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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte LORI STONE¹

Appeal 2017-010303
Application 13/032,518
Technology Center 3700

Before DANIEL S. SONG, BENJAMIN D. M. WOOD, and
LISA M. GUIJT, *Administrative Patent Judges*.

SONG, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

The Appellant appeals under 35 U.S.C. § 134 from the Examiner's Final Office Action (hereinafter "Final Act.") rejecting claims 1–21 in the present application (Appeal Brief (hereinafter "Br.") 2). We have jurisdiction under 35 U.S.C. §§ 6(b) and 134(a).

We AFFIRM.

¹ The Appeal Brief states the Inventor, Lori Stone, is the real party in interest (Br. 1).

The claimed invention is directed to a method of learning arithmetic (Spec., Title). Independent claims 1 and 16 are illustrative of the invention and read as follows (Br. 19, 21, 23, Claims App'x, emphasis added):

1. A method of promoting arithmetic learning, the method comprising the steps of:

providing at least one source of information comprising viewable images;

through the at least one source causing the conveyance to an individual of a first number or a suggestion of a first number through a first viewable image of at least one of (a) at least one of a person, place or thing understood to be identified with the first number in conjunction with at least one word and (b) a characteristic of at least one of a person, place or thing commonly identified with the first number in conjunction with the at least one word,

the first image relating to a first part of a story;

through the at least one source, causing the conveyance to the individual of a second number or a suggestion of a second number through a second viewable image of at least one of (a) at least one of a person, place or thing understood to be identified with the second number in conjunction with at least one other word and (b) a characteristic of at least one of a person, place or thing understood to be identified with the second number in conjunction with the at least one other word,

the second image relating to a part of the story; and

through the at least one source, causing the conveyance to the individual of one of a) a suggestion of a third number and b) the third number that is the result of a first arithmetic operation using the first and second numbers through a third viewable image comprising at least one of (i) at least one of a person, place or thing understood to be identified with the third number in conjunction with at least another word and (ii) a characteristic of at least one of a person, place or thing understood to be identified

with the third number in conjunction with the at least another word,

the third image relating to an outcome of the story and related to the first and second images so that an individual is led through the first and second images to conclude the story with the outcome to which the third image relates.

16. A system for learning arithmetic operations, the system comprising:

a plurality of cards,

the cards each having a front side and a back side,

the front side of a first card including a first number together with a first graphical representation that is understood to be identified with the first graphical representation in conjunction with at least one other word, a second number together with a second graphical representation understood to be identified with the second number in conjunction with at least one other word, a symbol for a first arithmetic operation and a word associated with at least one of the first and second graphical representations, the word containing a clue suggesting a third number that is a result of the first arithmetic operation without identifying the third number by itself,

the back side of the first card including the third number or a graphical representation that is understood to be identified with the third number in conjunction with at least one other word.

REJECTIONS

1. The Examiner rejects claims 1–15 and 21 as being directed to patent ineligible subject matter under the judicial exception to 35 U.S.C. § 101 (Final Act. 2).

2. The Examiner also rejects claims 16–20 as being directed to patent ineligible subject matter under the judicial exception to 35 U.S.C. § 101 (Final Act. 3).

The Examiner further rejects various claims under 35 U.S.C. § 103(a) as follows:

3. Claims 1, 3, 5, and 6 as obvious over Lassowsky (US Patent No. 6,716,033 B1, iss. Apr. 6, 2004) (Final Act. 6).

4. Claims 1, 3, 5, and 6 as obvious over Lassowsky in view of Greenberg (US 2002/0142272 A1, pub. Oct. 3, 2002) (Final Act. 8).

5. Claim 2 as obvious over Lassowsky in view of Kuyath (US Patent No. 5,018,976, iss. May 28, 1991) (Final Act. 8).

6. Claim 7 as obvious over Lassowsky in view of Barrett (US Patent No. 6,425,581 B1, iss. July 30, 2002) (Final Act. 9).

7. Claims 4, 8–10, 12, 14, and 21 as obvious over Lassowsky in view of Williams (US Patent No. 5,868,393, iss. Feb. 9, 1999) (Final Act. 9).

