IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of Scott Andrews Application: 15/799,678 Filed October 31, 2017 Art Unit: 1742 Examiner: Atul Khare	**PROCESS AND SYSTEM FOR FABRICATING A COLORED POWDER COATING COMPOSITION FROM SOLID FILAMENTS**

AMENDMENTS AND REMARKS
IN RESPONSE TO 03/31/2020 OFFICE ACTION

The applicant has fully considered the office action dated March 31, 2020. The present response is intended to be fully responsive.

CLAIMS

1. (Currently amended) A system for fabricating a colored powder coating composition from one or more solid input filaments, the system comprising:

   An electronic fabricator controller having a feeder bus connection to a filament feeder [;] that is comprised of a plurality of filament drivers;

   the filament feeder being adjacent to a filament mixer having a mixing chamber housing with ~~a filament mixer having~~ a plurality of filament inlets;

   each one of the filament inlets being joined through an inlet channel in [a] the mixing chamber housing to an interior mixing chamber;

   said mixing chamber housing having a heating element;

   a mixing mechanism within said mixing chamber; ~~and~~

   an extrudate channel in said mixing chamber housing between said interior mixing chamber and a nozzle opening;

   ~~a mixing mechanism within said mixing chamber;~~

   an extrudate receiving platform adjacent to said nozzle opening; and

   an extrudate ~~powder~~ mill for receiving an extrudate from said extrudate receiving platform.~~; and~~

   ~~an electronic fabricator controller having a fabricator processor, a fabricator memory, and a fabricator bus~~.

2. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a filament spool support adjacent to the filament feeder.

3. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a filament tube joining ~~an output of each~~ a filament driver with ~~an input of~~ a filament inlet.

4. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a mixing chamber temperature sensor with a temperature bus connection to the electronic fabricator controller.

5. (Canceled)

6. (Withdrawn)

7. (Original) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 where said mixing mechanism is a rotatable shaft with a first end attached to a mixer motor and a second end located within said mixing chamber.

8. (Original) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 where said extrudate receiving platform is moveable.

9. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a computer station ~~having a computer processor, a computer memory, and computer bus~~ with an input bus connection to the electronic fabricator controller.

10. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a color library database stored in a ~~memory location~~ computer-readable storage medium with an input bus connection to the electronic fabricator controller.

11. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising a color sensor operatively attached to the electronic fabricator controller or a computer station with an input bus connection to the electronic fabricator controller.

12. (Currently amended) The system for fabricating a colored powder coating composition from one or more solid input filaments of claim 1 further comprising ~~at least one operating instruction in~~ a computer-readable storage medium ~~memory location~~ accessible through an input bus connection to ~~said fabricator processor~~ ~~for execution by~~ said electronic fabricator controller; and at least one operating instruction located in the computer-readable storage medium for determining [of] an input formulation of single-color filaments. ~~determined from a data representation of a color.~~

13. (Canceled)

14. (Canceled)

15. (Canceled)

16. (Canceled).

Claims 17-20 are withdrawn.

REMARKS

To expedite prosecution in this matter applicant has cancelled claims 5 and 13-16 without prejudice to pursuit in a related application and has amended claims 1-4 and 9-12. No new matter is added by the amendments.

The amendment to claim 1 for "An electronic fabricator controller having a feeder bus connection to a filament feeder" has support, *inter alia,* in the specification at ¶ 0052 and FIG 2.

The amendment to claim 1 for "the filament feeder being adjacent to a filament mixer having a mixing chamber housing with a plurality of filament inlets" has support, *inter alia,* in the specification at ¶ 0062 and FIG 2.

The amendment to claim 1 for "each one of the filament inlets being joined through an inlet channel in the mixing chamber housing to an interior mixing chamber" has support, *inter alia,* in the specification at ¶ 0066 and FIGS 4, 6 and 12.

The amendment to claim 1 for "an extrudate channel in said mixing chamber housing" has support, *inter alia,* in the specification at ¶ 0074 and FIG 10.

The amendment to claim 1 for "an extrudate receiving platform adjacent to said nozzle opening" has support, *inter alia,* in the specification at ¶ 0074 and FIG 2.

The amendment to claim 1 for "an extrudate mill for receiving an extrudate from said extrudate receiving platform" has support, *inter alia,* in the specification at ¶ 0076 and FIG 2.

The amendment to claim 2 for "a filament spool support adjacent to the filament feeder" has support*, inter alia,* in the specification at ¶ 0058 and FIG 2.

