NEWSLETTER

2020.04

QUARTERLY

PANAWELL INTELLECTUAL PROPERTY

Cover: Interior of office block where Panawell locates

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Panawell Intellectual Property, consisting of Panawell & Partners, LLC and Panawell & Partners Law Firm, provide full spectrum of services in all fields of intellectual property rights, such as patent, trademark, copyright, computer software, anti-unfair competition, trade secrets, custom protection, domain name, license, assignment, enforcement, administrative and civil litigation, IP consulting and management.

Panawell Operating Normally since February 3

Impacted by the COVID-19 outbreak and to ensure the safety of our staff, this Firm, resuming its normal operation from February 3, have started the remote office mode in time, allowing some to work at home, and some who find it inconvenient or impossible to do so to work in the office.

This arrangement has greatly reduced the staff density within the office space, and drastically reduced the risk of infection. To our great relief, all our employees and their families, including those from Hubei province, are well, and are not infected in the outbreak.

Since the COVID-19 outbreak, we have been receiving emails from our clients and customers in many countries, expressing their concern and sympathy towards the Chinese people for the outbreak and extending their hope to help us and to overcome the difficulties together with the Chinese people. We hereby express our heartfelt thanks.

Recently, the pandemic has unfortunately begun to spread too in many other countries and even around the world. We also wish our clients, customers, their families, and their people in these countries and regions now going through the pandemic remain healthy, win the battle against epidemic, and turn their life back to normal as soon as possible.

Reliefs for Epidemic-Affected Rightholders

The China National Intellectual Property Administration (CNIPA) has released Announcement No. 350 and the Explanations thereof, arranging to offer reliefs to all the rightholders of patent, trademark, and layout design of integrated circuit affected by the epidemic outbreak in related matters of meeting deadlines and paying official fees.

If rightholders lose their rights as a result of their failure to meet the statutory or designated deadlines in relation to patent, trademark, or layout design of integrated circuit for reasons of the epidemic outbreak, the interested parties may request for restoration of their rights within two months after removal of the obstacles or, at the latest, two years from the date of expiry of the related time limits or deadlines. They do not need to pay the fees for requesting right restoration.

Where the annual fee cannot be paid in time due to the epidemic outbreak, and the patent annuity is overdue, the patentee is not subject to the overdue patent annuity fine or surcharge in the period of the obstacles.

Where a rightholder, going through the trademark-related regulatory matters, such as making rectification, replying to an Office Action, paying trademark fees, providing evidence of use in response to a Notification of Negotiation for Same-Day Application, providing evidence of use in

response to revocation of a registered trademark for non-use of three consecutive years, trademark opposition, trademark refusal reexamination, registration refusal reexamination, invalidation reexamination, applying for/making response to/or adding evidence in reexamination of invalidation, and requesting defense/adding evidence in connection with invalidation, is unable to make it within the statutory time limit or designated time limit for reasons of the epidemic outbreak, the relevant time limits shall be suspended as from the date when the obstacle to the exercise of the right arises, and continue to be counted after the date of removal of said obstacle. When going through the trademark-related regulatory matters, the rightholder shall also submit application in writing in relation to the suspension of the applicable time limits or deadlines. The application shall specify the region where the party is located during the epidemic outbreak, the reason for the obstacle to the exercise of rights and the time of its removal, together with the corresponding proofs/evidence, which include, among other things, proof of infection/treatment, quarantine, or period of control, except for the announcement of the delayed work resumption publicized by the government of the region where the rightholder is located. To alleviate the burden on the rightholders affected by the epidemic outbreak, when one claims suspension of time limit in application filed for going through multiple similar regulatory matters for the same cause or reason, he may submit only one document of proof to go with one of the cases of application, and for the other cases, he only need to indicate the application number of the application in which the document of proofs are submitted for the suspension of the time limit.

Where a rightholder fails to go through the formalities to apply for trademark registration renewal within the grace period due to the epidemic outbreak, which is likely to result in the loss of his trademark right, he may file an application for the renewal within two months from the date when the obstacle to the exercise of rights is removed, together with the relevant documents of proofs.

(Source: official website of CNIPA)

Annual IP Statistics in 2019

The CNIPA has released the annual IP-related statistic data for 2019, of which 1,400,661 were invention patent applications filed in China in the year, a year-on-year decrease of 9.2%, with 452,804 granted the patent right, a year-on-year increase of 4.8%; 2,268,190 were applications filed for the utility model patent, a year-on-year increase of 9.5%, with 1,582,274 granted the patent right, a 7% year-on-year increase; and 711,617 were applications filed for the design patent, a year-on-year increase of 0.4%, with 556,529 granted the patent, a year-on-year increase of 3.9%. In 2019, 60,993 PCT international patent applications were accepted, a year-on-year increase of 10.4%, of which 56,796 were from domestic applicants, a

year-on-year increase of 9.4%. Also in the year, 55,000 requests for reexamination were accepted, with 37,000 of the cases closed; and 6,000 requests for invalidation were accepted; with 5,000 of the cases closed.

In 2019, the number of trademark registration applications in China reached 7,837,441, a year-on-year increase of 6.3%, with 6,405,840 trademarks registered, an increase of 27.9% year on year. 6,491 applications were accepted for the international registration of trademarks in the Madrid system. 144,000 trademark opposition applications were accepted, with 90,000 cases of opposition examinations finalized. A total of 361,000 applications for review and adjudication of various types of trademarks were received, and 337,000 closed.

In 2019, no application for protection of geographical indication product was received, and protection of 5 geographical indication products was approved. 462 trademarks of geographical indication were registered, and 301 enterprises were approved to use special marks of geographical indication for their products.

In 2019, there were 8,319 applications filed for registration of layout designs of integrated circuit, an increase of 87.7% year on year, with 6,614 certificates issued, a year-on-year increase of 73.4%.