8. Claims 11 and 13 as obvious over Lassowsky in view of Williams and Kuyath (Final Act. 11).

9. Claim 15 as obvious over Lassowsky in view of Williams and Barrett (Final Act. 12).

10. Claims 16–20 as obvious over Kuyath (Final Act. 12).

PRINCIPLES OF LAW

The Supreme Court has established a two part test for determining whether a claim recites patent-eligible subject matter. *Alice Corp. Pty. Ltd.*

v. CLS Bank Int'l, 134 S. Ct. 2347, 2355 (2014). First, the claims are examined to determine whether they are directed to a patent ineligible concept such as an abstract idea. *Id.* If so, the claim elements are considered both individually and as an ordered combination to determine whether they transform the claim into a patent-eligible application. *Id.* The Supreme Court has described the second part of the analysis as “a search for an ‘inventive concept’—*i.e.*, an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original) (quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 73 (2012), 132 S. Ct. 1289, 1294).

“[A] claim limitation is directed to printed matter ‘if it claims the content of information.’” *Praxair Distrib., Inc. v. Mallinckrodt Hosp. Prods. IP Ltd.*, 890 F.3d 1024, 1032 (Fed. Cir. 2018) (quoting *In re DiStefano*, 808 F.3d 845, 848 (Fed. Cir. 2015)). Under the printed matter doctrine, where the only difference between the prior art and the claim is printed matter that is not functionally related to the substrate on which it is appears, the content of the printed matter will not distinguish the claim from the prior art in terms of patentability. *See In re Ngai*, 367 F.3d 1336, 1338–39 (Fed. Cir. 2004); *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983). In that regard, “a limitation that merely claims information by incorporating that information into a mental step will receive patentable weight only if the limitation is functionally related to the substrate.” *Praxair*, 890 F.3d 1033.

ANALYSIS

Only those arguments actually made by the Appellant have been considered in this decision. Arguments that the Appellant could have made but chose not to make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(iv); *In re Jung*, 637 F.3d 1356, 1365–66 (Fed. Cir. 2011); *Ex parte Frye*, 94 USPQ2d 1072, 1075–76 (BPAI 2010 (precedential)).

Rejection 1

The Examiner rejects claims 1–15 and 21 as being directed to patent ineligible subject matter under the judicial exception to 35 U.S.C. § 101 (Final Act. 2). To determine whether an application claims ineligible subject matter, we apply the above noted two-step test explained in *Alice*, 134 S. Ct. at 2355. As explained below, we agree with the Examiner’s determination that the claims at issue are directed to an abstract idea, and are therefore patent-ineligible. In particular, the method recited in these claims are directed to an abstract idea of facilitating association of viewable images with numbers by an individual to facilitate learning of arithmetic, and thus, is directed to organizing human activity *see* Final Act. 2 (wherein the Examiner determines, *inter alia*, that the claims are directed to the abstract idea of “a method of organizing human activities”).

The Appellant argues that “[t]he method claims involve the conveyance of strategically created and relatable images that allow certain mental processing by a user,” and “[t]he claimed steps involve conveyance of concrete, viewable images, generated by a least one source, that are

utilized to promote certain mental training.” (Br. 6). However, we agree with the Examiner that “this concept of conveying viewable images generated by a source is purely a mental process” (Ans. 14), such association of images to a number by an individual being an abstract mental activity performed by the individual. The Examiner is correct that independent claims 1 and 8 are directed to:

a series of mental steps for managing human behavior that could be carried out solely by a person using for example a pen and paper, and is a method of organizing human activities akin to other non-limiting examples of organizing human activities identified by the courts in *Alice* and other cases, and is therefore an abstract idea. Alternatively, the claimed concept is similar to other concepts identified as an idea ‘of itself’, such as displaying an advertisement in exchange for access to copyrighted media, and is therefore an abstract idea in the form of an idea itself.

(Final Act. 2).

