



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
12/690,591	01/20/2010	Kazuhiro YAMADA	Q115822	8113
23373	7590	02/20/2018	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			PATEL, NEHA	
			ART UNIT	PAPER NUMBER
			3686	
			NOTIFICATION DATE	DELIVERY MODE
			02/20/2018	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PPROCESSING@SUGHRUE.COM  
sughrue@sughrue.com  
USPTO@sughrue.com

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

*Ex parte* KAZUHIRO YAMADA

---

Appeal 2016-008450  
Application 12/690,591  
Technology Center 3600

---

Before ERIC B. CHEN, AMBER L. HAGY, and MICHAEL M. BARRY,  
*Administrative Patent Judges.*

HAGY, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant<sup>1</sup> appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–4, 7–11, 13–15, 17–21, and 23–32, which are all of the pending claims.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

---

<sup>1</sup> Appellant identifies Sysmex Corporation as the real party in interest. (App. Br. 2.)

<sup>2</sup> Claim 6 was canceled in an Amendment dated March 26, 2013. Claims 5, 16, and 22 were canceled in an Amendment dated June 23, 2015. Claim 12 was canceled in an Amendment dated December 30, 2015. (*See also* Final Act. 2.)

## STATEMENT OF THE CASE

### *Introduction*

According to Appellant, “[t]he present invention relates to a cell image processing apparatus, a cell image processing method, and a computer program product, for processing a cell image obtained by imaging a specimen smeared on a slide glass.” (Spec. ¶ 1.) In particular, Appellant’s Specification describes obtaining imaging data, calculating certain characteristics of those images, and graphing those characteristics over time, from which abnormalities in, for example, specimen staining and lamp light intensity may be ascertained. (*E.g., id.* ¶¶ 34, 120, 121, Figs. 24A, 24B.) Appellant’s Specification further describes how a user may determine from trends in that historical data whether to replace a lamp bulb in the apparatus or readjust the setting relating to staining a smear slide to maintain the accuracy of the cell image processing apparatus. (*Id.*)

### *Exemplary Claim*

Claims 1, 18, and 20 are independent. Claim 1, reproduced below, is exemplary of the claimed subject matter:

1. A cell image processing apparatus comprising:
  - a smearing unit comprising an automatic dispenser configured to drop each of the plurality of specimens onto a slide glass, and a robotic hand configured to smear each of the plurality of specimens onto the slide glass and an automatic staining unit configured to stain each of the plurality of smeared specimens on the slide glass by using a staining solution,
  - an imaging unit comprising a robotic arm configured to hold the slide glass on which the specimen has been smeared, at least one lens configured to magnify a cell included in the stained smeared specimen held by the robotic

arm and a camera configured to capture a cell image of the magnified cell;

a display; and

a processor configured to perform operations comprising:

calculating a first characteristic value based on processing and analyzing images of cell portions in a plurality of cell images obtained by the imaging unit and a second characteristic value based on images other than cell portions in the plurality of cell images obtained by the imaging unit;

storing the calculated first and second characteristic values in a memory; and

controlling the display so as to display a screen including a first graph showing a temporal fluctuation in the first characteristic values read out from the memory and a second graph showing a temporal fluctuation in the second characteristic values read out from the memory,

wherein the first graph has a time value on an x-axis and the first characteristic value, which is a characteristic value related to whether the staining unit is functioning abnormally, on a y-axis, and the second graph has a time value on an x-axis and the second characteristic value which is a characteristic value related to whether the imaging unit is functioning abnormally, on a y-axis.

### *Rejection*

Claims 1–4, 7–11, 13–15, 17–21, and 23–32 stand rejected under 35 U.S.C. § 101 as being directed to patent-ineligible subject matter.

## ANALYSIS

We have reviewed Appellant’s arguments in the Briefs, the Examiner’s rejections, and the Examiner’s response to Appellant’s arguments. Appellant’s arguments have not persuaded us of error in the Examiner’s determination that the claims are directed to patent-ineligible subject matter.

