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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application No.	10/898,424
Filing Date	July 23, 2004
First Named Inventor	Mark Thomas
Art Unit	2632
Examiner Name	Toan Ngoc Pham
Total Number of Pages in This Submission	16
Attorney Docket Number	6488P003

ENCLOSURES ***(check all that apply)***

- [X] Fee Transmittal Form
  - [ ] Fee Attached
- [X] Amendment / Response
  - [X] After Final
  - [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [ ] Information Disclosure Statement
  - [ ] PTO/SB/08
- [ ] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
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  - [ ] Declaration/POA
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- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
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- [ ] CD, Number of CD(s)
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- [ ] After Allowance Communication to TC
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [X] Other Enclosure(s) *(please identify below):*

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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Jose R. Mata, Reg. No. ~~56,978~~ BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP
Signature	
Date	May 9, 2006

CERTIFICATE OF MAILING/TRANSMISSION

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Typed or printed name	**Gayle Bekish**		
Signature		Date	**May 9, 2006**

FEE TRANSMITTAL for FY 2005

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27.

TOTAL AMOUNT OF PAYMENT ($)

Complete if Known	
Application Number	10/898,424
Filing Date	July 23, 2004
First Named Inventor	Mark Thomas
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Art Unit	2632
Attorney Docket No.	6488P003

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☒ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 02-2666 Deposit Account Name: Blakely, Sokoloff, Taylor & Zafman LLP

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☐ Charge fee(s) indicated below
☒ Charge any additional fee(s) or underpayment of fee(s) under 37 CFR §§ 1.16, 1.17, 1.18 and 1.20.
☐ Charge fee(s) indicated below, except for the filing fee
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FEE CALCULATION

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
2053	130	2053	130	Non-English specification	
1251	120	2251	60	Extension for reply within first month	
1252	450	2252	225	Extension for reply within second month	
1253	1,020	2253	510	Extension for reply within third month	
1254	1,590	2254	795	Extension for reply within fourth month	
1255	2,160	2255	1,080	Extension for reply within fifth month	
1401	500	2401	250	Notice of Appeal	
1402	500	2402	250	Filing a brief in support of an appeal	
1403	1,000	2403	500	Request for oral hearing	
1451	1,510	2451	1,510	Petition to institute a public use proceeding	
1460	130	2460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
1809	790	1809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	

Other fee (specify) _____

SUBTOTAL (2) ($)

SUBMITTED BY Complete (if applicable)

Name (Print/Type)	Jose R. Mata	Registration No. (Attorney/Agent)	56,978	Telephone	(503) 439-8778
Signature				Date	05/09/06

Based on PTO/SB/17 (12-04) as modified by Blakely, Sokoloff, Taylor & Zafman (wlr) 12/15/2004.
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/898,424	Confirmation No. 4216
Applicant	:	Mark Thomas	
Filed	:	July 23, 2004	
TC/A.U.	:	2632	
Examiner	:	Toan Ngoc Pham	
Docket No.	:	06488P003	
Customer No.	:	008791	

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Alexandria, VA 22313-1450

AMENDMENT AND RESPONSE

In response to the Final Office Action mailed March 27, 2006 please enter this amendment and consider the following remarks.

Amendments to the Claims are reflected in the listing of claims that begins on page 2 of this paper.

Remarks begin on page 9 of this paper.

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Gayle Bekish 5-9-06
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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

What is claimed:

1. (Currently Amended) A wheel strobing device comprising:

a tachometer unit [[to]] to couple to a rotational reference frame of a wheel to determine a rotational frequency of the wheel;

a strobing element to couple to the rotational reference frame of the wheel and the tachometer, the strobing element capable of operating in a first mode and a second mode, wherein the frequency of the strobing element is related to the rotational frequency of the wheel and to a number of degrees of symmetry of a wheel feature when operating in the first mode and the frequency of the strobing element is independent of the rotational frequency of the wheel when operating in the second mode;

a set of one or more lighting elements to couple to the rotational reference frame of the wheel and the strobing element, the set to operate under the control of the strobing element; and

a comparator to compare the frequency of the strobing element with a threshold frequency such that if the frequency of the strobing element is higher than the threshold frequency, the wheel strobing device operates in the first mode and if the frequency of the

strobing element is lower than the threshold frequency, the wheel strobing device operates in the second mode.