As to the second step, we “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*, 134 S. Ct. at 2357 (internal quotations omitted). The Appellant argues that “[t]he use of an apparatus to convey specific images is not an abstract idea,” and that the claims are “directed to ‘significantly more’ than an abstract idea, making them patent eligible.” (Br. 7). However, as to “significantly more” of the two-part test, claims 1 and 8 merely recite “source of information” or “source of graphical representations,” wherein these sources provide the recited viewable images or graphical representations, respectively (Br. 19, 21, Claims App’x). We agree with the Examiner that such generic recitation

of an apparatus² or “source” in the claims for conveying the recited images does not make the claimed abstract idea patent eligible because it does not ensure that the claims amount to significantly more than the abstract idea. As explained by the Examiner, “the recitation of a source of information or source of graphical representations does not set forth the involvement of a particular apparatus sufficient to direct the claims to significantly more.” (Ans. 14). Rather, as recognized by the Specification, such sources are conventional and well-known: “Many devices and methods have been devised to teach arithmetic; for example, posters, flash cards, objects that can be manipulated (e.g. marbles), and more recently, video and computer games.” Spec. ¶ 4.

Thus, we agree with the Examiner’s conclusion that “[v]iewed as a whole, these additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amount to significantly more than the abstract idea itself.” (Final Act. 3).

In view of the above, we affirm the Examiner’s rejection of independent claims 1 and 8 for being directed to patent ineligible subject

² The Specification does not recite the claim term “source,” however, the Specification discloses “providing at least one viewable object . . . conveying to an individual a first number” Spec. ¶ 5; *see also, e.g., id.* at ¶ 29 (describing Figure 8 as “an illustration of a viewable card or other object used to convey a mathematical operation”); *cf.* Br. 20, 23, 24 (Claims App’x) (wherein claims 5, 6, 7, 15, or 21 recite that the step of causing the conveyance, through the at least one source, involves “visual communication,” “printed media,” or “detect[ion] by one of the individual’s senses.”

matter. The Appellant does not submit separate arguments directed to the dependent claims subject to this rejection. Accordingly, as also noted by the Examiner, dependent claims 2–7, 9–15, and 21 have the same deficiencies as the independent claims (Final Act. 3). Thus, these dependent claims fall with their corresponding independent claims from which they depend, and Rejection 1 is affirmed.

Rejection 2

The Examiner also rejects claims 16–20 as being directed to patent ineligible subject matter under the judicial exception to 35 U.S.C. § 101 (Final Act. 2). Like the method claims addressed in Rejection 1, the Examiner finds that independent claim 16 is directed to “a series of mental steps for managing human behavior that could be carried out solely by a person using for example a pen and paper, and is a method of organizing human activities . . . and is therefore an abstract idea,” or is directed to an idea itself (Final Act. 4).

As to the *Alice* second step, the Examiner finds that:

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: *using one of a plurality of cards to convey the first and second representations on the front side and the third representation on the back side. Placing printed indicia on the front and back side of cards represents routine and conventional activity that was previously known to those of skill in the art, and is not sufficient to amount to significantly more than the abstract idea itself.*

(Final Act. 4, emphasis added).

The Examiner concludes that “[v]iewed as a whole, these additional claim elements do not provide meaningful limitations to transform the abstract idea into a patent eligible application of the abstract idea such that the claims amount to significantly more than the abstract idea itself.” (Final Act. 5). We again agree with the Examiner for reasons similar to those discussed relative to Rejection 1. *See, e.g.*, Spec. ¶ 4 (admitting that flash cards are conventional sources for conveying arithmetic concepts to children).

In addition to relying on the same unpersuasive arguments submitted relative to Rejection 1, the Appellant also points out that “these claims require a more specific form of the apparatus – cards, constructed in a specific manner with coordinated graphical representations that are capable of being processed to promote [learning].” (Br. 7). In particular, the Appellant argues that:

claims 16-20 are directed to a system made up of cards with specific representations thereon that are coordinated to be processed by a user. The mental steps result from the use of the system. The invention itself in Figs. 16-20 is directed to this system and thus relating the system to an abstract idea is not appropriate.

