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UNITED STATES PATENT AND TRADEMARK OFFICE
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BEFORE THE PATENT TRIAL AND APPEAL BOARD
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Ex parte AMBER ROY CHOWDHURY and
ALEXANDER Y. KALININ
————————

Appeal 2018-000316
Application 13/652,810
Technology Center 3600
————————

Before JASON V. MORGAN, ERIC B. CHEN, and
JEREMY J. CURCURI, *Administrative Patent Judges*.

CURCURI, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants[1] appeal under 35 U.S.C. § 134(a) from the Examiner's
rejection of claims 4–13, 21–27, and 29–31. Final Act. 1. We have
jurisdiction under 35 U.S.C. § 6(b).

Claims 4–13, 21–27, and 29–31 are rejected under 35 U.S.C. § 101 as
directed to a judicial exception without significantly more. Final Act. 8–14.

Claims 4–6, 12, 13, 21–23, and 29–31 are rejected under pre-AIA 35
U.S.C. § 103(a) as obvious over Sukornyk (WO 2012/088596 A1; July 5,
2012) and Cava (US 2007/0100803 A1; May, 3, 2007). Final Act. 15–45.

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[1] Appellants identify the real party in interest as Amazon Tech. Inc. App. Br.
2.

Claims 7–11 and 24–27 are rejected under pre-AIA 35 U.S.C.

§ 103(a) as obvious over Sukornyk, Cava, and Calabria (US 2005/0144064

A1; June 30, 2005). Final Act. 45–65.

We affirm.

STATEMENT OF THE CASE

Appellants' invention relates to "[k]eyword bidding [which] allows

for advertisers to insert advertisements into network pages of search results."

Spec. ¶ 1. Claim 4 is illustrative and reproduced below:

> 4.   A system, comprising:
> at least one computing device configured to at least:
>   determine a value for a plurality of keywords based at least in part on a keyword history that comprises at least one previously viewed item page selected from at least one previous search result, the at least one previous search resulting being generated in response to a previous search query being executed with respect to at least one of the plurality of keywords;
>   determine that at least one item page has been selected from a search results page, the search results page being generated from a search query comprising the at least one of the plurality of keywords;
>   facilitate a purchase for at least one purchased keyword and an optimized match tier for a time period as a function of the value of the at least one of the plurality of keywords, the optimized match tier indicating a subset of a plurality of keyword variations from the at least one purchased keyword, the subset of the plurality of keyword variations exceeding a performance threshold;
>   insert an advertisement associated with a purchaser of the at least one purchased keyword into the at least one item page in response to the at least one item page being selected from the search results page by a client, inserting the advertisement for the time period as a function of at least one of

a plurality of item page keywords associated with the at least one item page satisfying the optimized match tier, wherein the advertisement is inserted subsequent to the selection of the at least one item page; and

wherein the value of the at least one of the plurality of keywords with respect to the at least one item page exceeds a threshold.

PRINCIPLES OF LAW

We review the appealed rejections for error based upon the issues identified by Appellants, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential).

ANALYSIS

THE 35 U.S.C. § 101 REJECTION OF CLAIMS 4–13, 21–27, AND 29–31

The Examiner determines:

> Claim 4 is directed to an abstract idea. The claim is directed to determining a value for the keywords and purchasing/bidding on keywords as a function of the value (see "determine a value for a plurality of keywords based at least in part on a keyword history that comprises at least one previously viewed item page selected from at least one previous search result, the at least one previous search resulting being generated in response to a previous search query being executed with respect to at least one of the plurality of keywords . . . facilitate a purchase for at least one purchased keyword . . . for a time period as a function of the value of the at least one of the plurality of keywords . . . wherein the value of the at least one of the plurality of keywords with respect to the at least one item page exceeds a threshold". While this abstract idea is not *identical* to any of the specific concepts the courts have identified as being abstract ideas, the abstract idea of the instant case is similar in that it may be characterized as a <u>method of</u>

