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Lecture - 23
Patent (Part 2 of 2)

So, what is the procedure to be followed? So, the Step 1 is you write down the invention idea or concept. By the way you can also get an idea patent. Idea patent and some countries are giving idea patent. Some countries they say it is a provisional patent. Provisional patent is I have an idea I do not have finance, but I am trying to work on it. By, but give me some time by end of the year or end of 2 years I will be able to convert my idea into a prototype.

So, at that point of time what you apply is always a provisional patent ok. And then you work on your idea then you try to get it or you try to create you try to completely develop a product or prototype whatever it is about the idea and then come to the then file your patent.

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Procedure for patent registration

Step 1: Write down the invention (idea or concept) with as much details as possible

- Collect all the information about your invention such as:
 - Area of invention - *ME*
 - Description of the invention what it does - *relief*
 - How does it work —
 - Advantages of the invention —

Call lab record duly signed with date by you and respective authority.

Step 2: include drawings, diagrams or sketches explaining working of invention

- The drawings and diagrams should be designed so as to explain the working of the invention in better way with visual illustrations.
- They play an important role in patent application. —

Step 3: check whether the invention is patentable subject matter

- All inventions may not be patentable, as per Indian patent act there are certain inventions that are not patentable.

So, when you have to patent registration there are several steps. And the Step 1 is write down the invention idea or concept with as much detail as possible first time right.

Collect all information about your invention such as area of invention. For example, Mechanical Engineering, description of the invention what it does. So, may be it tries to give a relief. Relief to worker who is doing this how does it work and advantages of your invention.

Then call lab record duly signed with date by you and respective authority. So, what they say? If at all you are trying to think of an idea which you are trying to patent. Today what is happening a data which is for you is also for a person sitting in China, people sitting in Japan and people sitting in USA. So, it is always better what you do is. You start maintaining a lab report or a lab sheet or a lab report. So, what you do is every day when you start working you first write down your idea and then you start writing everyday progress. At the end of the day you sign and also get an authority to signing the bottom saying that this was done on this day.

So, if at all there are three people who are claiming that they are their ideas. All the three have been working on the same idea and all the three are having to have a similar solution to the problem. Then what the patent office or the attorney looks at it is. Who is see who is senior amongst the three in terms of working and the document should be legally signed by authority only those things they consider and then try to give it. So, that is why we always say try to have a lab record which is duly signed by you and by your authority or by your supervisor whatever it is.

So, here in which daily your report has to be recorded which is very important. When you start working for your PhD or for even master thesis or for patent, you have to maintain a lab record ok. So, then Step 2 is include all the drawings, diagrams, sketches explaining the working of the innovation. Drawings and diagram schematic diagram is fine. But if you can draw an Engineering drawing that is excellent. Drawings and diagram should be designed. So as to explain the working of the invention in a better way with visual illustrations as much as possible. They play an important role in the patent application.

Then Step 3 is check whether the invention is patentable subject matter. All inventions may not be patentable and interestingly if you do not patent an idea and you still use that idea for producing a part. You have you still own the rights for that particular product. For example, Pepsi has not patented their formula for making cold drinks. Why because

once you make a patent you hold rights for 25 years or 30 years depending upon the country and afterwards it becomes a public domain.

For example, additive manufacturing, rapid prototyping. So many machines 10 years before they were costing around a crore. Today it has all come down to a few lakhs and which were all few lakhs earlier in the rapid prototyping machines. Today have come down to 50000. And today if from Chinese market I can get a rapid prototyping machine a small machine desktop type for 10000 rupees. Since the patenting life is over, now it has come to public domain. All the drawings are freely available ok.

So, if you want you can protect your idea and protect your idea and you get a patent. If you do not want, you do not patent you keep working on your idea and you keep producing apart. Nobody is asking going to ask you why have you not patented it. But the only risk on you is if somebody patents it tomorrow that point of time you might have to fight for your legal stand ok. So, check whether the invention is patentable subject matter. So that means to say your idea whatever you say has to be clear and also try to see whether it is worth protecting your idea. For example, if you want to protect an idea I have come up with a screw. It is already known. It is there in the public domain.

