Impact of Drafting and Prosecution of Patent Application on Related Procedures as Viewed from a Specific Case

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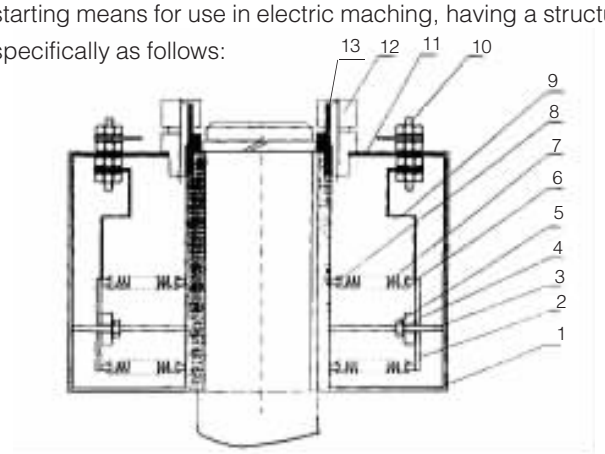
The writers have recented represented an invalidation requester in a patent invalidation case, and got to know something about the patent prosecution and infringement litigation. This is a typical case of great value: procedurally, the case involves drafting of the patent application documents, its examination and patent grant, patent infringement litigation, patent invalidation proceedings, and association between all the procedures; and substantively, besides the application of the "doctrine of estoppel", it also involves understanding and application of the important law provisions relating to "clarity of claims, "claims to be based on the description" and "functional definition".

Following is an overview of the case, with its teaching explored.

Brief of the case

An applicant filed an application, with the State Intellectual Property Office (SIPO), for a patent for the invention of "brushless self-controlled electric machine soft starter". The application related to a brushless electric machine soft starting means.

The applicant, directed to the technical problem of too large current during electric machine start, developed a soft starting means for use in electric maching, having a structure specifically as follows:



1: static electrode 2: dynamic electrode 3: guide bar
4: inertial block 5: stop nut 7: tension spring

The vertical axis in the middle of the view is the rotation axis of the electric machine, around which is installed a circular container, inside the contrainer is electrolyte, inside which are the static electrode, dynamic electrode, guide bar, inertial block, stop nut and tension spring. After the electric machine is started, the circular container rotates together with the rotation axis. Under the action of centrifugal force

and inertial block, the dynamic electrode gradually overcomes the action of the spring along with the electric machine and draws close to the static electrode until it touches the static electrode. Since the circular container contains the electrolyte, the electric resistance between the static electrode and dynamic electrode changes in degree until it becomes zero, thus changing the starting electric current in the course of starting the electric machine.

The description of said application disclosed one embodiment, having a structure as shown in the above view.

The published text of the application included 5 claims, and claims 1 and 4 went as follows:

"1. A brushless self-controlled electric machine soft starter, comprising electrolyte, electrolyte container, static electrode and dynamic electrode, which, in the electrolyte, can move opposite to each other, and wire connection pole electrically connecting to them; said wire connection pole connects with the armature to allow the electric resistance between the static electrode and dynamic electrode to be serially connected to the armature, wherein said electrolyte container is a circular container having a fixable structure casing the electrolyte rotation axis, static electrode (1) and dynamic electrode (2) are placed opposite to each other along the radial direction of the rotation axis, and opposite to the axis, the static electrode (1) is disposed on the outside of dynamic electrode (2), inside the cavity of the electrolyte container is also radially disposed guide bar (3), with dynamic electrode (2) glidingly installed on it; between dynamic electrode (2) and static electrode(1) is disposed a elastic resistant means inhibiting dynamic electrode(2) from moving toward static electrode (1); the resistance of said elastic resistant means is inversely proportional to the distance between dynamic electrode (2) and static electrode(1); and on the electrolyte container are also disposed air vent valve (14) and safety valve (13)."

"4. The brushless self-controlled electric machine soft starter according to claim 1 or 2, wherein said elastic resistance means is a compression spring, with one of its end fixed on dynamic electrode (2) and the other on static electrode (1)."

