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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/310,527	05/12/1999	C. KUMAR N. PATEL	

27571
Fahmi, Sellers, Embert & Davitz
84 W. Santa Clara St.
Suite 550
San Jose, CA 95113

CONFIRMATION NO. 8951
POA ACCEPTANCE LETTER



Date Mailed: 07/16/2013

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/28/2013.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

/rmtturner myles/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/310,527	05/12/1999	C. KUMAR N. PATEL	P0742750

Daniel Mitry
212 East 47th St., #24J
New York, NY 10017

CONFIRMATION NO. 8951
POWER OF ATTORNEY NOTICE



Date Mailed: 07/16/2013

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/28/2013.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

/rmtturner myles/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

**REVOCATION OF PREVIOUS POWERS OF ATTORNEY WITH NEW
GENERAL POWER OF ATTORNEY TO PROSECUTE APPLICATIONS AND REEXAMINATION
PROCEEDINGS BEFORE THE UNITED STATES PATENT AND TRADEMARK OFFICE**

I hereby revoke all previous powers of attorney given in the application(s), reexamination proceeding(s) and/or patent(s) listed below and appoint:

Practitioners associated with the Customer Number

27571

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications and reexamination proceedings assigned *only* to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Please change the correspondence address for the application(s), reexamination proceeding(s) and/or patent(s) listed below to the address associated with Customer Number 27571.

Assignee Name and Address:

CRUISE CONTROL TECHNOLOGIES LLC
1201 ORANGE ST SUITE 600
ONE COMMERCE CENTER
WILMINGTON, DELAWARE 19899


A statement under 37 CFR 3.73 is attached.

List of application(s), reexamination proceeding(s) and/or patent(s):

Reexamination Control No. 90/012,841
U.S. Patent No. 6,324,463

SIGNATURE OF ASSIGNEE OF RECORD

The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Signature		Date: June 21, 2013
Name	Daniel Milry	Telephone: 212-605-9907
Title	Member	

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Cruise Control Technologies, LLC

Application No./Patent No.: 6324463 Filed/Issue Date: 05/12/1999

Titled: CRUISE CONTROL INDICATOR

Cruise Control Technologies, LLC, a limited liability company

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

- 1. The assignee of the entire right, title, and interest.
- 2. An assignee of less than the entire right, title, and interest (check applicable box):
 - The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
 - There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

[Empty box for listing other parties]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 3. The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

[Empty box for listing other parties]

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

- 4. The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Inventor To: Empire IP, LLC

The document was recorded in the United States Patent and Trademark Office at Reel 028994, Frame 0249, or for which a copy thereof is attached.

2. From: Empire IP, LLC To: Cruise Control Technologies, LLC

The document was recorded in the United States Patent and Trademark Office at Reel 029488, Frame 0746, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Tarek N. Fahmi/ _____

Signature

Tarek N. Fahmi _____

Printed or Typed Name

6/28/2013 _____

Date

41402 _____

Title or Registration Number

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	16184420
Application Number:	09310527
International Application Number:	
Confirmation Number:	8951
Title of Invention:	CRUISE CONTROL INDICATOR
First Named Inventor/Applicant Name:	C. KUMAR N. PATEL
Correspondence Address:	Daniel Mitry - 212 East 47th St., #24J - New York NY 10017 US 516/319-6017 -
Filer:	Tarek N. Fahmi
Filer Authorized By:	
Attorney Docket Number:	P0742750
Receipt Date:	28-JUN-2013
Filing Date:	12-MAY-1999
Time Stamp:	12:09:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	CCT_POA.pdf	308320	no	1
			5d825f152d738c6f9a88eb2f0cdf3918533a4b30		
Warnings:					
Information:					
2	Assignee showing of ownership per 37 CFR 3.73.	aia0096.pdf	119627	no	3
			c3720943b41fc10895b0f9391ade74ba66f21ee5		
Warnings:					
Information:					
Total Files Size (in bytes):			427947		
<p>This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.</p> <p><u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.</p> <p><u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.</p> <p><u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.</p>					



FTW

Approved for use through 11/30/2011. OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

CHANGE OF CORRESPONDENCE ADDRESS <i>Application</i> Address to: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	Application Number	09/310527
	Filing Date	5-12-1999
	First Named Inventor	C. KUMAR N. PATEL
	Art Unit	3661
	Examiner Name	BEAULIEU, YONEL
	Attorney Docket Number	

Please change the Correspondence Address for the above-identified patent application to:

The address associated with Customer Number:

OR

Firm or Individual Name **DANIEL MITRY**

Address
212 EAST 47TH ST., #24J

City **NEW YORK** State **NY** Zip **10017**

Country **USA**

Telephone **516-319-6017** Email **DMITRY@EMPIREIPLLC.COM**

This form cannot be used to change the data associated with a Customer Number. To change the data associated with an existing Customer Number use "Request for Customer Number Data Change" (PTO/SB/124).

I am the:

Applicant/Inventor

Assignee of record of the entire interest. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

Attorney or agent of record. Registration Number _____

Registered practitioner named in the application transmittal letter in an application without an executed oath or declaration. See 37 CFR 1.33(a)(1). Registration Number _____

Signature

Typed or Printed Name **DANIEL MITRY**

Date **5-29-2013** Telephone **516-319-6017**

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Cruise Control Technologies LLC

Application No./Patent No.: Patent No. 6,324,463 Filed/Issue Date: Filed: 05/12/1999; Issued: 11/27/2001

Titled: Cruise Control Indicator

Cruise Control Technologies LLC, a Limited Liability Company

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

- 1. the assignee of the entire right, title, and interest in;
- 2. an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is _____ %); or
- 3. the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made)

the patent application/patent identified above, by virtue of either:

A. An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy therefore is attached.

OR

B. A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Dr. C. Kumar N. Patel To: Empire IP LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 028994, Frame 0249, or for which a copy thereof is attached.

2. From: Empire IP LLC To: Cruise Control Technologies LLC

The document was recorded in the United States Patent and Trademark Office at
Reel 029488, Frame 0746, or for which a copy thereof is attached.

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
Reel _____, Frame _____, or for which a copy thereof is attached.

Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73(b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

[Signature]
Signature

5-29-2013
Date

Daniel Mitry
Printed or Typed Name

Member
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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Table with 7 columns: APPLICATION NUMBER, FILING or 371(c) DATE, GRP ART UNIT, FIL FEE REC'D, ATTY DOCKET NO, TOT CLAIMS, IND CLAIMS. Row 1: 09/310,527, 05/12/1999, 3661, 862, P0742750, 36, 10

CONFIRMATION NO. 8951

CORRECTED FILING RECEIPT



EDWARD G. POPLAWSKI, ESQ.
SIDLEY, AUSTIN, BROWN & WOOD
555 WEST FIFTH STREET
LOS ANGELES, CA 90013-1010

Date Mailed: 05/13/2013

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections

Inventor(s) C. KUMAR N. PATEL, LOS ANGELES, CA;
Applicant(s) C. KUMAR N. PATEL, LOS ANGELES, CA;

Power of Attorney:
Edward Poplawski--33439
Nisan Steinberg--40345
Denise McKenzie--43790

Domestic Priority data as claimed by applicant
This appln claims benefit of 60/085,183 05/12/1998

Foreign Applications for which priority is claimed (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

If Required, Foreign Filing License Granted: 06/04/1999
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is US 09/310,527

Projected Publication Date: None, application is not eligible for pre-grant publication

Non-Publication Request: No
Early Publication Request: No
** SMALL ENTITY **

Title

CRUISE CONTROL INDICATOR

Preliminary Class

701

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications:

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4158).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Patent No. 5,324,463

NOTICE OF *EX PARTE* REEXAMINATION

Notice is hereby given that a request for *ex parte* reexamination of U.S. Patent No. 5,324,463 was filed on 04/15/13 under 35 U.S.C. § 302 and 37 C.F.R. § 1.510(a).

The reexamination proceeding has been assigned Control No. 90/012,841

This Notice incorporates by reference into the patent file, all papers entered into the reexamination file.

Note: This Notice should be entered into the patent file.

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court _____ for the District of Delaware _____ on the following

Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO.	DATE FILED 1/15/2013	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF Cruise Control Technologies LLC		DEFENDANT Volkswagen Group of America, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	Cruise Control Technologies LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

AO 120 (Rev. 08/10)

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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO.	DATE FILED 1/15/2013	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF Cruise Control Technologies LLC		DEFENDANT Toyota Motor North America, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	Cruise Control Technologies LLC
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 Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO.	DATE FILED 1/15/2013	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF Cruise Control Technologies LLC		DEFENDANT Nissan North America, Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	Cruise Control Technologies LLC
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 Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO.	DATE FILED 1/15/2013	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF Cruise Control Technologies LLC		DEFENDANT Hyundai Motor America
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	Cruise Control Technologies LLC
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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.);

DOCKET NO.	DATE FILED 1/15/2013	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF Cruise Control Technologies LLC		DEFENDANT American Honda Motor Co., Inc.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	Cruise Control Technologies LLC
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DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT AUDI OF AMERICA, LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT BMW OF NORTH AMERICA, LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	BMW OF NORTH AMERICA, LLC
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DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading		
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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT CHRYSLER GROUP LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CHRYSLER GROUP LLC
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In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading		
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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT FORD MOTOR COMPANY
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	FORD MOTOR COMPANY
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DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading
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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT GENERAL MOTORS COMPANY
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	GENERAL MOTORS COMPANY
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Trademarks or Patents. (the patent action involves 35 U.S.C. § 292.):

DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT JAGUAR LAND ROVER NORTH AMERICA LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT MERCEDES-BENZ USA, LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT PORSCHE CARS NORTH AMERICA, INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT PORSCHE CARS NORTH AMERICA, INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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DOCKET NO.	DATE FILED 12/21/2012	U.S. DISTRICT COURT for the District of Delaware
PLAINTIFF CRUISE CONTROL TECHNOLOGIES LLC		DEFENDANT SUBARU OF AMERICA, INC.
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 6,324,463	11/27/2001	CRUISE CONTROL TECHNOLOGIES LLC
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PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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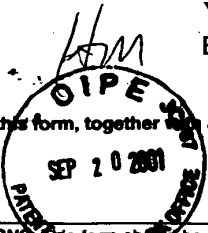
Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Best Available Copy

PART B—ISSUE FEE TRANSMITTAL

Complete and mail this form, together with applicable fees, to:

Box ISSUE FEE
Assistant Commissioner for Patents
Washington, D.C. 20231



AB

#15
10-11-01
CC

MAILING INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE. Blocks 1 through 4 should be completed where appropriate. All further correspondence including the Issue Fee Receipt, the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

Note: The certificate of mailing below can only be used for domestic mailings of the Issue Fee Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing.

Certificate of Mailing

I hereby certify that this Issue Fee Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Box Issue Fee address above on the date indicated below.

Laura A. Brown (Depositor's name)

Laura A. Brown (Signature)

September 10, 2001 (Date)

CURRENT CORRESPONDENCE ADDRESS (Note: Legibly mark-up with any corrections or use Block 1)

PM82/0611

EDWARD G. POPLAWSKI, ESQ.
~~SIDLEY AUSTIN BROWN & WOOD~~
SIDLEY AUSTIN BROWN & WOOD
555 WEST FIFTH STREET
LOS ANGELES, CA 90013-1010

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/310,527	05/12/99	036	BEAULIEU, Y	3661 06/11/01
First Named Applicant	PATEL, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION CRUISE CONTROL INDICATOR

ATTYS DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2	P0742750	701-093.000	H47 UTILITY	NO	\$ 1630.00 620.00	09/11/01

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Use of PTO form(s) and Customer Number are recommended, but not required.
- Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47) attached.

2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

Sidley Austin Brown & Wood

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)
PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. Inclusion of assignee data is only appropriate when an assignment has been previously submitted to the PTO or is being submitted under separate cover. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY & STATE OR COUNTRY)

Please check the appropriate assignee category indicated below (will not be printed on the patent)

- Individual corporation or other private group entity government

4a. The following fees are enclosed (make check payable to Commissioner of Patents and Trademarks):

Issue Fee

Advance Order - # of Copies

4b. The following fees or deficiency in these fees should be charged to:

DEPOSIT ACCOUNT NUMBER 50-1597
(ENCLOSE AN EXTRA COPY OF THIS FORM)

Issue Fee

Advance Order - # of Copies ten (10)

The COMMISSIONER OF PATENTS AND TRADEMARKS IS requested to apply the Issue Fee to the application identified above.

(Authorized Signature) Nissan A. Steinberg

(Date) 9/10/01

NOTE: The Issue Fee will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the Patent and Trademark Office.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending on the needs of the individual case. Any comments on the amount of time required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, D.C. 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND FEES AND THIS FORM TO: Box Issue Fee, Assistant Commissioner for Patents, Washington D.C. 20231

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

09/21/2001 MBIZUNE2 00000084 501597 09310527

02 FF:522

630.00 CH

TRANSMIT THIS FORM WITH FEE

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FIG. 1

1/3

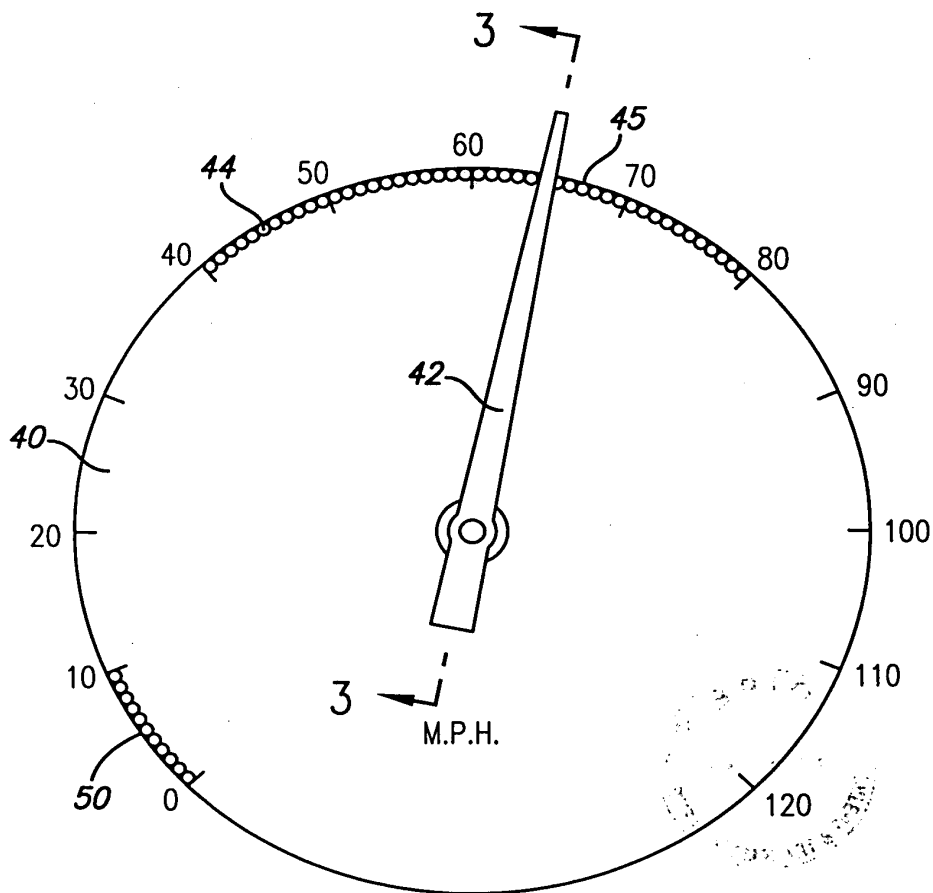
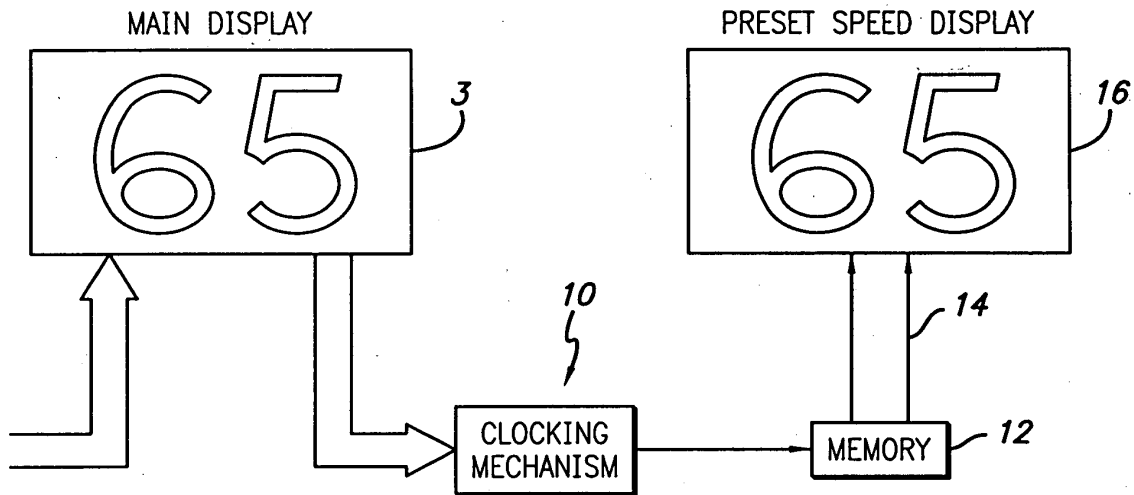


FIG. 2

2/3

FIG. 3

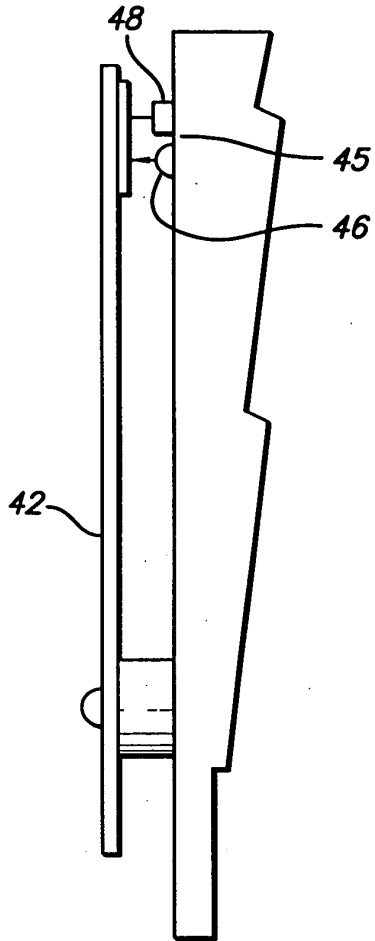


FIG. 5

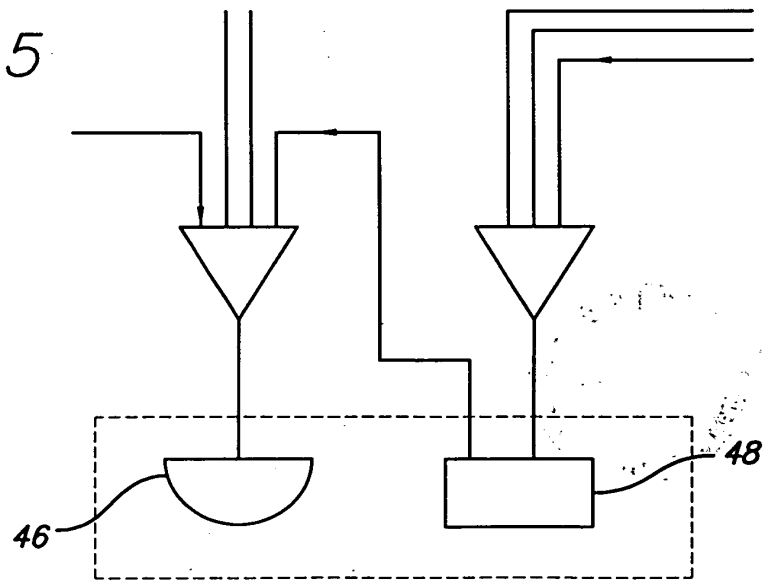
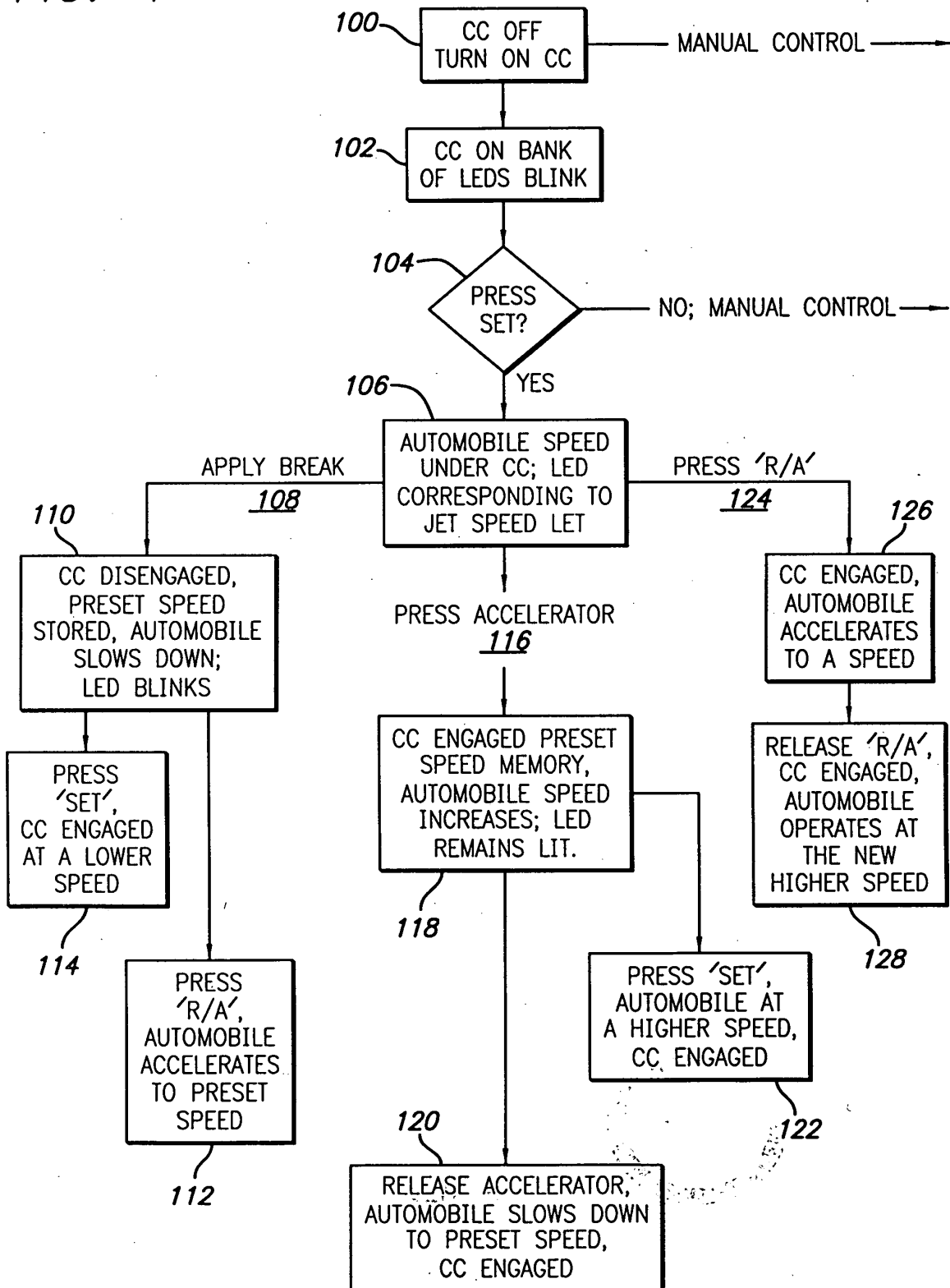


FIG. 4

3/3





UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
 UNITED STATES PATENT AND TRADEMARK OFFICE
 WASHINGTON, D.C. 20231
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 8951

SERIAL NUMBER 09/310,527	FILING DATE 05/12/1999 RULE	CLASS 701	GROUP ART UNIT 3661	ATTORNEY DOCKET NO. P0742750
------------------------------------	---	---------------------	-------------------------------	--

APPLICANTS
 C. KUMAR N. PATEL, LOS ANGELES, CA;
**** CONTINUING DATA *******
 THIS APPLN CLAIMS BENEFIT OF 60/085,183 05/12/1998
**** FOREIGN APPLICATIONS *******
IF REQUIRED, FOREIGN FILING LICENSE GRANTED
**** 06/04/1999**

Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	STATE OR COUNTRY CA	SHEETS DRAWING 4	TOTAL CLAIMS 36	INDEPENDENT CLAIMS 10	
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> Met after Allowance					
Verified and Acknowledged	Examiner's Signature	Initials			

ADDRESS
 EDWARD G. POPLAWSKI, ESQ.
 SIDLEY & AUSTIN, *Brown & Wood*
 555 WEST FIFTH STREET
 LOS ANGELES, ,CA 90013-1010

TITLE
 CRUISE CONTROL INDICATOR

FILING FEE RECEIVED 862	FEEs: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees
		<input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit

#5



20055-81001

14
/LLN
10/09/01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: C. Kumar N. Patel
Serial No. 09/310,527
Filed: May 12, 1999
For: CRUISE CONTROL INDICATOR
Examiner: Beaulieu, Y.