See if you look at the screwdriver innovation, first thing was a minus head was there on a screwdriver. Then it went to Phillips head; that means, to say plus. Then now what has happened is that plus head at that location itself they have started putting an LED. So, LED is very very hard material. So, you have a light exactly at the tip which is been patented idiom for a screwdriver ok.

All inventions may be patentable as per Indian patent act. There are certain inventions that are not patentable. So, what is not patentable are those things which is going to really affect mankind; a bomb, a bacteria right which is going to kill manpower that is not acceptable ok.

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Procedure for patent registration

Step 4a: Patentability search

- The next step would be finding out whether your invention meets all patentability criteria as per Indian patent act? That is,
 - Novelty ✓
 - Non-obviousness ✓
 - Industrial application ✓
 - Enabling ✓
- The patentability opinion is provided by the patent professionals up on conducting extensive search and forming patentability report.

↑ Hall Structure
Banner

Patentable search, so when you when I try to search literature. So, I would like to look at several search engines which are available today; U.S. patent office is one. There are several search engines available. So, you just go through that search engine and try to find out what is the state of the art.

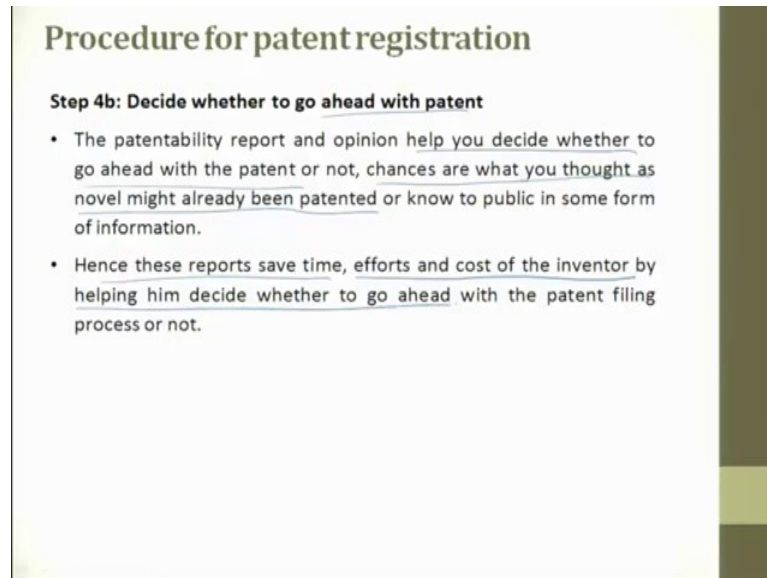
The next step would be finding out whether your invention meets all patentable criteria as per Indian act. It has to be novel. The idea has to be new of its kind. Second thing the idea has to be non-obvious to a person who is regularly using it. For example, in the example of a screwdriver which I told see (-) was initially the screwdriver head they had. So, the screw also had the head has (-) sign. Then in order to have better gripping it became plus. The idea was patented. So, they call it as Philips screw or Philips screw driver.

So then people when they had huge depth of access. So for example, in a desktop type computer the biggest problem is you always need a torchlight attached with your screwdriver. So, that you can exactly go at that point and do it. So, this minus then people started magnetizing the tip that was the third step. And today they have integrated the light to the magnetic tip and around the screwdriver length there is a LED which glows which tries to make the point visible.

So, this idea of integrating light into a screwdriver is new, torchlight is known. A regular person needs a torchlight to, to screw or unscrew a depth access portion it is known. So,

but he did not think of integrating these two fellows that is non-obvious. Then it is industrial. It has to have an industrial application, it has to be a sale idea and it has to be enabling. It has to it has to improve some efficiency ok.

