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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/526,713	06/19/2012	John Kenyon Gerken III	AUS920120089US1	7106

40412 7590 02/09/2018  
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EXAMINER
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GEBREMICHAEL, BRUK A

ART UNIT	PAPER NUMBER
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3715

NOTIFICATION DATE	DELIVERY MODE
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02/09/2018

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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* JOHN KENYON GERKEN III<sup>1</sup>

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Appeal 2016-007689  
Application 13/526,713  
Technology Center 3700

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Before JENNIFER D. BAHR, DANIEL S. SONG, and  
SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

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<sup>1</sup> The Appeal Brief identifies International Business Machines Corporation as the real party in interest. Appeal Br. 2.

### STATEMENT OF THE CASE

John Kenyon Gerken III (Appellant) appeals under 35 U.S.C. § 134(a) from the Examiner's June 3, 2015, non-final decision rejecting claims 16–41.<sup>2</sup> We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

### SUMMARY OF THE INVENTION

Appellant's disclosure is directed to the recognition of a subject's emotions through facial and vocal cues. Spec. ¶ 1. Claim 16, reproduced below from page 24 (Claims Appendix) of the Appeal Brief, is illustrative of the claimed subject matter:

16. An information handling system comprising:
  - one or more processors;
  - a memory coupled to at least one of the processors;
  - a plurality of receivers accessible by at least one of the processors, wherein the plurality of receivers includes a video camera and a microphone;
  - a feedback component accessible by at least one of the processors; and
  - a set of instructions stored in the memory and executed by at least one of the processors, wherein the set of instructions perform actions of:
    - receiving, from a human subject, a set of real-time inputs at one or more of the receivers, wherein the human subject is interacting with a user of the information handling system;
    - comparing the received set of real-time inputs to one or more predefined sets of emotional characteristics stored in the memory;
    - identifying an emotion being displayed by the human subject in response to the comparisons;

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<sup>2</sup> Claims 1–15 are canceled. Appeal Br. 24 (Claims App.).

receiving, from the user, a response corresponding to the human subject, wherein the received response is an emotion identification by the user corresponding to the human subject; comparing the received response with the identified emotion; and  
in response to the comparing, providing, via the feedback component, feedback to the user regarding the identified emotion, wherein the feedback indicates whether the user correctly identified the emotion.

### REJECTIONS

Claims 16–18, 21–33, and 35–41 stand rejected as being directed to patent ineligible subject matter under the judicial exception to 35 U.S.C. § 101.<sup>3</sup>

Claims 16–18, 21–33, and 35–41 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cunnington (US 2011/0295392 A1, published Dec. 1, 2011) and Cohen (US 2008/0254419 A1, published Oct. 16, 2008).

Claims 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cunnington, Cohen, and Tartz (US 2013/0063256 A1, published Mar. 14, 2013).

Claim 34 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Cunnington, Cohen, and Miller (US 2003/0068057 A1, published Apr. 10, 2003).

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<sup>3</sup> The rejection of claims 19, 20, and 34 as directed to patent ineligible subject matter was withdrawn. Ans. 2.

## ANALYSIS

### *Non-Statutory Subject Matter*

The Examiner rejects claims 16–18, 21–33, and 35–41 as being directed to a judicially excepted subject matter—namely, an abstract idea of “a process for managing interactions.” Ans. 2–4; Non-Final Act. 2–3. In rejecting the claims, the Examiner determines:

The elements recited in [claim 16] (e.g. information handling system that comprises one or more receivers, one or more processors, etc.) amount[] to no more than recitation of generic computer structure that serves to perform generic computer functions (i.e. generic computer functions that are well-understood, routine, and conventional activities previously known to the pertinent industry).

Non-Final Act. 3. The Examiner further determines that “the claimed process[es] have similarities with one or more examples discussed in the [July 2015 Update: Subject Matter Eligibility] guideline, for example, the process of collecting and comparing known information, or the process of comparing new and stored information and using rules to identify options, etc.” Ans. 3. The Examiner further determines that “the dependent claims . . . are directed to a further manipulation of data that a generic computer system serves to perform,” and, “[c]onsequently, . . . do not amount to significantly more than the abstract idea itself.” *Id.* at 4; *see also* Non-Final Act. 3.

### Independent Claims 16, 25, and 35

Appellant contests the rejection of independent claims 16, 25, and 35 collectively. Appeal Br. 7–15. We select claim 16 as representative,

treating claims 25 and 35 as standing or falling with representative claim 16. *See* 37 C.F.R. § 41.37(c)(1)(iv).

