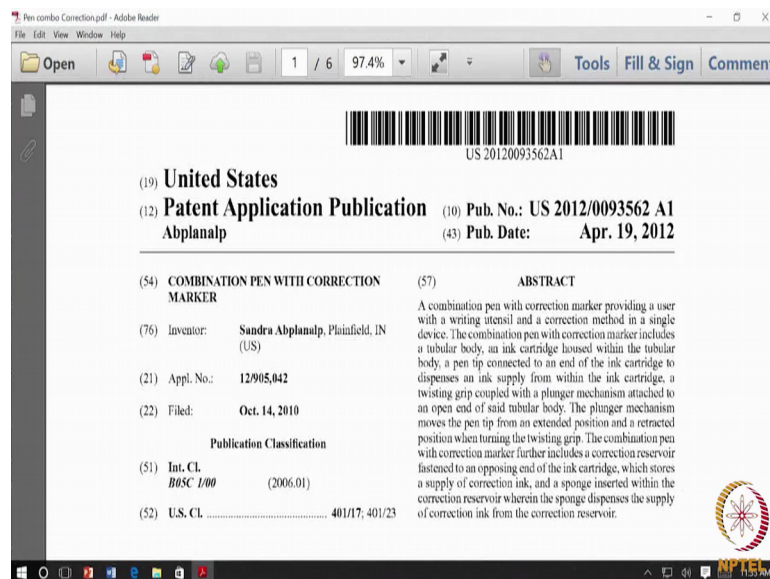


**Patent Law for Engineers and Scientists**  
**Prof. Feroz Ali**  
**Department of Management**  
**Indian Institute of Technology, Madras**

**Lecture - 16**  
**Patent Specification**  
**Structure of a Patent Specification**

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Structure of a patent specification; we are already seen a patent specification be at a provisional or a complete has to be filed in a particular form that was form 2 and form 2 had a particular structure, there was a title of invention, applicant's name, preamble to the description, then if it is a provisional then it will start with a statement the following specification describes the invention, if it is complete it is start with a preamble the following specification particularly describes the invention and the manner in which it is to be performed, then you had description, then you had claims and it ends with signature and date of the person filing it and it also has an abstract.

Now, this is and we have seen the provisions of the act, where the structure of the specification is described. Now let us looks at an example now what you have here is, patent that is filed before the united states patent office, we are using this as an example because these are the published patent applications and for the sake of illustration the patents published by the united states patent office are much more descriptive and it is

easier to understand the various parts of this specification; following this will also be showing you an Indian application, so that you can understand it is by enlarge the same, but the formatting in which the pattern specification is done by the US patent office is much more easier to understand and it has all the details in one place.

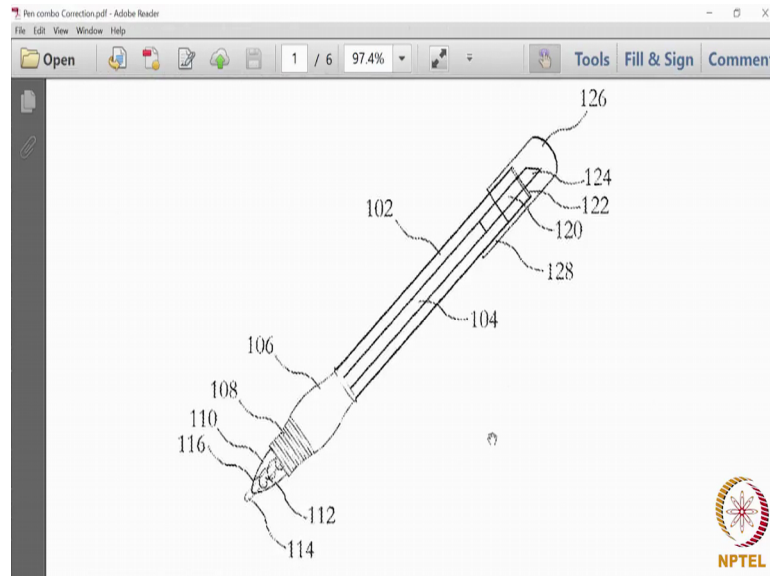
So, you will find these numbers next 2 United States 1912, then there is 10, 43 all in brackets, 54, 76. Now these are universal codes which are used by patent officers regardless of the office in which the patent is granted. So, code 76 will be further invented as mean. A code 22 will be for the date on which it is filed then code 57 will be for the abstract. The advantage of this codes is the regardless of in what language the patent is written, now at Japanese patent will be written in Japanese language so for the Chinese patents in the Chinese language. European patents could be in French it could be in English. So, you find that because there are patents are written in different languages these universal codes helps us to navigate these documents, even if it is in a foreign language for us at least to understand what is there I mean if with regard to numbers publication date 43, you quickly see the code and you will know that that is the publication date.

So, the universal codes are used in different specifications by different patent officers, but the code the numbers tend to remain the same. Now and this is what is known as bibliographical detail. Bibliographical detail will give you the details about what are the bibliographical details about the patent, the inventors name, application number, the date on which it was filed the classification, the title patent office in which it is filed you will also see a bar code, which is for administrative professors the U S officers also given a bar code. Now you find the abstract also, the abstract as we had just seen in form 2 comes after the signature in date in the Indian form 2 it comes after, but here it presented in a different way the abstract is presented upfront.

Now, the abstract describes a combination bit with correction markup proving a user with a writing utensil and a correction method in a single device. Now and it whether describes over the abstracts, now the abstract we had seen has a particular function we saw that in rule 13 we had seen rule 13 7 a and b what are the functions of the abstract. Now abstract the old a word performs similar functions they describe the invention and it is a concise summary, and they indicate the technical field to which the invention

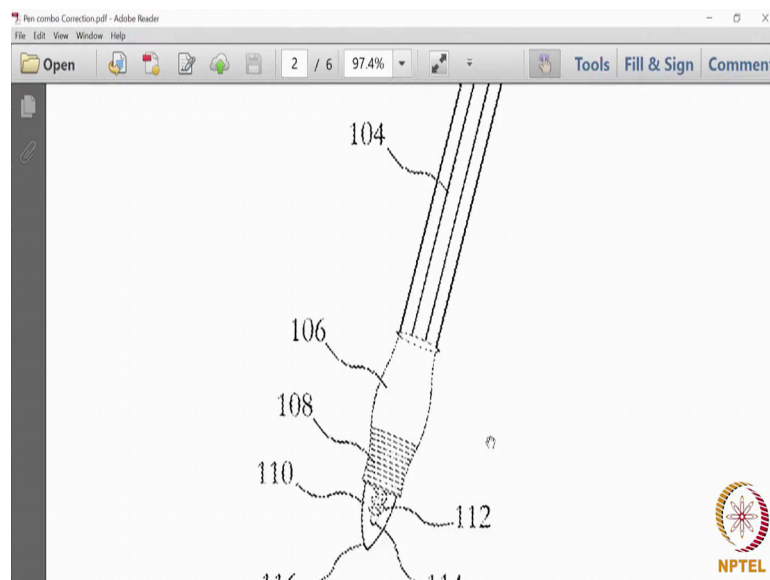
belongs, it describes the technical advancement principle use of the invention, and if it is a chemical substance it also may contain a chemical formula. So, this is the abstract.