In 2019, the number of foreign invention patent applications in China reached 157,000, and that of trademark applications was 255,000, representing a year-on-year increase of 6.0% and 4.7% respectively. Market players from a total of 186 countries and regions filed applications for patents and trademarks in China, with an increase of 12 countries and regions. Japan, the United States, and Germany are the top three Chinese invention patent applying countries, filing 49,000, 39,000, and 16,000 applications respectively, up by 7.9%, 1.5%, and 6.4% year-on-year. The United States, Japan, and the United Kingdom were the top three Chinese trademark applying nations, filing 54,000, 31,000, and 24,000 applications respectively, with year-on-year growth of 5.3%, 21.2%, and 42.4%.

In 2019, the intellectual property regime handled 39,000 cases of administrative adjudication of patent infringement disputes, a year-on-year increase of 13.7%, and 2 cases arising from infringement on layout design of integrated circuit. Also in the year, the total import and export of intellectual property royalties exceeded US$ 37 billion. The total amount of patent and trademark pledge financing reached 151.5 billion yuan, a year-on-year increase of 23.8%, of which the amount of patent pledge financing reached 110.5 billion yuan, an increase of 24.8% year on year, and 7,060 were pledged projects, a year-on-year increase of 30.5%.

(Source: official website of CNIPA)

CNIPA and National Statistics Bureau Released Joint Announcement Publicizing Data of Added Value of Nation-Wide Patent-Intensive Industries in 2018

To fully reflect the developments of the patent-intensive industries in China, the added value of the nation-wide patent-intensive industries was computed for the first time ever according to the Statistical Classification of Intellectual Property (Patent) Intensive Industries (2019) issued by the National Bureau of Statistics (National Bureau of Statistics' Order No. 25) by utilizing the data of the fourth nation-wide economic census. On March 13, the CNIPA and the National Bureau of Statistics issued a joint announcement publicizing the data of the added value of the nationwide patent-intensive industries.

As the computation shows, the added value of the patent-intensive industries in China amounted to 10,709 billion yuan in 2018, accounting for 11.6% of the national GDP.

As the internal structure of the patent-intensive industries shows, the added value of the new equipment manufacturing industry was 3283.3 billion yuan, accounting for the highest 30.7% of the added value of the patent-intensive industries; that of the information and communication technology and manufacturing industry was 2155.1 billion yuan, accounting for 20.1%; that of the information and communication technology service industry was 1,927.2 billion yuan, accounting for 18.2%; that of the new materials manufacturing industry was 1,413 billion yuan, accounting for 13.2%; that of the medicine and health care industry was 946.5 billion yuan, accounting for 8.8%; that of R&D, design and technical service industry is 721.5 billion yuan, accounting for 6.7%; and that of the environmental protection industry is 242.4 billion yuan, accounting for 2.3%.

(Source: official website of CNIPA)

China to Issue Electronic Patent Certificates

According to the CNIPA's Announcement No.349, for the electronic patent applications with their date of published patent grant (that is, the date of issuance of the certificate) on or after March 3, 2020, the CNIPA will issue the electronic patent certificates through the patent E-filing system, and will no longer issue the paper patent certificates. Applicants, needing the paper patent certificates, may make request on the electronic patent application website (http://cponline.cnipa.gov.cn) to obtain one.

(Source: official website of CNIPA)

Explanation of Amendments to Guidelines for Patent Examination 2019 (Part 2)

Excerpt from the official website of CNIPA

With a view to improving the quality and efficiency of patent examination, the China National Intellectual Property Administration (CNIPA) has recently amended the Guidelines for Patent Examination (hereinafter referred to as the Guidelines) and the amended Guidelines entered into effect as of November 1, 2019. The present amendments have been made with full consideration taken of the needs imposed by the rapid developments of new technologies, in active response to the new demands of innovators concerned with the examination rules and models, by way of carefully summarizing the useful experience in the examination work, and for the purpose of clarifying and optimizing the current regulations, and of striving to achieve the goal of improving the quality and efficiency of examination and supporting innovation-driven development.

The CNIPA has made and released the following overview and explanation of the current amendments made to the Guidelines with a view to better guiding the patent application and examination practice.

Amendments made

(II) Amendments Pertaining to Designs

4. Amendments to Provisions Relevant to Designs of Graphical User Interface Incorporated in Products (Sections 4.4 and 7.4 in Chapter Three of Part I)

To follow the trend of developments made in the field of graphical user interface (hereinafter "GUI") designs and to better protect the innovative achievements of graphical user interface designs, the Guidelines have been amended to further standardized the requirements for naming, and drafting brief description of, products incorporating designs of GUI, relax restrictions on submission of GUI views, weaken the relations between GUI and end products, and address the issue of general or universal protection of the GUI incorporated in one or multiple types of products.

After the CNIPA released the Order No. 68 on May 1, 2014, to have made products incorporating GUI patentable subject matter as design patents, the number of design patent applications relating to GUI is on constant rise each year, and the top applicants are emerging Internet-related companies. GUI designed by these innovators are generally used on display devices in mobile phones, computers, and desktops via the Internet, rather than being limited to a particular type of products. Since the current provisions require that an application be prepared in the form of physical product combined with interface, separate applications should be filed for a GUI of general use in combination with different products. This requirement renders the scope of protection uncertain for GUI products and with infringement

determination disputable. The amended Guidelines have addressed the issues of giving general protection for GUI incorporated in one or more types of products by relaxing the restrictions on the submission of GUI views. That is, for an application where the main point of design lies in GUI, the provisions are simplified to such an extent that at least one orthographic view of a display screen panel containing GUI is filed, thereby disconnecting the GUI from the products to which it is specifically incorporated. In addition, for a GUI of general use, it is required that all its applied end products be specified in an exhaustive fashion in the brief description.

