May 10, 1938. C. B. FRANCIS 2,116,941

CRUTCH OR CANE SPIKE

Filed April 23, 1936

Fig. 1.

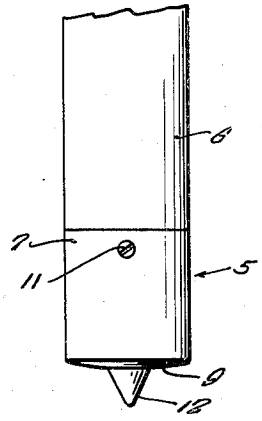


Fig. 2.

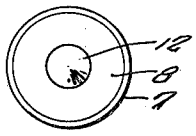


Fig. 4.

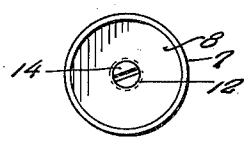


Fig. 3.

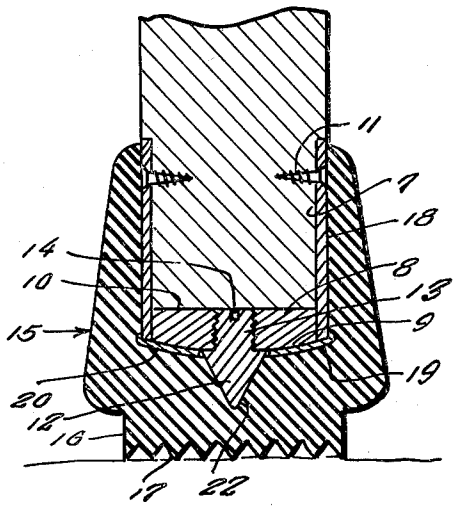
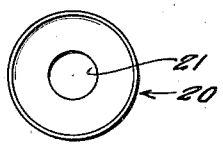


Fig. 5.



Inventor

C. B. Francis

By Clarence A. O'Brien and Hyman Berman Attorneys

Patented May 10, 1938 2,116,941

UNITED STATES PATENT OFFICE

2,116,941

CRUTCH OR CANE SPIKE

Clifford Benjamin Francis, Washington Mills, N. Y.

Application April 23, 1936, Serial No. 76,058

2 Claims. (Cl. 135—54)

My invention relates generally to a spike for mounting on the lower end of a crutch or cane to prevent slipping of the cane on slippery surfaces, particularly icy surfaces, and an important object of my invention is to provide a simple and reliable device of this character.

Another important object of my invention is to provide a wearable tip which can be removed and replaced when unduly worn.

Another important object of my invention is to provide a compressible material cover for use on the bottom of the crutch or cane to enclose the spike protectively when the crutch or cane is used indoors.

Other important objects of my invention will be apparent from a reading of the following description in connection with the drawing wherein for purposes of illustration I have shown a preferred embodiment of my invention.

In the drawing:—

Figure 1 is a side elevational view of the lower end of a crutch or cane showing an application of the invention thereto.

Figure 2 is a bottom plan view of Figure 1.

Figure 3 is a transverse sectional view taken through the spike-equipped crutch or cane and showing the application of the protective cushion thereto.

Figure 4 is a top plan view of the spike per se.

Figure 5 is a plan view of the washer of the spike cap.

Referring in detail to the drawing, the numeral 5 generally designates the device of the invention which is applied to the lower end of the crutch or cane 6. The spike device comprises the cylindrical shell 7 which has fitted in its open lower end the relatively heavy metal or other suitable material disk 8 which is rounded on its bottom as indicated by the numeral 9 and provided axially with a threaded opening 10. The disk 8 is sweated, soldered, or otherwise suitably mounted in the position indicated so as to be securely fastened in position.

Screw holes are provided in diametrically opposite points of the upper part of the shell 7 to receive the wood screws 11 which I utilize to secure the shell to the lower end of the crutch or cane, with the lower extremity of the crutch or cane resting on the top of the disk 8, and with the shell inset so that the outside of the shell is flush with the outside of the crutch or cane as clearly shown in Figures 1 and 3.

The removable spike per se is generally designated 12 and is generally conical in form and has a reduced threaded shank 13 provided in its upper end with a screw-driver slot 14. The spike 12 by this arrangement is removably mounted in the disk 8 for replacement purposes simply by removing the screws 11 to detach the shell from the crutch or cane to make available the slot 14 in the upper end of the spike 12, which receives a screw-driver for screwing the spike out and in as the case may be.

To protect the spike 12 when the crutch or cane is used indoors, I provide the compressible rubber cap or cushion which is generally designated 15 and which is downwardly tapering and has the reduced lower end 16 provided with non-skid formations 17.

The cushion has opening through its upper end the cylindrical opening 18 which is substantially as deep as the shell 7 and has a curved bottom 19 on which is disposed a similarly curved metal disk 20 formed with a central opening 21 sufficiently large to pass the spike 12 into a conical recess 22 in the cushion below the wear washer 20. The wear washer 20 has its edges upturned and embedded in the walls of the lower end of the recess 18. This arrangement puts the entire weight of the crutch or cane on the wear washer 20 so as to evenly distribute the pressure throughout the cushion and relieve the side walls of the cushion of any excessive strain, and prevent injury to the cushion by the crutch or cane and the spike 12. The disk 20 also acts as a reinforcement to strengthen the cushion 15 and keep the spike 12 properly centered therein, so that a proper operative relation will obtain between the cushion and the lower end of the crutch or cane, so that walking with the crutch or cane in engagement with the ground will be safe and convenient.

Although I have shown and described herein a preferred embodiment of my invention, it is to be definitely understood that I do not desire to limit the application of the invention thereto, and any change or changes may be made in the materials, and in the structure and arrangement of the parts, within the spirit of the invention and the scope of the subjoined claims.

What is claimed is:—

1. A tip for a crutch or cane comprising a tubular shell having both ends open, means for connecting the shell to the lower end of said crutch or cane with the lower end of the shell extending beyond the end of the crutch or cane, a disk of considerable thickness fitting in and secured to the projecting part of the tubular member and having a rounded outer face which projects from said end of the tubular member, a cen-

trally arranged threaded opening in said disk and a spike including a threaded shank fitting in the hole and a conical head extending downwardly from the rounded face of the disk, the inner end of the shank having a kerf therein.

2. A cushioned tip of the class described, comprising a member formed of resilient material and having a socket therein and a metal disk in the lower end of the socket having its edges embedded in the resilient material, said disk being of concavo-convex shape with its concave face uppermost, said disk having a centrally arranged hole therein and the resilient member having a recess therein under said hole.

CLIFFORD BENJAMIN FRANCIS.