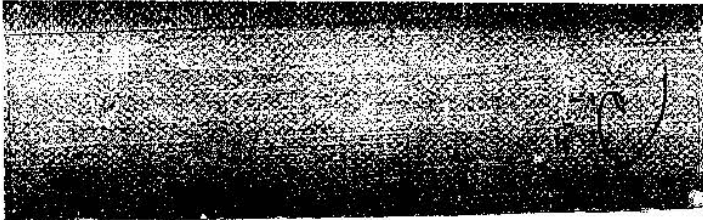


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JCS18 U.S. PTO  
09/18/738



377	24.2	Class	Subclass
ISSUE CLASSIFICATION			



PATENT NUMBER
<b>6175608</b>
6175608

### U.S. UTILITY PATENT APPLICATION

O.I.P.E.	PATENT DATE JAN 16 2001
SCANNED <i>302</i> O.A. <i>AM</i>	

SECTOR	CLASS <b>377</b>	SUBCLASS <b>24.2</b>	ART UNIT <b>2816</b>	EXAMINER <i>Margaret R. Wambach</i>
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### PREPARED AND APPROVED FOR ISSUE

ISSUING CLASSIFICATION					
ORIGINAL			CROSS REFERENCE(S)		
CLASS	SUBCLASS		CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)	
377	24.2				
INTERNATIONAL CLASSIFICATION					
G01C	21/00		<b>NONE</b>		

Continued on Issue Slip Inside File Jacket

<input type="checkbox"/> <b>TERMINAL DISCLAIMER</b>	<b>DRAWINGS</b>			<b>CLAIMS ALLOWED</b>	
	Sheets Drwg. <i>1</i>	Figs. Drwg. <i>1</i>	Print Fig. <i>1</i>	Total Claims <b>33</b>	Print Claim for O.G. <i>1</i>
<input type="checkbox"/> a) The term of this patent subsequent to _____ (date) has been disclaimed. <input type="checkbox"/> b) The term of this patent shall not extend beyond the expiration date of U.S. Patent. No. _____	<del>_____</del> (Assistant Examiner) (Date)			<b>NOTICE OF ALLOWANCE MAILED</b>	
	<b>Margaret R. Wambach</b> Primary Examiner <i>Margaret R. Wambach</i> 6/22/00 (Primary Examiner) (Date)			<i>6/21/00</i>	
<b>ISSUE FEE</b> <i>BID</i> Amount Due <i>605.00</i> Date Paid <i>9/25/00</i>					
<input type="checkbox"/> c) The terminal _____ months of this patent have been disclaimed.	<i>Gregory C. Lawrence</i> 6/22/00 (Legal Instruments Examiner) (Date)			<b>ISSUE BATCH NUMBER</b> <i>039</i>	
<b>WARNING:</b> 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.					

Form PTO-436A (Rev. 6/99)

Formal drawings (\_\_\_\_ sheets) Issue Fee

(LABEL AREA)

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PATENT APPLICATION



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jc516 U.S. PTO



CONTENTS

INITIALS

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	Date received (Incl. C. of M.) or Date Mailed	Date received (Incl. C. of M.) or Date Mailed
1. Application 1 papers.		
2. In R's Deck	11/17/98	
3. Deck Fee	5-10-99	
4. FDS	2-18-99	
5. Suppl. FDS	12-22-99	
6. Fee (3 months)	1-28-00	
7. Suppl. FDS	3/21/00	
8. Admt. A	03/21/00	
9. Suppl. FDS	3/21/00	
10. Suppl. FDS	4/10/00	
11. Admt. B	6/19/00	
12. PTO 913	6/12/00	
13. PTO 37=	6/21/00	
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15. Supp PTO 37=	10-17-00	
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ISSUE SLIP STAPLE AREA (for additional cross references)

POSITION	INITIALS	ID NO.	DATE
FEE DETERMINATION	<i>EW</i>	<i>249</i>	
O.I.P.E. CLASSIFIER		<i>EW</i>	<i>11/6</i>
FORMALITY REVIEW	<i>EF</i>	<i>59984</i>	<i>11-13-58</i>

INDEX OF CLAIMS

- ✓ ..... Rejected
- = ..... Allowed
- (Through numeral)... Canceled
- ÷ ..... Restricted
- N ..... Non-elected
- I ..... Interference
- A ..... Appeal
- O ..... Objected

Claim	Date
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PATENT APPLICATION SERIAL NO. \_\_\_\_\_

U.S. DEPARTMENT OF COMMERCE  
PATENT AND TRADEMARK OFFICE  
FEE RECORD SHEET

11/03/1998 GMSHING 00000027 150660 09181738

01 FC:101	38.00 CH	752.00 OP
02 FC:102	164.00 CH	
03 FC:103	550.00 CH	

Printed 10/28/2000

SERIAL NUMBER	FILING DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO
09/181,738	10/28/1998	377	2816	EPIXINC-4

APPLICANT  
 NATHAN PYLES, LAKE MILLS, WISCONSIN; JOEL M MACHT, REECEVILLE,  
 WISCONSIN; CHEN-SHUI JUNG, TAIPEI, TAIWAN.

\*\*CONTINUING DOMESTIC DATA\*\*\*\*\*  
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\*\*371 (NAT'L STAGE) DATA\*\*\*\*\*  
 VERIFIED

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\*\*FOREIGN APPLICATIONS\*\*\*\*\*  
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FOREIGN FILING LICENSE GRANTED 11/13/1998 SMALL ENTITY

Foreign priority claimed 35 USC 119 (a-d) conditions met	<input type="radio"/> yes <input type="radio"/> no <input type="radio"/> yes <input type="radio"/> no <input type="radio"/> Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
Verified and acknowledged	Examiner's Name Initials	TWK U.L.	1	45	5

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 LATHROP & CLARK LLP  
 740 REGENT STREET SUITE 400  
 P.O. BOX 1507  
 MADISON , WI 53701-1507

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<b>UTILITY PATENT APPLICATION TRANSMITTAL</b> (Only for new nonprovisional applications under 37 CFR 1.53(b))		Attorney Docket No.	EPIXINC-4	Total Pages	
		First Named Inventor or Application Identifier			
		Nathan Pyles			
		Express Mail Label No.	EM164411845US		
APPLICATION ELEMENTS			ADDRESS TO: Assistant Commissioner for Patents Box Patent Application Washington, DC 20231		
See MPEP chapter 600 concerning utility patent application contents.					
1.	<input checked="" type="checkbox"/> Fee Transmittal Form (submit an original, and a duplicate for fee processing)	6.	<input type="checkbox"/> Microfiche Computer Program (Appendix)		
2.	<input checked="" type="checkbox"/> Specification [Total Pages 19] (preferred arrangement set forth below) - Descriptive title of the Invention - Cross References to Related Applications - Statement Regarding Fed sponsored R&D - Reference to Microfiche Appendix - Background of the Invention - Brief Summary of the Invention - Brief Description of the Drawings (if filed) - Detailed Description - Claim(s) - Abstract of the Disclosure	7.	Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary) a. <input type="checkbox"/> Computer Readable Copy b. <input type="checkbox"/> Paper Copy (identical to computer copy) c. <input type="checkbox"/> Statement verifying identity of above copies		
3.	<input checked="" type="checkbox"/> Drawing(s) (356 USC 113) [Total Sheets 1]	ACCOMPANYING APPLICATION PARTS 8. <input type="checkbox"/> Assignment Papers (cover sheet & document(s)) 9. <input type="checkbox"/> 37 CFR 3.73(b) Statement (when there is an assignee) <input type="checkbox"/> Power of Attorney 10. <input type="checkbox"/> English Translation Document (if applicable) 11. <input type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 <input type="checkbox"/> Copies of IDS Citations 12. <input type="checkbox"/> Preliminary Amendment 13. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Should be specifically itemized) 14. <input type="checkbox"/> Small Entity Statement(s) <input type="checkbox"/> Statement filed in prior application, Status still proper and desired 15. <input type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed) 16. <input type="checkbox"/> Other: _____ _____ _____			
4.	<input type="checkbox"/> Oath or Declaration [Total Pages 4] a. <input type="checkbox"/> Newly executed (original or copy) b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d)) (for continuation/divisional with Box 17 completed) [Note Box 5 below]  <input type="checkbox"/> i. DELETION OF INVENTOR(S) Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).				
5.	<input type="checkbox"/> Incorporation By Reference (useable 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.				
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18. CORRESPONDENCE ADDRESS					
<input checked="" type="checkbox"/> Customer Number or Bar Code Label		020,455 (Insert Customer No. or Attach bar code label here)		or <input type="checkbox"/> Correspondence address below	
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CLAIMS</p> <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Total Claims</th> <th>Extra</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>45</td> <td>-20=</td> <td>25 X 11</td> <td>= \$275.00</td> </tr> <tr> <td>5</td> <td>-3=</td> <td>2 X 41</td> <td>= \$82.00</td> </tr> <tr> <td colspan="2">Multiple Dependent Claims</td> <td>X 135</td> <td>= \$0.00</td> </tr> </tbody> </table> </td> <td colspan="4"></td> </tr> <tr> <td colspan="2"> <p>Large Entity Fee Code (\$)</p> <p>Small Entity Fee Code</p> </td> <td colspan="2"> <p>Fee Description</p> </td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td>103</td> <td>22</td> <td>203</td> <td>11</td> <td>Claims in excess of 20</td> <td></td> <td></td> <td></td> </tr> <tr> <td>102</td> <td>82</td> <td>202</td> <td>41</td> <td>Independent Claims in excess of 3</td> <td></td> <td></td> <td></td> </tr> <tr> <td>104</td> <td>270</td> <td>204</td> <td>135</td> <td>Multiple dependent claims</td> <td></td> <td></td> <td></td> </tr> <tr> <td>109</td> <td>82</td> <td>209</td> <td>41</td> <td>Reissue independent claims over original patent</td> <td></td> <td></td> <td></td> </tr> <tr> <td>110</td> <td>22</td> <td>210</td> <td>11</td> <td>Reissue claims in excess of 20 and over original patent</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="text-align: right;">SUBTOTAL (2)</td> <td colspan="2" style="text-align: right;">\$357.00</td> <td colspan="2"></td> </tr> <tr> <td colspan="4"></td> <td colspan="2" style="text-align: right;">*Reduced by Basic Filing Fee Paid</td> <td colspan="2" style="text-align: right;">SUBTOTAL (3) \$0.00</td> </tr> <tr> <td colspan="4">SUBMITTED BY</td> <td colspan="4">Complete (if applicable)</td> </tr> <tr> <td colspan="2">Typed or Printed Name</td> <td colspan="2">Jeffry W. Smith</td> <td colspan="2">Reg. Number</td> <td colspan="2">33455</td> </tr> <tr> <td colspan="2">Signature</td> <td colspan="2"><i>Jeffry W. Smith</i></td> <td colspan="2">Date</td> <td colspan="2">Oct. 19, 1998</td> </tr> </tbody> </table>				Fee Code	Large Entity (\$)	Small Entity Fee Code	Small Entity (\$)	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee or oath		127	50	227	25	Surcharge - late provisional filing fee or cover sheet		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for reply within first month		116	400	216	200	Extension for reply within second month		117	950	217	475	Extension for reply within third month		118	1,510	218	755	Extension for reply within fourth month		128	2,060	228	1,030	Extension for reply within fifth month		119	310	219	155	Notice of Appeal		120	310	220	155	Filing a brief in support of an appeal		121	270	221	135	Request for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive - unavoidable		141	1,320	241	660	Petition to revive - unintentional		142	1,320	242	660	Utility issue fee (or reissue)		143	450	243	225	Design issue fee		144	670	244	335	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Petitions related to provisional applications		126	240	126	240	Submission of Information Disclosure Statement		581	40	581	40	Recording each patent assignment per property (times number of properties)		146	790	246	395	Filing a submission after final rejection (37 CFR 1.129(a))		149	790	249	395	For each additional invention to be examined (37 CFR 1.129(b))		Other fee (specify) _____						Other fee (specify) _____						SUBTOTAL (1)				\$395.00				<p>2. 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Smith		Reg. Number		33455		Signature		<i>Jeffry W. Smith</i>		Date		Oct. 19, 1998	
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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.