(III) Amendments Pertaining to Substantive Examination of Invention Patent Applications

5. Improving General Provisions Relevant to Method of Three-Step Review (Section 3.2.1.1 in Chapter Four of Part II)

The Guidelines have been amended to have further improved the provisions pertaining to the method of three-step review of inventiveness, clarifying that the technical problem to be actually solved by an invention should be determined according to the technical effects that the distinctive features achieve in the claimed invention; and providing that, for technical features that functionally support each other and that interact, the technical effects achieved by the technical features and their relationships in the claimed invention should be considered as a whole.

Inventiveness or inventive step is the height the patent law requires a patentable invention and innovation to attain. The key to judging the inventiveness is to evaluate, as objectively as possible, the contribution the technology of an invention makes, so that the final granted patent right can matches the true contribution the inventor has made to the prior art. One of the difficulties in the method of three-step review is the determination of the technical problem an invention has actually solved. The amendments currently made to the Guidelines emphasize that the technical problem an invention actually solves should be determined not only solely on the basis of the intrinsic function or use of the distinctive features, but also on the basis of the technical effects the distinctive features can achieve in the entire claimed solution, with the technical features that functionally support each other and interact considered as a whole in the determination of the technical problem the invention actually solves.

6. Further Standardize Examiners' General Route of Construing Inventions (Section 4.2 in Chapter Eight of Part II)

The Guidelines are amended to have further standardized the general route for examiners to construe inventions, clarifying that the examiner, when construing an invention, should fully understand the overall state of the background technology, the technical effects that the technical solution of the invention can bring, and identify the improvement the invention has made relative to the

background technology.

Correct construction of an invention is the prerequisite for the examiner to determine the facts of the application and to objectively evaluate its inventiveness. It is further clarified, in the amended Guidelines, that the examiner should start with the background technology as described in the description when construing the invention as the background technology described in the application is usually what the inventor tries to improve by exploiting his technology, and is also the true technical starting point of the invention. In addition, the amended Guidelines have further made it clear that the examiner should focus his construction of an invention on understand the invention as a whole, getting hold of the idea underlying the improvement of the background technology, and clearly identify the contribution of the invention.

7. Strengthening Examiners' Burden of Proof with Regard to Cited Common Knowledge (Section 4.10.2.2 in Chapter Eight of Part II)

The amended Guidelines now clarify that when an applicant disagrees with the examiner on the common knowledge the latter cites, the examiner should provide evidence or explain the reason; when determining the point of an invention as common knowledge, the examiner should generally provide evidence.

The amended Guidelines have standardized use of common knowledge in reviewing inventiveness, and specifically heightened the burden of proof on the part of examiners. It has been made clear, on the one hand, that if the applicant has objections to the common knowledge as cited by the examiner, the examiner should provide corresponding evidence to prove it, and explain the reason, and, on the other hand, that the examiner, when determining the technical features that contribute to the solution of the technical problem as common knowledge, should generally provide evidence to prove his determination.

(IV) Search-Related Amendments

8. Comprehensively Revising and Improving Search-Related Provisions (Sections 2, 5.3, 5.4.2, 6.2, 6.3, 8.1, 10, and 12 in Chapter Seven of Part II)

The amended search-related provisions, involving provisions in Chapter Seven of Part II of the Guidelines for the purpose of solidifying the useful search-related experience acuminated in the examination practice and improving the efficiency of search conducted by examiners, include, among other things, changing the allowable forms and types of data searched for the purpose of examination; revising the standard search processes and strategies; further stipulating the minimum database for search, further clarifying the principle concerning suspension of search, improving the provisions for cases where search is not necessary, and regulating the contents of search information records.

Search is the key link in patent examination, and its

requirements in connection with search resources and the methods. The current amendments have first made the improvements in terms of the forms and types of relevant search data or materials used for examination, stipulating that examiners should search resources of the patent and non-patent documentation. The former includes Chinese and foreign patent documents, and the latter mainly includes domestic and foreign scientific and technical books and periodicals, dissertations, standards/protocols, indexing tools, and manuals. Then, the specifications pertaining to the search process and strategy have been revised, with the search process divided into the preliminary, regular, and extended searches, and enlisting the specific search tasks and requirements to be completed and complied with in each step; and with the search strategies systemically listing the key points that examiners need to consider in the process of formulating and adjusting their search strategies, including, among other things, choosing search system or database, expressing basic search elements, constructing search formulas, and adjusting the search strategies. Next, the scope of the minimum database search has been specified, making it clear that when the examiner decides to suspend his search without obtaining a reference document, at least the minimum database should be searched. Finally, the rules for cases where search is not necessary are improved, and the content of search information records is standardized. Briefly put, the current amendments are conducive for the system to standardize the examiners' search process, to better guide them to rationally formulate their search strategies, and to improve their search quality.

(V) Amendments Pertaining to Meetings and Telephone Discussions

9. Amendments Pertaining to Interview (Section 4.12 in Chapter Eight of Part II)

The amended Guidelines have clarified the principles for interview, appropriately relaxing the restrictions on the timing for holding the interview. Both examiners and applicants can initiate and request an interview at any stage within the substantive examination proceedings. In addition, in order to prevent unnecessary interview from affecting the efficiency of the examination, the circumstances are enumerated and specified where the examiner can refuse an applicant's request for interview.

To facilitate communication between the examiners and applicants, enhance their mutual understanding, and improve the quality and efficiency of patent examination, the Guidelines are amended to have clarified the principles for initiating interview. As long as such an interview will achieve a useful purpose, help clarify issues, eliminate differences, and promote understanding, the examiner should agree on the applicant's request interview. In order to prevent unnecessary interview from affecting the efficiency of the examination, it is also stipulated that the examiner

may refuse an applicant's request for interview where the views or opinions of both sides have been fully expressed in writing, in telephone discussions, or in any other form. In addition, the Guidelines used to restrict the time for interview in such a way that an interview of the kind is allowed only after the first office action is issued. Where it is necessary to hold an interview before the first OA is issued, especially when the technical solution of an application is so complicated that it is necessary to initiate an interview to demonstrate or explain the technical solution of the invention before the first OA is issued, the meeting would facilitate correct construction or understanding of the invention involved and objective determination of the facts. To this end, the amendments have made the timing for such interview less restrictive.