In contesting the rejection, Appellant argues that the claimed subject matter is not abstract and the Examiner’s characterization of claim 16 as abstract is conclusory and lacks sufficient evidentiary support. *See* Appeal Br. 7–13; *see also id.* at 7 (“The present Office Action cites no references whatsoever, but merely concludes that Appellant’s claims, as a whole, are directed to an abstract idea.”), 8 (“rather than seeking to tie up the entire subject matter providing feedback regarding a subject’s emotions, Appellant’s claims are directed to a specific, unique, and non-obvious method, information handling system, and computer program product”); *and* Reply Br. 2–7.

Appellant further argues that even if the claims are directed to a patent-ineligible abstract idea, the additional claim elements—namely the receiving and comparing an emotional identification with an identified emotion and the providing feedback regarding the comparison—amount to significantly more than the abstract idea. Appeal Br. 13–15.

Section 101 provides that a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101. The Supreme Court has long recognized, however, that § 101 implicitly excludes “laws of nature, natural phenomena, and abstract ideas” from the realm of patent-eligible subject matter, as monopolization of these “basic tools of scientific and technological work” would stifle the very innovation that the patent system aims to promote. *Alice Corp. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014) (quoting *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107, 2116 (2013)); *see also Mayo*

*Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1294-97 (2012); *Diamond v. Diehr*, 450 U.S. 175, 185 (1981).

The Supreme Court has instructed us to use a two-step framework to “distinguish[] patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice*, 134 S. Ct. at 2355. At the first step, we determine whether the claims at issue are “directed to” a patent-ineligible concept. *Id.* If they are, we then “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* (quoting *Mayo*, 132 S. Ct. at 1298). This is the search for an “inventive concept”—something sufficient to ensure that the claim amounts to “significantly more” than the abstract idea itself. *Id.* (quoting *Mayo*, 132 S.Ct. at 1294).

Starting at step one, we must first examine the . . . “claimed advance” to determine whether the claims are directed to an abstract idea. *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016). In cases involving software innovations, this inquiry often turns on whether the claims focus on “the 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.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

*Finjan, Inc. v. Blue Coat Systems, Inc.*, No. 2016-2520 slip op. 4–5 (Fed. Cir. Jan. 10, 2018).

#### *Alice* Step One

Turning to *Alice* step 1, instead of using a definition of an abstract idea, “the decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided.” *Amdocs (Isr.) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) (citing *Elec.*

*Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353–54 (Fed. Cir. 2016)). Our reviewing court has said that abstract ideas include the concepts of collecting data, recognizing certain data within the collected data set, and storing the data in memory. *Content Extraction & Transmission LLC v. Wells Fargo Bank, N.A.*, 776 F.3d 1343, 1347 (Fed. Cir. 2014) (“The concept of data collection, recognition, and storage is undisputedly well-known.”). Additionally, the collection of information and analysis of information (e.g., recognizing certain data within the dataset) are also abstract ideas. *Elec. Power*, 830 F.3d at 1353. Similarly, “collecting, displaying, and manipulating data” is an abstract idea. *Intellectual Ventures I LLC v. Capital One Fin. Corp.*, 850 F.3d 1332, 1340 (Fed. Cir. 2017). Our reviewing court has also held that “analyzing information by steps people [can] go through in their minds, or by mathematical algorithms, without more [are] mental processes within the abstract-idea category.” *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed. Cir. 2016) (quoting *Elec. Power*, 830 F.3d at 1354).

Here, claim 16 recites an “information handling system” including a memory, a plurality of receivers, and a feedback component connected to one or more processors. Appeal Br. 24 (Claims App.). Appellant’s Specification describes these as components of a general purpose computer. *See, e.g.*, Spec. ¶ 43 (“the various methods described are conveniently implemented in a general purpose computer selectively activated or reconfigured by software”). Claim 16 further requires “a set of instructions” to perform the following steps:

“receiving, from a human subject, a set of real-time inputs”;

“comparing the received set of real-time inputs to one or more predefined sets of emotional characteristics”;  
“identifying an emotion being displayed by the human subject in response to the comparisons”;  
“receiving, from the user, a response”;  
“comparing the received response with the identified emotion”; and  
“in response to the comparing, providing . . . feedback to the user.”

Appeal Br. 24 (Claims App.). In other words, claim 16 merely requires collecting (receiving inputs and a response), analyzing (comparing inputs to predefined data sets, identifying an emotion, and comparing the response with the emotion), and transmitting (providing feedback) information or data using a generic computer. As with the cases cited above, claim 16, therefore, is directed to an abstract idea.