Unit: 3661

TRANSMITTAL OF COPY OF SMALL ENTITY STATEMENT

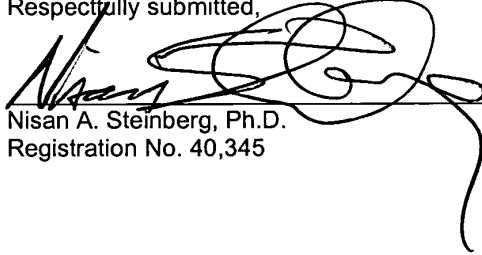
Assistant Commissioner for Patents
Attn: Box Issue Fee
Washington, DC 20231

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, DC 20231, ON <u>SEPTEMBER 10, 2001</u>	
BY <u>Laura A. Brown</u>	DATE
<small>Laura A. Brown</small>	<u>September 10, 2001</u>
	<small>(DATE OF SIGNATURE)</small>

Dear Sir:

Applicant hereby submits a photocopy of the transmittal and small entity statement filed with the United States Patent and Trademark Office on August 4, 1999. Therefore, Applicant has filed concurrently herewith the Issue Fee Transmittal recognizing Applicant's small entity status.

Respectfully submitted,

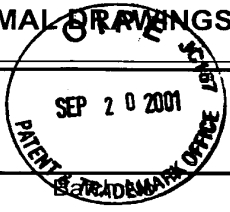

Nisan A. Steinberg, Ph.D.
Registration No. 40,345

Sidley Austin Brown & Wood
555 West Fifth Street
Los Angeles, California 90013-1010
Telephone: (213) 896-6600
Facsimile: (213) 896-6600

#1685

TRANSMITTAL OF FORMAL DRAWINGS	Docket No. P0742750 (20055/81001)
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In Re Application Of: C. Kumar N. Patel



Serial No.	Filing Date	Examiner	Art Unit
09/310,527	May 12, 1999	Beaulieu, Y.	3661

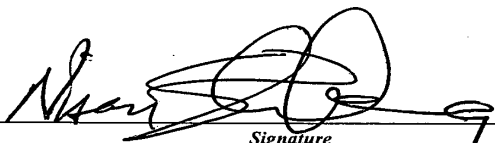
Invention: CRUISE CONTROL INDICATOR

Address to:
Assistant Commissioner for Patents
Washington, D.C. 20231

Transmitted herewith are:

Three (3) sheets of formal drawing(s) for this application.

Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c) on the reverse side of the drawing.



Signature

Nisan A. Steinberg, Ph.D.
Registration No. 40,345
Sidley Austin Brown & Wood
555 West Fifth Street
Los Angeles, California 90013-1010
Telephone: (213) 896-6000
Facsimile: (213) 896-6600

Dated: September 10, 2001

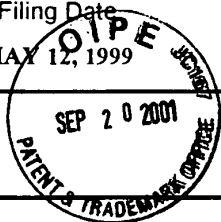
<p>I certify that this document and attached formal drawings are being deposited on <u>09/10/2001</u> with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.</p> <p style="text-align: center;"><i>Laura A. Brown</i></p> <p style="text-align: center;"><i>Signature of Person Mailing Correspondence</i></p>
<p>Laura A. Brown</p> <p><i>Typed or Printed Name of Person Mailing Correspondence</i></p>

6/01

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) AND 1.27 (b)) - INDEPENDENT INVENTOR	Docket No. P07 42750
--	-------------------------

Serial No. 09/310,527	Filing Date MAY 12, 1999	Patent No. -	Issue Date -
--------------------------	-----------------------------	-----------------	-----------------

Applicant/ Patentee: **C. KUMAR N. PATEL**



Invention:
CRUISE CONTROL INDICATOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled above and described in:

- the specification to be filed herewith.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- No such person, concern or organization exists.
- Each such person, concern or organization is listed below.

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR 1.27)

FULL NAME _____
ADDRESS _____
 Individual Small Business Concern Nonprofit Organization

FULL NAME _____
ADDRESS _____
 Individual Small Business Concern Nonprofit Organization

FULL NAME _____
ADDRESS _____
 Individual Small Business Concern Nonprofit Organization

FULL NAME _____
ADDRESS _____
 Individual Small Business Concern Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR C. KUMAR N. PATEL
SIGNATURE OF INVENTOR *C. Patel* DATE: 6/10/99

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
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SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

NAME OF INVENTOR _____
SIGNATURE OF INVENTOR _____ DATE: _____

P07 42750



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE


August 4, 1999

In re application of: C. Kumar N. Patel
Serial No.: 09/310,527
Filed on: May 12, 1999
Title: CRUISE CONTROL INDICATOR

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION
FILING DATE GRANTED

Assistant Commissioner for Patents
Washington, D. C. 20231

Attention: Box Missing Parts

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D. C. 20231. ATTENTION: BOX MISSING PARTS.	
ON	August 4, 1999
DATE	
BY	 Shirley Dow
	August 4, 1999
	(DATE OF SIGNATURE)

Sir:

In response to the *Notice To File Missing Parts of Application Filing Date Granted*

mailed June 6, 1999, Applicant submits the following documents:

- (1) Copy of *Notice to File Missing Parts of Application (Form PTO-1533)*;
- (2) Fully executed Declaration and Power of Attorney of inventor for Utility Patent Application; and
- (3) A check in the amount of \$862.00 to cover the basic filing fee of \$797.00 (37 C.F.R. § 1.16(A); and \$65.00 surcharge (37 C.F.R. § 1.16(e)).

Also enclosed are:

- (4) Verified Statement (Declaration) Claiming Small Entity Status (37 CFR 1.9(f) and 1.27(d))—Sole Inventor

The Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16(e) and 1.17 which may be required, or to credit any overpayment, to Deposit Account No. 16-2460. A duplicate copy of this petition is enclosed.

Respectfully submitted,

PRETTY, SCHROEDER & POPLAWSKI, P.C.



Michael L. Crapenhof
Registration No. 37,115

MLC/shd
Enclosures

444 South Flower Street - 19th Floor
Los Angeles, California 90071-2909
Ofc: 213/622-7700
Fax: 213/489-4210



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

PM82/0611

EDWARD G. POPLAWSKI, ESQ.
SIDLEY & AUSTIN
555 WEST FIFTH STREET
LOS ANGELES, CA 90013-1010

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/310,527	05/12/99	036	BEAULIEU, Y	3661 06/11/0
First Named Applicant	PATEL,		35 USC 154(b) term ext. =	0 Days.

TITLE OF INVENTION CRUISE CONTROL INDICATOR

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2	P0742750	701-093.000	H47 UTILITY	NO	\$1240.00	09/11/0

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number.
Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

Notice of Allowability

Application No. 09/310,527	Applicant(s) PATEL, C. KUMAR N.	
Examiner Yonel Beaulieu	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. This communication is responsive to amendments/arguments filed on 12 April 2001.
- 2. The allowed claim(s) is/are 1-36.
- 3. The drawings filed on _____ are acceptable as formal drawings.
- 4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of the:
 - 1. Certified copies of the priority documents have been received.
 - 2. Certified copies of the priority documents have been received in Application No. _____.
 - 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
- 5. Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE FOR SUBMITTING NEW FORMAL DRAWINGS, OR A SUBSTITUTE OATH OR DECLARATION. This three-month period for complying with the REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL is extendable under 37 CFR 1.136(a).**

- 6. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
- 7. Applicant MUST submit NEW FORMAL DRAWINGS
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
 - 1) hereto or 2) to Paper No. 5.
 - (b) including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
 - (c) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

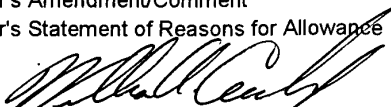
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

- 8. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- 1 Notice of References Cited (PTO-892)
- 3 Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 Information Disclosure Statements (PTO-1449), Paper No. _____.
- 7 Examiner's Comment Regarding Requirement for Deposit of Biological Material
- 2 Notice of Informal Patent Application (PTO-152)
- 4 Interview Summary (PTO-413), Paper No. _____.
- 6 Examiner's Amendment/Comment
- 8 Examiner's Statement of Reasons for Allowance
- 9 Other


WILLIAM A. CUCHLINSKI, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

DETAILED ACTION

Allowable Subject Matter

Claims 1 – 36 are allowable over the prior art of record in view of Applicant's amendments/arguments and the following is a statement of reasons for such an indication.


Specifically, the prior art of record fail to fairly suggest a cruise control system/method for a vehicle comprising, among other limitations, a feedback system detecting position of a speed indicating needle and substantially continuously communicating selected cruising speed information stored in a memory to an operator of the vehicle, wherein the cruising speed information is a symbol indicative of a preset speed; maintaining a display of the symbol and, upon braking of the vehicle, discontinuing maintaining the vehicle speed at substantially the preset speed while keeping data corresponding to the preset speed in the memory; at a time after braking and during which time the vehicle is not being maintained at substantially the preset speed, displaying the symbol; the system comprising a second visual display apparatus comprising a plurality of individual indicators operable between an "on" condition and an "off" condition – the second display operable to display visual information indicative of an operation status of a speed controller, wherein information displayable by the second display includes information indicative of the preset speed.

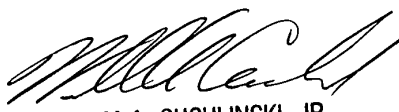
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yonel Beaulieu whose telephone number is (703) 305-4072. The examiner can normally be reached on Monday to Friday (0630-1600), first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William A. CUCHLINSKI can be reached on (703) 308-3873. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7687 for regular communications and same for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1113.


Y. Beaulieu
June 4, 2001


WILLIAM A. CUCHLINSKI, JR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

RECEIVED

PATENT
P07 42750

APR 16 2001

April 6, 2001

TO 3600 MAIL ROOM



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

#11/B
Brown
4/27/01

In re application of: C. Kumar N. Patel
Serial No. 09/310,527
Filed: May 12, 1999
For: CRUISE CONTROL INDICATOR
Examiner: Y. Beaulieu
Unit: 3661

RESPONSE TO NOTICE OF NON-COMPLIANT AMENDMENT

BOX NON-FEE AMENDMENT
Assistant Commissioner for Patents
Washington, DC 20231

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED ON APRIL 6, 2001 WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, DC 20231.
BY Laura A. Brown
Laura A. Brown
April 6, 2001
Date of Signature

Dear Sir/Madam:

This is in response to the Notice of Non-Compliant Amendment mailed March 21, 2000, for the above-captioned patent application. In connection with the above-captioned application, the Examiner is respectfully requested to consider the following amendments and remarks concerning the Office Action mailed September 7, 2000.

AMENDMENT

IN THE SPECIFICATION:

On page 4, line 24 through page 5, line 6, delete the paragraph and insert the following new paragraph. A version with markings to show changes made commences at page 18 of this Response.

--For vehicles having digital speed displays, the speed information is already in digitized form, such as binary coded decimal (BCD). As shown in the schematic of FIG. 1, a main speed display 3 displays in digital format the current speed at which the vehicle is operating. A clocking mechanism 10, such as an array of logic gates, is

B1

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1

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provided to write the digitized information regarding the speed at which the vehicle is traveling when the set button is pressed, that is, when the cruise control is engaged, into a digital memory 12, such as a DRAM. Output lines 14 from the memory 12 activate a second smaller and distinctive digital display 16 indicating the preset speed. In the preferred embodiment, the present speed remains continuously lit on the second display 16 from the moment the cruise control is engaged until it is either overridden or shut off. When the cruise control is disengaged by stepping on the brake, for example, to temporarily slow down the vehicle to accommodate a heavy traffic load or a reduced highway speed, the preset display retains the present speed information and blinks at fixed intervals, say, twice per second. This gives the operator a clear indication of the speed to which the vehicle will return when the command to resume speed is applied --



IN THE CLAIMS:

Claims 2, 6, 7, 12, 22, 24, 26 and 34 are being amended. The following is a clean version of all pending claims, consolidating all previous amendments, if any, which the Examiner is requested to enter. A version with markings to show changes made commences at page 18 of this Response.

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1. (Not Amended) A cruise control system for vehicle having a human operator, comprising:
 - a speed controller that automatically maintains the vehicle speed at a preset speed;
 - an enable switch associated with said controller for enabling the system;
 - a set speed input in communication with said controller for manually setting the speed of the vehicle at said preset speed, thereby engaging the system;
 - a memory which stores information indicative of said preset speed; and

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a feedback system for communicating said information in said memory to the operator of the vehicle.

2. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

- (a) a speed controller for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;
- (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;
- (c) a set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;
- (d) a memory that stores information representative of the selected cruising speed; and
- (e) a feedback system that substantially continuously communicates the selected cruising speed information to the operator of the vehicle until either the operator selects a subsequent cruising speed or the controller is disabled.

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3. (Not Amended) The cruise control system of claim 2, wherein the feedback system includes a digital display.

4. (Not Amended) The cruise control system of claim 3, wherein the digital display displays a predetermined signal when the controller is initially enabled to indicate the state of the controller.

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5. (Not Amended) The cruise control system of claim 3, wherein the digital display displays information indicative of the selected cruising speed of the vehicle.

6. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

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- (a) a speed controller for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;
 - (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;
 - (c) an operator-controlled, set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;
 - (d) an analog speedometer having a speed dial with speed markers and a rotating speed indicating needle on the dial; and
 - (e) a feedback system that detects the position of the speed indicating needle when the cruising speed of the vehicle is selected and that substantially continuously communicates the position of the needle corresponding to that cruising speed until either the operator selects a new cruising speed or the controller is disabled.

7. (Amended) The cruise control system of claim 6, wherein the feedback system further comprises a bank of light emitting diodes arranged along a portion of the speed dial, each diode positioned to correspond to a given speed indication on the dial, and wherein one of the diodes in the bank emits light corresponding to the selected cruising speed.

8. (Not Amended) The cruise control system of claim 7, wherein the feedback system further includes one light emitting diode detector arranged adjacent to each diode in the bank of light emitting diodes, and a light reflective surface on a portion of the side of the speed indicating needle that faces the bank of diodes and that sweeps over the bank of diodes.

9. (Not Amended) The cruise control system of claim 8, wherein said feedback system determines the relative position of the speed indicating needle when the cruising speed is selected by detecting reflections from one of the light emitting diodes off the reflective surface of the needle received by an adjacent light emitting diode detector.

10. (Not Amended) The cruise control system of claim 8 wherein the bank of light emitting diodes is activated when the enable switch is initially enabled.

11. (Not Amended) The cruise control system of claim 9 wherein the feedback system activates one of the light emitting diodes closest to the needle when said enable switch is enabled.

12. (Amended) A method for visually communicating to the human operator of a vehicle having a cruise control system a cruising speed at which the vehicle is set, comprising:

determining the speed at which the vehicle is traveling;

activating the cruise control system at a desired cruising speed;

displaying a symbol indicative of the speed at which the cruise control system is activated;

maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;

removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

13. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed; and

discontinuing display of the symbol indicative of the preset when the cruise control system is deactivated or a new preset speed is selected.

14. (Not Amended) The method of claim 13, further comprising:

displaying a second symbol upon the selection of a new preset speed, said second symbol indicative of the new preset speed.

15. (Not Amended) The method of claim 13, further comprising:

before setting the preset speed, activating the cruise control system; and

after activating the cruise control system, but before setting the preset speed, indicating to the operator the unset status of the preset speed.

16. (Not Amended) The method of claim 15,

wherein indicating the unset status of the preset speed includes displaying a visual symbol to the operator.

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17. (Not Amended) The method of claim 16,
wherein the visual symbol indicating the unset status of the preset speed
comprises a blinking "0".

18. (Not Amended) A method for indicating to a human operator of a
vehicle having a cruise control system a preset speed for which the cruise control
system is set, the method comprising:

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed while
maintaining the vehicle speed at substantially the preset speed;

maintaining the display of the symbol indicative of the preset speed;

braking the vehicle;

upon braking the vehicle, discontinuing maintaining the vehicle speed at
substantially the preset speed while keeping data corresponding to the preset speed in
a memory device; and

at a time after braking and during which time the vehicle is not being maintained
at substantially the preset speed, displaying to the operator a symbol indicative of the
preset speed.

19. (Not Amended) The method of claim 18, wherein the symbol indicative
of the preset speed displayed at the time after braking and during which time the
vehicle is not being maintained at substantially the preset speed, is distinguishable by
the operator from the symbol indicative of the preset speed while the vehicle is being
maintained at substantially the preset speed.

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20. (Not Amended) The method of claim 19, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed is in the form of a blinking numerical indicator.

21. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

engaging the cruise control system;

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed;

discontinuing display of the symbol indicative of the preset speed after the cruise control system is deactivated or a new preset speed is selected; and

after the cruise control system is deactivated, displaying a symbol indicative of an unset state of the preset speed.

22. (Amended) The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a "0".

23. (Not Amended) The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a blinking numerical indicator.

24. (Amended) The method of claim 22, wherein the "0" is a blinking "0".

25. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

accelerating the vehicle to a speed above the preset speed; and

maintaining the display of the symbol indicative of the preset speed while the vehicle is at the speed above the preset speed.

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26. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

a speed controller for automatically maintaining the vehicle at a substantially constant preset speed;

a set speed input in communication with the controller for selecting the preset speed;

a memory device operable to store information representative of the preset speed;

first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and

second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed.

27. (Not Amended) The cruise control system of claim 26, wherein the visual information displayed by the second visual display apparatus includes

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information reflecting whether the speed controller is operating to maintain the vehicle at the cruising speed at the time the display is made.

28. (Not Amended) The cruise control system of claim 26, wherein the second visual display apparatus comprises a digital numerical indicator.

29. (Not Amended) The cruise control system of claim 26, wherein the first visual display apparatus comprises an analog speedometer including a speed indicator operably disposed adjacent an indicator dial; and wherein the second visual display apparatus comprises a plurality of individual visual indicators, wherein each of said individual visual indicators is associated with a particular vehicle speed, and wherein each of said individual visual indicators is operable between an "on" condition and an "off" condition.

30. (Not Amended) The cruise control system of claim 29, wherein the individual visual indicators include a plurality of LEDs.

31. (Not Amended) The cruise control system of claim 29, wherein the individual visual indicators are disposed on the indicator dial of the analog speedometer.

32. (Not Amended) The cruise control system of claim 31, further comprising:
at least one detector operable to detect the position of the speed indicator at a predetermined time; and

a memory device operable to store information indicative of the position of the speed indicator at the predetermined time.

33. (Not Amended) The cruise control system of claim 32, further comprising:

reflective material disposed on the speed indicator and configured to reflect light emitted by at least one of the individual visual indicators onto at least one of the detectors.

34. (Amended) A method for providing an operator of a vehicle equipped with a cruise control device with information reflecting the operating status of the cruise control device, comprising:

providing a cruise control device including:

- (a) a speed controller for automatically maintaining the vehicle at a substantially constant preset speed;
 - (b) a set speed input in communication with the controller for selecting the preset speed;
 - (c) a memory device operable to store information representative of the preset speed;
 - (d) first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and
 - (e) second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed;
- activating the cruise control device; and

operating the second visual display apparatus to indicate the active status of the cruise control device.

35. (Not Amended) The method of claim 34, further comprising:
operating the second visual display apparatus to display visual information indicative of the preset speed.

36. (Not Amended) The method of claim 35, further comprising:
operating the cruise control device to change the preset speed from a first preset speed to a second preset speed;

operating the second visual display apparatus to display visual information indicative of the second preset speed.

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REMARKS

The following remarks reiterate those Applicant presented in Applicant's Response to Office Action mailed March 7, 2001. They are repeated here for the Examiner's convenience.

In the Office Action dated September 7, 2000, the Examiner objected to several informalities in the specification and claims 7, 22 and 24. The Office action also rejected base claims 2, 6, 26, and 34 (and their dependent claims) under 35 U.S.C. §112 for using the allegedly indefinite term "capable of" and claim 12 for using the word "the" without proper antecedent basis. In order to enhance the clarity of the claims objected to and those rejected under 35 U.S.C. § 112, and not for any reasons of patentability related to prior art, Applicant has amended the claims. In particular, Applicant has amended claims 2, 6, 26 and 34 to replace the term "capable of" with "for" and in claim 12, replace the word "the" with the word "a" to provide antecedent basis for the terms "cruising speed" in the preamble and "desired cruising speed" in the second limitation of the claim. Applicant has also amended claims 7, 22 and 24 to correct the minor typographical errors contained therein.

The Rejections and General Response

The Office Action has rejected all of the claims of the patent either under 35 U.S.C. §102(e) as being anticipated by U.S. patent number 5,949,346 to Suzuki et al. ("the Suzuki patent" or "Suzuki et al.") (claims 1-11 and 25-35) or under 35 U.S.C §103(a) as being unpatentable over Suzuki in view of U.S. patent number 4,132,284 to Tomecek. In particular and most significantly, the Action asserts that the Suzuki patent "teaches a vehicle cruise control system ... comprising a speed controller (135) that maintains a vehicle speed at a preset speed" (the first element in all independent systems claims, i.e. claims 1, 2, 6, and 26). Similarly in rejecting the method claims,

the Action asserts that the Suzuki patent teaches a method of indicating a preset cruise control speed (base claims 25 under §102(e), and claims 12, 13, 18 and 21 under §103(a)).

Applicant respectfully traverses these rejections on both general and specific bases. In general, the Suzuki patent and the pending claimed invention address two fundamentally different problems in vehicle control. The Suzuki patent discloses display devices and methods for better recognizing the operating, or actual, speed of a vehicle. The patent focuses primarily on two main issues: (1) improvements and enhancements to vehicle speedometer and tachometer displays/readouts; and (2) the setting of a maximum speed limit alarm and means for indicating when that speed limit is exceeded. The patent does not even discuss cruise control functionality, let alone teach or suggest the application of a feedback system to provide preset cruise control speed information.

Applicant's inventive system and every system and method claim in the pending application, on the contrary, are directed only to the specific problem of providing preset cruise control speed information to the driver of a vehicle. The claims do not address the display information that corresponds to the actual driving speed of the vehicle. The pending claims only address the display of the speed of the vehicle as it was when the cruise control was set as a constant indicator/reminder to the driver of the speed to which the vehicle will resume after the cruise control speed is temporarily overridden (i.e. due to acceleration or deceleration). Thus, it is submitted, the Suzuki patent has no relevance to the claims of the pending application.

Response to Section 102(e) Rejections

Moreover, Suzuki does not, as the Action asserts, describe a "set speed input" that sets the cruise control speed of the vehicle as claimed by every system claim



(elements (c) of base claims 1, 2, 6, and elements (b) of base claims 26, and 34). Nor does it describe setting or activating a preset cruise control speed as claimed in most method claims (e.g. claims 12, 13, 18, 21 and claims dependent therefrom). The Examiner points to the "set speed input 238" shown FIG. 17 as support for this teaching in Suzuki. However, upon examination of the specification relating to FIG. 17, namely col. 22, lines 19-54, it will be noted that this input is merely an external input that enables a driver to enter a maximum speed into a circuit 237 as an alarm limit. Thus, if the driver causes the vehicle to exceed the speed setting that is set by the input 238, an alarm or buzzer goes off to warn the driver (see specifically, col. 22 lines 42-48). This input does not in any way control the speed of the car, let alone act as a cruise control input.

Moreover, the Action improperly characterized the feedback system claimed in independent claims 1, 2, 6, and the display steps of the method claims of the present invention. The actions states that the claimed feedback system is for communicating (displaying) the information (speed information) in the memory of the vehicle." (See, e.g. Office Action, page 4 para. 1, page 5, para. 1 - emphasis added.) In fact, the claims do not state or imply that the information communicated is "speed information." On the contrary, the feedback system of the present invention does not communicate actual speed information. Rather, it communicates a cruise control speed setting, (and only if the cruise control is activated).

With respect to claims 26-35, in addition to the above arguments, the Action stated that the Suzuki patent (col. 33, lines 35-39) teaches the claimed elements of a first visual display and a second visual display for displaying actual and preset speed information (page 6, para. 2). It is true that Suzuki does discuss displaying two types of information, namely, regular speed information ("running speed) and speed limit information ("limiting speed"). This speed limit information is input and displayed so



that the driver can effectively see the road speed limit and refrain from speeding. Col. 33, lines 1-5, lines 54-59. The patent does not teach or suggest a second display that displays the operator-set cruise control speed as claimed in the present invention. The claimed second display is a cruise control speed indicator and has nothing to do with the speed limits. It is a safety feature designed to provide a constant display of the cruise control speed that was set by the driver, so that the driver will always know to what speed the vehicle will automatically resume, when a cruise control override is completed (i.e. when either releasing the accelerator or after pressing the cruise control resume button).

While not exhaustive, it is submitted that these distinctions are more than sufficient to overcome the Examiner's §102 rejection of the claims.

Response to Section 103 Rejections

Finally the Office Action rejected claims 12 –24 and 36 under 35 U.S.C. §103 as being unpatentable over the Suzuki patent in view of U.S. Patent No. 4,132,284 to Tomecek. The Office Action identified all the limitations that it previously claimed were taught by Suzuki except for "removing/discontinuing indication/maintenance of the preset speed after the cruise control is deactivated" which, according to the Examiner is taught by Tomecek. The Examiner then stated that it would have been obvious to modify Suzuki et al.'s system/method to include this feature evidenced by Tomecek "because Suzuki et al. suggests a typical cruise control system for a vehicle and Tomecek desirable teaches such a system . . ."