10. Amendments Pertaining to Telephone Discussions and Communication in Other Ways (Sections 4.11 and 4.13 in Chapter Eight of Part II)

To improve the efficiency of communication between examiners and applicants, to facilitate examiners' construction of inventions and related prior art, and to improve the quality and efficiency of patent examination, the amended provisions have relaxed restrictions on the timing of telephone discussions, the scope of contents, and eligibility for initiating discussions of the kind, with such ways of communication as video conferences and email exchanges added for examiners to hold discussions with applicants. In line with this, there is no longer mandatory requirement on the content of discussions examiners record and put on file. Besides, provisions were also made for the submission of written documents as discussed between applicants and examiners.

The current Guidelines stipulates in section 4.11.1 Treatment of Continuing Examination of Applications that “for some particular issue, if possible, the examiner may discuss with the applicant by telephone in the manner as described in section 4.13 of this Chapter." The wording citing telephone discussion here is easily considered to be used only in the process of continuing examination. The amendment now made in Section 4.13 Telephone Discussion and Other Methods clearly states that the telephone discussion can be used in the entire substantive examination proceedings, not just in the continuing examination process only, and section 4.11.1 has been amended by deleting the corresponding citations. In addition, Section 4.11.1 used to limit telephone discussions to particular issues in the continued examination, and Section 4.13 also limited telephone discussions to issues related to addressing minor and non-misleading formal deficiencies. These provisions on what can be discussed by telephone are too restrictive to meet the actual needs in the practice of examination. Therefore, telephone discussions have been made less restrictive in contents, so that the scope of such discussions is no longer limited to formal issues and some particular issues, and now covers such matters as construction or understanding of inventions and prior art, or problems existing in the

applications.

By way of amendment, the word order of "the examiner and applicant ..." has been changed, and now both the examiners and the applicants can actively initiate telephone discussions at the appropriate time during the substantive examination to facilitate efficient substantive examination. In addition to examination in writing, meetings, and telephone discussions, the emergence of remote communication methods has provided more alternative ways for applicants and examiners to communicate with each other, and to the provisions of the Guidelines amended in this aspect have been added the other methods of communication, such as video conferences and e-mails exchanges. In line with this, there is no longer any mandatory requirement on the contents of discussions examiners record and keep on file.

The amendments have further clarified that, in addition to the content of rectification the examiner may make, ex officio, the applicants need to formally submit the rectified written documents in order to ensure their legal validity.

(To be continued in the next issue)

An Overview of Rules for Examination of Patent Applications Relating to Algorithms or Business Rules

- Introduction to the Amended Guidelines for Patent Examination

Ms. Xiao li SU, Patent Attorney, Panawell & Partners

To clarify the rules for examining patent applications relating to the new industrial forms, such as artificial intelligence or AI, the CNIPA released the decision to amend the Guidelines for Patent Examination on December 31, 2019, setting forth special provisions on the rules for the examination of patent applications relating to algorithms or business rules, and the amended Guidelines have come into effect as of February 1, 2020. This article will be mainly presenting an overview of the examination rules pertaining to the patentable subject matter, showing the highlights of the amendments and offering our advice.

I. Amended Rules for Examination of Patentable Subject Matter

Invention patent applications relating to artificial intelligence, Internet, big data, and blockchain generally comprise features of rules and methods of mental activities, such as algorithms or business rules and methods. The recently amended Guidelines clearly stipulate that in the examination, technical features and algorithmic features or business rule and method features should not be simplistically separated. Instead, all the contents of the claims should be considered as a whole, with

analysis made of the technical means, technical problems solved, and technical effects achieved. According to the Guidelines, invention patent applications relating to algorithms or business rules are generally examined in the following order:

(1) They are judged whether they are rules and methods of mental activities as stipulated in Article 25, paragraph 1.2 of the Patent Law. If the claims relate to abstract algorithms or pure business rules and methods, and does not contain any technical features, then the claims are rules and methods of mental activities, and are not patentable.

(2) If the claims as a whole do not relate to rules and methods of mental activities, then examination goes on to find out whether they relate to the technical solutions as specified in Article 2, paragraph 2 of the Patent Law.

(3) If the claims are technical solutions, further examination is to be made as to whether they possess novelty and inventive step as provided for in Article 22, paragraphs 2 and 3 of the Patent Law. Generally, for this type of invention patent applications relating to algorithms or business rules, the examination proceeds to first determine whether the solutions defined by the claims are patentable subject matter under Article 25, paragraph 1.2 and Article 2, paragraph 2 of the Patent Law, and then the novelty and inventive step examination is made. For rules and methods of mental activities as stipulated in Article 25, paragraph 1.2 of the Patent Law, the circumstance where the claimed subject matters are not patentable under 25, paragraph 1.2 of the Patent Law can usually be avoided by adding appropriate "technical features" to the claims. Following is mainly an overview of the examination of technical solutions by way of specific examples.

II. Examination of Technical Solutions (Article 2, paragraph 2 of the Patent Law)

In the current examination process, the method used to determine whether the claims relate to a technical solution is based on the three technical elements (i.e., technical problem, technical means, and technical effect). That is to say, if the claimed solution solves a technical problem, and the claims contain technical means following using natural laws, and achieve technical effect conforming to the natural laws, the claimed solution is a technical solution as described in Article 2.2 of Patent Law.