#### *Alice* Step Two

For the second step of our analysis, we determine whether the limitations present in the claims represent a patent-eligible application of the abstract idea. *Alice*, 134 S.Ct. at 2357. For the role of a computer in a computer-implemented invention to be deemed meaningful in the context of this analysis, it must involve more than performance of “well-understood, routine, [and] conventional activities previously known to the industry.” *Id.* at 2359 (quoting *Mayo*, 132 S.Ct. at 1294 (internal quotation marks and brackets omitted)). Further, “the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention.” *Id.* at 2358.

*Content Extraction*, 776 F.3d at 1347–48.

As noted above, claim 16 merely requires collecting, analyzing, and transmitting information using a generic computer. There are no additional

elements to transform the nature of the claim into a patent-eligible application. *See Alice*, 134 S. Ct. at 2359 (“Considered ‘as an ordered combination,’ the computer components of petitioner’s method ‘ad[d] nothing ... that is not already present when the steps are considered separately.’”).

Nor are we persuaded by Appellant’s argument that claim 16 is “directed to improvements in the technical field of communications.” Appeal Br. 14; *see also* Reply Br. 6–7 (regarding an alleged “improv[ement in] the field of computer-assisted communications”). Contrary to Appellant’s assertion (*see* Reply Br. 6–7), claim 16 merely uses a generic computer as a tool to perform the steps of collecting, analyzing, and transmitting information. Claim 16 is unlike the claims at issue in *Enfish*. In that case, the court “relied on the distinction made in *Alice* between, on one hand, computer-functionality improvements and, on the other, uses of existing computers as tools in aid of processes focused on ‘abstract ideas.’” *Elec. Power*, 830 F.3d at 1354. For the reasons provided above, claim 16 falls into the latter category.

Accordingly, for the foregoing reasons, we sustain the rejection of claims 16, 25, and 35 as being directed to non-statutory subject matter.

Dependent Claims 17, 18, 21–24, 26–33, and 36–41

Appellant contests the rejection of dependent claims 17, 18, 21–24, 26–33, and 36–41 collectively. Appeal Br. 15–17. Per 37 C.F.R. § 41.37(c)(1)(iv), we select claim 21 as representative of the group. Claim 21 recites:

21. The information handling system of claim 16 wherein the feedback component is a speaker output that provides an audible feedback to the user, wherein the set of instructions performs additional actions comprising:

indicating the identified emotion as a higher pitched tone using the speaker output in response to a positive emotion being identified; and

indicating the identified emotion as a lower pitched tone using the speaker output in response to a negative emotion being identified.

Appeal Br. 25–26 (Claims App.).

Appellant argues that “providing audio feedback in the form of ‘higher pitched’ tones and ‘lower pitched’ tones” is not an abstract idea. *Id.* at 16.

A speaker is a component of a generic computer system. *See, e.g.*, Spec. ¶ 43. The recited “indicating” steps are merely the categorization and transmission of information regarding such categorization using the generic computer system component as a tool to perform such transmission. Thus, for the same reasons as discussed above regarding the rejection of claim 16, we agree with the Examiner that claim 21 is “directed to a further manipulation of data that a generic computer system serves to perform” and, “[c]onsequently, . . . do[es] not amount to significantly more than the abstract idea itself.” Ans. 4. Furthermore, we note that indicating positive and negative emotions using higher and lower pitched tones, respectively, appears to be a conventional manner of expressing such emotions, and Appellant does not persuasively apprise us otherwise.

Accordingly, for the foregoing reasons, we sustain the rejection of claims 17, 18, 21–24, 26–33, and 36–41 as being directed to non-statutory subject matter.

*Obviousness over Cunnington and Cohen*

Claims 16–18, 21–23, 25–30, 32, 33, and 35–40

Appellant contests the rejection of claims 16–18, 21–23, 25–30, 32, 33, and 35–40 collectively. Appeal Br. 17–21. Per 37 C.F.R. § 41.37(c)(1)(iv), we select claim 16 as representative of the group.