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The patentable options is provided by the patenting professionals up on conducting extensive research on forming patentable reports. Then decide whether to go ahead with patent. Once you have decided whether your whatever inventions comes; Novelty, Non-obvious, Industrial application and Enabling. I will tell you an interesting application recently I was going through.

See when you see people working on very tall structure, tall structure banners. May be of a politician or maybe of a goddess. So, what these artists do is they try to climb up the up the banner which is around about 30 feet 60 feet high and they try to take everything with them. For example, they try to take screws, they try to take nails, they try to take screwdriver, they try to takes hammer everything with them.

And when they climb up they have they have to have, they have to be very cautious because if they lose stability they fall down. So, in order to avoid instability; that means, to say moving back and forth what they do is they try to take all the nails in their mouth; that means, to say they stuff number of nails in their mouth and they keep climbing up and as a when they need a nail they pull out a nail from their mouth, hit it and then keep moving. So, this is a practice which people do it. So, there was a young kid who came

and said why do not I make a wristband and put all these pins on the wristband and as a when it is required he pulls it and then he takes it, an innovative idea which has not been taught. So, that is non-obvious ok.

So if you can come up with such thing, so then that idea is worth patenting right. So, now, after you decide yes, it is worth an idea it has fulfilled all the four criteria's. Now what I do I will try to go ahead with my patent. So, the patentable report and the opinion help you to decide whether to go ahead with the patent or not. Chances are chances are what you thought as novel might already be patented. So, that is why we try to do this state of the art right. Hence these reports save time, effort and cost of the inventor by helping him decide whether to go ahead or not. So that is why you do a patented search.

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Procedure for patent registration

Step 5: Draft (write) patent application

- In case you are at very early stage in the research and development for your invention, then you can go for provisional application. It gives following benefits:
 - Secures filing date
 - 12 months of time to file complete specification
 - Low cost
- After filing provisional application, you secure the filing date which is very crucial in patent world. You get 12 months of time to come up with the complete specification, up on expiry of 12 months your patent application will be abandoned.
- When you complete the required documents and your research work is at level where you can have prototype and experimental results to prove your inventive step you can file complete specification with patent application.

Then we start writing the Draft. Writing the draft of a patent is really an art. So, we have we have professionals available for it. So you go give your idea, the professionals take the idea and start working on it and then try to a give a solution. In case you are at a very early stage in research and development for your invention then you can go for provisional application. It is gives following benefits: secure filing date, 12 months of time for file completions specification and it is low cost.

After filing provisional application, you secure the filing date which is very crucial in patenting world. You get 12 months and that is what I said 1 year to come up with a complete specification up on expiring this 12 month, your patent application will be

abandoned. So, we are trying to talk about provisional application. When you complete the required document and your research work is at a level where you can have prototypes and experimental results to prove your inventive step you can file complete specification patent.

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Procedure for patent registration

Step 6: Publication of the application

- Up on filing the complete specification along with application for patent, the application is published after 18 months of first filing.
- An early publication request can be made along with prescribed fees if you do not wish to wait till the expiry of 18 months from the date of filing for publishing your patent application.
- Generally, the patent application is published within a month form request form early publication.

So, then Publication of application; up on filing the complete specification along with specification, along with application for a patent the application is published after 18 months of the first filing. So, an early publication request can be made along with the prescribed fee if you if you do not wish to wait till the expiry of 18 months from the date of filing for publication your patent application. Generally, the patent application is published within a month form from the request of your early publication. So, here what we do is we put it in a public domain and then we ask and then we file and then you get it. If you want to speed up, you have to pay we have to pay more money and some justification.