For the claims that contain both algorithmic features or business rule and method features, and technical features, whether they constitute a technical solution is determined with all the features described in the claims considered as a whole. That is, the determination is made as to whether the claims combine algorithmic features or business rule and method features with technical features to constitute a technical means to solve a technical problem, and can achieve corresponding technical effect. The amended Guidelines have listed the following examples:

Example 1. The invention patent application claims

an economic climate index analysis based on regional electricity characteristics. This method evaluates the economic climate index of a region by calculating the economic indicators and electricity consumption indicators of the region to be tested. The claims are as follows:

An analysis method of economic climate index based on regional electricity characteristics, characterized by comprising the following steps:

Selecting a preliminary indicator of the economic climate index of a region to be tested according to economic data and power consumption data of the region to be tested, wherein the preliminary indicator includes an economic indicator and a power consumption indicator;

Determining an economic climate index system of the region to be tested by performing on a computer, cluster analysis method and time difference correlation analysis method, including a leading indicator, a consistent indicator and a lagging indicator;

Obtaining the economic climate index of the region to tested, using a composite index calculation method according to the economic climate index system of the region to be tested.

Analysis: This solution is a method of analyzing and calculating the economic climate index. The method is executed on a computer. Its processed objects are various economic indicators and electricity consumption indicators. The problem to be solved is to judge the economic trend, and does not constitute a technical problem; the method is used to analyze the economic situation according to the economic data and electricity consumption data, and only economic management methods are adopted in accordance with the laws of economics. The economic climate index used to evaluate the economy is not a technical effect that conforms to the law of nature; hence, technical means are not used. Therefore, this solution is not a technical solution as specified in Article 2, paragraph two, of the Patent Law, and is not a patentable subject matter.

Example 2. The invention patent application provides a training method for a convolutional neural network model (such as US2017220904A1). After a convolution operation and maximal pooling operation on training images on each level of convolution layer, a horizontal pooling operation is performed on the feature images obtained through the maximal pooling operation, such that the well-trained CNN model can recognize an image of any size. The claims go as follows:

A method for training a Convolutional Neural Network (CNN) model, comprising:

acquiring, by a server, initial model parameters of a CNN model to be trained, the initial model parameters comprising initial convolution kernels and initial bias matrixes of convolution layers of respective levels, and an initial weight matrix and an initial bias vector of a fully connected layer;

acquiring a plurality of training images;

on the convolution layer of each level, performing, by the server, convolution operation and maximal pooling operation on each of the training images to obtain a first feature image of each of the training images on the convolution layer of each level by using the initial convolution kernel and initial bias matrix of the convolution layer of each level;

performing, by the server, horizontal pooling operation on the first feature image of each of the training images on the convolution layer of at least one of the levels to obtain a second feature image of each of the training images on the convolution layer of each level;

determining, by the server, a feature vector of each of the training images according to the second feature image of each of the training images on the convolution layer of each level;

processing, by the server, each feature vector to obtain a classification probability vector of each of the training images according to the initial weight matrixes and the initial bias vectors;

calculating, by the server, a classification error according to the classification probability vector and initial classification of each of the training images;

regulating, by the server, the model parameters of the CNN model to be trained on the basis of the classification errors;

on the basis of the regulated model parameters and the plurality of training images, continuing, by the server, the process of regulating the model parameters, until the number of iterations reaches a preset number; and

determining, by the server, model parameters obtained when the number of iterations reaches the preset number as the model parameters of the trained CNN model.

Analysis: This solution is a training method for a CNN model. It is clear that the data processed in each step of the model training method are image data and how each step processes the image data, showing that the training algorithm of convolutional neural network is closely related to the image information processing. What this solution solves is how to overcome the technical problem that the CNN model can only identify images with a fixed size; it uses different methods to process and train the images on different convolutional layers, uses technical methods that follow the laws of nature, and achieves the technical effect for the trained CNN model to identify images of any size. Therefore, the solution for this invention patent application is a technical solution as specified in Article 2, paragraph two, of the Patent Law, and subject matter susceptible to the patent protection.

Example 3: The patent application claims a method for using a shared bicycle. By obtaining location information of a user's terminal device and status information of a shared bicycle corresponding to a certain distance, the user can accurately find an available bicycle based on the status information of the shared bicycle. The shared bicycle is used for

of shared bicycle, saves users' time, and improves users' experience. The claims are as follows:

A method for using a shared bicycle, comprising:

Step 1, sending, by a user, a request for use of a shared bicycle to a server through a terminal device;

Step 2, obtaining, by the server, a first location information of the user, finding a second location information of a shared bicycle within a certain distance corresponding to the first location information, and status information of the shared bicycle, and sending the location information and status information to the terminal device, wherein the first location information and the second location information are obtained through a GPS signal;

Step 3, locating, by the user, a target shared bicycle available to ride according to the location information of the shared bicycle displayed on the terminal device;

Step 4, scanning, by the user, a QR code on body of the target shared bicycle with the terminal device, and obtaining permission to use the target shared bicycle after authentication of the server;

Step 5, sending, by the server, a parking reminder to the user according to riding situation, wherein if the bicycle is parked by the user in a designated area, a preferential charge will be triggered for billing, otherwise a standard charge will be displayed for billing;

Step 6, parking, by the user, the bicycle according to the parking reminder, wherein a lock operation of the shared bicycle is performed by the user after riding, and a riding completing signal is sent to the server after a lock state is detected.

Analysis: The solution relates to a method of using a shared bicycle. What is to be solved is a technical problem of how to accurately find the position of an available shared bicycle and turn on the shared bicycle. This solution implements a computer program on the terminal device and the server to control and guide a user's action of using a shared bicycle, reflects the control of the collection and calculation of data, such as the location information and authentication, uses technical means that follow the laws of nature, and achieves the technical effect of accurately finding the position of an available shared bicycle, and unlocking the bicycle. Therefore, the solution for this invention patent application is a technical solution as specified in Article 2, paragraph two, of the Patent Law, and a patentable subject matter.

From the above examples, we can see that for computer-implemented inventions and software inventions involving algorithms and business rules, in addition to adding a proper number of "technical features" to the claims when drafting a new application to avoid falling into the flaw as specified in Article 25 of the Patent Law, a circumstance where the patent right should not be granted as specified in its paragraph one (2), at least the following two points need to be noted:

(a) The algorithms and business rules/methods involved in the claims should be applied to a specific technical field to solve a particular technical problem.