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1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:  Deposit Account Number: 15-0660 Deposit Account Name: Lathrop & Clark  <input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance				3. ADDITIONAL FEES  <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Large Entity</th> <th colspan="2">Small Entity</th> <th rowspan="2">Fee Description</th> <th rowspan="2">Fee Paid</th> </tr> <tr> <th>Fee Code</th> <th>Fee (\$)</th> <th>Fee Code</th> <th>Fee (\$)</th> </tr> </thead> <tbody> <tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge - late provisional filing fee or cover sheet</td><td></td></tr> <tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for reply within first month</td><td></td></tr> <tr><td>116</td><td>400</td><td>216</td><td>200</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>117</td><td>950</td><td>217</td><td>475</td><td>Extension for reply within third month</td><td></td></tr> <tr><td>118</td><td>1,510</td><td>218</td><td>755</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>128</td><td>2,060</td><td>228</td><td>1,030</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>119</td><td>310</td><td>219</td><td>155</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120</td><td>310</td><td>220</td><td>155</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121</td><td>270</td><td>221</td><td>135</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive - 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PATENT APPLICATION

\*      **IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Pyles, et al.  
Filed: Simultaneously herewith  
For: Pedometer  
Docket No.: EPIXINC-4



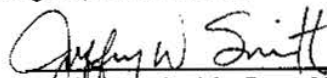
BOX PATENT APPLICATION  
Assistant Commissioner for Patents  
Washington, D.C. 20231

"Express Mail" Mailing Label No.: EM164411845US  
Date of Deposit: October 28, 1998

I hereby certify that these attached documents

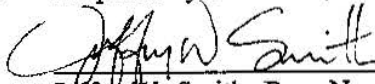
- \* Response postcard
- \* Check in the amount of \$752.00
- \* PTO/SB/17 (1p) and 1 copy
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(Jeffrey W. Smith, Reg. No. 33455)

Enclosed for filing please find the above-referenced new patent application. Please indicate receipt of this application by returning the attached postcard with the official Patent and Trademark Office receipt and serial number stamped thereon.

Respectfully submitted,

  
\_\_\_\_\_  
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Jerry W. Smith

Signature of person mailing this document

## PEDOMETER

Nathan Pyles Joel M. Macht Chen Shui-Jung

### FIELD AND BACKGROUND OF THE INVENTION

5 The present invention relates generally to pedometers having a waist mounted stride-counting device and transmitter, and a wrist-mounted receiver and display. The invention also relates to a distance calculation device that calculates a distance walked or run based on an algorithm that converts a base stride length and a base stride rate to an actual stride length for use in calculating the distance traveled.

10 Pedometers are known which include devices or algorithms for determining the distance a person travels on foot. For example, U.S. Patent 4,371,945 discloses an electronic pedometer that calculates distance by electronically measuring the length of each stride taken by a user. Stride length is measured by ultrasonic waves generated by an ultrasonic module strapped to one leg and an ultrasonic detector worn on the other leg. A program compensates for a variety of measurement errors  
15 and the results are displayed on a wrist-mounted display after being transmitted by VHF waves from the leg to the wrist.

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U.S. Patent 4,771,394 discloses a computer shoe with a heel-mounted electronic device with an inertia footstrike counter, a timer, a sound generating device, a battery, and a gate array for counting time and footstrikes to calculate distance and running time as a function of stride time. Although recognizing the important relationship of stride length and foot speed, the shoe in this patent requires data from at least 15 test runs or walks and the data must be user-entered in pairs of footstrikes and elapsed time to cover a pre-determined distance. Further, user adjustments of time must be performed to accommodate start and stop times, and the number of counted footstrikes is increased one percent to overcome inherent errors in the inertia step counter. The shoe-mounted device is subject to damage from impact, dirt, and water, and requires a stay-at-home computer with which to interface. There is no means disclosed to transmit data to a wrist-mounted display device or an "on-board" computing device that provides "real time" data to a runner.

U.S. Patent 4,855,942 discloses a pedometer and calorie measuring device that includes a wrist-mounted step counter and a fixed stride length to calculate distance traveled. Wrist-mounted step counters are known to be inaccurate because they assume a step for every arm movement. Even with error correction, such a device will provide less accurate step counts than a leg or waist-mounted counter. Further, fixed stride lengths do not take into account the fact that stride length varies with rate of movement.

U.S. Patent 5,117,444 discloses a pedometer and calibration method with two calibration modes. First, a user travels a predetermined "half-distance" for the device to count and store the number of strides in that distance. Next, the user travels a second distance with the step counter comparing actual steps to the steps in memory and a current trip memory are incremented by a tenth of a "whole unit" distance. There is no correlation between stride length and stride rate which requires the user to re-calibrate the device when walking as opposed to running.

U.S. Patent 5,475,725 discloses a pulse meter with pedometer function to determine pace and pulse rate of a user. The meter uses pulse wave base data compared to actual pulse wave data rates.

U.S. Patent 5,476,427 discloses a pace display device utilizing a base rate for

traveling pre-set distances in successive trails. The device calculates step counts and rates, and compares actual step count rates to display data to a user for comparison of present running rates to previous rates.

Thus, there is a need for a simple, but highly accurate, pedometer that displays distance traveled, pace, speed, heart rate, and other important information on an easily read wrist-mounted device.

#### SUMMARY OF THE INVENTION

The present invention overcomes problems and shortcomings in the prior art by providing a device that includes a waist, chest, or leg-mounted stride counting device, a transmitter, and a wrist-mounted receiver/display device that provides highly accurate travel distances and other information. The device includes a computer that stores base stride length and rate data from traveling a pre-determined distance and compares that to actual stride rate data to calculate actual distance traveled, speed, and pace. The invention recognizes the interdependency of stride length and stride rate and uses that relationship to provide superior distance-calculating accuracy.

The invention also provides for improved display of relevant data on a wrist-mounted display that receives digital signals from devices worn on other body parts such as legs, waist, and chest. Transmitters that can send coded signals are desirable because they will not interfere with similar devices worn by other users in the vicinity.

The accuracy of the device is enhanced by the use of an algorithm that adjusts a base stride length based on actual stride rates. The algorithm is defined as: Actual Stride Length = Base Stride Length + Base Stride Length \*(((Actual Stride Rate - Base Stride Rate) N)/Base Stride Rate); where N is either an average value or a derived value from a plurality of samples.

The invention also includes a method for calculating an actual stride length including steps of: timing a first user run of a predetermined distance; counting the total number of strides in the user first run; dividing the first run distance by the stride count to obtain a base stride length; dividing the stride count by the first run time to obtain a base stride rate; counting strides during a user's second run to obtain an actual stride rate; calculating the actual stride length using the formula: Actual Stride

Length = Base Stride Length + Base Stride Length  
\*(((Actual Stride Rate - Base Stride Rate )N)/Base Stride Rate); wherein N is an  
average value or a derived value.

The average value method can be refined by comparing Base Stride Rate to  
Actual Stride Rate to determine a percentage difference; and using N=1 when the  
Actual Stride Rate  $\leq$  Base Stride Rate \* 1.02 and using N=3 when Actual Stride Rate  
 $>$  Base Stride Rate \* 1.02. A preferred embodiment uses a plurality of sample runs  
over known distances to derive an accurate N value for each individual.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a schematic diagram of a pedometer in accordance with the present  
invention.

#### DETAILED DESCRIPTION OF THE DRAWINGS

As illustrated in Fig. 1, the present invention is directed to an improved  
pedometer 20 including: a waist, chest, or leg mounted stride counter 24, and a wrist  
or waist mounted display unit 26. An optional chest-mounted heart monitor 28 can  
be included. All of the device components are mounted in suitable housings. The  
pedometer 20 includes a data processor 30 that is mounted in the same housing as  
either the step counter 24 or the display unit 26.

The step counter 24 is an inertia device that counts the number of steps a user  
takes. The number of steps is transmitted to a data archive 32 either directly or via a  
transmitter 34. The data archive 32 is mounted in the housing with the step counter  
24 or the display 26.

The transmitter 34 is mounted in the step counter housing and is preferably an  
Rf telemetric signal transmitter with a 30 inches to 36 inches transmission range.  
Alternately, the transmitter is a wireless or wired digital transmitter with a coding  
function to limit or eliminate interference with other similar devices. The wireless  
transmission range is set between 30 inches and 36 inches to provide adequate range  
to transmit signals from a user's waist to wrist, but not so far as to cause interference  
with other Rf or digital devices in the vicinity.

The transmitter 34 transmits either raw data or calculated distances, pace, etc.  
to a wrist-mounted display unit receiver 40. The receiver 40 relays a raw data signal



to the data processor 30 or a calculated data signal directly to the display panel 42, such as an LCD or LED.

Similarly, the heart rate monitor 28 includes a transmitter 44 that transmits heart rate data to the display unit 26. The heart monitor transmitter 44 can transmit at the same or a different frequency as the stride counter 24, and to the same or a different receiver in the display unit 26. The heart rate transmitter 44 is preferably Rf, but can be digital for the reasons stated above. The range of the heart rate transmitter 44 should also be between 30 inches and 36 inches to ensure effective communication with the receiver while limiting outside interference.

The data processor 30 can also include a programmable logic controller, a personal computer, a programmable read-only memory, or other suitable processor. The data processor 30 includes a data archive 32 to store historic data on stride length and pace to be used in an algorithm for calculating actual distances, speed, and rate for real-time conversion of data to useful information for a user.

The data processor 30 can also include closed loop or fuzzy logic programming to continually or periodically replace the base stride rate and length with recently calculated stride rates and lengths so that long term conditioning trends are accommodated in the base stride archive. Incorporating trend capabilities may further enhance accuracy of the distance and pace calculations.

The display unit 26 also includes an operator interface 46 such as a key pad, button, knob, etc. that enables the user to start and stop a clock 48 (or stop watch) and activate various use modes within the pedometer, such as a sampling mode and operation mode.

One option for using the pedometer 20, requires the user to operate a "sampling mode" and begin walking or running a pre-determined distance such as a mile or 1600 meters, preferably on a running track of a known size. Upon completion of the distance, a stop button on the operator interface 46 is pushed. The data processor 30 is programmed to then divide the distance by the number of strides counted to calculate an average stride length. This value is stored in the data archive 32 as the "Base Stride Length."

Also, the data processor 30 is programmed to divide the number of strides by

the time of the run or walk as measured by the clock 48 to arrive at a "Base Stride Rate."