(Br. 8).

However, upon applying the two-step test explained in *Alice*, it is clear that these claims are also directed to an abstract idea. The Examiner is correct that although claim 16 is “directed to a system comprising a plurality of cards, the claim is directed to the idea of placing the claimed information on the front and back side of the cards for conveyance to an individual, and is therefore directed to an abstract idea.” (Ans. 15). Indeed, the Appellant’s

own argument makes clear that these claims are directed to a mental activity of understanding the graphical representations to be associated with a number, and further understanding a word as suggesting a number.

Moreover, the fact that the recited mental steps are induced from the graphical representations provided on a plurality of cards does not amount to significantly more so as to transform the abstract idea into a patent eligible subject matter. In that regard, mere recitations of tangible structure, i.e., plurality of cards, does not automatically make a claim directed to an abstract idea patent eligible. *See Alice*, 134 S. Ct. at 2357 (“introduction of a computer into the claims does not alter the analysis.”); *see also Ex Parte Alsabah*, 2015 WL 4659226 *6 (PTAB 2015) (“placing the teaching aid on a substrate . . . insufficient to transform an otherwise abstract idea into a patent-eligible subject matter”), *aff’d* 677 Fed. Appx. 684 (Fed. Cir. 2017); *Planet Bingo, LLC v. VKOS LLC*, Fed. Appx. 1005, 1008 (Fed. Cir. 2014) (recitation of various generic computer components insufficient).

The Appellant also argues that “claims 16-20 are not worded to protect patent-ineligible printed matter any more than are the claims of the primary reference.” *Lassowsky* (Br. 9). However, we observe that *Lassowsky*’s cards disclose substantially more than the printed matter in that its cards have indicia provided thereon, which interact with other indicia in the other cards when the cards are overlapped together, to thereby provide a mathematical solution through an aperture (*See Lassowsky*, Figs. 4–14). Accordingly, the Appellant’s comparison of its invention to that of *Lassowsky* is not well founded.

In view of the above, we affirm the Examiner's rejection of independent claim 16 for being directed to patent ineligible subject matter. The Appellant does not submit separate arguments directed to the dependent claims subject to this rejection. Accordingly, as also noted by the Examiner, dependent claims 17–20 have the same deficiencies as the independent claims (Final Act. 5), and fall with claim 16. Rejection 2 is affirmed.

Rejection 3

Claims 1, 3, 5, and 6 stand rejected as obvious over Lassowsky, the Examiner finding that Lassowsky discloses substantially the invention claimed, including a characteristics of a thing commonly identified with a first number (dots 12) and a second number (dots 22), as well as a third number (“8”) resulting from a first arithmetic operation using the first and second numbers (Final Act. 6–7). The Examiner finds that Lassowsky:

does not explicitly disclose the images relating to numbers are conveyed in conjunction with first, second and third words (as per claim 1) and the first image relating to a first part of a story and the second image relating to a part of the story, the third image relating to an outcome of the story and related to the first and second images so that an individual is led through the first and second images to conclude the story with the outcome to which the third image relates (as per claim 1).

(Final Act. 7).

However, the Examiner also finds that:

these differences (the numbers relating to a part of a story, and also including words in conjunction with the images) are only found in the nonfunctional descriptive material and do not constitute a new and nonobvious functional relationship between the descriptive material and the steps of the method.

The providing and conveying steps would be performed the same regardless of the data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

(Final Act. 7, citing *In re Gulack*, 703 F.2d 1381, 1835 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579 (Fed. Cir. 1994)).

The Examiner concludes that the claimed method would have been obvious to one of ordinary skill in the art “because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.” (Final Act. 7). We agree with the Examiner and address the Appellant’s arguments below.

The Appellant initially argues that “[c]laim limitations relating to images/information for processing by an individual must be accorded patentable significance” (Br. 8) because the claims “are not directed to any specific ‘printed matter’ but rather a category of visually identified material that is presented in a coordinated manner so that it can be processed by a user to assist in arithmetic learning.” (Br. 9). The Appellant also argues that “[i]f the method claims are properly interpreted as involving the performance of a series of steps that promotes mental training, a printed matter analysis is no longer applicable.” (Br. 9).