2. (Canceled).

3. (Canceled).

4. (Currently Amended) The wheel strobing device of claim [[3]] 1 wherein the wheel feature is selected from the group consisting of spokes, hub, center cap, designs, text, and combinations thereof.

5. (Previously Presented) The wheel strobing device of claim 1 further comprising:

one or more additional strobing elements wherein the strobing frequency of each additional element when operating in the first mode is related to the rotational frequency of the wheel and to a number of degrees of symmetry of a corresponding wheel feature.

6. (Previously Presented) The wheel strobing device of claim 1 wherein the set of one or more lighting elements includes lighting elements selected from the group consisting of light-emitting diodes, filament-based light elements, gas-based light elements, lasers, and a combination thereof.

7. (Canceled).

8. (Currently Amended) The wheel strobing device of claim [[7]] 1 wherein the set of one or more lighting elements are positioned on a portion of the wheel selected from the group consisting of a wheel rim, a rim flange, a wheel center cap, a disk, a hat, a spoke, and a combination thereof.

9. (Currently Amended) The wheel strobing device of claim [[7]] 1 wherein the tachometer unit includes a transceiver implemented on the wheel and determining wheel rotation in reference to a modulation scheme.

10. (Previously Presented) The wheel strobing device of claim 9 wherein the transceiver is an infrared transceiver.

11. (Currently Amended) An assembly comprising:

a wheel;

a wheel illumination system having one or more strobing light source assemblies coupled to a rotating reference frame of the wheel, such that a sufficient amount of light from the light source assemblies is directed toward a surface of the wheel so that an amount of light reflected from the surface of the wheel is greater than an amount of light from the light source assemblies directed away from the surface of the wheel, wherein the one or more strobing light source assembles have a first strobing frequency related to or a

multiple of the rotational frequency of the wheel, and a second strobing frequency that is unrelated to the rotational frequency and imperceptible to the human eye and;

a tachometer coupled to the rotating reference frame of the wheel and wheel illumination system to determine the rotational frequency of the wheel and control the strobing frequency of the strobing light source assemblies.

12. (Canceled).

13. (Canceled).

14. (Original) The assembly of claim 11 wherein the one or more light source assemblies are light sources selected from the group consisting of light-emitting diodes, filament-based light elements, gas-based light elements, lasers, and a combination thereof.

15. (Previously Presented) The assembly of claim 14 wherein the one or more light source assemblies are coupled to a portion of the wheel selected from the group consisting of a wheel rim, a rim flange, a wheel center cap, a disk, a hat, a spoke, and a combination thereof.

16. (Canceled).

17. (Previously Presented) The assembly of claim 11 wherein the tachometer unit includes a transceiver to determine wheel rotation in reference to a modulation scheme.

18. (Original) The assembly of claim 17 wherein the transceiver is an infrared transceiver.

19. (Previously Presented) A method comprising:

determining a rotational frequency of a wheel having one or more features and a set of lighting elements attached thereto;

determining a strobing frequency for the set of lighting elements dependent on a product of at least the rotational frequency of the wheel and a radial degree of symmetry of at least one of the features;

comparing the determined strobing frequency to a threshold frequency; and

strobing the lighting elements at the determined strobing frequency if the determined strobing frequency is higher than the threshold frequency, otherwise strobing the lighting elements at a frequency independent of the determined strobing frequency.

20. (Previously Presented) The method of claim 19 wherein the independent frequency for strobing the lighting elements comprises a default frequency.

21. (Previously Presented) The method of claim 19 further comprising:

operating the lighting elements in a direct current mode if strobing the lighting elements at the independent frequency.