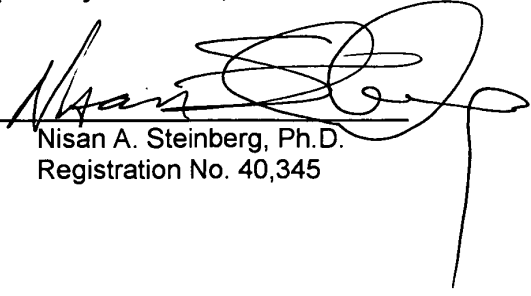
In response, as stated and proven above, the Suzuki patent does not, in fact, teach or even suggest a cruise control system. Thus, even if these two cited referenced were to be combined by one of ordinary skill in the art, the result would not teach the inventive claims that were rejected under §103.



It is thus submitted that no claim amendments are required to distinguish the pending claims from the cited prior art, and that the rejection of all independent claims, and thus the claims depending therefrom, have been traversed. Accordingly, allowance of all claims is respectfully requested.

Respectfully submitted,

By:


Nisan A. Steinberg, Ph.D.
Registration No. 40,345

555 West Fifth Street
Los Angeles, California 90013-1010
Telephone: (213) 896-6601
Facsimile: (213) 896-6600



VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

On page 4, line 24 through page 5, line 6, delete the paragraph and insert the following new paragraph:

--For vehicles having digital speed displays, the speed information is already in digitized form, such as binary coded decimal (BCD). As shown in the schematic of FIG. 1, a main speed display [8] 3 displays in digital format the current speed at which the vehicle is operating. A clocking mechanism 10, such as an array of logic gates, is provided to write the digitized information regarding the speed at which the vehicle is traveling when the set button is pressed, that is, when the cruise control is engaged, into a digital memory 12, such as a DRAM. Output lines 14 from the memory 12 activate a second smaller and distinctive digital display 16 indicating the preset speed. In the preferred embodiment, the present speed remains continuously lit on the second display 16 from the moment the cruise control is engaged until it is either overridden or shut off. When the cruise control is disengaged by stepping on the brake, for example, to temporarily slow down the vehicle to accommodate a heavy traffic load or a reduced highway speed, the preset display retains the present speed information and blinks at fixed intervals, say, twice per second. This gives the operator a clear indication of the speed to which the vehicle will return when the command to resume speed is applied.--

IN THE CLAIMS:

1. (Not Amended) A cruise control system for vehicle having a human operator, comprising:

a speed controller that automatically maintains the vehicle speed at a preset speed;

an enable switch associated with said controller for enabling the system;

a set speed input in communication with said controller for manually setting the speed of the vehicle at said preset speed, thereby engaging the system;
a memory which stores information indicative of said preset speed; and
a feedback system for communicating said information in said memory to the operator of the vehicle.

2. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:
- (a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;
 - (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;
 - (c) a set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;
 - (d) a memory that stores information representative of the selected cruising speed; and
 - (e) a feedback system that substantially continuously communicates the selected cruising speed information to the operator of the vehicle until either the operator selects a subsequent cruising speed or the controller is disabled.

3. (Not Amended) The cruise control system of claim 2, wherein the feedback system includes a digital display.



4. (Not Amended) The cruise control system of claim 3, wherein the digital display displays a predetermined signal when the controller is initially enabled to indicate the state of the controller.

5. (Not Amended) The cruise control system of claim 3, wherein the digital display displays information indicative of the selected cruising speed of the vehicle.

6. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

(a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;

(b) a cruise control enable switch associated with the controller for enabling and disabling the controller;

(c) a operator-controlled, set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;

(d) an analog speedometer having a speed dial with speed markers and a rotating speed indicating needle on the dial; and

(e) a feedback system that detects the position of the speed indicating needle when the cruising speed of the vehicle is selected and that substantially continuously communicates the position of the needle corresponding to that cruising speed until either the operator selects a new cruising speed or the controller is disabled.

7. (Amended) The cruise control system of claim 6, wherein the feedback system further comprises a bank of light emitting diodes arranged along a portion [of the] of the speed dial, each diode positioned to correspond to a given speed indication



on the dial, and wherein one of the diodes in the bank emits light corresponding to the selected cruising speed.

8. (Not Amended) The cruise control system of claim 7, wherein the feedback system further includes one light emitting diode detector arranged adjacent to each diode in the bank of light emitting diodes, and a light reflective surface on a portion of the side of the speed indicating needle that faces the bank of diodes and that sweeps over the bank of diodes.

9. (Not Amended) The cruise control system of claim 8, wherein said feedback system determines the relative position of the speed indicating needle when the cruising speed is selected by detecting reflections from one of the light emitting diodes off the reflective surface of the needle received by an adjacent light emitting diode detector.

10. (Not Amended) The cruise control system of claim 8 wherein the bank of light emitting diodes is activated when the enable switch is initially enabled.

11. (Not Amended) The cruise control system of claim 9 wherein the feedback system activates one of the light emitting diodes closest to the needle when said enable switch is enabled.

12. (Amended) A method for visually communicating to the human operator of a vehicle having a cruise control system [the] a cruising speed at which the vehicle is set, comprising:

determining the speed at which the vehicle is traveling;



activating the cruise control system at [the] a desired cruising speed;
displaying a symbol indicative of the speed at which the cruise control system is activated;
maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;
removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

13. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;
displaying to the operator a symbol indicative of the preset speed;
maintaining the display of the symbol indicative of the preset speed; and
discontinuing display of the symbol indicative of the preset when the cruise control system is deactivated or a new preset speed is selected.

14. (Not Amended) The method of claim 13, further comprising:
displaying a second symbol upon the selection of a new preset speed, said second symbol indicative of the new preset speed.

15. (Not Amended) The method of claim 13, further comprising:
before setting the preset speed, activating the cruise control system; and
after activating the cruise control system, but before setting the preset speed, indicating to the operator the unset status of the preset speed.



16. (Not Amended) The method of claim 15,
wherein indicating the unset status of the preset speed includes displaying a
visual symbol to the operator.

17. (Not Amended) The method of claim 16,
wherein the visual symbol indicating the unset status of the preset speed
comprises a blinking "0".

18. (Not Amended) A method for indicating to a human operator of a
vehicle having a cruise control system a preset speed for which the cruise control
system is set, the method comprising:

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed while
maintaining the vehicle speed at substantially the preset speed;

maintaining the display of the symbol indicative of the preset speed;

braking the vehicle;

upon braking the vehicle, discontinuing maintaining the vehicle speed at
substantially the preset speed while keeping data corresponding to the preset speed in
a memory device; and

at a time after braking and during which time the vehicle is not being maintained
at substantially the preset speed, displaying to the operator a symbol indicative of the
preset speed.

19. (Not Amended) The method of claim 18, wherein the symbol indicative
of the preset speed displayed at the time after braking and during which time the
vehicle is not being maintained at substantially the preset speed, is distinguishable by



the operator from the symbol indicative of the preset speed while the vehicle is being maintained at substantially the preset speed.

20. (Not Amended) The method of claim 19, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed is in the form of a blinking numerical indicator.

21. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

engaging the cruise control system;

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed;

discontinuing display of the symbol indicative of the preset speed after the cruise control system is deactivated or a new preset speed is selected; and

after the cruise control system is deactivated, displaying a symbol indicative of an unset state of the preset speed.

22.[.] (Amended) The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a "0" [[zero]].

23. (Not Amended) The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a blinking numerical indicator.

24. (Amended) The method of claim 22, wherein the "0" [[zero]] is a blinking "0" [[zero]].

25. (Not Amended) A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

accelerating the vehicle to a speed above the preset speed; and

maintaining the display of the symbol indicative of the preset speed while the vehicle is at the speed above the preset speed.

26. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant preset speed;

a set speed input in communication with the controller for selecting the preset speed;

a memory device operable to store information representative of the preset speed;

first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and

second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed.



27. (Not Amended) The cruise control system of claim 26, wherein the visual information displayed by the second visual display apparatus includes information reflecting whether the speed controller is operating to maintain the vehicle at the cruising speed at the time the display is made.

28. (Not Amended) The cruise control system of claim 26, wherein the second visual display apparatus comprises a digital numerical indicator.

29. (Not Amended) The cruise control system of claim 26, wherein the first visual display apparatus comprises an analog speedometer including a speed indicator operably disposed adjacent an indicator dial; and wherein the second visual display apparatus comprises a plurality of individual visual indicators, wherein each of said individual visual indicators is associated with a particular vehicle speed, and wherein each of said individual visual indicators is operable between an "on" condition and an "off" condition.

30. (Not Amended) The cruise control system of claim 29, wherein the individual visual indicators include a plurality of LEDs.

31. (Not Amended) The cruise control system of claim 29, wherein the individual visual indicators are disposed on the indicator dial of the analog speedometer.

32. (Not Amended) The cruise control system of claim 31, further comprising:



at least one detector operable to detect the position of the speed indicator at a predetermined time; and

a memory device operable to store information indicative of the position of the speed indicator at the predetermined time.

33. (Not Amended) The cruise control system of claim 32, further comprising:

reflective material disposed on the speed indicator and configured to reflect light emitted by at least one of the individual visual indicators onto at least one of the detectors.

34. (Amended) A method for providing an operator of a vehicle equipped with a cruise control device with information reflecting the operating status of the cruise control device, comprising:

providing a cruise control device including:

- (a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant preset speed;
- (b) a set speed input in communication with the controller for selecting the preset speed;
- (c) a memory device operable to store information representative of the preset speed;
- (d) first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and
- (e) second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the



visual information displayable by the second visual display apparatus includes
visual information indicative of the preset speed;
activating the cruise control device; and
operating the second visual display apparatus to indicate the active status of
the cruise control device.

35. (Not Amended) The method of claim 34, further comprising:
operating the second visual display apparatus to display visual information
indicative of the preset speed.

36. (Not Amended) The method of claim 35, further comprising:
operating the cruise control device to change the preset speed from a first
preset speed to a second preset speed;
operating the second visual display apparatus to display visual information
indicative of the second preset speed.



GAN 3.661 #11

AMENDMENT TRANSMITTAL LETTER (Small Entity)	Docket No.
Applicant(s): C. Kumar N. Patel	P07 42750 (Patel)

Serial No. 09/310,527	Filing Date May 12, 1999	Examiner Y. B eaulieu	Group Art Unit 3661
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Invention: **CRUISE CONTROL INDICATOR**

TO THE ASSISTANT COMMISSIONER FOR PATENTS:

Transmitted herewith is an amendment in the above-identified application.

Small Entity status of this application has been established under 37 CFR 1.27 by a verified statement previously submitted.

A verified statement to establish Small Entity status under 37 FR 1.27 is enclosed.

The fee has been calculated and is transmitted as shown below.

CLAIMS AS AMENDED

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST # PREV. PAID FOR	NUMBER EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	36 -	36 =	0 x	\$9.00	\$0.00
INDEP. CLAIMS	10 -	10 =	0 x	\$40.00	\$0.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT					\$0.00

- No additional fee is required for amendment.
- Please charge Deposit Account No. _____ in the amount of _____
A duplicate copy of this sheet is enclosed.
- A check in the amount of _____ to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 50-1597
A duplicate copy of this sheet is enclosed.
 - Any additional filing fees required under 37 C.F.R. 1.16.
 - Any patent application processing fees under 37 CFR 1.17.

Edward G. Poplawski
Signature

Dated: April 06, 2001

Edward G. Poplawski, Esq.,
Registration No. 33,439
Sidley & Austin
555 West Fifth Street, 40th Floor
Los Angeles, California 90013-1010
Telephone: (213) 896-6601
Facsimile: (213) 896-6600

RECEIVED

APR 16 2001

TO 3600 MAIL ROOM

CC:

I certify that this document and fee is being deposited on April 6, 2001 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.	
<i>Laura A. Brown</i> Signature of Person Mailing Correspondence	
Laura A. Brown Typed or Printed Name of Person Mailing Correspondence	



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/310,527	05/12/99	PATEL	C P0742750

EDWARD G. POPLAWSKI, ESQ.
SIDLEY & AUSTIN
555 WEST FIFTH STREET
LOS ANGELES, CA 90013-1010

PMS1/0321

EXAMINER

BEAULIEU, Y

ART UNIT	PAPER NUMBER
3661	10

DATE MAILED: 03/21/01

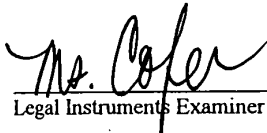
Notice of Non-Compliant Amendment (37 CFR 1.121)

The amendment filed on 3-12-01 is considered non-compliant because it has not been submitted in the format required under 37 CFR 1.121, as amended on September 8, 2000 (see 65 Fed. Reg. 54603, Sept. 8, 2000 and 1238 O.G. 77, Sept. 19, 2000).

- The amendment does not include a clean version of the replacement paragraph/section. 37 CFR 1.121(b)(1)(ii)
- The amendment does not include a marked-up version of the replacement paragraph/section 37 CFR 1.121(b)(1)(iii)
- The amendment does not include a clean version of the amended claim(s). 37 CFR 1.121(c)(1)(i)
- The amendment does not include a marked-up version of the amended claim(s). 37 CFR 1.121(c)(1)(ii)

For your convenience, attached to this correspondence is a copy of an informational flyer (MPEP Bookmark Bulletin on "Simplified Amendment Practice").

Applicant is given a TIME PERIOD of ONE (1) MONTH or THIRTY (30) DAYS from the mailing date of this notice, whichever is longer, within which to submit an amendment in compliance with 37 CFR 1.121, effective March 1, 2001, in order to avoid abandonment. EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 C.F.R. 1.136(a).


Legal Instruments Examiner

#7


UNITED STATES PATENT AND TRADEMARK OFFICE

 COMMISSIONER FOR PATENTS
 UNITED STATES PATENT AND TRADEMARK OFFICE
 WASHINGTON, D.C. 20231
 www.uspto.gov

APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
09/310,527	05/12/1999	C. KUMAR N. PATEL	P0742750

CONFIRMATION NO. 8951
OC00000005882360

OC00000005882360

 EDWARD G. POPLAWSKI, ESQ.
 SIDLEY & AUSTIN
 555 WEST FIFTH STREET
 LOS ANGELES, CA 90013-1010

Date Mailed: 03/20/2001

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the Power of Attorney filed 03/12/2001.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

 Customer Service Center
 Initial Patent Examination Division (703) 308-1202

OFFICE COPY

PATENT
P07 42750

March 7, 2001

9
Chloe
2/28-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: C. Kumar N. Patel
Serial No. 09/310,527
Filed: May 12, 1999
For: CRUISE CONTROL INDICATOR
Examiner: Y. Beaulieu

Unit: 3661



RESPONSE TO OFFICE ACTION

BOX NON-FEE AMENDMENT,
Assistant Commissioner for Patents
Washington, DC 20231

RECEIVED

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED ON MARCH 7, 2001 WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, DC 20231.	
BY	<i>Laura A. Brown</i>
	Laura A. Brown
	March 7, 2001
	Date of Signature

Dear Sir:

MAR 16 2001

TO 3600 MAIL ROOM
AMENDMENT

This is in response to the Office Action mailed September 7, 2000, for the above-captioned patent application. This response is submitted on or before March 7, 2001, with a request for a three (3)-month extension of time, under 37 C.F.R. § 1.136(a), and the requisite fee under 37 C.F.R. § 1.17(a). In connection with the above-captioned application, the Examiner is respectfully requested to consider the following amendments and remarks concerning the Office Action.

IN THE SPECIFICATION:

On page 4, line 26, delete "8" and insert --3--.

IN THE CLAIMS:

Please amend the claims as follows:

2. (Amended) A cruise control system for a variable speed vehicle

controlled by a human operator, comprising:

- (a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;
- (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;
- (c) a set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;
- (d) a memory that stores information representative of the selected cruising speed; and
- (e) a feedback system that substantially continuously communicates the selected cruising speed information to the operator of the vehicle until either the operator selects a subsequent cruising speed or the controller is disabled.

6. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

- (a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;
- (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;
- (c) a operator-controlled, set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;
- (d) an analog speedometer having a speed dial with speed markers and a rotating speed indicating needle on the dial; and
- (e) a feedback system that detects the position of the speed indicating needle when the cruising speed of the vehicle is selected and that substantially continuously communicates the position of the needle corresponding to that cruising speed until either the operator selects a new cruising speed or the controller is disabled.

7. (Amended) The cruise control system of claim 6, wherein the feedback system further comprises a bank of light emitting diodes arranged along a portion [of the] of the speed dial, each diode positioned to correspond to a given speed indication on the dial, and wherein one of the diodes in the bank emits light corresponding to the selected cruising speed.

12. (Amended) A method for visually communicating to the human operator of a vehicle having a cruise control system [the] a cruising speed at which the vehicle is set, comprising:

determining the speed at which the vehicle is traveling;

activating the cruise control system at [the] a desired cruising speed;

displaying a symbol indicative of the speed at which the cruise control system is activated;

maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;

removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

22 .[.] (Amended) The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a "0" [[zero]].

24. (Amended) The method of claim 22, wherein the "0" [[zero]] is a blinking "0" [[zero]].

26. (Amended) A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant preset speed;

a set speed input in communication with the controller for selecting the present speed;

a memory device operable to store information representative of the preset speed;

first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and

second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the present speed.

34. (Amended) A method for providing an operator of a vehicle equipped with a cruise control device with information reflecting the operating status of the cruise control device, comprising:

providing a cruise control device including:

(a) a speed controller [capable of] for automatically maintaining the vehicle at a substantially constant preset speed;

(b) a set speed input in communication with the controller for selecting the preset speed;

(c) a memory device operable to store information representative of the preset speed;

(d) first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and

(e) second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed;

activating the cruise control device; and

operating the second visual display apparatus to indicate the active status of the cruise control device.

REMARKS

In the Office Action dated September 7, 2000, the Examiner objected to several informalities in the specification and claims 7, 22 and 24. The Office action also rejected base claims 2, 6, 26, and 34 (and their dependent claims) under 35 U.S.C. §112 for using the allegedly indefinite term "capable of" and claim 12 for using the word "the" without proper antecedent basis. In order to enhance the clarity of the claims objected to and those rejected under 35 U.S.C. § 112, and not for any reasons of patentability related to prior art, Applicant has amended the claims. In particular, Applicant has amended claims 2, 6, 26 and 34 to replace the term "capable of" with "for" and in claim 12, replace the word "the" with the word "a" to provide antecedent basis for the terms "cruising speed" in the preamble and "desired cruising speed" in the second limitation of the claim. Applicant has also amended claims 7, 22 and 24 to correct the minor typographical errors contained therein.

The Rejections and General Response

The Office Action has rejected all of the claims of the patent either under 35 U.S.C. §102(e) as being anticipated by U.S. patent number 5,949,346 to Suzuki et al. ("the Suzuki patent" or "Suzuki et al.") (claims 1-11 and 25-35) or under 35 U.S.C §103(a) as being unpatentable over Suzuki in view of U.S. patent number 4,132,284 to Tomecek. In particular and most significantly, the Action asserts that the Suzuki patent "teaches a vehicle cruise control system ... comprising a speed controller (135) that maintains a vehicle speed at a preset speed" (the first element in all independent systems claims, i.e. claims 1, 2, 6, and 26). Similarly in rejecting the method claims,

the Action asserts that the Suzuki patent teaches a method of indicating a preset cruise control speed (base claims 25 under §102(e), and claims 12, 13, 18 and 21 under §103(a)).

Applicant respectfully traverses these rejections on both general and specific bases. In general, the Suzuki patent and the pending claimed invention address two fundamentally different problems in vehicle control. The Suzuki patent discloses display devices and methods for better recognizing the operating, or actual, speed of a vehicle. The patent focuses primarily on two main issues: (1) improvements and enhancements to vehicle speedometer and tachometer displays/readouts; and (2) the setting of a maximum speed limit alarm and means for indicating when that speed limit is exceeded. The patent does not even discuss cruise control functionality, let alone teach or suggest the application of a feedback system to provide preset cruise control speed information.

Applicant's inventive system and every system and method claim in the pending application, on the contrary, are directed only to the specific problem of providing preset cruise control speed information to the driver of a vehicle. The claims do not address the display information that corresponds to the actual driving speed of the vehicle. The pending claims only address the display of the speed of the vehicle as it was when the cruise control was set as a constant indicator/reminder to the driver of the speed to which the vehicle will resume after the cruise control speed is temporarily overridden (i.e. due to acceleration or deceleration). Thus, it is submitted, the Suzuki patent has no relevance to the claims of the pending application.

Response to Section 102(e) Rejections

Moreover, Suzuki does not, as the Action asserts, describe a "set speed input" that sets the cruise control speed of the vehicle as claimed by every system claim

(elements (c) of base claims 1, 2, 6, and elements (b) of base claims 26, and 34). Nor does it describe setting or activating a preset cruise control speed as claimed in most method claims (e.g. claims 12, 13, 18, 21 and claims dependent therefrom). The Examiner points to the "set speed input 238" shown FIG. 17 as support for this teaching in Suzuki. However, upon examination of the specification relating to FIG. 17, namely col. 22, lines 19-54, it will be noted that this input is merely an external input that enables a driver to enter a maximum speed into a circuit 237 as an alarm limit. Thus, if the driver causes the vehicle to exceed the speed setting that is set by the input 238, an alarm or buzzer goes off to warn the driver (see specifically, col. 22 lines 42-48). This input does not in any way control the speed of the car, let alone act as a cruise control input.

Moreover, the Action improperly characterized the feedback system claimed in independent claims 1, 2, 6, and the display steps of the method claims of the present invention. The actions states that the claimed feedback system is for communicating (displaying) the information (speed information) in the memory of the vehicle." (See, e.g. Office Action, page 4 para. 1, page 5, para. 1 - emphasis added.) In fact, the claims do not state or imply that the information communicated is "speed information." On the contrary, the feedback system of the present invention does not communicate actual speed information. Rather, it communicates a cruise control speed setting, (and only if the cruise control is activated).

With respect to claims 26-35, in addition to the above arguments, the Action stated that the Suzuki patent (col. 33, lines 35-39) teaches the claimed elements of a first visual display and a second visual display for displaying actual and preset speed information (page 6, para. 2). It is true that Suzuki does discuss displaying two types of information, namely, regular speed information ("running speed) and speed limit information ("limiting speed"). This speed limit information is input and displayed so

that the driver can effectively see the road speed limit and refrain from speeding. Col. 33, lines 1-5, lines 54-59. The patent does not teach or suggest a second display that displays the operator-set cruise control speed as claimed in the present invention. The claimed second display is a cruise control speed indicator and has nothing to do with the speed limits. It is a safety feature designed to provide a constant display of the cruise control speed that was set by the driver, so that the driver will always know to what speed the vehicle will automatically resume, when a cruise control override is completed (i.e. when either releasing the accelerator or after pressing the cruise control resume button).

While not exhaustive, it is submitted that these distinctions are more than sufficient to overcome the Examiner's §102 rejection of the claims.

Response to Section 103 Rejections

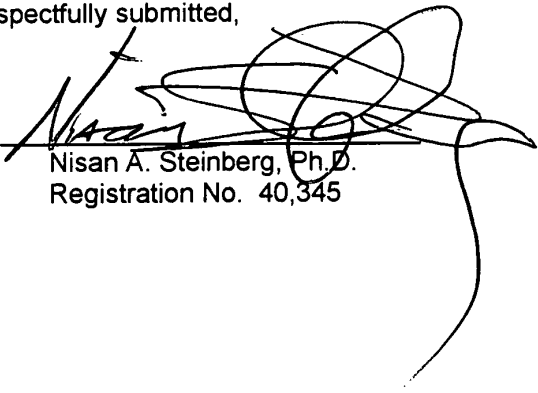
Finally the Office Action rejected claims 12 –24 and 36 under 35 U.S.C. §103 as being unpatentable over the Suzuki patent in view of U.S. Patent No. 4,132,284 to Tomecek. The Office Action identified all the limitations that it previously claimed were taught by Suzuki except for "removing/discontinuing indication/maintenance of the preset speed after the cruise control is deactivated" which, according to the Examiner is taught by Tomecek. The Examiner then stated that it would have been obvious to modify Suzuki et al.'s system/method to include this feature evidenced by Tomecek "because Suzuki et al. suggests a typical cruise control system for a vehicle and Tomecek desirable teaches such a system . . ."

In response, as stated and proven above, the Suzuki patent does not, in fact, teach or even suggest a cruise control system. Thus, even if these two cited referenced were to be combined by one of ordinary skill in the art, the result would not teach the inventive claims that were rejected under §103.

It is thus submitted that no claim amendments are required to distinguish the pending claims from the cited prior art, and that the rejection of all independent claims, and thus the claims depending therefrom, have been traversed. Accordingly, allowance of all claims is respectfully requested.