The Examiner finds that Cunnington discloses an information handling system substantially as recited in claim 16, but “does not explicitly describe . . . comparing the received set of real-time inputs to one or more predefined sets of emotional characteristics stored in the memory.” Non-Final Act. 5–6 (citing Cunnington ¶¶ 23, 42, 44, 55). The Examiner finds that Cunnington teaches that the system stores predetermined thresholds and other factors, thereby enabling the system to identify one or more relevant emotions related to an audience member and to generate relevant feedback to the presenter. *Id.* at 6 (citing Cunnington ¶ 60). Thus, the Examiner reasons, Cunnington “suggests, at least implicitly, the implementation of an algorithm that compares the audience member’s input with a relevant threshold(s) of emotional characteristics, thereby identifying one or more emotions based on the comparison and generating a relevant feedback(s) in response to the comparisons.” *Id.* The Examiner also reasons that it would have been obvious to one of ordinary skill in the art to modify Cunnington’s system to incorporate

functionality that involves one or more algorithms for evaluating one or more emotional attributes of the participant(s) according to one or more corresponding emotional thresholds, in order to enable the system to easily and accurately identify the emotional state(s) of one or more participants and generate the most appropriate feedback(s) to the presenter, so that the presenter would modify his/her interaction style to mend the comforts of one or more of the participants; thereby making the system more comprehensive and efficient to all users.

*Id.*

The Examiner also finds that Cunnington does not explicitly disclose receiving a user response, comparing the response with an identified emotion, and providing feedback to the user regarding the identified emotion. *Id.* at 7. The Examiner finds that Cohen discloses a system that prompts a user to input responses regarding perceived feelings or emotions related to a participant, and reasons that it would have been obvious to one of ordinary skill in the art to modify Cunnington's system to incorporate

functionality that presents one or more questions to the user regarding a given interaction (e.g. observed feelings or emotions of the participant during the interaction, etc.) and evaluates the user's responses, thereby generating one or more performance data to the user (and/or facilitator, etc.), in order to help the user to develop/improve one or more skills that allow him/her to easily and accurately identify one or more characteristics of other user(s) during interactions so that the user would be more successful; thereby making the system more beneficial to the user.

*Id.* (citing Cohen ¶¶ 133, 136, 137, 141, 144); *see also* Ans. 39–40 (citing Cohen ¶¶ 113, 133, 137, 141, 144).

Appellant traverses the Examiner's rejection, first arguing that “[w]hile Cunnington does discuss detecting ‘emotions and dispositions,’

Cunnington does not teach or suggest that ‘the human subject is *interacting with* a user of the information handling system.’” Appeal Br. 18. Appellant also asserts that, in Cunnington, “[t]he audience is not interacting with the presenter, but rather, is passively receiving the presentation from the presenter.” Reply Br. 8–9. We are not persuaded by Appellant’s arguments.

A claim under examination is given its broadest reasonable interpretation consistent with the underlying specification. *See In re American Acad. of Science Tech Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). In the absence of an express definition of a claim term in the specification or a clear disclaimer of scope, the claim term is interpreted as broadly as the ordinary usage of the term by one of ordinary skill in the art would permit. *See In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007); *see also In re Morris*, 127 F.3d 1048, 1054 (Fed. Cir. 1997).

Appellant does not direct us to, nor does our review reveal, any specialized definition of “interacting” in the Specification. Appellant’s arguments fail to apprise us of error in the Examiner’s determination that Cunnington discloses presenter-audience interaction. Indeed, Cunnington explicitly discloses such interaction: “The technologies described herein are generally directed towards detecting reactions of one or more participants *during interaction* with others to provide feedback for improving communication.” Cunnington ¶ 22 (emphasis added).

Appellant next argues that “there is nothing in the cited sections of Cohen that discloses receiving ‘an emotion identification by the user.’” Appeal Br. 19. Continuing, Appellant asserts that “identifying an error or repeating guideline language, as disclosed by Cohen, is not the same as

receiving ‘an emotion identification.’” *Id.* at 20. *See also* Reply Br. 9–10. Similarly, Appellant argues that Cohen does not disclose comparing a received user response with an identified emotion. Appeal Br. 20. According to Appellant, “Cohen is not concerned with a user correctly identifying emotions being displayed by a human subject with whom the user is interacting.” *Id.*

We are not persuaded by Appellant’s arguments. As correctly noted by the Examiner (*see* Ans. 40), Cohen discloses testing a user for listening mastery and listening comprehension, which “can enhance emotional intelligence (the ability to understand and assess what someone is feeling and to deal with those feelings).” Cohen ¶ 141. Thus, by testing for emotional intelligence, Cohen at least suggests receiving an emotion identification from the user.

Moreover, the Examiner’s rejection does not rely on Cohen to teach the recited emotion identification; rather, the rejection relies on Cohen to teach querying a user and providing feedback. *See* Non-Final Act. 7; Ans. 40. The rejection combines such teaching of Cohen with Cunnington, which Appellant describes as “teach[ing] sensing and analyzing reaction information of participants to an interaction.” Appeal Br. 18. The rejection relies on Cunnington to disclose identifying an emotion displayed by a human subject. *See* Non-Final Act. 5. Appellant’s attacks on Cohen, individually, fail to apprise us of error in the Examiner’s determination that the combination of Cunnington and Cohen discloses the subject matter of claim 16. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (“Nonobviousness cannot be established by attacking references individually

where the rejection is based upon the teachings of a combination of references.”).