The amendment to claim 3 for "further comprising a filament tube joining a filament driver with a filament inlet" has support*, inter alia,* in the specification at ¶ 0069 and FIG 2.

The amendment to claim 4 for "a mixing chamber temperature sensor with a temperature bus connection to the electronic fabricator controller" has support*, inter alia,* in the specification at ¶ 0052 and FIG 2.

The amendment to claim 9 for "a computer station with an input bus connection to the electronic fabricator controller" has support*, inter alia,* in the specification at ¶¶ 0033, 0034, and 0052 and FIG 2.

The amendment to claim 10 for "a color library database stored in a computer-readable storage medium with an input bus connection to the electronic fabricator controller" has support*, inter alia,* in the specification at ¶¶ 0033, 0034, and 0052 and FIG 2.

The amendment to claim 11 for "a color sensor operatively attached to the electronic fabricator controller or a computer station with an input bus connection to the electronic fabricator controller" has support*, inter alia,* in the specification at ¶ 0036 and FIG 2.

The amendment to claim 12 for "a computer-readable storage medium accessible through an input bus connection to said electronic fabricator controller; and at least one operating instruction located in the computer-readable storage medium for

determining an input formulation of single-color filaments" has support*, inter alia,* in the specification at ¶ 0038 and FIG 1.

I. The Specification Objection Is Moot.

The objection to the specification is moot due to the cancellation of claim 5.

II. Means-Plus-Function Does Not Apply

The applicant objects to a "means-plus-function" interpretation of the pending claims by the examiner under 35 U.S.C. §112 ¶ 6. As the office action concedes nowhere in the claims is there any element where the applicant has used the words "means for". Accordingly, there is a rebuttable presumption that 35 U.S.C. §112 ¶ 6 does not apply. See e.g. *Samsung Electronics America v. Prisua Engineering* 948 F.3d 1342,1353-54 (Fed. Cir. 2020).

The presumption that 35 U.S.C. §112 ¶ 6 does not apply is certainly not rebutted by the examiner simply pointing out that a claim element incorporates a functional term in its lexicography. The existence of functional language does not alone suffice to establish a means-plus-function interpretation: "[F]unctional language may be employed [] to limit the claims without using the means-plus-function format." *Mastermine Software Inc. v. Microsoft Corp.* 874 F.3d 1307, 1313 (Fed. Cir. 2017).

> We agree with Samsung that the term "digital processing unit" is not a "means-plus-function" limitation subject to analysis under section 112, paragraph 6. Because the reference to the digital processing unit does not contain the words "means for," there is a rebuttable presumption

> that section 112, paragraph 6, does not apply to that limitation. *Williamson*, 792 F.3d at 1348. That presumption can be overcome, but only "if the challenger demonstrates that the claim term fails to `recite sufficiently definite structure' or else recites `function without reciting sufficient structure for performing that function.'" Id. at 1349.
>
> The question whether the term "digital processing unit" invokes section 112, paragraph 6, depends on whether persons skilled in the art would understand the claim language to refer to structure, assessed in light of the presumption that flows from the drafter's choice not to employ the word "means." The Board pointed to **no evidence that a person skilled in the relevant art would regard the term "digital processing unit" as purely functional.** In fact, Prisua argued to the Board, based on testimony from its expert (the inventor), that the digital processing unit recited in the claims is "an image processing device that people in the art are generally familiar with." J.A. 896.
>
> As used in the claims of the '591 patent, the term "digital processing unit" clearly serves as a stand-in for a "general purpose computer" or a "central processing unit," each of which would be understood as a reference to structure in this case, not simply any device that can perform a particular function.

Samsung Electronics America v. Prisua Engineering 948 F.3d 1342,1353-54 (Fed. Cir. 2020) (emphasis added)

> [T]he words of a claim "are generally given their ordinary and customary meaning." . . . We have made clear, moreover, that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application. . . . Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, **but in the context of the entire patent, <u>including the specification</u>**. . . . "We cannot look at the ordinary meaning of the term ... in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history."

Phillips v. AWH Corp. 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc*)*(emphasis added)

It is respectfully submitted that each of the claim terms identified in the office action would be understood by a person of ordinary skill in the art when read by them "in the context of the entire patent, including the specification" to be referencing a structure, not simply any device that can perform a function. More importantly, applicant does not bear the burden of proving that this is so when the applicant has not used "means for" language in the claims: It is the examiner's burden to present actual evidence that shows otherwise, and the examiner has presented absolutely no such evidence.