Respectfully submitted,

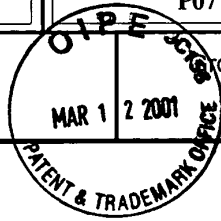
By:


Nisan A. Steinberg, Ph.D.
Registration No. 40,345

555 West Fifth Street
Los Angeles, California 90013-1010
Telephone: (213) 896-6665
Facsimile: (213) 896-6600

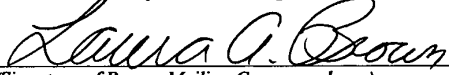
CERTIFICATE OF MAILING BY FIRST CLASS MAIL (37 CFR 1.8)		Docket No.
Applicant(s): C. Kumar N. Patel		P07 42570

Serial No. 09/310,527	Filing Date May 12, 1999	Examiner Y. Beaulieu	Group Art Unit 3661
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Invention: **CRUISE CONTROL INDICATOR**

I hereby certify that this **REVOCATION AND POWER OF ATTORNEY**
(Identify type of correspondence)
 is being deposited with the United States Postal Service as first class mail in an envelope addressed to: The
 Assistant Commissioner for Patents, Washington, D.C. 20231 on March 7, 2001
(Date)

Laura A. Brown
(Typed or Printed Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

Note: Each paper must have its own certificate of mailing.

Rev. & P. 1/10/01
PATENT
P07 42750
by appl.

March 7, 2001

Coper
2-20-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of: C. Kumar N. Patel
Serial No. 09/310,527
Filed: May 12, 1999
For: **CRUISE CONTROL INDICATOR**
Examiner: Y. Beaulieu

Unit: 3661

TO THE ASSISTANT COMMISSIONER FOR PATENTS

BOX NON-FEE AMENDMENT
Assistant Commissioner for Patents
Washington, DC 20231

I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED ON MARCH 7, 2001 WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS WASHINGTON, DC 20231.
BY Laura A. Brown
Laura A. Brown
March 7, 2001
Date of Signature

Dear Sir:

REVOCATION AND POWER OF ATTORNEY

C. Kumar N. Patel, having a residence address of 1171 Roberto Lane, Los Angeles, California 90077, and being the owner of the entire right, title and interest to the above-identified patent, hereby revokes all powers of attorney for the above-identified patent heretofore given, and hereby appoints:

<u>Attorney</u>	<u>Registration No.</u>
Edward G. Poplawski	33,439
Denise L. McKenzie	43,790
Nisan A. Steinberg, Ph.D.	40,345

all of whom are members in good standing of a state bar, and are members of the law firm of Sidley & Austin, 555 West Fifth Street, Los Angeles, California 90013-1010 at (213) 896-6000, its representatives with full power of substitution and revocation, to transact all business in the United States Patent and Trademark Office connected therewith.

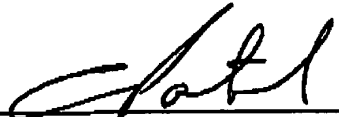
PATENT
P0742750

Effective immediately, please direct all future correspondence related to the above-identified patent to:

Edward G. Poplawski, Esq.
Sidley & Austin
555 West Fifth Street
Los Angeles, California 90013-1010

and refer all telephone communications to Edward G. Poplawski at (213) 896-6601.

Dated: March 7th, 2001



C. Kumar N. Patel

LAI 335786v1

GP 3661 \$

COMBINED AMENDMENT & PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a) (Small Entity)

Docket No. *8*
P07 42750

Req. & t. Time

In Re Application Of: C. Kumar N. Patel



Serial No.
09/310,527

Filing Date
May 12, 1999

Examiner
Y. Beaulieu

Group Art Unit
3661

Color 3/20/00 Yrtd B/mes.

Invention: **CRUISE CONTROL INDICATOR**

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MAR 16 2001

TO 3600 MAIL ROOM

TO THE ASSISTANT COMMISSIONER FOR PATENTS:

This is a combined amendment and petition under the provisions of 37 CFR 1.136(a) to extend the period for filing a response to the Office Action of September 7, 2000 in the above-identified application.
Date

The requested extension is as follows (check time period desired):

- One month
- Two months
- Three months
- Four months
- Five months

from: December 7, 2000 until: March 7, 2001
Date Date

A verified statement of small entity status as a small entity under 37 CFR 1.27:

- is enclosed.
- has already been filed in this application.

The fee for the amendment and extension of time has been calculated as shown below:

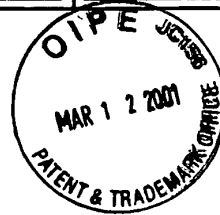
CLAIMS AS AMENDED

	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST # PREV. PAID FOR	NUMBER EXTRA CLAIMS PRESENT	RATE	ADDITIONAL FEE
TOTAL CLAIMS	36 -	36 =	0	x \$9.00	\$0.00
INDEP. CLAIMS	10 -	10 =	0	x \$40.00	\$0.00
FEE FOR AMENDMENT					\$0.00
FEE FOR EXTENSION OF TIME					\$445.00
TOTAL FEE FOR AMENDMENT AND EXTENSION OF TIME					\$445.00

03/14/2001 RRRTISI 00000041 501597 09310527
01 FC:217 445.00 CH

**COMBINED AMENDMENT & PETITION FOR EXTENSION OF
TIME UNDER 37 CFR 1.136(a) (Small Entity)**

Docket No.
P07 42750



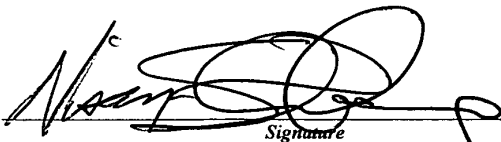
The fee for the amendment and extension of time is to be paid as follows:

- A check in the amount of \$445.00 for the amendment and extension of time is enclosed.
- Please charge Deposit Account No. 50-1597 in the amount of \$445.00
A duplicate copy of this sheet is enclosed.
- The Commissioner is hereby authorized to charge payment of the following fees associated with this communication or credit any overpayment to Deposit Account No. 50-1597
A duplicate copy of this sheet is enclosed.
 - Any additional filing fees required under 37 C.F.R. 1.16.
 - Any patent application processing fees under 37 CFR 1.17.
- If an additional extension of time is required, please consider this a petition therefor and charge any additional fees which may be required to Deposit Account No. A duplicate copy of this sheet is enclosed.

RECEIVED

MAR 16 2001

TO 3600 MAIL ROOM



Signature

Dated: March 7, 2001

Nisan A. Steinberg, Ph.D.
Registration No. 40,345
Sidley & Austin
555 West Fifth Street
Los Angeles, California 90013-1010
Telephone: (213) 896-6601
Facsimile: (213) 896-6600

I certify that this document and fee is being deposited on
March 7, 2001 with the U.S. Postal Service as first
class mail under 37 C.F.R. 1.8 and is addressed to the
Assistant Commissioner for Patents, Washington, D.C.
20231.



Signature of Person Mailing Correspondence

Laura A. Brown

Typed or Printed Name of Person Mailing Correspondence

CC:

P28SMALLREV03

K



**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

Handwritten signature

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/310,527 05/12/99 PATEL C P0742750

┌
 PM82/0907
 PRETTY SCHROEDER & POPLAWSKI PC
 444 SOUTH FLOWER STREET
 19TH FLOOR
 LOS ANGELES CA 90071-2909

EXAMINER

BEAULIEU, Y

ART UNIT	PAPER NUMBER
----------	--------------

3661

5

DATE MAILED:
09/07/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary	Application No. 09/310,527	Applicant(s) PATEL, C. KUMAR N.	
	Examiner Yonel Beaulieu	Art Unit 3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 1) Responsive to communication(s) filed on 12 May 1999 .
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-36 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-36 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 12 May 1999 is/are objected to by the Examiner.
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 a) All b) Some * c) None of the CERTIFIED copies of the priority documents have been:
 1. received.
 2. received in Application No. (Series Code / Serial Number) _____ .
 3. received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

Attachment(s)

- | | |
|--|---|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 20) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

Drawings

The drawings are objected to because "let" in fig. 4, step 106 appears to - -lit- -.
Correction is required.

Specification

The disclosure is objected to because of the following informality: on page 4, line 26, reference character "8" appears to be - -3- - to be consistent with fig. 1. Appropriate correction is required.

Claim Objections

Claims 7, 22, and 24 are objected to because of the following informalities: it is suggested to delete "of the" (line 2, first occurrence, in claim 7) and to delete "[zero]" (line 2 in claim 22 and both occurrences at line 1 of claim 24). Furthermore, in claim 22, it is suggested to delete one of the periods (.) following the claim number "22."
Appropriate correction is required.

Claim Rejections - 35 USC § 112

Claims 2 – 12 and 26 - 36 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is noted in claims 2, 6, 26, and 34 the use of the phrase "capable of" (lines 3 in claims 2, 6, and 26, respectively, and line 5 in claim 34). However, it has been held that the recitation that an element is "capable of" performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

Regarding claim 12, "the cruising speed" (line 2) and "the desired cruising speed" (line 4) lack clear antecedent basis. A 'cruising speed' and a '**desired** cruising speed' have not previously been established.

Claims 3 – 5, 7 – 11, 27 – 33, 35, and 36 are necessarily rejected as being dependent upon the rejection of claims 2, 6, 26, and 34 above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1 – 11 and 25 - 35 rejected under 35 U.S.C. 102(e) as being anticipated by Suzuki et al. (US 5949346).

Regarding claims 1 and 2, Suzuki et al. teaches a cruise (speed) control system (figs. 5, 9, 12, 15, 17, 19 at least) for a vehicle having a human operator (the vehicle and the operator not being explicitly shown) comprising a speed controller (135) that maintains a vehicle speed at a preset speed (col. 8: 55 – 64; col.61: 28 – 30 and col. 62: 39 – 42 at least); an enable/disable switch (external information switch as illustrated in figs. 5 and 9) associated with the controller for enabling the system and a set speed input (238) in communication with the controller (as illustrated in fig. 17) setting the speed at the preset speed for engaging the system (note col.22: 36 – 50 at least); a memory (136) storing information indicative of the preset speed (col. 9: 1, 29 – 31 at least); a feedback system (formed by items 121 – 123 in figs. 5, 17, and 19, respectively) for communicating (displaying) the information (speed information) in the memory to the vehicle operator (col. 9: 2 – 4 at least).

Regarding claims 3 - 5, Suzuki et al.'s feedback system includes a digital display that displays status of the system in terms of the selected vehicle cruising speed (figs. 62a, 62b, 63a, 63b, 64, 65a, 65b, 67, 69a, and 69b; col. 47: 17 – 25; col. 62: 15 – 18 at least).

Regarding claim 6, Suzuki et al. teaches a cruise (speed) control system (figs. 5, 9, 12, 15, 17, 19 at least) for a vehicle having a human operator (the vehicle and the operator not being explicitly shown) comprising a speed controller (135) that maintains a vehicle speed at a preset speed (col. 8: 55 – 64; col.61: 28 – 30 and col. 62: 39 – 42 at

least); an enable/disable switch (external information switch as illustrated in figs. 5 and 9) associated with the controller for enabling the system and a set speed input (238) in communication with the controller (as illustrated in fig. 17) setting the speed at the preset speed for engaging the system (note col.22: 36 – 50 at least); a memory (136) storing information indicative of the preset speed (col. 9: 1, 29 – 31 at least); an analog speedometer having a speed dial with speed markers (best illustrated in figs. 1, 2, 7, 11, and 41 - 43 at least) and a rotating speed indicating needle (161; col. 12: 27 – 53; col. 13: 62 – col. 14: 2); and a feedback system (formed by items 121 – 123 in figs. 5, 17, and 19, respectively) for communicating (displaying) the information (speed information) in the memory to the vehicle operator (col. 9: 2 – 4 at least).

Regarding claims 7 – 11, Suzuki et al.'s feedback system further comprising a bank (120) of LEDs arranged on the dial (see figs. 3, 4, 6, 44, 45, 47 at least) each corresponding to the selected cruising speed indication (col. 8: 20 – 54; col. 9: 35 – 42 at least); a light reflective surface (112 or 152) facing and sweeping over the bank of diodes (col. 8: 2 – 8; col. 10: 5 – 11; col. 24: 26 – 33); determining position of the needle by detecting reflections from the LEDs off the reflective surface (col. 13: 41 – col. 14: 7 at least); and activating the bank of LEDs when the enable switch is initially enabled (col. 25: 66 – col. 26: 28 and col. 30: 65 – col. 13).

Regarding claim 25, Suzuki et al. teaches a method for indicating a preset speed to a human operator of a vehicle (not explicitly shown) comprising setting the preset

speed (by way of item 238; note col.22: 36 – 50 at least); displaying the preset speed (figs. 62a, 62b, 63a, 63b, 64, 65a, 65b, 67, 69a, and 69b at least); accelerating (increasing the speed of) the vehicle to a speed above the preset speed and maintaining the display indicative of the preset speed while the vehicle speed is above the preset speed (col. 16: 62 – col. 17: 8 and col. 33: 35 – 40 at least).

Regarding claims 26, 27, 34, and 35, Suzuki et al. teaches a cruise (speed) control system/method for a variable speed vehicle controlled by a human operator comprising a speed controller (135) that maintains a vehicle speed at a constant preset speed (col. 8: 55 – 64; col.61: 28 – 30 and col. 62: 39 – 42 at least); a set speed input (238) in communication with the controller (as illustrated in fig. 17) setting the speed at the preset speed for selecting the speed (note col.22: 36 – 50 at least); a memory (136) storing information indicative of the preset speed (col. 9: 1, 29 – 31 at least); first and second visual displays (formed by items 121 – 123 in figs. 5, 17, and 19, respectively) for displaying information indicative of actual and preset speeds (col. 33: 35 – 59).

Regarding claim 28, Suzuki et al.'s visual display comprises a digital numerical (figs. 62a, 62b, 63a, 63b, 64, 65a, 65b, 67, 69a, and 69b; col. 47: 17 – 25; col. 62: 15 – 18 at least).

Regarding claims 29 - 33, Suzuki et al.'s visual display comprises an analog speedometer including a speed indicator dial (best illustrated in figs. 1, 2, 7, 11, and 41 -

43 at least) and a plurality of individual indicators having a plurality of LEDs (within unit 120) disposed on the dial, each associated with a vehicle speed and operable between an "on" and "off" position"; a memory (136) that stores speed information; position of the speed indicator; a reflective material (152) that is configured to reflect visual indicator emitted light (overall, note col. 16: 29 – 61).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 – 24, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. ('346) in view of Tomecek (US 4132284).

Regarding claims 12 – 14, Suzuki et al. teaches a method for indicating a preset speed, in a cruise (speed) control system, to a vehicle operator comprising setting (by way of item 238 in fig. 17) the preset speed (note col.22: 36 – 50 at least); activating the system (by way of external information switch as illustrated in figs. 5 and 9); displaying the preset speed (figs. 62a, 62b, 63a, 63b, 64, 65a, 65b, 67, 69a, and 69b); maintaining the control speed upon acceleration (speed increase) and deceleration (speed decrease) of the vehicle (col. 16: 62 – col. 17: 8).

Regarding claims 15 - 17, Suzuki et al. further teaches indicating unset status of the preset speed by displaying a visual symbol being a blinking (flashing) "0" (see fig. 65a; col. 2: 62 – 67).

Regarding claims 18 and 21, Suzuki et al. teaches a method for indicating a preset cruise control speed to an operator of a vehicle comprising setting the vehicle speed (by way of input 238; note col.22: 36 – 50 at least); displaying symbol indicative of the maintained preset speed (see figs. 62a, 62b, 63a, 63b, 64, 65a, 65b, 67, 69a, and 69b; col. 47: 17 – 25; col. 62: 15 – 18 at least); braking the vehicle (col. 29: 26 – 28); keeping (storing) data corresponding to the preset speed in a memory (136) (col. 9: 1, 29 – 31 at least).

Regarding claims 19 and 20, Suzuki et al. further teaches displaying, in the form of a blinking numerical indicator, to the vehicle operator a braking symbol distinguishable from a preset speed symbol (col. 2: 62 – 67; col. 16: 29 – 64; col. 23: 15 – 30; col. 24: 19 – 33; and col. 29: 26 – 29 at least).

Regarding claims 22 – 24, Suzuki et al. teaches indicating unset status of the preset speed by displaying a visual symbol being a blinking (flashing) "0" (see fig. 65a; col. 2: 62 – 67).

As discussed above, Suzuki et al. teaches all of the limitations except for removing/discontinuing indication/maintenance of the preset speed after the cruise control is deactivated (claims 12, 13, 18, and 21) and operating the cruise control device from the first preset speed to a second preset speed (claim 36).

However, Tomecek teaches, in the same field of endeavor of vehicular cruise control speed, removing/discontinuing indication/maintenance of a preset speed after cruise control is deactivated and operating the cruise control device from the first preset speed to a second preset speed (abstract; summary; col. 4: 7 – 68).

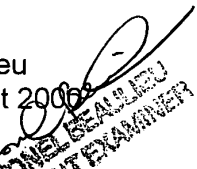
It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Suzuki et al.'s system/method by including removing/discontinuing indication/maintenance of a preset speed after cruise control is deactivated and operating the cruise control device from the first preset speed to a second preset speed as evidenced by Tomecek because Suzuki et al. suggests a typical cruise control system for a vehicle and Tomecek desirably teaches such a system includes removing/discontinuing indication/maintenance of a preset speed after cruise control is deactivated and operating the cruise control device from the first preset speed to a second preset speed in order to improve the fuel economy of the vehicle.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshimoto et al. (US 5376917) teaches a speed control display for a vehicle.

Any inquiry concerning this communication should be directed to Yonel Beaulieu at telephone number (703) 305-4072 on Monday through Thursday from 0800 to 1500 or on alternate Fridays.

Y. Beaulieu
24 August 2006


YONEL BEAULIEU
PATENT EXAMINER

Notice of References Cited

Application/Control No.

09/310,527

Applicant(s)/Patent Under
Reexamination

PATEL, C. KUMAR N.

Examiner

Yonel Beaulieu

Art Unit

3661

Page 1 of 1

U.S. PATENT DOCUMENTS

*		DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS	DOCUMENT SOURCE **	
							APS	OTHER
<input type="checkbox"/>	A	4132284	Jan. 1979	Tomecek	180	179	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	B	5376917	Dec. 1994	Yoshimoto et al.	340	438	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	C	5949346	Sep. 1999	Suzuki et al.	340	815.45	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	D						<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	E						<input type="checkbox"/>	<input type="checkbox"/>
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<input type="checkbox"/>	X		<input type="checkbox"/>	<input type="checkbox"/>

*A copy of this reference is not being furnished with this Office action. (See Manual of Patent Examining Procedure, Section 707.05(a).)

**APS encompasses any electronic search i.e. text, image, and Commercial Databases.

U.S. Patent and Trademark Office

PTO-892 (Rev. 03-98)

NOTICE OF DRAFTPERSON'S PATENT DRAWING REVIEW

The drawing filed (insert date) 5/12/99 are:

- A. not objected to by the Draftperson under 37 CFR 1.84 or 1.152.
- B. objected to by the Draftperson under 37 CFR 1.84 or 1.152 as indicated below. The Examiner will require submission of new, corrected drawings where necessary. Corrected drawings must be submitted according to the instructions on the back of this notice.

<p>1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color. <input type="checkbox"/> Color drawing are not acceptable until petition is granted. Fig(s) _____ <input type="checkbox"/> Pencil and non black ink is not permitted. Fig(s) _____</p> <p>2. PHOTOGRAPHS. 37 CFR 1.84(b) <input type="checkbox"/> Photographs are not acceptable until petition is granted. <input type="checkbox"/> 3 full-tone sets are required. Fig(s) _____ <input type="checkbox"/> Photographs not properly mounted (must be on bristol board or photographic double-weight paper). Fig(s) _____ <input type="checkbox"/> Poor quality (half-tone). Fig(s) _____</p> <p>3. TYPE OF PAPER. 37 CFR 1.84(e) <input type="checkbox"/> Paper not flexible, strong, white and durable. Fig(s) _____ <input type="checkbox"/> Erasures, alterations, overwritings, interlineations, folds, copy machine marks not acceptable. (too thin) <input type="checkbox"/> Mylar, vellum paper is not acceptable (too thin). Fig(s) _____</p> <p>4. SIZE OF PAPER. 37 CFR 1.84(F): Acceptable sizes: <input type="checkbox"/> 21.0 cm by 29.7 cm (DIN size A4) <input type="checkbox"/> 21.6 cm by 27.9 cm (8 1/2 x 11 inches) <input type="checkbox"/> All drawings sheets not the same size. Sheet(s) _____</p> <p>5. MARGINS. 37 CFR 1.84(g): Acceptable margins: <input type="checkbox"/> Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm SIZE: A4 Size <input type="checkbox"/> Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm SIZE: 8 1/2 x 11 <input type="checkbox"/> Margins not acceptable. Fig(s) _____ <input type="checkbox"/> Top (T) _____ Left (L) _____ <input type="checkbox"/> Right (R) _____ Bottom (B) _____</p> <p>6. VIEWS. CFR 1.84(h) REMINDER: Specification may require revision to correspond to drawing changes. <input type="checkbox"/> Views connected by projection lines or lead lines. Fig(s) _____ <input type="checkbox"/> Partial views. 37 CFR 1.84(h)(2) <input type="checkbox"/> Brackets needed to show figure as one entity. Fig(s) _____ <input type="checkbox"/> Views not labeled separately or properly. Fig(s) _____ <input type="checkbox"/> Enlarged view not labeled separately or properly. Fig(s) _____</p>	<p>7. SECTIONAL VIEWS. 37 CFR 1.84(h)(3) <input type="checkbox"/> Hatching not indicated for sectional portions of an object. Fig(s) _____ <input type="checkbox"/> Sectional designation should be noted with Arabic or Roman numbers. Fig(s) _____</p> <p>8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i) <input type="checkbox"/> Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned, so that the top becomes the right side, except for graphs. Fig(s) _____ <input type="checkbox"/> Views not on the same plane on drawing sheet. Fig(s) _____</p> <p>9. SCALE. 37 CFR 1.84(k) <input type="checkbox"/> Scale not large enough to show mechanism with crowding when drawing is reduced in size to two-thirds in reproduction. Fig(s) _____</p> <p>10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(l) <input checked="" type="checkbox"/> Lines, numbers & letters not uniformly thick and well defined, clean, durable and black (poor line quality). Fig(s) <u>1-3</u></p> <p>11. SHADING. 37 CFR 1.84(m) <input type="checkbox"/> Solid black areas pale. Fig(s) _____ <input type="checkbox"/> Solid black shading not permitted. Fig(s) _____ <input type="checkbox"/> Shade lines, pale, rough and blurred. Fig(s) _____</p> <p>12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.48(p) <input checked="" type="checkbox"/> Numbers and reference characters not plain and legible. Fig(s) <u>1-3</u> <input type="checkbox"/> Figure legends are poor. Fig(s) _____ <input type="checkbox"/> Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(3) Fig(s) _____ <input type="checkbox"/> English alphabet not used. 37 CFR 1.84(p)(3) Fig(s) _____ <input type="checkbox"/> Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3) Fig(s) _____</p> <p>13. LEAD LINES. 37 CFR 1.84(q) <input type="checkbox"/> Lead lines cross each other. Fig(s) _____ <input type="checkbox"/> Lead lines missing. Fig(s) _____</p> <p>14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.48(t) <input type="checkbox"/> Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Fig(s) _____</p> <p>15. NUMBERING OF VIEWS. 37 CFR 1.84(u) <input type="checkbox"/> Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s) _____</p> <p>16. CORRECTIONS. 37 CFR 1.84(w) <input type="checkbox"/> Corrections not made from PTO-948 dated _____</p> <p>17. DESIGN DRAWINGS. 37 CFR 1.152 <input type="checkbox"/> Surface shading shown not appropriate. Fig(s) _____ <input type="checkbox"/> Solid black shading not used for color contrast. Fig(s) _____</p>
<p>COMMENTS</p>	

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Today's Date: 8/23/2000

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USPT	l31 and l32	18	<u>L33</u>
USPT	new adj speed	910	<u>L32</u>
USPT	l17 and l30	178	<u>L31</u>
USPT	l28 and l29	178	<u>L30</u>
USPT	resume	38171	<u>L29</u>
USPT	l17 and l21	712	<u>L28</u>
USPT	l23 and l26	2	<u>L27</u>
USPT	l21 same l25	90	<u>L26</u>
USPT	deactivat\$	74753	<u>L25</u>
USPT	l22 and l23	4	<u>L24</u>
USPT	display\$ near speed	2834	<u>L23</u>
USPT	l14 same l21	146	<u>L22</u>
USPT	cruise adj control	1171	<u>L21</u>
USPT	l1 and l19	1	<u>L20</u>
USPT	speed same control\$	244156	<u>L19</u>
USPT	l1 and l17	1	<u>L18</u>
USPT	brak\$	106368	<u>L17</u>
USPT	l1 and l14	0	<u>L16</u>
USPT	l13 and l14	0	<u>L15</u>
USPT	\$activat\$	341647	<u>L14</u>
USPT	l1 and l12	1	<u>L13</u>
USPT	deceleration	31572	<u>L12</u>
USPT	l1 and l10	1	<u>L11</u>
USPT	l4 same l8	17983	<u>L10</u>
USPT	l4 near l8	808	<u>L9</u>
USPT	led	136794	<u>L8</u>
USPT	l5 and l6	0	<u>L7</u>
USPT	diode	193740	<u>L6</u>
USPT	l1 and l4	1	<u>L5</u>
USPT	switch	463082	<u>L4</u>
USPT	l1 and l2	0	<u>L3</u>
USPT	switch and diode	112363	<u>L2</u>
USPT	5949346.pn.	1	<u>L1</u>

WEST **Generate Collection**

L33: Entry 16 of 18

File: USPT

Jan 2, 1979

DOCUMENT-IDENTIFIER: US 4132284 A
TITLE: Electronic cruise control

ABPL:

A system for adjusting and maintaining cruising speed for automobiles employs electronic circuitry connected to the engine ignition system for generating a voltage proportional to engine speed. A manually actuated switch allows the vehicle operator to choose a cruising speed by storing the speed related signal in a memory. A comparator then receives the stored signal and the instantaneous speed signal and generates an error signal to control a bi-directional drive connected to the vehicle accelerator pedal through a tension member. A solenoid actuated clutch in the drive system for the tension member is energized when the operator sets the cruising speed and is deenergized when the vehicle is braked, when the engine speed falls below a predetermined value, or when the engine ignition or the speed control are turned off. Operator controlled switches allow the vehicle speed to be gradually increased or decreased until a desired speed is attained and the signal for that speed stored in the control, and another switch allows the operator to temporarily accelerate or decelerate the vehicle and then resume a previously stored speed.

