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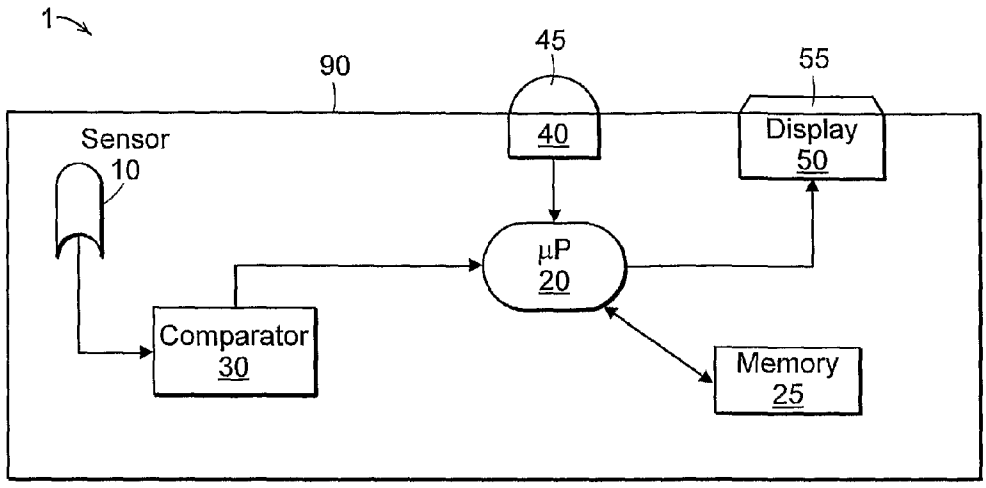
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(54) **Title:** WEAR MONITOR FOR RECREATIONAL FOOTGEAR



(57) **Abstract:** A wear monitor (1, 100) for footgear can indicate when a shoe (5) or component may have exceeded its expected useful life. The indication can be triggered by a measure of use, such as steps taken or distance accrued in the shoes, either through estimation or actual measurements. The monitor can take into account varies parameters related to the individual wearer of the shoe and environmental factors to more accurately determine when a pair of shoes has reached a wear out period. By employing sensors (10, 110), the monitor can also be measure certain operating parameters of the shoe, such as the loss of a critical amount of resilience, and indicating to the wearer that the shoes are no longer adequate to protect the wearer from injury. The wear monitor can be fabricated into the shoe during manufacturing or can be a portable stand-alone device and can employ various technologies to provide a status indication to the wearer.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. A43B3/00 A43B5/16 A63C17/26 G01C22/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2001/049890 A1 (HIRSCH JOHN [US] ET AL) 13 December 2001 (2001-12-13)	1-5, 7-10,12, 16,20, 21, 23-25, 27,31
Y	paragraphs [0008], [0016] - [0018], [0024], [0032], [0043]; figures	11, 13-15, 26,28-30
Y	EP 1 559 368 A (POLAR ELECTRO OY [FI]) 3 August 2005 (2005-08-03) paragraph [0001]; figures	11,26
Y	DE 197 30 874 A1 (RIEDMAYER MARTIN [DE]) 5 February 1998 (1998-02-05) column 2, line 64 - column 3, line 42; figures	13-15, 28-30

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 00/78170 A (MYERS STEVE [US]; STRASSER MICHAEL [US]) 28 December 2000 (2000-12-28) page 4 - page 6 page 18 - page 19; figures	1,2,12, 20,21, 24,27,31
P,A	WO 2007/008352 A (NIKE INC [US]; NIKE INTERNATIONAL LTD [GB]; CASE CHARLES WHIPPLE JR [U]) 18 January 2007 (2007-01-18) claims 2-10	1,10,24

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2007/066636

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2001049890 A1	13-12-2001	NONE	
EP 1559368 A	03-08-2005	CN 1647710 A	03-08-2005
		FI 20040143 A	31-07-2005
		JP 2005211666 A	11-08-2005
		US 2005166373 A1	04-08-2005
DE 19730874 A1	05-02-1998	NONE	
WO 0078170 A	28-12-2000	AU 6405000 A	09-01-2001
WO 2007008352 A	18-01-2007	US 2007006489 A1	11-01-2007