However, Appellant’s contention that the printed matter doctrine does not apply to method claims is not correct. The printed matter doctrine applies to method claims as well as product claims. *See Praxair*, 890 F.3d 1031–33 (printed matter doctrine not limited to “claims literally encompassing ‘printed’ material,” but rather extends to claims

“encompass[ing] mental steps”); *King Pharms., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1278–79 (Fed. Cir. 2010) (applying doctrine to a method claim “wherein an instructional limitation is added to a method, as opposed to a product, known in the art”).

In considering whether the printed matter of the claim at issue should be given patentable weight, “the critical question is whether there exists any new and unobvious *functional relationship between the printed matter and the substrate.*” *Gulack*, 703 F.2d at 1386 (emphasis added). If such functional relationship between the printed matter and the substrate exists, the printed matter is accorded patentable weight, but if no such relationship exists, the printed matter is not accorded patentable weight. *Praxair*, 890 F.3d at 1031–32. As also explained by the Examiner,

it was held in *Gulack* and *Lowry* [32 F.3d 1579 (Fed. Cir. 1994)] that printed matter only distinguishes patentably from the prior art if it is recited in such a way that it represents a new and non-obvious relationship between the printed matter and the substrate. Patentability does not lie in what the printed matter means to the human mind, or in this case, how it is processed by a user to assist in learning, absent some new and non-obvious relationship between the printed matter and the substrate.

(Ans. 15).

We determine there is no new and unobvious functional relationship between the printed matter (i.e., “viewable image”) and the substrate (i.e., “at least one source”) so as to require the printed matter to be given patentable weight. The functioning of the viewable image in no way depends upon the source, and the source in no way depends upon the viewable images. *See Praxair*, 890 F.3d at 1032. This lack of functional

relationship between the printed matter and the substrate is further highlighted by the fact that the Appellant's Specification discloses many different substrates (i.e. "at least one source"), including not only a plurality of cards, but "other printed media," and an "electronic screen, such as a computer monitor or television." (Spec. ¶ 71).

The recited steps of the rejected claims merely require the individual "to *think about* the information claimed," but "adding an ineligible mental process to ineligible information" from a source "still leaves the claim limitation[s] directed to printed matter." *See Praxair*, 890 F.3d at 1033–34. The function of the printed matter does not relate to the substrate in that the printed matter is "useful and intelligible only to the human mind" and, as such, does not patentably distinguish the claimed subject matter from the prior art. *In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994) (quoting *In re Bernhart*, 417 F.2d 1395, 1399 (CCPA 1969)). Similarly, "[l]ike the information claimed by printed matter, mental steps or processes are not patent eligible subject matter." *See Praxair*, 890 F.3d at 1033.

The Appellant argues that "Lassowsky lacks most of the limitations in claim 1 and, absent Appellant's teachings, one skilled in the art would not be motivated to arrive at the claimed subject matter. This would involve virtually a complete reconstruction of Lassowsky's structure." (Br. 11). In particular, the Appellant points out that "Lassowsky lacks any corresponding viewable images that would cause one viewing the same to repeat the related number 'in conjunction' with at least one word." (Br. 10).

However, these arguments are unpersuasive because the recited "in conjunction" is wholly within the mind of the individual perceiving the

viewable image. *See In re Lowry*, 32 F.3d at 1583 (printed matter is “useful and intelligible only to the human mind” and, as such, does not patentably distinguish the claimed subject matter from the prior art); *cf. Praxair*, 890 F.3d at 1033 (“[l]ike the information claimed by printed matter, mental steps or processes are not patent eligible subject matter.”). The Examiner is correct that “the differences between the claimed invention and Lassowsky are only found in the nonfunctional descriptive material and thus would be obvious because the printed matter does not patentably distinguish over the prior art.” (Ans. 15–16).

