[0102] **FIG. 5** is a schematic diagram showing a principle for distinguishing an input by the direction of the bending in the embodiment. That is, this figure is also a perspective diagram showing the corner of the display input device of the embodiment.

[0103] As illustrated in this figure, when adding the bending to the corner of the display input device **10** from the flat state (**30**A), the user can bend in the direction of arrow +a, i.e. the upward direction (**30**B), and can bend in a direction of arrow −a, i.e. the downward direction (**30**C). And in these status, according to the direction of the bending, the sign of the input data can be distinguished. Alternatively, the range of the input data can be extended, or the kinds of the data can be increased according to the direction of the bending.

[0104] For example, when bent in the direction of arrow +a, the input data may be determined to be plus, and when bent in the direction of arrow −a, the input data may be determined to be minus. In both cases, the absolute value of the input data can be determined according to the deformation quantity of the bending.

[0105] Alternatively, a range of the data which the user can arbitrarily select may correspond to the range between the state **30**B and the state **30**C.

[0106] Alternatively, when a user bends in the direction of arrow +a, a first data range may be chosen, and when the user bends in the direction of arrow −a, a second data range different from the first data range may be chosen.

[0107] In order to identify the direction of the bending, two sheets of the form detection parts **30** can be laminated, as will be explained in more detail later.

[0108] In a case where two or more form change detection units **30** are laminated and bending is added, the curvature, the stress, and the displacement may differ between each of the form change detection units **30**. Therefore, the direction of the bending can be determined by detecting a difference of these parameters between upper and lower form change detection units **30**.

[0109] **FIG. 6** is a conceptual diagram which illustrates the structure of the form change detection unit **30**. That is, the electrode patterns **33** and **34** are formed in the inner surface of a pair of substrates **31** and **32** which have flexibility, respectively. And the perception layer **35** is provided between these electrode patterns. The perception layer **35** is a layer which has the character that an electric property changes by at least one of stress and displacement. Using this character, stress or displacement impressed in each area divided in the form of a matrix with upper and lower electrode patterns **33** and **34** can be detected.

[0110] As the substrates **31** and **32**, plates or films which consist of resin which has flexibility can be used. As electrode patterns **33** and **34**, metal or a conductive material is suitably formed by methods, such as printing, plating, sputtering, and vacuum deposition, and then it is suitably puttered.

[0111] As a perception layer **35**, an organic material of resistance, the charge of non-equipments, a semiconducting material, etc. can be chosen suitably, and can be used, for example. Or a piezoelectric material and a dielectric material may be used. As a material of resistance, polyvinylidene-fluoride (PVDF) or fluid-like polyvinyl alcohol may be used. Alternatively, the pair of electrode patterns can be hold with a predetermined distance therebetween without filling the space.

[0112] The perception layer **35** does not need to be provided for every division area of the matrix. Instead, the perception layer **35** may be continuously formed between the substrates **31** and **32** without dividing. For example, when forming the perception layer **35** with a resistance film, generally compared with a lengthwise direction (the direction of thickness), resistance along a lateral direction (the direction parallel to the surface of a substrate **31**) is far high. For this reason, leakage along the lateral direction can be neglected. Therefore, the perception layer **35** can be formed continuously between the substrates **31** and **32** without dividing.

[0113] **FIGS. 7A and 7B** are schematic diagrams explaining a function of the perception layer **35** made of a resistance material. That is, as illustrated in **FIG. 7**A, when the perception layer **35** of resistance is provided via the electrode which is not illustrated among substrates **31** and **32**, this cell is electrically equivalent to the variable resistor as shown in **FIG. 7B**. And the amount of resistance changes depending on the stress (pressure) P impressed in the direction of thickness of the perception layer **35**.

[0114] **FIG. 8** is graph which illustrates the response characteristic of a cell shown in **FIGS. 7A and 7B**. That is, the horizontal axis of this figure expresses stress impressed in the direction of thickness of a perception layer **35**, and the vertical axis expresses current which flows where constant voltage is impressed among electrodes **33** and **34**, respectively. Thus, if compressive stress is impressed to a perception layer **35**, current between electrodes will increase and resistance will decrease. By detecting such a resistance change, the quantity of the stress or the displacement can be detected. By investigating time differentiation of such resistance change, the speed or acceleration of the bending can be determined as mentioned with reference to **FIG. 4**.

[0115] In **FIG. 8**, although the case where current changes continuously depending on the quantity of stress or deformation is illustrated, the invention is not limited to this. For example, even if the quantity of the stress and displacement changes continuously, physical properties may change discretely. Such a discrete response may happen depending on the physical properties of the perception layer **35**. In the specification, such a discrete response is also included in a term "analog".

[0116] **FIGS. 9A through 9C** are conceptual diagrams explaining the states where bending is added to a form change detection unit **30**. Namely, as shown in **FIG. 9A**, in a state with a flat form change detection unit **30**, each of the divided parts of the perception layer **35** provided in the shape of a matrix is uniform.

[0117] On the other hand, if the bending is added as shown in **FIG. 9**B, stress will be added to the perception layer **35**A of a deformation portion, and physical properties, such as resistance, changes locally. By detecting such a local change, the bending can be detected.

[0118] For example, in a portion to which the bending is added, when compression stress of the direction of thickness is added to perception layer **35**A made of a resistance material, resistance between electrodes decreases as shown