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Rhee et al.

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(54) **ISOLATING RING SENSOR DESIGN**

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Related U.S. Application Data

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(51) Int. Cl.^{7} **A61B 5/00**
(52) **U.S. Cl.** **600/300**; 600/485; 600/500; 600/508; 600/310; 600/549; 600/323; 128/903
(58) **Field of Search** 600/300, 301, 600/309–311, 316, 323, 324, 326, 328, 340, 344, 345–348, 355, 361–365, 481–510, 549, 587, 595; 128/897, 898, 903, 920

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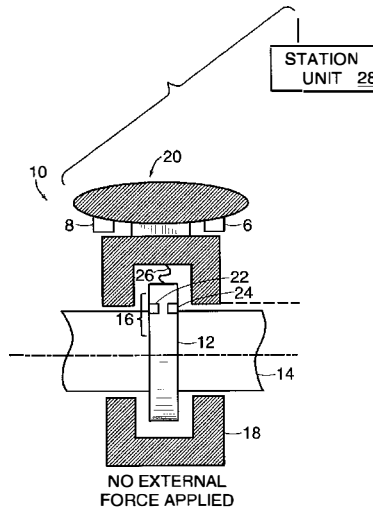(74) *Attorney, Agent, or Firm*—Bromberg & Sunstein LLP

