

The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PAUL GRADY RUSSELL

Appeal 2006-3333
Application 10/324,601
Technology Center 3700

Decided: March 27, 2007

Before EDWARD C. KIMLIN, BRADLEY R. GARRIS, and
LINDA M. GAUDETTE, *Administrative Patent Judges*.

GARRIS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals the final rejection of claims 1, 9, 10, 13-18, 24-32, and 35-40 under 35 U.S.C. § 134.¹ We have jurisdiction over the appeal pursuant to 35 U.S.C. § 6(b).

We AFFIRM-IN-PART.

¹ On pages 22-23 of the Brief, Appellant discusses the claims objected to and the claims withdrawn by restriction. Appellant has not asked the Board to act with regard to these claims. Nevertheless, the matters concerning these claims, objection and restriction, are petitionable, not appealable matters.

INTRODUCTION

Appellant invented an apparatus and method for writing in air (Specification 2). Appellant's method includes creating a field of airborne luminescent particles and tracing a visible path through said field by using a wand that changes the intensity of at least some of the airborne particles by causing a chemical reaction (Specification 2). The chemical reaction is initiated by using the wand to apply an activator to the luminescent particles such that the particles' luminescence changes (Specification 6: 18-25). The apparatus includes a particle generator for creating an airborne field of luminescent particles, a source of activating agent for causing a chemical reaction to change a luminance of some of the luminescent particles and a handheld wand for emitting the particles and activating agent for causing a chemical reaction while the wand is used to write in the air (Specification 2,

6). Claims 1, 18, 29, 32, and 40 are illustrative:

1. An air writing system, comprising:

(a) a particle seeding subsystem, including:

(i) a reservoir of luminescent particles;

(ii) a sprayer configured to access said luminescent particles in said reservoir to create a buoyant field of said luminescent particles; and

(b) a source of activating agent for changing a luminance of some of said luminescent particles within said buoyant field by causing a chemical reaction;

(c) a handheld wand for writing in said field, including

- (i) an opening in said wand for outputting at least one of said luminescent particles and said activating agent while said wand is being moved in a spatial pattern by a holder thereof; and
- (ii) a user-operable switch for selectively controlling said outputting of said particles.

18. An air writing system, comprising:

- (a) a particle generator configured to create an airborne field of luminescent particles;
- (b) a source of activating agent for changing a luminance of some of said luminescent particles by causing a chemical reaction; and
- (c) a handheld wand for writing in said field, including an opening for outputting a stream of said luminescent particles while said wand is being moved in a spatial manner by an air writer.

29.² An air writing system, comprising:

- (a) means for creating an airborne field of luminescent particles; and
- (b) means for changing a visual intensity of at least some of airborne luminescent particles within said field by pointing a wand at said airborne luminescent particles during an air writing operation.

32. A method for air writing, comprising:

² It appears that 35 U.S.C. § 112, sixth paragraph is invoked by the claim language of claim 29. In any further prosecution of this application, the Examiner and Appellant should address the § 112, sixth paragraph, issue and determine the disclosed structure and equivalents thereof which are encompassed by the means-plus-function claim language.

Appeal 2006-3333
Application 10/324,601

(a) creating an airborne field of luminescent particles by using a particle generator connected to a reservoir containing luminescent particles; and

(b) tracing a visible path through said field by using a wand that changes an intensity of at least some of said airborne luminescent particles by causing a chemical reaction at said at least some airborne luminescent particles.

40. A handheld wand, comprising:

(a) a particle generator configured to create an airborne field of luminescent particles;

(b) a source of activating agent for changing a luminance of some of said luminescent particles by causing a chemical reaction; and

(c) an opening for outputting a stream of said luminescent particles while said wand is being moved in a spatial manner by a user.

The Examiner relies on the following prior art reference as evidence of unpatentability:

Bryan US 6,247,995 B1 Jun. 19, 2001

The rejection as presented by the Examiner is as follows:

1. Claims 1, 9, 10, 13-18, 24-32, and 35-40 are rejected under 35 U.S.C. § 102(b) as being unpatentable over Bryan.

Rather than reiterate the respective positions advocated by the Appellant and by the Examiner concerning these rejections, we refer to the Brief and the Reply Brief, and to the Answer respectively for a complete exposition thereof.

Appellant separately argues claims 1, 18, 29, 32, and 40. Accordingly, we address Appellant's arguments regarding those claims in our opinion below.

OPINION

APPARATUS CLAIMS 1, 18, 29, AND 40

Claims 1, 18, and 29 are directed to “an air writing system” (i.e., an apparatus) including, among other claimed features, a “wand.” Claim 40 is a subcombination of the “system” claims and is directed to the “wand” alone.