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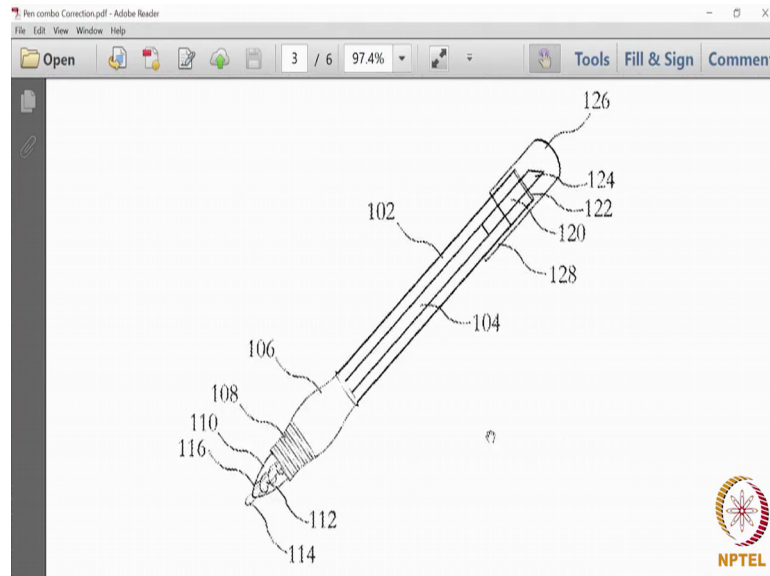


Now, let us see what else is contained in the patent specification? For most mechanical devices you will find drawings now here is a drawing.

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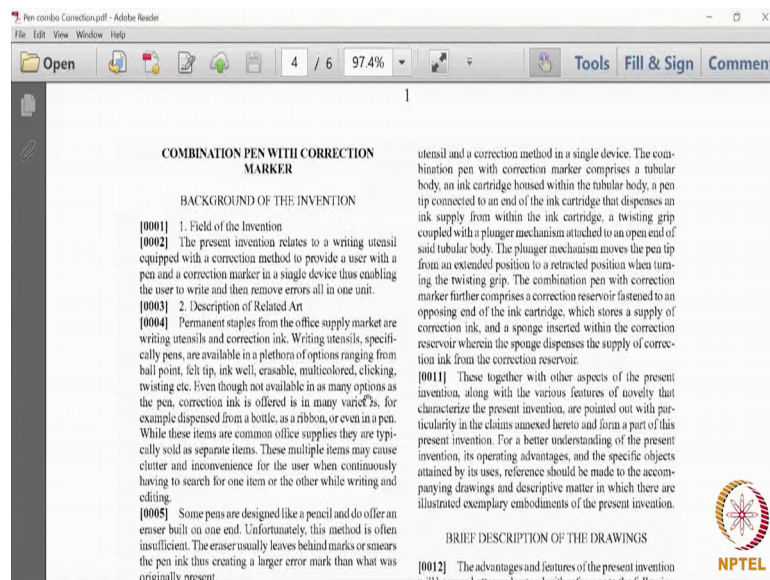


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Now, the drawing will figure first there is a further drawing figure one, and you find that there is a figure 2 and all the drawings will be cross reference.

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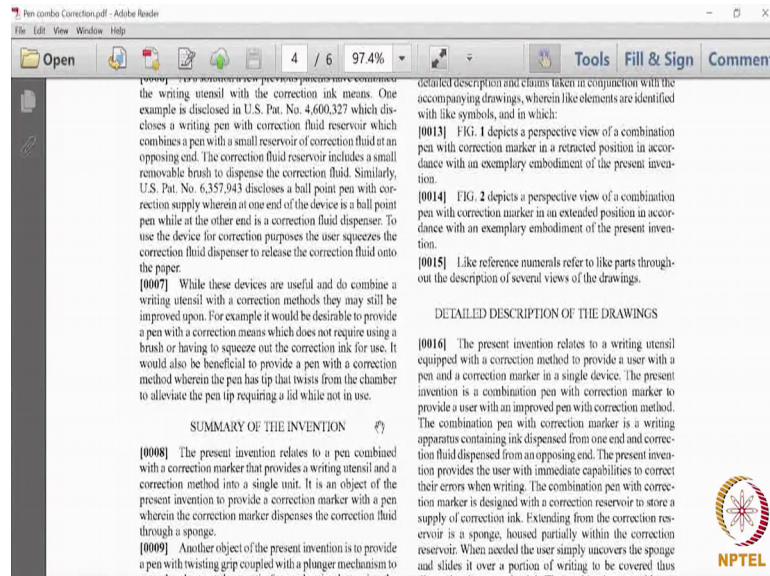
Now, we come to the patent itself; now the written part you will find that there is a title combination pen with correction marker now you can note this number US 2012 0093562 A1 and you can search it on Google, a google dot com slash patents the which is the patent a data base a search for provided by Google or you could go to the US patent office website, and you can search for these numbers and the numbers will throw

up these documents. So, if you want to search any other patent you could go to a google dot com slash patents and you could write the title of the invention or the if you have the claim then you can write the claim there is an advance search feature. So, it will throw it will give you these documents.

So, now here you will find that there is a title combination pen with correction marker. With a first section of the specification will be a descriptive section. So, if you have to classify the specification into 2 parts, you will just say the specification comprises of 2 parts the descriptive part and the claim. So, the descriptive part has various sub headings. So, the descriptive part and we are already seen that the patent specification shall start with a title there shall be an abstract, there shall be a descriptive part then there shall be claims and then there shall be the signature and if you saw that in the form 2.

Now, the background of the invention may start with a field of the invention, the field of the invention will tell you to what field of technology that is the invention belongs to. Then it may also have a heading called description of related art. So, because inventions are never created in abstract there is always a prior knowledge or a prior art or a relevant art for the invention there could be description of prior art. So, description of prior art could be general statements as you can find here, or it could be specific statements like referring to one earlier patent or referring to a patent number or to a scientific article or a research publication. So, description of the related art could be through reference or it could also be through a general way as it is described here.