During the examination as to substance, the examiner pointed out: "the defining part of claim 4 further defined said invention, but the distinctive technical feature "said elastic resistance means is a compression spring, with one of its end fixed on dynamic electrode and the other on static electrode" is not mentioned in the description; hence, claim 4 is not based on the description, and is contrary to the provision of Article 26, paragraph four, of the Patent Law.

The patentee wrote in its observations made in response to the Office Action that "the applicant agrees with the examiner's opinion raised in the Office Action, and that claim 4 has been deleted from the claims". Said invention was then patented, but no amendment was made to claim 1 in the text of the granted patent (see the above claim 1).

In 2009, the licensee of said patent (the plaintiff) sued, in an intermediate people's court, the invalidation requester (the defendant) for infringement of the patent right.

The defendant made a electric machine soft starter very similar to said patent in structure, but it differed from the technical solution of the latter in that (1) the compression spring, not tension spring, was used for the elastic resistance means; (2) the compression spring was indeed disposed "between the dynamic electrode and static electrode", but not in the place (between the dynamic electrode and inner wall of the circular container) as mentioned in the embodiment of the patent in suit (see the above view).

The plaintiff alleged that, except the compression spring used in replacement of the elastic resistance means in claim 1, the defendant's product was exactly identical, falling within the extent of protection of claim 1 of the invention patent.

The defendant argued that "between dynamic electrode and static electrode is disposed an elastic resistant means inhibiting dynamic electrode from moving toward static electrode" as mentioned in claim 1 was a technical feature defined with a generic concept. During the examination, the examiner pointed out that claim 4 (said elastic resistance means is a compression spring, with one of its end fixed on dynamic electrode and the other on static electrode) was not based on the description, and required the applicant to delete claim 4. The applicant agreed and deleted said claim. According to the doctrine of estoppel, the "elastic resistance means" in claim 1 should not contain the resistance means of "compression spring; hence the allegedly infringing product did not fall within the extent of protection of the patent in suit.

The court took the view that the elastic resistance means described in claim 1 of the invention patent in suit referred to an elastic means that inhibited the dynamic electrode from moving toward the static electrode, and its resistance was inversely proportional to the distance between the dynamic electrode and static electrode. But the compression spring used in the allegedly infringing product was also an elastic

means that inhibited the dynamic electrode from moving toward the static electrode, which was a specific concept of the elastic resistance means; hence the allegedly infringing product had fully covered each and every essential technical feature of the claims of the plaintiff's patent. As for the patent applicant's deletion of dependent claim 4 from the application documents, it did not define the maximum extent of protection of claim 1; hence, if the plaintiff defined the extent of protection according to claim 1, the defendant's argument did not stand that the doctrine of estoppel was to be applied to defining the extent of protection of the plaintiff's patent, that was, the claimed elastic resistance means should exclude the resistance means of the tension spring identical with the compression spring.

It was decided in the first-instance judgment that the defendant infringed the plaintiff's exclusively licensed right in the patent in suit, and should immediately cease the infringement, and pay the plaintiff RMB 300,000 yuan in compensation of injury the plaintiff had suffered and the reasonable expenses it had paid for ceasing the infringement.

Dissatisfied with the judgment, the defendant appealed to the second-instance court, which finally decided, on 25 May 2010, to have rejected the appeal and upheld the former judgment.

The second-instance court concluded that while the patent applicant had deleted dependent claim 4 containing the technical feature of compression spring, independent claim 1 covered a wider extent of protection containing the elastic resistance means (the generic concept of the compression spring); hence under the circumstance where the plaintiff defined the extent of protection according to independent claim 1, Article 6 of the Supreme People's Court's Interpretation of Several Issues Concerning the Application of Law to Trial of Cases of Disputes Arising from Infringement of Patent Rights did not apply to the case that in the procedure leading to a grant or an invalidation of a patent right, where the patent applicant or the patentee abandons a technical solution by amendments to the claims, the description or via the observations, the incorporation of the abandoned technical solution in the scope of protection of the patent right by the rightholder in a patent infringement lawsuit shall not be supported by the courts. The defendant's argument did not stand that the doctrine of estoppel was to be applied to defining the extent of protection of the invention patent in suit.