Bryan's Figure 1 embodiment is directed to a “toy water gun” (col. 55, ll. 64-65). Bryan's toy water gun shown in Figure 1 has one housing (10) that “contains a mixture having less than all the components necessary for generating bioluminescence,” and a second housing (12) that “contains a mixture having the remaining components [necessary for initiating bioluminescence] or [housing 12 may contain] the remaining components, save [i.e, except for] the bioluminescent activator” (col. 56, ll. 8-12). The contents of housings 10 and 12 may be powdered, wherein water can be added to the housings (10, 12) prior to use (col. 56, ll. 31-33). The user presses trigger 14 to draw the contents of housings 10 and 12 into a mixing chamber 20 where the contents of each of the housings (10, 12) are mixed together (col. 56, ll. 15-28). Depending upon the contents of the housings (10, 12), the mixture in chamber 20 either bioluminesces in chamber 20 (i.e., the activator is included in either housing 10 or 12) or upon expulsion from the toy gun (i.e., the activator is air) (col. 56, ll. 29-31).

Appellant argues that Bryan does not disclose the following features recited in claims 1, 18, 29, and 40: (1) “particle seeding subsystem . . . to

create a buoyant field of . . . luminescent particles” (claim 1), “a particle generator configured to create an airborne field of luminescent particles” (claims 18 and 40) or “means for creating an airborne field” (claim 29), (2) “a source of activating agent for changing the luminance of some of the luminescent particles” by “causing a chemical reaction” (claims 1, 18 and 40) or “means for changing a visual intensity of at least some airborne luminescent particles” (claim 29) and (3) a “wand” for writing in the field of luminescent particles (claims 1, 18 and 29) (Br. 13-18, 20-21).

With regard to feature (1) above, Appellant argues that the Bryan Figure 1 water gun embodiment ejects a liquid stream (Br. 14, 15, 17, and 21). Appellant contends that because the stream is liquid it consists of a continuum of particles and the stream cannot create a buoyant field of particles (Br. 14, 15, 17, 21).

With regard to feature (2) above, Appellant argues that Bryan’s Figure 1 embodiment discloses mixing the two components together in the body of the water gun so that “luminescence begins either upon mixing of the components or as the mixed composition contacts the air upon expulsion from the toy gun” (Br. 14, 16, 18, 21). Based on this disclosure, Appellant contends that Bryan does not disclose or suggest “any means for changing the luminance of particles” within a buoyant or airborne field (Br. 14, 16, 21). Regarding claim 29, Appellant contends that Bryan does not disclose any “means for changing the visual intensity of luminescent particles within an airborne field” (Br. 18).

With regard to feature (3) above, Appellant argues that Bryan’s Figure 1 embodiment outputs a stream of liquid when the trigger of the gun is

Appeal 2006-3333
Application 10/324,601

depressed such that Bryan does not disclose “using the water gun to write” in a buoyant or airborne field of luminescent particles (Br. 15, 16-17, 18).

Regarding Appellant’s arguments concerning feature (1), the Examiner responds that Bryan’s Figure 1 to Figure 3 embodiment discloses a toy water gun that discharges a mixture of powder particles and water into the air, wherein luminescence begins as the mixture contacts the air upon expulsion from the toy gun (Answer 7).

Regarding Appellant’s arguments concerning feature (2), the Examiner further contends that Bryan discloses that his Figure 1 embodiment has two chambers, one of which holds an activator for the luminescent particles (Answer 8).

Regarding Appellant’s arguments concerning feature (3), the Examiner contends that Bryan’s Figure 1 embodiment (i.e., toy water gun) is “a handheld device which is the exact definition of a ‘wand’” (Answer 9).

We agree with the Examiner’s ultimate finding that claims 1, 18, 29, and 40 are anticipated by Bryan.

Appellant’s arguments are directed to the function, rather than the structure, of Bryan’s bioluminescent device. For example, regarding the “particle generator” feature, Appellant argues that Bryan does not disclose “any means *for creating a buoyant field of luminescent particles*” (emphasis added) (Br. 13, 15, 17, 21). Such an argument goes to the purpose or function of the structure, rather than to the structure itself. Similar functional arguments were made regarding the “source of activating agent” (Br. 14, 16, 18, 21) and “wand” (Br. 15, 16-17, 18) in the apparatus claims. However, the absence of disclosure in the prior art relating to function in an

apparatus claim does not defeat a finding of anticipation. *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997).