The data processor 30 preferably includes programming that queries the user about the distance to be run during the sampling mode. By providing options or enabling the use of any distance during the sampling mode, the pedometer 20 provides maximum flexibility for use by people of various physical conditions, or having access to courses of different known distances. Thus, a user may be queried to input a distance to be used in the sampling mode and then be given a list of options such as 400 meters, 440 yards, 1600 meters, or one mile, or be asked to simply input any distance known to the user that will be traveled during the sampling mode.

The present invention makes full use of the relationship between a faster rate of travel and longer stride lengths. In other words, the faster a user is moving, the longer will be the stride length. Over the course of the run or walk, the user's step rate and, therefore, stride length will change and the user will cover more ground when moving fast and less ground when moving slow.

Clearly, using a fixed average stride length in calculating distance traveled will result in errors using prior pedometers. This is particularly true if a user changes pace, or improves conditioning and speed to the point where the average stride length over a given run increases dramatically. The error compensators in prior devices do not adjust for changes in pace. With the old devices, a user needed to re-calibrate periodically to be close to getting an accurate reading, and could not change pace during a workout without decreasing accuracy.

To make the correction, the user activates a "Use Mode" in which the data processor 30 calculates an Actual Stride Rate based on data from the stride counter 24 and the clock 48. For example, an Actual Stride Rate can be calculated every five seconds without the user doing more than activating the "Use Mode" button, while all the calculations are performed by the data processor automatically. The percentage change between the Actual Stride Rate and the Base Stride Rate is then computed by the data processor 30 to determine an Actual Stride Length. Again, if the Actual Stride Rate is greater than the Base Stride Rate, the Actual Stride Length is longer than the Base Stride Length. If the Actual Steps Per Second is lower than



more than others as Steps Per Second increases, and by finding the value for N2, this relative increase can be quantified for a more accurate and customized algorithm for each individual.

S2 SAMPLE:

6 To find the N2 value, which will be used by the algorithm when Actual Steps Per Second > Base Steps Per Second

$$N2 = ((S2 \text{ Stride} * S1 \text{ Steps Per Second}) - (S1 \text{ Stride} * S1 \text{ Steps Per Second})) / (S1 \text{ Stride} (S2 \text{ Steps Per Second} - S1 \text{ Steps Per Second}))$$

10 This value can be calculated since the distance is known, and both a Fast Stride Length (S2 Stride) and a Fast Steps Per Second (S2 Steps Per Second) can be calculated from the second sample.

Following completion of the fast run or walk, the user runs the same course and the same distance at a slower than normal run or walking pace. This pace cannot exceed the first sample pace. This is the S3 sample. The purpose of the S3 sample is to calculate an N3 value for each individual which reflects the effect a decrease in Steps Per Second has on this individual's stride length. Some individual's steps will shorten more than others as Steps Per Second decreases, and by finding the value for N3, this relative decrease can be quantified for a more accurate and customized algorithm for each individual.

20 S3 SAMPLE:

To find the N3 value, which will be used by the algorithm when Actual Steps Per Second < Base Steps Per Second.

$$N3 = ((S3 \text{ Stride} * S1 \text{ Steps Per Second}) - (S1 \text{ Stride} * S1 \text{ Steps Per Second})) / (S1 \text{ Stride} (S3 \text{ Steps Per Second} - S1 \text{ Steps Per Second}))$$

25 This value can be calculated since the distance is known and both a "Slow" Stride Length (S3 Stride) and a "Slow" Steps Per Second (S3 Steps Per Second) can be calculated from the third sample.

30 Once these three samples are completed and the information automatically calculated and stored in the data processor 30, then the following formula can be used for the most accurate measurements of speed and distance.

If: Actual Steps Per Second is less than or equal to Base Steps Per





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to other actual stride lengths or distances for other periods in which stride length was calculated. When the run or walk is completed, the user engages the operator interface 46 to indicate that a total distance is to be displayed on the display unit. Preferably, there is continual display of the distance traveled.

5 As a result of accurately calculating distance traveled, the pedometer 20 also has the capability of calculating speed in miles per hour, for example or pace in minutes per mile, including average speed and pace over the course of that particular walk or run. Further, the pedometer 20 can include a port for coupling to a separate personal computer or computing device to create larger training histories, trends, etc.

10 Additional features can include stop watches, day, date and time displays, as well as, heart rate displays as discussed above. Also, it will be understood that all distances and time periods used above can be varied in length and units of measure (English, metric, seconds, minutes, hours, etc.).

The foregoing detailed description is provided for clearness of understanding  
15 only and no unnecessary limitations therefrom should be read into the following claims.

CLAIMS

1. A pedometer comprising:  
a step counter mountable on a user first body portion;  
a transmitter in communication with the step counter to generate a signal  
6 corresponding to each step and transmit the signal; and  
a receiver mountable on a user second body portion to receive the signal  
transmitted from the transmitter and calculate a distance measured by  
the step counter.
2. The pedometer of claim 1, wherein the transmitter and the receiver  
10 communicate via wireless transmission.
3. The pedometer of claim 1, wherein the transmitter and the receiver  
communicate via a wire.
4. The pedometer of claim 1, wherein the transmission signal is digitally  
coded.

5. The pedometer of claim 1, where in the transmitter transmits the  
signal a wireless distance in the range of thirty to thirty-six inches.

6. The pedometer of claim 1, wherein the receiver is mountable on a  
user's wrist.

7. The pedometer of claim 1, wherein the receiver processes the step  
20 count signal and displays the distance traveled on a viewing screen.

8. The pedometer of claim 1, wherein the step counter is mountable on a  
user's leg.

9. The pedometer of claim 1 and further comprising:  
a heart rate monitor; and  
25 a second transmitter in communication with the heart rate monitor to transmit  
a signal corresponding to a heart rate calculated by the heart rate  
monitor to the receiver and display the calculated heart rate.

10. The pedometer of claim 9, wherein the heart rate signal is at a  
different frequency than the pedometer signal.

30 11. The pedometer of claim 9, wherein the heart rate monitor is  
mountable to a user's third body portion.

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12. The pedometer of claim 9, wherein the heart rate and the step counter transmitter are mounted in a single chest-mount housing.

13. The pedometer of claim 1, wherein the pedometer includes a data processor programmed to calculate a distance traveled by multiplying the number of strides taken by a stride length that varies according to the rate at which strides are taken.

14. The pedometer of claim 13, wherein the data processor is programmed to calculate an actual stride length of a user by performing the steps of: timing a user first run of a predetermined distance; counting the total number of strides in the user first run; dividing the first run distance by the stride count to obtain a base stride length; dividing the stride count by the first run time to obtain a base stride rate; counting strides in a period of time during a user second run to obtain an actual stride rate;

calculating the actual stride length using the formula:

$$\text{Actual Stride Length} = \text{Base Stride Length} + \text{Base Stride Length} * (((\text{Actual Stride Rate} - \text{Base Stride Rate})N) / \text{Base Stride Rate});$$

where N is in the range of between 1 and 3.

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15. The pedometer of claim 13, wherein the pedometer is further programmed to perform the steps of:

comparing the actual stride rate to the base stride rate; and calculating the actual stride length using N=1 when the actual stride rate is less than or equal to the base stride rate multiplied by 1.02.

25

16. The pedometer of claim 13, wherein the pedometer is further programmed to perform the steps of:

comparing the actual stride rate to the base stride rate; and calculating the actual stride length using N=3 when the actual stride rate is greater than the base stride rate multiplied by 1.02.

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17. A pedometer comprising:  
a step counter;  
a transmitter in communication with the step counter to generate a signal corresponding to each step and transmit the signal; and  
a receiver mountable on a user body portion to receive the signal transmitted from the transmitter and calculate a distance measured by the step counter; and  
a data processor programmed to calculate a distance traveled by multiplying the number of strides taken by a stride length that varies according to

10

the rate at which strides are taken.

18. The pedometer of claim 17, wherein the transmitter and the receiver communicate via wireless transmission.

19. The pedometer of claim 17, wherein the transmitter and the receiver communicate via a wire.

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20. The pedometer of claim 17, wherein the transmission signal is digitally coded.

21. The pedometer of claim 17, wherein the transmitter transmits the signal a wireless distance in the range of thirty to thirty-six inches.

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22. The pedometer of claim 17, wherein the receiver is mountable on a user's wrist.

23. The pedometer of claim 17, wherein the receiver processes the step count signal and displays the distance traveled on a viewing screen.

24. The pedometer of claim 17, wherein the step counter is mountable on a user's leg.

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25. The pedometer of claim 17, and further comprising:  
a heart rate monitor; and  
a second transmitter in communication with the heart rate monitor to transmit a signal corresponding to a heart rate calculated by the heart rate monitor to the receiver and display the calculated heart rate.

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26. The pedometer of claim 25, wherein the heart rate signal is at a different frequency than the pedometer signal.

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<sup>15</sup> 27. The pedometer of claim <sup>13</sup> 25, wherein the heart rate monitor is mountable to a user's third body portion.

*Sub 26* 28. The pedometer of claim 25, wherein the heart rate and the step counter are mounted in a single chest-mount housing.

5 <sup>12</sup> 29. The pedometer of claim <sup>5</sup> N, wherein the data processor is programmed to calculate an the distance traveled actual stride length of a user by performing the steps of:

- timing a user first run of a predetermined distance;
- counting the total number of strides in the user first run;
- 10 dividing the first run distance by the stride count to obtain a base stride length;
- dividing the stride count by the first run time to obtain a base stride rate;
- counting strides in a period of time during a user second run to obtain an actual stride rate;

15 calculating the actual stride length using the formula:  

$$\text{Actual Stride Length} = \text{Base Stride Length} + \text{Base Stride Length} * (((\text{Actual Stride Rate} - \text{Base Stride Rate})N) / \text{Base Stride Rate});$$

<sup>18</sup> where N is in the range of between 1 and 3.

20 <sup>5</sup> 30. The pedometer of claim N, wherein the pedometer is further programmed to perform the steps of:  
comparing the actual stride rate to the base stride rate; and  
calculating the actual stride length using N=1 when the actual stride rate is

<sup>19</sup> less than or equal to the base stride rate multiplied by 1.02.

25 <sup>5</sup> 31. The pedometer of claim N, wherein the pedometer is further programmed to perform the steps of:  
comparing the actual stride rate to the base stride rate; and  
calculating the actual stride length using N=3 when the actual stride rate is greater than the base stride rate multiplied by 1.02.



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32. A pedometer programmed to calculate an actual stride length of a user by performing the steps of:

- timing a user first run of a predetermined distance;
- counting the total number of strides in the user first run;
- dividing the first run distance by the stride count to obtain a base stride length;
- dividing the stride count by the first run time to obtain a base stride rate;
- counting strides in a period of time during a user second run to obtain an actual stride rate;

calculating the actual stride length using the formula:

$$\text{Actual Stride Length} = \text{Base Stride Length} + \text{Base Stride Length} * (((\text{Actual Stride Rate} - \text{Base Stride Rate})N) / \text{Base Stride Rate});$$

where N is in the range of between 1 and 3.

15

<sup>21</sup>~~32~~. The pedometer of claim <sup>20</sup>~~32~~, wherein the pedometer is further programmed to perform the steps of:

- comparing the actual stride rate to the base stride rate; and
- calculating the actual stride length using N=1 when the actual stride rate is less than or equal to the base stride rate multiplied by 1.02.