To stay free from the patent infringement dispute, the defendant invited the writers to have filed with the Patent Reexamination Board (PRB), on 14 January 2010, a request for invalidation of the patent in suit. Upon comprehensive analysis of the case, the writers requested the PRB to declare all the claims of the patent in suit invalid on the ground that the patent in suit was contrary to the provisions of Article 26, paragraph four, of the Patent Law; Rule 20, paragraph one, of the Implementing Regulations of the Patent Law; and Article 22, paragraph three, of the Patent Law.

In the invalidation request, the writers specially noted that there existed substantive defects in claim 1 of the patent in suit.

(1) The technical feature of "between dynamic electrode (2) and static electrode (1) is disposed an elastic resistant means inhibiting dynamic electrode (2) from moving toward static electrode (1)" was not supported by the description, and it was contrary to the provisions of Article 26, paragraph four, of the Patent Law; and

(2) "The resistance of said elastic resistant means is inversely proportional to the distance between dynamic electrode (2) and static electrode(1)" was an erroneous technical feature, which had rendered the extent of protection of the claim unclear, so it was contrary to the provisions of Rule 20, paragraph one, of the Implementing Regulations of the Patent Law.

Upon examination, the PRB made, on 22 August 2010, the Invalidation Request Examination Decision (No. 15243), declaring the whole patent in suit invalid.

The PRB concluded that if the statements of the claims and description were not consistent and the claimed technical solution was one that a person skilled in the art could not derive or summerise from the disclosure made in the description, then the claims were not supported by the description. In claim 1 was stated that "between dynamic electrode (2) and static electrode (1) is disposed an elastic resistant means inhibiting dynamic electrode (2) from moving toward static electrode (1)" namely between the dynamic electrode and static electrode was disposed the elastic resistance means in claim 1. But it was said in the description that at the symeric place between each dynamic electrode 2 and the side wall inside the concave cavity was disposed a pair of tension springs 7; on the outer side wall of the circular concave cavity was coated a thin layer of brass to form a static electrode 1. It was impossible to deduce from the text of the description and appended drawings that between static electrode 1 and dynamic electrode 2 was disposed the elas-

tic resistance means. Thus, it was said in claim 1 between the dynamic electrode and static electrode was disposed the elastic resistance means, but the description said that no component was disposed between dynamic electrode 2 and static electrode 1, which was inconsistent with the solution stated in claim 1. Accordingly, claim 1 was not supported by the description, so it was contrary to the provisions of Article 26, paragraph four, of the Patent Law. Claims 2-5 were directly or indirectly dependent on claim 1; what they respectively defined did not rectify the defect that claim 1 was not supported by the description; hence they were also contrary to the provisions of Article 26, paragraph four, of the Patent Law.

Analysis

Taking a close at the case, we have found there are many issues worth our reflection.

1. The way the patent application documents were drafted was problematic

Objectively, it is of certain practical value for the patent in suit to have provided a technical solution that differs from the prior art. It is contemplatable from the wording or texts of the description and claims of the patent in suit that the applicant did not merely seek to claim the technical solution that "said elastic resistance means is a tension spring, with one end fixed on dynamic electrode and the other on the inner side wall of the circular concave cavity" in the embodiment of the description, rather it also hopes to claim the technical solution that "said elastic resistance means is a compression spring, with one end fixed on dynamic electrode and the other on static electrode".

