



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.
13/380,397	01/25/2012	Benjamin Benninghofen	108247.64060US	4391
23911	7590	10/18/2017	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			MCGUE, FRANK J	
			ART UNIT	PAPER NUMBER
			3646	
			NOTIFICATION DATE	DELIVERY MODE
			10/18/2017	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):

edocket@crowell.com
tche@crowell.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BENJAMIN BENNINGHOFEN, TAMER KOBAN, and
CHRISTOPH STAHL

Appeal 2016-002156
Application 13/380,397¹
Technology Center 3600

Before PHILIP J. HOFFMANN, CYNTHIA L. MURPHY, and
TARA L. HUTCHINGS, *Administrative Patent Judges*.

HOFFMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the final rejection of claims 5–8. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

According to Appellants, their “invention relates to a method for determining the geographic coordinates of pixels in SAR [(synthetic aperture radar)] images.” Spec. 1. Claim 5 is the only independent claim on appeal. Below, we reproduce claim 5 as illustrative of the appealed claims.

¹ According to Appellants, EADS Deutschland GmbH is the real party in interest. Appeal Br. 1.

5. A method, comprising:

determining, by a processor of an airborne device, geographic coordinates of corresponding pixels of a target from first and second digital synthetic aperture radar (SAR) images by capturing, by the processor of the airborne device, the first and second SAR images in a form of slant range images;

determining, by the processor of the airborne device, a recording position of the respective first and second SAR images;

determining, by the processor of the airborne device, a distance between a corresponding resolution cell on a ground and the respective recording position of the respective first and second SAR images using coordinates of the corresponding pixels of the target in the first and second SAR images and corresponding range gates; and

determining, by the processor of the airborne device using the determined distances and associated recording positions of the first and second SAR images, the geographic coordinates of the corresponding pixels of the target in the first and second SAR images by producing, by the processor of the airborne device, a first and second sphere for the first and second SAR images using the determined distances and associated recording positions of the first and second SAR images; and

determining, by the processor of the airborne device, the geographic coordinates of the corresponding pixels of the target as a common intersection of the first and second spheres with the WGS84 ellipsoid.

REJECTION

The Examiner rejects claims 5–8 under 35 U.S.C. § 101 as directed to ineligible subject matter.

ANALYSIS

Based on our review of the record, Appellants persuade us that the Examiner erred in determining that claims 5–8 are directed to ineligible subject matter. Thus, we do not sustain the Examiner’s rejection.

As a general matter, we determine whether a claim is directed to patent-eligible subject matter based on the Supreme Court’s framework, as articulated in *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347 (2014), which follows the two-part test set forth in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). That is, a claim fails to recite patent-eligible subject matter if, in accordance with the first part of the *Alice* test, the claim is directed to an abstract idea, and if, in accordance with the second part of the test, the claim lacks any further claim limitations that, when “consider[ed] . . . both individually and ‘as an ordered combination[]’ . . . ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo*, 132 S. Ct. at 1297). In this case, the Examiner does not support adequately the finding that the claims are directed to an abstract idea, in accordance with the first part of *Alice* test.

The “directed to” inquiry[] . . . cannot simply ask whether the claims involve a patent-ineligible concept, because essentially every routinely patent-eligible claim involving physical products and actions involves a law of nature and/or natural phenomenon—after all, they take place in the physical world. *See Mayo*, 132 S. Ct. at 1293 (“For all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.”) Rather, the “directed to” inquiry applies a stage-one filter to claims, considered in light of the specification, based on whether “their character as a whole is directed to excluded subject matter.” *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1346 (Fed. Cir. 2015); *see*

Genetic Techs. Ltd. v. Merial L.L.C., 818 F.3d 1369, 1375, 2016 WL 1393573, at *5 (Fed. Cir. 2016) (inquiring into “the focus of the claimed advance over the prior art”).

Enfish, LLC v. Microsoft Corp., 822 F.3d 1327, 1335 (Fed. Cir. 2016). With respect to computer-enabled claimed subject matter, it is helpful to determine whether the claims at issue may readily be understood as simply adding conventional computer components to well-known business practices or not. *Id.* at 1338; *see also Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016). The question is whether the claims as a whole “focus on a specific means or method that improves the relevant technology” or are “directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery.” *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1314 (Fed. Cir. 2016).

In *Enfish*, for example, the court noted that “[s]oftware can make non-abstract improvements to computer technology just as hardware improvements can[.]” *Enfish* at 1335. The court put the question as being “whether the focus of the claims is on [a] specific asserted improvement in computer capabilities . . . or, instead, on a process that qualifies as an ‘abstract idea’ for which computers are invoked merely as a tool.” *Id.* at 1335–36. In *Enfish*, the court found that the “plain focus of the claims” there was on “an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary capacity.” *Id.* at 1336.

In this case, we agree with Appellants that “the claimed invention is an improvement upon technology that uses SAR image to determine the position of a target at great distances,” thus providing a specific

improvement in computer capabilities, which is eligible subject matter for a patent. Appeal Br. 7–8 (citation omitted). More specifically, as explained by Appellants,

[t]he prior art, initially used to reject the claims during prosecution, determines geographic coordinates using interferometric SAR (InSAR or IFSAR), which determines phase differences between master and slave SAR images to generate an interferogram characterizing topographic information. Obtaining the master and slave images requires the use of a diplexer because obtaining the images requires one transmission antenna and two receiving antennas, which significantly increases the required processing power. In contrast, the method of claim 5 avoids the additional processing required to generate the interferogram, and[,] thus[,] improves the overall operation of the processor used for determining geographic coordinates of pixels of a target. It also improves upon the technical field of position determination with SAR images by reducing error in the known techniques.

Id. at 9–10 (citation omitted). Conversely, it does not appear that Appellant’s claims simply add conventional computer components to an otherwise known practice, or invoke computer components merely as a tool to implement an otherwise abstract idea. Therefore, the Examiner does not establish that the claims are directed to an abstract idea, and, thus, we do not sustain the rejection of the claims under 35 U.S.C. § 101.

DECISION

We REVERSE the Examiner’s rejection of claims 5–8.

REVERSED