We agree with the Examiner's finding that the structural features recited in claims 1, 18, 29, and 40 are disclosed by Bryan's Figure 1 water gun embodiment. Moreover, we find that Bryan's water gun structure is inherently capable of performing the claimed functions. *Schreiber*, 128 F.3d at 1478, 44 USPQ2d at 1432.

Regarding Appellant's argument that Bryan does not disclose "any means for creating a buoyant field of luminescent particles" (i.e., feature (1) above) (Br. 13-14, 15, 17, 21), we find that, upon ejection from the water gun, the stream of luminescent particles and water is temporarily buoyant such that Bryan's water gun is capable of creating "a buoyant [or airborne] field of luminescent particles" as required by the claims. The claims do not require the luminescent particles be permanently buoyant and Appellant's Specification does not disclose permanent buoyancy of the luminescent particles.

Regarding Appellant's feature (2), we are unpersuaded by Appellant's argument that Bryan does not disclose "any means for changing the luminance of particles within a buoyant field" (Br. 14, 16, 18, 21) or "a source of activating agent for changing the luminance of some of the luminescent particles within a buoyant field of luminescent particles by causing a chemical reaction" (Reply Br. 4). We find that Bryan discloses the Figure 1 embodiment uses two "housings" 10 and 12 to separate the activator from the luminescent particles so that when mixed the luminance of at least some of the luminescent particles in the water stream is changed, such that "some" of the luminescent particles necessarily undergo a

luminance change (Bryan: col. 56, ll. 8-12). Additionally, Bryan discloses air may be the bioluminescence activator to cause at least some of the luminescent particles to change in luminance upon expulsion of the water/luminescent particle mixture from the toy gun (Bryan: col. 56, ll. 30-31). The ejected water/luminescent particle stream is buoyant as it moves through the air as previously discussed. Therefore, Bryan's Figure 1 embodiment (i.e., the toy water gun) is capable of "changing a luminance of some of said luminescent particles within said buoyant [or airborne] field."

Regarding Appellant's feature (3) (i.e., the "wand" feature), Appellant argues that Bryan's water gun (i.e., wand) outputs a stream of liquid such that "Bryan does not disclose *using* the water gun to write in a buoyant field of luminescent particles" (emphasis added) (Br. 15). By Appellant's own words, he does not dispute the structure of the water gun (i.e., wand), but rather how the water gun (i.e., wand) is being *used* (i.e., its method of use). We find that Bryan's water gun structure is inherently capable of writing in a buoyant field. *Schreiber*, 128 F.3d at 1478, 44 USPQ2d at 1432. For example, if the gun is positioned to shoot directly upward, an uppercase letter "I" or lowercase "l" would be formed.

For the foregoing reasons, we affirm the Examiner's § 102(b) rejection of argued claims 1, 18, 29, and 40 and non-argued claims 9, 10, 13-17, 24-28, 30, and 31 over Bryan.

METHOD CLAIM 32

Appellant argues that Bryan does not disclose a method having the following steps required by claim 32: (1) "creating an airborne field of

luminescent particles” and (2) “tracing a visible path through the airborne field using a wand” (Br. 19-20).

We cannot sustain the Examiner’s finding that claim 32 is anticipated by Bryan.

We understand Appellant to be arguing that the method recited in claim 32 requires a sequential two-step process (Br. 19-20). The first step recites “creating an airborne field of luminescent particles using a particle generator . . .” The second step sequentially follows the first step and includes “tracing a visible path through said field by using a wand that changes an intensity of at least some of said airborne luminescent particles by causing a chemical reaction.”

Bryan’s Figure 1 water gun embodiment does not disclose a two-step process that includes “creating an airborne field of luminescent particles” and “tracing a visible path *through* the field by using a wand” (emphasis added). Rather, Bryan’s Figure 1 embodiment mixes the luminescent particles and activator to create a field of luminescent particles when the water gun is fired, but omits Appellant’s second step of tracing a visible path *through* the field of luminescent particles (Bryan: col. 55, ll. 65-67, col. 56, ll. 1-46).

Based on Appellant’s arguments and Bryan’s disclosure regarding the Figure 1 embodiment, we find that Bryan fails to disclose Appellant’s two-step method recited in claim 32.

We reverse the Examiner’s § 102(b) rejection of independent claim 32 and dependent claims 35-39 over Bryan.

Appeal 2006-3333
Application 10/324,601

DECISION

The Examiner's rejection of claims 1, 9, 10, 13-18, 24-31, and 40 under § 102(b) over Bryan is AFFIRMED.

The Examiner's rejection of claims 32, and 35-39 under § 102(b) over Bryan is REVERSED.

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)(2006).

AFFIRMED-IN-PART

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