Patent eligibility is a question of law. *Dealertrack, Inc. v. Huber*, 674 F.3d 1315, 1333 (Fed. Cir. 2012). The Supreme Court has set forth an analytical “framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2355 (2014) (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 71–73 (2012)). In the first step of the analysis, we determine whether the claims at issue are “directed to” a judicial exception, such as an abstract idea. *Alice*, 134 S. Ct. at 2355. If not, the inquiry ends. *Thales Visionix Inc. v. U.S.*, 850 F.3d 1343, 1346 (Fed. Cir. 2017); *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1339 (Fed. Cir. 2016). If the claims are determined to be directed to an abstract idea, then we consider under step two whether the claims contain an “inventive concept” sufficient to “transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quotations and citation omitted).

Noting that the two stages involve “overlapping scrutiny of the content of the claims,” the Federal Circuit has described “the first-stage inquiry” as “looking at the ‘focus’ of the claims, their ‘character as a whole,’” and “the second-stage inquiry (where reached)” as “looking more precisely at what the claim elements add—specifically, whether, in the

Supreme Court’s terms, they identify an ‘inventive concept’ in the application of the ineligible matter to which (by assumption at stage two) the claim is directed.” *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016). In considering whether a claim is directed to an abstract idea, we acknowledge, as did the Court in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. We, therefore, look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

*Step One: Whether the Claims Are Directed to a Patent-Ineligible Concept (Abstract Idea)*

The Examiner finds that the claims are directed to the abstract idea of organizing, storing, and transmitting information—specifically, information in the form of “a first and second characteristic value from cell images.” (Final Act. 2–3.)

Appellant presents several arguments against the Examiner’s characterization of the claims as directed to an abstract idea, none of which we find persuasive of error. Appellant first argues an “abstract idea” is an “idea of itself,” which Appellant emphasizes is described in the “July 2015 Updated Interim Eligibility Guidance” as “a mental process than can be performed in the human mind or by a human using a pen and paper.” (App. Br. 16.) Appellant argues the claimed invention is not an abstract idea because it cannot be done by a human—that is, the claims recite various non-human elements including a “robotic arm, staining unit, and a microscope.” (*Id.* at 17.)

We disagree that the category of “abstract ideas” is, as Appellant suggests, limited to mental processes that can be performed entirely by humans mentally or with the aid of pen and paper. We note, in particular, that our reviewing court has repeatedly confirmed since *Alice* that the category of “abstract ideas” includes routine data gathering, manipulation, and output. See, e.g., *Electric Power Grp.*, 830 F.3d at 1354 (holding that claims directed to a process of gathering and analyzing information of a specific content are directed to an abstract idea); *Content Extraction and Transmission LLC. v. Wells Fargo Bank, Nat’l Ass’n*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (holding that the claims were “drawn to the abstract idea of 1) collecting data, 2) recognizing certain data within the collected data set, and 3) storing that recognized data in a memory”).

Here, we agree with the Examiner that Appellant’s claims are directed to data gathering, processing, and output. (Final Act. 2–5; Ans. 2–5.) In particular, representative claim 1 recites controlling an imaging unit to capture a cell image (gathering data), determining first and second characteristic values of the image (processing data), and graphically displaying the processed data plotted over time (outputting data). (App. Br. 32–33 (Claims App’x).) Thus, the claims are directed to the abstract concept of gathering data, analyzing the data, comparing the data, and using the data to create an output.

