depression is made across the upper and lower conductive members, the upper and lower conductive members are electrically connected to each other through the metal powder dispersed in the rubber-like base. In this embodiment, the pressure sensor **8** forms a thin elongated plate formed with holes through which tactile pins **3** can penetrate freely. Lead wires **8***a* for touch detection extend from the thin side surface portion of the pressure sensor **8** and are connected to an arithmetic drive unit **6** through a unit base **2**. In this embodiment, finger touch detection is performed in each cell unit **1**.

FIG. **4**B shows an embodiment in which a narrow thin plate-like pressure sensor **8** is adhered, between two arrays of tactile pins **3**, in a groove formed between the tactile pin holes. In this embodiment, the pressure sensor **8** has a simpler arrangement than that of FIG. **4**A. Except for this, the arrangement and operation of the embodiment of FIG. **4**B are substantially the same as those of the embodiment shown in FIG. **4**A.

As another finger touch detecting member, a switch mechanism is known in which an insulating spacer formed with cut-out portions only at contact positions is sandwiched between upper and lower conductive members whose finger touch surfaces are insulated. When a depression is made across the upper and lower conductive members at a portion corresponding to the contact position, the upper and lower conductive materials can be brought into contact with each other through the cut-out portion. When this switch mechanism is used, an arrangement identical to those shown in FIGS. **4**A and **4**B can be obtained.

When fabrication of the single cell units **1** is almost ended, position adjustment of the piezoelectric element segments **4** is performed by the adjusting members **5**. The bending characteristics and the like of the piezoelectric element segments **4** tend to vary in the manufacturing process. The adjusting members **5** aim at aligning the positions of the respective piezoelectric element segments **4** in assembly of the cell unit **1** with a simple process. More specifically, when a positive or negative voltage is applied to the piezoelectric element segment **4**, the piezoelectric element segment **4** is ideally bent upward or downward at the same magnitude with respect to the fulcrums **2***g*. In practice, however, a difference occurs in upward and downward bend displacements. This displacement difference is adjusted by bending the adjusting member **5** formed on the proximal end **4***b* upward or downward. Position adjustment is thus performed such that the upper and lower bending ranges of the piezoelectric element segments **4** become equal, thereby completing assembly of the cell unit **1**. In this adjustment, since a plastically deformable material is used to form the adjusting members **5**, the adjusting operation is easy. Also, after adjustment, the deformed portion is not restored to the original state, but deformation obtained in adjustment is maintained.

The cell unit **1** formed and adjusted in the above manner is assembled with other cell units **1** as shown in FIG. **3** by fitting fitting projections **2***i* and fitting recesses **2***j*, formed on and in the side surfaces of the tactile portion **2***a* of one unit base **2**, with the fitting recesses **2***j* and fitting projections **2***i* of the opposing cell unit **1**. The outer sides of the side surfaces are fixed with a frame (not shown), and the cell units **1** are assembled into a graphic tactile surface having a required size. In this case, the graphic tactile surface vertically and horizontally couples the cell units **1** with each other such that the distances among the tactile pins **3** become equal between the vertical and horizontal directions.

In the above embodiments, the arithmetic drive unit **6** is integrally formed on the cell unit **1** together with the piezoelectric element segments **4** and the like. However, housing connection is also possible in which an arithmetic drive unit **6** is formed as a separate unit and is connected to a cell unit **1** mounted with piezoelectric element segments **4** and the like through a housing connector.

The present invention is not limited to the above embodiments, and various changes and modifications may be made without departing from the spirit and scope of the invention.

Additional advantages and modifications will readily occur to those skilled in the art. Therefore, the invention in its broader aspects is not limited to the specific details and representative embodiments shown and described herein. Accordingly, various modifications may be made without departing from the spirit or scope of the general inventive concept as defined by the appended claims and their equivalents.

We claim:

1. A graphic tactile cell constituted by a plurality of cell units, each cell unit comprising:

a plurality of tactile pins for indicating a graphic pattern through vertical displacement with respect to a graphic tactile surface,

piezoelectric element segments formed to correspond to said tactile pins and bent upon application of a voltage to vertically drive said tactile pins at free end portions thereof, and

a unit base for holding a unit number of tactile pins and the unit number of piezoeleetric element segments,

wherein said graphic tactile cell is formed by vertically and horizontally coupling said plurality of cell units such that said tactile pins on adjacent cell units, are arranged at an equal interval in vertical and horizontal directions.

2. A cell according to claim **1**, wherein each of said piezoelectric element segments is formed such that a bending displacement surface of said free end thereof is arranged at a predetermined angle with respect to said graphic tactile surface, abutting surfaces of said tactile pins **(3)** that abut against said bending displacement surfaces are formed to be substantially parallel to said bending displacement surfaces, and said tactile pins are placed on said bending displacement surfaces of said piezoelectric element segments through said abutting surfaces and are supported to be vertically movable.

3. A cell according to claim **1**, wherein a proximal end of each of said piezoelectric element segments is held by said unit base through a plastically deformable adjusting member.

4. A cell according to claim **1**, wherein said unit base has a plurality of groove portions for mounting and holding said piezoelectric element segment in each groove portion.

5. A cell according to claim **1**, wherein a strain sensor for detecting a finger touch is formed at a required position of each of said piezoelectric element segments.

6. A cell according to claim **1**, wherein a finger touch detection sensor for detecting a finger touch is formed at a required position of said graphic tactile surface.

7. A cell according to claim **1**, wherein an arithmetic drive unit for applying a voltage to said piezoelectric element segments is formed integrally with said unit base.

8. A cell according to claim **1**, wherein an arithmetic drive unit for applying a voltage to said piezoelectric element segments is connected to said unit base by means of housing connection.

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