



(12) **United States Patent**
Scott et al.

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(54) **PERSONAL IDENTIFICATION SYSTEM**

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(73) Assignee: **Identix, Inc.**, Los Gatos, CA (US)

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(22) Filed: **Apr. 24, 1998**

(51) **Int. Cl.**⁷ **H04K 1/00**

(52) **U.S. Cl.** **713/186; 713/182**

(58) **Field of Search** 380/23, 24; 382/124, 382/125, 126, 127, 115, 116, 313; 356/71; 340/825.34; 713/202, 182, 183, 184, 185, 186

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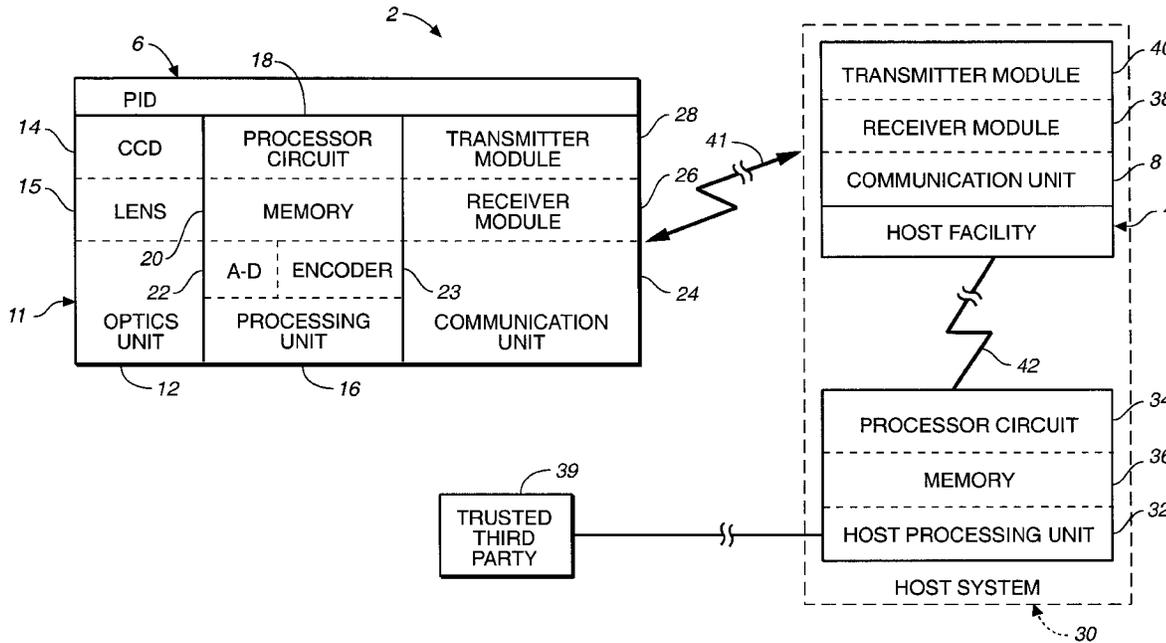
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(57) **ABSTRACT**

A portable, hand-held personal identification device for providing secure access to a host facility includes a biometric sensor system capable of sensing a biometric trait of a user that is unique to the user and providing a biometric signal indicative of the sensed biometric trait. A processing unit responsive to the biometric signal is adapted to compare the biometric signal with stored biometric data representative of the biometric trait of an enrolled person that is unique to the enrolled person, and to provide a verification signal only if the biometric signal corresponds sufficiently to the biometric data to verify that the user is the enrolled person. The verification signal includes information indicative of the enrolled person or the device. A communication unit, including a transmitting circuit, is adapted to transmit the verification signal to a host system.