Accordingly, on this record the applicant objects to any attempt by the examiner to construe the claims contrary to the way they have been drafted by the applicant, which is without the use of means-plus-function language.

III. The Claim Objections

It is believed that the amendments to the claims have fully addressed or rendered moot the claim objections.

IV. There Is No Basis for A Subject Matter Rejection

It is the applicant's understanding that no rejection under 35 U.S.C. §101 for subject matter has been made. Applicant is also not aware of any basis to assert such a rejection.

> Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof," may obtain a patent. 35 U.S.C. § 101. The Supreme Court has held that "[l]aws of nature, natural phenomena, and abstract ideas are not patent eligible." *Alice Corp. Pty. Ltd. v. CLS Bank Int'l,* 573 U.S. 208, 216, 134 S.Ct. 2347, 189 L.Ed.2d 296 (2014) (quoting *Assoc. for Molecular Pathology v. Myriad Genetics, Inc.,* 569 U.S. 576, 589, 133 S.Ct. 2107, 186 L.Ed.2d 124 (2013)). We follow the Supreme Court's two-step framework for determining patent-eligibility under § 101. *Id.* at 217, 134 S.Ct. 2347. First, we determine whether the claims are directed to a "patent-ineligible concept," such as an abstract idea. *Id.* If so, we "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 Collaborative Servs. v. Prometheus Labs., Inc.,* 566 U.S. 66, 78-79, 132 S.Ct. 1289, 182 L.Ed.2d 321 (2012)).

Customedia Technologies, LLC v. Dish Network Corp., 951 F.3d 1359, 1362 (Fed. Cir. 2020)

Importantly, in determining whether a claim is directed to a "patent-ineligible concept" it is the claim ***as a whole*** which must be considered:

> Because the approach we made explicit in *Mayo* considers all claim elements, both individually and in combination, it is consistent with the general rule that patent claims "must be considered as a whole."

Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S.Ct. 2347, 2355 fn.3 (2014)

None of the applicant's claims when considered ***as a whole*** can reasonably be construed to be directed at a law of nature, natural phenomena, or an abstract idea. The claims are plainly directed at a specific tangible system for fabricating a colored powder coating composition from one or more solid input filaments. Such a system is without a doubt patent-eligible subject matter under U.S. patent law, and nothing in the office action supports a conclusion to the contrary.

V. The Amendments Address the Indefiniteness Rejection

The office action rejected claims 1-5 and 7-16 for being indefinite. The amendments made are believed to fully address the rejections or render them moot for those claims that have been cancelled.

The office action asserted that the claims comprised a number of limitations which lay alone in the claims with no structural or functional integration into the remaining system or its components. The amendments that have been made further clarify the structural or functional integration of the various limitations in the system and have not been made with respect to any prior art or any intention to disclaim subject matter.

The office action also asserted indefiniteness objections with regards to antecedent basis in the claims. It is believed that the amendments fully address, or render moot, all antecedent basis indefiniteness assertions raised in the office action.

VI. The Obviousness Rejections Should Be Withdrawn

The obviousness rejections for claims 13-16 are moot as these claims have been cancelled without prejudice.

Pending claims 1-3, 7-10 and 12 were rejected as being unpatentable over Suzuki et al (US 6,984,420) in view of Zinniel et al (US2010/0327479).

The office action also rejected pending claim 4 as being unpatentable over Suzuki and Zinniel in further view of Ring et al (US 5,856,378) and/or Williams et al (US2004/0028808).

The office action alternatively rejected pending claims 9-12 as being unpatentable over Suzuki and Zinniel in further view of Gibson et al (US 7,466,415) and/or Alspach et al (US2014/0350867).

The applicant respectfully traverses these obviousness rejections in the office action for the remaining pending claims as amended. Claim 1 is the only pending independent claim, and the remaining pending claims all depend from claim 1. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)". See MPEP §2143.03. Because claim 1 is non-obvious for all of the reasons detailed below so are the dependent claims 2-4 and 7-12.

A. The References Relied Upon for The Rejection

Below is listed a summary of the prior art references relied upon in the office action to support the obviousness rejection.

U.S. Patent Application Publication 2010/0327479 (Zinniel) – A 3D printing system which combines filaments to produce an extrudate of particular characteristics (e.g. color) for use in printing a 3D model.

U.S. Patent 6,984,420 (Suzuki) – A method of mixing colored powder coatings according to a mathematical formula to achieve a uniform target color without mottling.