20

<sup>22</sup>~~34~~. The pedometer of claim <sup>20</sup>~~32~~, wherein the pedometer is further programmed to perform the steps of:

- comparing the actual stride rate to the base stride rate; and
- calculating the actual stride length using N=3 when the actual stride rate is greater than the base stride rate multiplied by 1.02.

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35. The pedometer of claim 32, wherein the receiver processes the step count signal and displays the distance traveled on a viewing screen.

<sup>24</sup>~~36~~. The pedometer of claim <sup>20</sup>~~32~~, and further comprising a heart rate monitor mounted in a chest-mount housing.

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37. A pedometer programmed to calculate an actual stride length of a user by performing the steps of:

- timing a user first run of a predetermined distance;
- counting the total number of strides in the user first run;
- dividing the first run distance by the stride count to obtain a first run base stride length;
- dividing the first run stride count by the first run time to obtain a first run base stride rate;
- timing a user second run of a predetermined distance;
- counting the total number of strides in the user second run;
- dividing the second run distance by the second run stride count to obtain a second base stride length;
- dividing the second run stride count by the second run time to obtain a second base stride rate;
- timing a user third run of a predetermined distance;
- counting the total number of strides in the user third run;
- dividing the third run distance by the third run stride count to obtain a third base stride length;
- dividing the third run stride count by the third run time to obtain a third run base stride rate;
- counting strides in a period of time during a user fourth run to obtain an actual stride rate;
- calculating the actual stride length using the formula:

Actual Stride Length = Base Stride Length + Base Stride Length  
\*(((Actual Stride Rate - Base Stride Rate)N)/Base Stride Rate);  
where N is calculated by the formula ((Second Run Stride Length  
multiplied by First Run Stride Rate) - (First Run Stride Length  
multiplied by First Run Stride Rate)) / (First Run Stride Length  
multiplied by (Second Run Stride Rate - First Run Stride Rate)) when  
the Actual Stride Rate is greater than the First Run Stride Rate, and  
where N is calculated by the formula ((Third Run Stride Length

multiplied by First Run Stride Rate) - (First Run Stride Length multiplied by First Run Stride Rate)) / (First Run Stride Length multiplied by (Third Run Stride Rate - First Run Stride Rate)) when the Actual Stride Rate is less than or equal to the First Run Stride

5 <sup>26</sup>

Rate.

<sup>25</sup>

~~38~~. The pedometer of claim ~~37~~, wherein:

the first run base stride length is an average stride length calculated from a plurality of test runs; and

the first run base stride rate is an average base stride rate calculated from the plurality of test runs.

10 <sup>27</sup>

~~39~~. The pedometer of claim ~~37~~, wherein:

<sup>25</sup>

the second run base stride length is an average stride length calculated from a plurality of test runs; and

the second run base stride rate is an average base stride rate calculated from the plurality of test runs.

15 <sup>28</sup>

~~40~~. The pedometer of claim ~~37~~, wherein:

<sup>25</sup>

the third run base stride length is an average stride length calculated from a plurality of test runs; and

the third run base stride rate is an average base stride rate calculated from the plurality of test runs.

20 <sup>29</sup>

~~41~~. The pedometer of claim ~~37~~, wherein the second run is at a faster pace

<sup>25</sup>

than the first walk or run and the third run is at a slower pace than the first walk or run.

<sup>30</sup>

~~42~~. The pedometer of claim ~~37~~, and further comprising:

<sup>25</sup>

a data processor mountable on a user body portion to calculate the actual stride length; and

a run data display device in communication with the data processor and mountable on a user body portion.

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~~43~~. The pedometer of claim ~~37~~, and further comprising a heart rate

<sup>25</sup>

30 monitor mounted in a chest-mount housing.

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44. A method for calculating an actual stride length comprising the steps

timing a first user run of a predetermined distance;  
counting a total number of strides in the user first run;  
dividing the first run time by the stride count to obtain a Base Stride Length;  
dividing the stride count by the first run time to obtain a Base Stride Rate;  
counting strides in a pre-determined period during a user second run to  
obtain an Actual Stride Rate;  
calculating the actual stride length using the formula:

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$$\text{Actual Stride Length} = \text{Base Stride Length} + \text{Base Stride Length} \\ *(((\text{Actual Stride Rate} - \text{Base Stride Rate})N)/\text{Base Stride Rate});$$

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wherein N is between one and three.

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45. The method of claim 44 and further comprising the steps of  
comparing Base Stride Rate to Actual Stride Rate to determine a percentage  
difference; and using N=1 when the difference is less than two percent and using N=3  
when the difference is greater than or equal to two percent.

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**ABSTRACT OF THE DISCLOSURE**

The pedometer having improved accuracy by calculating actual stride lengths of a user based on relative stride rates. The pedometer includes a waist or leg mounted stride counter, a transmitter for transmitting data to a wrist-mounted display unit, and a data processor for calculating necessary base units and actual stride rates and lengths. The pedometer can also interact with a heart monitoring device.

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Docket No.: EPIXINC-4

**DECLARATION AND POWER OF ATTORNEY**

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 of the subject matter which is claimed and for which a patent is sought on the invention entitled: PEDOMETER, the specification of which

is attached hereto.

was filed on \_\_\_\_\_ as Application No. \_\_\_\_\_ 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 do not know and do not believe that the same was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to this application, that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a), and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows: None.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also

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identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
<u>None.</u>	<u>                    </u>	<u>                    </u>	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
<u>                    </u>	<u>                    </u>	<u>                    </u>	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>None.</u>	<u>                    </u>	<u>                    </u>
(Application Serial Number)	(filing date)	(Status--patented, pending, abandoned)
<u>                    </u>	<u>                    </u>	<u>                    </u>
(Application Serial Number)	(filing date)	(Status--patented, pending, abandoned)

And I hereby appoint the practitioners associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number:

Customer Number: 020,455

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

SECRET REF ID: A67765







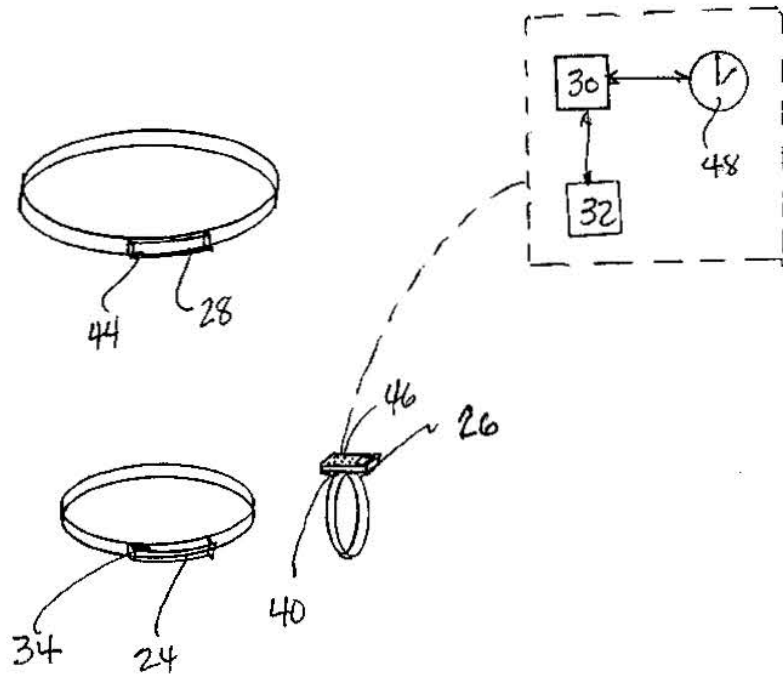


FIG. 1

09/18/73

377/24.2  
Wambach

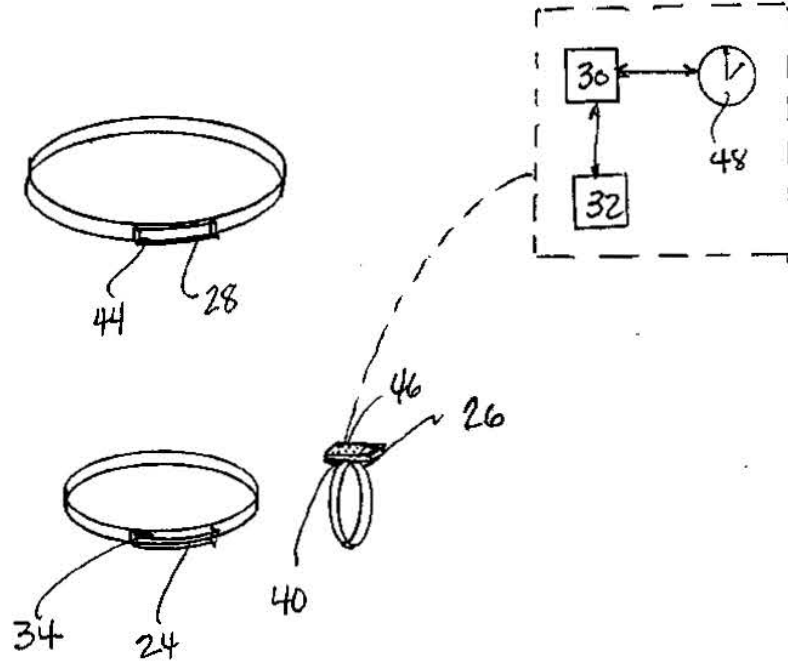


FIG. 1

SECRET - SECURITY INFORMATION

11/16

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

#2

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
06/10/1998	10/28/98	FILED	N LPIX100-4

ADDRESS  
 EXAMINER  
 U.S. DEPARTMENT OF COMMERCE  
 P.O. BOX 1547  
 WASHINGTON, DC 20547

0242/1117

NOT ASSIGNED

2816

DATE MAILED:

**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 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 1.138(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 \$ 150.

- 1. The statutory basic filing fee is:
  - missing.
  - insufficient.
 Applicant must submit \$ \_\_\_\_\_ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- 2. Additional claim fees of \$ \_\_\_\_\_, including any multiple dependent claim fees, are required.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ independent claims over 3.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ dependent claims over 20.
  - \$ \_\_\_\_\_ 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 unexecuted.
  - does not cover the newly submitted items.
  - does not identify the application to which it applies.
  - does not include the city and state or foreign country of applicant's residence.
 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 does not comply with the Sequence Rules.  
 See attached "Notice to Comply with Sequence Rules 37 CFR 1.821-1.825."
- 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.**

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

PART 3 - OFFICE COPY

FORM PTO-1533 (REV.9-97)

SECRET

PTO/SB/21 (12-97)

App. for use through 9/30/00. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box. 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.



