Patent Drafting for Beginners

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Lecture – 23
Problem Solution Statement

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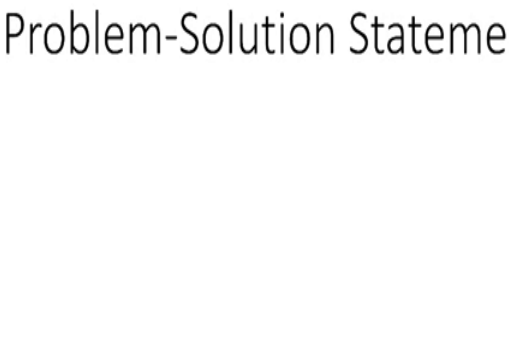

Problem-Solution Statement; once you have the disclosure which can come into your hands by way of an invention disclosure form or by interviewing the client, your focus will be to come up with a problem solution statement as soon as possible.

Now, the problem solution statement becomes the first step towards drafting because till then your focus was on getting disclosure from the client and we had already spoken about how to get a working disclosure a disclosure that can not only take care of doing a prior art search, but which can also facilitate in the drafting process.

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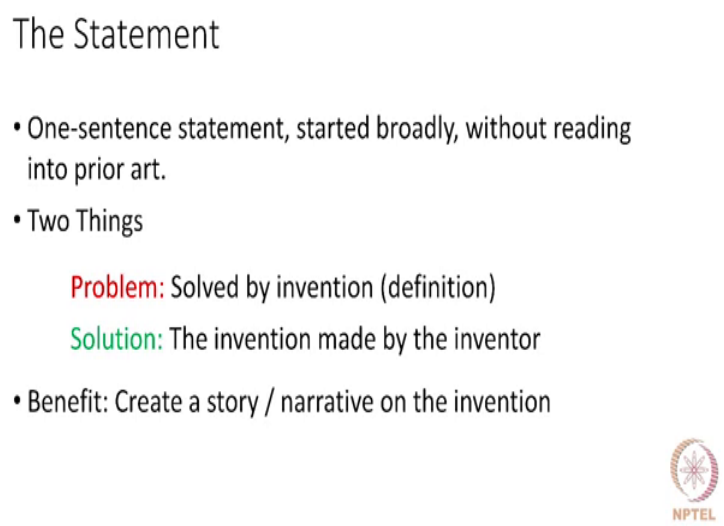

So, the statement; the problem solution statement should be a one sentence statement, it should be in one state sentence, it should capture the invention broadly without reading into the prior art. Now, these are very basic requirements before you draft the problem solution statement, we say that it has to be in one sentence because claims are traditionally drafted in one sentence by convention.

They are a single sentence, they are written in a single sentence and they have to capture the invention broadly because we are not going to get into specifics in this effort because this is this will be the first effort in capturing the invention in the form of a claim and all the dependent and other claims that you would eventually draft would come out of this.

So, the problem solution statement is your attempt to come up with the main claim or the independent claim if there is only one independent claimant for the invention. So, it should be stated broadly and it should be done without reading into the prior art because once you have the disclosure, you would have seen the prior art to see, whether there is any overlap of the disclosure into the prior art. If there is overlap, then that is something which you cannot claim or if you claim you may run into an invalidity rejection, later on either at the patent office or by a challenge by a competitor.

So, there are two things, the problem solution statement should focus on. One is the problem; what was the problem solved by the invention. So, you define or give a definition to that problem you in the first part, you try to define the problem and the

solution the invention that was made by the inventor. So, you in two parts, you try to describe the problem solved by the invention or the problem to which the invention is the answer and you also try to present the invention as a solution to the problem. Now, this is being done. So, that you can create a narrative on the invention because if you look at any patent specification, they read like a story it is the story of the invention to put it in other way.

One of the benefits of having a problem solution statement or having the problem solution approach dictating your pattern drafting is that you can be consistent throughout your pattern specification; when it comes to the background art, when it comes to describing the invention, when it comes to detailing the embodiments and while claiming, if the problem solution approach is taken, then that can be the underlying theme that holds your patent specification together.