U.S. Patent 5,856,378 (Ring) – A powder coating composition that is comprised of composite particles that are agglomerates of individual particle components fused or bonded together.

U.S. Patent Application Publication 2004/0028808 (Williams) – A process for distributing a liquid additive to a granulated or particulate powder composition when it is being manufactured.

U.S. Patent 7,466,465 (Gibson) – A method of scanning a target object, calculating a color of the target, and determining a recipe to produce coating composition with target color.

U.S. Patent Application Publication 2014/0350867 (Alspach) – A system for producing a target composition with particular target properties using liquid measuring devices for wet color measuring and a computer program to display specimen image.

It is also argued in the obviousness rejection that applicant's claimed system is not limited by an intended material or article worked upon thereby, or by an intended manner of operating the claimed apparatus, and therefore must instead distinguish over prior art in terms of structure rather than function. See Office Action ¶ 18. However, the office action concedes that applicant's claimed system is novel: There is no prior art of record showing a system with the same structure or function as applicant's claimed invention. Applicant is the very first to conceive of the system claimed both structurally and functionally, and as explained below applicant's claimed system both structurally and functionally would not have been obvious at the time of invention.

B. <u>There Has Been No Showing of Obviousness</u>

Applicant's novel colored powder coating composition manufacturing system was not obvious at the time invention. Indeed, this was the written opinion of the USPTO acting as International Search Authority when it evaluated the international PCT patent application (PCT/US2020/048564) which claims priority to, and shares claims with, this U.S. patent application. Here it is evident that knowledge gleaned from the applicant's own disclosure has been improperly used to engage in hindsight reconstruction of applicant's invention by relying on references that are non-analogous art which is not permitted to support an obviousness rejection.

Determining obviousness requires that "the differences between the claimed invention and the prior art are such that the claimed invention ***as a whole*** would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." S35 U.S.C. §103(a) emphasis added.

> Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. . . Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

Graham v. John Deere Co. 383 U.S. 1, 18 (1966)

i. Zinniel Is Not Within the Scope Prior Art for Obviousness

The Zinniel reference was incorporated by reference in the present application by the applicant:

> In a preferred contemplated embodiment of the system of the present invention combinations of single-color input filaments **10** are used to create a powder coating with a desired color. However, the system is also contemplated to be able to incorporate and utilize other types of input filaments that can provide features and characteristics to the powder coating **70** other than color. Such other functional input filaments may, by way of example and not limitation, be other types of resins (e.g. thermosetting epoxy or polyester), curing agents (i.e. hardeners) such as dicyandiamide or primid, additives (e.g. benzoin for degassing and preventing pin holes, metallic particles, mica particles, and/or other additive chemicals commonly used in powder coatings to adjust appearance, texture and/or gloss of a powder coating), and/or an extender (i.e. fillers). See e.g. U.S. patent application publication 2010/0327479 published December 30, 2010 (Ziniel et al) the contents of which are hereby incorporated by reference.

See specification ¶ 0060.

However, Zinniel is not prior art to the claimed invention for purposes of determining obviousness. The fact that the inventor in this application became aware of 3D model printer systems like Zinniel and was then inspired to apply such technology to the problem of rapidly manufacturing small batches of colored powder

coating compositions, *which had never been done before*, does NOT mean that a *person having ordinary skill in the art* ("PHOSITA") of manufacturing powder coating compositions would have considered 3D model printing systems when considering the problem addressed by the claimed invention:

> The issue of obviousness is determined entirely with reference to a *hypothetical* "person having ordinary skill in the art." It is only that hypothetical person who is presumed to be aware of all the pertinent prior art. The actual inventor's skill is irrelevant to the inquiry, and this is for a very important reason. The statutory emphasis is on a person of *ordinary* skill. Inventors, as a class, according to the concepts underlying the Constitution and the statutes that have created the patent system, possess something — call it what you will — which sets them apart from the workers of *ordinary* skill, and one should not go about determining obviousness under § 103 by inquiring into what *patentees* (i.e., inventors) would have known or would likely have done, faced with the revelations of references. A person of ordinary skill in the art is also presumed to be one who thinks along the line of conventional wisdom in the art and is not one who undertakes to innovate, whether by patient, and often expensive, systematic research or by extraordinary insights, it makes no difference which. See the last sentence of § 103, supra.