27 Claims, 12 Drawing Sheets



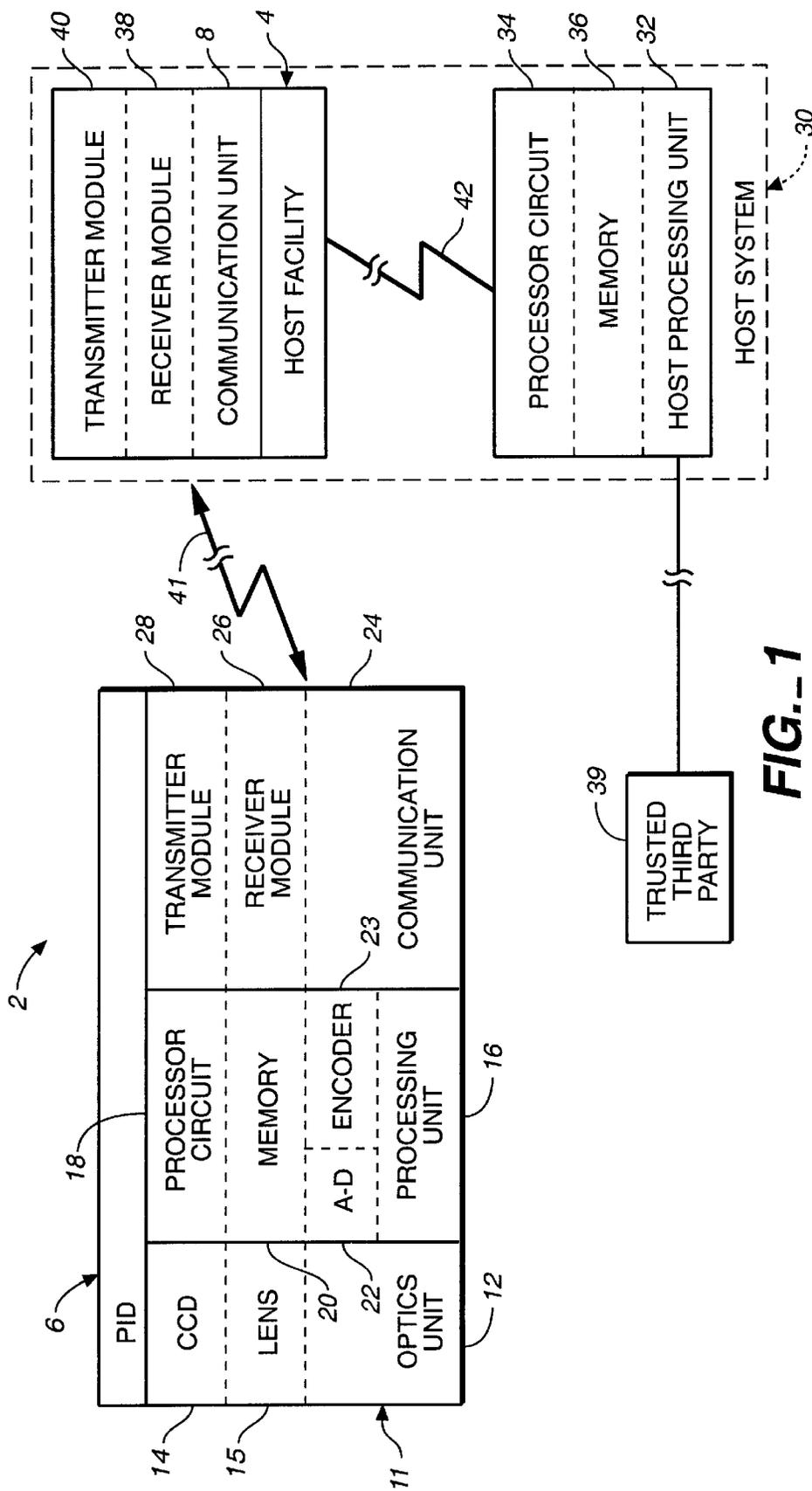


FIG. 1

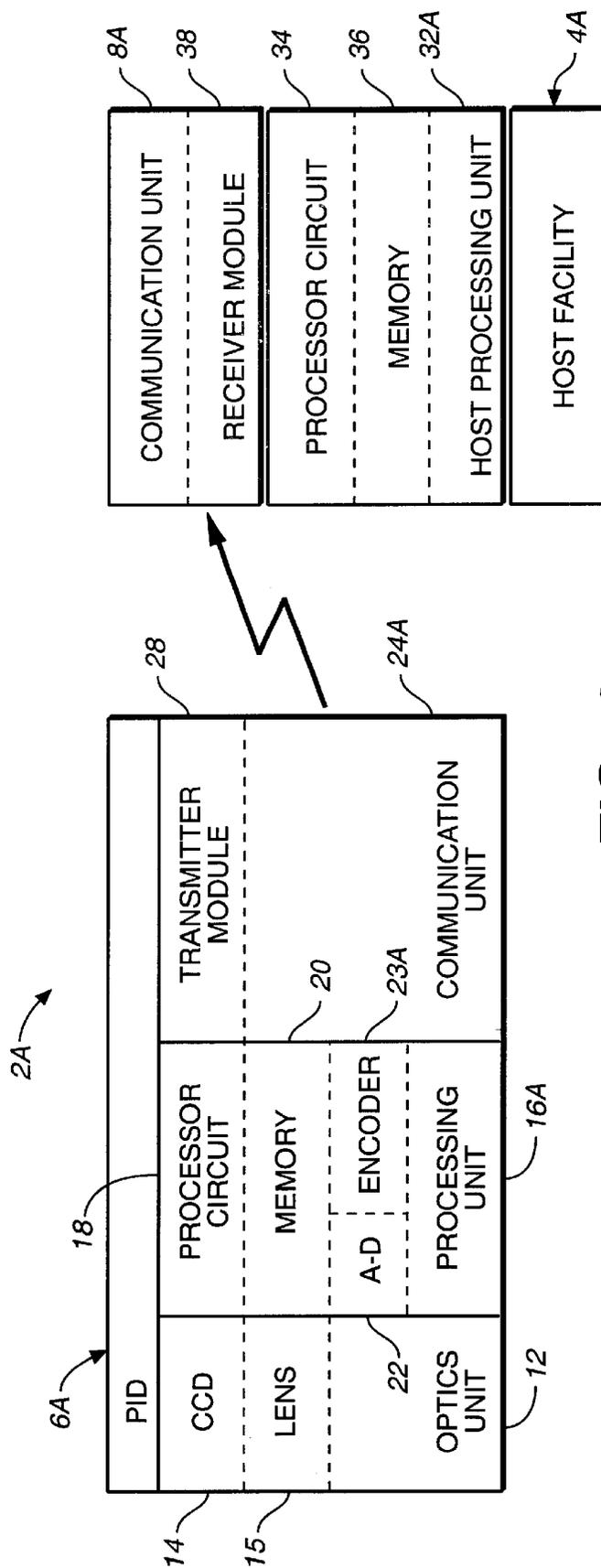


FIG. 2