Accordingly, for the foregoing reasons, we sustain the rejection of claims 16–18, 21–23, 25–30, 32, 33, and 35–40 as being unpatentable over Cunnington and Cohen.

Claims 24, 31, and 41

Appellant contests the rejection of claims 24, 31, and 41 collectively. Appeal Br. 21–22. Per 37 C.F.R. § 41.37(c)(1)(iv), we select claim 24 as representative of the group. Claim 24 recites:

24. The information handling system of claim 16 wherein the set of instructions performs additional actions comprising:
- storing the received response and the received set of real-time inputs in a data store, wherein a plurality of sets of real-time inputs and a plurality of received responses related to the interactions between the user and a plurality of human subjects are stored in the data store over a period of time;
  - generating a trend analysis based on a plurality of comparisons between the plurality of received responses and the identified emotions corresponding to the plurality of sets of real-time inputs; and
  - identifying, based on the trend analysis, one or more emotion types that are difficult for the user to identify.

Appeal Br. 26–27 (Claims App.).

The Examiner finds that Cohen’s system “prompts the user to input one or more responses regarding perceived feelings or emotions related to the participant . . . , and wherein the system generates the user’s performance data accordingly.” Non-Final Act. 10 (citing Cohen ¶¶ 133, 136, 137, 141, 144). The Examiner further finds that Cohen discloses generating cumulative scores based on responses to multiple presented scenarios. Ans.

42–43 (citing Cohen ¶¶ 113, 117, 125, 222, 223). According to the Examiner, “[i]t is also understood that one or more of the scores or the report shows areas of weaknesses and/or strengths with respect to the trainee’s ability to identify emotions or feelings, for example, when responding to questions related to emotions/feelings.” *Id.* at 43 (citing Cohen ¶¶ 141, 144). The Examiner reasons that it would have been obvious to one of ordinary skill in the art to modify Cunnington’s system to include these teachings of Cohen for the same reasons as discussed above regarding the rejection of claim 16. Non-Final Act. 11.

Appellant traverses, arguing:

There is nothing in the cited sections of Cohen pertaining to storing real-time inputs and received responses “related to the interactions between the user [and] a plurality of human subjects . . . over a period of time,” as taught and claimed by Appellant. Nor does Cohen teach or suggest “generating a trend analysis” based on comparing “received responses and the identified emotions corresponding to the plurality of sets of real-time inputs.”

Appeal Br. 22; *see also* Reply Br. 11–12.

We are not persuaded by Appellant’s arguments, which again attack Cohen individually. As correctly noted by the Examiner (*see* Ans. 42–43), Cohen discloses that a cumulative score of a user’s responses to queries regarding a human subject’s body language can be “calculated, stored, and reported.” Cohen ¶ 222. Appellant does not persuasively apprise us of error in the Examiner’s determination that Cohen’s “cumulative score” is a trend analysis. We note that the prior art does not have to disclose a claimed invention *ipsisssimis verbis* by using the same terms to disclose the claimed subject matter. Additionally, as noted above, the rejection relies on

Cunnington, not Cohen, to disclose identifying an emotion displayed by a human subject. *See* Non-Final Act. 5. Appellant's arguments fail to apprise us of error in the Examiner's determination that the combination of Cunnington and Cohen discloses the subject matter of claim 24.

Accordingly, for the foregoing reasons, we sustain the rejection of claims 24, 31, and 41 as being unpatentable over Cunnington and Cohen.

*Obviousness over Cunnington, Cohen, and Tartz*

With respect to the rejection of claims 19 and 20, Appellant relies on the arguments discussed above in regard to the rejection of claim 16.

Appeal Br. 22. Accordingly, for the same reasons as discussed above, we also sustain the rejection of claims 19 and 20 as being unpatentable over Cunnington, Cohen, and Tartz.

*Obviousness over Cunnington, Cohen, and Miller*

With respect to the rejection of claim 34, Appellant relies on the arguments discussed above in regard to the rejection of claim 16. *Id.* at 23. Accordingly, for the same reasons as discussed above, we also sustain the rejection of claim 34 as being unpatentable over Cunnington, Cohen, and Miller.

DECISION

The Examiner's decision to reject claims 16–41 is affirmed.

Appeal 2016-007689  
Application 13/526,713

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