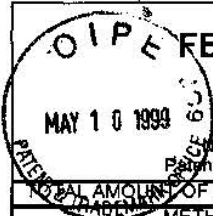
<b>TRANSMITTAL FORM</b>	Application Number	09/181,738
	Filing Date	October 28, 1998
	First Named Inventor	Nathan Pyles
	Group Art Unit	2816
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	EPIXINC-4

<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input checked="" type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input checked="" type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (For an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input checked="" type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication To Group <input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Additional Enclosure(s) (Please identify below):
Remarks		

<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>	
Firm or Individual name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	May 4, 1999

<b>CERTIFICATE OF MAILING</b>	
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:	
Typed or printed name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	May 4, 1999

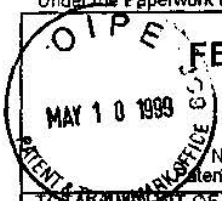
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FEE TRANSMITTAL				Complete if Known																																																																																																																																																																																								
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ADDITIONAL FEES <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code</th> <th>Large Entity Fee (\$)</th> <th>Small Entity Fee Code</th> <th>Small Entity Fee (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>105</td><td>130</td><td>205</td><td>65</td><td>Surcharge - late filing fee or oath</td><td>\$65.00</td></tr> <tr><td>127</td><td>50</td><td>227</td><td>25</td><td>Surcharge - late provisional filing fee or cover sheet</td><td></td></tr> <tr><td>139</td><td>130</td><td>139</td><td>130</td><td>Non-English specification</td><td></td></tr> <tr><td>147</td><td>2,520</td><td>147</td><td>2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112</td><td>920*</td><td>112</td><td>920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113</td><td>1,840*</td><td>113</td><td>1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115</td><td>110</td><td>215</td><td>55</td><td>Extension for reply within first month</td><td></td></tr> <tr><td>116</td><td>380</td><td>216</td><td>190</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>117</td><td>870</td><td>217</td><td>435</td><td>Extension for reply within third month</td><td>\$435.00</td></tr> <tr><td>118</td><td>1,360</td><td>218</td><td>680</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>128</td><td>1,850</td><td>228</td><td>925</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>119</td><td>300</td><td>219</td><td>150</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120</td><td>300</td><td>220</td><td>150</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121</td><td>260</td><td>221</td><td>130</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138</td><td>1,510</td><td>138</td><td>1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140</td><td>110</td><td>240</td><td>55</td><td>Petition to revive - unavoidable</td><td></td></tr> <tr><td>141</td><td>1,210</td><td>241</td><td>605</td><td>Petition to revive - unintentional</td><td></td></tr> <tr><td>142</td><td>1,210</td><td>242</td><td>605</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143</td><td>430</td><td>243</td><td>215</td><td>Design issue fee</td><td></td></tr> <tr><td>144</td><td>580</td><td>244</td><td>290</td><td>Plant issue fee</td><td></td></tr> <tr><td>122</td><td>130</td><td>122</td><td>130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>123</td><td>50</td><td>123</td><td>50</td><td>Petitions related to provisional applications</td><td></td></tr> <tr><td>126</td><td>240</td><td>126</td><td>240</td><td>Submission of Information Disclosure Statement</td><td></td></tr> <tr><td>581</td><td>40</td><td>581</td><td>40</td><td>Recording each patent assignment per property (times number of properties)</td><td></td></tr> <tr><td>146</td><td>760</td><td>246</td><td>380</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>149</td><td>760</td><td>249</td><td>380</td><td>For each additional invention to be examined (37 CFR 1.129(b))</td><td></td></tr> <tr><td colspan="6">Other fee (specify) _____</td></tr> <tr><td colspan="6">Other fee (specify) _____</td></tr> <tr><td colspan="4">SUBTOTAL (1)</td><td>\$0.00</td><td colspan="2"></td></tr> </tbody> </table>				Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid	105	130	205	65	Surcharge - late filing fee or oath	\$65.00	127	50	227	25	Surcharge - late provisional filing fee or cover sheet		139	130	139	130	Non-English specification		147	2,520	147	2,520	For filing a request for reexamination		112	920*	112	920*	Requesting publication of SIR prior to Examiner action		113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action		115	110	215	55	Extension for reply within first month		116	380	216	190	Extension for reply within second month		117	870	217	435	Extension for reply within third month	\$435.00	118	1,360	218	680	Extension for reply within fourth month		128	1,850	228	925	Extension for reply within fifth month		119	300	219	150	Notice of Appeal		120	300	220	150	Filing a brief in support of an appeal		121	260	221	130	Request for oral hearing		138	1,510	138	1,510	Petition to institute a public use proceeding		140	110	240	55	Petition to revive - unavoidable		141	1,210	241	605	Petition to revive - unintentional		142	1,210	242	605	Utility issue fee (or reissue)		143	430	243	215	Design issue fee		144	580	244	290	Plant issue fee		122	130	122	130	Petitions to the Commissioner		123	50	123	50	Petitions related to provisional applications		126	240	126	240	Submission of Information Disclosure Statement		581	40	581	40	Recording each patent assignment per property (times number of properties)		146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))		149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))		Other fee (specify) _____						Other fee (specify) _____						SUBTOTAL (1)				\$0.00		
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Typed or Printed Name		Jeffrey W. Smith		Reg. Number		33455																																																																																																																																																																																						
Signature		<i>Jeffrey W. Smith</i>		Date		May 4, 1999																																																																																																																																																																																						
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Approved for use through 09/30/00. OMB 0651-0032  
 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**FEE TRANSMITTAL**

Note: Effective October 1, 1997, patent fees are subject to annual revision

Complete if Known	
Application Number	09/181,738
Filing Date	October 28, 1998
First Named Inventor	Nathan Pyles
Group Art Unit	2818
Examiner Name	
Attorney Docket Number	EPLXINC-4

TOTAL AMOUNT OF PAYMENT \$500.00

**METHOD OF PAYMENT (check one)**

1.  The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 15-0660

Deposit Account Name: Lathrop & Clark

Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance

2.  Payment Enclosed:

Check  Money Order  Other

**FEE CALCULATION**

1. FILING FEE

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
		101	760	Utility filing fee	
		106	310	Design filing fee	
		107	480	Plant filing fee	
		108	760	Reissue filing fee	
		114	150	Provisional filing fee	
SUBTOTAL (1)					\$0.00

2. CLAIMS

	Extra	Fee from below	Fee Paid
Total Claims -20=	0	X 11	= \$0.00
Independent Claims -3=	0	X 41	= \$0.00
Multiple Dependent Claims		X 135	= \$0.00

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
		103	18	Claims in excess of 20	
		102	78	Independent Claims in excess of 3	
		104	260	Multiple dependent claims	
		109	78	Reissue independent claims over original patent	
		110	18	Reissue claims in excess of 20 and over original patent	
SUBTOTAL (2)					\$0.00

**FEE CALCULATION (Continued)**

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee (\$)	Small Entity Fee Code	Small Entity Fee (\$)	Fee Description	Fee Paid
105	130	205	65	Surcharge - late filing fee or oath	\$65.00
127	50	227	25	Surcharge - late provisional filing fee or cover sheet	
139	130	139	130	Non-English specification	
147	2,520	147	2,520	For filing a request for reexamination	
112	920*	112	920*	Requesting publication of SIR prior to Examiner action	
113	1,840*	113	1,840*	Requesting publication of SIR after Examiner action	
115	110	215	55	Extension for reply within first month	
116	360	216	190	Extension for reply within second month	
117	870	217	435	Extension for reply within third month	\$435.00
118	1,360	218	680	Extension for reply within fourth month	
128	1850	228	925	Extension for reply within fifth month	
119	300	219	150	Notice of Appeal	
120	300	220	150	Filing a brief in support of an appeal	
121	260	221	130	Request for oral hearing	
138	1,510	138	1,510	Petition to institute a public use proceeding	
140	110	240	55	Petition to revive - unavoidable	
141	1,210	241	605	Petition to revive - unintentional	
142	1,210	242	605	Utility issue fee (or reissue)	
143	430	243	215	Design issue fee	
144	580	244	290	Plant issue fee	
122	130	122	130	Petitions to the Commissioner	
123	50	123	50	Petitions related to provisional applications	
126	240	126	240	Submission of Information Disclosure Statement	
581	40	581	40	Recording each patent assignment per property (times number of properties)	
146	760	246	380	Filing a submission after final rejection (37 CFR 1.129(a))	
149	760	249	380	For each additional invention to be examined (37 CFR 1.129(b))	
Other fee (specify) _____					
Other fee (specify) _____					
*Reduced by Basic Filing Fee Paid					
SUBTOTAL (3)					\$500.00

SUBMITTED BY

Typed or Printed Name	Jeffrey W. Smith	Reg. Number	33455
Signature	<i>Jeffrey W. Smith</i>	Date	May 4, 1999
		Deposit Account User ID	

#3



Patent Application  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Pyles et al. Date: May 4, 1999  
Date Filed: October 28, 1998 Docket No.: EPIXINC-4  
Application Number: 09/181,738 Art Unit: 2816  
For: PEDOMETER

**Certificate of Mailing**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Attention: Box Missing Parts Assistant Commissioner for Patents, Washington, D.C. 20231

on May 4, 1999  
Date

Jeffrey W. Smith  
Signature

Jeffrey W. Smith, Reg. No. 33455  
Name of applicant, assignee or Registered Representative

**TRANSMITTAL OF MISSING PARTS OF APPLICATION UNDER 37 C.F.R. §1.53**

Attention: Box Missing Parts  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

In response to the Notice of Missing Parts mailed November 17, 1998, enclosed are the following items for filing in the above-referenced U.S. Patent application:

1. A Declaration and Power of Attorney, executed by the applicant on March 21,

Applicant: Nathan Pyles  
Application No.: 09/181,738  
Art Unit: 2816

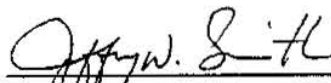
1999; May 3, 1999; and May 3, 1999.

2. Form PTO-1533 Notice to File Missing Parts.
3. A check in the amount of \$500.00 to cover the filing fee (37 C.F.R. §1.16(a) et seq.), the surcharge set forth in 37 C.F.R. §1.16(e), and extension of time under 37 CFR 1.136(a).
4. Verified Statement Claiming Small Entity Status--Small Business Concern, executed on March 21, 1999.
5. Petition for Extension of Time Under 37 CFR 1.136(a).

The Commissioner is hereby authorized to charge payment of any additional fees associated with this communication or credit any overpayment to Deposit Account No. 15-0660. A duplicate copy of this document is enclosed.

Having now complied with all of the requirements of 37 C.F.R. §1.53, applicant respectfully requests that this application be placed upon the files for examination.

Respectfully submitted,



---

Jeffrey W. Smith, Reg. No. 33455  
Attorney for Applicant  
Lathrop & Clark LLP  
740 Regent Street, Suite 400  
P.O. Box 1507  
Madison, Wisconsin 53701-1507  
(608) 257-7766

files.htm

Patent Application  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Pyles et al. Date: May 4, 1999  
Date Filed: October 28, 1998 Docket No.: EPIXINC-4  
Application Number: 09/181,738 Art Unit: 2816



For: PEDOMETER

**Certificate of Mailing**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Attention: Box Missing Parts  
Assistant Commissioner for Patents,  
Washington, D.C. 20231

on May 4, 1999  
Date

Jeffry W. Smith  
Signature  
Jeffry W. Smith, Reg. No. 33455  
Name of applicant, assignee or Registered Representative

**TRANSMITTAL OF MISSING PARTS OF  
APPLICATION UNDER 37 C.F.R. §1.53**

Attention: Box Missing Parts  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

In response to the Notice of Missing Parts mailed November 17, 1998, enclosed are the following items for filing in the above-referenced U.S. Patent application:

1. A Declaration and Power of Attorney, executed by the applicant on March 21,

Applicant: Nathan Pyles  
Application No.: 09/181,738  
Art Unit: 2816

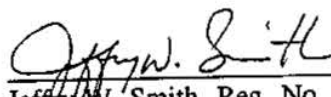
1999; May 3, 1999; and May 3, 1999.