Here, at least three errors existed with the way the patent applicant drafted the description and claims:

(1) The original description said nothing about the technical solution of use of the compression spring (i.e. the technical solution of claim 4), which resulted in lack of support for it in the description. While tension spring and compression spring are means commonly used in the prior art, in the specific technical solution in the present case, they are not simple replacements since it is impossible for one skilled in art to solely and undoubtedly deduce the technical solution of use of the "compression spring" from the technical solution of "tension spring". Specifically speaking, to dispose the compression spring between the dynamic electrode and static electrode, besides the simple connection, some new technical problems, such as eventual touch of the two electrodes (it is exactly here that the defendant had come up with an original design) had to be resolved. It was possible that the patent applicant had considered the matter before and even developed a full technical solution, but unfortunately it was not verbally described at all in the description, nor was it disclosed in the form of appended drawings. Putting and claiming it in the claims would certainly result in lack of support for it in the description.

In the substantive examination of the invention to be patented, the examiner pointed out that "said elastic resistance means is a compression spring, with one end fixed on dynamic electrode and the other on static electrode" is not mentioned in the description; hence, claim 4 is not based on the description, and is contrary to the provision of Article 26, paragraph four of the Patent Law". It is an entirely right conclusion.

During the patent invalidation proceedings, the PRB made a more accurate determination that "if the claimed technical solution is one that a person skilled in the art cannot derive or summerise from the disclosure made in the description, then the claims are not supported by the description"

(2) When replying the examiner's Office Action, the patent applicant deleted the original claim 4, which means that he gave up, on his own, the technical solution of use of the compression spring, and only the technical solution of use of tension spring in the claims can be claimed. With claim 4 given up, the applicant should have made corresponding amendment to claim 1. "The elastic resistance means is disposed between dynamic electrode and static electrode" in claim 1, an obvious error, is obviously inconsistent with the description as it is obviously impossible for the tension spring to be disposed between the two electrodes.

(3) The technical feature "said elastic resistant means is inversely proportional to the distance between dynamic electrode (2) and static electrode(1)" in claim 1 is seriously erroneous. The patent applicant possibly meant to say that "the resistance generated from the elastic resistance means increases as the distance between the dynamic electrode and static electrode shortens", but he used the quantitative definition of "being inversely proportional". It is generally known that "being inversely proportional" (namely, "being directly proportional") means that "when the reciprocal of variable Y is directly proportional to variable X, X is said to be inversely

proportional to Y, which is written as x or x=K, K being a constant (see the Chinese dictionary "Cihai").

According to Hooke's law (a law of elasticity), the distance a spring stretches is directly proportional to the force acting on it. But the conclusion should absolutely not be drawn that "the compression distance of a spring is inversely proportional to the elasticity it generates". It is well-known that in the above x=k, its denominator Y cannot be zero. If the resistance (x) of the elastic resistance means is inversely proportional to the distance (y) between the dynamic electrode and static electrode, the distance (y) between the dynamic electrode and static electrode can never be zero. But according to the description of the patent in suit, the dynamic electrode and static electrode should be eventually touch each other to finalise the starting process. Hence, the description of "the resistance of said elastic resistant means is inversely proportional to the distance between dynamic electrode and static electrode" in claim 1 is erroneous, or it is a technical feature ordinary spring means cannot possibly afford.

It was with all these serious substantial defects that the patent application documents were filed with the Patent Office.

Unfortunately, these defects were not fully realised by the examiner, nor rectified during the patent examination.

2. Examiner's problem in the substantive examination

(1) Now that the examiner clearly determined, in the first Office Action, that the technical solution of use of compression spring was not mentioned in the description and the technical solution of claim 4 was impossible to be supported by the description, which meant that the patent could not protect the technical solution of use of the "compression spring", and it could only protect the technical solution of use of the "tension spring", the technical solution of use of the "compression spring" should have been deleted from the claims. In the Office Action, the examiner should, besides requiring the patent applicant to delete the original claim 4, have required him to make corresponding amendment to claim 1 by changing the generic concept of "elastic resistance means" into the specific concept of "tension spring" and by changing the position it disposed (namely "the elastic resistance means is disposed between the dynamic electrode and the inner circular side wall of the concave cavity"), so as to render the extent of protection of claims consistent with the disclosure contained in the description. But, the examiner failed to make any comment on claim 1 to the patent applicant.