organizing human activity, and/or "an 'idea of itself'" and/or a mathematical equation. The abstract idea is similar to the abstract idea of "obtaining and comparing intangible data" identified by the courts in *Cybersource*, which is categorized as "an idea 'of itself'". For example, the instant claims comprise obtaining intangible data (e.g., keyword history, ad request data, value/purchase determination rules) and comparing intangible data (e.g., comparing the data to determine values for the keywords and keywords to purchase as a function of the values). Furthermore, the abstract idea is similar to the abstract idea of "collecting and comparing known information" identified by the courts in *Classen Immunotherapies*. For example, the instant claims comprise collecting information (e.g., keyword history, ad request data, value/purchase determination rules) and comparing known information (e.g., comparing the data to determine values for the keywords and keywords to purchase as a function of the values). Furthermore, the abstract idea is similar to the abstract idea of "determining a price" identified by the courts in *Versata*. For example, the instant claims comprise collecting/storing information (e.g., keyword history, ad request data, value/purchase determination rules) and using rules to make a pricing determination (e.g., comparing the data to determine values for the keywords and keywords to purchase as a function of the values). Furthermore, determine a value for a plurality of keywords based at least in part on a keyword history that comprises at least one previously viewed item page selected from at least one previous search result, the at least one previous search resulting being generated in response to a previous search query being executed with respect to at least one of the plurality of keywords amounts to a mathematical relationship/formula. Mathematical relationships/ formulas have been identified by the courts as being abstract ideas (*e.g.*, a mathematical procedure for converting one form of numerical representation to another in *Benson*, or an algorithm for calculating parameters indicating an abnormal condition in *Grams*).

Final Act. 9–10; *see also* Final Act. 10–14 (discussing remaining claims being directed to an abstract idea, and discussing "significantly more"), Ans. 16–25.

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014) (quotation marks and citation omitted).

In determining whether a claim falls within an excluded category, we are guided by the Court's two-step framework, described in *Mayo* and *Alice*. *Id.* at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191

(1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S. 252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Supreme Court held that "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, . . . and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g.*, *id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second step of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (citation omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic

computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

The USPTO recently published revised guidance on the application of § 101. USPTO's 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("Memorandum"). Under that guidance, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. 2018)).

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look to whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or

> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See Memorandum, 84 Fed. Reg. at 56.

*Are the claims at issue directed
to a patent-ineligible concept?*

Step One

Claim 4 is a system claim, which falls within the "manufacture" category of 35 U.S.C. § 101. Claim 21 is a method claim, which falls within the "process" category of 35 U.S.C. § 101. Claim 30 is a computer-readable

medium claim, which also falls within the "manufacture" category of 35 U.S.C. § 101.

Although these claims fall within the statutory categories, we still must determine whether the claim is directed to a judicial exception, namely an abstract idea. *See Alice*, 573 U.S. at 217–18. Thus, we must determine whether the claim recites a judicial exception, and fails to integrate the exception into a practical application. *See* Memorandum, 84 Fed. Reg. at 54–55. If both elements are satisfied, the claim is directed to a judicial exception under the first step of the *Alice/Mayo* test. *See id.*

Step 2A, Prong One

Independent claim 4 is a method claim, and recites the following limitations:

> determine a value for a plurality of keywords based at least in part on a keyword history that comprises at least one previously viewed item page selected from at least one previous search result, the at least one previous search resulting being generated in response to a previous search query being executed with respect to at least one of the plurality of keywords;

> determine that at least one item page has been selected from a search results page, the search results page being generated from a search query comprising the at least one of the plurality of keywords . . .

> wherein the value of the at least one of the plurality of keywords with respect to the at least one item page exceeds a threshold.