Therefore, in view of the above, the Examiner’s rejection of claim 1 is affirmed. The Appellant relies on dependency on claim 1 for patentability of claims 3, 5, and 6 (Br. 11), and thus, these dependent claims fall with claim 1. Rejection 3 is affirmed.

Rejection 4

Claims 1, 3, 5, and 6 also stand rejected as obvious over Lassowsky in view of Greenberg, the Examiner relying on Greenberg to find that it was known in the art to provide “an image relating to a number along with a word . . . (see for example Fig. 1 - with nine fingers in conjunction with the word ‘nine’).” (Final Act. 8). The Examiner concludes that it would have been obvious to one of ordinary skill in the art to have included words “in conjunction with the images, as taught by Greenberg, to obtain predictable results of teaching how numbers are spelled.” (Final Act. 8). We generally agree with the Examiner’s rejection of these claims for reasons similar to

those discussed relative to Rejection 3, and address the Appellant's specific arguments below.

The Appellant argues that "the subject matter recited in claims 1, 3, 5 and 6 involves more than the relationship of an image to a simultaneously viewable number" in that "the first number is conveyed through a viewable image 'commonly identified with the first number in conjunction with at least one word'." (Br. 12). However, as the Examiner observes,

the claimed term "commonly identified" does not specify the extent to which the image must be identified with the number (i.e. how commonly?), and accordingly is construed as any image which can be identified with a number. Therefore, the person of ordinary skill in the art would reasonably conclude that any image portraying a number of objects, such as fingers, would be "commonly identified" with that number.

(Ans. 16).

Moreover, claim 1 recites in the alternative that the image can be a "(a) thing understood to be identified with the first number," so that "[a]n image of nine fingers would clearly be an image 'understood to be identified' with the number nine." (Ans. 16). We find no fault in, and agree with, the Examiner's analysis and reasoning.

The Appellant further argues that the claim language convey[s] a relationship between images and numbers such as "four leaf clover", "three blind mice", etc., as explained thoroughly through examples in the Detailed Description. This language clearly differentiates from a showing of three objects which an observer may recognize as being three in number but would not make an association such as "three blind mice".

(Br. 12–13).

However, the claim language is clear that what matters is that the viewable image convey a number in the mind of the individual, and it is not patentably significant that viewable image is in the form of “blind mice,” dots as in Lassowsky, or fingers as in Greenberg.

Therefore, because we are not persuaded by the Appellant’s arguments, the Examiner’s rejection of claim 1 is affirmed. The Appellant relies on dependency on claim 1 for patentability of claims 3, 5, and 6 (Br. 13). Thus, these dependent claims fall with claim 1, and Rejection 4 is affirmed.

Rejection 5

Claim 2 stand rejected as obvious over Lassowsky in view of Kuyath (Final Act. 8). The Examiner finds that “Lassowsky does not explicitly disclose [that] the first and second numbers are the same. However, Kuyath discloses a similar system that includes examples where the first and second numbers are the same (Fig. 2b).” (Final Act. 8).

The Appellant argues that “Lassowsky and Kuyath are directed to two very different teaching systems,” such that “combining the two very different structures is inappropriate and would not be carried out in the absence of Appellant’s teachings,” and that “[n]o logical combination would produce the claimed invention.” (Br. 13). However, the Examiner’s rejection is not premised on “combining” Lassowsky and Kuyath together. Instead, the rejection merely relies on Kuyath for disclosing that in teaching arithmetic, one must also teach instances involving two numbers that are the same (*see* Final Act. 8, Kuyath, Fig. 2B; *see also* Kuyath, Fig. 1B).

Therefore, the Appellant's argument is unresponsive to the rejection. Accordingly, we affirm Rejection 5.

Rejection 6

Claim 7 stand rejected as obvious over Lassowsky in view of Barrett (Final Act. 9). The Examiner finds that Lassowsky does not explicitly disclose the step of pre-training the individual, but "Barrett discloses an educational puzzle game that includes a pre-training step of familiarizing the user with the game." (Final Act. 9, citing Barrett, col. 10, ll. 53–65).

