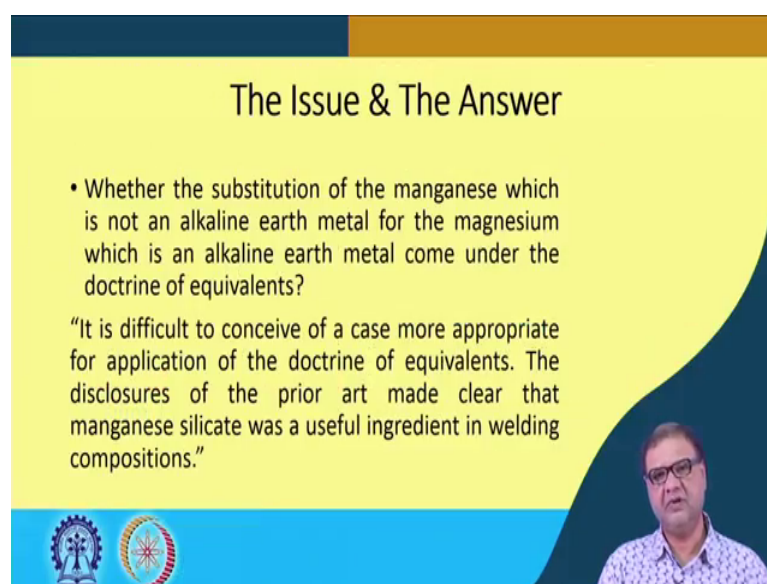
calcium and magnesium, but the accused composition uses calcium and manganese. And, we know that manganese is not an alkaline earth metal.

And, these actually this calcium and manganese replaces what you called call silicates of calcium and magnesium. So, magnesium is replaced by manganese and magnesium as we know that it is actually a what you call alkaline element, two alkaline earth metal and whereas, manganese is not alkaline.

In all other respect the con do used to compositions were same not only that the mechanical method in which this two compositions are employed, the this two composition employed are also were also same. So, therefore, the question is this that whether it amounted to infringement of copyright before the supreme court of United States.

And, this is the similar case where the court laid down, this doctrine of equivalents; obviously, if the supreme court lids down the doctrine of equivalents in clear terms and which has later also been followed by the Supreme Court of United States.



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The Issue & The Answer

- Whether the substitution of the manganese which is not an alkaline earth metal for the magnesium which is an alkaline earth metal come under the doctrine of equivalents?

“It is difficult to conceive of a case more appropriate for application of the doctrine of equivalents. The disclosures of the prior art made clear that manganese silicate was a useful ingredient in welding compositions.”

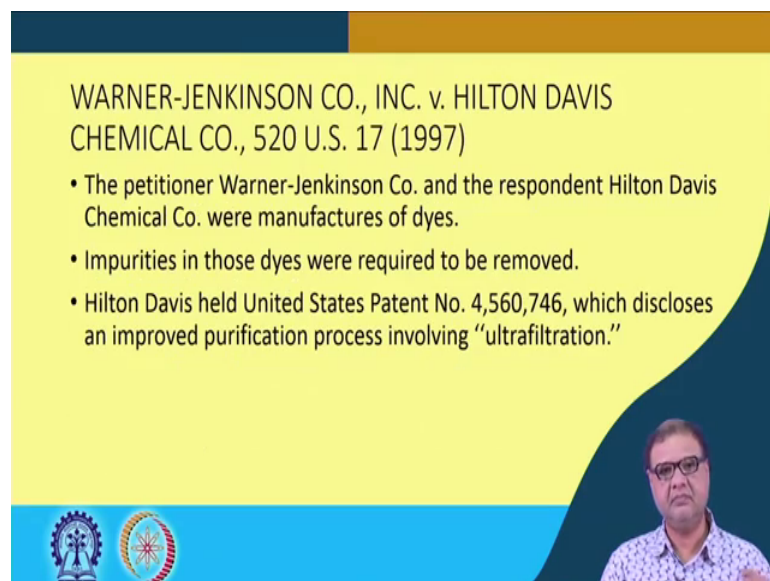


Now, the issue before the court; what was the issue before the court? The issue as I have mention that, whether the substitution of manganese which is not an alkaline earth metal for the magnesium which is an alkaline earth metal come under the doctrine of equivalents?.

