# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 15/458,419 | 03/14/2017 | Paul Jeran | 84604855 | 9124 |

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| 22879 | 7590 | 10/01/2019 | **EXAMINER** | |
| HP Inc. | | | THIES, BRADLEY W | |
| 3390 E. Harmony Road | | | | |
| Mail Stop 35 | | **ART UNIT** | **PAPER NUMBER** | |
| FORT COLLINS, CO 80528-9544 | | 2853 | | |
| | | **NOTIFICATION DATE** | **DELIVERY MODE** | |
| | | 10/01/2019 | ELECTRONIC | |

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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* PAUL JERAN

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Appeal 2018-005676
Application 15/458,419
Technology Center 2800

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Before LINDA M. GAUDETTE, MARK NAGUMO, and
DONNA M. PRAISS, *Administrative Patent Judges*.

PRAISS, *Administrative Patent Judge*.


DECISION ON APPEAL[1]


Pursuant to 35 U.S.C. § 134(a), Appellant[2] appeals from the Examiner's decision to reject claims 1–3, 5, 6, 8–12, and 14. We have jurisdiction under 35 U.S.C. § 6(b). We AFFIRM.

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[1] In this Decision, we refer to the Specification filed Mar. 14, 2017 ("Spec."), the Final Office Action dated Aug. 31, 2017 ("Final Act."), the Appeal Brief filed Jan. 13, 2018 ("Appeal Br."), the Examiner's Answer dated Mar. 27, 2018 ("Ans."), and the Reply Brief filed May 10, 2018 ("Reply Br.").

[2] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Hewlett-Packard Development Company, LP is the applicant and also identified as the real party in interest. Appeal Br. 1.

STATEMENT OF THE CASE[3]

The invention relates to a printer cartridge for toner, ink, and other materials that also includes a memory enabling an information exchange between the cartridge and the printer controller. Spec. ¶ 2. The Specification describes using the memory on a printing material cartridge to ensure that a printer or group of printers will not print with an unauthorized cartridge. *Id.* ¶ 13.

Claims 1 and 10, reproduced below, are illustrative of the subject matter on appeal (emphasis added).

> 1. An article for a printing material cartridge, comprising a memory including *a first memory address to store a single fleet identifier identifying a fleet of printers and a second memory address storing a prompt that, when read by a printer controller, prompts the printer controller to write a single fleet identifier to the first memory address.*

> 10. An article for a printing material cartridge, comprising a *memory including a first write once then read only memory address to store a single fleet identifier identifying a fleet of printers and a second write once then read only memory address to store a prompt therein that, when read by a printer controller, prompts the printer controller to write a single fleet identifier to the first memory address*, the second memory address being a single bit memory location that is in an unwritten state representing a no prompt value to end an authorization process or a written state representing a prompt value to prompt the printer to write the single fleet identifier to the first memory address.

Appeal Br. 9, 10 (Claims Appendix).

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[3] This appeal is related to Appeal Nos. 2018-005677, 2019-002174, and 2019-002214. *See* Appeal Br. 1 (identifying Notice of Appeal filed in Appeal No. 2018-005677).

ANALYSIS

We review the appealed rejections for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) ("[I]t has long been the Board's practice to require an applicant to identify the alleged error in the examiner's rejections."). After considering the argued claims in light of the case law presented in this Appeal and each of Appellant's arguments, we are not persuaded of reversible error in the Examiner's rejections.

*Rejection 1: Obviousness over Johnson*

The Examiner rejects claims 1–3, 5, 6, 8, and 9 under 35 U.S.C. § 103 over Johnson[4] for the reasons provided on pages 3–7 of the Final Action.

