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# Remarks by Director Iancu at the Intellectual Property Owners Association 46th Annual Meeting

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Director of the U.S. Patent and Trademark Office Andrei Iancu

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As delivered

Good morning everyone, and thank you, Henry [Hadad] for that generous introduction. And thank you for inviting me. It's a pleasure to be with all of you this morning and to have this opportunity to kick off IPO's Annual Meeting. Much to the benefit of the U.S. innovation community, our two organizations—the USPTO and IPO—have had a wonderful, longstanding relationship—a relationship that I hope will continue for many years to come.

We have been quite busy at the USPTO. Among other things, we are addressing some of the thorniest issues surrounding the patent system, attending to important trademark developments, and dealing with challenges posed by our legacy IT systems. And all while maintaining our high standards and pendency goals.

On the trademark side, in fact, we have been consistently meeting or exceeding our goals for the past 12 years. That has not changed, despite a very significant growth in the number of applications. That growth has required us to hire, train, and integrate more trademark examiners, while maintaining our culture of organizational excellence.

A significant part of the growth in applications has come from China. In fact, over the past 6 years, the number of trademark applications from China has risen almost 1100 percent. This has presented increased issues with the unauthorized practice of law from individuals outside the U.S. In light of this and other issues, we are considering a possible notice of proposed rulemaking that would require foreign trademark applicants and registrants to be represented by a U.S. licensed attorney to file trademark documents with the USPTO.

We are also taking a look at various options for decluttering our Trademarks register, and we have also recently launched a campaign aimed at reducing counterfeiting. We are likewise taking action on a variety of other IP issues.

We have played, for example, a leading role in the Music Modernization Act, which passed the House earlier this year, and was amended and passed by the Senate just last week. This major bipartisan legislation updates copyright law to reflect the realities of music licensing in the digital age and adequately compensate legacy artists and music producers for the fruits of their labor.

There is indeed a lot of great work being done at the USPTO on all aspects of intellectual property.

We've also been very busy with our IT systems. Some of you are no doubt aware of the week-long outage the USPTO experienced last month, affecting some patent filings systems, among other things. The immediate culprit was a corruption of some tables in the PALM database. We were able to restore the system without loss of data, and in the process we upgraded the servers on which this particular database resides. However, a lot more work remains.

As a general matter, our legacy systems are old and it is time—indeed, well beyond time—to undertake a fundamental modernization effort. And so, we are taking a broad, fresh look at our IT systems. To that end, we have assembled a task force of USPTO leaders, and we are also working with outside consultants, to tackle this issue head-on and as quickly as possible. No options are off the table when it comes to modernizing these vital IT systems.

We've also posted a job opening to fill our vacant chief information officer position, and are looking for the very best applicants, both from inside the government, as well as from industry. So I encourage you to ask the highest qualified IT leaders that you might know to apply. Information is available at the USPTO website. This is a unique opportunity to help us fundamentally transform our IT systems and transition to state-of-the-art technology.

Now as to patents: Discussing everything we are doing on the patents front would probably take the rest of this conference, something Henry would probably not be happy about. So in the interest of time, I'll focus my remarks on a specific proposal for Section 101—patentable subject matter.

As many of you know, we recently issued to our examiners two new guidance memos on Section 101: the first dealing with the "conventionality" step in the *Mayo/Alice* framework, and the second on "methods of treatment" claims. Our data shows that these two memos have already improved the 101 analysis during examination.

But significantly more work needs to be done, especially on the "abstract idea" exception.

I know that IPO committees have been hard at work on a legislative fix to Section 101. Indeed, IPO and AIPLA have joined forces recently and proposed new statutory language. Should Congress be interested in moving forward with hearings or legislation, the USPTO would be very happy to help. As we all know, however, any legislative effort takes a long time, and the result is uncertain.

In the meantime, the USPTO cannot wait. We have thousands of examiners who struggle with these issues on a daily basis. Our examiners need additional guidance now. And so do patent applicants, patent owners, and the public. Whether through legislation or otherwise, there is a growing consensus that the issue must be promptly addressed.

In fact, several Federal Circuit judges have recently filed concurrences or dissents explaining the uncertain nature of the law and calling for change.