For example, a training method for a convolutional neural network model as claimed in above Example 2, it is specified in the claims that the data processed in each step of the training method are image data and how each step processes the image, showing that the neural network training algorithm is closely related to the field of image information processing. What to be solved is how to overcome the technical problem, namely, the CNN model can only identify images with a fixed size. Conversely, if the "training image" in the above claims is modified to "training sample data", the effect of this training method is to improve the identifying speed or accuracy of the training model, then the applicant is likely to receive the following comments in the office action:

"The solution of the claims fail to possess industrial applicability, wherein the feature value of the processed training samples, the initial parameters of the model, and the CNN model are abstract general data, and the process of training the mathematical model, etc. using the relevant data of the training samples is a series of steps of abstract mathematical method, and the final result is also an abstract general mathematical model. Therefore, the problem to be solved by the solution essentially represents the further improvement of the algorithm itself, and it lacks a specific technical field of application. It is not a technical problem in the sense of the patent law, nor is the achieved effect a technical effect in the sense of the patent law; hence it is not a technical solution as a whole."

(b) The claims should embody that there is mutual support and interaction between the algorithmic features or business rule/method features and the technical features.

For example, for the claims containing algorithm features, the data processed by the algorithm and its related output results are data with exact technical meaning in a specific field of application. Taking, for example, the training method of the convolutional neural network model in Example 2, it is specified in the claims that the data processed in each step of the training method are image data in the field of image information processing. For another example, for the claims containing business rule or business method features, the implementation of business rule and method features requires adjustment or improvement of corresponding technical means. Taking the method for use of a shared bicycle in Example 3 above for example, in order to accurately find an available bicycle, the structures of information and data passed between a terminal device, a shared bicycle, and the server, and the method of communication are adjusted accordingly.

In addition, in order to better support the claims, one may highlights the beneficial technical effects in the description. For example, if the beneficial effect of the solution of the claims is to objectively

improve users' experience, it can be explained in the description how the improved users' experience has been achieved or generated with functional, mutual support and close coordination between the technical features and the algorithm features or business rule and method features.

III. Conclusion and Advice

It can be seen from the latest amendments to the Guidelines that the CNIPA has enhanced the protection of patent applications relating to algorithms and business rules in the new industrial forms and fields, such as artificial intelligence, Internet+, big data, and blockchain to meet the needs imposed by the developments of the new technologies. Following is the advice offered to help our clients to draft such computer-implemented patent applications relating to algorithms and business rules:

* The drafting should be done in such way that algorithms or business rules/methods are to be applied in a "specific technical field" to solve a particular technical problem, say, intelligent driving, image recognition, video compression, to name just a few; and they are not abstract algorithms or pure business rules executable only on general-purpose computers.

* The drafting should be done in such a way that algorithms or business rules/methods are combined with the technical features. For example, when algorithm features are included, the definition of at least one input parameter of the algorithm and its related output results should be correspondingly associated with specific data in a specific technical field. For another example, when business rule/method features are included, their implementation requires, or relies on, adjustments or improvements of the corresponding technical means.

* The drafting should enhance the description of technical effects, especially, the description should show the process of how the algorithmic features or business rule/method features and technical features support and interact with each other, functionally, jointly solve a technical problem, and achieve the corresponding technical effect.

Author:

Ms. Xiaoli SU

Ms. Su received her degree of Master of Science from Shandong Normal University in 2003 and in the same year she entered the Institute of Computing Technology of Chinese Academy of Sciences to study for a doctorate. She once participated in many projects of the "863 Plan" of Ministry of Science and Technology and the National Natural Science Foundation, and has extensive experience in computer and communication technology. Ms. Su joined Panawell in 2010.

On Invalidation of DJI's Two Patents

Mr. William YANG, Attorney-at-Law, Panawell & Partners

Good news to our client, bad news to DJI, and caution to us all!

For the Shenzhen DJI Osmo Technology Co., Ltd. (hereinafter DJI Osmo) and its parent company, SZ DJI Technology Co., Ltd. ("DJI"), it is bad news, while for our client, the Guilin Zhishen Information Technology Co., Ltd. (Zhishen Information), it is good news for the two reasons: one, the Beijing Intellectual Property Court ruled in November 2019 that it maintained the Decision on the Request for Invalidation issued by the China National Intellectual Property Administration (CNIPA) at the end of 2017, declaring the design patent (201430207007.1) entitled "Gimbal Platform" owned by DJI Osmo (the original patentee was DJI) invalid; and two, CNIPA made a decision in February 2020, declaring the invention patent (201480002121.8) entitled "Gimbal Platform" owned by DJI Osmo (the original patentee was DJI) invalid. In other words, as the invalidation requester, Zhishen information has won the two lawsuits squarely.

In this regard, we congratulate our team of attorneys and Zhishen Information on their victory, but we have no intention to ridicule DJI Osmo or DJI for two reasons: 1) litigation victory and failure are common; and 2) DJI is a true innovative business and the leader in the drone industry.

In fact, we have thought a lot on the invalidation of the two patents and the facts involved, and feel very sorry for DJI. We also hope that the lawsuits would draw attention from other businesses, especially their management, and help them try to avoid similar painful dilemma.

In the CNIPA Decision on the Invalidation Request which declared DJI Osmo's design patent (201430207007.1) for the gimbal platform invalid, the Evidence 2 and Evidence 3 submitted by Panawell's attorneys on behalf of Zhishen Information are crucial, and CNIPA concluded therein as to the following:

Evidence 2 showed that the news center column on DJI's official website contained 42 pages of news, each of which carried several pieces of news that were respectively dated, and the latest was dated March 2, 2017. One of the news, dated 2014-06-25 and entitled "DJIRonin-Official Release in July", offered three video links: "Introduction to the Basic Features of Ronin Handheld Gimbal Platform", "Brainstorming of Ronin Handheld Gimbal Platform Advertising Series", and "Behind-the-Scene Shooting of Ronin Handheld Gimbal Platform Advertising", each of which one could play at a click.