Appellant argues the claims as a group. Appeal Br. 3–7. Therefore, claims 2, 3, 5, 6, 8, and 9 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant contends that the Examiner erred in finding that Johnson discloses both a first memory address to store a single fleet identifier and a second memory address storing a prompt that prompts the printer controller to write a single fleet identifier to the first memory address as required by claim 1. Appeal Br. 3. According to Appellant, Johnson's memory 21 includes a memory address at which printer identifier 14 is stored, however "there is no other address in Johnson's memory 21 with a prompt to prompt the printer controller to write an identifier 14 to memory 21." *Id.* Appellant

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[4] US 2004/0212651 A1, published Oct. 28, 2004.

notes that Johnson discloses that printer 12 queries the component to determine whether printer identifier 14 stored in component memory 21 matches the ID for printer 12 and, if the answer is no, the printer queries the component a second time to determine whether the component is new and then the printer writes its own ID to memory 21 if the answer to the second query is yes. *Id*. at 3–4 (citing Johnson ¶¶ 48–50, Fig. 6, steps 304, 306, 308, 310). Appellant contends "it seems likely the printer writes this ID to the same address queried in step 304 — the address of printer identifier 14 in memory 21" rather than another different memory address. *Id*. at 4.

Appellant additionally argues that Johnson's disclosure that printer identifier 14 may identify multiple printers "plainly does not disclose that printer identifier 14 is used to identify a group of printers owned or operated by a single entity or identified as being subject to an obligation to limit printing to the group." *Id.* at 5 (citing Johnson ¶ 20). Appellant contends that the term "fleet" recited in claim 1 is "specially defined to cover the commercial situation in which 'the parties to a print services contract may wish to limit printing to specific cartridges supplied under the contract.'" *Id.* at 6 (citing Spec. ¶ 13). Regarding whether Appellant's apparatus claims require merely a memory, Appellant contends that claim 1 includes functional limitations on the memory as to the content of information at the first memory address, namely information at one memory address that prompts a printer controller to write a fleet identifier to another memory address. *Id.* at 6–7.

The Examiner responds that Johnson discloses a memory with multiple memory addresses. Ans. 3 (citing Johnson ¶ 27, Fig. 2, memory 21). Johnson's Figure 2 is reproduced below.
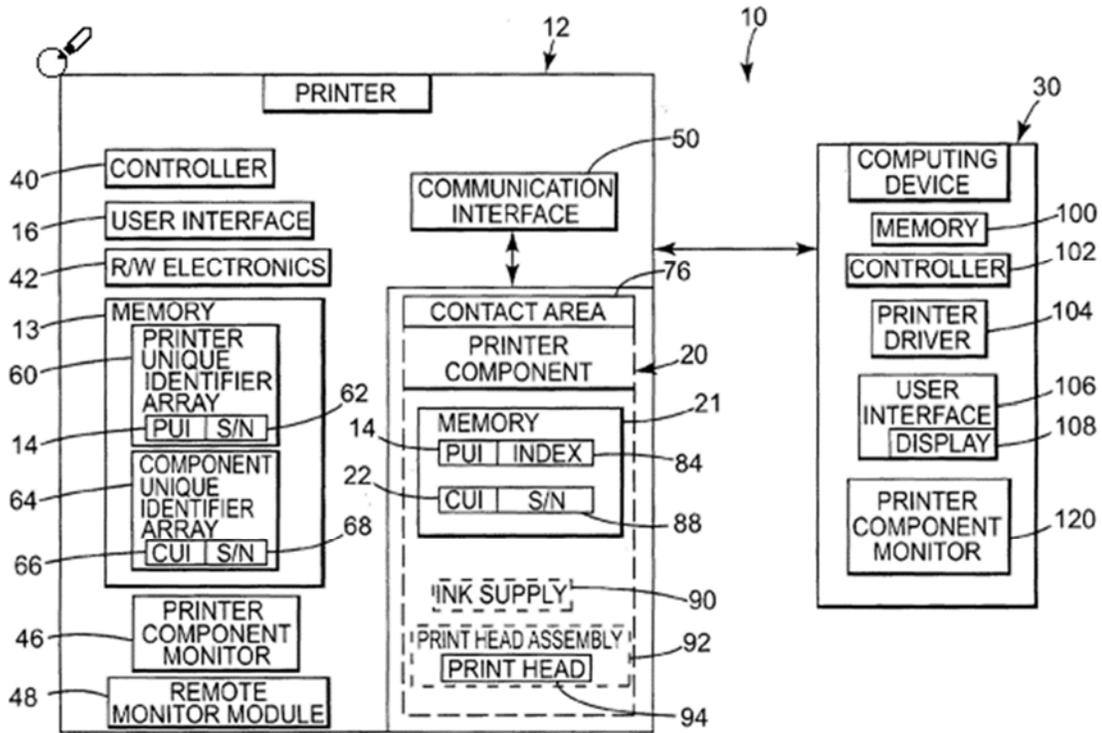
**Fig. 2**

Figure 2 is a block diagram of a replaceable printer component system. Johnson ¶ 7. As shown in Figure 2, printer component 20 comprises memory 21 which includes at least one printer unique identifier (PUI) 14 and component unique identifier 22. *Id*. ¶ 27. According to Johnson, PUI index 84 stores a list of printers for which use with printer component 20 is authorized. *Id*.