In order to “work its way out of what so many in the innovation field consider are §101 problems,” Judge Lourie—in an opinion joined by Judge Newman—appealed to a higher authority. “Resolution of patent-eligibility issues requires higher intervention, hopefully with ideas reflective of the best thinking that can be brought to bear on the subject.”

Judge Plager, in another case, noted that “the state of the law is such as to give little confidence that the outcome is necessarily correct.” He explained that, given current §101 jurisprudence, it is “near impossible to know with any certainty whether the invention is or is not patent eligible.” And he concluded that we currently have an “incoherent body of doctrine.”

And Judge Linn explained that the abstract idea test is “indeterminate and often leads to arbitrary results.”

I agree with all these sentiments.

Judge Giles Rich, an icon of patent law with an unparalleled understanding of—and impact on—our system, stated, in 1979, the crux of the problem with respect to §101 jurisprudence. He said at the time that problems can arise due to the “unfortunate ... though clear commingling of distinct statutory provisions which are conceptually unrelated, namely, those pertaining to the categories of invention in §101 which may be patentable, and to the conditions for patentability demanded by the statute...”

This was almost 40 years ago! How perceptive and prescient Judge Rich was.

Let me put this in my own words: How can a claim be novel enough to pass 102 and nonobvious enough to pass 103, yet lack an “inventive concept” and therefore fail 101? Or, how can a claim be concrete enough so that one of skill in the art can make it without undue experimentation, and pass 112, yet abstract enough to fail 101? How can something concrete be abstract?

These problems confound the most sophisticated practitioners in our patent system. People simply don’t know how to draw these distinctions. If something is not inventive, then invalidate it under 102 or 103. If something is indefinite, or too broad to be fully enabled or described, then invalidate it under 112.

We have decades of case law from the courts and millions of examinations at the PTO which guide us in our 102, 103, and 112 analyses. People know these standards and how to apply these well-defined statutory requirements.

The genius of the 1952 Patent Act, of which Judge Rich is widely viewed as a principal author, was that it categorized the bases for patentability. Our recent §101 case law mashes them all up again. As Judge Rich said, this “may lead to distorted legal conclusions.” And it has. And it must end.

So I propose that we go back and heed Judge Rich’s direction, and keep rejections in their own distinct lanes—as directed, in fact, by the 1952 Act. Let’s stop commingling the categories of invention on one hand, with the conditions for patentability on the other. Section 101 is about subject matter. It is meant to address categories of matter that are not ever eligible on their own, no matter how inventive or well-claimed they are.

Here is a hint: If the claims can be fixed by slightly different claiming, by narrower claiming, or by more definite claiming, this is likely a “conditions” problem—not a subject matter problem. A pure discovery of nature, like gravity for example, is not eligible no matter how new, how brilliant, and how carefully the claims are written. This is an example of a subject matter issue. The category itself is problematic.

Alright, but what are these problematic categories? I ask because I believe that we must define the categories for these exceptions clearly, lest—in Justice Clarence Thomas’s words—we “swallow all of patent law.” Because—again quoting Justice Thomas—“at some level, ‘all inventions...embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’” Clearly, though, not all inventions are subject to a judicial exception. So what is the specific subject matter that is problematic and we must exclude? We must be clear, lest we perpetuate the current state. People should know up front. If nothing else, for the sake of a predictable ecosystem, let’s be transparent.

And in particular, the issue needing most attention is, what precisely is the meaning of the “abstract idea” exception? Section 101 itself lists four categories: process, machine, manufacture, and composition of matter. The judicial exceptions should likewise be clearly categorized. As Judge Rich explained, when we deal with §101, “the sole question...is whether the invention falls into a named category, not whether it is patentable...”

So at the USPTO we are contemplating revised guidance to help categorize the exceptions—and indeed to name them—and instruct examiners on how to apply them.

More specifically, the contemplated guidance would do two primary things: First, it would categorize the exceptions based on a synthesis of the case law to date. And second, if a claim does recite a categorized exception, we would instruct examiners to decide if it is “directed to” that exception by determining whether such exception is integrated into a practical application. These two clarifications would help drive more predictability back into the analysis while remaining true to the case law that gave rise to these judicial exceptions in the first place.

