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Armstrong**

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(54) **ANALOG CONTROLS HOUSED WITH ELECTRONIC DISPLAYS FOR HAND-HELD WEB BROWSERS**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.  
  
This patent is subject to a terminal disclaimer.

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(List continued on next page.)

**Related U.S. Application Data**

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- (60) Provisional application No. 60/133,682, filed on May 11, 1999.
- (51) **Int. Cl.<sup>7</sup> ..... G09G 5/08**
- (52) **U.S. Cl. .... 345/159**
- (58) **Field of Search ..... 463/36, 37; 273/143 B; 345/156, 159; 200/513**

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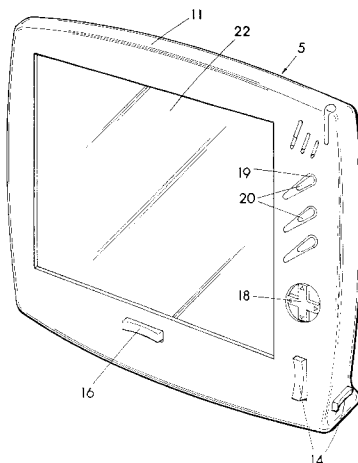
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(57) **ABSTRACT**

A hand-held web browser for establishing contact with a computer network, the browser including a housing, a general image display in the housing, a proportional sensor for creating a varying value according to varying depression applied by a finger of a human user to a depressible surface of the sensor. Multiple proportional sensors are sometimes utilized. In one preferred embodiment the proportional sensor(s) include resilient dome cap(s) for providing tactile feedback to the finger depressing the depressible surface. Circuitry within the housing is connected to the sensor for reading the varying value from the sensor and causing representative varying of the imagery shown by the display.

**18 Claims, 6 Drawing Sheets**



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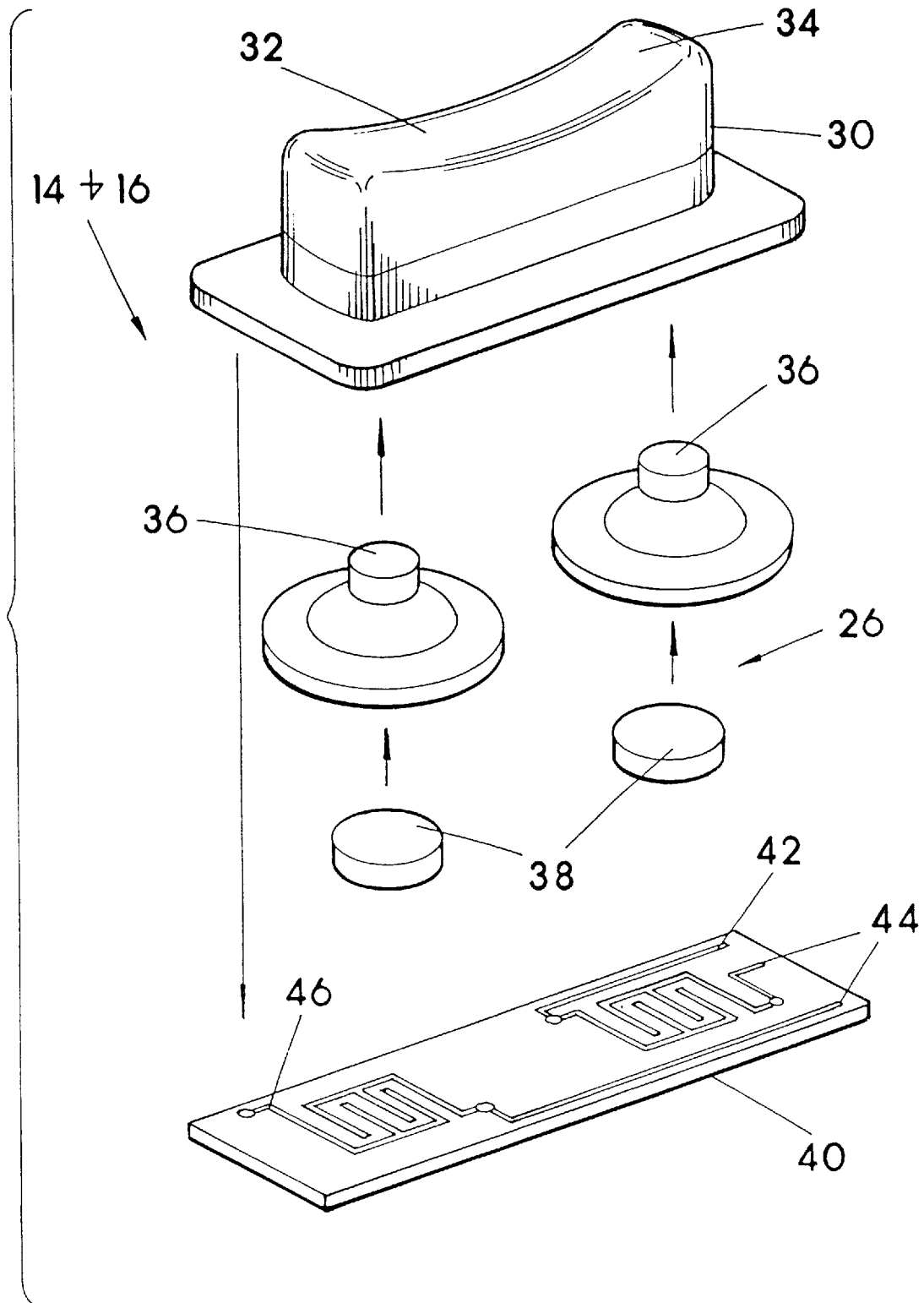