The Examiner further explains that, even though Johnson does not specifically state that a separate memory address is checked in response to query 304 in Johnson's Fig. 6, a separate memory location is deduced from the subsequent query in step 308. Ans. 3 (citing Johnson ¶ 48, Fig. 6, steps 304, 308). Johnson's Figure 6 is reproduced below.
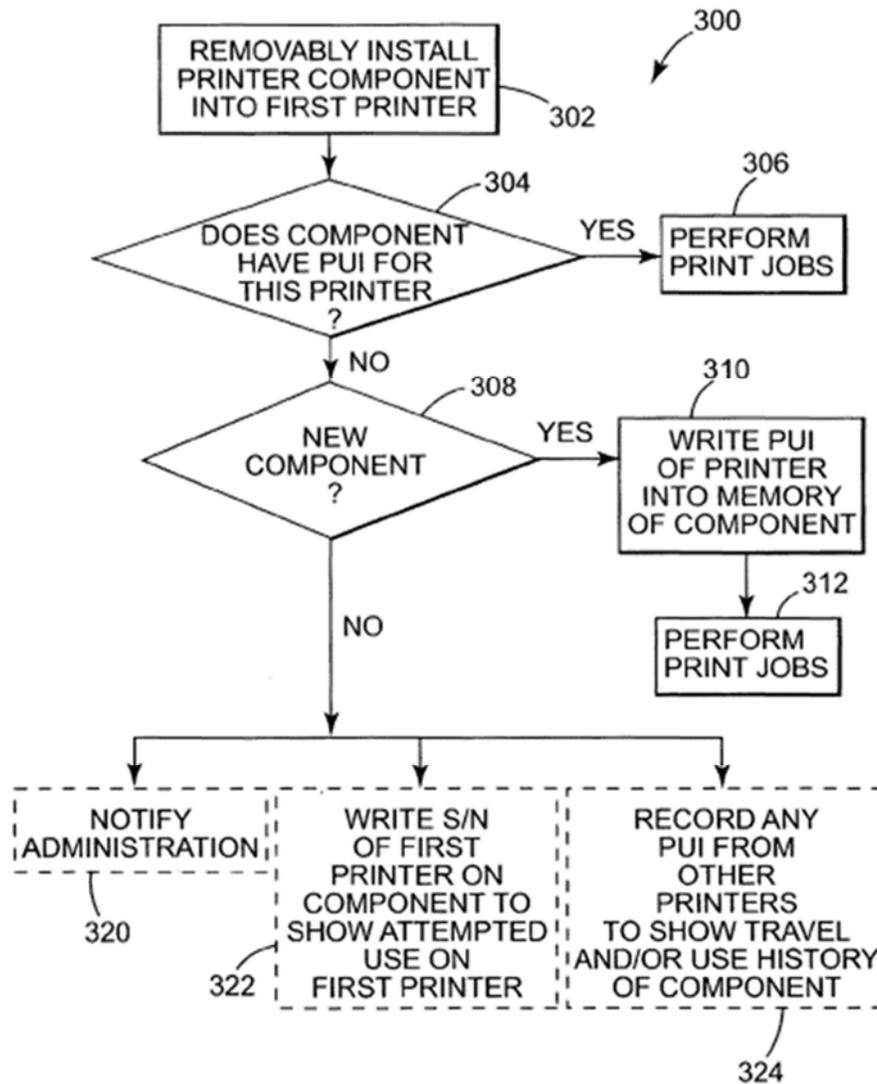
**Fig. 6**

Figure 6 is a flow diagram of a method of managing a replaceable printer component tool. Johnson ¶ 11. According to Johnson, step 304 queries whether a printer unique identifier 14 stored in memory 21 matches the printer unique identifier of the printer into which printer component 20 is installed. *Id.* ¶ 48. Johnson discloses that an affirmative response results in permitting print jobs and other functions (step 306). *Id.* ¶ 49. Johnson describes a negative response resulting in a further query (step 308) as to

whether printer component 20 is a new component that has not been installed previously on any printer. *Id*. As shown in Figure 6, regardless of whether the response to the query of step 308 is affirmative or negative, the controller is prompted to write to memory (shown as separate boxes 310 or 322).