So, here what the court says, it is difficult to conceive of a case for more appropriate for application of the doctrine of equivalents. The disclosures of the prior art made clear that the manganese silicate was a useful ingredient in holding composition. Here, what was the prior art the prior art shows that the manganese silicate was used. As an useful in ingredient in welding composition.

And, because of this actually it is quite obvious to a posit a quite obvious to a person having a kind of knowledge about the art, in respect of which this in invention was related. They would actually relate it to manganese, because manganese is something which was used as an welding as an ingredient in welding composition and there for this the supreme court in this case held, that there is of it is it constituted a non literal infringement under the doctrine of equivalents, but there were descending opinions in this cases also. And, we will be talking about those descending opinions at a later stage.

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WARNER-JENKINSON CO., INC. v. HILTON DAVIS
CHEMICAL CO., 520 U.S. 17 (1997)

- The petitioner Warner-Jenkinson Co. and the respondent Hilton Davis Chemical Co. were manufactures of dyes.
- Impurities in those dyes were required to be removed.
- Hilton Davis held United States Patent No. 4,560,746, which discloses an improved purification process involving "ultrafiltration."

Now, here one more important observation that comes from what you called the Warner Jenkinson Rule. Here, first of all at the outset before I get into the case, this case in addition to laying down examples of the situation where there is actually a kind of range is mention how to deal with the equivalence it discusses, but at the same time it lays down a very important principle of law which says, that the equivalent should be measured not at the date of invention rather than on the date of infringement.

What does it mean? Suppose, if the patent was issued on first January 2010. And, the infringement suit is filed on 1st January 2019, then the equivalents the prior art the relevance and all other issues must be measured as it stood on 1st January 2019 not as it was in on 1st January 2010.

So, in other words what does it mean, this particular ratio developed by the American Supreme Court allows a person to capture the technologies which has arisen in between 1st January 20 2010 and 1st January 2019. And, this is actually clearly an indication that the patent holder can also capture the after arising technologies. With this observation let us go into the understanding this is another example which illustrates the doctrine of equivalents.

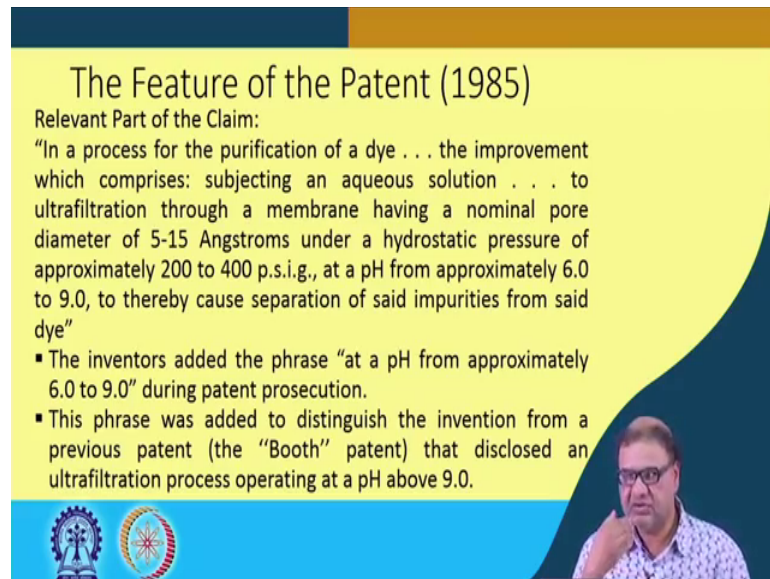
And, here to be very precise a trial court rules that there is a equivalents, the end bank trail circuit code of appeal is actually also holds the same thing, but when it comes to supreme court supreme court reverses and remind back the reminded back the case to look at it look at it from a from the ratio which they have laid down in this case.