2. Form PTO-1533 Notice to File Missing Parts.
3. A check in the amount of \$500.00 to cover the filing fee (37 C.F.R. §1.16(a) et seq.), the surcharge set forth in 37 C.F.R. §1.16(e), and extension of time under 37 CFR 1.136(a).
4. Verified Statement Claiming Small Entity Status--Small Business Concern, executed on March 21, 1999.
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Having now complied with all of the requirements of 37 C.F.R. §1.53, applicant respectfully requests that this application be placed upon the files for examination.

Respectfully submitted,



Jeffrey W. Smith, Reg. No. 33455  
Attorney for Applicant  
Lathrop & Clark LLP  
740 Regent Street, Suite 400  
P.O. Box 1507  
Madison, Wisconsin 53701-1507  
(608) 257-7766

files.htm



Docket No.: EPIXINC-4

**DECLARATION AND POWER OF ATTORNEY**

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 of the subject matter which is claimed and for which a patent is sought on the invention entitled: PEDOMETER, the specification of which

Handwritten initials "J B" and a date "10/28/98".

is attached hereto.

was filed on October 28, 1998 as Application No. 09/181,738 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 do not know and do not believe that the same was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application, that the same was not in public use or on sale in the United States of America more than one year prior to this application, that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months prior to this application, that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a), and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns, except as follows: None.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also

identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)			Priority Claimed	
<u>None.</u>	<u>                    </u>	<u>                    </u>	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)		Yes No
<u>                    </u>	<u>                    </u>	<u>                    </u>	<input type="checkbox"/>	<input type="checkbox"/>
(Number)	(Country)	(Day/Month/Year Filed)		Yes No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>None.</u>	<u>                    </u>	<u>                    </u>
(Application Serial Number)	(filing date)	(Status--patented, pending, abandoned)
<u>                    </u>	<u>                    </u>	<u>                    </u>
(Application Serial Number)	(filing date)	(Status--patented, pending, abandoned)

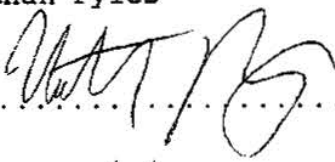
And I hereby appoint the practitioners associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number:

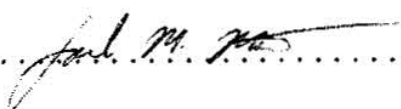
Customer Number: 020,455

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.

Full name of sole Inventor Nathan Pyles  
Inventor's Signature   
Date 5/3/99  
Residence Lake Mills, Wisconsin  
Citizenship United States of America  
Post Office Address 529 College Street, Lake Mills,  
Wisconsin 53551

Full name of sole Inventor Joel M. Macht  
Inventor's Signature   
Date 5-3-99  
Residence Reegeville, Wisconsin  
Citizenship United States of America  
Post Office Address 106 North Avenue, Reeceville, Wisconsin  
53579

Full name of sole Inventor      Chen Shui-Jung

Inventor's Signature

... *Chen Shui-Jung* .....

Date

... *3/21/99* .....

Residence

Taipei, Taiwan


Citizenship

Republic of China

Post Office Address

2 F No. 349, Wu Shin Street, Taipei,  
Taiwan

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.

<b>STATEMENT CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) &amp; 1.27(c))—SMALL BUSINESS CONCERN</b>	Docket Number (Optional) EPIXINC-4
	
Applicant, Patentee, or Identifier: <u>Nathan Pyles</u> Application or Patent No.: <u>09/181,738</u> Filed or Issued: <u>October 28, 1998</u> Title: <u>Pedometer</u>	
I hereby state that I am <input type="checkbox"/> the owner of the small business concern identified below: <input checked="" type="checkbox"/> an official of the small business concern empowered to act on behalf of the concern identified below:	
NAME OF SMALL BUSINESS CONCERN <u>Epix, Inc.</u>	
ADDRESS OF SMALL BUSINESS CONCERN <u>621 D East Lake Street, Lake Mills, Wisconsin 53551</u>	
I hereby state that the above identified small business concern qualifies as a small business concern as defined in 13 CFR Part 121 for purposes of paying reduced fees to the United States Patent and Trademark Office, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time, or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.	
I hereby state that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention described in: <input checked="" type="checkbox"/> the specification filed herewith with title as listed above. <input type="checkbox"/> the application identified above. <input type="checkbox"/> the patent identified above.	
If the rights held by the above identified small business concern are not exclusive, each individual, concern, or organization having rights in the invention must file separate statements as to their status as small entities, and no rights to the invention are held by any person, other than the inventor, who would not qualify as an independent inventor under 37 CFR 1.9(c) if that person made the invention, or by 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 having any rights in the invention is listed below: <input type="checkbox"/> no such person, concern, or organization exists. <input type="checkbox"/> each such person, concern, or organization is listed below.	
Separate statements are required from each named person, concern or organization having rights to the invention stating their status as small entities (37 CFR 1.27).	
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)).	
NAME OF PERSON SIGNING <u>Nathan Pyles</u> TITLE OF PERSON IF OTHER THAN OWNER <u>President</u> ADDRESS OF PERSON SIGNING <u>529 College Street, Lake Mills, Wisconsin 53551-1412</u> SIGNATURE <u><i>Nathan Pyles</i></u> DATE <u>2/21/99</u>	

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


PTO/SB/22 (12-97)  
 Approved for use through 9/30/00. OMB 0651-0031  
 Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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217

*Handwritten initials*

*Handwritten initials*

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)	Docket Number (Optional) EPIXINC-4	
	In re Application of Nathan Pyles	
	Application Number 09/181,738	Filed October 28, 1998
	For PEDOMETER	
	Group Art Unit 2816	Examiner

This is a request under the provisions of 37 CFR 1.136(a) to extend the period of filing a response in the above identified application.

The requested extension and appropriate non-small-entity fee are as follows (check time period desired):

- One month (37 CFR 1.17(a)(1)) \$ \_\_\_\_\_
- Two months (37 CFR 1.17 (a)(2)) \$ \_\_\_\_\_
- Three months (37 CFR 1.17(a)(3)) \$870.00
- Four months (37 CFR 1.17(a)(4)) \$ \_\_\_\_\_
- Five months (37 CFR 1.17(a)(5)) \$ \_\_\_\_\_

Applicant is a small entity under 37 CFR 1.9 and 1.27, therefore the fee amount shown above is reduced by one-half, and the resulting fee is: \$435.00. A small entity statement under 37 CFR 1.27:


- is enclosed.
- has already been filed in this application.
- A check in the amount of the fee is enclosed.
- The Commissioner has already been authorized to charge fees in this application to a Deposit Account.
- The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number 15-0660. I have enclosed a duplicate copy of this sheet.

I am the  assignee of record of the entire interest.  
 applicant.  
 attorney or agent of record.  
 attorney or agent under 37 CFR 1.34(a).  
 Registration number if acting under 37 CFR 1.34(a) \_\_\_\_\_

May 4, 1999 Date      Jeffry W. Smith Signature

Jeffry W. Smith, Reg. No. 33455  
 Typed or printed name

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.

PETITION FOR EXTENSION OF TIME UNDER 37 CFR 1.136(a)		Docket Number (Optional) EPIXINC-4
	In re Application of Nathan Pyles	
	Application Number 09/181,738	Filed October 28, 1998
	For PEDOMETER	
	Group Art Unit 2816	Examiner
<p>This is a request under the provisions of 37 CFR 1.136(a) to extend the period of filing a response in the above identified application.</p> <p>The requested extension and appropriate non-small-entity fee are as follows (check time period desired):</p> <p><input type="checkbox"/> One month (37 CFR 1.17(a)(1)) \$ _____</p> <p><input type="checkbox"/> Two months (37 CFR 1.17 (a)(2)) \$ _____</p> <p><input checked="" type="checkbox"/> Three months (37 CFR 1.17(a)(3)) \$870.00</p> <p><input type="checkbox"/> Four months (37 CFR 1.17(a)(4)) \$ _____</p> <p><input type="checkbox"/> Five months (37 CFR 1.17(a)(5)) \$ _____</p> <p><input checked="" type="checkbox"/> Applicant is a small entity under 37 CFR 1.9 and 1.27, therefore the fee amount shown above is reduced by one-half, and the resulting fee is: <u>\$435.00</u>. A small entity statement under 37 CFR 1.27:</p> <p><input checked="" type="checkbox"/> is enclosed.</p> <p><input type="checkbox"/> has already been filed in this application.</p> <p><input checked="" type="checkbox"/> A check in the amount of the fee is enclosed.</p> <p><input type="checkbox"/> The Commissioner has already been authorized to charge fees in this application to a Deposit Account.</p> <p><input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to Deposit Account Number <u>15-0660</u>. I have enclosed a duplicate copy of this sheet.</p> <p>I am the <input type="checkbox"/> assignee of record of the entire interest.</p> <p><input type="checkbox"/> applicant.</p> <p><input checked="" type="checkbox"/> attorney or agent of record.</p> <p><input type="checkbox"/> attorney or agent under 37 CFR 1.34(a).</p> <p>Registration number if acting under 37 CFR 1.34(a) _____</p> <p><u>May 4, 1999</u> Date <u>Jeffrey W. Smith</u> Signature</p> <p><u>Jeffrey W. Smith, Reg. No. 33455</u>                  Typed or printed name</p>		



205  
 UNITED STATES DEPARTMENT OF COMMERCE  
 Patent and Trademark Office  
 Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
 Washington, D.C. 20231  
 #3

APPLICATION NUMBER	FILING/RECEIPT DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NO./TITLE
09/181,738	10/28/98	PYLES	11/199 N EFIXINC-d

020485  
 LA THROP CLARK  
 122 N WASHINGTON AVENUE  
 P O BOX 1507  
 MADISON WI 53701-1507

0242/1117

NOT ASSIGNED

DATE MAILED:

11/17/98

**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 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 \$ 130.

- 1. The statutory basic filing fee is:
  - missing.
  - insufficient.
 Applicant must submit \$ \_\_\_\_\_ to complete the basic filing fee and/or file a small entity statement claiming such status (37 CFR 1.27).
- 2. Additional claim fees of \$ \_\_\_\_\_, including any multiple dependent claim fees, are required.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ independent claims over 3.
  - \$ \_\_\_\_\_ for \_\_\_\_\_ dependent claims over 20.
  - \$ \_\_\_\_\_ 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 unexecuted.
  - does not cover the newly submitted items.
  - does not identify the application to which it applies.
  - does not include the city and state or foreign country of applicant's residence.
 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 does not comply with the Sequence Rules.  
 See attached "Notice to Comply with Sequence Rules 37 CFR 1.821-1.825."
- 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.**

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

**PART 2 - COPY TO BE RETURNED WITH RESPONSE**

FORM PTO-1533 (REV.9-97)

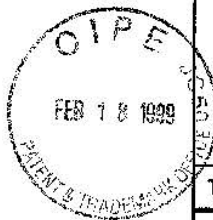
05/12/1999 TTRAK1 00000053 09181738  
 65.00 OIP  
 435.00 OIP  
 01 FD:205  
 02 FD:217

Please type a plus sign (+) inside

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Approved for use through 9/30/00. OMB 0651-0031

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.