The Examiner further finds that Johnson discloses writing a serial number (S/N) onto the memory of the cartridge in step 322 of Figure 6 if the step 304 and 308 queries are negative, thus Johnson discloses an address for a printer identification "prompt" and a separate address for a printer "identifier" as required by claim 1. Ans. 3.

Regarding the claim requirement that the cartridge memory address stores "a single fleet identifier identifying a fleet of printers," the Examiner responds that Johnson's disclosure that a printer unique identifier uniquely identifies one or more printers for association with the printer component renders this claim limitation obvious. *Id*. at 4 (citing Johnson ¶ 20). The Examiner determines that a "fleet" is "a group operated under unified command." *Id*. The Examiner finds that Johnson's disclosure of a remote printer management system including one or more printers teaches the claimed "fleet identifier" because it is a group of printers owned or operated by a single entity or identified as being subject to an obligation to limit printing to the group. *Id*.

Regarding the structural requirements of the apparatus claims, the Examiner states the function of storing information at one memory address that prompts a printer controller to write a printer ID to another memory address is a memory with multiple addresses and a controller. *Id.* at 5. According to the Examiner, information that "prompts" is any information

or lack of information and how that information is intended to be used. *Id.*
The Examiner finds that Johnson discloses that information stored in the
memory is printer identification information. *Id.*

In the Reply Brief, Appellant maintains that Johnson's printer
identifier 14 exists at a single memory address and, therefore, cannot be both
a prompt or a no prompt value at one address and an identification value at
another address. Reply Br. 1. Appellant contends that the Examiner's
finding that each query in Johnson "'appears' to have its own memory
address" is insufficient to establish obviousness. *Id.* at 2. Regarding
Johnson's serial number being written to a second memory address different
from the memory address of printer identifier 14, Appellant contends that
Johnson discloses that the printer serial number is one example of printer
identifier 14 and Johnson's paragraph 51 regarding writing a serial number
into memory 21 fails to mention the location in memory 21 where the serial
number is written. *Id.* at 2. Regarding the "fleet identifier" recited in claim
1, Appellant contends that there is no teaching that Johnson's group of
multiple printers is "owned or operated by a single entity or identified as
being subject to an obligation to limit printing to the group." *Id.* at 3.
According to Appellant, this distinction "cover[s] the commercial situation
in which 'the parties to a print services contract may wish to limit printing to
specific cartridges supplied under the contract.'" *Id.* (quoting Spec. ¶ 13).

Appellant's arguments do not persuade us that the Examiner
reversibly erred in rejecting the claims as obvious over the teachings of
Johnson, and, more specifically, finding that Johnson's replaceable printer
component comprises a memory address that prompts a printer controller to
write a fleet identifier to a memory address separate from the memory

address storing a prompt, as claim 1 requires.  The preponderance of the evidence in this appeal record supports the Examiner's conclusion that the claimed subject matter would have been obvious in view of Johnson. Accordingly, we sustain the Examiner's rejection for essentially those reasons expressed in the Answer, including the Response to Argument section, and we add the following primarily for emphasis.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness.  *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988).  In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966) (noting that 35 U.S.C. § 103 leads to three basic factual inquiries: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; and (3) the level of ordinary skill in the art).  If the Examiner's burden is met, the burden then shifts to the Appellant to overcome the prima facie case with argument and/or evidence.  Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments.  *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

Furthermore, the Examiner's obviousness rejection must be based on

> "some articulated reasoning with some rational underpinning to
> support the legal conclusion of obviousness" . . . . [H]owever,
> the analysis need not seek out precise teachings directed to the
> specific subject matter of the challenged claim, for a court can
> take account of the inferences and creative steps that a person
> of ordinary skill in the art would employ.