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Procedure for patent registration

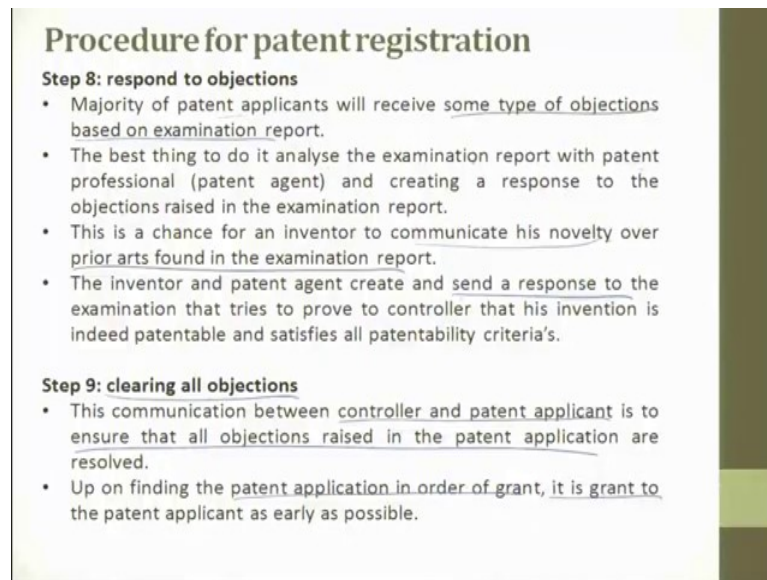
Step 7: Request for examination

- The patent application is examined only after receiving request for examination that is RFE. Up on receiving this request the controller gives your patent application to a patent examiner who examines the patent application with different patentability criteria like:
 - . Patentable subject matter ✓
 - . Novelty ✓
 - . Non-obviousness ✓
 - . Inventive step ✓
 - . Industrial application ✓
 - . Enabling ✓
- The examiner creates a first examination report of the patent application upon reviewing it for above terms.
- This is called patent prosecution.
- Everything happening to patent application before grant of patent is generally called as patent prosecution.

Request for examination: the patent application is examined only after receiving the request from the examination that is RFE. Up on receiving this request the controller gives your patent application to the patent examiner, who examines the patent application with different patentable criteria's like Patentable subject matter, Novelty, Non-obvious, Innovative step, Industrial application and Enabling.

And then he tries to the examiner gives yes a clear go ahead then you file a patent. The examiner creates a first examination report to the patent application upon reviewing it for for above terms. Then it is called a patent prosecution. Everything happens to patent application before granting of the patent it before grant of the patent is generally called as patent prosecution.

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Procedure for patent registration

Step 8: respond to objections

- Majority of patent applicants will receive some type of objections based on examination report.
- The best thing to do it analyse the examination report with patent professional (patent agent) and creating a response to the objections raised in the examination report.
- This is a chance for an inventor to communicate his novelty over prior arts found in the examination report.
- The inventor and patent agent create and send a response to the examination that tries to prove to controller that his invention is indeed patentable and satisfies all patentability criteria's.

Step 9: clearing all objections

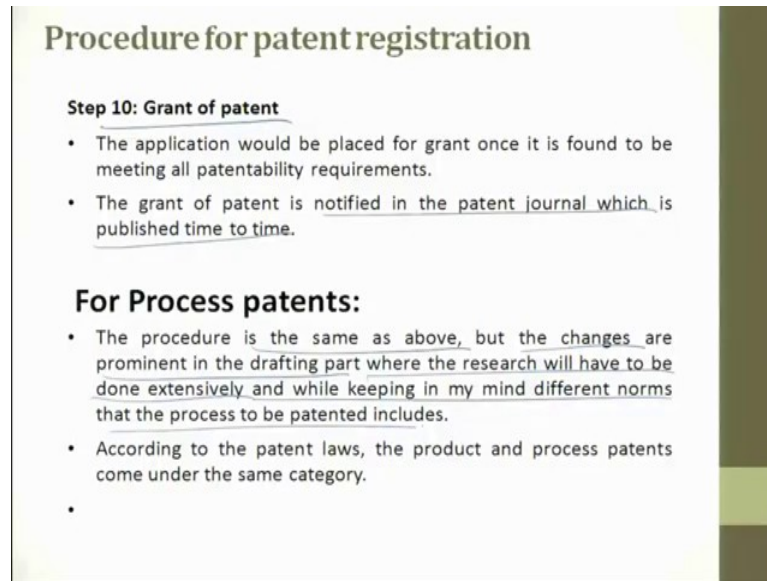
- This communication between controller and patent applicant is to ensure that all objections raised in the patent application are resolved.
- Up on finding the patent application in order of grant, it is grant to the patent applicant as early as possible.