FIG. 1

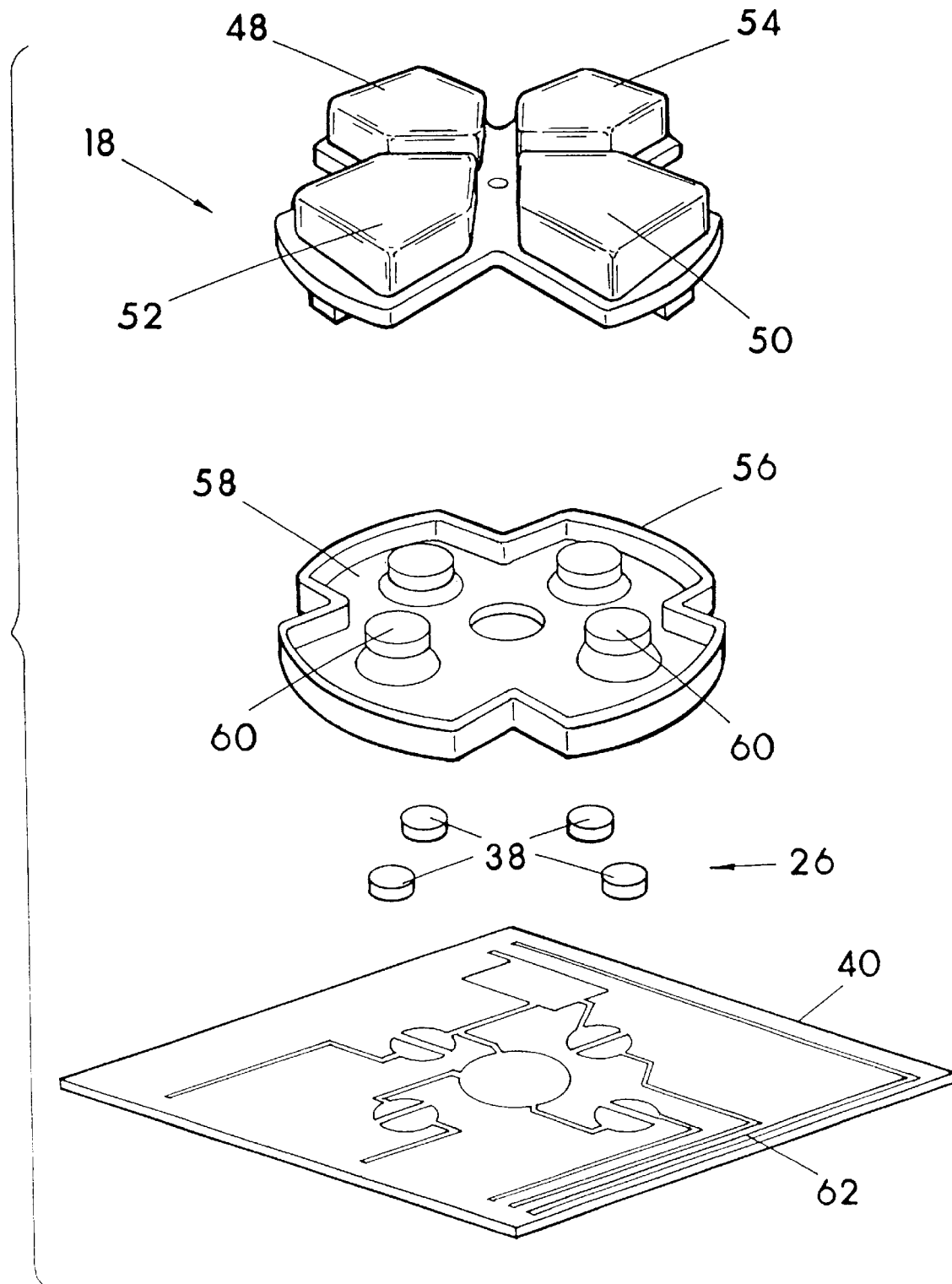


FIG. 2

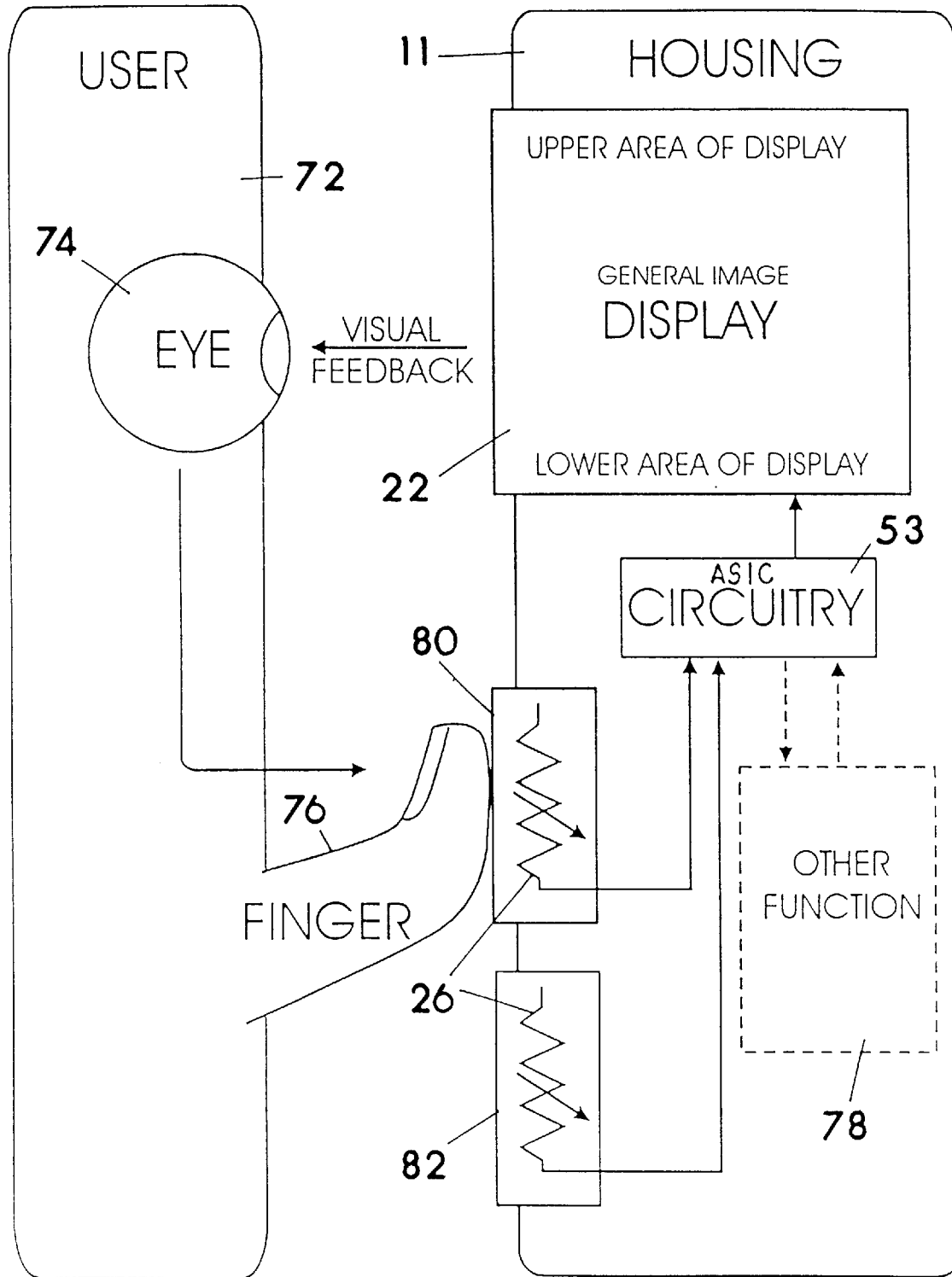


FIG. 3

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