These steps describe valuation and determination. Valuation and determination as recited are processes that a human may perform by considering information and arriving at a value or determination. Valuation and determination include a combination of "observation, evaluation, judgment, [and] opinion," which are examples of "concepts performed in the

human mind." Memorandum, 84 Fed. Reg. at 52. Thus, these steps recite the abstract concepts of "[m]ental processes." *Id.*

Claim 4 further recites the following limitations:

facilitate a purchase for at least one purchased keyword and an optimized match tier for a time period as a function of the value of the at least one of the plurality of keywords, the optimized match tier indicating a subset of a plurality of keyword variations from the at least one purchased keyword, the subset of the plurality of keyword variations exceeding a performance threshold;

insert an advertisement associated with a purchaser of the at least one purchased keyword into the at least one item page in response to the at least one item page being selected from the search results page by a client, inserting the advertisement for the time period as a function of at least one of a plurality of item page keywords associated with the at least one item page satisfying the optimized match tier, wherein the advertisement is inserted subsequent to the selection of the at least one item page.

These steps describe "advertising, marketing or sales activities or behaviors," which are examples of "commercial or legal interactions." Memorandum, 84 Fed. Reg. at 52. Thus, these steps recite the abstract concepts of "[c]ertain methods of organizing human activity." *Id.*

Independent claims 21 and 30 recite limitations similar to those discussed with respect to claim 4. Thus, claims 21 and 30 also recite an abstract idea.

Step 2A, Prong Two

Because claims 4, 21, and 30 recite a judicial exception, we next determine if the claims recite additional elements that integrate the judicial exception into a practical application.

In addition to the limitations of claim 4 discussed above that recite abstract concepts, claim 4 further recites "at least one computing device." The Specification does not provide additional details about the "at least one computing device" that would distinguish its implementation from a generic implementation. *See* Spec. ¶¶ 13, 49.

We do not find the recited computer-related limitations are sufficient to integrate the judicial exception into a practical application. Specifically, the "at least one computing device" is not improved in its functioning, but, instead, merely perform the abstract idea. In this case, we do not see any particular machine or manufacture that is integral to the claim; nor do we see any transformation. We do not see any recited elements applying or using the judicial exception in any meaningful way beyond generally linking the judicial exception to the recited elements.

Accordingly, we determine that claim 4 is directed to a judicial exception because it does not recite additional elements that integrate the recited judicial exception into a practical application. Claims 21 and 30 recite similar limitations to those discussed with respect to claim 4, and therefore also are directed to a judicial exception.

*Is there something else in the claims
that ensures that they are directed to significantly
more than a patent ineligible concept?*

Step 2B

Because claims 4, 21, and 30 are directed to a judicial exception, we next determine, according to *Alice*, whether these claims recite an element, or combination of elements, that is enough to ensure that the claim is directed to significantly more than a judicial exception.

The various hardware components recited by claims 4, 21, and 30 include "at least one computing device."

The Specification does not provide additional details about the "at least one computing device" that would distinguish its implementation from a generic implementation. *See* Spec. ¶¶ 13, 49.

The conventional or generalized functional terms by which the computer components are described reasonably indicate that Appellants' Specification discloses conventional components. *See* Spec. ¶¶ 13, 49.

In view of Appellants' Specification, the claimed hardware components, including the "at least one computing device" reasonably may be determined to be generic, purely conventional computer elements. Thus, the claims do no more than require generic computer elements to perform generic computer functions, rather than improve computer capabilities.

Accordingly, we determine that claims 4, 21, and 30 are not directed to significantly more than a patent ineligible concept.

Appellants' arguments

Appellants argue the claims are not directed to an abstract idea because the Examiner failed to consider the claims as a whole. *See* App. Br. 17–20. For example, Appellants argue "the claims recite several specific technical methods for dynamically constructing a web page by inserting content (e.g. advertisements) into the web page after the web page has been selected from a search results page and data (e.g. web page content) associated with the selected web page has been analyzed." App. Br. 18. Appellants argue "the claims of the present application recite an ordered combination of rules that are distinguishable from prior methods when at least considered as a combination." App. Br. 19. Appellants argue "the

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claims are directed to a specific technical solution for the problem of dynamically inserting tailored content to into an item page selected from a search results web page." App. Br. 19–20. Appellants further argue the claims are not directed to an abstract idea because the claims are not directed to an idea of itself. *See* App. Br. 20–22.