Now, here to be very precise the question the main principal argument before the court was this that the 1950 doctrine of equivalents is not applicable, because this statutorily it does not talk about the talk about equivalents in 1952 Act does not talk about equivalents as such and therefore, this cannot be the doctrine of equivalents is no longer was no longer applicable in the U.S. under the 1952 Act. We will we will come to that late little later.

Now, here there are two the parties to this litigation, Warner Jenkinson company and Hilton Davis, they were manufacturers of dyes. And, as we know that this dyes require they require a removal of impurities. Now, Hilton Davis held an U.S patent as you can see in the patent number there, whose discloses and improved purification process in involving ultrafiltration.

So, here how to filter the dyes there they have come out with a patented mac mechanism, which actually improves the purification process of dyes. And, which is basically employing the ultrafiltration technique.

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The Feature of the Patent (1985)

Relevant Part of the Claim:

"In a process for the purification of a dye . . . the improvement which comprises: subjecting an aqueous solution . . . to ultrafiltration through a membrane having a nominal pore diameter of 5-15 Angstroms under a hydrostatic pressure of approximately 200 to 400 p.s.i.g., at a pH from approximately 6.0 to 9.0, to thereby cause separation of said impurities from said dye"

- The inventors added the phrase "at a pH from approximately 6.0 to 9.0" during patent prosecution.
- This phrase was added to distinguish the invention from a previous patent (the "Booth" patent) that disclosed an ultrafiltration process operating at a pH above 9.0.

Now, let us come go straight to the patent claim. The relevant patent claim and as you can see that actually this is the relevant patent claim and then we will find out what are the striking features in their claim. In a process for the purification of a dye the improvement which comprises; number 1 subjecting an aqueous solution to ultrafiltration, and this is achieved through a membrane having a nominal pore diameter of 5 to 15 Angstroms; what is the range 5 to 15.

Under a hydraulic pressure of approximately 200 to 400 PSIG, and then it mentions this is the most important part and this became the subject matter of the contention. At a pH from approximately 6 to 9 to thereby cause separation of the said impurities from said dye.

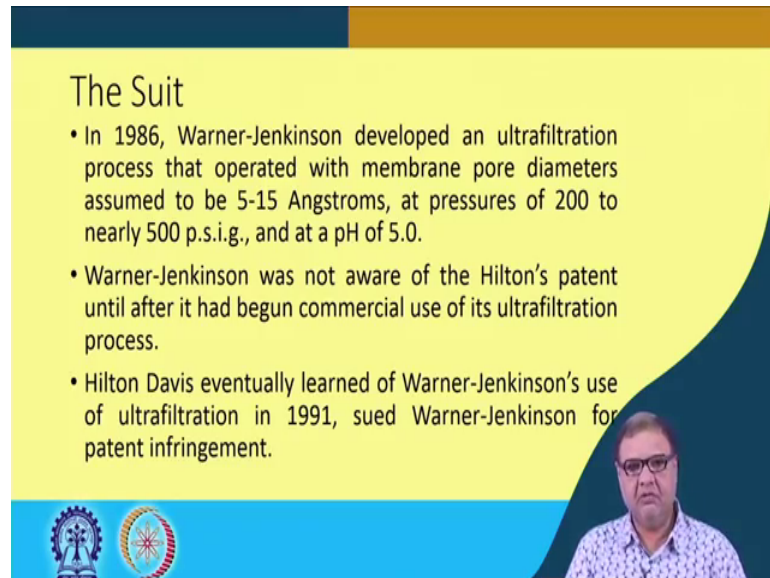
So, here there is a pH range and what is this pH range? The pH range is 6 to 9. Now, why it is like this the prosecution history it shows, that this the when the inventors they applied for patent, they had to actually mention a pH range from 6 to 9 during the patent prosecution.

Why? Because the prior the phrase was as added in order to distinguish this invention from a previous patent, from a prior art, that disclose ultra-filtration process operating at a pH level of 9 and above so, above 9.

So, here there was a prior art which disclose that the pH value for this filtration method should be above 9. And, here actually a new improvement comes out which in addition to the diameter of the membrane it made in addition to the hydraulic the

in addition to the pressure, also mentions the p H value and this actually this is from 6 to 9 and the prior art is above 9.