(57) **ABSTRACT**

A monitoring system for monitoring the health status of a patient by performing measurements such as skin temperature, blood flow, blood constituent concentration, and pulse rate at the finger of the patient. The monitoring system has an inner ring proximate to the finger as well as an outer ring, mechanically decoupled from the inner ring, that shields the inner ring from external loads. Measurements are performed in accordance with a protocol that may be preprogrammed, or may be modified on the basis of real-time data or by command from a remotely located medical professional.
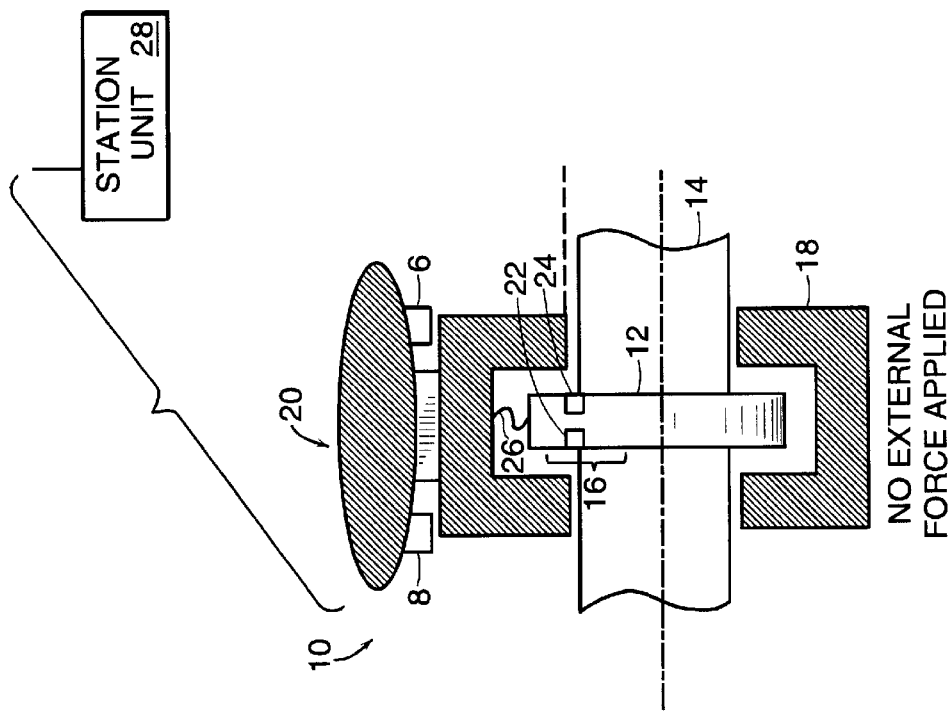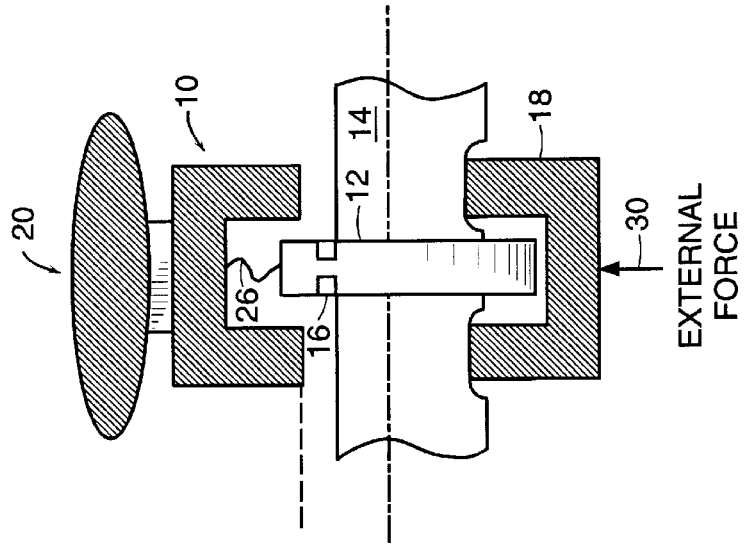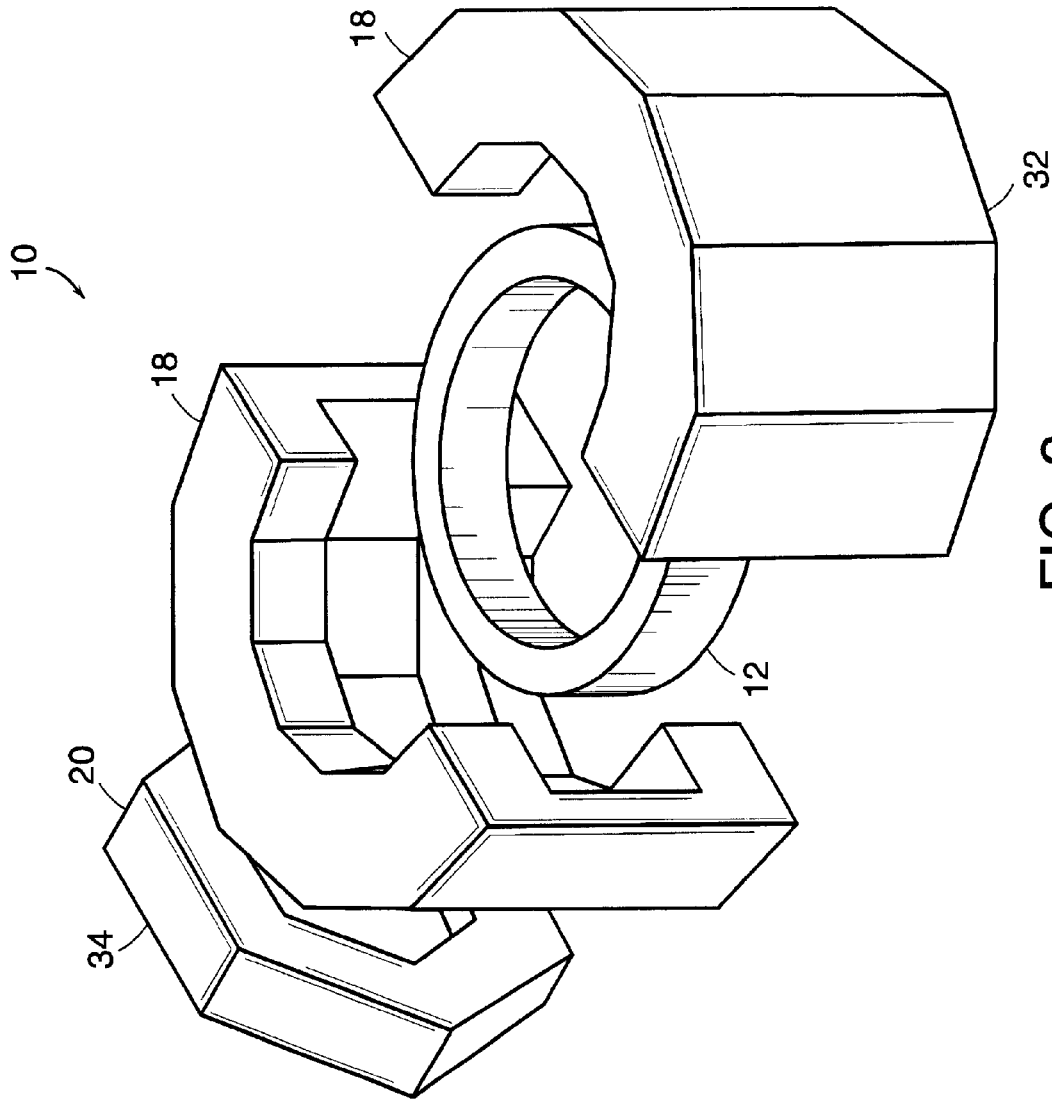
20 Claims, 5 Drawing Sheets