22. (Original) The method of claim 19 wherein the one or more wheel features are features selected from the group consisting of spokes, hub, center cap, designs, text, and combinations thereof.

23. (Original) The method of claim 19 wherein the set of lighting elements includes lighting elements selected from the group consisting of light-emitting diodes, filament-based light elements, gas-based light elements, lasers, and a combination thereof.

24. (Original) The method of claim 19 wherein the set of lighting elements are positioned on a portion of the wheel selected from the group consisting of a wheel rim, a rim flange, a wheel center cap, a disk, a hat, a spoke, and a combination thereof.

25. (Previously Presented) The method of claim 19 further comprising:

determining one or more additional strobing frequencies for one or more corresponding additional sets of lighting elements, each additional strobing frequency dependent on a product of at least the rotational frequency of the wheel and a radial degree of symmetry of at least one of the features.

26 - 32 (Canceled)

33. (New) A wheel strobing device comprising:

a tachometer mountable within a rotational frame of reference of a wheel and capable of communicating data corresponding to a rotational frequency of the wheel; and

a strobing element capable of receiving the data and, based at least in part on the data, selectively producing one of a first strobing frequency synchronous with the rotational frequency and a second strobing frequency asynchronous with the rotational frequency, the selection being based, at least in part, on the persistence period of an image perceived by the human eye.

34. (New) The wheel strobing device of claim 33, in which the strobing element selectively produces the second strobing frequency if the first strobing frequency would be less than 60 cycles per second.

35. (New) The wheel strobing device of claim 33, in which the strobing element selectively produces the second strobing frequency if the first strobing frequency would result in flickering perceptible to the human eye.

36. (New) The wheel strobing device of claim 33, in which the first strobing frequency is related to a degree of symmetry of a feature of the wheel.

37. (New) The assembly of claim 11 wherein the second strobing frequency is zero and light source assemblies produce constant light.

Remarks

The Applicant respectfully requests reconsideration of the present U.S. Patent application as amended herein. Claims 1, 4, 8, 9 and 11 have been amended. Claims 2 and 3 have been cancelled. Five new claims (33-37) have been added. Thus, claims 1, 4-6, 8-11, 14, 15, 17-25 and 33-37 remain pending.

Finality of Rejection

The March 27, 2006 office action was made "final" even though it presented new grounds of rejection. The § 103(a) rejections were based on a new primary reference not of record: Khan (US 6,789,928). The Office found that "Applicant's amendment necessitated the new ground(s) of rejection . . . ." OA, p. 5. However, Applicant asserts that the amendments did not change the scope of the claimed subject matter so as to necessitate a new ground of rejection. Applicant therefore requests that the "final" designation be reconsidered and the amendments entered.

MPEP 706.07(a), ¶3 provides that a second office action "should not be made final if it includes a rejection, on prior art not of record, of any claim amended to include limitations which should reasonably have been expected to be claimed." Applicant's amendments should have been reasonably expected in light of the rejections and allowances of the first Office Action of June 15, 2005.

The first Office Action rejected independent claim 1 based on Anderson et. al. (US 5,548,274). In reply, Applicant amended claim 1 to recite "to couple to a rotational

reference frame of a wheel." When discussing claim 7, the first Office Action admitted that Anderson "does not disclose the strobe implemented within the rotational reference frame of the wheel." (June 15, 2005 Office Action, page 3, regarding claim 7). In its reply, Applicant demonstrated that another cited reference, Gloodt et. al., (US 6,612,726), also does not contain the above teaching. While original claim 1 did not recite a limitation regarding a rotational reference frame, claim 7, which depended from claim 1, did recite such a limitation. To distinguish Anderson and Gloodt, Applicant's amendment predictably added limitations regarding a rotational frame of reference to claim 1 and cancelled claim 7. The amendment to claim 1 therefore added "limitations which should reasonably have been expected to be claimed." MPEP 706.07(a) ¶3. The finality designation was therefore improper.