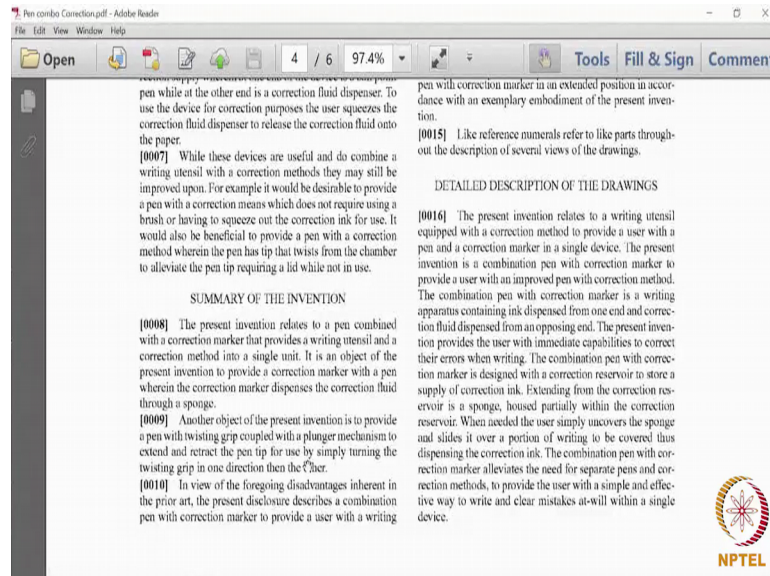
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So, you find some background given then you have the summary of the invention. So, till Para 7 what was described was and you can see here, US patent number 6357943. So, that is a description to an earlier existing invention what we call a prior art. So, prior art references can be you find another description to a patent number here 4600327 again and existing invention which is related to this.

So, you could have a broad description of the prior art without specific references or you could also have specific references of prior art which have already been patented as you can see here. Now Para 7 ends with this state of the prior art, what is that existed before this invention came into b.

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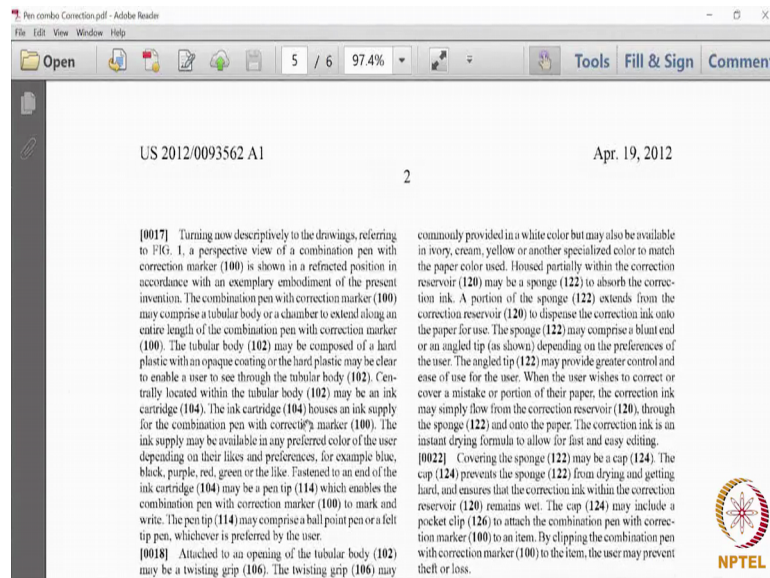


Now, summary of the invention we will talk about the invention, the present invention relates to a pen so and so. Now, it will describe various objects now you can see that it is an object of the present invention, another object and in view of the foregoing disadvantages inherent in the prior art. So, the prior art we understand the prior art to have certain disadvantages, and we can understand that this invention overcame those disadvantages.

So, the summary of the invention will have the objectives and the problem that was solved problem as in the problem in the prior art that was solved. Now following the summary of the invention there is a brief description of the drawings, now you saw figure one and 2 now figure one is explained here figure 2 is explained here. This is a description of the drawing in words they are all perspective view. So, perspective view drawing there are cross section view drawing, split view drawing, blow up, there are different kinds of view a drawings that can a company of patent here you have the perspective view drawing.

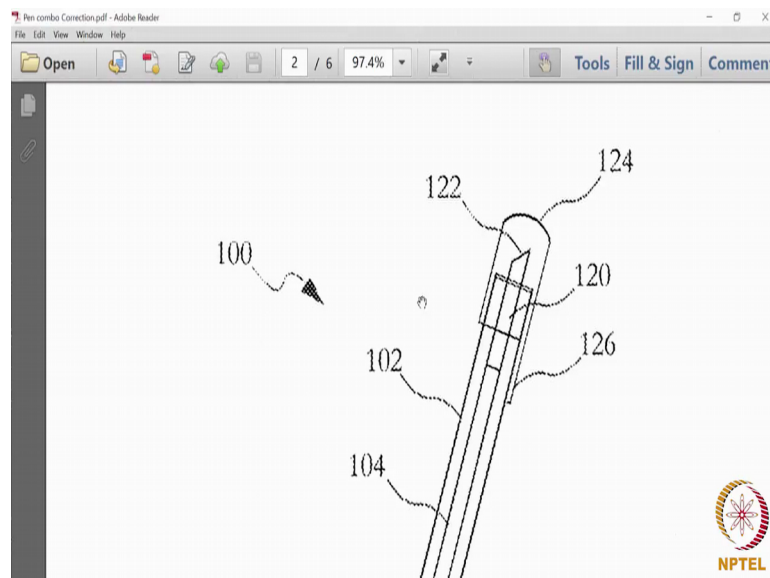
Now, following the description of drawing the next heading will be detailed description of the drawing. Now in the detail description you will actually tell how the device is constructed what are the parts how the parts work with each other, through the detailed description.

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Now, in the detailed description you are going to find these numbers correction marker in bracket 100, correction marker 100 tubular body 102.

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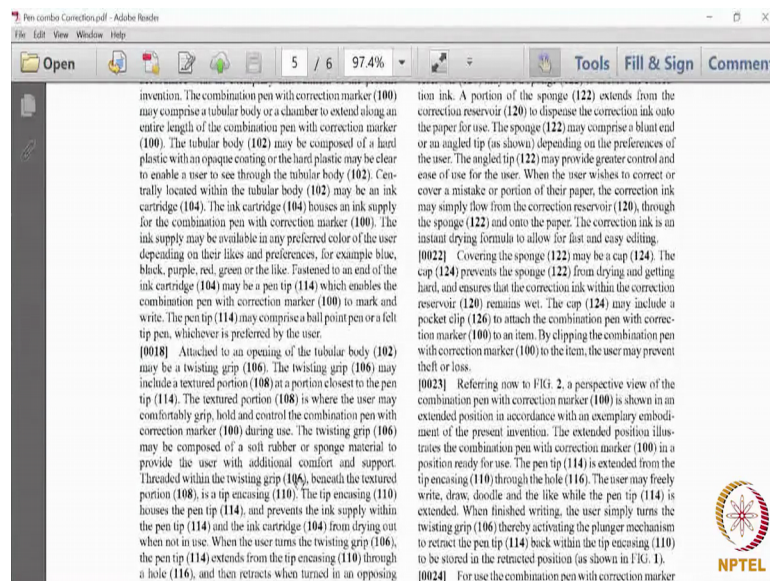


Now, if you go back to the drawing, all these parts were marked in the drawing 100 the correction marker 100. Now the in the drawing they are not described I mean they are not explained in the drawing that is a requirement in patent law, you cannot have written statements or written descriptions in the drawing, the drawing can only be a number unless it is a flow diagram. Is it a flow diagram and you saw that in rule 13, the only



place where you can have words within a drawing is in the case of a flow diagram other than that the drawings will only there in numbers. So, because these numbers are there when you have a detailed description of the drawings, the drawings will actually cross refer those numbers where we just saw here. So, these are all the cross references tubular body is 102 wherever tubular body is repeated you repeat the number in cartridges 104 pen tip is 114 and so on.