FIG. 1b

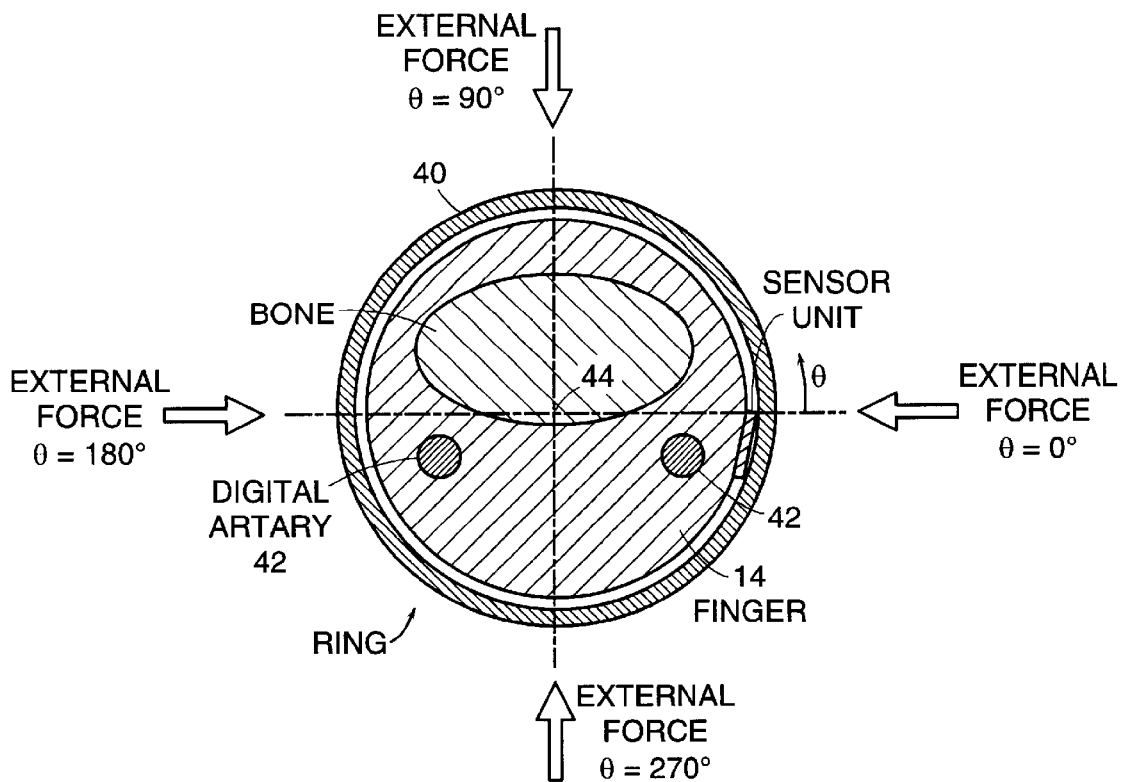EXTERNAL
FORCE

STATION
UNIT 28

FIG. 1a

NO EXTERNAL
FORCE APPLIED

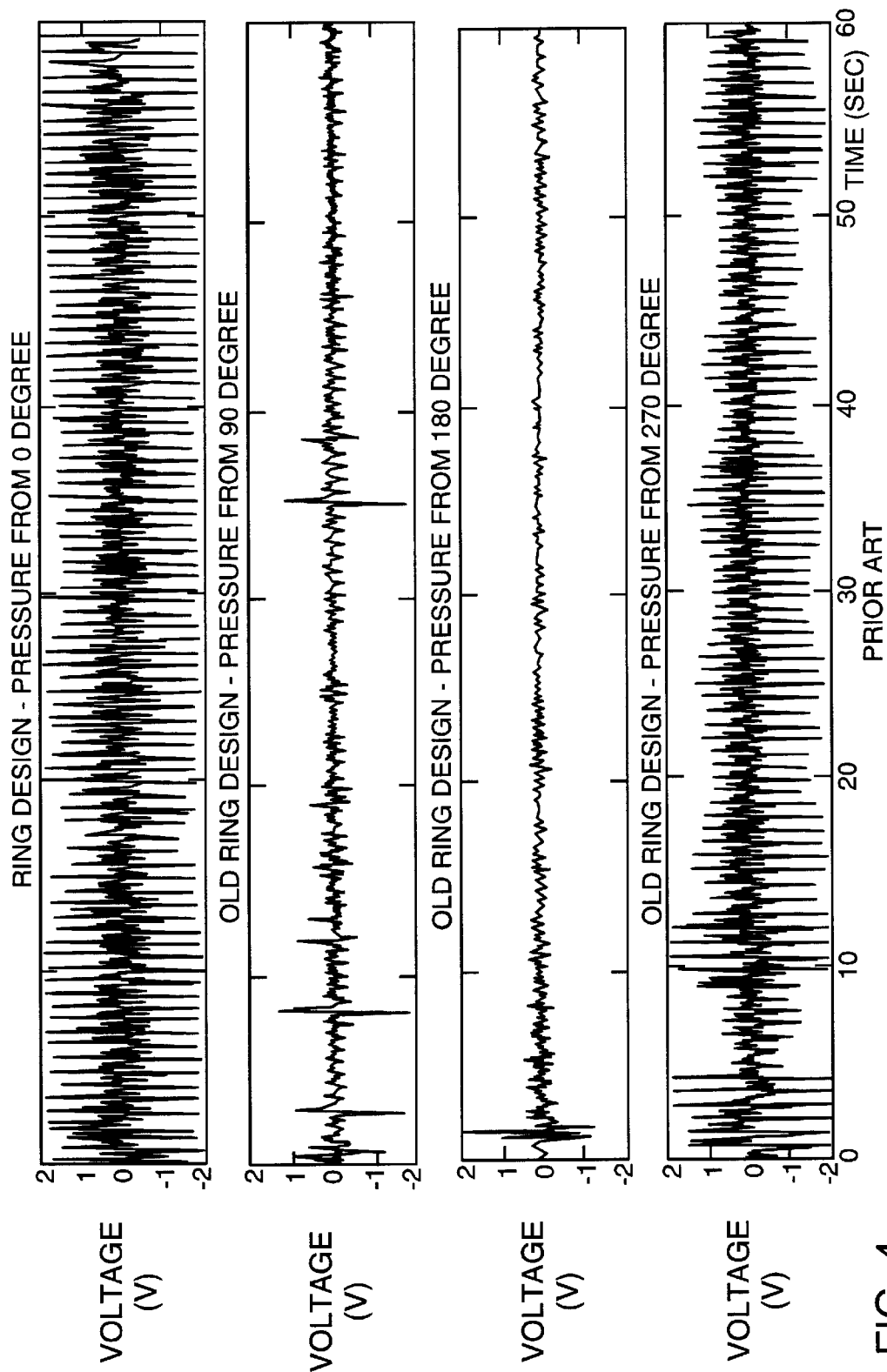FIG. 2

EXPERIMENT CONFIGURATION

FIG. 3

FIG. 4

DOCKET ALARM

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