*KSR Int'l, Co. v. Teleflex, Inc.*, 550 U.S. 398, 418 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).  This is particularly true when

the features of an apparatus are claimed functionally rather than structurally as in claim 1.  *See In re Swinehart*, 439 F.2d 210, 212 (CCPA 1971) ("[T]here is nothing intrinsically wrong with [defining something by what it does rather than what it is] in drafting patent claims.").  Yet, choosing to define an element functionally, i.e., by what it does, carries with it a risk.  *In re Schreiber*, 128 F.3d 1473, 1478 (Fed. Cir. 1997).  As stated in *Swinehart*, 439 F.2d at 213:

> where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

As applied to Johnson, the issue is whether Johnson's structure is capable of performing the function without further programming.  *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1380 (Fed. Cir. 2011) (discussing *Microprocessor Enhancement Corp. v. Texas Instruments, Inc.*, 520 F.3d 1367 (Fed. Cir. 2008)).  When the functional language is associated with programming or some other structure required to perform the function, that programming or structure must be present in order to meet the claim limitation.  *Id.*  In some circumstances generic structural disclosures may be sufficient disclosure of the structure that performs the work.  *See Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1364 (Fed. Cir. 2012) (citing *Telcordia Techs., Inc. v. Cisco Sys., Inc.*, 612 F.3d 1365, 1376–77 (Fed. Cir. 2010)).

Appellant does not dispute the Examiner's finding (Ans. 3) that Johnson discloses a printer cartridge comprising memory with multiple

memory addresses.  Appellant does not dispute the Examiner's finding (Final Act. 5) that Johnson's printer controller queries the memory of the cartridge and is prompted to write a printer identifier to the memory when a cartridge with the memory is installed in a printer.  Appellant does not dispute the Examiner's finding (Ans. 3) that Johnson discloses multiple queries are made by Johnson's controller.  Appellant also does not rebut the Examiner's determination (Ans. 5) that the structure functionally claimed to perform the function of storing information at one memory address that prompts a printer controller to write a printer ID to another memory address is a memory with multiple addresses and a controller.  Finally, Appellant does not dispute the Examiner's finding (Ans. 4) that Johnson discloses a remote printer management system including one or more printers and a unique identifier that represents one or more printers for which use of the printer component is exclusively authorized.

The record supports the Examiner's finding (Ans. 3) that Johnson discloses a printer controller query whether the printer has a unique identifier.  Johnson ¶ 48, Fig. 6, 304.  The record also supports the Examiner's finding that a further query in step 308 (Johnson Fig. 6, 308) indicates the query is subsequent to the query in step 304 and therefore has its own memory location.  Appellant's position (Reply Br. 1) that the Examiner's finding is insufficient to establish obviousness by Johnson is not persuasive of error because it does not adequately show that Johnson's printer controller is not set up to write a printer ID to another memory address, particularly in view of Johnson's memory having multiple memory addresses.

The record also supports the Examiner's finding (Ans. 3) that Johnson discloses writing a serial number into the memory of the cartridge in response to a negative prompt that is separate from the identifier located at a unique address in the memory. Johnson ¶ 51. Appellant asserts that, because Johnson's paragraph 20 identifies a printer serial number as an example of a printer identifier, the query described in Johnson's paragraph 51 prompts the printer to write a serial number into the same memory address as the printer identifier. Reply Br. 2. However, Johnson's paragraph 51 discloses that printer 12 writes a serial number into the memory of the printer component at a negative response prompt (because the printer component had been previously installed elsewhere) in order to save the information in printer 12 for tracking the presence of printer component 20 (shown in box 324 of Fig. 6) and a travel/use history of printer component 20 can be obtained from the memory of printer component 20 as well (box 322 of Fig. 6). Appellant does not adequately explain why the same memory location for printer identifier 14 would have been used for tracking the travel/use history of printer component 20. Nor does Appellant adequately explain why a skilled artisan would have understood the separate boxes in the Figure 6 flow diagram for writing printer unique identifiers to be the same memory location rather than separate memory locations, particularly in view of Johnson's memory 21 having multiple addresses.