BSPR:

Another form of cruise control has been marketed which employs a voltage derived from the engine ignition system as an indication of the vehicle speed and uses this to control the accelerator position and maintain that speed. In this system the operator controls the vehicle speed through the accelerator pedal until a desired speed is reached. He then turns a potentiometer to a setting which generates a voltage equal to the speed related voltage generated by the system at that instant. This adjustment process is relatively complex as the operator must sense increases or decreases in vehicle speed to determine when the potentiometer setting equals the speed related voltage. The speed related voltage in this system is developed by a circuit which integrates a series of variable frequency, variable amplitude, constant width pulses. This arrangement depends for its accuracy upon the constant nature of the ignition pulses. If breaker points deteriorate this voltage changes and accordingly the speed control drifts.

BSPR:

The cruise control system of the present invention broadly comprises an electronic circuit connected to the vehicle electric system and equipped with operator input controls, adapted to exercise control over the position of the vehicle accelerator pedal. Broadly, the circuit derives an electrical signal having a voltage proportional to the instantaneous engine speed by a method which is generally independent of the amplitude of the ignition pulses and the operator controls allow any instantaneous value of this signal to be stored without the necessity of any adjustment by the operator. A comparator receives the stored signal representative of the desired engine speed, and the instantaneous engine speed signal and develops an error signal used to control a bi-directional electric motor. The motor turns a drum to draw in or extend a flexible cable having its other end connected to the accelerator pedal. The cable can pull the accelerator down or release it to allow motion toward a lower speed position under the regular spring bias of the pedal. A drive motor is connected to the drum through gearing which may be shifted between an engaged and disengaged condition by an electrically actuated solenoid. This shift mechanism acts as a clutch and alternative forms of clutches may be employed in alternative embodiments of the invention.

BSPR:

The solenoid is energized to engage the gearing when the operator sets a desired speed level into the control memory by actuating a switch when the vehicle is moving at the desired speed. Thereafter the system increases or decreases the accelerator pedal position and in turn the engine throttle setting in response to output signals from the comparator indicating that the vehicle is moving above or below the set speed. The solenoid is deenergized when the operator brakes the vehicle, when the vehicle speed falls below a predetermined level or when either the cruise control or the vehicle ignition are shut off.

BSPR:

The operator may increase or decrease the stored speed value to a desired level without using the accelerator through a switch which causes the circuitry to generate control signals that adjust the accelerator control position until the desired speed is reached. The switch is then released and automatically sets the desired speed into the control memory. Another switch allows the operator to accelerate or decelerate the vehicle for a period and then to resume a preset speed by isolating the memory circuit from the balance of the system while the operator controls the vehicle speed.

BSPR:

With the exception of the accelerator drive mechanism the cruise control system of the present invention is fully electronic. The engine speed control signals are derived in an electronic manner from the engine ignition system pulses; the braking of the vehicle and the attainment of excessive speed are both detected electronically and all of the control signals are derived in a fully electronic manner. The electronic circuitry includes means for comparing an electrical signal representative of the instantaneous vehicle speed with the stored signal representative of the desired speed which utilizes a pair of operational amplifiers each connected in a comparator mode. One of the amplifiers compares the instantaneous speed signal with the stored signal to generate a bivalued signal that is high when the actual speed signal exceeds the stored signal and lower otherwise. The other amplifier has an output that is high when the stored speed signal exceeds the instantaneous speed signal and low otherwise. Each output triggers one of two pairs of transistors, connected as a reversing switch, into conduction and accordingly passes current through the accelerator drive motor in a direction dependent upon the comparison between actual speed and desired speed.

DEPR:

The preferred embodiment of the electronic cruise control is housed within a rectangular box 10 adapted to be supported in some location convenient to the driver of the vehicle such as below the vehicle dashboard 12 and forward of the firewall 14. The unit could alternatively be placed on top of the dashboard or on the steering column of the vehicle. The unit makes electrical connection with the engine and vehicle electric system through a cable of wires 16. The unit applies control to the vehicle through a flexible cable 18 which preferably takes the form of a sheet metal ball chain. One end of the chain is connected to the underside of the vehicle accelerator pedal 20 adjacent to its free end. The chain is preferably arrayed about a rotatable pulley 22 secured to the floorboard of the vehicle below the accelerator pedal. The pedal 20 is hingedly supported to the vehicle floor at its end 24. The free end of the pedal is biased into an upward position, away from the floorboard, by a spring 26. The accelerator arrangement is conventional.

DEPR:

The controls consist of a pair of three positioned slide switches 28 and 30, and a push button switch 32. The three position switch 28 provides an "off" position on the extreme left, an "on" position in the center and "set" position on the right. The switch has a spring return to the center "on" position from the "set" position; that is, when the operator moves the switch from the "on" position to the "set" position it will return to "on" as soon as the operator releases the switch. When the vehicle is running and operating at a speed that the operator desires to specify as a cruising speed, the operator moves the switch from the "off" position through the "on" position to the "set" position. Upon release, the switch springs back to the "on" position. The unit will then operate to adjust the position of the accelerator pedal 20 through the cable 18, to maintain the vehicle speed that existed at the time the switch was released from the set position. The operator may alter this set speed by turning the unit to " off," or touching the brake, or by resetting the unit after another desired speed has been

attained through control of the accelerator pedal. In simple embodiments of the invention a single manual control 28 is all that is required.

DEPR:

The control 30 allows the operator to increase or decrease the speed control setting without requiring operator actuation of the accelerator pedal 20. The switch 30 has an "up-speed" position on the left and a "down-speed" position on the right. The switch is spring returned to its center, inactive position, when released from either the right or the left position. When the switch 28 is in the "on" position and the driver wants to increase the speed setting of the control, or set an initial value in the control which is higher in speed than the existing vehicle speed, the operator moves the switch 30 to the "up-speed" position. The control then slowly pulls the cable 18 causing the accelerator pedal 20 to move downwardly causing the vehicle speed to increase. When the vehicle has attained the speed that the operator desires he releases the switch 30, which springs to the center position, and the existing speed of the vehicle is set into the control and the control then maintains that speed. Similarly, the operator can lower the existing speed setting of the control by moving the switch 30 to the "down-speed" position. The control will then slowly release the cable 18 and allow the accelerator pedal to move upwardly under its bias. When the desired lowered speed has been attained the operator releases the switch 30 which springs to the center position and the new speed is set into the control and maintained there.

DEPR:

The push button 32 allows the operator to cause the control to resume a previously set speed after the control has been disabled by the operator depressing the brake or by the vehicle speed falling below its minimum setting. As will be subsequently described either of these events causes the control to release the cable 18. Afterward, by momentarily depressing the button 32, the operator can cause the control to resume the previously set speed.

DEPR:

Upon closing of the points a suddenly rising and oscillatory decaying voltage is applied to a pulse shaping circuit 58 forming part of the cruise control. The circuit 58 clips the breaker point wave form to block all voltages above 9 volts and integrates the resulting waveform and applies it to a one-shot multi-vibrator 60. Each time the multi-vibrator receives a triggering pulse it outputs a regulated voltage pulse for a predetermined period of time. Accordingly, the output of the multi-vibrator constitutes a chain of regularly shaped pulses having a frequency which is a function of engine speed.

DEPR:

The memory set switch 64 is also ganged with a latch set switch 78. When the operator moves switch 28 to a "set" position a voltage is applied to a latch 80 which causes it to produce a high output that energizes the solenoid 46, engaging the output of the drive motor 40 to the cable reel 34. While the latch 80 remains set the drive motor controls the position of the accelerator pedal although the operator, can speed up the engine by depressing the pedal beyond the setting determined by the cruise control.

DEPR:

The latch 80 is released, terminating power to the solenoid 46, when the operator applies the brakes to energize the brake light 82. Afterward, although signals are applied to the drive motor 40, they do not control the cable 18 until the latch is reset. The latch may also be released by a signal from an underspeed detector 84. The detector receives the output of the converter 62 which generates a signal proportional to engine speed. When this signal falls below a reference value, such as the value at 20 or 25 miles per hour, the detector 84 opens the latch to deenergize the solenoid. This feature prevents the cruise control from being used at speeds which would cause excessive hunting of the motor.

DEPR:

The resume switch 32 shunts the latch set switch 78. This allows a voltage stored in the memory 68 to be used to control the engine speed after the latch has been opened by braking action.

DEPR:

The structure of the electronic circuitry of the cruise control is illustrated in

more detail in the schematic diagram of FIG. 5. The voltage across the breaker points is applied to a Zener diode 100 through a current limiting resistor 102. The Zener shunts a resistor 104 connected in series with resistor 106 between the positive and negative terminals of the battery. The Zener diode 100 has a break-down voltage slightly lower than the peak voltage which occurs across the breaker points.

DEPR:

Secondly, the op amp 154 may be unlatched when brake switch 170 of the vehicle is closed. This switch connects the rear brake lights of the vehicle 172 across the battery. A diode 174 connects the light to the reference input of the op amp 154. When a positive voltage appears on this input the output goes low and stays low after the brake switch 170 is opened. This de-energizes the solenoid 46.

DEPR:

The resume switch 32 shunts the set switch 78 and allows the latch to be reset without changing its speed representative voltage stored in memory.

CLPR:

8. The engine speed control system of claim 6 wherein said engine provides the motor force for a vehicle having a braking system and further including circuitry connected to the braking system and the clutch operative to disengage the clutch at such time as the braking system is energized, whereby the drive system is disconnected from the vehicle speed control at such time as the brake is energized.

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Today's Date: 8/21/2000

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DWPI	12 and 112	0	<u>L16</u>
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DWPI	11 and 112	0	<u>L13</u>
DWPI	feedback same display	910	<u>L12</u>
DWPI	11 and 110	0	<u>L11</u>
DWPI	feedback near display	43	<u>L10</u>
DWPI	11 and 18	0	<u>L9</u>
DWPI	feedback adj display	16	<u>L8</u>
USPT	15 and 16	21	<u>L7</u>
USPT	feedback	137296	<u>L6</u>
USPT	11 and 12	54	<u>L5</u>
USPT	11 and 12 and 13	6	<u>L4</u>
USPT	manual\$ near input	6139	<u>L3</u>
USPT	speed adj controller	3926	<u>L2</u>
USPT	cruise adj control\$	1136	<u>L1</u>

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Search History

Today's Date: 8/21/2000

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USPT	13 and 16	2	<u>L7</u>
USPT	speed adj control\$	36485	<u>L6</u>
USPT	13 and 14	0	<u>L5</u>
USPT	cruise adj control\$	1136	<u>L4</u>
USPT	11 and 12	8	<u>L3</u>
USPT	digital adj speedometer	65	<u>L2</u>
USPT	analog adj speedometer	24	<u>L1</u>



RECEIPT

P07 42750

PATENT

#

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

February 29, 2000

4

Applicant:	C. Kumar N. Patel	Examiner:	---
Serial No.:	09/310,527	Group Art Unit:	3661
Filed:	05/12/99	Docket No.:	P07 42750
Title:	CRUISE CONTROL INDICATOR		

SECOND REQUEST FOR CORRECTION OF FILING RECEIPT

Assistant Commissioner for Patents
 Washington, D.C. 20231
 Attn: Application Processing Division
 Customer Correction Branch

<small>CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D. C. 20231, Attn: Application Processing Division, Customer Correction Branch, on February 29, 2000</small> <hr/> <small>ANN WEISS</small> <small>(TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)</small> <hr/> <small>(SIGNATURE OF PERSON MAILING PAPER OR FEE)</small>
--

Dear Sir/Madam:

Enclosed is a photocopy of the *corrected* filing receipt recently received regarding the above-identified application. Applicant's name remains misspelled.

The correction should read:

Applicant(s): C. **Kumar** N. Patel

Please send us a corrected copy indicating these changes.

Respectfully submitted,

PRETTY, SCHROEDER & POPLAWSKI, P.C.

Michael L. Crapenhof
Reg. No. 37,115

Dated: February 29, 2000

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C.K. N. PATEL

cc: CPA

UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

FILING RECEIPT
CORRECTED

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/310,527	05/12/99	3661	\$862.00	P0742750	4	36	10

PRETTY SCHROEDER & POPLAWSKI PC
444 SOUTH FLOWER STREET
19TH FLOOR
LOS ANGELES CA 90071-2909

FOREIGN NOTICE: MAR 12, 2000
FOREIGN DLN: MAY 12, 2000
ON P&A
CR

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts of Application" ("Missing Parts Notice") in this application, please submit any corrections to this Filing Receipt with your reply to the "Missing Parts Notice." When the PTO processes the reply to the "Missing Parts Notice," the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

KUMAR

Applicant(s) ~~C. KURMAR~~ N. PATEL, LOS ANGELES, CA.
SPACE

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 06/04/99
TITLE
CRUISE CONTROL INDICATOR
PRELIMINARY CLASS: 701

DATA ENTRY BY: YOUNG, MONICA L. TEAM: 08 DATE: 09/08/99



(See reverse for new important information)

2 1/2

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
P07 42750

In Re Application Of: **C. KUMAR N. PATEL**

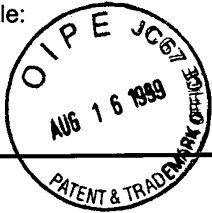
Serial No.
09/310,527

Filing Date
05/12/99

Examiner
NOT ASSIGNED

Group Art Unit
-

Title:



CRUISE CONTROL INDICATOR

Payment of Fee

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

- A check in the amount of _____ is attached.
- The Assistant Commissioner is hereby authorized to charge and credit Deposit Account No. _____ as described below. A duplicate copy of this sheet is enclosed.
 - Charge the amount of _____
 - Credit any overpayment.
 - Charge any additional fee required.

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Certificate of Transmission by Facsimile*


I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. _____) on _____ (Date)

Signature

Typed or Printed Name of Person Signing Certificate

Certificate of Mailing by First Class Mail

I certify that this document and fee is being deposited on 8/12/99 with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Assistant Commissioner for Patents, Washington, D.C. 20231.


Signature of Person Mailing Correspondence

ANN WEISS
Typed or Printed Name of Person Mailing Correspondence

*This certificate may only be used if paying by deposit account.


Signature

Dated: August 10, 1999

Michael L. Crapenhof, Esq.
Reg. No. 37,115
PRETTY, SCHROEDER & POPLAWSKI, P.C.
444 South Flower Street - 19th Floor
Los Angeles, CA 90071-2909
Ofc: 213/622-7700
Fax: 213/489-4210

CC:

G-P3661

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
P07 42750

In Re Application Of: C. KUMAR N. PATEL

2/2
IDS Statement

Serial No.
09/310,527

Filing Date
05/12/99

Examiner
NOT ASSIGNED

Group Art Unit
-

Title:

CRUISE CONTROL INDICATOR



Address to:

**Assistant Commissioner for Patents
Washington, D.C. 20231**

37 CFR 1.97(b)

1. The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application; within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or before the mailing date of a first Office Action on the merits, whichever event occurs last.

37 CFR 1.97(c)

2. The Information Disclosure Statement submitted herewith is being filed after three months of the filing of a national application, or the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; or after the mailing date of a first Office Action on the merits, whichever occurred last but before the mailing date of either:
1. a Final Action under 37 CFR 1.113, or
 2. a Notice of Allowance under 37 CFR 1.311,
- whichever occurs first.

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Also submitted herewith is:

- a certification as specified in 37 CFR 1.97(e);

OR

- the fee set forth in 37 CFR 1.17(p) for submission of an Information Disclosure Statement under 37 CFR 1.97(c).

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

ATTY DOCKET NO.
P07 42750

SERIAL NO.
09/310,527

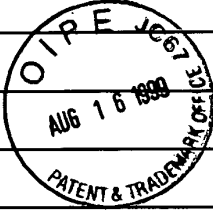
APPLICANT: **C. Kumar N. Patel**

FILING
05/12/99

GROUP
3661

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE



**GROUP 3600
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FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

43			World Wide Web document: Andre, Anthony and Asaf Degani, "Do You Know What Mode You're In? An Analysis of Mode Error In Everyday Things," Interface Analysis Associates, San Jose, CA, San Jose State University, CA, posted at least as early as 7/30/96.

EXAMINER **Paul Searcher** DATE CONSIDERED **16 June 2007**

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

PATENT



UNITED STATES DEPARTMENT OF COMMERCE Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS Washington, D.C. 20231

#32620607

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
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09/310,527 05/12/99 PATEL C P0742750

0262/0607

PRETTY SCHROEDER & POPLAWSKI PC
 444 SOUTH FLOWER STREET
 19TH FLOOR
 LOS ANGELES CA 90071-2909

NOT ASSIGNED

11. PATEL WAS THIS DATE: AUG 17, 1999

3661

DATE MAILED:

06/07/99

NOTICE TO FILE MISSING PARTS OF APPLICATION
Filing Date Granted

An Application Number and Filing Date have been assigned to this application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS FROM THE DATE OF THIS NOTICE** within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 3 through 5 are indicated as missing, the **SURCHARGE** set forth in 37 CFR 1.16(e) of \$65.00 for a small entity in compliance with 37 CFR 1.27, or \$130.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set above, the total amount owed by applicant as a small entity (statement filed) non-small entity is \$ 1724

1. The statutory basic filing fee is:
 missing.
 insufficient.
 Applicant must submit \$ 960 to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).

2. The following additional claims fees are due:
 \$ 288 for 7 total claims over 20.
 \$ 540 for 7 independent claims over 3.
 \$ _____ for multiple dependent claim surcharge.
 Applicant must either submit the additional claim fees or cancel additional claims for which fees are due.

3. The oath or declaration:
 is missing or unsigned.
 does not cover the newly submitted items.
 An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date is required.

4. The signature(s) to the oath or declaration is/are by a person other than inventor or person qualified under 37 CFR 1.42, 1.43 or 1.47.
 A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.

5. The signature of the following joint inventor(s) is missing from the oath or declaration:

An oath or declaration in compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date, is required.

6. A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).

7. Your filing receipt was mailed in error because your check was returned without payment.

8. The application was filed in a language other than English.
 Applicant must file a verified English translation of the application, the \$130.00 set forth in 37 CFR 1.17(k), unless previously submitted, and a statement that the translation is accurate (37 CFR 1.52(d)).

9. OTHER:

Direct the reply and any questions about this notice to "Attention: Box Missing Parts."

A copy of this notice MUST be returned with the reply.

Washington

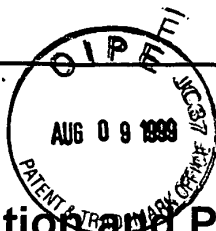
Customer Service Center
 Initial Patent Examination Division (703) 308-1202

08/11/1999 SBUONG 00000057-09310527

01 FC:201 380.00 OP
 02 FC:205 65.00 OP
 03 FC:203 144.00 OP

04 FC:202

00000057-09310527
 380.00 OP
 65.00 OP
 144.00 OP
 273.00 OP
 08/11/1999 SBUONG
 01 FC:201
 02 FC:205
 03 FC:203
 04 FC:202



Docket No.
P07 42750

Declaration and Power of Attorney For Patent Application

English Language Declaration #3

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

CRUISE CONTROL INDICATOR

the specification of which

(check one)

- is attached hereto.
- was filed on MAY 12, 1999 as United States Application No. or PCT International Application Number 09/310,527 and was amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	<input type="checkbox"/>

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

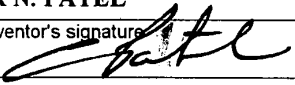
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

<u>LAURENCE H. PRETTY, REG. NO. 25,312</u>	<u>GREGORY S. CORDREY, REG. NO. 44,089</u>
<u>ROBERT A. SCHROEDER, REG. NO. 25,373</u>	<u>ERICK T. KING, REG. NO. 44,188</u>
<u>EDWARD G. POPLAWSKI, REG. NO. 33,439</u>	<u>KUKKONEN, CARL A., REG. NO. 42,773</u>
<u>JEFFREY F. CRAFT, REG. NO. 30,044</u>	<u>LAPPLE, MATTHEW C., REG. NO. 44,203</u>
<u>MICHAEL J. MACDERMOTT, REG. NO. 29,946</u>	<u>NISAN A. STEINBERG, Ph.D., REG. NO. 40,345</u>
<u>ANNE WANG, REG. NO. 36,045</u>	<u>MICHAEL L. CRAPENHOFT, REG. NO. 37,115</u>
<u>PAUL D. TRIPODI, II, REG. NO. 40,847</u>	
<u>MARC E. HANKIN, REG. NO. 38,908</u>	
<u>DONALD C. KORDICH, REG. NO. 38,213</u>	
<u>RICHARD A. WALLEN, REG. NO. 22,671</u>	
<u>J. CHRISTOPHER JAMES, REG. NO. 40,660</u>	

Send Correspondence to: **EDWARD G. POPLAWSKI, ESQ.**
PRETTY, SCHROEDER & POPLAWSKI, P.C.
444 SOUTH FLOWER STREET - 19th FLOOR
LOS ANGELES, CA 90071-2909

Direct Telephone Calls to: *(name and telephone number)*
MICHAEL L. CRAPENHOFT, ESQ.

Full name of sole or first inventor C. KUMAR N. PATEL	
Sole or first inventor's signature 	Date 6/10/99
Residence 1171 ROBERTS LANE, LOS ANGELES, CA 90077	
Citizenship U.S.A.	
Post Office Address SAME AS RESIDENCE	

Full name of second inventor, if any	
Second inventor's signature	Date
Residence	
Citizenship	
Post Office Address	

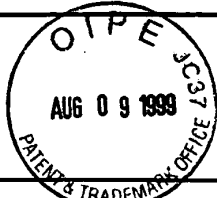
VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) AND 1.27 (b)) - INDEPENDENT INVENTOR

Docket No.
P07 42750

Serial No. 09/310,527	Filing Date MAY 12, 1999	Patent No. -	Issue Date --
--------------------------	-----------------------------	-----------------	------------------

Applicant/ Patentee: **C. KUMAR N. PATEL**

Invention:



CRUISE CONTROL INDICATOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled above and described in:

- the specification to be filed herewith.
- the application identified above.
- the patent identified above.

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- No such person, concern or organization exists.
- Each such person, concern or organization is listed below.

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities (37 CFR 1.27)

FULL NAME _____
ADDRESS _____

- Individual
- Small Business Concern
- Nonprofit Organization

FULL NAME _____
ADDRESS _____

- Individual
- Small Business Concern
- Nonprofit Organization

FULL NAME _____
ADDRESS _____

- Individual
- Small Business Concern
- Nonprofit Organization

FULL NAME _____
ADDRESS _____

- Individual
- Small Business Concern
- Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF INVENTOR C. KUMAR N. PATEL

SIGNATURE OF INVENTOR *C. Patel*

DATE: 6/10/99

NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____

DATE: _____

NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____

DATE: _____

NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____

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NAME OF INVENTOR _____

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NAME OF INVENTOR _____

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DATE: _____

NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____

DATE: _____

NAME OF INVENTOR _____

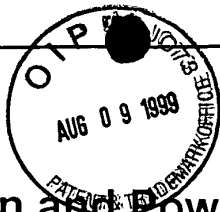
SIGNATURE OF INVENTOR _____

DATE: _____

NAME OF INVENTOR _____

SIGNATURE OF INVENTOR _____

DATE: _____



Docket No.
P07 42750

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

CRUISE CONTROL INDICATOR

the specification of which

(check one)

- is attached hereto.
- was filed on MAY 12, 1999 as United States Application No. or PCT International Application Number 09/310,527 and was amended on _____ (if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	
_____	_____	_____	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)
_____	_____
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
_____	_____	_____
(Application Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)

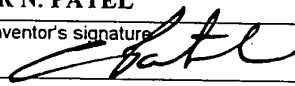
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

<u>LAURENCE H. PRETTY, REG. NO. 25,312</u>	<u>GREGORY S. CORDREY, REG. NO. 44,089</u>
<u>ROBERT A. SCHROEDER, REG. NO. 25,373</u>	<u>ERICK T. KING, REG. NO. 44,188</u>
<u>EDWARD G. POPLAWSKI, REG. NO. 33,439</u>	<u>KUKKONEN, CARL A., REG. NO. 42,773</u>
<u>JEFFREY F. CRAFT, REG. NO. 30,044</u>	<u>LAPPLE, MATTHEW C., REG. NO. 44,203</u>
<u>MICHAEL J. MACDERMOTT, REG. NO. 29,946</u>	<u>NISAN A. STEINBERG, Ph.D., REG. NO. 40,345</u>
<u>ANNE WANG, REG. NO. 36,045</u>	<u>MICHAEL L. CRAPENHOFT, REG. NO. 37,115</u>
<u>PAUL D. TRIPODI, II, REG. NO. 40,847</u>	
<u>MARC E. HANKIN, REG. NO. 38,908</u>	
<u>DONALD C. KORDICH, REG. NO. 38,213</u>	
<u>RICHARD A. WALLEN, REG. NO. 22,671</u>	
<u>J. CHRISTOPHER JAMES, REG. NO. 40,660</u>	

Send Correspondence to: **EDWARD G. POPLAWSKI, ESQ.**
PRETTY, SCHROEDER & POPLAWSKI, P.C.
444 SOUTH FLOWER STREET - 19th FLOOR
LOS ANGELES, CA 90071-2909

Direct Telephone Calls to: *(name and telephone number)*
MICHAEL L. CRAPENHOFT, ESQ.