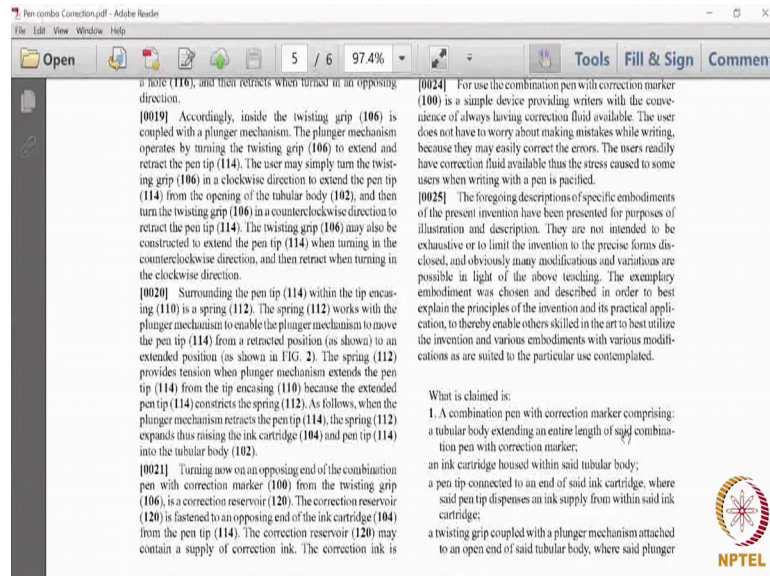
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So, it is just how. So, you when you see these numbers you know you can look back into the drawing and understand which part of the marked drawing is the part that is described here.

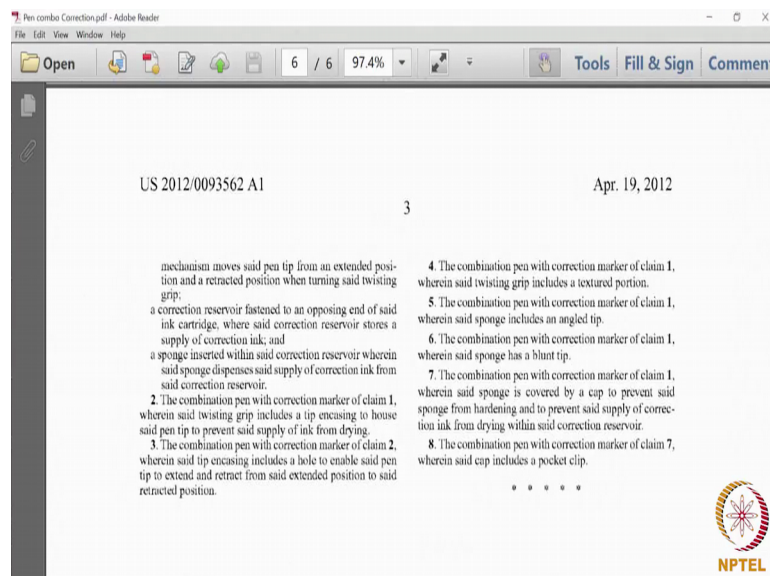
So, tubular body is 102 so on and so forth you will understand that. Now this description of the drawing because it is a mechanical invention there is no illustration required because the description of the drawing itself describes it. Whereas, for a preparation of a chemical substance you will find examples or example one 2 how this is prepared the different methods by which it can be prepared, and if there is a disadvantage in a particular method that advantage is described. So, illustrations and examples are normally there where there is methods involved in preparing something say a chemical substance. In this case you do not find that because this is only a mechanical invention and the descriptive part has described it.

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And finally, you have the claim the claim, in a U S patent begins with a statement what is claimed is. In India it is I claim or we claim, what is claim? A combination pen that correction marker comprising. Now comprising colon if you can see that, now comprising colon allows you to split a sentence into various components you can see that there are various clauses here ending with semicolon and finally, you have and you have the clause ending with a full stop.

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So, by convention the matter how complicated the invention is claims are written in one sentence. It is a convention it is followed over the world all over the world, so by convention claims are written in one sentence, sometimes if the invention has multiple parts and if the parts interact with each other in a particular way, it takes time for people to understand that. So, that is why you will find that colon and semicolons are used to show that there are different clauses. Now let us slowly try to read this, this is an invention that comprises a combination pen; one what is claimed is one a combination pen with a correction marker comprising. So, there is a pen with a correction marker a tubular body extending an entire length of the said combination pen with correction marker.

So, there is a tubular body an ink cartridge housed within the said tubular body, there is a cartridge inside the body a pen tip connected to the end of the said ink cartridge where the said pen tip dispenses ink supply from within the said ink cartridge. So, the pen tip is connected to the ink cartridge, a twisting grip coupled with the plunger mechanism attach to an open end of the said tubular body, where said plunger mechanism moves said pen tip from an extended position and an retracted position when turning said twisting grip when turning the said twisting grip, a correction reservoir fastened to an opposing end of said ink cartridge, where the said correction reservoir stores the supply of correction ink, and a sponge inserted within the said correction reservoir where in the said sponge dispenses the said supply of the correction ink from the said correction reservoir.

Now, you will see too many sides there, it is just that the said means the earlier refer or the one referred above. So, that is again or whatever you see here has come to us by long U S of patent drafting which is conventionally followed by various patent officers. Now so we understand that here this is not a combination which is just a list of things there, if had been a been a list then you'll find that a combination pen in a correction marker comprising a tubular body, an ink cartridge, a pen tip, a twisting grip, a correction reservoir and a sponge this is not then it will just be a list of things. But here the list is there nevertheless, but the list is also a connected to the various parts are connected they actually tell you that there is a tubular body and there is a pen tip which is connect to an ink cartridge, and the ink cartridge dispenses the ink into the pen tip and there is a

twisting grip with a plunger mechanism and there is a correction reservoir and there is a sponge.