Then respond to objections: if at all they have raise some objections then you the examiner has raise some objections. The raised quarries will come back to the inventor and then he has to work on it and then give solutions to it. So, majority of the patent applicants will receive some type of objection based on the examiner report. The best thing to do it analyse the examination report with patent professionals and create a response to the objection raised by the examination report. This is a chance for an inventor to communicate his novelty over the prior art found in the examination report. The invention and the patenting agent create and sends the response to the examination.

For example, he would have said 20 queries would have been there. So, you try to make an excel file put serial numbers say this is the quarry what is your response. You have to make it in a very professional manner and whatever response you have made you have to also incorporate it in your basic draft which will be resend to the examiner.

So, after all the objections are clear the communication between the controller and the patent applicant is to ensure that all the objection raised by the patent applications are clear. If you say 50 percent is clear 50 percent, I could not then they say sorry (Refer Time: 15:04) you cannot patent your idea. Up on filling the patent application in order of grant it is it is grant to the patent applicant as early as possible.

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Procedure for patent registration

Step 10: Grant of patent

- The application would be placed for grant once it is found to be meeting all patentability requirements.
- The grant of patent is notified in the patent journal which is published time to time.

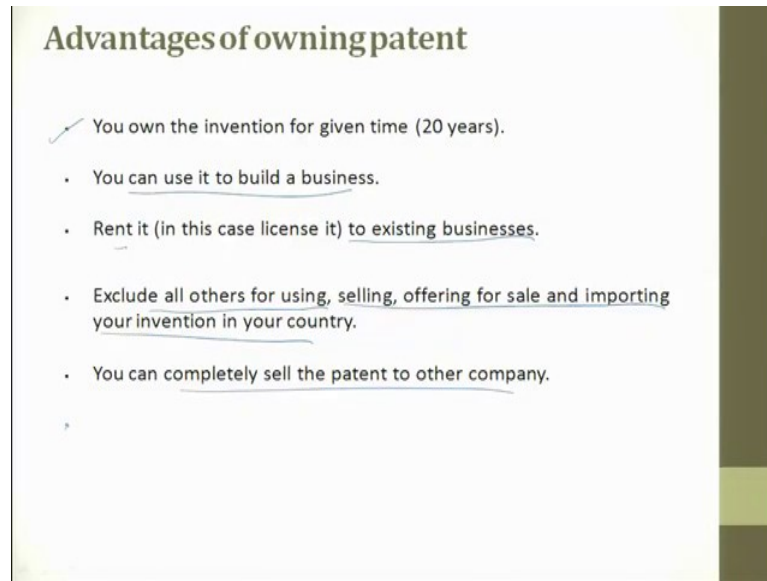
For Process patents:

- The procedure is the same as above, but the changes are prominent in the drafting part where the research will have to be done extensively and while keeping in my mind different norms that the process to be patented includes.
- According to the patent laws, the product and process patents come under the same category.
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Then the last step is there is a grant of patent. So, the patent after going through is given a number and that number you will hold it as a patenting number for you. The grant patent is notified in the patent journal which is published time to time. So, like your journal publication here also they try to publish this is an article in 1 page or 2 page or they put it in a digital one.