Full name of sole or first inventor C. KUMAR N. PATEL
Sole or first inventor's signature 
Residence 1171 ROBERTS LANE, LOS ANGELES, CA 90077
Citizenship U.S.A.
Post Office Address SAME AS RESIDENCE

Date
6/10/99

Full name of second inventor, if any
Second inventor's signature
Date
Residence
Citizenship
Post Office Address



FILE COPY

PATENT.

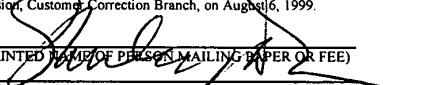
Receipt
3/2

P07 42750

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	C. Kumar N. Patel	Examiner:	---
Serial No.:	09/310,527	Group Art Unit:	3661
Filed:	05/12/99	Docket No.:	P07 42750
Title:	CRUISE CONTROL INDICATOR		

REQUEST FOR CORRECTION OF FILING RECEIPT

Assistant Commissioner for Patents Washington, D.C. 20231 Attn: Application Processing Division Customer Correction Branch	CERTIFICATE UNDER 37 C.F.R. 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described hereinabove, are being deposited in the United States Postal Service, as first class mail, in an envelope addressed to THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, Attn: Application Processing Division, Customer Correction Branch, on August 6, 1999. Shirley Dow (TYPED OR PRINTED NAME OF PERSON MAILING PAPER OR FEE)  (SIGNATURE OF PERSON MAILING PAPER OR FEE)
---	--

Dear Sir/Madam:

Enclosed is a photocopy of the filing receipt from the United States Patent and Trademark Office in the above-identified application showing the requested correction. The filing receipt is erroneous in the following respect as reflected in the papers originally filed:

The correction should read:

Applicant(s): C. Kumar N. Patel, Los Angeles, CA

Also enclosed is a copy of the Declaration and Power of Attorney filed herewith indicating applicant's address as Los Angeles, California.

Correction of the records of the United States Patent and Trademark Office and issuance of a corrected filing receipt are respectfully requested.

Respectfully submitted,

PRETTY, SCHROEDER & POPLAWSKI

Michael L. Crapenhof
Reg. No. 37,115

Dated: August 6, 1999

S:\MLC\PATEL.WPD

PTO-103X
(Rev. 8-95)

FILING RECEIPT



DR. C. KUMAR N. PATEL



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

cc: CPA

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTORNEY DOCKET NO.	DRWGS	TOT CL	IND CL
09/310,527	05/12/99	3661	\$0.00	P0742750	4	36	10

PRETTY SCHROEDER & POPLAWSKI PC
444 SOUTH FLOWER STREET
19TH FLOOR
LOS ANGELES CA 90071-2909

IDS DUE: AUG. 12, 1999
FOR. NOTICE DUE: MAR 12, 2000
FOREIGN DUE: MAY 12, 2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Application Processing Division's Customer Correction Branch within 10 days of receipt. Please provide a copy of the Filing Receipt with the changes noted thereon.

Applicant(s)

~~C. KURMAN N. PATEL, RESIDENCE NOT PROVIDED~~

~~E--KUMAR--~~

LOS ANGELES, CA

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 06/04/99

TITLE

CRUISE CONTROL INDICATOR

PRELIMINARY CLASS: 701

DATA ENTRY BY: WASHINGTON, LINDA TEAM: 06 DATE: 06/04/99



(see reverse)

FILE COPY



Bib Data Sheet

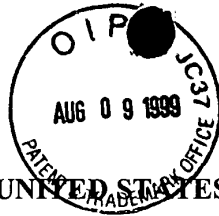


**UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

SERIAL NUMBER 09/310,527	FILING DATE 05/12/1999 RULE -	CLASS 701	GROUP ART UNIT 3661	ATTORNEY DOCKET NO. P0742750
APPLICANTS C. KUMAR N. PATEL, LOS ANGELES, CA UNITED STATES;				
** CONTINUING DATA <i>MSA</i>				
** FOREIGN APPLICATIONS <i>MSA</i>				
IF REQUIRED, FOREIGN FILING LICENSE GRANTED ** 06/04/1999				
Foreign Priority claimed <input type="checkbox"/> yes <input checked="" type="checkbox"/> no	35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance	STATE OR COUNTRY CA	SHEETS DRAWING 4	TOTAL CLAIMS 36
Verified and Acknowledged	Examiner's Signature <i>MS</i> Initials		INDEPENDENT CLAIMS 10	
ADDRESS <i>#6</i> PRETTY SCHROEDER & POPLAWSKI PC 444 SOUTH FLOWER STREET 19TH FLOOR LOS ANGELES, CA 900712900 EDWARD G. POPLAWSKI, ESQ SIDNEY & AUSTIN 555 WEST FIFTH STREET LOS ANGELES, CA 90013-1010				
TITLE CRUISE CONTROL INDICATOR				
FILING FEE RECEIVED 862	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	

P07 42750



#3

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

August 4, 1999

In re application of: C. Kumar N. Patel
 Serial No.: 09/310,527
 Filed on: May 12, 1999
 Title: CRUISE CONTROL INDICATOR

RESPONSE TO NOTICE TO FILE MISSING PARTS OF APPLICATION
 FILING DATE GRANTED

Assistant Commissioner for Patents
 Washington, D. C. 20231

Attention: Box Missing Parts

<small>I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D. C. 20231, ATTENTION: BOX MISSING PARTS.</small>	
ON	August 4, 1999
	DATE
BY	<i>Shirley Dow</i>
	Shirley Dow
	August 4, 1999
	(DATE OF SIGNATURE)

Sir:

In response to the *Notice To File Missing Parts of Application Filing Date Granted*

mailed June 6, 1999, Applicant submits the following documents:

- (1) Copy of *Notice to File Missing Parts of Application (Form PTO-1533)*;
- (2) Fully executed Declaration and Power of Attorney of inventor for Utility Patent Application; and
- (3) A check in the amount of \$862.00 to cover the basic filing fee of \$797.00 (37 C.F.R. §1.16(A); and \$65.00 surcharge (37 C.F.R. § 1.16(e)).

Also enclosed are:

- (4) Verified Statement (Declaration) Claiming Small Entity Status (37 CFR 1.9(f) and 1.27(d))—Sole Inventor

The Commissioner is hereby authorized to charge fees under 37 C.F.R. §§ 1.16(e) and 1.17 which may be required, or to credit any overpayment, to Deposit Account No. 16-2460. A duplicate copy of this petition is enclosed.

Respectfully submitted,

PRETTY, SCHROEDER & POPLAWSKI, P.C.



Michael L. Crapenhof
Registration No. 37,115

MLC/shd
Enclosures

444 South Flower Street - 19th Floor
Los Angeles, California 90071-2909
Ofc: 213/622-7700
Fax: 213/489-4210



UNITED STATES DEPARTMENT OF COMMERCE
 Patent and Trademark Office
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS
 Washington, D.C. 20231

Handwritten initials

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
--------------------	---------------------	-----------------------	---------------------------

09/310,527 05/12/99 PATEL C P0742750

0262/0607
 PRETTY SCHROEDER & POPLAWSKI PC NOT ASSIGNED
 444 SOUTH FLOWER STREET
 19TH FLOOR
 LOS ANGELES CA 90071-2909

DATE MAILED: 3661

06/07/99

NOTICE TO FILE MISSING PARTS OF APPLICATION
Filing Date Granted

An Application Number and Filing Date have been assigned to this application. The items indicated below, however, are missing. Applicant is given TWO MONTHS FROM THE DATE OF THIS NOTICE within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a). If any of items 1 or 3 through 5 are indicated as missing, the SURCHARGE set forth in 37 CFR 1.16(e) of \$65.00 for a small entity in compliance with 37 CFR 1.27, or \$130.00 for a non-small entity, must also be timely submitted in reply to this NOTICE to avoid abandonment.

If all required items on this form are filed within the period set above, the total amount owed by applicant as a small entity (statement filed) non-small entity is \$ 1724.

1. The statutory basic filing fee is:
 missing.
 insufficient.
 Applicant must submit \$ 760 to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).

2. The following additional claims fees are due:
 \$ 288 for 16 total claims over 20.
 \$ 540 for 7 independent claims over 3.
 \$ _____ for multiple dependent claim surcharge.
 Applicant must either submit the additional claim fees or cancel additional claims for which fees are due.

3. The oath or declaration:
 is missing or unsigned.
 does not cover the newly submitted items.
 An oath or declaration in compliance with 37 CFR 1.63, including residence information and identifying the application by the above Application Number and Filing Date is required.

4. The signature(s) to the oath or declaration is/are by a person other than inventor or person qualified under 37 CFR 1.42, 1.43 or 1.47.
 A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.

5. The signature of the following joint inventor(s) is missing from the oath or declaration:

An oath or declaration in compliance with 37 CFR 1.63 listing the names of all inventors and signed by the omitted inventor(s), identifying this application by the above Application Number and Filing Date, is required.

- 6. A \$50.00 processing fee is required since your check was returned without payment (37 CFR 1.21(m)).
- 7. Your filing receipt was mailed in error because your check was returned without payment.
- 8. The application was filed in a language other than English.
 Applicant must file a verified English translation of the application, the \$130.00 set forth in 37 CFR 1.17(k), unless previously submitted, and a statement that the translation is accurate (37 CFR 1.52(d)).

9. OTHER: _____

Direct the reply and any questions about this notice to "Attention: Box Missing Parts."

A copy of this notice MUST be returned with the reply.

Washington

Customer Service Center
 Initial Patent Examination Division (703) 308-1202

05/12/99



UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

CRUISE CONTROL INDICATOR

Jc135 U.S. PTO
09/310527
05/12/99

and invented by:

C. KUMAR N. PATEL

If a **CONTINUATION APPLICATION**, check appropriate box and supply the requisite information:

Continuation Divisional Continuation-in-part (CIP) of prior application No.: _____

Which is a:

Continuation Divisional Continuation-in-part (CIP) of prior application No.: _____

Which is a:

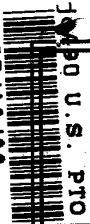
Continuation Divisional Continuation-in-part (CIP) of prior application No.: _____

Enclosed are:

Application Elements

1. Filing fee as calculated and transmitted as described below
2. Specification having 19 pages and including the following:
 - a. Descriptive Title of the Invention
 - b. Cross References to Related Applications (if applicable)
 - c. Statement Regarding Federally-sponsored Research/Development (if applicable)
 - d. Reference to Microfiche Appendix (if applicable)
 - e. Background of the Invention
 - f. Brief Summary of the Invention
 - g. Brief Description of the Drawings (if drawings filed)
 - h. Detailed Description
 - i. Claim(s) as Classified Below
 - j. Abstract of the Disclosure

05/12/99



UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

Application Elements (Continued)

- 3. Drawing(s) (when necessary as prescribed by 35 USC 113)
 - a. Formal b. Informal Number of Sheets 4
- 4. Oath or Declaration
 - a. Newly executed (original or copy) Unexecuted
 - b. Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
 - c. With Power of Attorney Without Power of Attorney
 - d. DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. 1.63(d)(2) and 1.33(b).
- 5. Incorporation By Reference (usable if Box 4b is checked)
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
- 6. Computer Program in Microfiche
- 7. Genetic Sequence Submission (if applicable, all must be included)
 - a. Paper Copy
 - b. Computer Readable Copy
 - c. Statement Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

- 8. Assignment Papers (cover sheet & documents)
- 9. 37 CFR 3.73(b) Statement (when there is an assignee)
- 10. English Translation Document (if applicable)
- 11. Information Disclosure Statement/PTO-1449 Copies of IDS Citations
- 12. Preliminary Amendment
- 13. Acknowledgment postcard
- 14. Certificate of Mailing
 - First Class Express Mail (Specify Label No.): EL 349 964 153US

**UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

Accompanying Application Parts (Continued)

15. Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
16. Small Entity Statement(s) - Specify Number of Statements Submitted: _____
17. Additional Enclosures *(please identify below)*:

Fee Calculation and Transmittal

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra		Rate	Fee
Total Claims	36	- 20 =	16	x	\$9.00	\$144.00
Indep. Claims	10	- 3 =	7	x	\$39.00	\$273.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>						\$0.00
BASIC FEE						\$380.00
OTHER FEE (specify purpose) _____						\$0.00
TOTAL FILING FEE						\$797.00

- A check in the amount of _____ to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge and credit Deposit Account No. _____ as described below. A duplicate copy of this sheet is enclosed.
- Charge the amount of _____ as filing fee.
 - Credit any overpayment.
 - Charge any additional filing fees required under 37 C.F.R. 1.16 and 1.17.
 - Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: May 12, 1999

Michael L. Crapenhof

Signature

Michael L. Crapenhof
Registration No. 37,115
PRETTY, SCHROEDER & POPLAWSKI, P.C.
444 South Flower Street - 19th Floor
Los Angeles, CA 90071-2919
Ofc: 213/622-7700
Fax: 213/489-4210

cc:

APPLICATION
OF
C. KUMAR N. PATEL
FOR
UNITED STATES LETTERS PATENT
ON


CRUISE CONTROL INDICATOR

Docket No. P07 42750

Sheets of Drawings: 4

Attorneys

PRETTY, SCHROEDER, & POPLAWSKI, P.C.
444 South Flower Street, 19th Floor
Los Angeles, California 90071-2909
(213) 622-7700

CERTIFICATE OF MAILING BY "EXPRESS MAIL"
"EXPRESS MAIL" MAILING LABEL NUMBER <u> E1 349 964 153 US </u>
DATE OF DEPOSIT <u> MAY 7, 1999 </u>
I HEREBY CERTIFY THAT THIS PAPER OR FEE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE "EXPRESS MAIL POST OFFICE TO ADDRESSEE" SERVICE UNDER 37 CFR 1-10 ON THE DATE INDICATED ABOVE AND IS ADDRESSED TO BOX NEW PATENT APPLICATION, THE ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D. C. 20231.
<u> JOHN TRIVINO </u> (TYPED OR PRINTED NAME OR PERSON MAILING PAPER OR FEE)
 (SIGNATURE OF PERSON MAILING PAPER OR FEE)

CRUISE CONTROL INDICATOR

This application claims the benefit of U.S. Provisional Application No. 60/085,183, filed on May 12, 1998.

FIELD OF THE INVENTION

5 This invention relates to cruise control systems and more particularly to automotive cruise control systems which display preset speed information.

BACKGROUND OF THE INVENTION

662150 250750
10 The cruise control accessory found in many automobiles today can be characterized as a human-machine system. That is, while the cruise control feature offers the operator of a vehicle the benefit of speed control (machine) automation, it also requires significant human interface for its proper and safe operation. In particular, conventional cruise control systems require the operator to (1) turn on the cruise control system (by depressing or rocking a button on the steering wheel or dashboard), (2) achieve the desired cruising speed (by controlling the deflection of the accelerator), and then (3) engage, or set,
15 the cruise control (by pressing another button typically located on the steering wheel or cruise control stalk shift).

Further, the conventional cruise control system is provided with a memory function that stores the set control speed. Thus, applying the brakes to temporarily slow down temporarily disengages the cruise control function. However, re-engaging the cruise control by depressing the "resume" button returns the automobile to the preset, memorized
20 speed. Similarly, temporarily accelerating while the cruise control is engaged, as is done, for example, when passing other vehicles, does not disengage the system. Rather, when the accelerator is released, the automobile slows down until it returns to its set cruising speed and continues at that speed. In fact, the preset, memorized speed is typically canceled only
25 if the cruise control system is turned off (by either depressing the system button or turning off the automobile) or if another speed is set into the memory.

Thus, the conventional cruise control system can be characterized as existing in any one of five modes. Those modes are: (1) cruise control system off - the car's speed is controlled manually; (2) system on, but not engaged - the car's speed is still controlled
30 manually; (3) system on and engaged at a set speed- the car's speed is automatically

acceleration to the preset speed may come as a surprise and lead to another hazardous situation.

In sum, there is a definite safety driven need to provide useful, visual feedback to operators of automobiles with cruise control of the preset speeds at which they are set.

5

SUMMARY OF THE INVENTION

The present invention addresses this need by providing the operator of a vehicle with information about the preset speed of an enabled cruise control system. This is accomplished by equipping the vehicle with a visual feedback system that continuously provides the preset speed memorized by the cruise control system. This invention will tend to enhance the safe operation of a vehicle under cruise control conditions.

In particular, a cruise control system for a vehicle is provided with a speed controller that automatically maintains the vehicle speed at a desired preset speed, an enable switch that enables the system, a set speed input in communication with the controller to manually set the speed of the vehicle to that at which it is traveling at the moment of input, a memory for temporarily storing the speed of the vehicle at the set speed, and a feedback system for displaying the set speed information to the operator of the vehicle until a new set speed is input or the system is disabled.

In one more detailed aspect of the invention, the feedback system of a vehicle designed with a digital speed display, or speedometer, is a second digital display that provides the preset cruise control speed, when the cruise control is enabled and active. In another more detailed embodiment, the feedback system of a vehicle having an analog speedometer includes a plurality of light emitting diodes (LED's) located at various speed intervals on the speedometer dial. The LED corresponding to the speed at which the vehicle was traveling when the cruise control system was set illuminates and remains lit (or blinks) for the benefit of the operator.

Other features and advantages of the present invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

30

FIG. 1 is schematic of a digital speed display of one embodiment of the present invention;

corresponding to the 0 mph mark, remains lit to indicate the cruise control status (i.e. "system on"). At this point, the driver can either continue to operate the automobile under manual control or press the "set speed" button when the desired automobile speed is reached. Pressing the "set speed" button, step 104, activates all of the detectors and all of the LED's momentarily light up. Referring again to Figs. 2 and 3, the back side of the speed indicator needle 42 is partially reflective for the portion of the needle that sweeps over the bank of LED assemblies 44. Thus, the momentary activation of all LED's results in the LED light reflected back into only that detector 48 over which the partially reflecting needle 42 is located, and only this detector is activated. As shown in Fig. 5, the electrical signal from this detector is then used to activate the corresponding LED which remains lit as long as the cruise control is engaged, step 106. The electronic circuitry needed to maintain the LED lit after the momentary firing of LED and activation of the corresponding detector by a pulse of light is well understood in the art. The vehicle is now operating at a speed controlled by the cruise control.

At this point, there are at least three scenarios that obtain. The first is that the operator steps on the brake, step 108. When the operator steps on the brake for temporary reduction of the vehicular speed on the highway, the cruise control disengages, step 110, and the LED indicating the previously set speed point goes into a blinking mode. This will assure that the operator has the full knowledge of the status of the cruise control, in particular, that it is on but disengaged, with the potential to return the vehicle's speed to the preset speed corresponding to the blinking LED on the dial 40. The operator may continue to drive the vehicle under complete manual control while the preset speed is stored in the cruise control and as indicated by the blinking LED. When the operator presses the "Resume/Accelerate (R/A)" button, step 112, he or she knows the speed to which the vehicle will return. At this point, of course, cruise control is engaged, the LED is steadily lit, and the automobile accelerates to the preset speed.

Alternatively, as shown in step 114, the operator may choose to continue to travel at the new (and now slower) speed. In this case, he or she may press the SET button to re-engage the cruise control. All of the LED's will blink momentarily, all the detectors will be turned on, and only the detector under the new position of the speedometer needle having received the reflected light will be activated. The LED corresponding to the new cruising speed will now remain lit as described earlier.

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5 The second scenario entails the operator stepping on the accelerator, step 116, to increase the vehicular speed in order to pass another vehicle (or any other reason). As shown in step 118, the LED remains lit continuously to indicate the speed to which the vehicle will return once the operator takes her/his foot off the accelerator, as in step 120. For the operator to be able to see the set speed when cruise control is engaged and when the vehicle is moving at the preset speed, this embodiment includes a speedometer indicator needle which is semitransparent over the region where the bank of LED assemblies 44 are located. Thus, the operator can see the continuously lit LED and know that the cruise control is engaged.

10 Alternatively, as shown in step 122, if desired, the operator can select a new, higher cruising speed by pressing the "set speed" button. In this case, the earlier sequence will repeat, a new LED will be lit, and the automobile speed will be set at a higher speed.

15 Finally, the third scenario envisions the operator depressing the "Reset/Accelerate" or "R/A" button in step 124 to accelerate the vehicle via the cruise control system, step 126. Following the earlier sequences, the new speed will be set to that which the vehicle was traveling when the "R/A" button was released. This will sequence all of the LED's to blink, all detectors to be activated, and then the LED under the needle to stay lit to indicate the new higher cruising speed, as shown in step 128.

20 As shown, deployment of the present invention in all vehicles equipped with cruise control will tend to contribute significantly towards safer driving.

25 Having thus described the basic principles and exemplary embodiments of the invention, it will be apparent that further variations, alterations, modifications, and improvements will also occur to those skilled in the art. For example, it is understood that a vehicle equipped with an analog speedometer may be designed with a digital preset speed indicator. Further, it will be apparent that the present invention is not limited to use in automobiles. It is applicable to any operator-controlled vehicle that may use a human-machine, mobile cruise control system, such as motorcycles, trolleys, water vehicles, etc. Such alterations, modifications, and improvements, though not expressly described or mentioned above, are nonetheless intended and implied to be within the spirit and scope of the invention. Accordingly, the foregoing discussion is intended to be illustrative only; the invention is limited and defined only by the various following claims and equivalents thereto.

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5 7. The cruise control system of claim 6, wherein the feedback system further comprises a bank of light emitting diodes arranged along a portion of the of the speed dial, each diode positioned to correspond to a given speed indication on the dial, and wherein one of the diodes in the bank emits light corresponding to the selected cruising speed.

8. The cruise control system of claim 7, wherein the feedback system further includes one light emitting diode detector arranged adjacent to each diode in the bank of light emitting diodes, and a light reflective surface on a portion of the side of the speed indicating needle that faces the bank of diodes and that sweeps over the bank of diodes.

9. The cruise control system of claim 8, wherein said feedback system determines the relative position of the speed indicating needle when the cruising speed is selected by detecting reflections from one of the light emitting diodes off the reflective surface of the needle received by an adjacent light emitting diode detector.

10. The cruise control system of claim 8 wherein the bank of light emitting diodes is activated when the enable switch is initially enabled.

11. The cruise control system of claim 9 wherein the feedback system activates one of the light emitting diodes closest to the needle when said enable switch is enabled.

12. A method for visually communicating to the human operator of a vehicle having a cruise control system the cruising speed at which the vehicle is set, comprising:

determining the speed at which the vehicle is traveling;

activating the cruise control system at the desired cruising speed;

5 displaying a symbol indicative of the speed at which the cruise control system is activated;

maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;

10 removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

13. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

5 displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed; and

discontinuing display of the symbol indicative of the preset speed when the cruise control system is deactivated or a new preset speed is selected.

14. The method of claim 13, further comprising:

displaying a second symbol upon the selection of a new preset speed, said second symbol indicative of the new preset speed.

15. The method of claim 13, further comprising:

before setting the preset speed, activating the cruise control system; and

after activating the cruise control system, but before setting the preset speed, indicating to the operator the unset status of the preset speed.

16. The method of claim 15,

wherein indicating the unset status of the preset speed includes displaying a visual symbol to the operator.

17. The method of claim 16,

wherein the visual symbol indicating the unset status of the preset speed comprises a blinking "0".

18. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

5 displaying to the operator a symbol indicative of the preset speed while maintaining the vehicle speed at substantially the preset speed;

maintaining the display of the symbol indicative of the preset speed;

braking the vehicle;

10 upon braking the vehicle, discontinuing maintaining the vehicle speed at substantially the preset speed while keeping data corresponding to the preset speed in a memory device; and

at a time after braking and during which time the vehicle is not being maintained at substantially the preset speed, displaying to the operator a symbol indicative of the preset speed.

19. The method of claim 18, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed, is distinguishable by the operator from the symbol indicative of the preset speed while the vehicle is being maintained at substantially

5 the preset speed.

20. The method of claim 19, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed is in the form of a blinking numerical indicator.

21. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

engaging the cruise control system;

5 setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed;

discontinuing display of the symbol indicative of the preset speed after the cruise control system is deactivated or a new preset speed is selected; and

10 after the cruise control system is deactivated, displaying a symbol indicative of an unset state of the preset speed.

22.. The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a "0" [zero].

23. The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a blinking numerical indicator.

24. The method of claim 22, wherein the "0" [zero] is a blinking "0" [zero].

displayed by the second visual display apparatus includes information reflecting whether the speed controller is operating to maintain the vehicle at the cruising speed at the time the display is made.