Standard Oil Co. v. American Cyanamid Co. 774 F.2d 448, 454 (Fed. Cir. 1985)

Other than the fact that *inventor* in this application considered and used technology from 3D model printer systems using solid filaments, there is absolutely

no evidence presented in the office action showing that a PHOSITA would at the time of invention have considered references in the entirely unrelated 3D model printing field of endeavor.

It is well established law that only analogous art may be used to support an obviousness rejection. See e.g. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) and *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). The test for analogous art is very specific. Art is non-analogous unless it is: (1) from the same field of endeavor as the claimed invention; or (2) reasonably pertinent to the particular problem faced by the inventor. *In re Bigio*, 381 F.3d at 1325; *In re Wood and Eversole*, 599 F.2d 1032, 1036 (CCPA 1979). Thus, an art citation that is not from the same field of endeavor as a claimed invention must be "reasonably pertinent" to the problem addressed by the inventor. Art is "reasonably pertinent" when it would "logically commend itself" to the attention of a person of ordinary skill in the art when considering his problem. *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007)(citing *In re Clay*, 966 F.2d 656, 658-59 (Fed. Cir. 1992)). *See also* MPEP § 2141.01(a). Conversely, when art is directed to a different purpose then a claimed invention, a person of ordinary skill in the art would have less motivation or occasion to consider it. *See In re Clay*, 966 F.2d at 658-59.

References from the art of 3D Model printing systems, like Zinniel, are not within the scope and content of the prior art as they are non-analogous and may not be used in supporting an obviousness rejection of applicant's claimed invention.

As stated in the specification of this application:

> The present invention is in the field of powder coatings. More specifically the field of fabricating a powder coating composition.

Specification ¶ 0002.

The applicant has not claimed a 3D model printing system which uses solid filaments. Rather the applicant claims a system for manufacturing colored powder coating compositions that uses solid filaments which addresses the problem of rapidly manufacturing small batches of custom color powder coating compositions:

> Powder coating applicators have been unable to create custom colors (or any color) in-house for customers. . . . Currently all powder coating formulations need to come from a manufacturer of powders. . . . This process takes typically about three weeks to accomplish and the process typically comes with minimum purchases of powder from fifty to two-hundred and twenty pounds that can cost hundreds to thousands of dollars. . . .
>
> The present invention combines the technology of additive manufacturing with filament materials (i.e. three-dimensional (3D) printing using filament inputs) with the technologies of color measurement and creation to facilitate the rapid fabrication of small batch custom color powder coating compositions. The application of these technologies in the system and process of the present invention

> puts custom color production and matching in the hands of many facilities without needing the exorbitant expense in time and money required for formulating large batch powder coating colors in the traditional factory way.

Specification ¶ 0003-0007.

While the inventor in this application was inspired to combine the technology of 3D printing to solve the problem of rapidly manufacturing small batches of colored powder coating composition, there is no evidence that at the time of invention a PHOSITA would have done the same.

> Any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning, but ***so long as it takes into account only knowledge which was <u>within the level of ordinary skill</u>*** at the time the claimed invention was made ***and does not include knowledge gleaned only from applicant's disclosure***, such a reconstruction is proper.

In re McLaughlin 443 F.2d 1392, 1395 (CCPA 1971) (emphasis added)

Prior to applicant's invention there were no systems for creating powder coating compositions using solid filaments. None of the prior art of record for manufacturing powder coating compositions describes any system with solid filaments. 3D model printing systems using solid filaments were known and used for more than 25 years before applicant's date of invention. See e.g. U.S. patent 5,121,329 filed October 30, 1989 and issued June 9, 1992 to Crump. During that entire period of time there is no evidence that anybody in the art of manufacturing

powder coating compositions considered the use of solid filaments to rapidly manufacture small batches of colored powder coating composition. This is so despite the fact that the prior art of record confirms that the problem of rapidly manufacturing small batches of powder coating compositions has existed throughout this long time period beginning at least as early as 1994 when the Ring application was filed:

> One disadvantage of powder coating compositions is that it is difficult to produce small batches of any particular shade rapidly.

U.S. Patent 5,856,378 Col. 2:24-26 (application filed June 6, 1994)

The fact that art related to 3D model printer systems using filaments existed but such systems were never mentioned in any prior art for manufacturing powder coating compositions is compelling evidence that the art for 3D model printer systems is non-analogous art which would not have been considered by a PHOSITA at the time of the invention. It is also strong objective evidence of the non-obviousness of applicant's claimed invention.