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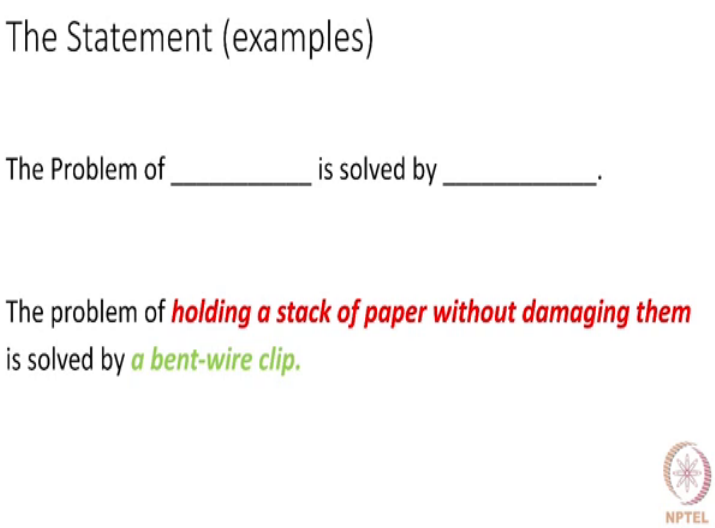

So, creating a story or a narrative on the invention; this helps you to do that. Now, let us look at how a statement looks like now broadly this is the template of the generic statement in itself the problem of dash is solved by dash. Now, this two blanks can be filled by for any invention whatever you come across to because we would assume that a new invention solves a particular problem which has not been solved before it addresses an unsolved problem. So, if the problem is something which you can define, then you

would define it in the first blank and you will define on describe your invention in the second blank. Now, let us look at a few examples of how this can be done.

So, this is the generic statement the generic part in the problem solution statement the problem off is solved by everything else which you would eventually fill in the blanks can vary. Now, let us take a look at a few examples the problem of holding a stack of paper without damaging them is solved by a bent wire clip. Now, this is crude manifestation of claim for a paper clip.

So, what problem did the paper clip solved, it solves the problem of holding a stack of paper without damaging them and how was it solved it was solved by a by bending a wire clip; let us look at another example.

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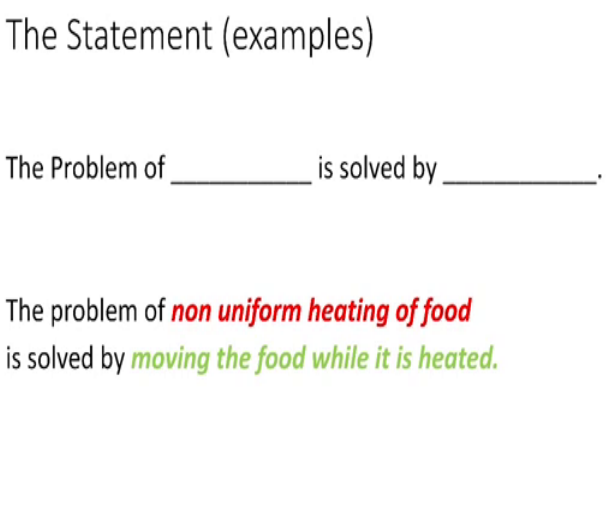

The problem of non uniform heating of food is solved by moving the food while it is being heated now we if you look at a microwave oven you will find that there is a base plate which is capable of rotating now this actually addresses the problem of non uniform heating of food if the food is kept static in a microwave oven it will not heat get heated uniformly. So, this was simply solved by just keeping a rotary motor at the bottom. So, the problem is defined and the solution is the invention in this case.

So, now, you know when you write a problem solution statement you know how to present the problem and look at how to pitch the invention as a solution to the problem the problem of writing.

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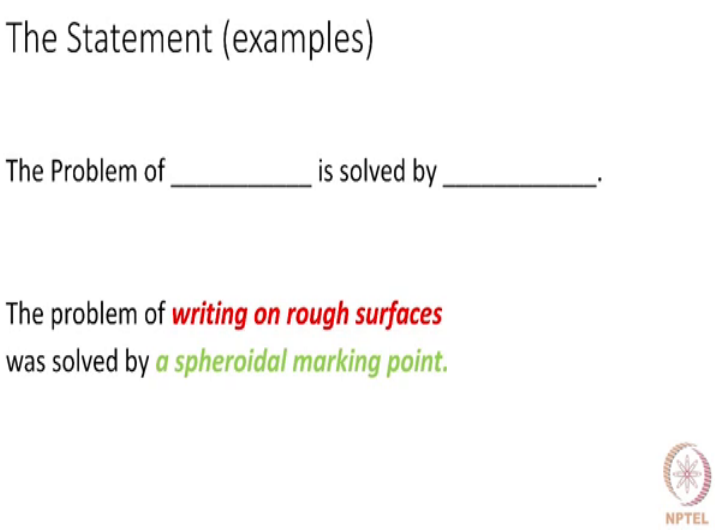

On rough surfaces was solved by a spheroidal marking point again this is the ball pen pattern that we had seen earlier. So, writing on rough surfaces was the problem that the ball pen addressed. So, this is the in which a problem solution statement would capture the essence of the invention.