28. The cruise control system of claim 26, wherein the second visual display apparatus comprises a digital numerical indicator.

29. The cruise control system of claim 26,

wherein the first visual display apparatus comprises an analog speedometer including a speed indicator operably disposed adjacent an indicator dial; and

5 wherein the second visual display apparatus comprises a plurality of individual visual indicators, wherein each of said individual visual indicators is associated with a particular vehicle speed, and wherein each of said individual visual indicators is operable between an "on" condition and an "off" condition.

30. The cruise control system of claim 29, wherein the individual visual indicators include a plurality of LEDs.

31. The cruise control system of claim 29, wherein the individual visual indicators are disposed on the indicator dial of the analog speedometer.

32. The cruise control system of claim 31, further comprising:

at least one detector operable to detect the position of the speed indicator at a predetermined time; and

5 a memory device operable to store information indicative of the position of the speed indicator at the predetermined time.

33. The cruise control system of claim 32, further comprising:

reflective material disposed on the speed indicator and configured to reflect light emitted by at least one of the individual visual indicators onto at least one of the detectors.

34. A method for providing an operator of a vehicle equipped with a cruise control device with information reflecting the operating status of the cruise control device, comprising:

providing a cruise control device including:

- 5 (a) a speed controller capable of automatically maintaining the vehicle at a substantially constant preset speed;
- (b) a set speed input in communication with the controller for selecting the preset speed;
- (c) a memory device operable to store information representative of
10 the preset speed;
- (d) first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and
- (e) second visual display apparatus operable to display the visual
15 information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed;

activating the cruise control device; and

operating the second visual display apparatus to indicate the active status of the cruise control device.

35. The method of claim 34, further comprising:

ABSTRACT

10 A system for indicating the operational status and parameters of a cruise control system for use in a human operated vehicle. The system includes apparatus for storing and recalling a preset speed for the cruise control system. The system further includes apparatus for indicating this preset speed to the operator, along with apparatus configured to indicate to the user whether or not the cruise control system is engaged. One embodiment is a system for use with vehicles with digital speedometers. In this embodiment, the system includes digital memory for storing the preset speed, and a digital display configured to show the preset speed and the operational status of the cruise control system. Another embodiment is for use with vehicles having analog speedometers. The analog system includes an array of LEDs and detectors arranged around a speed indicating dial and under the speedometer needle. The LEDs and detectors are arranged so that a preset speed may be stored into the system by detection of light reflected from one of the LEDs off a reflective surface on the back side of the needle, and onto one of the detectors. The LEDs of the analog system are further configured to indicate the preset speed and the operational status of the system.

15

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MAIN DISPLAY

PRESET SPEED DISPLAY

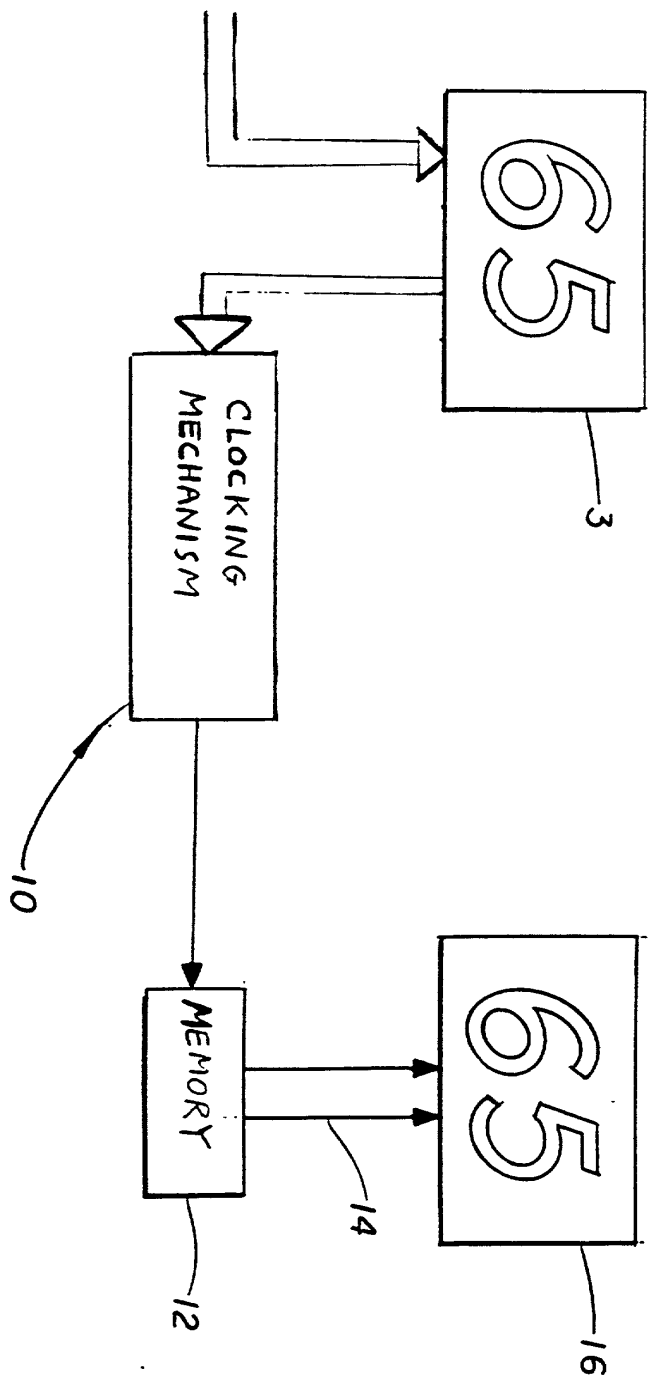
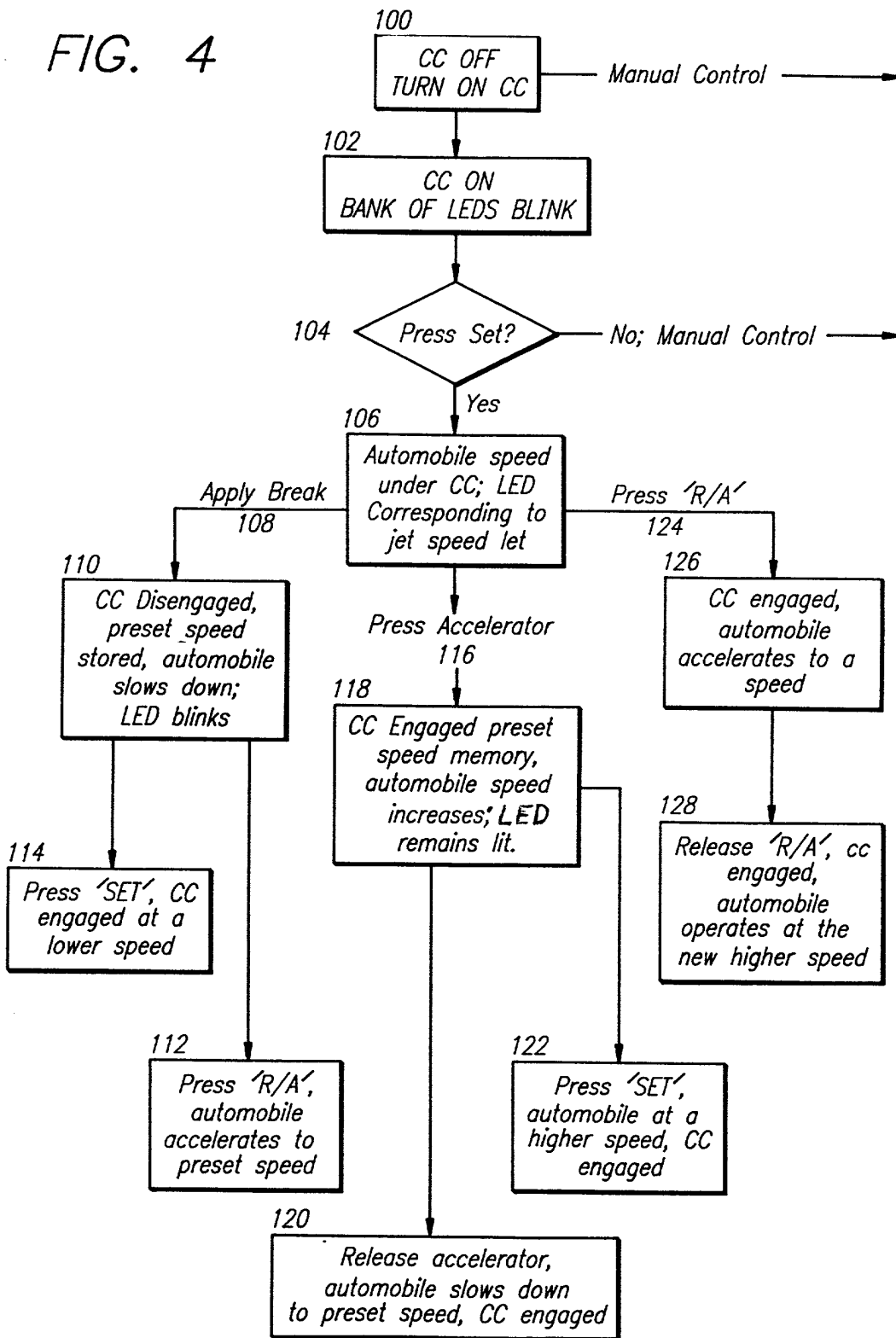


FIG. 1

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FIG. 4



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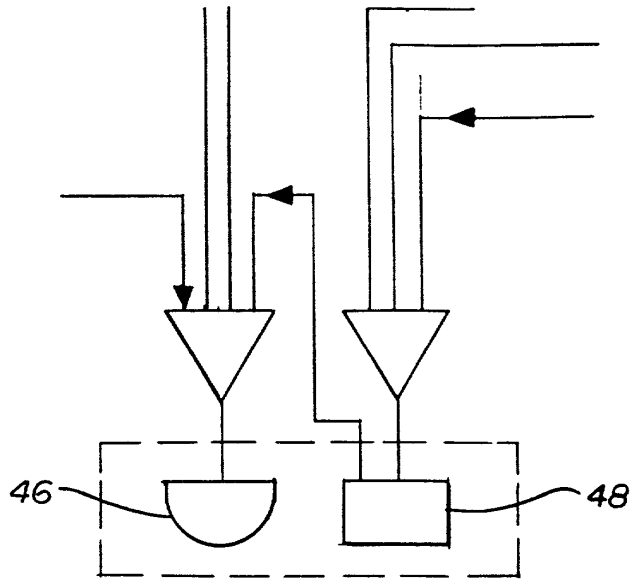


FIG. 5

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Jc135 U.S. PTO

UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

TO THE ASSISTANT COMMISSIONER FOR PATENTS

Box Patent Application
Washington, D.C. 20231

Transmitted herewith for filing under 35 U.S.C. 111(a) and 37 C.F.R. 1.53(b) is a new utility patent application for an invention entitled:

CRUISE CONTROL INDICATOR

and invented by:

C. KUMAR N. PATEL

Jc135 U.S. PTO
09/310527
05/12/99

If a CONTINUATION APPLICATION, check appropriate box and supply the requisite information:

Continuation Divisional Continuation-in-part (CIP) of prior application No.: _____

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Continuation Divisional Continuation-in-part (CIP) of prior application No.: _____

Enclosed are:

Application Elements

1. Filing fee as calculated and transmitted as described below
2. Specification having 19 pages and including the following:
 - a. Descriptive Title of the Invention
 - b. Cross References to Related Applications (if applicable)
 - c. Statement Regarding Federally-sponsored Research/Development (if applicable)
 - d. Reference to Microfiche Appendix (if applicable)
 - e. Background of the Invention
 - f. Brief Summary of the Invention
 - g. Brief Description of the Drawings (if drawings filed)
 - h. Detailed Description
 - i. Claim(s) as Classified Below
 - j. Abstract of the Disclosure

05/12/99

UTILITY PATENT APPLICATION TRANSMITTAL (Small Entity)

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

Application Elements (Continued)

- 3. Drawing(s) (when necessary as prescribed by 35 USC 113)
 - a. Formal b. Informal Number of Sheets 4
- 4. Oath or Declaration
 - a. Newly executed (original or copy) Unexecuted
 - b. Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional application only)
 - c. With Power of Attorney Without Power of Attorney
 - d. DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s) named in the prior application, see 37 C.F.R. 1.63(d)(2) and 1.33(b).
- 5. Incorporation By Reference (usable if Box 4b is checked)
The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.
- 6. Computer Program in Microfiche
- 7. Genetic Sequence Submission (if applicable, all must be included)
 - a. Paper Copy
 - b. Computer Readable Copy
 - c. Statement Verifying Identical Paper and Computer Readable Copy

Accompanying Application Parts

- 8. Assignment Papers (cover sheet & documents)
- 9. 37 CFR 3.73(b) Statement (when there is an assignee)
- 10. English Translation Document (if applicable)
- 11. Information Disclosure Statement/PTO-1449 Copies of IDS Citations
- 12. Preliminary Amendment
- 13. Acknowledgment postcard
- 14. Certificate of Mailing
 - First Class Express Mail (Specify Label No.): EL 349 964 153US

**UTILITY PATENT APPLICATION TRANSMITTAL
(Small Entity)**

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Docket No.
P07 42750

Total Pages in this Submission
23

Accompanying Application Parts (Continued)

- 15. Certified Copy of Priority Document(s) *(if foreign priority is claimed)*
- 16. Small Entity Statement(s) - Specify Number of Statements Submitted: _____
- 17. Additional Enclosures *(please identify below):*

Fee Calculation and Transmittal

CLAIMS AS FILED

For	#Filed	#Allowed	#Extra	Rate	Fee
Total Claims	36	- 20 =	16	x \$9.00	\$144.00
Indep. Claims	10	- 3 =	7	x \$39.00	\$273.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					\$0.00
BASIC FEE					\$380.00
OTHER FEE (specify purpose) _____					\$0.00
TOTAL FILING FEE					\$797.00

- A check in the amount of _____ to cover the filing fee is enclosed.
- The Commissioner is hereby authorized to charge and credit Deposit Account No. _____ as described below. A duplicate copy of this sheet is enclosed.
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 - Charge the issue fee set in 37 C.F.R. 1.18 at the mailing of the Notice of Allowance, pursuant to 37 C.F.R. 1.311(b).

Dated: May 12, 1999


Signature

Michael L. Crapenhoft
 Registration No. 37,115
PRETTY, SCHROEDER & POPLAWSKI, P.C.
 444 South Flower Street - 19th Floor
 Los Angeles, CA 90071-2919
 Ofc: 213/622-7700
 Fax: 213/489-4210

cc:

MAIN DISPLAY

PRESET SPEED DISPLAY

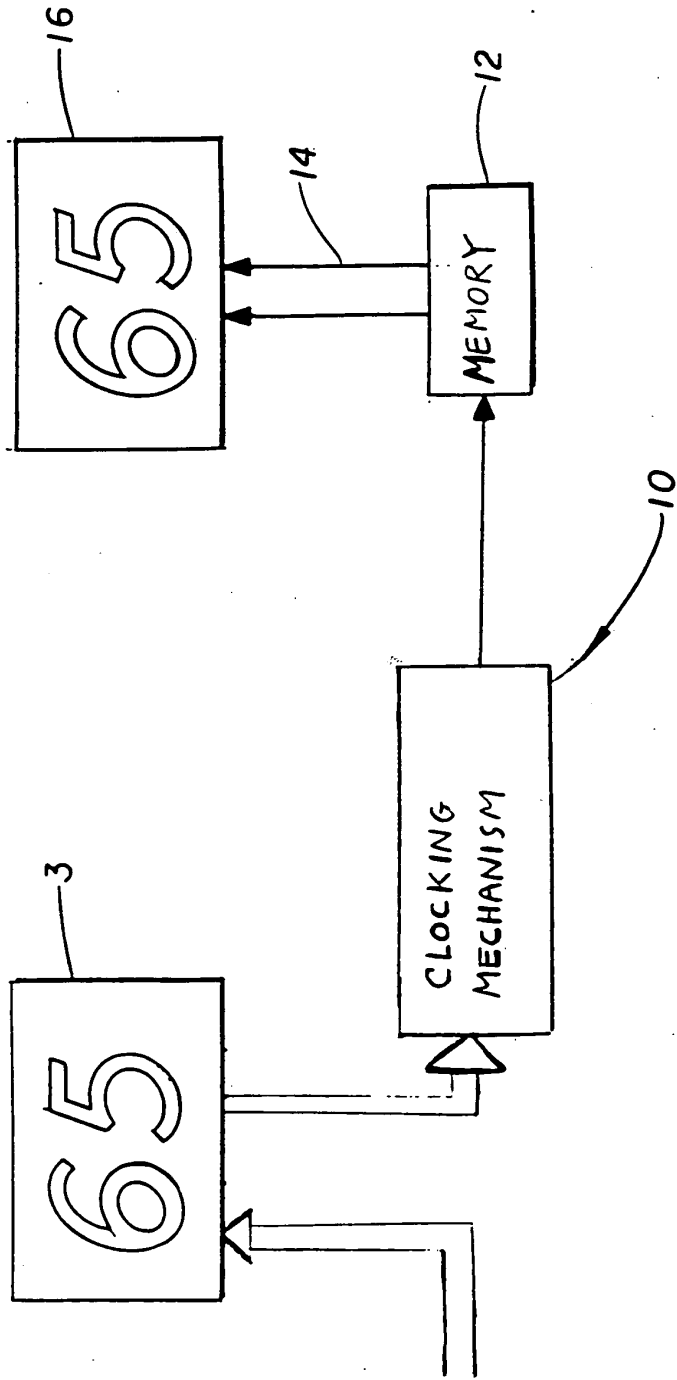


FIG. 1

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FIG. 2

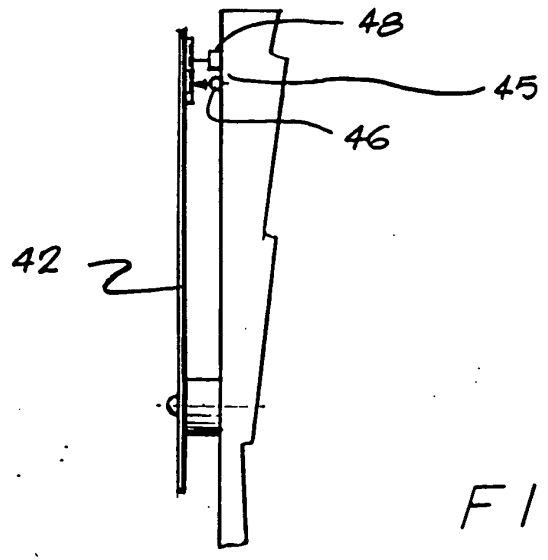
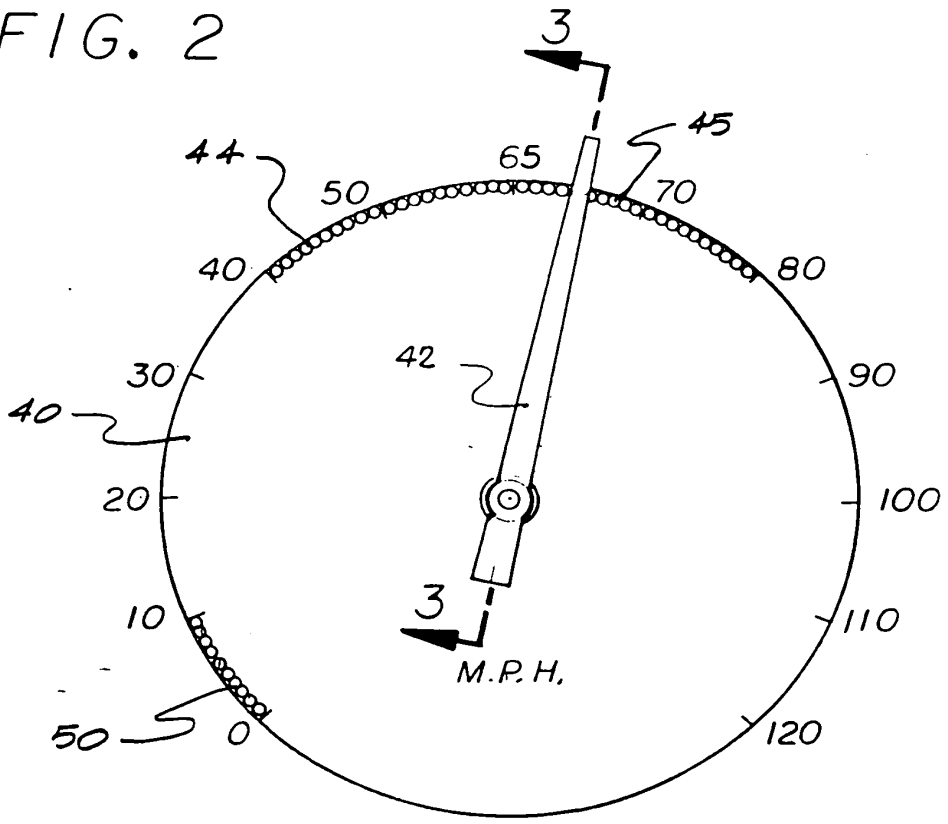
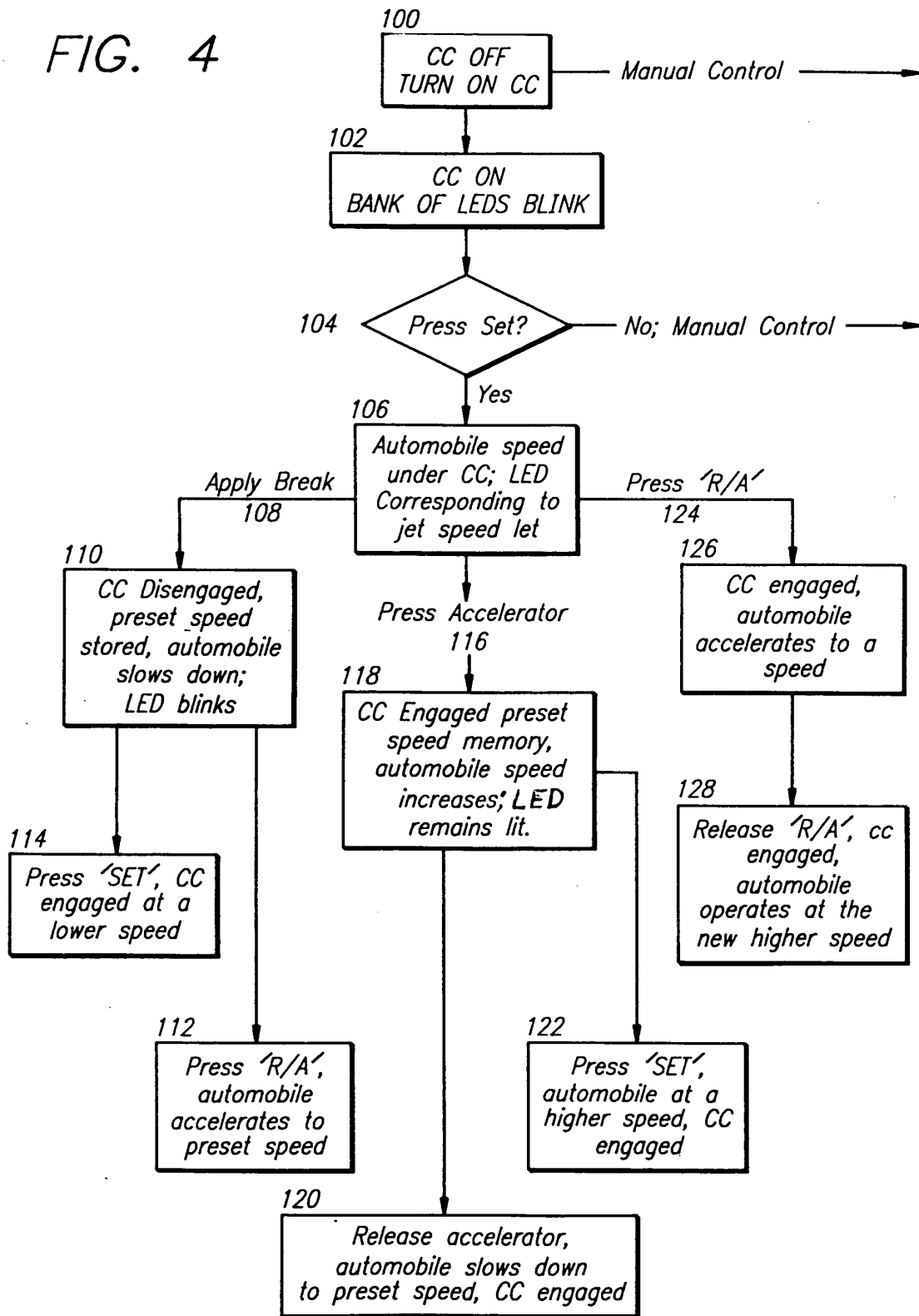


FIG. 3

FIG. 4



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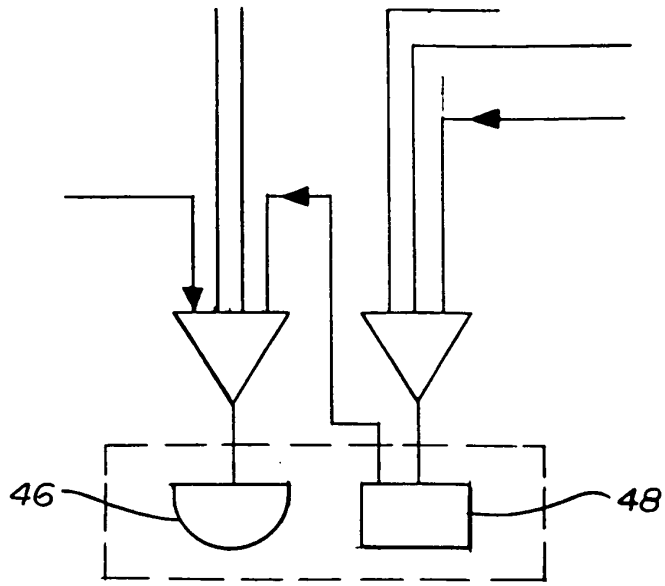


FIG. 5

APPLICATION
OF
C. KUMAR N. PATEL
FOR
UNITED STATES LETTERS PATENT
ON

CRUISE CONTROL INDICATOR

Docket No. P07 42750

Sheets of Drawings: 4

Attorneys

PRETTY, SCHROEDER, & POPLAWSKI, P.C.
444 South Flower Street, 19th Floor
Los Angeles, California 90071-2909
(213) 622-7700

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JOHN TRIVINO
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(SIGNATURE OF PERSON MAILING PAPER OR FEE)

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CRUISE CONTROL INDICATOR

This application claims the benefit of U.S. Provisional Application No. 60/085,183, filed on May 12, 1998.