We further agree that the claims are directed to an abstract idea even if the claims also recite tools to gather and manipulate that data. In that regard, the Federal Circuit’s decision in *Electric Power Grp.*, 830 F.3d at 1354, is instructive. In that case, the claims recited steps of receiving measurements, recording data pertaining to those measurements, and

manipulating and displaying that data. *Id.* at 1351–52. The Federal Circuit agreed that the claims were directed to an abstract idea of “collecting information, analyzing it, and displaying certain results of the collection and analysis,” even though the claims required use of various devices to take the measurements, to manipulate the data, and to display it. *Id.* at 1353–54. The court reasoned:

[T]he claims are clearly focused on the combination of those abstract-idea processes. The advance they purport to make is a process of gathering and analyzing information of a specified content, then displaying the results, and not any particular assertedly inventive technology for performing those functions. They are therefore directed to an abstract idea.

*Id.* at 1354. Similarly, here, Appellant’s claiming the use of a generic cell image processing apparatus for its ordinary purpose and in a conventional manner to obtain data (cell images) does not render Appellant’s claimed invention less abstract.

We also note that the Examiner analogizes the claims at issue here to those at issue in *Cyberfone*, reasoning that, here, the claims use categories (first and second characteristic values) to organize (graph temporal fluctuations in these values), store (storing the characteristic values in memory), and transmit (to a display screen) information. (Ans. 3 (citing *Cyberfone Sys., LLC v. CNN Interactive Group, Inc.*, 558 Fed. Appx. 988, 993 (Fed. Cir. 2014) (noting that the mere collection and organization of data is insufficient to qualify as patent-eligible subject matter)).) We agree with the Examiner’s analysis, and we find unpersuasive Appellant’s argument that the claims are not “directed to” an abstract idea because they “do not recite ‘organizing of information into categories’” (Reply Br. 5–6) or that they do not recite “mentally abstract” concepts (*see id.* at 7–9).



Appellant also argues the claimed invention is unique and not conventional. (App. Br. 19–20.) In particular, Appellant argues the claimed invention improves the functioning of the apparatus because it results in outputting information to a screen that “alert[s] the operator about the malfunction of a particular part in a timely manner, which results in an increased accuracy of the smear slide processing and prevents malfunction of the device.” (App. Br. 21 (emphasis omitted).)

We are not persuaded by Appellant’s argument, because Appellant is not arguing any improvement in the way that any of the apparatus operates; rather, Appellant’s arguments are premised on the benefits of *an operator using the data collected and analyzed* as claimed to determine whether to perform maintenance on the underlying apparatus. Thus, in that regard, Appellant overstates the claimed invention in characterizing it as an apparatus that “generates and processes a specimen *e.g.*, a blood cell and *detects abnormalities* within the device (and its components).” (Reply Br. 7 (underlined emphasis omitted; italicized emphasis added).) Appellant presents a similar argument in asserting that independent claim 20 addresses whether component parts of the system (“the staining unit” and the “imaging unit”) are “functioning abnormally.” (App. Br. 22.) We disagree; the claims do not recite detecting abnormalities. Nor does Appellant assert that the claims require an arguably inventive device or technique for gathering and displaying that data. Rather, Appellant’s claims merely recite gathering and outputting data from which an operator may make decisions for further action. Thus, this case is unlike *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245, 1257 (Fed. Cir. 2014), in which an inventive concept was found in modification of conventional mechanics behind website display to

produce dual-source integrated hybrid display. Appellant also does not argue the invention is a software-based invention that improves the performance of the computer system itself. Thus, this case is also unlike *Bascom Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016), in which an inventive concept was found in the ordered combination of limitations providing for “the installation of a filtering tool at a specific location, remote from the end users, with customizable filtering features specific to each end user.”