So first, what exactly should be captured by the judicial exceptions to §101? In essence, and because we no longer want to mush subject matter with the conditions of patentability, the exceptions should capture only those claims that the Supreme Court has said remain outside the categories of patent protection, despite being novel, nonobvious, and well-disclosed. And what are the categories of inventions that the court told us that we should not patent even where the applicant demonstrates full compliance with Sections 102, 103 and 112? The Supreme Court gave us the answer: the “basic tools of scientific and technological work.”

And what are these “basic tools?” I believe that the Supreme Court has also told us that, at least through their examples. For example, they certainly include pure discoveries of nature, such as gravity, electromagnetism, DNA, etc.—all natural and before human intervention. So, no matter how brilliant the discovery of a certain DNA sequence in nature might have been, the court said we should not issue a patent in the absence of more. The *Myriad* case is a recent example.

Also, fundamental mathematics like calculus, geometry, or arithmetic per se. That is, no matter how novel and well-described Newton’s calculus may have been, it is still not patentable by itself. It can be thought of as abstract no matter what. Perhaps “inherently” ineligible, some might say. The *Benson* case is an example.

Some basic “methods of organizing human activity,” such as fundamental economic practices like market hedging and escrow transactions, have also been excluded by the Supreme Court in *Bilski* and *Alice*.

And the court has also warned against pure mental processes such as forming a judgment or observation. Again, by itself, something performed solely in the human mind can be thought of as abstract no matter how it is claimed.

The Supreme Court has been interpreting this statute for the past 200 years or so, and throughout that time has given only a limited number of examples of these “basic tools of scientific and technological work”—and arguably they can all generally fit into the categories I just mentioned. So let’s turn now and ask in a bit more detail, what do the various exceptions articulated by the Supreme Court really encompass? There is less difficulty with understanding the categories for laws of nature and natural phenomena.

Folks can arguably identify things like gravity or DNA in a claim. Abstract ideas, on the other hand, have proven more challenging to define. But a thorough review of the relevant case law helps us draw more clear lines. At the USPTO we have undertaken just such a review and have studied every relevant case in detail.

And so, the proposed PTO guidance would synthesize “abstract ideas” as falling into the following three categories:

- Mathematical concepts like mathematical relationships, formulas, and calculations
- Certain methods of organizing human interactions, such as fundamental economic practices commercial and legal interactions; managing relationships or interactions between people; and advertising, marketing, and sales activities
- Mental processes, which are concepts performed in the human mind, such as forming an observation, evaluation, judgment, or opinion.

Under the first step of the proposed guidance, we would first look to see if the claims are within the four statutory categories: process, machine, manufacture, or composition of matter. This is not new—we always do this. If statutory, we would then check to see if the claims recite matter within one of the judicial exceptions, categorized as I just mentioned. This is the new approach.

If the claims at issue do not recite subject matter falling into one of these categories, then the 101 analysis is essentially concluded and the claim is eligible. This alone would resolve a significant number of cases currently confounding our system. If an examiner does not find matter within the disallowed categories, he or she can move on.

Now, on the other hand, if the claims do recite subject matter in one of the excluded categories, the Supreme Court has instructed that we need to do more analysis. Specifically, the court instructed us that in such cases we need to decide whether the claims are “directed to” those categories.

To that end, we must first understand what the line is that the court wants us to draw to decide whether the claim is “directed to” an excluded category or not. The proposed new guidance would explain that Supreme Court jurisprudence taken together effectively allows claims that include otherwise excluded matter as long as that matter is integrated into a practical application. The line, in other words, delineates mere principles, on one hand, from practical applications of such principles, on the other.

For example, in *Le Roy v. Tatham*, the court said in 1853 that “a new property discovered in matter, when practically applied in the construction of a useful article of commerce or manufacture, is patentable.” Then 128 years later, in *Diamond v. Diehr*, the court repeated that “an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.” And recently, in *Mayo*, the court explained that “applications of such concepts to a new and useful end ... remain eligible for patent protection.”

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