Now, all these things are described in a way in which when we read it and when we look at the diagram, we are able to understand the working and the construction of the pen itself. So, this is how a claim is drafted; this is one of the ways in which a claim is drafted now claim 2 cross refers to claim one. So, a combination pen which correction marker of claim 1 wherein the said twisting grip includes a tip encasing to house the said pen tip to prevent said supply of ink from drying. Now that is a small modification to help the ink from drying. Now claim 5 a combination pen with correction marker of claim one, wherein the said sponge includes a angle tip again a small modification towards the existing invention claim one. 6 the combination pen with correction marker of claim one, wherein the said sponge has a blunt tip the earlier one fifth was angle tip blunt tip. Very small variations to so that these small variations exists, so that a competitor will not makes small changes and say that my invention is different I am not impinging.

So, blunt tip angle tip these are all variations which person could do a competitor could do and claim that you had claimed tip a minus blunt tip; so just to avoid that you will find that the claims the enumerating the different aspects of an invention. Now here claim 1 which we just saw is what we call an independent claim it is independent because there is no need for you to refer to anything else to understand the claim. Whereas, claim 2 onwards all the other claims here are dependent claims; we call them dependent because you cannot get the full essence of those claims without having to read some other claim. Claim 2 cross refers to claim 1 claim 3 cross refers to claim 2 and when you read claim 2 it cross refers you back to claim 1. So, you cannot read any of the claims 2 to 8 without reading claim 1. So, 2 to 8 are dependent claims because there is a cross reference to an earlier claim, claim 1 is an independent claim.

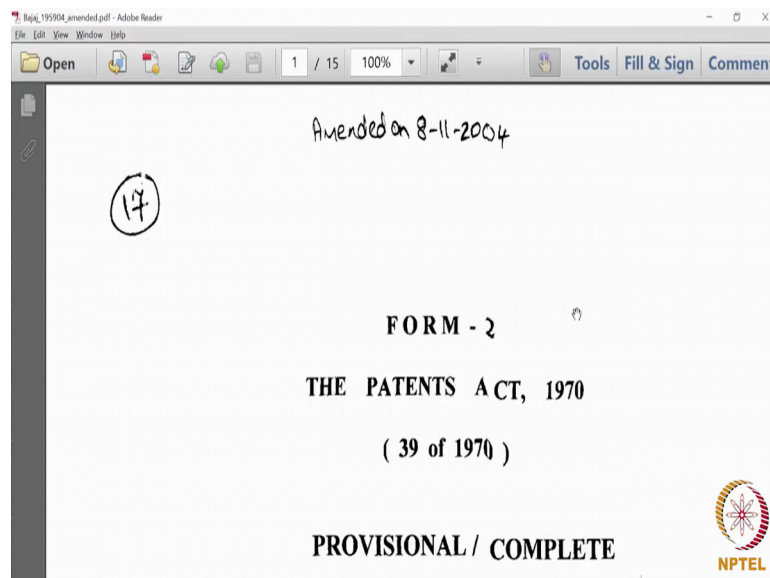
So, claims broadly fall into 2 categories, the idea between a dependent claim and in a independent claim is that independent claims can stand on their own. If a dependent claim that is attach to an independent claim is attacked for lack of inventiveness or lack of novelty, then the dependent claim alone can be revoked or nullified. Whereas, if the attack is on the independent claim itself. So, in that the independent claim does not have novelty it lacks novelty or it lacks inventive step, then the independent claim will be

revoked and the reason the independent claim is revoked all the dependent claims will also have to be revoked. So, this is another convention in drafting where dependent claims if they overlap with the prior art, to the extent of their overlap they may be amended or they may be revoked without effecting the independent claim.

So, if you challenge a dependent claim alone without challenging the independent claim, then the dependent claim alone can be given up and an amendment can be passed by renumbering or restructuring the claims and the invention will still continue in the amended form. Whereas, if the challenge is on the independent claim a competitor challenges the independent claim or the patent of it is questions the independent claim based on prior art, and if the independent claim is revoked all the dependent claims will also be revoked automatically as a part of with a fact that because they were dependent on the independent claim.

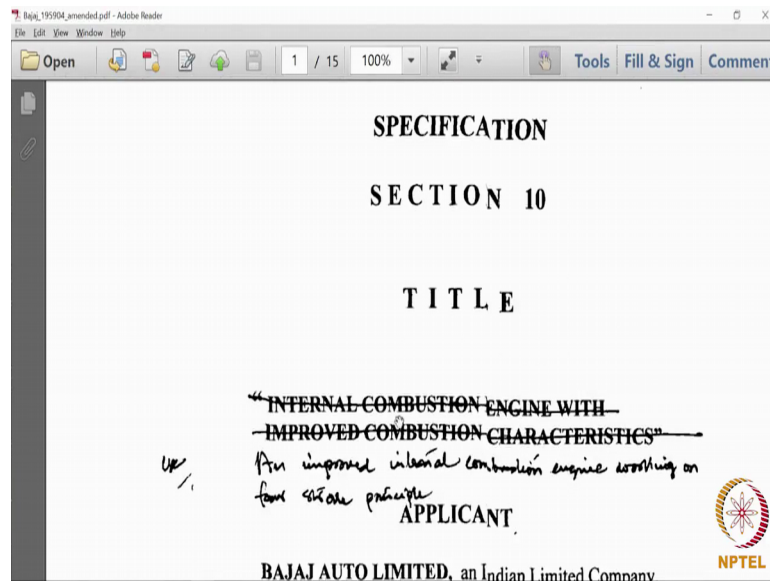
Now, let us look at the; this is a US application and you saw the structure of the US application, now let us look at an Indian application.

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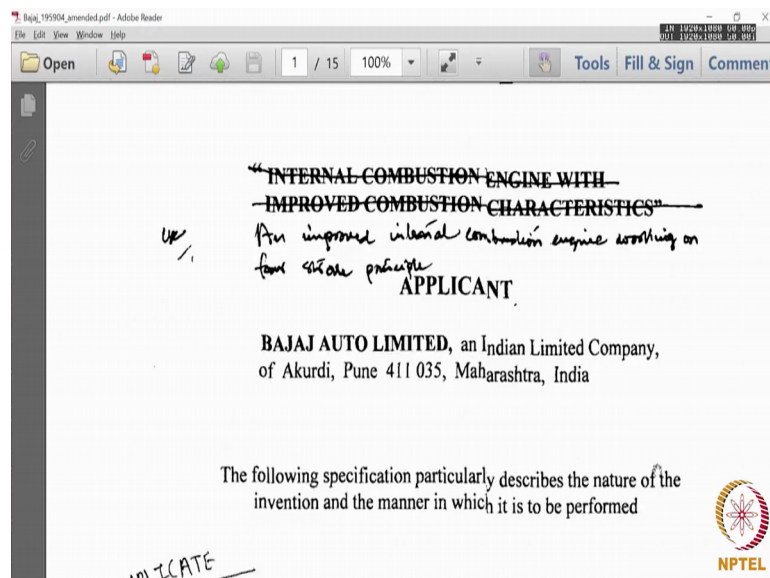
Now, this is how form 2 looks, now this is an application which was amended on a particular date.