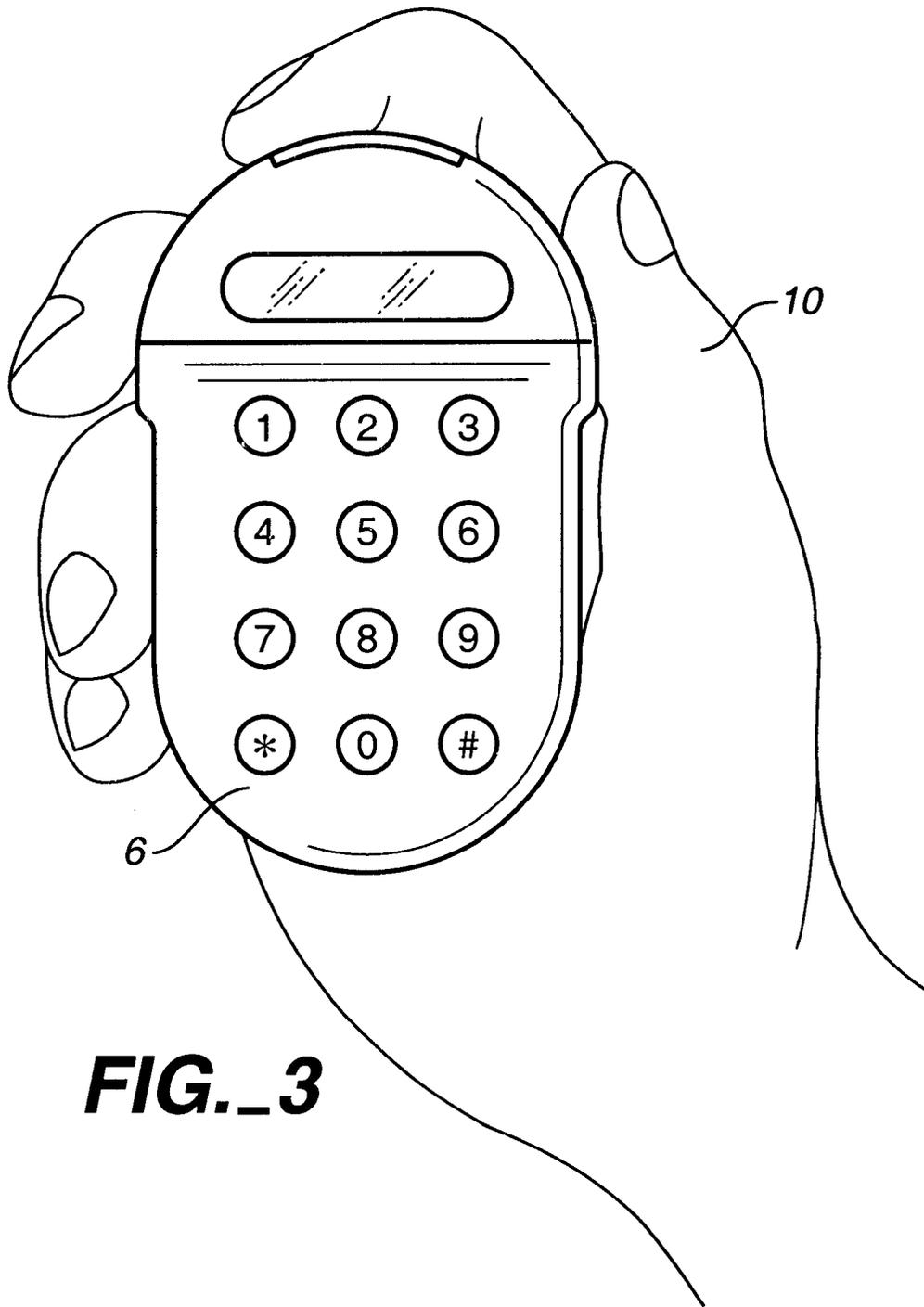


FIG. 3

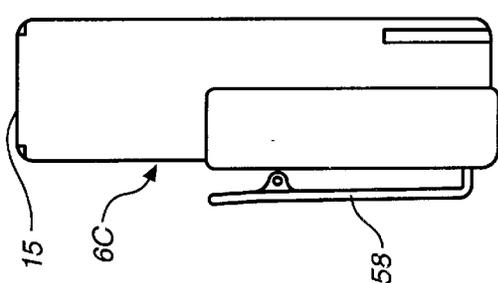


FIG. 5B

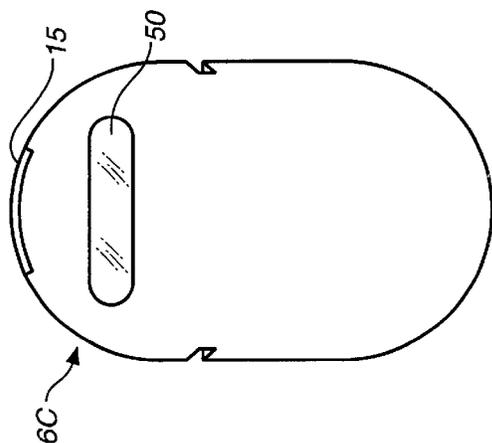


FIG. 5A