# TRANSMITTAL FORM

(To be used for all correspondence after initial filing)

<b>TRANSMITTAL FORM</b> (To be used for all correspondence after initial filing)	Application Number	09/181,738
	Filing Date	October 28, 1998
	First Named Inventor	Nathan Pyles
	Group Art Unit	2816
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	EPIXINC-4

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (For an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication To Group <input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (Please identify below): <div style="border: 1px solid black; padding: 5px; margin-top: 5px;">PTO-SB08A with 16 references</div>
Remarks		The Commissioner is hereby authorized to charge any additional fees that may be required with respect to this communication, or credit any overpayment, to Deposit Account No. 15-0660.

RECEIVED  
FEB 22 1999

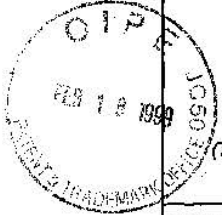
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	February 16, 1999

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:			
Typed or printed name	Jeffrey W. Smith, Reg. No. 33455		
Signature	<i>Jeffrey W. Smith</i>	Date	Feb. 16, 1999



Please type a plus sign (+) inside     
 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.

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE



# TRANSMITTAL FORM

(To be used for all correspondence after initial filing)

Application Number	09/181,738
Filing Date	October 28, 1998
First Named Inventor	Nathan Pyles
Group Art Unit	2816
Examiner Name	
Attorney Docket Number	EPIXINC-4
Total Number of Pages in This Submission	

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (For an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication To Group <input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (Please identify below): <div style="border: 1px solid black; padding: 2px; width: fit-content;">PTO-SB08A with 16 references</div>
Remarks		The Commissioner is hereby authorized to charge any additional fees that may be required with respect to this communication, or credit any overpayment, to Deposit Account No. 15-0660.

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	February 16, 1999

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:

Typed or printed name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	Feb. 16, 1999

EP 2816

#4  
D. Scott  
6-21-99

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Pyles, et al.	Date:	February 16, 1999
Filed:	October 28, 1998	Docket No.:	EPIXINC-4
Application No.:	09/181,738	Art Unit:	2816
For:	PEDOMETER		

**Certificate of Mailing**

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on February 16, 1999  
Date

Jeffrey W. Smith  
Signature

Jeffrey W. Smith, Reg. No. 33455

Name of applicant, assignee or Registered Representative



**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.56, applicant wishes to call the attention of the Examiner to the following documents:

RECEIVED  
FEB 22 1999  
GROUP 0310

\*

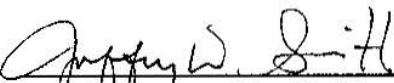
United States Patents

<u>U.S. Patent No.</u>	<u>Issue Date</u>	<u>Patentee</u>
4,053,755	10-11-1977	Sherrill
4,223,211	09-16-1980	Allsen et al.
4,334,190	06-08-1982	Sochaczewski
4,337,529	06-29-1982	Morokawa
4,371,945	02-01-1983	Karr et al.
4,510,704	04-16-1985	Johnson
4,651,446	03-24-1987	Yukawa et al.
4,741,001	04-26-1988	Ma
4,771,394	09-13-1988	Cavanagh
4,855,942	08-08-1989	Bianco
5,117,444	05-26-1992	Sutton et al.
5,475,725	12-12-1995	Nakamura
5,476,427	12-19-1995	Fujima
5,490,816	02-13-1996	Sakumoto
5,516,334	05-14-1996	Easton
5,526,290	06-11-1996	Kanzaki

Copies of these documents are submitted herewith along with Form PTO-SB/08A.

Applicant respectfully requests that these documents be expressly considered during the prosecution of this application and made of record herein and appear among the "documents cited" on any patent to issue herefrom.

Respectfully submitted,

By:   
Jeffrey W. Smith, Reg. No. 33455  
Attorney for Applicant  
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740 Regent Street, Suite 400  
P. O. Box 1507  
Madison, Wisconsin 53701  
(608) 257-7766

FROM  
L.A. S  
6/12/96

ids:are

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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449A/PTO  <h2 style="text-align: center;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</h2> <p style="text-align: center;">(Use as many sheets as necessary)</p>	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td>Application Number <i>09/181,738</i></td> <td>09/181,738</td> <td rowspan="5" style="vertical-align: middle; text-align: center;"><i>#4</i></td> </tr> <tr> <td>Filing Date</td> <td>October 28, 1998</td> </tr> <tr> <td>First Named Inventor</td> <td>Nathan Pyles</td> </tr> <tr> <td>Group Art Unit</td> <td>2816</td> </tr> <tr> <td>Examiner Name</td> <td><i>Wambach</i></td> </tr> </table>	Application Number <i>09/181,738</i>	09/181,738	<i>#4</i>	Filing Date	October 28, 1998	First Named Inventor	Nathan Pyles	Group Art Unit	2816	Examiner Name	<i>Wambach</i>
Application Number <i>09/181,738</i>	09/181,738	<i>#4</i>										
Filing Date	October 28, 1998											
First Named Inventor	Nathan Pyles											
Group Art Unit	2816											
Examiner Name	<i>Wambach</i>											
Sheet 1	Of 1	Attorney Docket Number EPIXINC-4										

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (If known)			
<i>MLW</i>		4,053,755		Sherrill	10-11-1977	
<i>MLW</i>		4,223,211		Alisen et al.	09-16-1980	
<i>MLW</i>		4,334,190		Sochaczewski	06-08-1982	
<i>MLW</i>		4,337,529		Morokawa	06-29-1982	
<i>MLW</i>		4,371,945		Karr et al.	02-01-1983	
<i>MLW</i>		4,510,704		Johnson	04-16-1985	
<i>MLW</i>		4,651,446		Yukawa et al.	03-24-1987	
<i>MLW</i>		4,741,001		Ma	04-26-1988	
<i>MLW</i>		4,771,394		Cavanagh	09-13-1988	
<i>MLW</i>		4,855,942		Bianco	08-08-1989	
<i>MLW</i>		5,117,444		Sutton et al.	05-26-1992	
<i>MLW</i>		5,475,725		Nakamura	12-12-1995	
<i>MLW</i>		5,476,427		Fujima	12-19-1995	
<i>MLW</i>		5,490,816		Sakumoto	02-13-1996	
<i>MLW</i>		5,516,334		Easton	05-14-1996	
<i>MLW</i>		5,526,290		Kanzaki	06-11-1996	



FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (If known)				

Examiner Signature <i>Margaret Walden</i>	Date Considered <i>1/24/00</i>	
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\*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.

<sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup>For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

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OrAU 2816

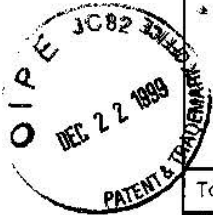
PTO/SB/21 (12-97)

App. for use through 9/30/00. OMB 0651-0031

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# TRANSMITTAL FORM

(To be used for all correspondence after initial filing)

Application Number	09/181,738
Filing Date	October 28, 1998
First Named Inventor	Nathan Pyles
Group Art Unit	2816
Examiner Name	
Attorney Docket Number	EPIXINC-4

<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (For an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	<input type="checkbox"/> After Allowance Communication To Group <input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (Please identify below):
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### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	December 17, 1999

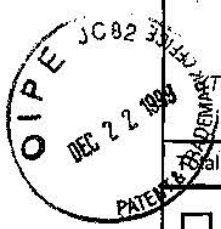
### CERTIFICATE OF MAILING

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Typed or printed name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	December 17, 1999

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Approved for use through 9/30/00. OMB 0651-0031  
 Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE



<b>TRANSMITTAL FORM</b> <small>To be used for all correspondence after initial filing)</small>	Application Number	09/181,738
	Filing Date	October 28, 1998
	First Named Inventor	Nathan Pyles
	Group Art Unit	2816
	Examiner Name	
Total Number of Pages in This Submission	Attorney Docket Number	EPIXINC-4

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Remarks		The Commissioner is hereby authorized to charge any additional fees that may be required with respect to this communication, or credit any overpayment, to Deposit Account No. 15-0660.

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Typed or printed name	Jeffrey W. Smith, Reg. No. 33455
Signature	<i>Jeffrey W. Smith</i>
Date	December 17, 1999



#5  
Dr. Scott  
1-9-00

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Pyles, et al.	Date:	December 17, 1999
Filed:	October 28, 1998	Docket No.:	EPIXINC-4
Application No.:	09/181,738	Art Unit:	2816
For:	PEDOMETER	Examiner:	

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on December 17, 1999  
Date

Jeffrey W. Smith  
Signature

Jeffrey W. Smith, Reg. No. 33455  
Name of applicant, assignee or Registered Representative

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**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

In accordance with 37 C.F.R. §1.56, Applicants wish to call the attention of the Examiner to the following document:



United States Patents

<u>U.S. Patent No.</u>	<u>Issue Date</u>	<u>Patentee</u>
5,583,776	12-10-1996	Levi et al.

A copy of this document is submitted herewith along with Form PTO/SB08A.

It is believed that no fee is owed for this disclosure under 37 C.F.R. 1.97(b)(3), because Applicants have not received and are not aware of a mailed office action on the merits.

If an action was mailed prior to the filing date hereof, the information disclosed herein is submitted after the mailing of a first office action and before the mailing of a final action. Thus, Applicants note, under 37 C.F.R. §1.97(e)(2), that no item of information disclosed herein was cited by a foreign patent office in a counterpart application, and to the knowledge of the undersigned after making a reasonable inquiry, no item of information contained herein was known to any individual designated in §1.56(c) more than three months prior to the filing of this information disclosure statement. Thus, it is believed no fee is owed for this filing. Nonetheless, if a fee is owed, the Office is hereby authorized to charge Account No. 15-0660. A duplicate copy of this document is enclosed.

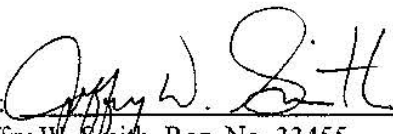
Applicants respectfully request that this document be expressly considered during the prosecution of this application and made of record herein and appear among the "documents cited" on any patent to issue herefrom.

Respectfully submitted,

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By:   
Jeffrey W. Smith, Reg. No. 33455  
Attorney for Applicant  
Lathrop & Clark LLP  
740 Regent Street, Suite 400  
P. O. Box 1507  
Madison, Wisconsin 53701  
(608) 257-7766





PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Pyles, et al. Date: December 17, 1999  
Filed: October 28, 1998 Docket No.: EPIXINC-4  
Application No.: 09/181,738 Art Unit: 2816  
For: PEDOMETER Examiner:

**Certificate of Mailing**

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on December 17, 1999  
Date

Jeffrey W. Smith  
Signature

Jeffrey W. Smith, Reg. No. 33455  
Name of applicant, assignee or Registered Representative

**SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT**

**RECEIVED**

**DEC 23 1999**

Assistant Commissioner for Patents  
Washington, D.C. 20231

TECHNOLOGY CENTER 2800

Dear Sir:

In accordance with 37 C.F.R. §1.56, Applicants wish to call the attention of the Examiner to the following document:

U.S. Patent No.    Issue Date  
5,583,776            12-10-1996

United States Patents



Patentee  
Levi et al.