Additionally, Appellants argue the claims recite elements that amount to significantly more than the abstract idea. *See* App. Br. 22–27. For example, Appellants argue "the present application has at least one inventive concept, when considered as an ordered combination for a specific technical solution for dynamically inserting customized content (e.g. an advertisement) into an item page selected from a search results web page." App. Br. 23; *see also* App. Br. 26–27 ("the claims specify a specific, practical, technical solution that involves the Internet and yields a tangible result that is not routinely or conventionally performed on the Internet"), Reply Br. 8–11.

These arguments do not show any error because, as we explain above, the elements of claims 4, 21, and 30 are the abstract concepts of "[m]ental processes" and "[c]ertain methods of organizing human activity." Memorandum, 84 Fed. Reg. at 52. In addition, as we explain above, the claims do not integrate the abstract idea into a practical application, and are not directed to significantly more than the abstract idea.

Although we do not dispute that the various hardware components include specific logic for performing the recited steps, Appellants do not persuasively explain why the claimed steps improve *technology* as a whole. *See* MPEP § 2106.05(a). Rather, the claims merely adapt the method of mental processes and advertising, marketing or sales activities or behaviors

to an execution of steps performed by generic computing devices linked together in a network. *See Credit Acceptance Corp. v. Westlake Services*, 859 F.3d 1044, 1055 (Fed. Cir. 2017) ("Our prior cases have made clear that mere automation of manual processes using generic computers does not constitute a patentable improvement in computer technology."); *see also Bancorp Services, L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1278 (Fed. Cir. 2012) (A computer "employed only for its most basic function . . . does not impose meaningful limits on the scope of those claims."). Further, Appellants' identified improvements are improvements to the abstract idea, not improvements to a technology or computer functionality. Thus, on the record before us, the cited claim limitations do not improve the functionality of the various hardware components, nor do they achieve an improved technological result in conventional industry practice. *McRO, Inc. v. Bandai Namco Games Am., Inc.*, 837 F.3d 1299, 1316 (Fed. Cir. 2016).

We, therefore, sustain the Examiner's rejection under 35 U.S.C. § 101 of claims 4–13, 21–27, and 29–31.

THE OBVIOUSNESS REJECTION OF CLAIMS 4–6, 12, 13, 21–23, AND 29–31
OVER SUKORNYK AND CAVA

Contentions

The Examiner finds Sukornyk and Cava teach all limitations of claim 4. Final Act. 16–23.

In particular, the Examiner finds Sukornyk teaches:

insert an advertisement associated with a purchaser of the at least one purchased keyword into the at least one item page in response to the at least one item page being selected from the

search results page by a client . . . the advertisement is inserted
subsequent to the selection of the at least one item page

as recited in claim 4. Final Act. 17–18 (citing Sukornyk 8:26–31, 14:5–21,

18:4–27); *see also* Ans. 8–9.

Among other arguments, Appellants present the following principal

arguments:

> Next, Appellant asserts that *Sukornyk* does not show or
> suggest "*insert[ing] an advertisement* associated with a
> purchaser of the at least one purchased keyword *into* the at least
> one item page *in response* to the at least one *item page being*
> *selected from the search results page* by a client," as recited in
> claim 4. Instead, *Sukornyk* merely states, at page 9, lines 31-33,
> that "dynamic display ads may be served to the consumer
> audience segment in a targeted manner based on intersection
> between the keywords and other attributes of the ad campaign
> and the consumer audience segment." *Sukornyk* is silent with
> regard to when, where, and how these "dynamic ads" are
> served. Accordingly, *Sukornyk* cannot show or suggest
> "insert[ing] an advertisement associated with a purchaser of the
> at least one purchased keyword into the at least one item page
> in response to the at least one item page being selected from the
> search results page by a client," much less where "the
> advertisement is *inserted subsequent to the selection* of the at
> least one item page," as recited in claim 4. Therefore, *Sukornyk*
> fails to show or suggest at least these elements of claim 4.