Finally, the Examiner's determination (Final Act. 4) that it would have been obvious from Johnson's disclosure that the identified printers are a "fleet" of printers in order for the cartridge to work properly with multiple printers is supported by the record. Johnson discloses an association of

multiple printers with its printer components and that the purpose of the printer component comprising a memory that stores an identifier for one or more printers is to ensure the authorized use of the printer component. Johnson Abstract, ¶ 20.  Similarly, Appellant's printing material cartridge memory "ensure[s] that a printer will not print with an unauthorized cartridge."  Spec. ¶ 13.  Therefore, Johnson's use of an identifier to associate multiple printers for the purpose of ensuring authorized use with a printing material cartridge serves the same commercial function as Appellant's fleet identifier that "limit[s] printing to the group."  *Compare* Spec. ¶ 15, *with* Johnson Abstract.

Accordingly, we affirm the Examiner's rejections of claims 1–3, 5, 6, 8, and 9 under 35 U.S.C. § 103 over Johnson.

*Rejection 2:  Obviousness over Johnson and Ehrhardt*

The Examiner rejects claims 10–12 and 14 under 35 U.S.C. § 103 over the combination of Johnson and Ehrhardt[5] for the reasons provided on pages 8–11 of the Final Action.

Appellant does not provide separate arguments for this rejection. Appeal Br. 7–8.  Therefore, we select claim 10 as representative and claims 11, 12, and 14 stand or fall with claim 10.  *See* 37 C.F.R. § 41.37(c)(1)(iv).

In addition to the arguments presented with respect to claim 1 distinguishing the disclosures of Johnson (Appeal Br. 3–7), which we do not find persuasive of error as discussed above, Appellant contends that the Examiner erred in rejecting claim 10 because Johnson does not teach or

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[5] US 2007/0081842 A1, published Apr. 12, 2007.

suggest a single bit value for printer identifier 14 and "Ehrhardt does not teach or suggest that a single bit could or should be used for a memory prompt in general, and specifically not a prompt as recited in Claim 10." Appeal Br. 7. Appellant asserts that Ehrhardt's general teaching that some types of memory information might be formed with a single bit, does not render obvious the claimed single bit memory limitations. *Id.* Appellant further argues that the Examiner's reason for combining Ehrhardt and Johnson "to properly store the information" is not supported or explained because neither Johnson nor Ehrhardt discloses how to properly store memory information in general and specifically not as a memory prompt. *Id.*

Appellant's arguments do not persuade us that the Examiner reversibly erred in rejecting the claims over the cited prior art references. As the Examiner finds, and the record supports, Johnson discloses memory information being used as a prompt. Ans. 5; Johnson Fig. 6. The Examiner's finding that Ehrhardt discloses the use of single bit memory for printer identifiers specifically is also supported by the record. Ans. 5; Ehrhardt ¶¶ 47, 48. Ehrhardt's explicit teaching to use "any single electronic data bit, or any combination of electronic data bits of a form as is known in the art to be of the type typically stored on such a memory component" (Ehrhardt ¶ 47) supports the Examiner's determination that it would have been obvious to combine Ehrhardt's teaching in Johnson's memory information and printer component. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. at 420 ("in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle."). In *KSR*, the Supreme Court instructed that "when a patent claims a structure already

known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result." 550 U.S. at 416. The Court stated that "[i]f a person of ordinary skill can implement a predictable variation [of a prior art reference with other prior art components], § 103 likely bars its patentability." *Id*. at 417. Here, including a single bit value for a printer identifier memory as taught by Ehrhardt in the memory information used as a prompt by Johnson's printer component would have yielded a predictable result: the information in the first memory address includes a single bit value that when read by a printer controller prompts the printer controller to write a printer identifier to the second memory address—the invention claimed.

For these reasons and those the Examiner provides, we uphold the Examiner's rejection of claims 10–12 and 14 under 35 U.S.C. § 103 as obvious over the cited prior art references.

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).

## CONCLUSION

In summary:

| Claims Rejected | Basis | Affirmed | Reversed |
|---|---|---|---|
| 1–3, 5, 6, 8, 9 | § 103 Johnson | 1–3, 5, 6, 8, 9 | |
| 10–12, 14 | § 103 Johnson and Ehrhardt | 10–12, 14 | |
| **Overall Outcome** | | 1–3, 5, 6, 8–12, 14 | |

## AFFIRMED