Zinniel is the only reference asserted in the office action to support the objection of obviousness that even mentions a system using solid filaments. However, at the time of the invention Zinniel was not from the field of endeavor for manufacturing powder coating compositions, but from the completely unrelated field of digital 3D model printer systems:

> The present disclosure relates to direct digital manufacturing systems for building three-dimensional (3D) models.

Zinniel ¶ 0002.

Nor can Zinniel be considered to be reasonably pertinent to the problem addressed by applicant's claimed invention simply because the inventor had the inspiration to apply technology from the unrelated field of endeavor of 3D printing systems to solve a long-standing problem in powder coating manufacturing. Art is "reasonably pertinent" when it would "logically commend itself" to the attention of a **person of ordinary skill in the art** when considering his problem. *In re Icon Health and Fitness, Inc.*, 496 F.3d 1374, 1379-80 (Fed. Cir. 2007). There is no evidence or explanation presented in the office action as to why the Zinniel reference (or any other 3D model printing system) would at the time of invention, ***without any knowledge gleaned from applicant's own disclosure***, have logically commended itself to a PHOSITA when addressing the problem of rapidly manufacturing small batches of colored powder coating compositions.

At the time of invention the Zinniel reference would not have logically commended itself to the attention of a *PHOSITA* when considering the problem of rapidly manufacturing small batches of colored powder coating compositions. It is quite evident that the only reason the examiner in this case relies on the Zinniel reference is *because of the knowledge of this reference that the examiner gleaned from applicant's own disclosure*. More specifically, the office action presents no evidence or explanation showing that, taking into account ***only*** knowledge which was within the level of ordinary skill at the time of the claimed invention, and without the benefit of applicant's disclosure, the Zinniel reference or any other 3D model printing system reference would have logically been considered by a PHOSITA to address the problem of rapidly manufacturing small batches of colored powder coating compositions. As explained above the objective evidence very clearly shows that

despite the long-time existence of art for 3D model printers using filaments, such art was never previously considered by those of ordinary skill in the art of powder coating composition manufacture.

> A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning. See *Graham,* 383 U.S., at 36, 86 S.Ct. 684 (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "`guard against slipping into use of hindsight'" (quoting *Monroe Auto Equip. Co. v. Heckethorn Mfg. & Supply Co.,* 332 F.2d 406, 412 (C.A.6 1964))).

KSR Intern. Co. v. Teleflex Inc., 127 S.Ct. 1727, 1743 (2007)

ii. The Applicant's Claimed System Is Not Obvious

There is no evidence presented from outside of applicant's own disclosure of any knowledge or suggestion in the powder coating composition prior art at the time of invention for the novel system claimed by applicant. Zinniel is the only reference relied upon in the office action to assert obviousness that describes a system using solid filaments, and that reference is knowledge gleaned from applicant's own disclosure. The Zinniel reference does not describe applicant's claimed system or anything to do with the manufacture of powder coating compositions. The record shows that applicant was the first to conceive of applying solid filament 3D printing technology to the problem of rapidly manufacturing small batches of colored powder coating compositions. It was not obvious to do so at the time of invention, and no evidence outside of applicant's own disclosure supports an assertion otherwise.

As the USPTO initially concluded for this claimed system when acting as International Search Authority for the related PCT application with the same claims, the prior art does not disclose or fairly suggest applicant's claimed invention. See the written opinion of the International Search Authority which was made of record in this application with the November 6, 2019 Information Disclosure Statement.

Simply pointing out that the claim elements existed individually prior to the time of invention is irrelevant and does not support the rejection for obviousness:

> That all elements of an invention may have been old (the normal situation), or some old and some new, or all new, is however, simply irrelevant. Virtually all inventions are combinations and virtually all are combinations of old elements.

Environmental Designs v. Union Oil Co., 713 F.2d 693, 698 (Fed. Cir. 1983)

Thus, the fact that 3D model printing technology using solid filaments, and other claim elements, previously existed separate and apart from one another does not mean that applicant's claimed system which combines such elements would have been obvious to a PHOSITA of powder coating manufacturing. It wasn't obvious, there is no evidence presented that it was, and the obviousness rejection asserted is improper and should be withdrawn.

CONCLUSION

The applicant has fully responded above to the rejections and objections asserted in the office action for the pending claims. Entry of the amendments,

remarks, and favorable reconsideration and prompt allowance of all pending claims in the application is respectfully requested.

Date: June 17, 2020 /David Kleiman 42744/

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