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CRUTCH

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FIG. 1.

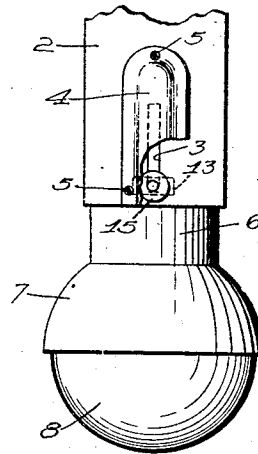
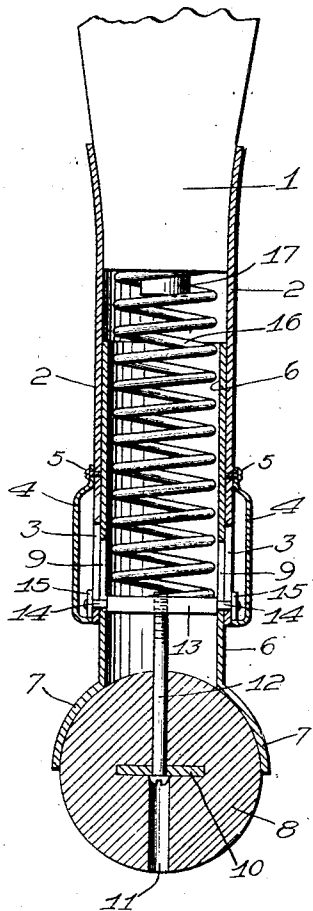


FIG. 2.

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CRUTCH

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My invention relates to improvements in crutches, such as are used by invalids, and it consists in the combinations, constructions, and arrangements herein described and claimed.

5 An object of my invention is to provide a crutch having a tip or bottom portion which is resilient and which therefore tends to take up jars which might otherwise be transmitted.

10 A further object is to provide a construction in which the resilient feature is partly due to a spring and partly to a compressible resilient ball, such as one made of rubber.

15 A further object is to provide a device of the type described in which there is a novel means for holding the resilient ball and also for holding the spring so that these two resilient members work in conjunction with one another to provide a very efficient article.

20 Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

25 My invention is illustrated in the accompanying drawings, forming part of this application, in which

30 Figure 1 is a sectional view of the lower end of the crutch showing the novel arrangement of the parts, and

Figure 2 is a side view of a portion of the device taken at right angles to Figure 1, a portion of the mechanism being broken away to show interior parts.

35 In carrying out my invention, I may make use of a crutch, the upper part of which is of any suitable type. The lower part, if the crutch is made of wood, terminates in a tapered portion 1. Secured to this portion 1 is a cylindrical metal extension 2, which is provided on opposite sides near the bottom thereof with longitudinal slots 3. Arranged to cover these slots are plates 4 which are bowed outwardly, as shown in the drawing, and which may be secured in position by

means of screws 5 or in any other suitable manner.

Slidably disposed within the interior of the extension 2 is a cylindrical sleeve 6 which is also made of metal. The end of this sleeve is flared as shown at 7 to receive a ball 8 of rubber or other suitable material and is provided with a slot 9 on each side thereof, the purpose of which will be explained later.

The resilient ball 8 is made with an anchor plate 10 cast therein at substantially the central portion of the ball. The ball has a bore 11 extending from the lower side to the plate. A bolt or other suitable securing means 12 is passed into the bore 11 and through the ball and is provided with a crossbar 13 to which the bolt is secured. The crossbar 13 has reduced extensions 14 which project through the slots 9 and 3, these being in registration. These extensions have secured to them guide discs 15.

A helical spring 16 is disposed within the inner sleeve 6 and bears at one end on the bottom of the portion 1 of the crutch. The latter has a center extension 17 for keeping the spring in place. The opposite end of the spring bears on the crossbar 13.

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. When pressure is exerted on the crutch as in the act of walking, the resilient ball 8 will tend to be compressed. Being held by the sleeve 6, it will cause the latter to slide upwardly against the tension of the spring 16, which will act as a cushion to supplement the cushioning effect of the ball itself. When pressure is relieved, the spring and the ball return to their normal positions.

As the inner sleeve 6 moves upwardly, the guide members 15 will move upwardly, the extensions 14 riding in the slots 3. The movement of the guide members 15, however, will be hidden by the plates 4. Another purpose of these plates is to prevent the guide mem-

bers from catching on anything, such as the clothing, and the housing thus formed by the plates may serve for containing lubricant to permit the smooth operation of the parts.

5 The plates 4 also serve for the purpose of keeping out mud, water or snow when gaining access to the interior of the sleeve and thus interfering with the proper working of the device.

10 I claim:

1. A crutch comprising a body portion, a slotted cylindrical extension, an inner sleeve slidably disposed within said extension, a resilient end portion carried by said sleeve, 15 a crossbar secured to said resilient end portion and having guide members arranged to pass through the slots in the extension, and a spring disposed within the sleeve and arranged to bear at one end upon said body 20 portion and at the other end upon said crossbar.

2. A crutch comprising a body portion, a slotted cylindrical extension, an inner sleeve slidably disposed within said extension, a 25 resilient end portion carried by said sleeve, a crossbar secured to said resilient end portion and having guide members arranged to pass through the slots in the extension, a spring disposed within the sleeve and arranged to bear at one end upon said body 30 portion and at the other end upon said crossbar, and housings secured to the extension for covering the slots and the guide members.

3. A crutch comprising a body portion, a 35 cylindrical extension enclosing one end of said body portion, said extension having longitudinal slots on the opposite sides thereof, a slidable sleeve disposed within said extension, said sleeve having slots registering with 40 the first-named slots and being provided at one end with a flared portion, a ball-shaped resilient member carried by said flared portion, said ball-shaped member having an anchor plate disposed therein, a crossbar dis- 45 posed within the sleeve and having reduced portions extending through said aligned slots, guide members secured to the said reduced portions, means for securing said anchor plate to said crossbar, a spring disposed 50 within the sleeve between said body portion and said crossbar, and housings carried by said extension for covering said guide members and said slots.

4. A crutch comprising a body portion, a 55 cylindrical extension enclosing one end of said body portion, said extension having longitudinal slots on the opposite sides thereof, a slidable sleeve disposed within said extension, said sleeve having slots registering with 60 the first-named slots and being provided at one end with a flared portion, a ball-shaped resilient member carried by said flared portion, said ball-shaped member having an anchor plate disposed therein, a crossbar disposed 65 within the sleeve and having reduced por-

tions extending through said aligned slots, guide members secured to the said reduced portions, means for securing said anchor plate to said crossbar, a spring disposed within the sleeve between said body portion and said crossbar, and housings carried by said extension for covering said guide members and said slots. 70

Signed at Chicago, in the county of Cook and State of Ill., this 8th day of October, 75 A. D., 1927.

JOHN L. SHAHAN.

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