A copy of this document is submitted herewith along with Form PTO/SB08A.

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Applicants respectfully request that this document be expressly considered during the prosecution of this application and made of record herein and appear among the "documents cited" on any patent to issue herefrom.

Respectfully submitted,

By:   
Jeffrey W. Smith, Reg. No. 33455  
Attorney for Applicant  
Lathrop & Clark LLP  
740 Regent Street, Suite 400  
P. O. Box 1507  
Madison, Wisconsin 53701  
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UNITED STATES DEPARTMENT OF COMMERCE  
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Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/181,738	10/28/98	PYLES	N EPIXINC-4
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020455  
LATHROP & CLARK LLP  
740 REGENT STREET SUITE 400  
P.O. BOX 1507  
MADISON WI 53701-1507

MM42/0128

EXAMINER

WAMBACH, M

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

2816


DATE MAILED: 01/28/00

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

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No. <b>09/181,738</b>	Applicant(s) <b>Pyles</b>
Examiner <b>Margaret Wambach</b>	Group Art Unit <b>2816</b>



- Responsive to communication(s) filed on \_\_\_\_\_
- This action is **FINAL**.
- 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.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

**Disposition of Claims**

- Claim(s) 1-45 is/are pending in the application.  
Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 1-45 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claims \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

- Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been
    - received.
    - received in Application No. (Series Code/Serial Number) \_\_\_\_\_
    - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \*Certified copies not received: \_\_\_\_\_
- Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

**Attachment(s)**

- Notice of References Cited, PTO-892
- Information Disclosure Statement(s), PTO-1449, Paper No(s). 2
- Interview Summary, PTO-413
- Notice of Draftsperson's Patent Drawing Review, PTO-948
- Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2816

**DETAILED ACTION**

*Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-45 are 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.

The claims are replete with terms which lack a clear antecedent basis. Numerous instances of this problem will be specifically pointed out; however, applicant is required to proofread and correct all instances.

In claims 4, 20 "the transmission signal", in claim 7, 23 "the step count signal", in claims 10, 26, "the heart rate signal" and "the pedometer signal", in claims 12, 28, "the heart rate" and "the step counter", in claim 17, "the number of strides" and "the rate", claim 32, "the total number of strides", "the stride count" and "the first run time", claim 35, "the receiver", "the step count signal" and "the distance", claim 37, "the total number of strides", "the first run distance", "the stride count" "the first run stride count", "the first run time" and "the First Run Stride Rate" (all of the problems of claim 37 are repeated with regard to the second - fourth run), and claim 44, "the user first run", "the first run time" and "the stride count" lack a clear antecedent basis.

Application/Control Number: 09/181738

Page 3

Art Unit: 2816

Also in claim 12, applicant's intended meaning cannot be discerned from the references of "the heart rate" which is located in a housing.

*Claim Rejections - 35 USC § 102*

3. 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:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1, 3, 4, 6, 7, 9, 10 and 11 are rejected under 35 U.S.C. 102(a) as being anticipated by Sham et al..

Sham teaches a pedometer including a step counter (32), a transmitter (the wiring between 32 and 34) which transmits a digitally coded step signal and a receiver (30), referring to Figure 3. It is inherent that the receiver is "mountable" to a second body portion insofar as the term itself only means that it is possible to mount the receiver elsewhere. Secondly, the term "body portion" is so broad that the limitation is met merely by having the receiver and transmitter at different locations within the same housing (therefor affixed to different body portions.)

Moreover, Sham discloses a wrist watch arrangement on column 3, lines 43-45 as recited in claim 6. Sham discloses a processor and viewing screen (34 and 18) as recited in claim 7. As recited in claim 9, a heart rate monitor and a second transmitter (10 and 31) are also taught. Insofar as the heart rate signal is a wireless signal and the pedometer signal, assuming applicant

Art Unit: 2816

means the signal from the step counter, is from a wire, these signals would inherently be of different frequencies, as recited in claim 10. The heart rate monitor is mounted to the user's chest and thus, claim 11 is also met.

*Claim Rejections - 35 USC § 103*

5. 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.

6. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sham et al.

The difference between Sham and claims 2 and 8 lies in the substitution of a wireless transmitter for a wire and a leg band for an arm or waist band. The first difference is not of patentable merit because the use of wireless transmitters is widespread in the art. Insofar as Sham does in fact employ a wireless transmitter for the heart monitor, and Sham would have the motivation of reducing the weight of box 14 by locating the step counter at a remote location, the motivation exists to employ that a wireless transmitter for the step counter. In terms of the leg band, it is merely commonsensical that anything which could be strapped to an arm or waist could also be strapped to a leg. In fact, Sham clearly wishes to leave the designer the latitude to make



Art Unit: 2816

such decisions because of the statement on column 3, line 44 that the device could be secured "in other ways."

*Allowable Subject Matter*

7. Claims 5, 12-16, 18-31, 33-36, 38-43 and 45 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
8. Claims 17, 32, 37 and 44 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Wambach whose telephone number is (703) 308-4875. The examiner can normally be reached on Monday-Thursday from 6:30 to 5p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Margaret R. Wambach  
Primary Examiner

**Notice of References Cited**

Application No. <b>09/181,738</b>	Applicant <b>Pyles</b>
Examiner <b>Margaret Wambach</b>	Group Art Unit <b>2816</b>
Page 1 of 1	

**U.S. PATENT DOCUMENTS**

	DOCUMENT NO.	DATE	NAME	CLASS	SUBCLASS
A	5,891,042	4/8/99	Sham et al.	600	483
B					
C					
D					
E					
F					
G					
H					
I					
J					
K					
L					
M					

**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUBCLASS
N						
O						
P						
Q						
R						
S						
T						

**NON-PATENT DOCUMENTS**

	DOCUMENT (Including Author, Title, Source, and Pertinent Pages)	DATE
U		
V		
W		
X		

9/18/98

NOTICE OF DRAFTSPERSON'S PATENT DRAWING REVIEW

The drawing(s) filed (insert date) 10/29/98 are:

- A. [ ] approved by the Draftsperson under 37 CFR 1.84 or 1.152.
B. [x] objected to by the Draftsperson under 37 CFR 1.84 or 1.152 for the reasons indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawing must be submitted according to the instructions on the back of this notice.

1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings. Black ink. Color. Color drawings are not acceptable until petition is granted. Fig(s)
2. PHOTOGRAPHS. 37 CFR 1.84 (b) 1 full-tone set is required. Fig(s)
3. TYPE OF PAPER. 37 CFR 1.84(e) Paper not flexible, strong, white, and durable. Fig(s)
4. SIZE OF PAPER. 37 CFR 1.84(f): Acceptable sizes: 21.0 cm by 29.7 cm (DIN size A4)
5. MARGINS. 37 CFR 1.84(g): Acceptable margins: Top 2.5 cm Left 2.5cm Right 1.5 cm Bottom 1.0 cm
6. VIEWS. 37 CFR 1.84(h) REMINDER: Specification may require revision to correspond to drawing changes.
7. SECTIONAL VIEWS. 37 CFR 1.84 (h)(3) Hatching not indicated for sectional portions of an object.
8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(j) 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)
9. SCALE. 37 CFR 1.84(k) Scale not large enough to show mechanism without crowding when drawing is reduced in size to two-thirds in reproduction. Fig(s)
10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(j) Lines, numbers & letters not uniformly thick and well defined, clean, durable, and black (poor line quality). Fig(s)
11. SHADING. 37 CFR 1.84(m) Solid black areas pale. Fig(s)
12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.84(p) Numbers and reference characters not plain and legible. Fig(s)
13. LEAD LINES. 37 CFR 1.84(q) Lead lines cross each other. Fig(s)
14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.84(t) Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Sheet(s)
15. NUMBERING OF VIEWS. 37 CFR 1.84(u) Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig(s)
16. CORRECTIONS. 37 CFR 1.84(w) Corrections not made from prior PTO-948 dated
17. DESIGN DRAWINGS. 37 CFR 1.152 Surface shading shown not appropriate. Fig(s)

COMMENTS

REVIEWER

WJS

DATE

5/25/99

TELEPHONE NO.

033058404

ATTACHMENT TO PAPER NO.

6

## INFORMATION ON HOW TO EFFECT DRAWING CHANGES

### 1. Correction of Informalities--37 CFR 1.85

File new drawings with the changes incorporated therein. The application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application, should be placed on the back of each sheet of drawings in accordance with 37 CFR 1.84(c). Applicant may delay filing of the new drawings until receipt of the Notice of Allowability (PTOL-37). Extensions of time may be obtained under the provisions of 37 CFR 1.136. The drawing should be filed as a separate paper with a transmittal letter addressed to the Drawing Processing Branch.

### 2. Timing for Corrections

Applicant is required to submit **acceptable** corrected drawings within the **three-month shortened** statutory period set in the Notice of Allowability (PTOL-37). If a correction is determined to be unacceptable by the Office, applicant must arrange to have **acceptable** corrections resubmitted within the original three-month period to avoid the necessity of obtaining an extension of time and paying the extension fee. Therefore, applicant should file corrected drawings as soon as possible.

Failure to take corrective action within set (or extended) period will result in **ABANDONMENT** of the Application.

### 3. Corrections other than Informalities Noted by the Drawing Review Branch on the Form PTO-948

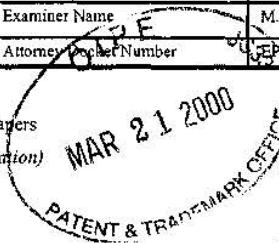
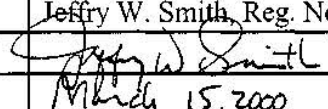
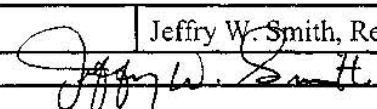
All changes to the drawings, other than informalities noted by the Drawing Review Branch, **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

OP 2816A

PTO/SB/21 (12-97)  
 Approved for use through 9/30/00. OMB 0651-0031  
 Office: U.S. DEPARTMENT OF COMMERCE

Please type a plus sign (+) inside this box →

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.

<h1>TRANSMITTAL FORM</h1> <p><i>(To be used for all correspondence after initial filing)</i></p>		Application Number	09/181,738
		Filing Date	October 28, 1998
		First Named Inventor	Nathan Pyles
		Group Art Unit	2816
		Examiner Name	M. Wambach
Total Number of Pages in This Submission		Attorney Pocket Number	PEPIXINC-4
<input checked="" type="checkbox"/> Fee Transmittal Form <input checked="" type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Response <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53		<input type="checkbox"/> Assignment Papers (For an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition Routing Slip (PTO/SB/69) And Accompanying Petition <input type="checkbox"/> To Convert a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Small Entity Statement <input type="checkbox"/> Request for Refund	
			
		<input type="checkbox"/> After Allowance Communication To Group <input type="checkbox"/> Appeal Communication to Board Of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Additional Enclosure(s) (Please identify below):	
		PTO/SB 08b with 2 documents	
Remarks			
<b>SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT</b>			
Firm or Individual name		Jeffry W. Smith, Reg. No. 33455	
Signature			
Date		March 15, 2000	
<b>CERTIFICATE OF MAILING</b>			
I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on this date:			
Typed or printed name		Jeffry W. Smith, Reg. No. 33455	
Signature			
Date		March 15, 2000	