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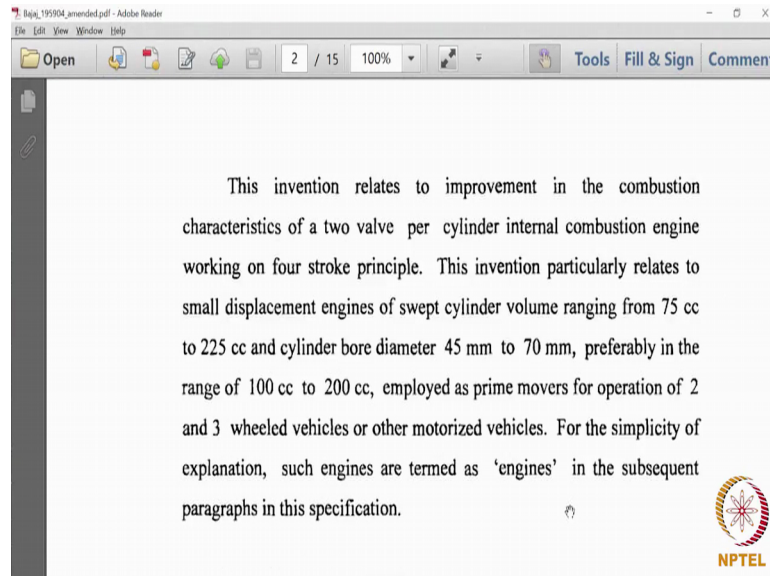
The form 2 there is provisional slash complete depending on which you use you will strike off the other and there is a title the title was emended.

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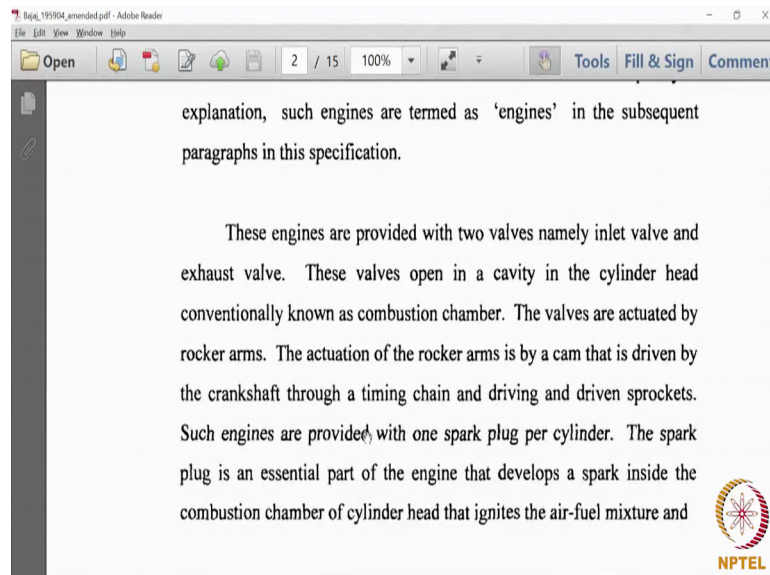
So, you can see that it was struck off and it was return back again and the applicants name is here. Now we are using this as an example because this patent resulted in the Bajaj TVS dispute which is not pending before the high court at Madras.

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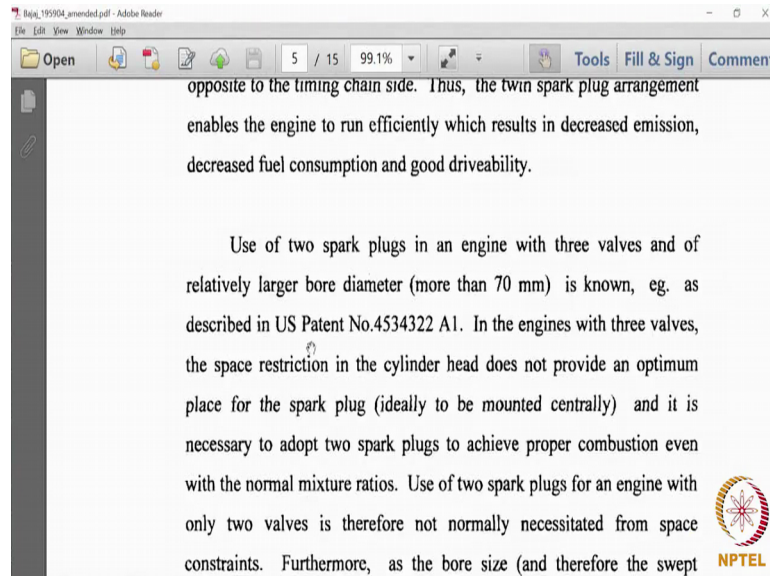
So, it starts with a description, you do not find the headings which you found in the US patent application it just starts invention relates to, but we understand the field of invention it we can understand this to be in a order in a particular order that a sub headings are not here.

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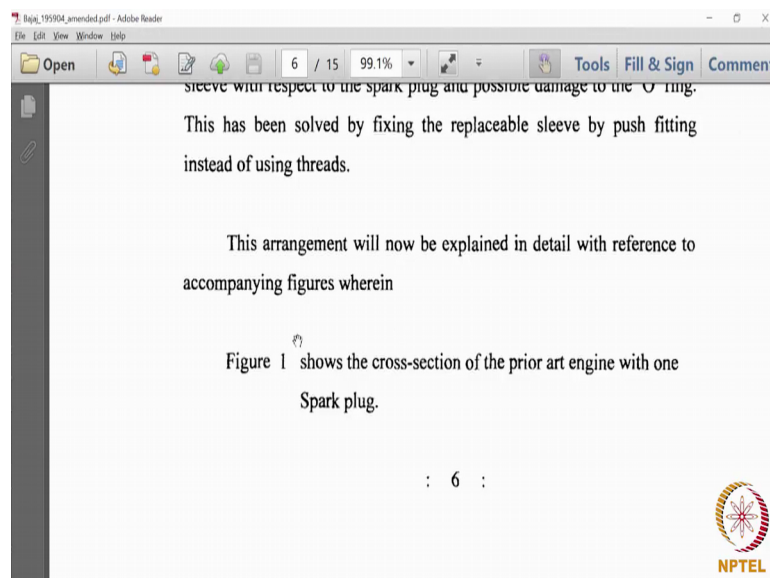


Now, it just starts it describes the invention how it works, there is a cross reference to the U S patent.