Reversely, if the examiner had stringently examined claim 1, the people's court would perhaps not have made the above judgment, or at least would not have found the infringement by identical features in the follow-up patent infringement litigation.

(2) The patent in suit related to an electric machine soft starting means. It was clearly said in the description that the object of the invention was to change the current in the process of starting the electric machine to "perform optimal control over the starting process". "The resistance of the elastic resistance means is inversely proportional to the distance between the dynamic electrode and static electrode" specifically defined the "control over the starting process". Since it was clearly stated in claim 1, it should be deemed to be an important technical feature of claim 1. But the examiner failed to find and rectify the serious technical errors resting with said technical feature.

The examiner's failure to require the patent applicant to make corresponding amendment to claim 1 has made it possible for the seriously flawed patent with defects to enter into the society and throw the technical market into disarrary, and would be a source of trouble in subsequent patent infringement dispute.

3. Discussion of the court's view in hearing this patent infringement lawsuit

According to Article 59 of the Patent Law, the people's court, when hearing patent infringement lawsuit, should construe the claims on the basis of the claims of the text of granted patent documents. It is undoubtly correct for both the first-instance and second-instance courts to have followed the principle. While the product the defendant made was substantially different from the disclosed technical solution (embodiment) of the patent in suit (1 the defendant used compression spring, not tension spring in its product; 2 the compression spring was disposed between the dynamic electrode and static electrode, not between the dynamic electrode and the inner wall of the circular container; and 3) to closely connect the dynamic electrode and static electrode, the defendant took some special technical measures in disposing the compression spring), the flaws and errors resting with the text of the granted patent documents accidentally caused the product to have exactly fallen within the extent of protection of the claims of the patent in suit.

In this regard, it is understandable for the people's court to have made its conclusion and judgment according to the

verbal expression of claim 1.

However, regarding the defendant's argument that "according to the doctrine of estopple, the 'elastic resistance means' in the claim 1 should not contain the resistance means of compression spring; hence the allegedly infringing product did not fall into the extent of protection of the claims of the patent in suit, the two trial courts both believed that the doctrine was not applicable to the case. The writers disagreed with the courts on this view.

Article 6 of the Supreme People's Court's Interpretation of Several Issues Concerning the Application of Law to Trial of Cases of Disputes Arising from Infringement of Patent Rights provides:

"In the procedure leading to a grant or an invalidation of a patent right, where the patent applicant or the patentee surrenders a technical solution by amendments to the claims and description or via the observations, the incorporation of the surrendered technical solution in the scope of protection of the patent right by the rightholder in a patent infringement lawsuit shall not be supported by the courts."

To further specify the scope of application of the "doctrine of estoppel" in cases of patent infringement, the Supreme People's Court gave the following opinions in the judgment it reviewed (No. Mintizi 20/2009):

"A technical solution the patentee surrendered by way of amending the claims and description or making observations, whether the amendments or observations are relevant to the novelty or inventiveness of the patent, should not be put in the extent of protection of the patent right through infringement by equivalents in a patent infringement litigation."

In other words, the patentee's surrender is not merely related to the novelty or inventiveness of the patent. The technical solution he surrendered by way of amending the claims and description or making observations for the purpose of patent grant should not be put in the extent of protection of the patent right.

If the case is judged according to the Supreme People's Court's above judicial interpretation, the conclusion would be obvious. The patentee's observations and deletion of claim 4 before the grant of the patent right show that he had surrendered the technical solution of use of the compression spring in response to the examiner's opinion that "it was not supported by the description". No doubt, a technical solution lacking support of the description should not be drafted in the claims, naturally not be brought under the patent protection. It is rather absurd and logically implausible to believe that said solution, deleted from claim 4, still resides in claim 1.

It should also be pointed out that Article 4 of the Interpretation of Several Issues Concerning the Application of Law to Trial of Cases of Disputes Arising from Infringement of Patent Rights provides:

"For a technical feature in a claim represented by function or effect, the people's court shall determine the content of such technical feature by reference to the specific embodiment and its equivalent embodiment(s) of the function or effect as presented in the description and the appended drawings."