The Appellant argues that "[c]laim 7 requires a pre-training routine specific to the function of the information source and its capabilities. The general disclosure of a pre-training step for an educational puzzle game in Barrett would not motivate one skilled in the art to apply the same process to perform Appellant's claimed method." (Br. 13). However, we agree with the Examiner that pre-training as generally suggested by Barrett would have been desirable to familiarize the users of Lassowsky's system for teaching mathematics in order to facilitate mastery of the subject matter (Ans. 17). In that regard, we do not understand the rejection as requiring application of Barrett's specific pre-training, but rather, as relying on Barrett for disclosing the benefits of pre-training, i.e., for familiarization and facilitating mastery. As already noted, Lassowsky's cards have various indicia provided thereon, which interact with indicia in other cards when the cards are overlapped together, to thereby provide a mathematical solution through an aperture (*see* Lassowsky, Figs. 4–14). Accordingly, considering Lassowsky's cards are

not simply conventional cards with printed matter thereon, a user of Lassowsky's system would have benefitted from pre-training.

Therefore, we affirm Rejection 6.

Rejection 7

Claims 4, 8–10, 12, 14, and 21 stand rejected as obvious over Lassowsky in view of Williams (Final Act. 9). The Examiner finds that Lassowsky does not explicitly disclose:

conveying a third word, the at least one word containing information suggesting a third number that is a result of performing the first arithmetic operation using the first and second numbers without identifying the third number by itself (as per claims 8 and 9), and conveying to the individual one or more words suggesting the third number, without identifying the third number by itself (as per claim 4).

(Final Act. 10).

The Examiner relies on Williams for disclosing “a system that displays numbers in conjunction with words (written number in a foreign language - see Fig. 6),” and concludes that it would have been obvious to one of ordinary skill in the art to “convey[] the first and second numbers in conjunction with at least one word, as taught by Williams, with the motivation of helping the user identify the numbers.” (Final Act. 10–11).

As to the recitation that the third word suggests a third number “without identifying the third number by itself,” the Examiner further finds that:

these differences are only found in the nonfunctional descriptive material and do not constitute a new and nonobvious functional relationship between the descriptive

material and the steps of the method. The providing and conveying steps would be performed the same regardless of the data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability. (Final Act. 7, citing *In re Gulack*, 703 F.2d at 1835; *In re Lowry*, 32 F.3d 1579).

Thus, the Examiner concludes that the claims would have been obvious to one of ordinary skill in the art “because such data does not functionally relate to the steps in the method claimed and because the subjective interpretation of the data does not patentably distinguish the claimed invention.” (Final Act. 11). We generally agree with the Examiner and address the Appellant’s specific arguments below.

Claim 4

The Appellant argues that “[a]side from the fact that Williams would not be obviously combinable with Lassowsky since they are directed to very different systems . . . Williams actually states the allegedly corresponding third number rather than ‘suggesting’ the third number as claim 4 requires.” (Br. 14). However, as in Rejection 5, the Examiner’s rejection is not premised on “combining” Lassowsky and William together, but instead is merely relying on William for teaching provisions of words on the cards. As to the alleged distinction between a word that suggests the third number and a word stating the number, the Appellant does not address the Examiner’s rejection which is premised on the finding that this is all nonfunctional descriptive material that is subject to interpretation in the mind of the

individual, and thus, does not distinguish the claims from the prior art (*see* Final Act. 11).

Claim 8

In addition to relying on unpersuasive arguments submitted with respect to claim 1, the Appellant also argues that Williams displays “a number and word designation of that same number,” instead of “an identification commonly ‘used in conjunction’ with the number.” (Br. 14). The Appellant further argues that “the Examiner has not attributed any patentable significance to the conveyed images and how they are conveyed and processed according to the method.” (Br. 15). However, these arguments are substantially the same as those already discussed above and determined to be unpersuasive and unresponsive.