So, it is left in public domain saying that xyz has patented this idea and this is what is the novelty in the idea, where which it does not reveal more in depth description about what is what. For process patent the procedure is the same as the above, but the but the changes are prominent in drafting patent where the research will have to be done extensively while keeping in mind different norms that the process to be patent includes. According to the patent law, the product and process patent can come under the same category.

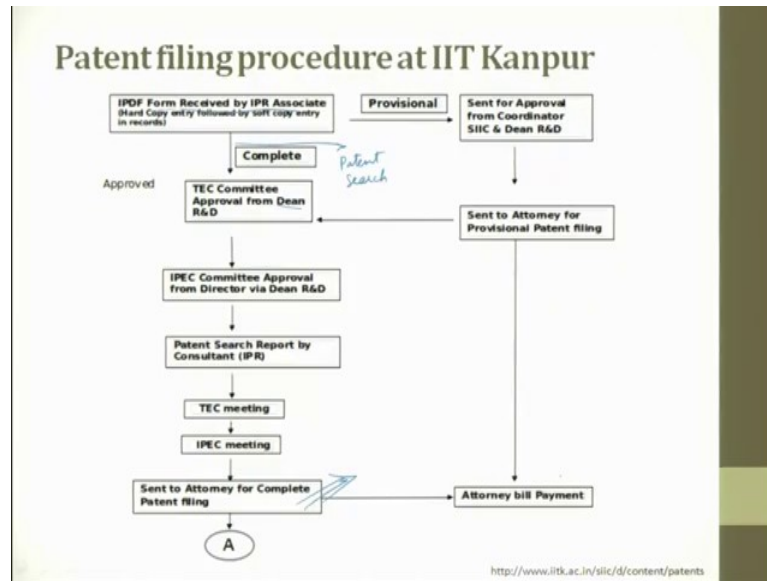
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What is advantage of owning a patent? You own the invention for a given time of 20 years. Here in which if it is one country it is 20 20 years, certain countries have 60 years, certain countries have 30 years. Depending upon the country you go and do it. And interestingly suppose you are an Indian, you want to apply a patent only in India you get an Indian patent. You if you spend money you can also get an American patent for your idea, Sri Lankan patent for your idea or European patent for your idea. But you have to spend money, file and then move your idea in that in that area and try to protect your idea in that countries also.

So, so each country has their own patenting loss so time, duration other things. You can use it to build a business. Rent it to an existing business. Exclude all the other using, selling, offering for sale and importing your invention in your country. You can completely sell the patent to any other country. And on top of it if you want you also have the right to say I do not want to sell my idea to this xyz company possible. One is giving right and you can also say, I hold the right I do not want my idea to be sold to this xyz. That time also your patent tries to give you protection.

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Here I have just put IIT Kanpur IIT Kanpur procedure for patent. So, an IPDF form is received by the IPR association. So, first faculty works on an idea. So, he has to submit an IPDF form and then his IPDF form is given to a committee wherein this committee is formed by Dean or by some by some competing authority competent authority they try to form, a Technical Evaluation Committee ok.

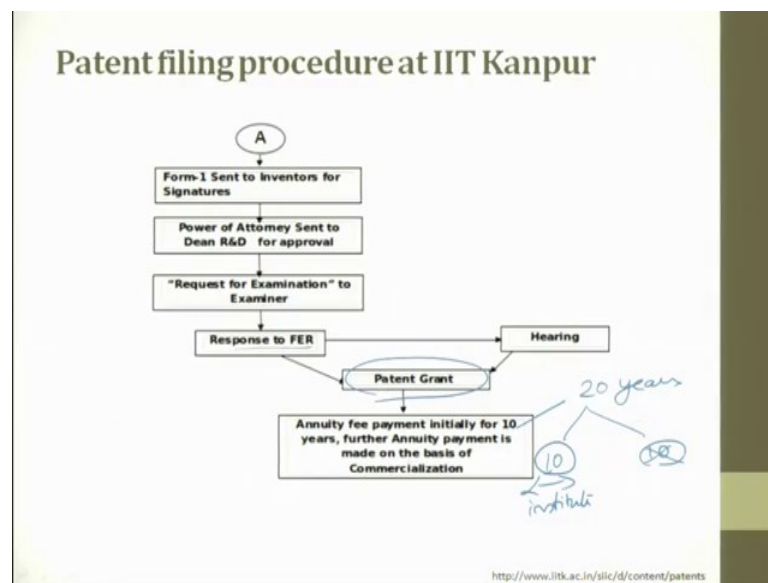
Before this report goes to technical evaluation committee, here we try to do a patent search and try to do a similarity index. So, a patenting inventor gives then a similarity search is done by the office, then it is given to a TEC report then the TEC committee evaluates the report. And if they find, yes it is good, then it is further progressed. If it is not good, then they stop it there and then say no it is not worth patenting.