We had already seen the other alternatives in our earlier lecture as to what could have been the different kinds of claims that could have come out of a ball pen and the reason for choosing the particular problem is that it expands the scope of the invention and it is what the inventor eventually claimed.

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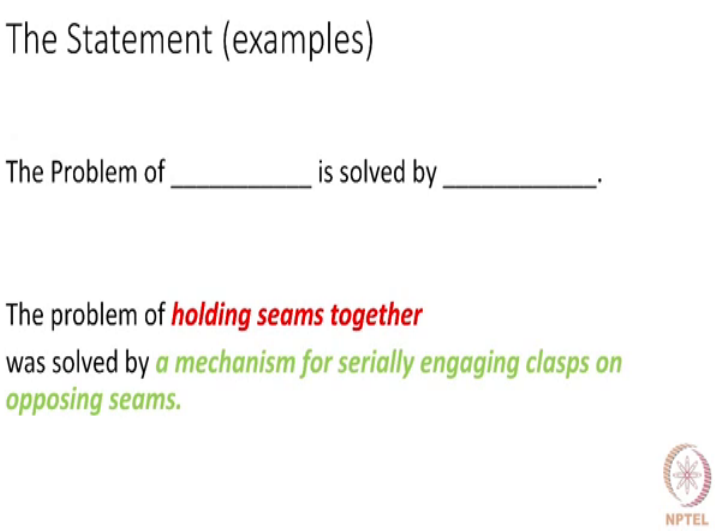

The problem of holding seams together was solved by a mechanism for serially engaging clasps on opposing seams now this is how a zipper works.

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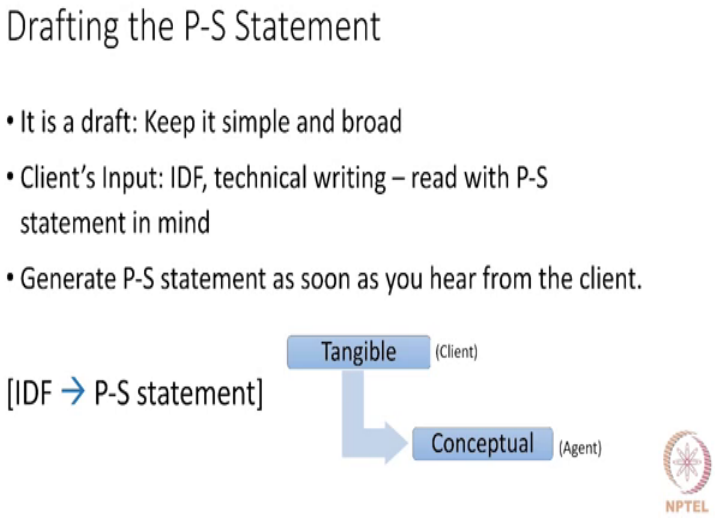

Now, in drafting the problem solution statement what we call the P-S statement, you need to bear certain things in mind, keep in mind that it is a draft. So, try to keep it simple and keep it broad because this is the first statement from which we are going to create a claim.

Now, when you get the clients input most likely if it is in writing it is in the form of the invention disclosure form or the IDF or some bit of technical writing which is the client has done. Now, when you read the disclosure you need to keep the problem solution statement in your mind because your first and attempt in drafting will be by looking at the disclosure and looking for the problem which the invention solved so many times, this may not be apparent or you may even ask the client in your invention disclosure form, what is the problem that the invention solve the client may not be even able to identify it in some cases.

So, the first approach while reading the invention disclosure form or the disclosure from the client will be to have the problem solution statement working in your mind. So, that you can identify things and pose questions to the client and clarify the thought process. So, you would ideally generate the problem solution statement as soon as you hear from the client. So, the process by which we move is that there is an IDF which the client generates and you create the attorney or the agent will create the problem solution statement.

Now, what happens here is that the client usually presents the invention as a tangible manifestation of the invention; he just presents the tangible aspects of the invention which is what a technical writing does. Now, it is for the attorney or the agent to look at the tangible parts of the invention or the tangible presentation of the invention and to evolve a conceptual statement of the invention.