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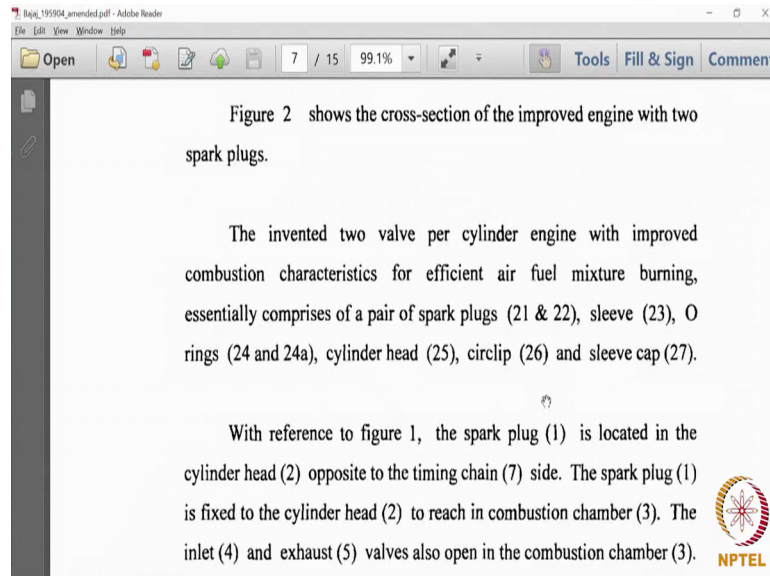
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You can see that 4534322 and you have figures here, the; you what we saw the brief description of the drawings figure 1 shows figure 2 and there is a detailed description of the drawings.



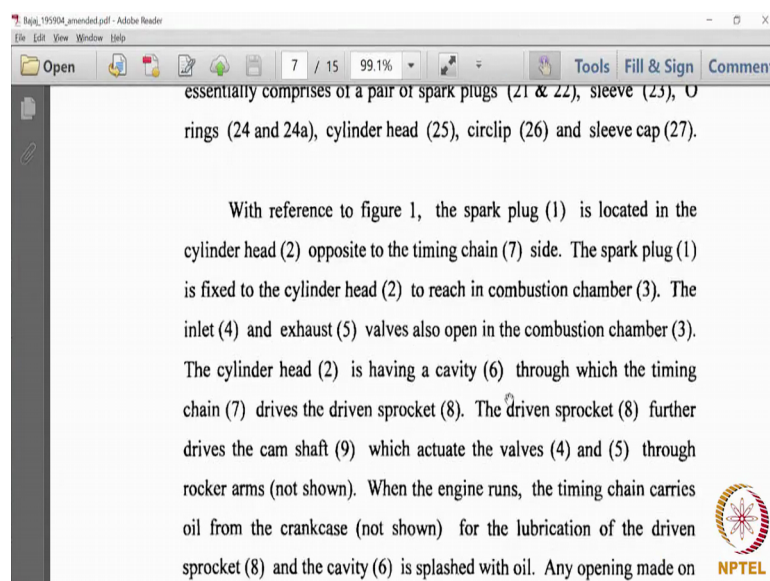
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So, what you find in parenthesis in brackets are the parts that are we do not have the drawing here drawing is in a separate document. So, the parts that are spark plugs are number 21 and 22 sleeve is number 23 is similar.

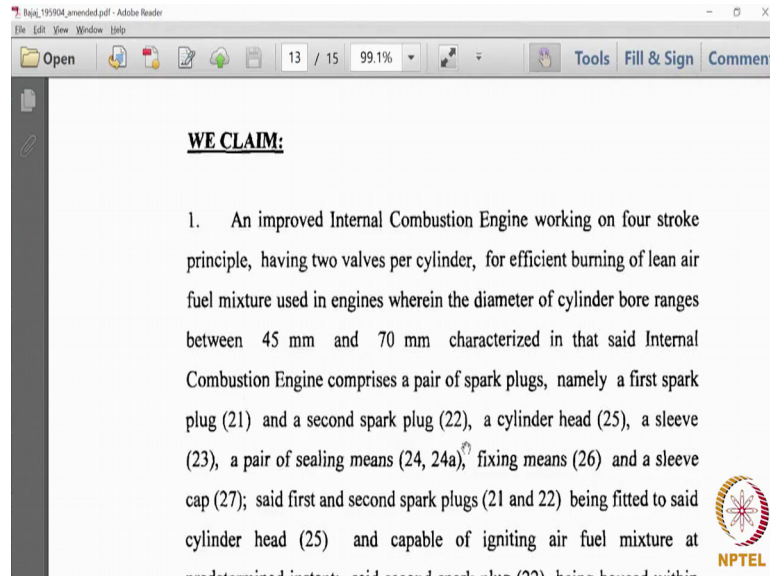
So, I am just you now you get a picture, what you saw in the U S application which had particular sub headings though the Indian application do not have the sub headings nevertheless they still follow the same scheme.

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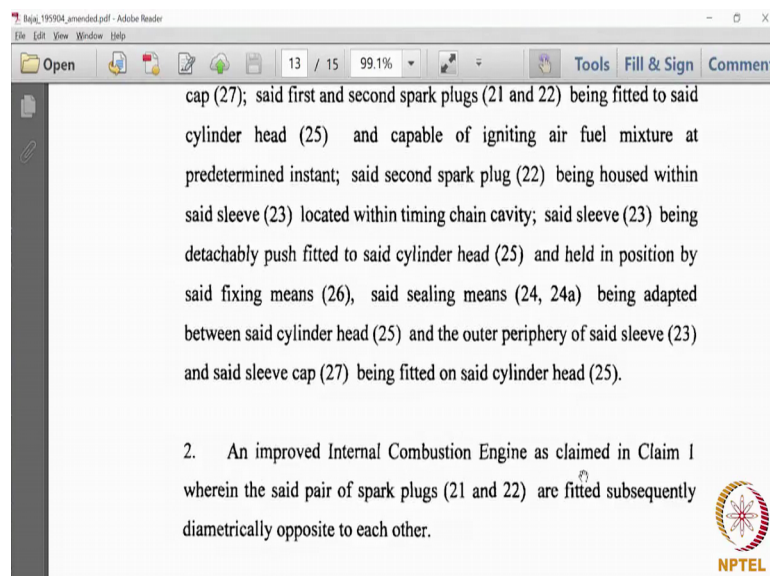
So, reference to figure one. So, this is the detailed description of the drawings and it is done in a similar manner similar fashion. This is a public document, so you can go to the patent office website and you could download it if you are interested in reading it.