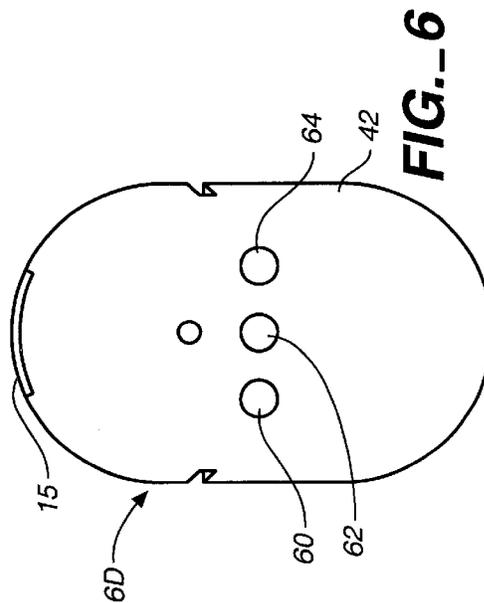


FIG. 6

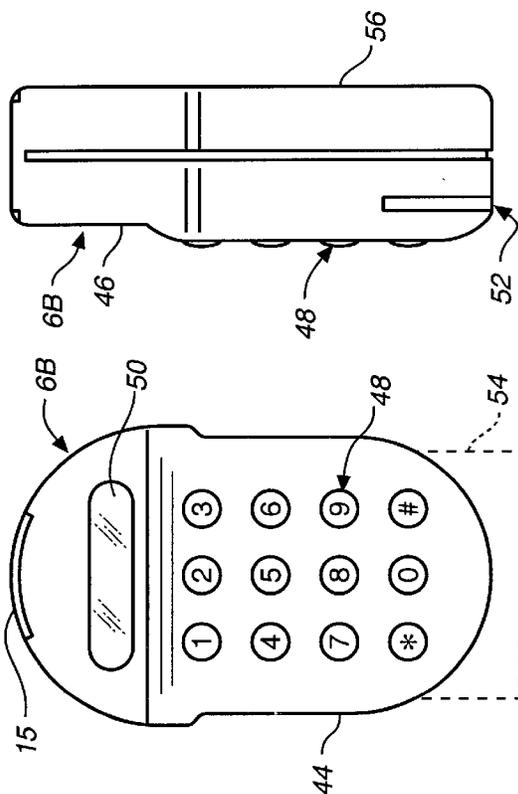


FIG. 4A

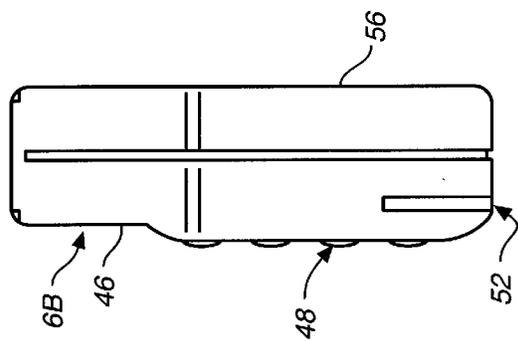


FIG. 4B

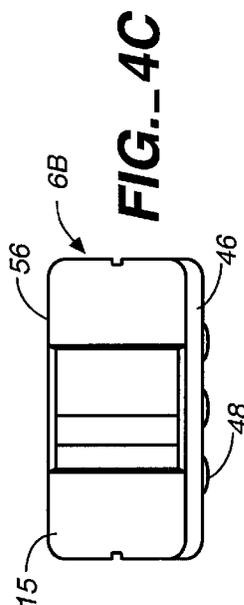


FIG. 4C

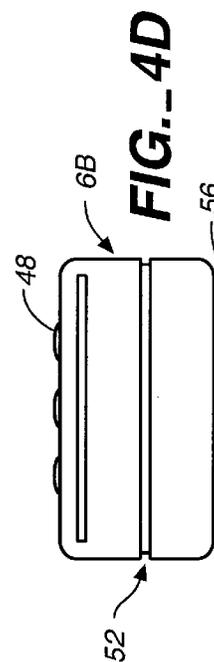


FIG. 4D

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