FIELD OF THE INVENTION

5 This invention relates to cruise control systems and more particularly to automotive cruise control systems which display preset speed information.

BACKGROUND OF THE INVENTION

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10 The cruise control accessory found in many automobiles today can be characterized as a human-machine system. That is, while the cruise control feature offers the operator of a vehicle the benefit of speed control (machine) automation, it also requires significant human interface for its proper and safe operation. In particular, conventional cruise control systems require the operator to (1) turn on the cruise control system (by depressing or rocking a button on the steering wheel or dashboard), (2) achieve the desired cruising speed (by controlling the deflection of the accelerator), and then (3) engage, or set,
15 the cruise control (by pressing another button typically located on the steering wheel or cruise control stalk shift).

Further, the conventional cruise control system is provided with a memory function that stores the set control speed. Thus, applying the brakes to temporarily slow down temporarily disengages the cruise control function. However, re-engaging the cruise
20 control by depressing the "resume" button returns the automobile to the preset, memorized speed. Similarly, temporarily accelerating while the cruise control is engaged, as is done, for example, when passing other vehicles, does not disengage the system. Rather, when the accelerator is released, the automobile slows down until it returns to its set cruising speed and continues at that speed. In fact, the preset, memorized speed is typically canceled only
25 if the cruise control system is turned off (by either depressing the system button or turning off the automobile) or if another speed is set into the memory.

Thus, the conventional cruise control system can be characterized as existing in any one of five modes. Those modes are: (1) cruise control system off - the car's speed is controlled manually; (2) system on, but not engaged - the car's speed is still controlled
30 manually; (3) system on and engaged at a set speed- the car's speed is automatically

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controlled at the memorized speed; (4) system on and engaged at a set speed but the accelerator is depressed thus increasing the speed of the car - the car's speed is no longer controlled automatically. However, the moment the speed of the vehicle drops to the set speed due to the operator releasing the accelerator, the system jumps back to mode 3; and
5 (5) system on and engaged but the brakes are depressed - the car's speed is no longer controlled automatically but the set speed is still stored in memory and will re-engage to automatic mode 3 upon depressing the "resume" button. It is also apparent that the system is dynamic in that it can jump from mode to mode based on human or machine intervention.

The operator may know which mode the automobile is in at any given moment,
10 but this may not always be the case. While most systems provide visual feedback indicating whether the cruise control system is enabled (identifying if it is in mode 1), typically via a light located within the cruise control button or on the dashboard, this information is of some but minimal value to the operator. They do not, however, inform the operator which mode the automobile is in when the system is enabled (i.e. mode 2, 3, 4, or 5). While no feedback
15 is obviously needed to identify when the system is in mode 3 because the cruise control is automatically controlling the speed, conventional systems do not inform the operator whether they are in fully manual mode 2 or in one of the temporarily manual modes 4 or 5. The operator must rely on his or her memory to know whether the speed at which the vehicle is traveling is only a temporary override of the automatic speed control to be resumed upon
20 releasing the accelerator or depressing the resume button, as the case may be, or is a function of being in fully manual mode 2.

Lacking this knowledge poses potential safety hazards. This can be illustrated by way of several examples. Example 1: The operator was on fully automatic cruise (mode 3) at 60 miles per hour (mph), but then accelerated to 75 mph (mode 4) and kept his/her foot
25 on the accelerator to maintain this speed for several miles. Then, the operator had a need to gradually slow the vehicle down to below 60 mph, say 40 mph, because of a new driving condition, such as heavy traffic, reduced speed limit or exiting the highway. However, by this time, the operator forgot that cruise control was still set for 60 mph, and merely released the accelerator, expecting the vehicle to continue to slow down to 40 mph. This, course, did not
30 happen. The operator's momentary lack of speed control could lead to an accident. Example 2: The operator was in fully automatic cruise control mode (mode 3) but had to step on the brakes to temporarily slow down, thereby disengaging the cruise control (mode 5). Some time elapsed and the operator forgot the preset speed before pressing the resume button. The

acceleration to the preset speed may come as a surprise and lead to another hazardous situation.

In sum, there is a definite safety driven need to provide useful, visual feedback to operators of automobiles with cruise control of the preset speeds at which they are set.

5

SUMMARY OF THE INVENTION

The present invention addresses this need by providing the operator of a vehicle with information about the preset speed of an enabled cruise control system. This is accomplished by equipping the vehicle with a visual feedback system that continuously provides the preset speed memorized by the cruise control system. This invention will tend to enhance the safe operation of a vehicle under cruise control conditions.

10

In particular, a cruise control system for a vehicle is provided with a speed controller that automatically maintains the vehicle speed at a desired preset speed, an enable switch that enables the system, a set speed input in communication with the controller to manually set the speed of the vehicle to that at which it is traveling at the moment of input, a memory for temporarily storing the speed of the vehicle at the set speed, and a feedback system for displaying the set speed information to the operator of the vehicle until a new set speed is input or the system is disabled.

15

In one more detailed aspect of the invention, the feedback system of a vehicle designed with a digital speed display, or speedometer, is a second digital display that provides the preset cruise control speed, when the cruise control is enabled and active. In another more detailed embodiment, the feedback system of a vehicle having an analog speedometer includes a plurality of light emitting diodes (LED's) located at various speed intervals on the speedometer dial. The LED corresponding to the speed at which the vehicle was traveling when the cruise control system was set illuminates and remains lit (or blinks) for the benefit of the operator.

20

25

Other features and advantages of the present invention will become apparent from the following detailed description, taken in conjunction with the accompanying drawings, which illustrate, by way of example, the principles of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

30

FIG. 1 is schematic of a digital speed display of one embodiment of the present invention;

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FIG. 2 is a plan view of another embodiment of the present invention, wherein an analog speedometer incorporating a bank of LED detector assemblies is shown;

FIG. 3 is a partial side view of the analog speedometer taken along line 3-3 of FIG. 2, wherein an LED detector assembly and speedometer needle are further illustrated;

FIG. 4 is a flow chart detailing the various operations of the analog cruise control feedback system shown in FIG. 2; and

FIG. 5 is a schematic of the LED detector assembly shown in FIGS. 2 and 3.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

The invention summarized above and defined by the enumerated claims may be better understood by referring to the following detailed description, which should be read in conjunction with the accompanying drawings. This detailed description of a particular preferred embodiment, set out below to enable one to build and use one particular implementation of the invention, is not intended to limit the enumerated claims, but to serve as a particular example thereof. The particular example set out below is one preferred specific implementation of an improved cruise control system for an automobile, namely, one that provides continuous visual feedback of the preset speed of the system for the convenience of the operator and for improved safety. The invention, however, may also be applied to other types of transportation means that could utilize a cruise control system.

Automobiles currently provide one of two types of speed displays, namely, the analog display, typically in the form of the traditional speedometer, and the digital display. Accordingly, as detailed below, the present invention provides cruise control speed-indicating solutions for both types of displays. The digital display embodiment is described first.

For vehicles having digital speed displays, the speed information is already in digitized form, such as binary coded decimal (BCD). As shown in the schematic of FIG. 1, a main speed display 8 displays in digital format the current speed at which the vehicle is operating. A clocking mechanism 10, such as an array of logic gates, is provided to write the digitized information regarding the speed at which the vehicle is traveling when the set button is pressed, that is, when the cruise control is engaged, into a digital memory 12, such as a DRAM. Output lines 14 from the memory 12 activate a second smaller and distinctive digital display 16 indicating the preset speed. In the preferred embodiment, the preset speed remains

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continuously lit on the second display 16 from the moment the cruise control is engaged until it is either overridden or shut off. When the cruise control is disengaged by stepping on the brake, for example, to temporarily slow down the vehicle to accommodate a heavy traffic load or a reduced highway speed, the preset display retains the preset speed information and
5 blinks at fixed intervals, say, twice per second. This gives the operator a clear indication of the speed to which the vehicle will return when the command to resume speed is applied.

When the cruise control system is first activated, the preset display 16 will blink the number zero indicating an "unset" state of cruise control. Further, if in the engaged state, the operator steps on the accelerator to momentarily (or longer) increase vehicular speed (for
10 passing another vehicle or any other reason), the cruise control will remain engaged as is true of all systems today. However, the operator will always have a clear indication of the speed to which the vehicle will return upon removing the foot from the accelerator, obviating the need to rely on the memory of the operator to know the cruise control speed.

Referring now to automobiles with analog speed displays, since digitized speed
15 information is not typically available for easy storage, as was described above, a very different approach is used to achieve the same results as in the digital embodiment. As shown in FIG. 2, the preset speed information is displayed right on the analog speed dial, or speedometer 40, itself. In particular, the analog dial 40 which has speed markings thereon, is also provided with a bank 44 of individual light emitting diode (LED) assemblies 45
20 embedded at the periphery of the dial at every 1 mile per hour (mph) interval. It is understood that other intervals may be used if desired. The bank 44 extends for a portion of the dial corresponding to an expected potential range of cruising speeds, such as from 40 mph to 80 or 90 mph. Referring momentarily to FIG. 3, each LED assembly 45 is comprised
25 of an LED 46 and a detector 48. These assemblies 45, assembled individually or as an entire bank 44, can be easily fabricated on a few semiconductor chips.

The operation of the analog embodiment of the present invention is now illustrated with reference to the flow chart shown in Fig. 4, in conjunction with FIGS. 2, 3 and 5.

When the operator starts the vehicle and commences driving, the cruise control
30 (indicated as "CC" in Fig. 4) is off and the automobile is under manual control. When the operator turns on the cruise control in step 100, all of the detectors 48 are off, and the display of the entire bank of LEDs 44 simultaneously blink once (or a small number of present times) to inform the operator that the cruise control is now enabled, step 102. Further, the LED 50,

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5 The second scenario entails the operator stepping on the accelerator, step 116, to increase the vehicular speed in order to pass another vehicle (or any other reason). As shown in step 118, the LED remains lit continuously to indicate the speed to which the vehicle will return once the operator takes her/his foot off the accelerator, as in step 120. For the operator to be able to see the set speed when cruise control is engaged and when the vehicle is moving at the preset speed, this embodiment includes a speedometer indicator needle which is semitransparent over the region where the bank of LED assemblies 44 are located. Thus, the operator can see the continuously lit LED and know that the cruise control is engaged.

10 Alternatively, as shown in step 122, if desired, the operator can select a new, higher cruising speed by pressing the "set speed" button. In this case, the earlier sequence will repeat, a new LED will be lit, and the automobile speed will be set at a higher speed.

15 Finally, the third scenario envisions the operator depressing the "Reset/Accelerate" or "R/A" button in step 124 to accelerate the vehicle via the cruise control system, step 126. Following the earlier sequences, the new speed will be set to that which the vehicle was traveling when the "R/A" button was released. This will sequence all of the LED's to blink, all detectors to be activated, and then the LED under the needle to stay lit to indicate the new higher cruising speed, as shown in step 128.

20 As shown, deployment of the present invention in all vehicles equipped with cruise control will tend to contribute significantly towards safer driving.

25 Having thus described the basic principles and exemplary embodiments of the invention, it will be apparent that further variations, alterations, modifications, and improvements will also occur to those skilled in the art. For example, it is understood that a vehicle equipped with an analog speedometer may be designed with a digital preset speed indicator. Further, it will be apparent that the present invention is not limited to use in automobiles. It is applicable to any operator-controlled vehicle that may use a human-machine, mobile cruise control system, such as motorcycles, trolleys, water vehicles, etc. Such alterations, modifications, and improvements, though not expressly described or mentioned above, are nonetheless intended and implied to be within the spirit and scope of the invention. Accordingly, the foregoing discussion is intended to be illustrative only; the invention is limited and defined only by the various following claims and equivalents thereto.

What is claimed is:

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1. A cruise control system for a vehicle having a human operator, comprising:

a speed controller that automatically maintains the vehicle speed at a preset speed;

an enable switch associated with said controller for enabling the system;

5 a set speed input in communication with said controller for manually setting the speed of the vehicle at said preset speed, thereby engaging the system;

a memory which stores information indicative of said preset speed; and

a feedback system for communicating said information in said memory to the operator of the vehicle.

2. A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

(a) a speed controller capable of automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;

5 (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;

(c) a set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;

10 (d) a memory that stores information representative of the selected cruising speed; and



(e) a feedback system that substantially continuously communicates the selected cruising speed information to the operator of the vehicle until either the operator selects a subsequent cruising speed or the controller is disabled.

3. The cruise control system of claim 2, wherein the feedback system includes a digital display.

4. The cruise control system of claim 3, wherein the digital display displays a predetermined signal when the controller is initially enabled to indicate the state of the controller.

5. The cruise control system of claim 3, wherein the digital display displays information indicative of the selected cruising speed of the vehicle.

6. A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

(a) a speed controller capable of automatically maintaining the vehicle at a substantially constant cruising speed selected by the operator;

5 (b) a cruise control enable switch associated with the controller for enabling and disabling the controller;

(c) an operator-controlled, set speed input in communication with the controller for selecting the cruising speed of the vehicle when the controller is enabled;

10 (d) an analog speedometer having a speed dial with speed markers and a rotating speed indicating needle on the dial; and

(e) a feedback system that detects the position of the speed indicating needle when the cruising speed of the vehicle is selected and that substantially continuously communicates the position of the needle corresponding to that cruising speed until either the operator selects a new cruising speed or the controller is disabled.

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5 7. The cruise control system of claim 6, wherein the feedback system further comprises a bank of light emitting diodes arranged along a portion of the of the speed dial, each diode positioned to correspond to a given speed indication on the dial, and wherein one of the diodes in the bank emits light corresponding to the selected cruising speed.

8. The cruise control system of claim 7, wherein the feedback system further includes one light emitting diode detector arranged adjacent to each diode in the bank of light emitting diodes, and a light reflective surface on a portion of the side of the speed indicating needle that faces the bank of diodes and that sweeps over the bank of diodes.

9. The cruise control system of claim 8, wherein said feedback system determines the relative position of the speed indicating needle when the cruising speed is selected by detecting reflections from one of the light emitting diodes off the reflective surface of the needle received by an adjacent light emitting diode detector.

10. The cruise control system of claim 8 wherein the bank of light emitting diodes is activated when the enable switch is initially enabled.

11. The cruise control system of claim 9 wherein the feedback system activates one of the light emitting diodes closest to the needle when said enable switch is enabled.

12. A method for visually communicating to the human operator of a vehicle having a cruise control system the cruising speed at which the vehicle is set, comprising:

determining the speed at which the vehicle is traveling;

activating the cruise control system at the desired cruising speed;

5 displaying a symbol indicative of the speed at which the cruise control system is activated;

maintaining the activated cruise control speed symbol upon temporary acceleration or deceleration of the vehicle;

10 removing said symbol when the cruise control system is deactivated or a new cruising speed is selected.

13. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

5 displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed; and

discontinuing display of the symbol indicative of the preset speed when the cruise control system is deactivated or a new preset speed is selected.

14. The method of claim 13, further comprising:

displaying a second symbol upon the selection of a new preset speed, said second symbol indicative of the new preset speed.

15. The method of claim 13, further comprising:

before setting the preset speed, activating the cruise control system; and

after activating the cruise control system, but before setting the preset speed, indicating to the operator the unset status of the preset speed.

16. The method of claim 15,

wherein indicating the unset status of the preset speed includes displaying a visual symbol to the operator.

17. The method of claim 16,

wherein the visual symbol indicating the unset status of the preset speed comprises a blinking "0".

18. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

5 displaying to the operator a symbol indicative of the preset speed while maintaining the vehicle speed at substantially the preset speed;

maintaining the display of the symbol indicative of the preset speed;

braking the vehicle;

10 upon braking the vehicle, discontinuing maintaining the vehicle speed at substantially the preset speed while keeping data corresponding to the preset speed in a memory device; and

at a time after braking and during which time the vehicle is not being maintained at substantially the preset speed, displaying to the operator a symbol indicative of the preset speed.

19. The method of claim 18, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed, is distinguishable by the operator from the symbol indicative of the preset speed while the vehicle is being maintained at substantially

5 the preset speed.

20. The method of claim 19, wherein the symbol indicative of the preset speed displayed at the time after braking and during which time the vehicle is not being maintained at substantially the preset speed is in the form of a blinking numerical indicator.

21. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

engaging the cruise control system;

5 setting the preset speed;

displaying to the operator a symbol indicative of the preset speed;

maintaining the display of the symbol indicative of the preset speed;

discontinuing display of the symbol indicative of the preset speed after the cruise control system is deactivated or a new preset speed is selected; and

10 after the cruise control system is deactivated, displaying a symbol indicative of an unset state of the preset speed.

22.. The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a "0" [zero].

23. The method of claim 21, wherein the symbol indicative of the unset state of the preset speed is a blinking numerical indicator.

24. The method of claim 22, wherein the "0" [zero] is a blinking "0" [zero].

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25. A method for indicating to a human operator of a vehicle having a cruise control system a preset speed for which the cruise control system is set, the method comprising:

setting the preset speed;

5 displaying to the operator a symbol indicative of the preset speed;

accelerating the vehicle to a speed above the preset speed; and

maintaining the display of the symbol indicative of the preset speed while the vehicle is at the speed above the preset speed.

26. A cruise control system for a variable speed vehicle controlled by a human operator, comprising:

a speed controller capable of automatically maintaining the vehicle at a substantially constant preset speed;

5 a set speed input in communication with the controller for selecting the preset speed;

a memory device operable to store information representative of the preset speed;

first visual display apparatus operable to display the indicative of the actual speed of the vehicle; and

10 second visual display apparatus operable to display the visual information indicative of an operation status of the speed controller, wherein the visual information displayable by the second visual display apparatus includes visual information indicative of the preset speed.

27. The cruise control system of claim 26, wherein the visual information

operating the second visual display apparatus to display visual information indicative of the preset speed.

36. The method of claim 35, further comprising:

operating the cruise control device to change the preset speed from a first preset speed to a second preset speed;

operating the second visual display apparatus to display visual information
5 indicative of the second preset speed.

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SERIAL NUMBER 09/310,527	FILING DATE 05/12/99	CLASS 701	GROUP ART UNIT 3661	ATTORNEY DOCKET NO. P0742750		
APPLICANT	C. KURMAN N. PATEL, LOS ANGELES, CA.					
	CONTINUING DOMESTIC DATA*** VERIFIED <u>none</u>					
	371 (NAT'L STAGE) DATA*** VERIFIED <u>none</u>					
	FOREIGN APPLICATIONS*** VERIFIED <u>none</u>					
IF REQUIRED, FOREIGN FILING LICENSE GRANTED 06/04/99						
Foreign Priority claimed 35 USC 119 (a-d) conditions met	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no	Met after Allowance	STATE OR COUNTRY CA	SHEETS DRAWING 4	TOTAL CLAIMS 36	INDEPENDENT CLAIMS 10
Verified and Acknowledged	Examiner's Initials: <u>AD</u> Initials: _____					
ADDRESS	PRETTY SCHROEDER & POPLAWSKI PC 444 SOUTH FLOWER STREET 19TH FLOOR LOS ANGELES CA 90071-2909					
	TITLE	CRUISE CONTROL INDICATOR				
FILING FEE RECEIVED \$862		FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT NO. _____ for the following:			<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	

PATENT APPLICATION FEE DETERMINATION RECORD

Effective November 10, 1998

Application or Docket Number

310527

CLAIMS AS FILED - PART I

(Column 1) (Column 2)

FOR	NUMBER FILED	NUMBER EXTRA
BASIC FEE		
TOTAL CLAIMS	280 minus 20= *	120
INDEPENDENT CLAIMS	10 minus 3= *	7
MULTIPLE DEPENDENT CLAIM PRESENT		

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE OR

OTHER THAN SMALL ENTITY

RATE	FEE	OR	RATE	FEE
	380.00			760.00
X\$ 9=		OR	X\$18=	288
X39=		OR	X78=	280
+130=		OR	+260=	
TOTAL		OR	TOTAL	1094

CLAIMS AS AMENDED - PART II

(Column 1) (Column 2) (Column 3)

AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	* 36	Minus	** 36
Independent	* 10	Minus	*** 10	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

SMALL ENTITY OR

OTHER THAN SMALL ENTITY

RATE	ADDITIONAL FEE	OR	RATE	ADDITIONAL FEE
X\$ 9=		OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

(Column 1) (Column 2) (Column 3)

AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**
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FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

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X\$ 9=		OR	X\$18=	
X39=		OR	X78=	
+130=		OR	+260=	
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(Column 1) (Column 2) (Column 3)

AMENDMENT C	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA
	Total	*	Minus	**
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FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				

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X\$ 9=		OR	X\$18=	
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* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
 ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
 *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

FILED IN PTO
 09/21/01
 15/12/01
 701 93
 Class Subclass
 ISSUE CLASSIFICATION

PATENT NUMBER
 6324463
 6324463

U.S. UTILITY PATENT APPLICATION

SCANNED *W. CBS* O.I.P.E. *W. O.W.* PATENT DATE
 NOV 27 2000

SECTOR	CLASS	SUBCLASS	ART. UNIT	EXAMINER
	701	93	3661	<i>W. O.W.</i>

FILED WITH: DISK (CRF) FICHE
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PREPARED AND APPROVED FOR ISSUE

ORIGINAL		CROSS REFERENCE(S)			
CLASS	SUBCLASS	CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)		
701	93	701	70		
INTERNATIONAL CLASSIFICATION		180	170		
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<input checked="" type="checkbox"/> B 00 K	31/00				

Continued on Issue Slip Inside File Jacket

<input type="checkbox"/> TERMINAL DISCLAIMER	DRAWINGS Sheets Drwg. <i>43</i> Figs. Drwg. <i>5</i> Print Fig. <i>1</i>			CLAIMS ALLOWED Total Claims <i>30</i> Print Claim for O.G. <i>1</i>	
	<input checked="" type="checkbox"/> a) The term of this patent subsequent to (date) <i>4 June 2001</i> has been disclaimed. (Assistant Examiner)			NOTICE OF ALLOWANCE MAILED <i>6-11-01</i>	
<input checked="" type="checkbox"/> b) The term of this patent shall not extend beyond the expiration date of U.S. Patent No. _____ (Primary Examiner) <i>W. A. Cuchlinski, Jr.</i> (Date) <i>6/11/01</i>			ISSUE FEE Amount Due <i>124000</i> Date Paid <i>9-20-01</i> <i>AT</i>		
<input checked="" type="checkbox"/> c) The terminal _____ months of this patent have been disclaimed. (Legal Instruments Examiner) <i>D. Bates</i> (Date) <i>6/11/01</i>			ISSUE BATCH NUMBER <i>H47</i>		

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 The information disclosed herein may be restricted. Unauthorized disclosure may be prohibited by the United States Code Title 35, Sections 122, 181 and 368. Possession Outside the U.S. Patent & Trademark Office is restricted to authorized employees and contractors only.

Formal Drawings (_____ sheets) set _____

ISSUE FEE IN FILE

(LABEL AREA)

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SEARCHED			
Class	Sub.	Date	Exmr.
701	93	21 Aug 2000	YB
	96		
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	301		
340	438		
	441		
	815.4		
180	170		
345	30		
362	23		
	482		
	489		
	459		
Updated 3 June 2001			YB

SEARCH NOTES (INCLUDING SEARCH STRATEGY)		
	Date	Exmr.
WEST	28 Aug 2000	YB
	29 Aug 2000	

INTERFERENCE SEARCHED			
Class	Sub.	Date	Exmr.
701	93	4 June 2001	YB
	70		
815.4	438		
180	170		
362	489		
	459		

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ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION	INITIALS	ID NO.	DATE
FEE DETERMINATION	DB	702003	5-21-99
O.I.P.E. CLASSIFIER		68904	8/27/99
FORMALITY REVIEW		68904	6/4/99

INDEX OF CLAIMS

- ✓ Rejected
- = Allowed
- (Through numeral) ... Canceled
- + Restricted
- N Non-elected
- I Interference
- A Appeal
- O Objected

Claim	Date
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