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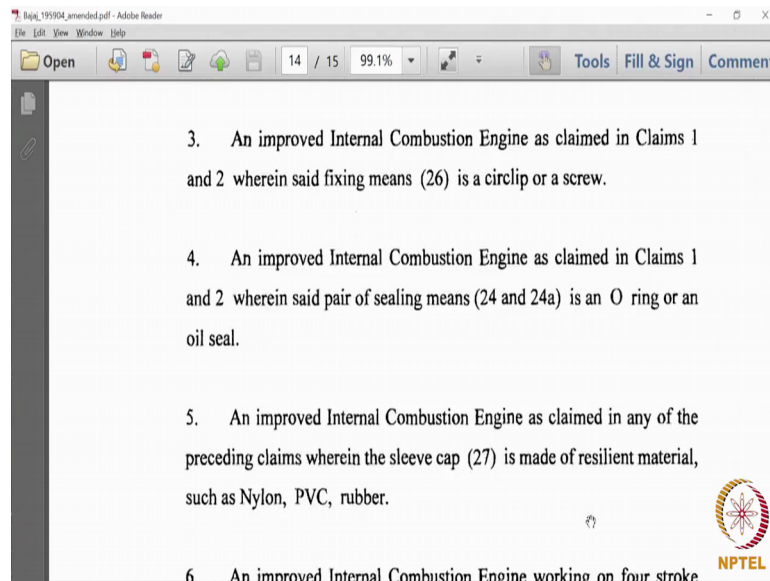
And then you have some results test results which they have tabulated, you have the claims find we claim this is the Indian way of doing it we claim and the claim number one. In India you will have to mention the numbers of the parts within the claim also. So, the fifth spark plug; the number has to be differ. So, that is claim one.

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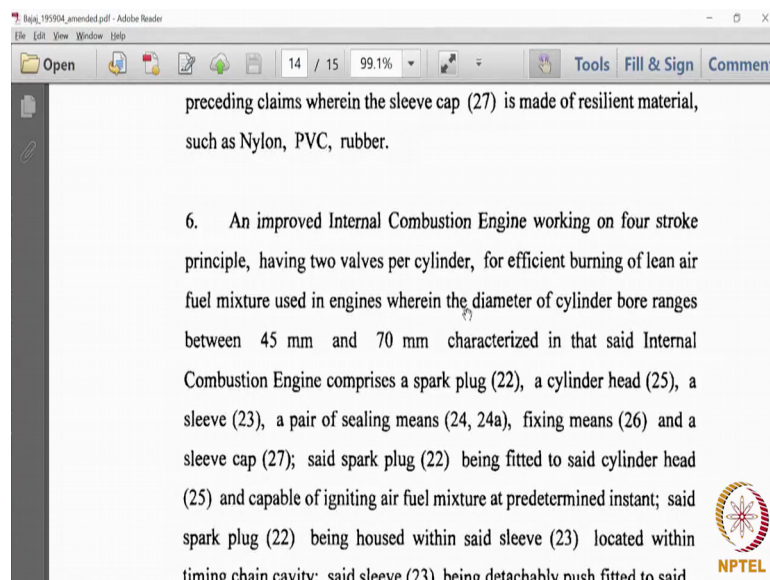
Now, claim 2 is a dependent claim, as claimed in claim 1. So, it refers it back to claim 1.

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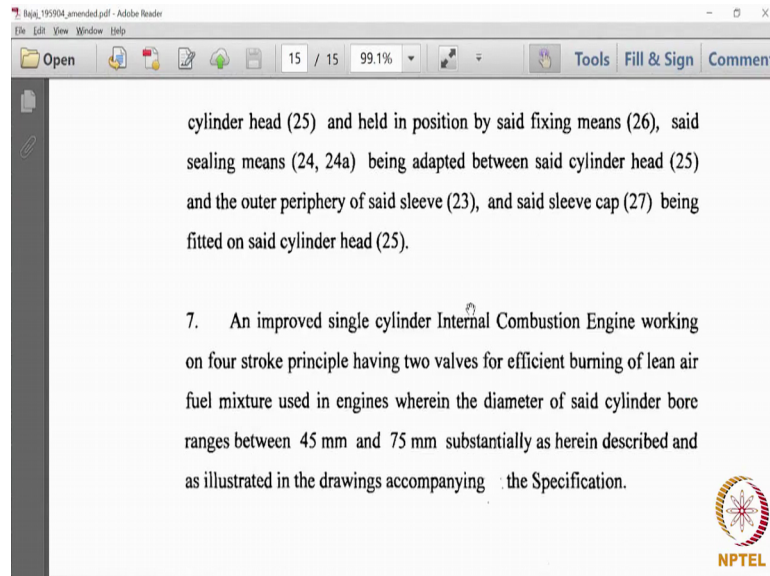


Claim 3 is again dependent, claim 4 is again dependent claim 5 is again dependent because it says an improved internal combustion engine as claimed in any of the preceding claims. So, 1 to 5 it is again dependent.

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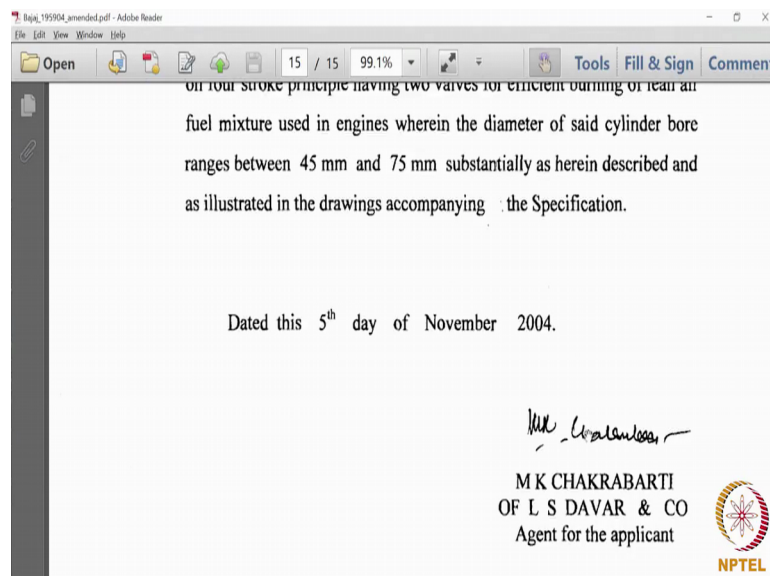


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Claim 6 is an independent claim, claim 7 is an what we call omnibus claim it used to be a that omnibus claims were granted before, but now it is not granted the patent office has a manual the patent office manual, the manual clearly says omnibus claims are no longer granted where they say substantially as it herein described and as illustrated then the drawings are accompanying the specification, it is an omnibus it is just reiterating what is already covered in the specification.

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So, you have the signature of the agent if the inventor is filing on in his own name then it will be the inventors name. So, a signature and date which again form 2, I had mention that it shall end with the date and the signature.