So, here if a faculty member feels he has a wonderful idea, but he needs time. So, you can directly go for a provisional patent and that idea can be patented right. So, so then he can provisionally hold the idea. So, after 1 year, the patenting then this it need not go through the committee. He just files an idea. So, then but within 1 year he has to prove his patent. So, that point of time a TEC is appointed.

They go through it and then they say yes, then the committee reports the matter that yes here is a wonderful idea which is to be done which is worth patenting so it is reported to the Director. Then director approves the idea. It goes for an it goes to the attorney for final filing. A moment it is file the attorney gives the bill. So, this bill is given back to

the institute for processing and every year you have to shell out money for holding your patent or for servicing your patent every year, we have to pay money. And moment you stop paying that money for your servicing of patent, then the patent, the attorney or the patenting office will not try to protect that idea on your name So, first is you have to pay fees for getting a patent. Then every year you have to give a maintenance charge for this patent to protect it on your name for a stipulated time of 20 years.

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So, after this is done so you see all the series of steps are done and then finally it goes to the evaluations or request for the examination for the patent. So, then he gives a response. The response are worked and then finally, your patent is granted. So, you see a Annuity fee payment initially for 10 years. Further annuity payment is made on the basis of commercialisation. So, here what we have done is we have say 20 years is the time which you can hold. So, we have divided into 10 years and 10 years.

The first 10 years institute, institute pays money for servicing your patent. And the once it has finish 10 years then we see whether it is worth for commercialisation. If it is not worth for commercialisation the institute withdraws and this idea will no more be protected by the patenting authority.

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Task for students

- Tea cup which is foldable/collapsible such that it does not occupy space while moving
- Tea cup material should withstand high temp
- Tea cup which is foldable must be water tight
- Tea cup must have some figure/picture which changes when i view from varying direction
- Tea cup colour should reveal the temp

Ok a task for student. So, I would give you a problem statement you can think of it to come with solutions. So, what is that? I would like to have a tea cup which is foldable or collapsible ok. Collapsible such that it does not occupy space while moving. The tea cup material should withstand, withstand high temperature like whatever is a tea temperature it has to withstand that. Then the tea cup which is which is foldable, must be leak proof watertight. And the tea cup must have some figure or something figure or some picture which changes when I view from varying direction and the tea cup colour should reveal the temperature.

So, look at I have drafted all sorts of problem statements. So, what I want you guys is look forward or think of a tea cup and try to make a tea cup, try to make a tea cup a prototype of it. May be you can use it a paper or cotton box or a clay or plaster of Paris try to make it. And try to integrate all these points which I have told ok. And then you will understand now you have come up with a creative idea whether it is worth for patenting or not.

When you are when you come up with your idea, then what you do is go to Google search and then just type whatever tea cup, foldable tea cup or whatever it is. And see how similar is your idea or is your idea completely different. And whatever tea cup you generate it is a design patent. See if you can make a design patent and if you can get a design patent out of this course I would be really happy to see a success of this course and nothing much better than that. So, with that I come to an end of this lecture.

Thank you very much.