So, understand the problem solution statement should read like a concept or it should at least in the sense that it is broad; it should be able to capture all the features of the invention, it should be able to cover all the embodiments that the invention potentially covers.

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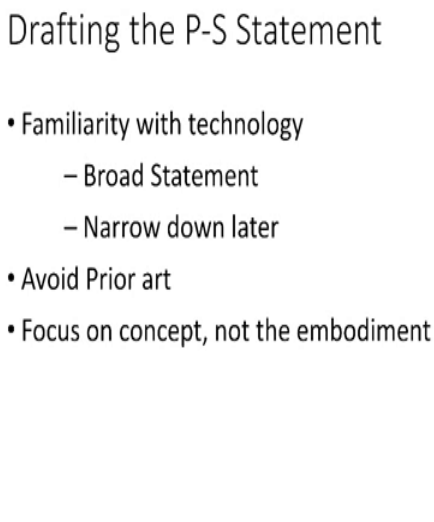

So, in drafting the problem solution statement sometimes familiarity with the technology may be an issue you may not be the patent agent may not be familiar with the technology in those cases, it is preferable to draft the statement in a broad manner and then narrow it down. Later once you get more inputs from the client care should be taken while drafting the problem solution statement to avoid prior art which means in the process that we had already described once you get the IDF or the complete disclosure or what we call a working disclosure.

You should engage in some kind of a prior art search to understand where the disclosure can merit an invention because if you do not understand the prior art or if you are not clear about the prior art, there is a possibility that while drafting the patent you could cover aspects of the prior art which could eventually affect the validity of the invention itself.

So, again in drafting the pattern of problem solution statement the focus should be on the concept and not on the embodiment.

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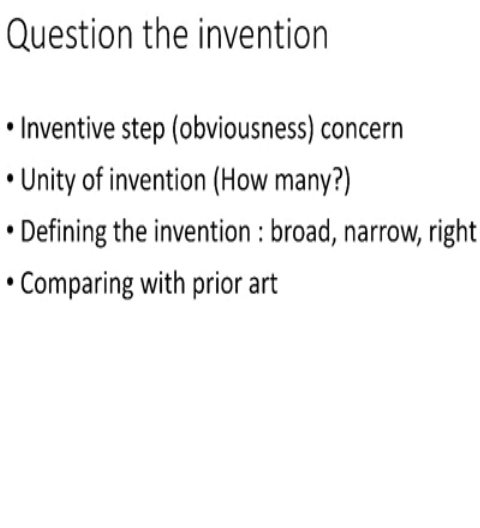

Now, one of the things that you would do while creating the problem solution statement is to question the invention because till this time if you had received an idea from the client, it is quite possible that you did not have an opportunity to question the client or to raise certain questions with regard to the invention itself and assuming that you had done some amount of prior art search you would also know that terrain much better now. So, you have a working disclosure with you with you and you have done a prior art search based on the disclosure.

Now, you have an idea about the terrain by the terrain I mean the patterns in the same field owned by other patentees and you would also know apart from the patterns you would also know what the general prior art is for this field.

Now, one of the things a patent agent or a attorney would try to avoid is to see to it that the problem solution statement does not fall foul of the inventive step requirement or what we call the obviousness requirement. So, the inventive step requirement states that the invention should not be obvious to a person skilled in the art.

So, whether it is obvious to a person skilled in the art is a concern that you will constantly have while creating the problem solution statement and because you would have some idea about the prior art, you would now be able to see where the invention can actually overlap or fall into the public domain or which aspect of the invention is covered in the prior art.

So, the problem solution statement an ideal problem solution statement will be one which maneuvers and avoids the prior art, another concern you would have is to see whether there is unity of invention which means whether there is just one invention in the problem solution statement, in case there are more than one invention separate inventions then you would create different problem solution statements for them.

If there are inventive concepts in the invention which together form a single inventive concept there are different inventive concepts which can be presented together as a single inventive concept then you would still stick to a single problem solution statement. So, the disclosure may have multiple inventions. So, it is at this point that you decide whether all the aspects of the invention should be covered by a single problem solution statement or whether you should have multiple problem solution statements.

Now, in defining the invention you could either take an approach of crafting a broad problem solution statement depending on your knowledge about the prior art or you could create a narrow statement because some in some cases the narrow approach is mandated, it is something which you will have to do or in some cases you may just come with the right statement because the you will come with the statement the problem solution statement which would just look, right now this as we said should be done by comparing with the prior art.

