electrorheological fluid and are selectively pushed to express visible information in the form of raised dots which blind people can feel. A configuration of the braille display device is simple, and it is easy to manufacture, install and carry.

[0044] In addition, it is possible to prevent an abnormal operation of the braille pin caused from a noise occurred between the adjacent electromagnets when the electromagnets operate.

[0045] While the invention has been shown and described with reference to certain exemplary embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the spirit and scope of the invention as defined by the appended claims.

What is claimed is:

1. A braille display device using an electrorheological fluid, comprising:

a base body in which a plurality of insulating reception grooves are formed;

a first electrode arranged below the base body;

an electrorheological fluid received in the reception groove;

a microcapsule having an electrophoresis particle which is dispersed in the electrorheological fluid;

a second electrode arranged above the microcapsule;

a braille pin installed above the second electrode; and

a braille pin protection film arranged above the braille pin.

2. The braille display device of claim **1**, further comprising an upper body which is formed above the base body and has a reception groove which communicates with the insulating reception groove formed in the base body.

3. The braille display device of claim **1**, wherein the first and second electrodes are disposed in a pixel form on areas corresponding to the reception grooves.

4. The braille display device of claim **1**, further comprising a first electrode protection film which is formed between the first electrode and the insulating reception groove to protect the first electrode, and a second electrode protection film which is formed between the second electrode and the insulating reception groove to protect the second electrode.

5. The braille display device of claim **1**, wherein the electrophoresis particle and a dielectric fluid are included in the microcapsule together.

6. The braille display device of claim **5**, wherein the electrophoresis particle and the dielectric fluid are made of materials having the same specific gravity.

7. A method for manufacturing a braille display device using an electrorheological fluid, comprising the steps of:

preparing a base body having a plurality of insulating reception grooves formed therein;

installing a first electrode having a first electrode protection film formed thereon below the base body;

injecting an electrorheological fluid in which a plurality of microcapsules are dispersed into each of the reception grooves;

installing a second electrode having a second electrode protection film formed thereon and contacting the electrorheological fluid in the reception groove having the electrorheological fluid injected therein;

forming a braille pin above the second electrode in the reception groove; and

forming a braille pin protection film above the braille pin.

8. The method of claim **7**, wherein a volume weight of the microcapsule ranges from about 10 to about 50 volume percent of the total volume weight of the electrorheological fluid.

9. The method of claim **7**, wherein a volume weight of an insulating dielectric fluid which constitutes the electrorheological fluid having the microcapsules dispersed therein ranges from about 50 to about 90 volume percent of the total volume weight of the electrorheological fluid.

10. The method of claim **7**, wherein the thickness of a polymer film which surrounds the microcapsule ranges from about 0.1 to about 0.3 μm.

11. The method of claim **7**, wherein the microcapsule contains an electrophoresis particle and a dielectric fluid therein.

12. The method of claim **11**, wherein the size of the electrophoresis particle ranges from about 10 to about 500 nm.

* * * * *