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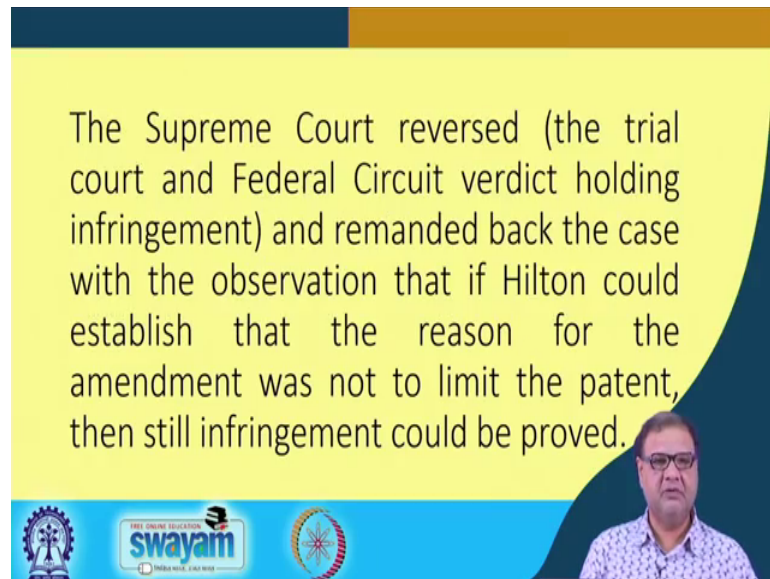
The Suit

- In 1986, Warner-Jenkinson developed an ultrafiltration process that operated with membrane pore diameters assumed to be 5-15 Angstroms, at pressures of 200 to nearly 500 p.s.i.g., and at a pH of 5.0.
- Warner-Jenkinson was not aware of the Hilton's patent until after it had begun commercial use of its ultrafiltration process.
- Hilton Davis eventually learned of Warner-Jenkinson's use of ultrafiltration in 1991, sued Warner-Jenkinson for patent infringement.

Now, look at what happens? See, the Warner Jenkinson, they developed actually this ultra in a in 1986 they developed an ultrafiltration process, that operated that operated with membrane pore diameters of 5 to 15 Angstroms, at a pressure of 200 to 500 psi and at a p H of 5, there is a specific p H. What is this p H? This p H is 5.

So, the prior art before Hilton was above 9 Hilton contemplated 6 to 9 and here, Warner Jenkinson is actually using a p H value of 5. The when this product they started selling this product they were not aware of this. And, then when they came to know about this and be and when they did it in 1986. And, then in 1981 Hilton Davis they became aware of this they came to know about this and they file a patent infringement suit, before the what you called before the before the trial court.

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The Supreme Court reversed (the trial court and Federal Circuit verdict holding infringement) and remanded back the case with the observation that if Hilton could establish that the reason for the amendment was not to limit the patent, then still infringement could be proved.

Now, in what has happened the trial court says, that this the trial court found that this is this was something which is which was coming within the doctrine of equivalents. And, then as I have mentioned before the federal court a circuit court of appeal and as you know that acts as the national court of appeal in the United States, they also appeal this per day, the Supreme Court actually remanded back.

What was the observation of the Supreme Court? The Supreme Court says, that if Hilton can establish, that the reason for amendment was not to limit this patent, then still this infringement on the on the ground of non-literal violation can also be entertained.

But, the prosecution there is a there is a there is a; obviously, there is a doubt that whether in fact, Hilton mentioned that limit from 6 to 9 in order to limit the patent. If, if it if it is not to limit the patent in that case actually the issue of non-literal infringement can be taken up.

And, the court remanded back the case, for the trial court to decide that whether this was in. This was in fact, the intention of the patent holder to limit it or whether they did it for some other reason that has to be looked into and on the basis of that the doctrine of equivalents has to be started.

And, this is the end of this class and in the coming class I will be discussing about what you, I will be discussing about the Indian understanding of doctrine of equivalents, in India also we do have an understanding of equivalents. And, that is known as python

marrow doctrine and then we will also try to understand, that what are the rules of claim construction which are applied in India and as well as in other countries.

Thank you so much.