Claims 9, 10, 12,³ 14

The Appellant argues that the recited more specific characterization of the graphical representations further distinguishes the claims from the prior art (Br. 15). However, such general reference to recited limitations does not constitute an argument for separate patentability. *See* 37 C.F.R. § 41.37(c)(1)(iv). Moreover, for reasons substantively addressed above, we agree with the Examiner that “Appellant’s arguments are not persuasive

³ The Appellant’s Brief refers to claim 13 instead of claim 12 (Br. 15), but this appears to be an oversight or a typographical error as claim 13 is not subjected to Rejection 7 while claim 12 is.

since the relied-upon limitations are directed to printed matter which does not patentably distinguish” the claim from the prior art (Ans. 18).

Claim 21

The Appellant relies on dependency on claim 8 for patentability of claim 21 (Br. 15), but because we maintain the rejection of claim 8, claim 21 falls with claim 8.

Therefore, in view of the above, Rejection 7 is affirmed.

Rejection 8

Claims 11 and 13 stand rejected as obvious over Lassowsky in view of Williams and Kuyath (Final Act. 11). The Appellant relies on dependency on claim 8 for patentability of claim 11 (Br. 16), but because we maintain the rejection of claim 8, claim 11 falls with claim 8.

The Appellant also argues that “[c]laim 13 further characterizes the first and second graphical representations that have no counterpart in the applied art.” (Br. 16). However, we agree with the Examiner that “Appellant’s arguments are not persuasive since the relied-upon limitations are directed to printed matter which does not patentably distinguish” the claim from the prior art (Ans. 19). Moreover, Lassowsky discloses graphical representation via its illustrated dots. Hence, Rejection 8 is affirmed.

Rejection 9

Claim 15 stand rejected as obvious over Lassowsky in view of Williams and Barrett (Final Act. 12). The Appellant relies on unpersuasive arguments submitted with respect to claim 7 for patentability of claim 15 (Br. 16). Therefore, Rejection 9 is affirmed.

Rejection 10

Claims 16–20 stand rejected as obvious over Kuyath, the Examiner finding that Kuyath substantially discloses the system of claim 16, but:

does not explicitly disclose [t]he first and second numbers . . . with a first graphical representation . . . and a second graphical representation . . . and a word associated with at least one of the first and second graphical representations, the word containing a clue suggesting a third number that is a result of the first arithmetic operation without identifying the third number by itself, and the third numbers is presented in conjunction with at least one other word.

(Final Act. 13).

The Examiner finds that:

These differences are only found in the nonfunctional data stored on the cards. Data including words presented along with the numbers and containing a clue suggesting another number resulting from the arithmetic operation does not constitute a new and nonobvious functional relationship between the printed matter and the underlying substrate. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability.

(Final Act. 13).

We agree with the Examiner and address the Appellant’s specific arguments below.

Claim 16

The Appellant argues that because “the Examiner has failed to give any weight to those limitations, the rejection of claim 16 should not stand.” (Br. 17). The Appellant specifically argues that “the data on the various materials in a multitude of patents, including those cited, must be given patentable [significance] or the patents would be meaningless.” (Br. 17). According to the Appellant, “the information conveyed through images on the Appellant’s cards, like that in the prior art, must be observed and processed to have any meaning. . . . The images, and their coordinated presentation through the source of information, have patentable significance.” (Br. 17).

However, the substance of the Appellant’s argument has already been addressed above relative to Rejections 3 and 4 in discussing the printed matter doctrine, which we decline to repeat. In summary, we agree with the Examiner that “printed matter, even if not disclosed in the prior art, does not patentably distinguish from the art unless it represents a new and nonobvious relationship with the substrate upon which it is printed.” (Ans. 19).

Claims 17–20

The Appellant relies on dependency on claim 16 for patentability of these claims, merely noting that the claims include other limitations (Br. 16). However, such general reference to other recited limitations does not constitute an argument for separate patentability. *See* 37 C.F.R.

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§ 41.37(c)(1)(iv). Because we maintain the rejection of claim 16, claims 17–20 fall with claim 16.

Therefore, Rejection 10 is affirmed.

CONCLUSION

The Examiner's rejections are 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). *See* 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED