



United States Patent [19]

Sham et al.

[11] **Patent Number:** **5,891,042**

[45] **Date of Patent:** **Apr. 6, 1999**

[54] **FITNESS MONITORING DEVICE HAVING AN ELECTRONIC PEDOMETER AND A WIRELESS HEART RATE MONITOR**

5,456,262 10/1995 Birnbaum .
5,491,474 2/1996 Suni et al. .
5,539,706 7/1996 Takenaka et al. .

[75] Inventors: **Ka Yiu Sham**, Great Falls, Va.; **Philip Lim-Kong Wong**, Northants, England

Primary Examiner—William E. Kamm
Attorney, Agent, or Firm—Evenson, McKeown, Edwards & Lenahan P.L.L.C.

[73] Assignee: **Acumen, Inc.**, Sterling, Va.

[57] ABSTRACT

[21] Appl. No.: **926,035**

[22] Filed: **Sep. 9, 1997**

[51] **Int. Cl.⁶** **A61B 5/0205**

[52] **U.S. Cl.** **600/483**

[58] **Field of Search** 600/483, 503, 600/508, 509, 519, 520; 128/903

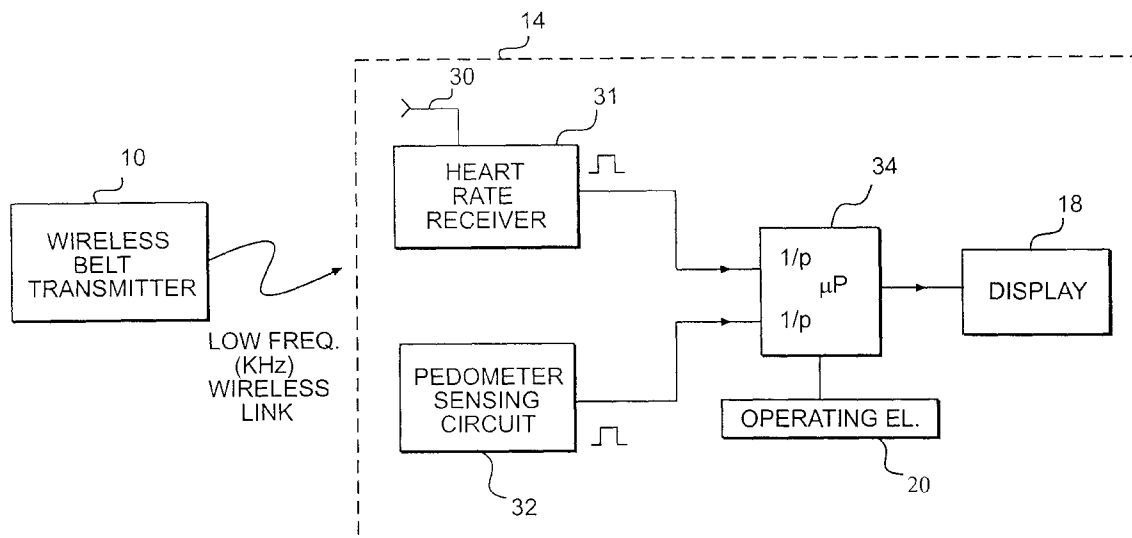
A fitness monitoring device includes an electronic pedometer which responds to a user's body motion at each step and a wireless heart rate monitor which is wirelessly coupled to the electronic pedometer. The wireless heart rate monitor provides a heart beat signal indicative of an exertion level of the user. A visual display is provided to display the pedometer functions and the heart rate signal. A microprocessor receives the pedometer output signal and the heart rate signal. The microprocessor is programmed to provide visual display data relating to the heart rate and pedometer functions.

[56] References Cited

U.S. PATENT DOCUMENTS

4,367,752 1/1983 Jimenez et al. 600/519
5,335,664 8/1994 Nagashima 128/903

9 Claims, 5 Drawing Sheets



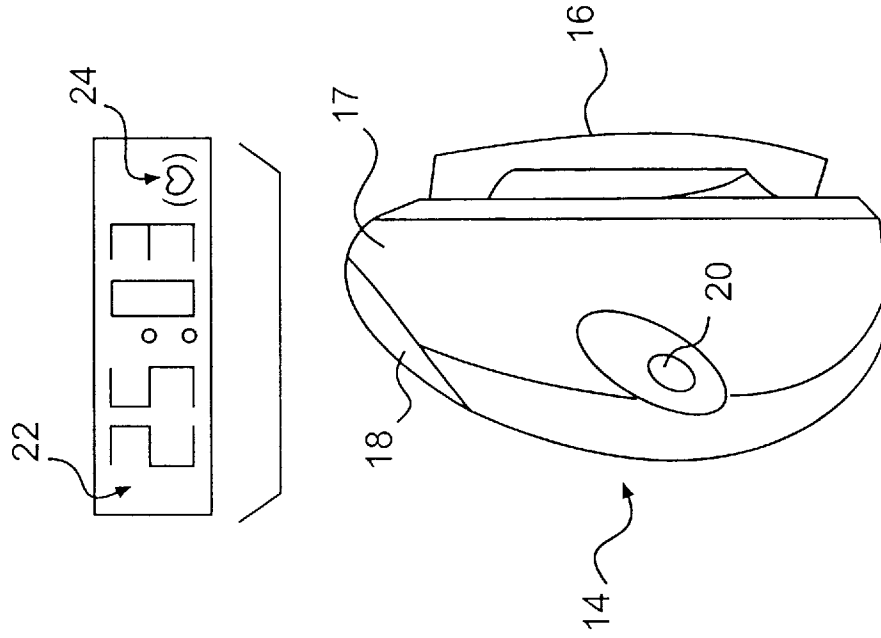


FIG. 1

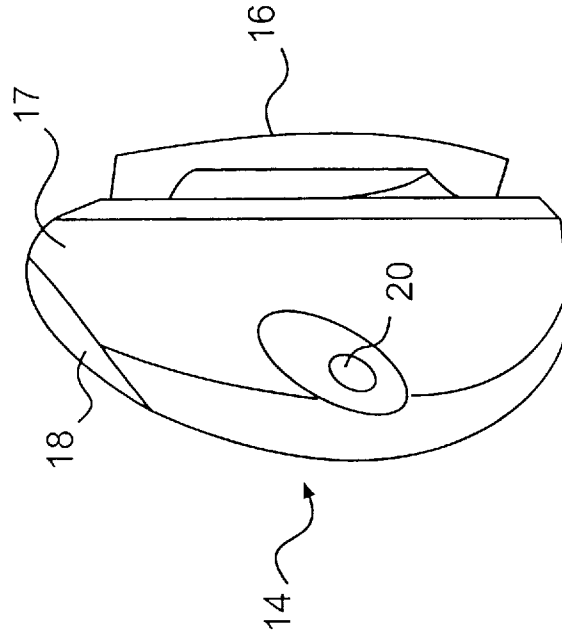
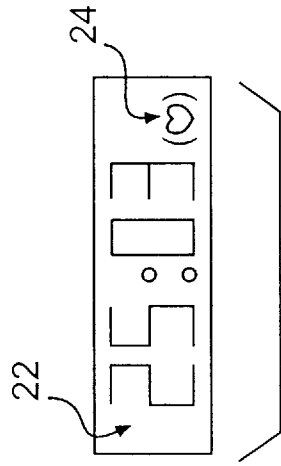


FIG. 2

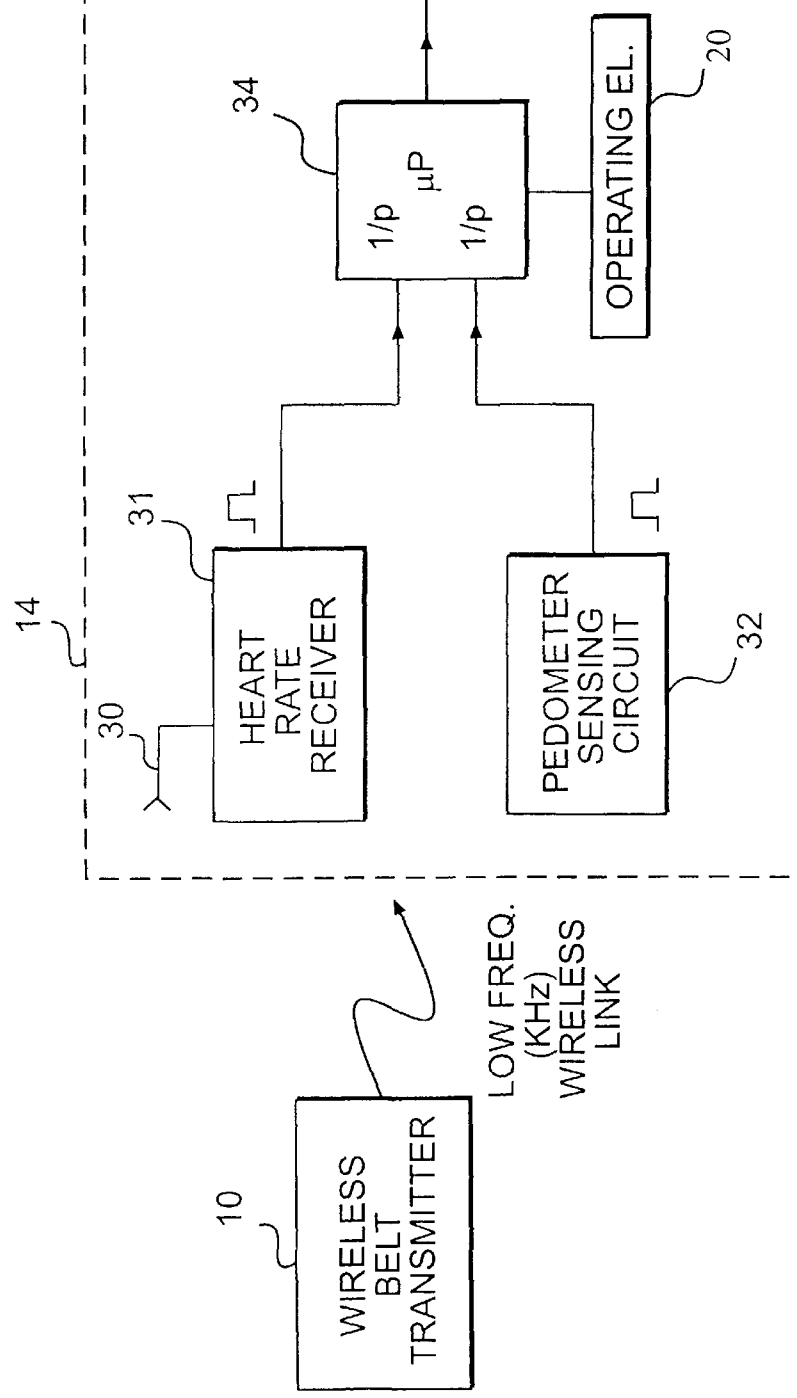


FIG. 3

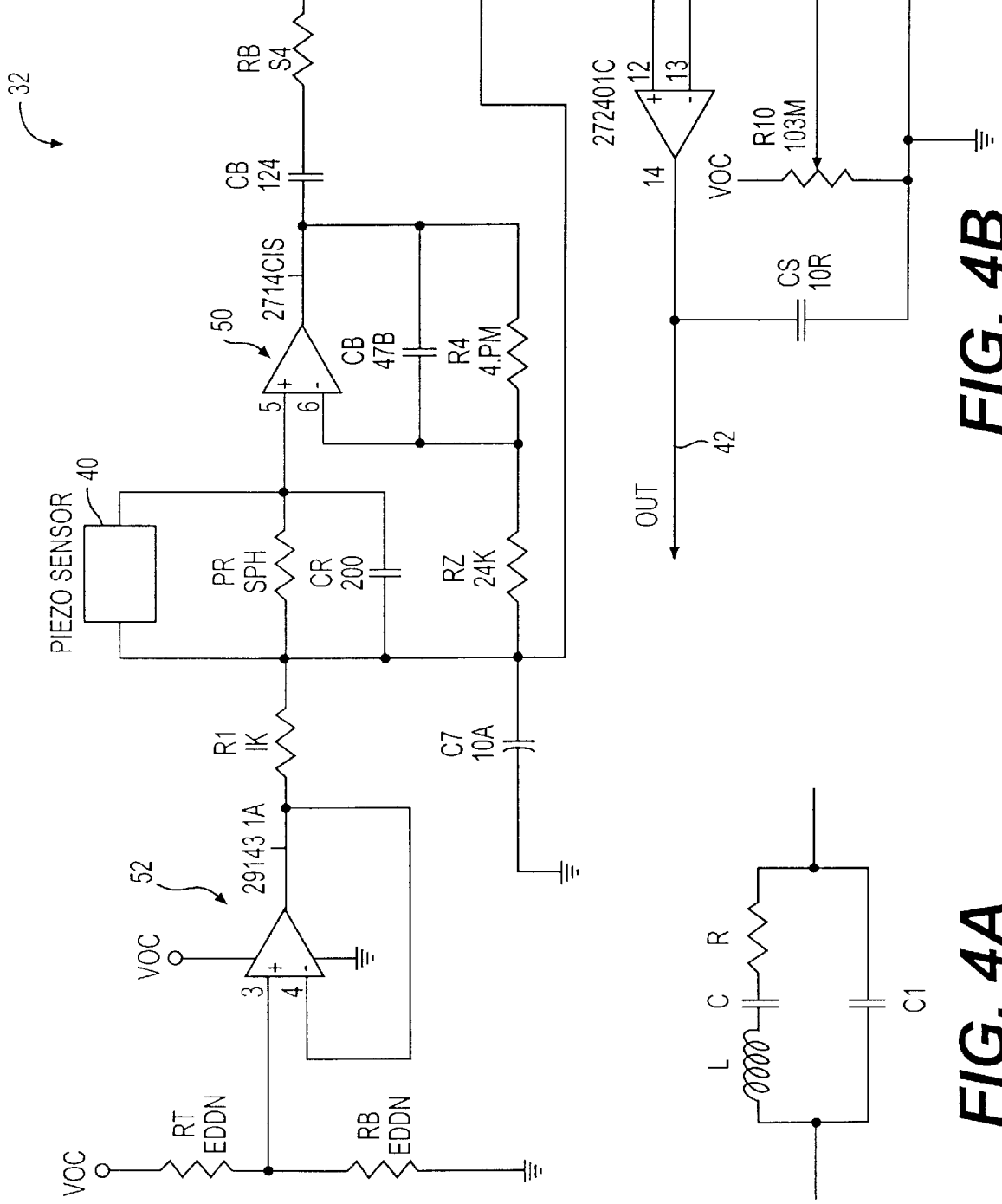
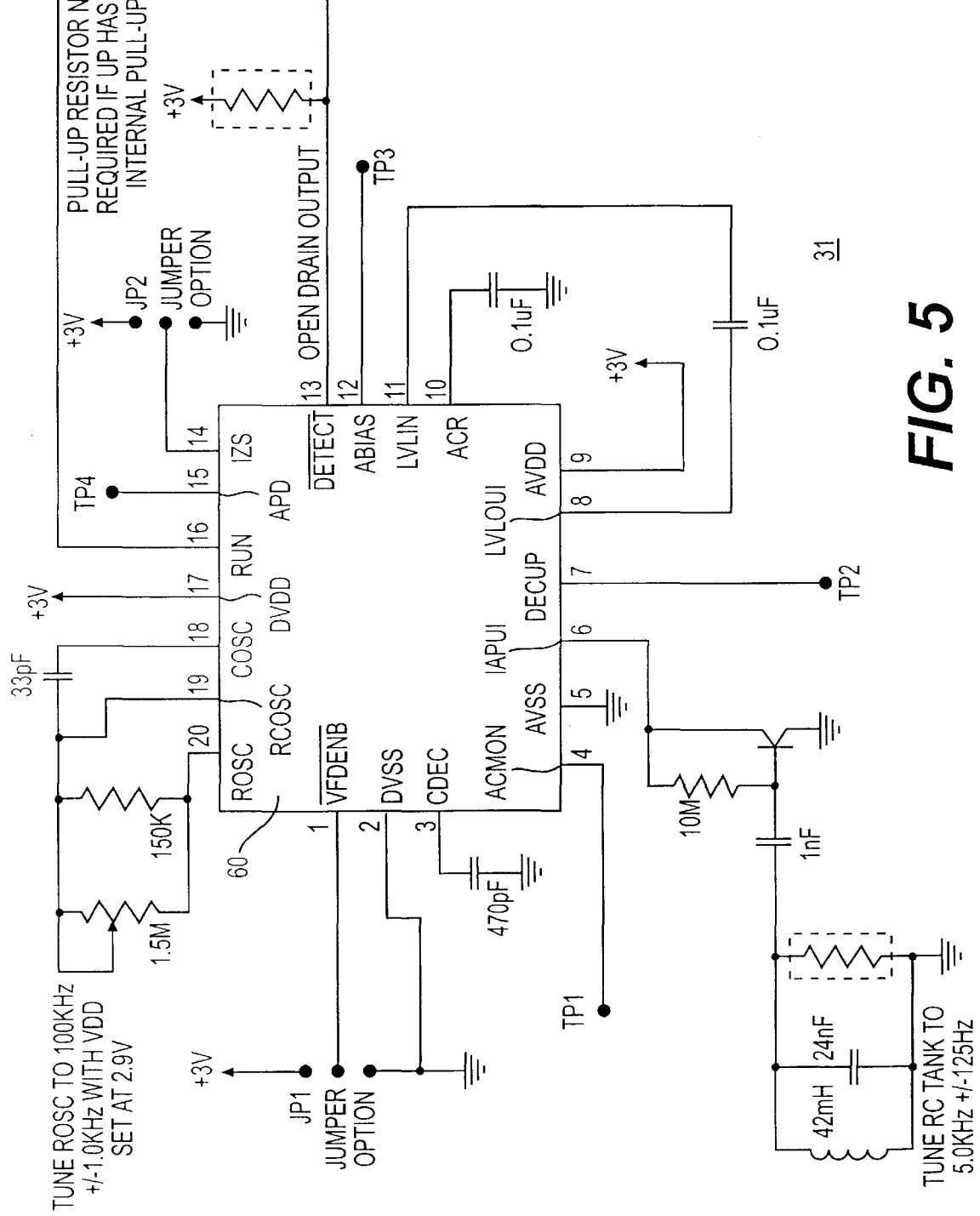


FIG. 4B

FIG. 4A



31

FIG. 5

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.