combination of the keys **21, 22, 23, 24, 25, 26** each of which corresponds to a dot of the Braille character set, as numbered in FIG. **1**. For example, the Braille character representing the letter "a" is represented by the dot formation with a single dot in the first row of the first column of the two column, three row matrix. As illustrated in FIG. **2**, cell **15** shows a plurality of positions **1** through **6** (numbered in the drawing for illustrative purposes), and, therefore to represent the letter "a" the position of number **1** would be raised, and the other positions, i.e., dots **2, 3, 4, 5**, and **6**, lowered. A space key **27** is provided on the unit **10**, and, when depressed or otherwise actuated, represents entry of the character represented by those keys (**21, 22, 23, 24, 25, 26**) which are concurrently depressed or otherwise actuated. A combination of one or more keys (**21, 22, 23, 24, 25, 26**) is subsequently depressed or actuated and, again the space key **27** is depressed or actuated to enter the character represented by the depressed keys. This is continued by the user until the desired character string, such as for example, a word, is formed. The space key **27** is depressed again to add a space, so that the user may continue with a new word, phrase, punctuation, or other character.

The display **12** is provided to display a plurality of characters represented by the cells **13, 14, 15, 16, 17, 18, 19, 20**. Once the user enters keystrokes by depressing combinations of keys (**21, 22, 23, 24, 25, 26**) and entering those combinations, the represented character may be displayed on the display **12**. Preferably, one or more cells **13, 14, 15, 16, 17, 18, 19**, and **20** of the display **12** each corresponds to a Braille character. A character is represented by a cell based on the number of raised dots or points in the Braille array of places from **1** through **6** (see FIG. **2**).

As best shown in FIGS. **2** and **3**, preferably, each cell **13, 14, 15, 16, 17, 18, 19, 20**, is comprised of a guide block **33** having six apertures **31, 32, 33, 34, 35**, and **36**. Drive means is provided for driving pins which are to extend through the apertures (**31, 32, 33, 34, 35, 36**). Preferably, the drive means comprises a motor, such as, for example, the motors **40, 41, 42** shown in FIG. **3**. Each motor **40, 41, 42** may comprise any suitable motor, and preferably comprises a DC motor, including, for example, commercially available motors of the type which may be used in a pager or cell phone to produce a vibration. A plurality of pins **51, 52, 53, 54, 55, 56** is shown in FIG. **2** in connection with the cell **15**. FIG. **3** shows the pins **54, 55, 56** from the second column of the cell **15** in an enlarged view, and positioned within the respective guide block apertures **34, 35, 36**. In accordance with a preferred embodiment of the invention, there is a motor **40, 41, 42** corresponding with each pin **54, 55, 56**, FIG. **3** showing the pins **54, 55, 56** of the second column of the cell **15** to facilitate illustration, it being understood that the pins **51, 52, 53** (see FIG. **2**) of the first column of the cell **15** are also driven with respective corresponding motors (not shown) which may be identical to those motors **40, 41, 42** of FIG. **3**. A coupler **57, 58, 59** is provided, respectively, on each motor **40, 41, 42** to be rotated by the motor. Each pin **54, 55, 56** has a shaft **61, 62, 63**, respectively, which is connected to a respective coupler **57, 58, 59** of each respective motor **40, 41, 42**, as illustrated in FIG. **3**. Suitable fastening means for fastening each pin shaft **61, 62, 63** to a respective coupler **57, 58, 59** is provided, and preferably, as shown in FIG. **3**, may comprise a cam pin **64, 65, 66**.

Each motor **40, 41, 42** is controlled to rotate a respective coupler **57, 58, 59** in a clockwise or counterclockwise direction. The rotation of the motor **54, 55, 56**, in turn, rotates the associated coupler **57, 58, 59** connected thereto to drive the pin **54, 55, 56** connected to the respective coupler **57, 58, 59** to raise and lower the pin **54, 55, 56** relative to the respective guide block aperture **34, 35, 36**. Preferably, a computer may control the operation of the motor **40, 41, 42** for each respective pin **54, 55, 56**, rotating the motor **40, 41, 42** through a predetermined rotation range to regulate the position of the pin **54, 55, 56** relative to the block **33**. The computer may be controlled with software which may be preprogrammed to read user inputs, such as the user inputs from the keys **21, 22, 23, 24, 25, 26, 27**, and the characters represented by those keys, to cause the positioning of a pin **51, 52, 53, 54, 55, 56** by a respective motor **40, 41, 42** to be moved to correspond to a lowered or raised position. Preferably, as illustrated in connection with the cell **15**, six pins **51, 52, 53, 54, 55, 56** are controlled with six motors, each motor receiving a signal from a controller, computer or other suitable device to power the motor to drive a corresponding pin **51, 52, 53, 54, 55, 56** in a raised or lowered position. A pin may be lowered at or below the surface **29** of the guide block **33**, and preferably, a pin is lowered a sufficient amount to simulate to a user's touch an absence of a protrusion. Conversely, when a pin is raised, preferably a pin is raised to a uniform height above the block surface **29** with respect to other pins of the cell **15** which also are to be raised to simulate to the touch the presence of a raised projection.

Referring to FIGS. **4, 5**, and **6**, there is illustrated the movement of a single pin, such as the pin **55**, between lowered (FIG. **4**) and raised (FIG. **6**) positions. Stop means is provided for stopping the further rotation of the coupler **58**, and hence the further driving of the pin **55**. Stop means is shown in a first preferred embodiment comprising stops **70, 71** provided for limiting the rotation of the coupler **58** to control the position of the pin **55** and regulate the pin position from a first position where the pin **55** is positioned to extend above the guide block surface **29** (FIG. **6**) and a second position where the pin **55** is lowered to a position below the guide block surface **29** (FIG. **4**). The transition of the pin **55** from the lowered (FIG. **4**) position to the raised position (FIG. **6**) is shown in FIG. **5**, where the pin **55** is being driven from a lowered position to a raised position. The coupler **58** defines a rotational path, where arrows "a" and "b" in FIGS. **4** and **5** illustrate preferred directions of rotation. The stop means further comprises a leg **74** disposed on the coupler **58** for selective engagement with the stop elements **70, 71**. When the coupler **58** and leg **74** are rotated to one of the extreme rotation positions illustrated in FIGS. **4** and **6**, where one of the stops **71, 70**, respectively, is engaged. Preferably, the leg **74** is disposed axially from the coupler **58**. Each corresponding stop element **70, 71** is disposed at a predetermined location along the rotational path traveled by the leg **74** for engagement with the leg **74** at those locations. The stop means facilitates the retention of the pin **55** in the desired position, and supports the pin **55** in the pin aperture **35** and supports the pin **55** against the force applied by a user who touches the pin **55** when reading the display cell. Although described in connection with a single pin **55** of the cell **15**, it is understood that the other pins **51, 52, 53, 54, 55**, and **56** of the cell **15**, may be driven by motors with couplers and stops, and that other cells forming the display **12** may also be configured and operated as is described and shown with respect to the cell **15**.

In an alternate embodiment illustrated in FIG. **7**, stop means is illustrated in a second preferred embodiment comprising wall means having a first wall section **80**, and a second wall section **81** positioned proximate to the motor **41**. The coupler **78** is configured to be rotated by the motor **41** through a predetermined path of rotation defined by a first