May 28, 1957 W. S. FERDON ET AL 2,794,166

WALKING STICKS FOR THE BLIND

Filed May 4, 1954

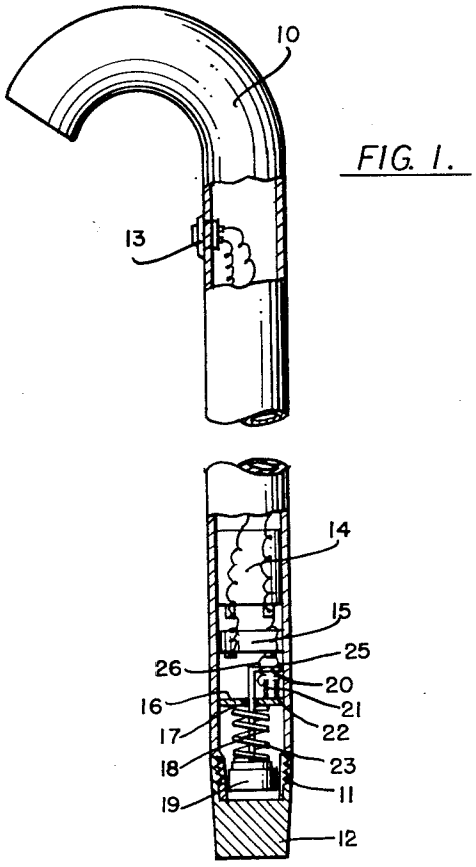

FIG. 1.

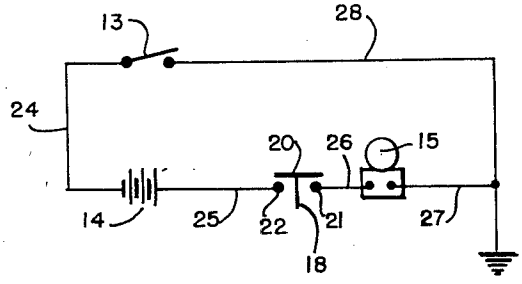

FIG. 2.

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United States Patent Office 2,794,166 Patented May 28, 1957

2,794,166

WALKING STICKS FOR THE BLIND

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Application May 4, 1954, Serial No. 427,491

2 Claims. (Cl. 324—41)

This invention relates to walking sticks or the like.

It is an object of the present invention to provide a walking stick for the blind which contains a built in alarm circuit which will advise the user that he is following prescribed path.

It is another object of the present invention to provide a walking stick for the blind of the above type which is particularly useful for blind people until such time as they have obtained and trained a seeing eye dog.

Other objects of the invention are to provide a walking stick for the blind bearing the above objects in mind which is of simple construction, inexpensive to manufacture, has a minimum number of parts, is easy to use and efficient in operation.

For other objects and a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which:

Figure 1 is a view partly in section and partly in elevation of a walking stick embodying the features of the invention; and

Fig. 2 is a circuit diagram of the device.

Referring now more in detail to the drawing, a hollow walking stick **10** is provided with an externally threaded open lower end **11** onto which an internally threaded plastic tip **12** is screwed. A push button switch **13** is mounted in the walking stick adjacent the upper handle portion thereof while a battery **14** is also mounted in the walking stick **10** intermediate the switch **13** and tip **12**. A buzzer, or other sounding or vibrating device **15** is mounted in the walking stick **10** intermediate battery **14** and tip **12**. A plate **16** having a central opening **17** is mounted in the stick **10** intermediate the buzzer **15** and tip **12** and slidably receives therethrough a rod **18** to the lower end of which is secured a permanent magnet **19**, the upper end of the rod **18** being laterally bent as at **20** and adapted to come in contact with the contacts **21** and **22** mounted in the plate **16** of insulated material. The laterally bent portion **20** is of conductive material and is adapted to close the contacts **21, 22**. A spring **23** sleeves the rod **18** and has its upper end connected in suitable manner to plate **16**, the lower end thereof being connected to the permanent magnet **19** and serving to retain the magnet in the raised position shown in Fig. 1, with the contacts **21, 22** open.

One terminal of switch **13** is connected to one terminal of battery **14** (Fig. 2) by means of a wire **24** while the other terminal of battery **14** is connected to contact **22** by a wire **25**. The contact **21** is connected to one terminal of buzzer **15** by wire **26** while the other terminal of buzzer **15** is grounded by means of a wire **27**. The other terminal of switch **13** is grounded by means of a wire **28** to complete the circuit.

Metallic strips, not shown, are placed upon the floor and extend from the various rooms, for example from the bed to the bath or from a chair in the living room to the kitchen and through the halls and are adapted to be contacted by the tip **12** when the user is employing the cane or walking stick. The strips will draw the permanent magnet **19** downwardly against the action of spring **23** to move the laterally extending portion **26** into the operative position to bridge the contacts **21, 22** and to thus sound the buzzer **15** to advise the user that he is following the path prescribed and that the tip **12** is in contact with the metal strips. By means of the switch **13**, the device may be easily and readily rendered inoperative so as to turn off the buzzer **15** regardless of whether or not the contacts **21, 22** are closed.

The stick **10** may be formed of plastic, wood or any other suitable material. It will be noted that when the stick is held in a horizontal position, the contacts **21, 22** will be open.

Metal strips may also be provided along steps, doors, and in a large open air yard.

The permanent magnet **19** may, of course, be replaced by a non-magnetized, magnetically permeable material adapted to be drawn downwardly by an external electro-magnet, not shown. Such a magnet could be provided at curb stones and at intersections and be energized when a traffic light is red for the blind person to sound a buzzer and advise him of the color of the traffic light. When the light is green, of course, the electro-magnet would not be actuated.

The battery **14** may, of course, be replaced by other sources of power, for example the recently developed atomic reactor batteries. The buzzer **15** may also be located within the handle portion of the walking stick **10**, to advise the user by vibration through the hand. Also, while the invention has been described in connection with a walking stick, it will be readily apparent that it is equally applicable to crutches and similar devices.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

Having thus set forth and disclosed the nature of our invention, what is claimed is:

1. A walking stick for the blind comprising a hollow tubular portion having a curved handle portion at the upper end thereof, a removable insulative closure of magnetically, non-permeable material at the lower end of said tubular portion remote from said handle adapted to contact magnetically permeable strips forming a prescribed path, a transverse plate mounted within said tubular member, a rod slidable longitudinally through said plate, a permanent magnet connected to the lower end of said rod and adapted to be drawn downwardly by said magnetically permeable strips, spring means sleeving said rod intermediate said plate and magnet normally urging said permanent magnet into a raised position, a laterally extending contact arm connected to the upper end of said rod, a pair of contacts mounted on said plate adapted to be closed by said contact arm upon downward movement of said magnet, vibratory signalling means within said tubular member, and a battery mounted within said tubular member, said battery signal means and contacts being connected in series whereby to actuate said signalling means when said contacts are closed.

2. A walking stick for the blind according to claim 1, said signalling means comprising a buzzer, and an externally operable switch mounted in said tubular member and connected in series therewith, said switch being mounted near the handle portion of said tubular portion.

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