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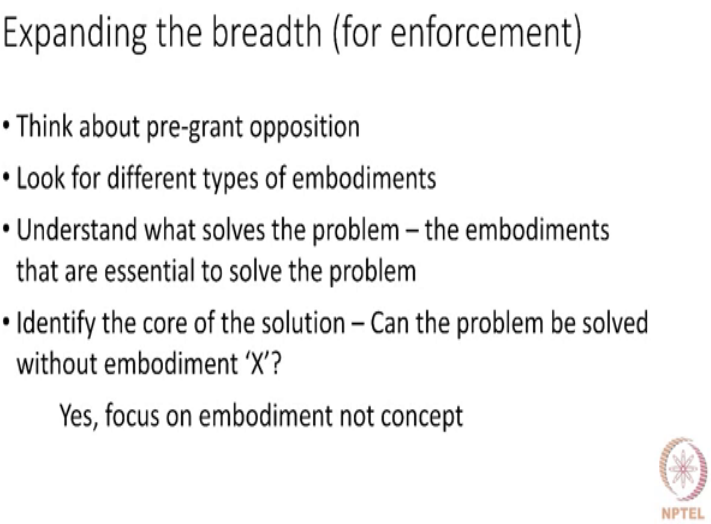

Now, a problem solution statement can either be a very broad one, but if it is not, then your endeavor will be to expand the breadth of the problem solution statement in expanding the breadth the advantage that you would have is if you expand the breadth of the problem solution statement it becomes easy for you to enforce the patent when the patent has draft. So, in terms of enforcement in terms of your ability to stop others from doing; what is covered in your patent becomes much stronger or even better when you expand the breadth of the problem solution statement because it eventually expands the breadth of the claim.

Now how do you do this now when you draft the problem solution statement you should think about the possibility of a pre grant opposition because any application that is filed in the Indian patent office can be challenged in the application stage by a pre grant opponent, it could be any person the law allows a third party to oppose patterns in India, before they are granted.

So, while drafting you need to worry about this you will not draft your patent in a very broad fashion though, it is it gives you certain benefits in enforcement, you will also ensure that there could be a potential challenge if it is drafted very broadly to cover some aspects of the prior art that they could be a challenge from a pre grant opponent.

So, always bear this in mind when you are drafting, if there is a pre-grant opponent who wants to challenge your patent what would he do if he looks at your draft. So, while drafting the statement, this is a concern you need to bear in mind that there is a potential challenge that can come onto your application when it is being prosecuted.

So, once you have this mind set, you would try to avoid the prior art and you would only claim as much as what the prior art will allow you to do and you would also kind of question the invention rigorously. So, that the there is no embarrassment at the patent office when a pre grant opposition is filed because you have already done the homework and you have already claimed only what can be validly claimed.

Now, to expand the breath you can look at different types of embodiments from the problem solution statement you can look at different types of embodiments the different types of applications which you can consult your client and come up with.

Now, to understand what solves the problem you can look at the embodiments that are essential to solve the problem, now mind you the problem solution statement is the precursor of a claim and in a claim you want to have the essential features that are really important for you to protect, they could be non essential features or non inventive features which may be optional which is not something which for which you are going to claim protection form. So, this exercise of what solves the problem the question of what solves the problem will help you to focus on the essential features for which you want to draft a claim.

Now, identifying the core of the solution is something which when you do will eventually get into the problem solution statement because what you have identified as the core is the solution that you want to offer and what you want to claim. Now one way to identify the core of the solution is to ask yourself this question can the problem be solved without embodiment X.

Now, let us assume that your invention has three or four embodiments w, x, y and z. Now you ask yourself whether the problem that you are stated, you have stated in your problem solution statement can be solved without embodiment X if the answer is yes, then understand that the focus is on the embodiment and not on the concept. So, you need to create a concept in such a way that it becomes integral to the solution that your invention offers.

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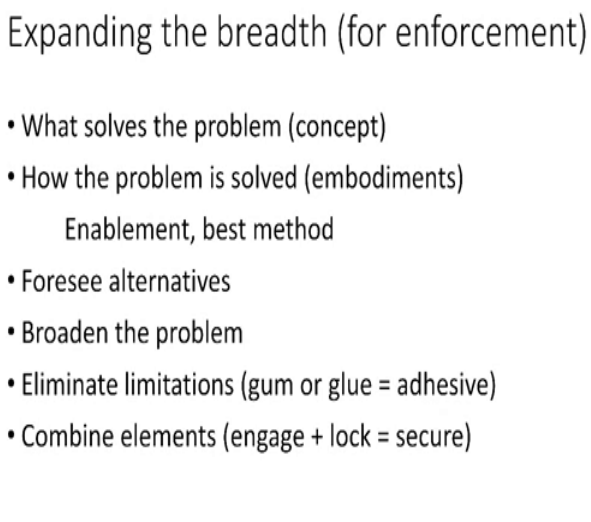

