PEDOMETER

IITM Technology Available for Licensing

Problem Statement

- In the present scenario, Padometer is a useful instrument which can count number of steps, measure walking speed and distance traveled.
- Based on the prior arts patent and non patent literature, there are few existing pedometers discussed hereon which are either piezo electric or ultrasonic sensors.
- However, the data related to those cited pedometer is not very reliable including other associated problems.
- Hence, there is a requirement of an advanced device which may address the above issues efficiently.

Technology Category/ Market

Technology: Padometer;
Industry: Healthcare, Fitness and wellness & etc.,
Applications: Personal Care, Healthcare; fitness device; daily used by the user.
Market: The global pedometer market is projected to grow at a CAGR of **5.5%** from **2022** to **2030**.

Technology

- Present Patent has claimed a **pedometer** which comprises of a **single generator** disposed **within first shoe, a first object detecting signal sensor assembly** disposed in a **first portion** of a **second shoe**;
- Further, said pedometer comprises **a second object detecting signal sensor assembly** disposed on a **second portion** of the said second shoe, **said first & second signal sensors** being **spaced away** by a **fixed distance** and generally extending longitudinally of said second shoe.
- Furthermore, each **sensor assembly** including **a sensor** for **sensing signals** generated by the said signal generator and **for generating** corresponding **electric signals**, and **a controller** having an input coupled to the said sensor for **receiving** the said corresponding **electrical signals**.

Key Features / Value Proposition

- ***User Perspective:*** Claimed Patent provides a **pedometer** which is implemented in the shoes, **wore** by a **user** which is **cost effective** and **safe** in terms of health factor.
- ***Technical Perspective:*** The claimed patent used **a signal generator** which comprises of **a conductive or a magnetic material** and said first and second sensor assembly formed with two coils connected with a mutually operable switching arrangement between said two coils. It requires **no calibration** unlike most of the existing ones.
- ***Industrial Perspective:*** Patented Pedometer is **cost-effective,** and provides accurate results, **easy to implement** in the existing shoe design/shape.

Intellectual Property

IITM IDF Ref. 888;
IN Patent No: 422946 (Granted)

TRL (Technology Readiness Level)

TRL- 4, Proof of Concept ready & validated

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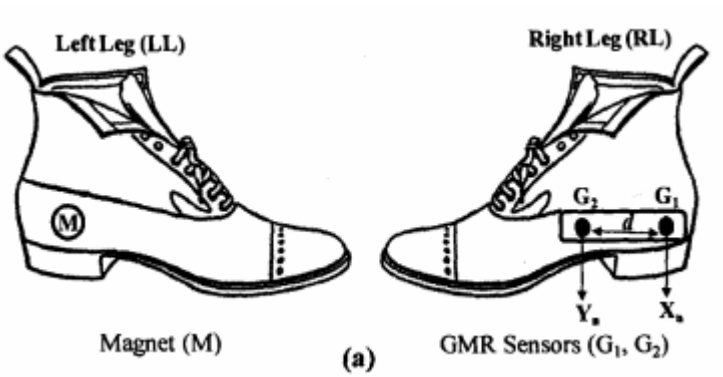
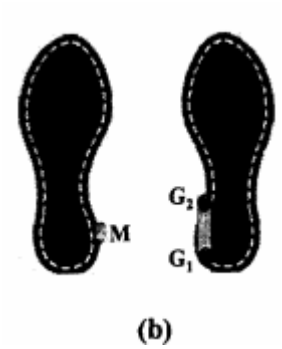
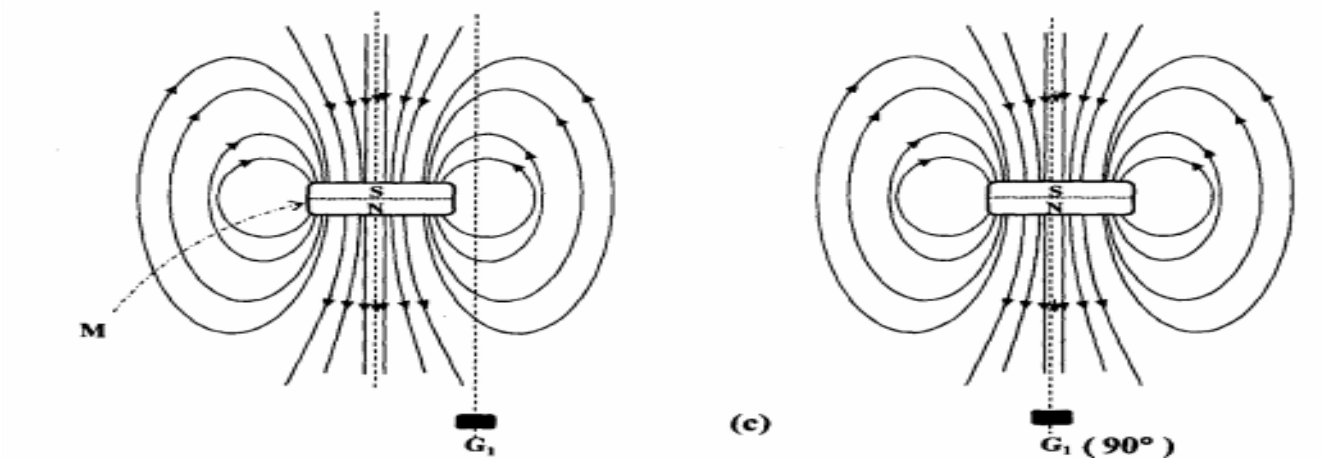
Images







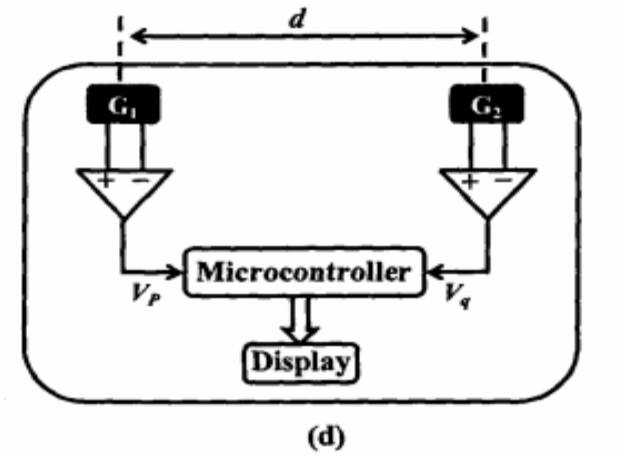


FIG.1 : Illustrates a GMR based pedometer. A unit with Giant Magneto resistor (GMR) based ICs are attached to the right leg shoe while a permanent magnet is fitted on the left leg shoe; FIG.1 b) Illustrated a simplified top view of a), Fig 1c) Illustrates the magnetic field of M in relation to the GMR IC. FIG. 1d) illustrates the block diagram of measurement unit of claimed pedometer.

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