The videos in Evidence 2 and Evidence 3, mutually confirmative, proved that the videos were disclosed before the filing date of the patent in suit, and the design shown therein could be used as the prior design to testify whether the patent in suit complies with Article 23.2 of the Chinese Patent Law.

A comparison of the patent in suit with the prior design showed that the two were almost exactly alike in overall shape, and the major differences between the two were proportionally small, and had no notable effect in terms of overall visual effect of the design. Accordingly, the patent in suit, not obviously different from the prior design, did not comply with Article 23.2 of the Patent Law.

Now, let's look at the CNIPA's Decision on the Request for Invalidation, which declared DJI Osmo's invention patent (201480002121.8) invalid. Of the 14 evidence submitted by Panawell's attorneys on behalf of Zhishen Information, Evidence 2 and Evidence 3 (known as Attachments 2 and 3 in the Decision) were the most important evidence submitted in the abovementioned design patent invalidation lawsuit. Following are the main points in the conclusion drawn by the panel in the Invalidation Decision:

Attachment 2 was found to show that the original patentee of the patent in suit released the news entitled "DJIRonin-Official Release in July" on its official website on June 25, 2014, in which a tri-axis handheld DJIRonin gimbal system specially designed for cinematographers were reported as to its major features, operation modes and hardware support, etc. The news also included three video links by the titles of "Introduction to the Basic Features of Ronin Handheld Gimbal Platform", "Brainstorming of Ronin Handheld Gimbal Platform Advertising Series", and "Behind-the-Scene Shooting of Ronin Handheld Gimbal Advertisement". Attachment 3 showed that the original patentee of the patent in suit uploaded a video named "DJI Ronin basic features profile" onto the website Youku. The above text information or video news was publicized in different media or on different platforms on the same day for the same event; ...

The preceding attachments, mutually confirmative, proved that the original patentee of the patents in suit presented and publicized its new product of DJI Ronin handheld gimbal platform on June 25, 2014 in news report (Attachment 2) and a video (Attachment 3) with a view to attracting attention from related or potential customers, and preparing for the subsequent release and sales of the new product. ...

Attachment 4 showed an article entitled "Unpacking of Reliable Stabilizer - DJI Ronin Handheld Gimbal Platform" published on the website www.dgtle.com by the publicizer named "Half Bag Biscuit", with the date of August 7, 2014 shown on the upper left hand corner of the title. The article included the photos taken from different angles of the DJI Ronin handheld gimbal platform, and was attached, at the end thereof, comments that were not fully uploaded. ...

The above Attachments 2, 3, 4 and 9 (Attachment 9 is the notarized printout of the article entitled "Unpacking of Reliable Stabilizer - DJI Ronin Handheld Gimbal Platform" in Attachment 4) have formed a complete chain of evidence, proving that the release date of the DJI Ronin handheld gimbal

platform should be no later than August 6, 2014, and preceded August 13, 2014, the filing date of the patent in suit. That is, the DJI Ronin handheld gimbal platform had been made known to the public before the filing date of the patent.

The above attachments, forming a complete chain of evidence, proved that the technical contents related to DJI Ronin handheld gimbal constitute the prior art of the patent in suit, and could be used to assess the novelty and inventive step of the patent.

The conclusions in the above two Decisions by the two CNIPA panels showed that DJI Osmo's two patents have been declared invalid entirely as a result of its own negligent. In other words, before DJI Osmo filed the two patent applications, its own team had publicly promoted and marketed the products incorporating the patented design and containing the patented technical solution, and it was exactly this public promotion and marketing activities that had ruined the validity of its own patents.

As we all know, an invention-creation for which a patent application is filed must be novel in that it is not an existing or prior technology or design, nor has any entity or individual filed before the date of filing with the CNIPA an application relating to the same as disclosed in the patent application publicized after the date of filing.

Therefore, any business should take precaution, make careful plan, and well coordinate and manage its corporate operation procedure when putting its invention-creations into commercial use, such as manufacture, promotion and sales, to make sure that its invention-creations follow the sequence of patent applications (or trade secrets protection) and FTO analysis → internal production → market promotion → market sales, and prevent its patents from being invalidated due to disclosure of the technical contents as a result of their own negligence or fault before proper protection is secured as shown in the preceding two lawsuits.

The two lawsuits also remind other businesses to pay close attention to, and keep abreast of, what their competitors would do, make solid efforts to strategically distribute their intellectual property in their own industries, and make good use of the legal weapons to carry on their offense and defense in the fierce market competition in an effort to remain poised in coping with the risks and meeting the challenges posed by the market competition for the sake of their corporate growth.

Author:

Mr. William YANG

Mr. Yang graduated from the Foreign Language Department of Sichuan Normal University and obtained a degree of Bachelor of Arts in 1988. In 1990, he graduated from the Law School of Renmin University of China and obtained a degree of Bachelor of Laws. Mr. Yang served the Ministry of Supervision of the PRC from 1990 to 1995. Since 1996, he worked with China Patent Agent (H.K.) Ltd. as an attorney and deputy director of the Legal Affairs Department. Mr. Yang joined Panawell in January 2007.

How to Handle the Time Limits of Patent Matters during the COVID-19 Outbreak?

According to the Announcement No. 350 released on January 28, 2020 by the CNIPA, if the applicant fails to take action within the legal or specified time limit and loses right because the party concerned is hospitalized or quarantined, or because patent business cannot be handled normally in the place where the applicant locates due to governmental prevention and control measures, the right can be restored by filing a request no later than two months after the date when the party concerned is discharged from hospital or quarantine, or when the local place resumes work and the management and control on people ends. Such request for restoration of right based on force majeure can be made without paying the official restoration fee, and shall be filed within two years from the initial time limit to the latest.