Independent claims 11 and 19 also were amended to claim subject matter similar to that already claimed in other claims (e.g., compare amended claim 11 and cancelled claims 12 and 13; amended claim 19 and cancelled claim 3). Regardless, the application of the new reference to claim 1 is sufficient to prevent a final designation. When a claim has not been amended, the application of a new reference to that claim prevents a final designation "in spite of the fact that other claims may have been amended to require newly cited art." MPEP 706.07(a) ¶1. The same rule logically applies when a new reference is applied against a claim that has been predictably amended.

Accordingly, the "final" designation should be withdrawn. With that withdrawal, the amendments should be entered.

Claim Objections

In response to the objection, claims 8 and 9 are amended to depend from claim 1 instead of from cancelled claim 7. Claim 10 properly depends from claim 9. Therefore, these claims now have proper dependency.

Claim Rejections § 103(a)

Claims 1, 2, 6, 11, 15, and 19-24 were rejected in the March 27, 2006 Final Office Action as being unpatentable over Khan (US 6,789,928 B2) in view of Anderson et al. (US 5,548,274) (hereinafter respectively, "Kahn" and "Anderson").

The Office indicated that claim 3, which depended directly from claim 2 and indirectly from claim 1, presented patentable subject matter. (March 23, 2006 Final Office Action, p. 4, "Allowable Subject Matter"). Claim 1 has been amended to include the limitations of claims 2 and 3. Claims 2 and 3 have been canceled. Claim 1 is therefore allowable as amended. Claims 4, 5, 6, 8, 9, and 10 all depend, directly or indirectly, from claim 1 and are therefore allowable.

Claim 11 has been amended to recite "a second strobing frequency that is unrelated to the rotational frequency and that avoids producing either blinking or flickering perceptible to the human eye." This subject matter is discussed at Paragraph 0030 of Applicant's specification. The portions of Kahn and Anderson cited against claim 11 do not teach this limitation. Indeed, Anderson describes a first mode with a constant frequency where, "The preferred pulse frequency is selected to be about two (2)

pulses per second, being 120 pulses per minute." Anderson 7:67 – 8:2. Such a frequency would produce obvious blinking easily perceptible to the human eye. Thus amended claim 11 is patentable over Kahn in view of Anderson. Claims 14, 15, 17, and 18 depend, either directly or indirectly from claim 11, and are thus also patentable over Kahn in view of Anderson. New claim 37 also depends from claim 11 and is patentable.

Regarding independent claim 19, the Office cites Anderson as disclosing "a wheel strobing element (58) capable of operating in a first and second mode (col. 7, lines 29-62; Figs. 1-3)." (March 23, 2006 Final Office Action, page 2, regarding claims 1, 11, and 19). However, the cited portions of Anderson do not recite "comparing" a "determined strobing frequency to a threshold frequency" to determine whether to use the "determined strobing frequency" or "a frequency independent of the determined strobing frequency" as recited in Applicant's claim 19. At most, the cited portions of Anderson suggest using the first constant frequency mode when the velocity of the vehicle is "substantially zero." (col. 7, lines 54-55). There is no mention of either a comparison or of a threshold frequency. Claim 19 is therefore patentable over the cited references. Claims 20 - 25 depend from claim 19 and are therefore also patentable over the cited references.

New independent claim 33 recites selectively producing a first strobing frequency synchronous with a wheel's rotational frequency or a second asynchronous strobing frequency, where the selection is based "at least in part, on the persistence period of an image perceived by the human eye."

None of the cited passages of Khan or Anderson teaches the above limitations of claim 33. Therefore claim 33 is patentable over the cited references. Claims 34 – 36 depend from claim 33 and are therefore also patentable.

Conclusion

It is respectfully asserted that all claims are now in condition for allowance. Applicants urge the Examiner to allow the claims as amended and invite the Examiner to contact the undersigned by telephone if such contact would further the examination of the present application. Please charge any shortages and credit any overcharges to our Deposit Account number 02-2666.

Respectfully submitted,
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN, LLP

Date: May 9, 2006

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