Appellant further argues the Examiner “is not considering the claim as a whole” and has failed to analyze the claim “as a combination.” (App. Br. 17–18 (emphasis omitted).) We disagree with Appellant’s characterization; the Examiner expressly considers the combination of elements. (Final Act. 3; *see also* Ans. 4.) In arguing the combination of elements, Appellant appears to be arguing that application of the abstract idea in the context of cell image processing removes the claims from the realm of being directed to an abstract idea. We disagree. As the Supreme Court has said, “if a claim is directed essentially to a method of calculating, using a mathematical formula, even if the solution is for a specific purpose, the claimed method is nonstatutory.” *Parker v. Flook*, 437 U.S. 584, 595 (1978) (quoting *In re Richman*, 563 F.2d 1026, 1030 (CCPA 1977)). In addition, the Supreme Court and the Federal Circuit have repeatedly made clear that “merely limiting the field of use of the abstract idea to a particular existing technological environment does not render the claims any less abstract.” *Affinity Labs of Texas, LLC v. DirecTV, LLC*, 838 F.3d 1253, 1259 (Fed. Cir. 2016).

Appellant also argues that “streamlined analysis should apply” because “claim 1 is directed to a particular machine.” (App. Br. 21.) Although Appellant does not specify what “streamlined analysis” is suggested, we assume Appellant refers to guidance provided to by the Office to Patent Examiners. We note, however, that Decisions of the Board are based upon relevant case law as set forth by the Federal Circuit and the Supreme Court, and do not rely upon examination guidelines provided by the Office to assist Patent Examiners in determining subject matter eligibility during prosecution of patent applications. Thus, even if the Examiner’s analysis is not consistent with guidance provided to Examiners (which we do not address), such inconsistency in itself would not be dispositive of Examiner error.

Appellant presents additional arguments as to dependent claims 29–32. (App. Br. 22–25.) These arguments do not persuade us of error in the Examiner’s determination that these claims are directed to the same abstract idea as independent claims 1, 18, and 20, for the reasons noted above. (*See* Ans. 5–6.) We further address Appellant’s arguments regarding the additional limitations of these claims below in connection with Step Two of the *Alice* analysis.

Thus, at step one of the analysis, we are not persuaded that the Examiner erred in determining that the claims are directed to a patent-ineligible subject matter—that is, to an abstract idea.

*Step Two: Whether Additional Elements Transform The Idea Into Patent-Eligible Subject Matter*

Having found that the claims are directed to an abstract idea, the Examiner also finds that the additional elements or combinations of

elements beyond the abstract idea do not amount to “significantly more” than the abstract idea itself:

The claims do not include additional elements that are sufficient to amount to significantly more than the judicial exception because the additional elements or combination of elements in the claims, other than the abstract idea per se, amount to no more than a recitation of A) generic computer structure that serves to perform generic computer functions that serve to merely link the abstract idea to a particular technological environment (i.e. computer processor, a dispenser, a robotic hand, and a staining unit, an imaging unit with lens and a robotic arm, a camera to capture the magnified cell).

(Final Act. 3–4.) The Examiner also finds the claims use “well known technology to automate the abstract idea[] identified as above.” (*Id.* at 5; *see also* Ans. 2–6.)

Appellant challenges these findings by arguing, as noted above, that the claimed invention “improves processing/analyzing of the slides by detecting malfunctions in the structural elements of the cell processing apparatus.” (App. Br. 26.) We disagree with Appellant’s characterization of the claims. As we note above, Appellant’s claims do not recite “detecting malfunctions[;]” rather, Appellant’s claims recite gathering data and manipulating (graphing) the data, from which a malfunction may be inferred by a user. Further, as the Examiner finds, and we agree, “nowhere in the specification is it described that abnormalities are detected and addressed automatically” by Appellant’s claimed invention. (Ans. 5.) Rather, as explained in Appellant’s Specification, “the user can [know] that it is time” to exchange a lamp bulb or readjust smear slide preparing apparatus based on inferences derived from fluctuations in the gathered characteristic data over time. (*See* Specification ¶¶ 120-121; *see also* Ans. 5 (“Processing of

data as claimed and described in specification only display[s] in form of graph and allow[s] user to take decision based on display of values[,]” citing Specification ¶ 182).)