App. Br. 7–8 (alterations in original); *see also* Reply Br. 4–5.

Our Review

The key limitation is

> insert an advertisement associated with a purchaser of the
> at least one purchased keyword into the at least one item page
> in response to the at least one item page being selected from the
> search results page by a client . . . the advertisement is inserted
> subsequent to the selection of the at least one item page

as recited in claim 4.

> Sukornyk discloses:

> Unlike traditional site retargeting, search retargeting in accordance with the present invention enables the delivery of new consumers to a website that the Internet users (such as consumers) may not have visited before. Based on one or[] more data collection methods, the present invention enables the targeting of recent search activity of a large number of consumers for example active on-line shoppers, by placing ads in general web pages, without the requirement that the web pages be associated with the operator of the platform.

Sukornyk 8:26–31. Thus, Sukornyk discloses targeting of recent search activity.

> Sukornyk further discloses:

> The consumer's web browser may be provided a JavaScript code for example that enables the extraction of search data the HTTP REFERRER header that is passed to the page from the source of the traffic, i.e. the search engine page from which the user was re-directed. The JavaScript code forwards the "document.referrer" data to the web server 10. The client-side JavaScript code allows for example sites with their own search engine to specify search terms that are not part of a standard search engine query to be collected by the platform of the present invention.

Sukornyk 14:12–18. Thus, Sukornyk further discloses the collection of HTTP Referer header data.

Finally, Sukornyk further discloses aspects of bidding for ad impressions. Sukornyk 18:4–27.

Based on these disclosures, we find Sukornyk describes targeting a specific individual user based on the user's past search activity. Sukornyk 8:26–31. We further find Sukornyk collects the past search history of the user, for example, by utilizing JavaScript code to collect HTTP Referer

header data. Sukornyk 14:12–18. In addition, Sukornyk presents advertisements *to a consumer audience segment* because Sukornyk discloses "display advertising impressions *associated with the consumer audience segment* so as to enable re-targeting *of the consumer audience segment* based on the ad campaign data using display advertising." Sukornyk Abstract (emphasis added).

However, we are not persuaded by the Examiner that the relationship between Sukornyk's search terms in the HTTP Referer header data and Sukornyk's displayed advertisement is the same as recited in the key limitation in claim 4. Rather, we are persuaded by Appellants' arguments on pages 7–8 of the Appeal Brief and pages 4–5 of the Reply Brief.

According to claim 4, the "advertisement [is] associated with a purchaser of the at least one purchased keyword" and the purchased keyword is directly related to the search query. *See* Claim 4.

In contrast, in Sukornyk, the displayed advertising is directed *to the consumer audience segment*. Although the consumer audience segment is based on collected search *history* information, we do not see the same direct relationship between the HTTP Referer data and the subsequently displayed advertisement. *See* Sukornyk Abstract, 9:18–22 ("The computer implemented method . . . may be understood as including *three distinct phases*: (A) data collection, (B) real-time bidding . . . resulting in serving of targeted ads . . . (C) offline data processing") (emphasis added).

We, therefore, do not sustain the Examiner's rejection of claim 4 under 35 U.S.C. § 103(a). We also do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of claims 5, 6, 12, and 13, which depend from claim 4.

Independent claims 21 and 30 recite the same key limitation. We, therefore, do not sustain the Examiner's rejection of claims 21 and 30, under 35 U.S.C. § 103(a). We also do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of claims 22, 23, 29, and 31, which variously depend from claims 21 and 30.

THE OBVIOUSNESS REJECTION OF CLAIMS 7–11 AND 24–27 OVER SUKORNYK, CAVA, AND CALABRIA

The Examiner does not find Calabria cures the deficiency of Sukornyk and Cava. *See* Final Act. 45–65; *see also* Ans. 16.

We, therefore, do not sustain the Examiner's rejection under 35 U.S.C. § 103(a) of clams 7–11 and 24–27.

ORDER

The Examiner's decision rejecting claims 4–13, 21–27, and 29–31 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).

AFFIRMED