The evidence needed for such restoration request may be a certificate of hospitalization or quarantine, or a copy of proclamation on declaring a national emergency issued by the local government.

Moreover, according to the official interpretation of the Announcement, late payment of annuity will not trigger the six-month surcharge, where the applicant fails to pay the annuity because of the governmental prevention and control measures.

However, it shall be noted that the Announcement No. 350 does not apply to the following time limits:

- six-month novelty grace period for invention patent applications which is prescribed by Article 24 of Chinese Patent Law,
- twelve-month priority deadline for invention/utility model patent applications and six-month priority deadline for design applications, which are prescribed by Article 29 of Patent Law,
- twenty-year invention patent term and ten-year utility model/design patent term, as prescribed by Article 42 of Patent Law, and
- two-year patent infringement appeal deadline as prescribed by Article 68 of Patent Law.

Panawell Represents Zhishen and Won in Patent Invalidation Proceedings and Subsequent Administrative Lawsuit

Entrusted by the Guilin Zhishen Information Technology Co., Ltd. (hereinafter referred to as Zhishen), Panawell filed requests to invalidate the Chinese design patent No. 201430207007.1 and the Chinese invention patent No. 201480002121.8 entitled “Gimbal Platform” owned by the SZ DJI Osmo Technology Co., Ltd. (hereinafter referred to as "DJI Osmo").

With respect to the above invalidation request filed by this Firm in April 2017 regarding the above-mentioned design patent, the CNIPA’s Patent Reexamination Board (PRB) made a decision on the invalidation request in November 2017, declaring the entire patent invalid. DJI Osmo, dissatisfied with the PRB’s decision, filed a lawsuit with the Beijing Intellectual Property Court (hereinafter referred to as the Court). The Court accepted the lawsuit in February 2018, and notified the interested party Zhishen to participate as the third party in the case. This Firm’s attorneys-at-law Wang Bo and Xu Feng were entrusted to represented Zhishen, and participate in the lawsuit. In December 2019, the Court made the ruling, rejecting the plaintiff DJI Osmo’s litigant claims.

With respect to the above invalidation request filed by this Firm regarding the above invention patent in January 2018, the PRB made a decision on the invalidation request in February 2020, declaring the entire patent invalid.

It is known that DJI Osmo and its parent company, SZ DJI Technology Co., Ltd. (hereinafter referred to as "DJI Technology") are truly innovators and leaders in the unmanned aerial vehicle industry.

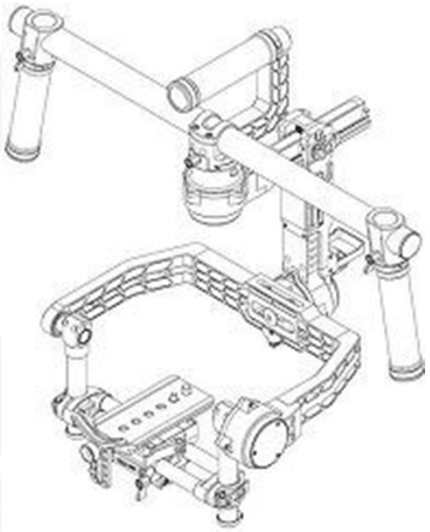
Gimbal platform, a supporting device for installing and fixing video cameras, is used to effectively reduce shake, and provides good shooting experience and stable clear shots. As a leader in the technical field, Zhishen and DJI Technology successively launched a variety of gimbal platform products, and attached great importance to intellectual property protection. With the assistance of our IP legal team, Zhishen accurately captured and pinpointed the competitor’s negligence in the aforesaid patent applications, that is, “the product promotion video was disclosed to the public earlier than the application dates of its patents”. And Zhishen finally succeeded in invalidating DJI Osmo’s relevant patent rights for the Ronin handheld gimbal platform system. In the aforementioned patent invalidation proceedings and administrative lawsuit, both the PRB and the Court supported the invalidation grounds proposed by this Firm.

Key to the success in the patent invalidation request and administrative lawsuit lies in that the product promotion video constitutes evidence of prior design.

On May 8, 2017, Zhishen submitted evidence showing that the news section of the DJI Technology website carried several news items,

each of which was marked with a corresponding date, and one of the news item was entitled "DJI Ronin Officially Started Shipping in July" and marked with "2014-06-25", a date earlier than June 27, 2014, the filing date of said design patent, and one also earlier than August 13, 2014, the filing date of the invention patent. The news carried three video links entitled “Introduction to the Basic Features of Ronin Handheld Gimbal Platform”, “Brainstorming of Ronin Handheld Gimbal Platform Advertising Series”, and “Behind-the-Scene Shooting of Ronin Handheld Gimbal Platform Advertising”, which could be played at click.

The PRB and the Court agreed that: (1) The news “DJI Ronin Officially Started Shipping in July” on the DJI Technology’s website is attached by the words "2014-06-25", so it can be inferred that the publication date of the page is June 25, 2014, which also coincided with the official release of the DJI Ronin products involved in the news headline in July 2014. This date is earlier than the filing date of the patents involved; hence, the DJI Ronin product design disclosed in the evidence constituted prior art of the patents involved. (2) The slight difference of the gimbal platform products shown in the video evidence “Introduction to the Basic Features of the Ronin Handheld Gimbal Platform” from the patented product would not produce noticeable visual effect on the average consumers, so the two designs were substantially identical.



Design of CN 201430207007.1

Back Cover: Exterior of office block where Panawell locates

PANAWELL & PARTNERS LLC
Addr：1002-1005, 10th Floor, China Life Tower
16 Chao Yang Men Wai Street, Chaoyang District
Beijing 100020, China
Tel：(86 10)85253778
Fax：(86 10)85253671
Code：100020
E-mail：mail@panawell.com
Website: www.panawell.com

Editor: Jane Wang
Lan Wang
Shute XU
Translator: Jane Wang
Yujing Zhang
Yazhi Zhao
Dan Jin
Layout: Shunshun Dong