Expanding the breadth the focus should be on what solves the problem and that should be stated as a concept and not on how the problem is solved because how the problem is solved are the embodiments that can be later on figure out when you draft dependent claims and other claims. So, the focus should be on what solved the problem and not how the problem was solved how the problem was solved was would detail the different workings and the details. So, at this level of drafting the problem solution statement your focus should be on the concept.

And the, an how the problem is solved, we will have will answer enablement which is requirement in patent law and best method which is again a requirement in patent law. Now, way if there is to determine whether it enables a person skilled in the art whether the disclosure enables a person skilled in the end what we call an enabling disclosure or whether the inventor has disclosed, the best method of performing the invention these pertain to the how part of the problem solved, how is the problem solved.

So, that describes the details whereas, what solves the problem is pertains to the concept now you to expand the breadth you can also foresee different alternatives and in other way to expand the breadth of the problem solution statement is to broaden the problem itself.

Now, yet another way to expand the breadth of the problem solution statement would be to eliminate limitations; now if the problem solution statement has say an embodiment called glue or gum, then you could use a broader term adhesive to cover much more than a glue an a you could combine elements for in instance you could take concepts like engage and lock and cover it by a single concept like secure if the context allows you to do that.

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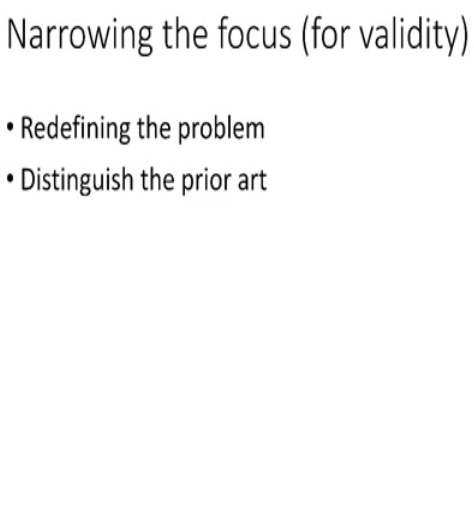

Now, we just spoke about how to broaden the problem solution statement, if it is not broad enough, but also to worry about certain issues that may you may face while broadening it. Now, they may be instances, we may you may have to narrow down the problem solution statement. Now, narrowing down will largely come by way of redefining the problem because the problem has already been solved the way in which you have framed it and you find that there are solutions which are very similar to your invention.

So, one way to do is to redefine the problem the other way is to narrow the focus will be to distinguish it from the prior art, now the prior art may read upon the invention and you may have to narrow down the problem solution statement now while narrowing down you do it for the sake of validity. Now, we had mentioned earlier if you broaden a problem solution statement then you get a potentially broader claim and a broader claim would allow you to enforce it much better because a broader claim can catch much more potential infringement when the patent is granted then a narrower claim, but the flipside as a broader claim may also read into the prior art.

Now, the focus on narrowing down the problem solution statement is to ensure that your patent is valid because when you narrow it down the possibility of it reading into the prior art is lesser than it would be in the case of a broader claim, but the counterpoint in

this case will be if you narrow it down, then the enforcement part your ability to stop others by way of an infringement suit will be affected.

So, these two things enforcement and validity are the two things that will always play in the mind of a person who drafts a patent if we broadens the scope of the claim, it will be good in terms of enforcement, but there is a possibility that it could read into the prior art and a validity challenge could come on it at a later point in time. Now, this is why we said you should always think of a potential pre grant opponent in your while you are drafting because it could be possible for a pre grant opponent to oppose a patent before it is granted the law allows that to happen in India.

At the same time, if you focus on narrowing down the problem solution statement you would eventually end up with a very narrow claim. The very narrow claim will get granted for sure because it simply does not read into the prior art, but the flipside again is that because you have not claimed that is too narrow, you will not be able to enforce it against others the competitors will be able to work around it and because your claim is too narrow you will not be able to enforce it against others.

So, this balance has to be maintained of ensuring the claim is broad enough. So, that it is enforced effectively and it is narrow. So, that it does not fall of the prior art. So, that there is no validity challenge that is posed on the invention.