While the provision is directed to "functional definition", for the writers, the provision is also applicable to the construction of the "generic concept" of the claims as both "functional definition" and "generic concept" are generialisation of some specific embodiments.

While claim 1 of the case still retains the generic concept of "elastic resistance means" and includes "compression spring" in form, the "elastic resistance means", according to said principle and the description made in the description and appended drawings, should only be construed as "tension spring" and its equivalents, and not include the "compression spring". As mentioned above, in the soft starting means, the "compression spring" is not an "equivalent" of the "tension spring".

Anyway, in the case, as the patent prosecution history shows, the technical solution of use of compression spring has been explicitly excluded from the extent of protection of the invention patent. The people's court's construction of claim 1 of the patent in suit and conclusion that the defendant's product constitutes an infringement by identical features are open to question.

4. Defendant's lawyer's mistakes

Obviously, the defendant's lawyer failed to find the serious contradictions and errors when construing claim 1 of the patent in suit.

Taking for example the technical feature that "the resistance of the elastic resistance means is inversely proportional to the distance between dynamic electrode and static electrode", in the brushless self-controlled electric machine soft starter the defendant made was used an ordinary compression spring, which obviously did not have the technical feature. Since the technical feature was an essential one of claim 1 of the patent, it should not be disregarded. For the writers, according to the "full-covery" doctrine, the defen-

dant's product should not constitute an infringement of the patent.

If the defendant's lawyer had presented the views to the people's court, the people's court would not have gone so far as to have disregard the existence of the technical feature, or could perhaps have made a judgment in favour of the defendant.

Conclusion

The case discussed above is relevant to a host of issues relating to drafting of patent application documents, examination and grant of patent, determination of patent infringement, patent invalidation examination and patent prosecution by patent attorneys. Being exceptional and significant, the present case may service as a source of teaching and inspiration.

The patent documents are legal instrument, drafting of which should meet relatively high standard of requirements, and the claims are legal documents requiring considerable thoughts and careful wording or composition. The public identify the extent of protection of a patent according to the claims in order to show respect for another person's right and constrain their own action. The quality with which patent application documents are drafted has crucial impact on the grant and enforceability of the patent. Any slight defect or carelessness would lead to total failure. The saying that "details are the devil" has been fully materialised in the present case. It is exact the ignorance and error on the part of the patent applicant in drafting the patent application document in terms of the detail thereof that have led to the eventual invalidation of the patent in suit. It is exactly for this very reason that we suggest applicants inviting a patent attorney to draft patent application documents. Especially for important inventions-creation, it is highly necessary to invite a competent patent attorney to do the job.

With regard to information disclosure, the applicant should learn a lesson from his failure to invite a patent attorney to take care of the matter. The case also gives patent attorneys a lesson that drafting patent application documents is like treading on thin ice, requiring considerable diligence and care. They must be proficient at grasping the key points quickly in their analysis and defence in the invalidation proceedings. An attorney's low-level performance will result in lose of lawsuit that could not have lost otherwise. By contrast, an attorney's professionalism will enable a patent applicant to try to win the case he should not lose.

With an examiner rests the important social responsibility for keeping the balance between patentees and the public at large. Any error in his work would put the technical market in disorder, and cause serious damage to the legitimate interests of the patentees and the public.

The people's court and the PRB are responsible for a final check and supervision to ensure social justice, fairness and impartiality, which requires the people's judges and PRB examiners to be of high professional morality, proficiency and in-depth understanding and application of the relevant law provisions.

In the case, the examiner's errors in his work has made it possible for a seriously flawed legal document to have entered the technical market, thus throwing the market into disorder and making the court's trial difficult. The PRB examiners deserve a praise for their invalidation decision that has set things to rights and prevented the flawed patent from existing in the technical market.

The party that has suffered most in the case is the patent applicant. It is an unfortunate that all his technical achievement made through great efforts is lost in the end. ■

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