Thus, Appellant’s claims recite use of known measurement apparatus and conventional computer technology to gather and manipulate data. The fact that a user may rely upon this data to decide whether to take additional actions that may improve the operation of the underlying apparatus does not render the claimed invention less abstract. As noted above, the use of measurement tools in a conventional way for their ordinary purpose to gather data does not render patent-eligible a claim that is directed to an abstract idea. *See, e.g., Electric Power Grp.*, 830 F.3d at 1353–56. The Federal Circuit’s analysis of the second step of the *Alice* framework in *Electric Power Group* is also instructive here. There, the court noted:

The claims in this case do not even require a new source or type of information, or new techniques for analyzing it. . . . As a result, they do not require an arguably inventive set of components or methods, such as measurement devices or techniques, that would generate new data. They do not invoke any assertedly inventive programming. Merely requiring the selection and manipulation of information . . . by itself does not transform the otherwise-abstract processes of information collection and analysis.

*Electric Power Grp.*, 830 F.3d at 1355. The court also noted, in terms of “*how* the desired result is achieved,” that the claims also “do not require any nonconventional computer, network, or display components, or even a ‘non-conventional and non-generic arrangement of known, conventional pieces,’ but merely call for performance of the claimed information collection, analysis, and display functions ‘on a set of generic computer components’ and display devices.” *Id.*

Similar analysis supports the Examiner’s rejection here. As in *Electric Power Group*, Appellant’s claims specify what information it is desirable to gather, analyze, and manipulate, but they do not include any requirement for performing the claimed functions of gathering, analyzing, and manipulating that information by use of anything but entirely conventional, generic technology. (*See also* Ans. 3–5.) The claims, therefore, merely link the use of the abstract idea to a particular technological environment, which does not amount to “significantly more.” Moreover, in terms of processing the data, the claims merely recite a processor to calculate values and to plot them graphically over time. We note that these are steps that could be performed manually with the aid of pen and paper. Merely using a computer to perform more efficiently what could otherwise be accomplished manually does not confer patent-eligibility.

Appellant also argues that “[t]he fact that the claims are patentable over the art of record is further evidence that the operations are new and unique.” (App. Br. 27.) This argument is not persuasive of error. Although the novelty of the claims is not before us, even if novel and nonobvious, a claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90. Thus, an abstract idea does not transform into an inventive concept just because the Examiner has not cited prior art that discloses or suggests it. Indeed, “[t]he ‘novelty’ of any element or steps in a process, or even of the process itself, is of no relevance in determining whether the subject matter of a claim falls within the § 101 categories of possibly patentable subject matter.” *Diamond v. Diehr*, 450 U.S. 175, 188–189 (1981).

For the foregoing reasons, we are not persuaded the Examiner erred in rejecting independent claims 1, 18, and 20 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter, or in rejecting on the same basis claims 2–4, 7–11, 13–15, 17, 19, 21, and 23–28, which Appellant does not argue separately. (App. Br. 30.)

As noted above, Appellant presents additional arguments as to dependent claims 29–32, which recite that the processor is further configured take certain actions in response to user instructions, such as displaying a shutdown continue option before shutting down the system. (App. Br. 43–44 (Claims App’x).) Appellant contends these claims recite a “new and unique” shutdown process of the apparatus, which “prevents faulty operations of the abnormalities.” (App. Br. 23–25, 30–31.) Regardless of whether the subject matter of claims 29–32 is novel (which is not before us), Appellant does not point to anything in those claims that is outside of the abstract idea of a processor performing actions (displaying information / shutting down apparatus) in response to user input. The Examiner finds, and we agree, that these dependent claims do not add anything to the base claim beyond “well-understood, routine and conventional activity.” (Ans. 6.)

Therefore, we also sustain the Examiner’s rejection of dependent claims 29–32 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter.

Appeal 2016-008450  
Application 12/690,591

DECISION

For the above reasons, the Examiner's rejection of claims 1–4, 7–11, 13–15, 17–21, and 23–32 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED