P. W. PRATT.

CRUTCH AND CANE TIP.

APPLICATION FILED AUG. 2, 1910.

994,194. Patented June 6, 1911.

Fig. 1.

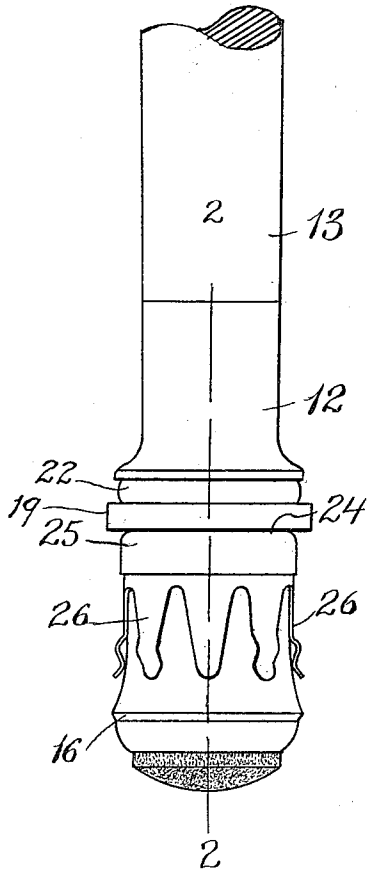
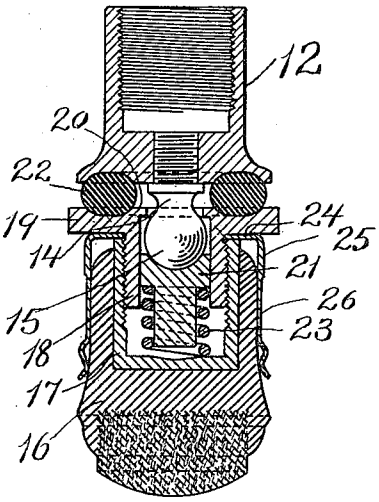


Fig. 2.



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UNITED STATES PATENT OFFICE.

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CRUTCH AND CANE TIP.

994,194. Specification of Letters Patent. Patented June 6, 1911.

Application filed August 2, 1910. Serial No. 575,083.

To all whom it may concern:

Be it known that I, PHILIP W. PRATT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Crutch and Cane Tips, of which the following is a specification.

This invention relates to an elastic terminal for the staff of a crutch or cane, adapted to yieldingly support the staff and the weight imposed upon it and to prevent the staff from slipping on the surface on which it bears, the terminal including a socketed elastic tip composed wholly or in part of rubber, and a metallic bushing on which the tip is fitted, the bushing having means for engaging the staff.

The invention has for its object, first to enable the bushing to surround and confine the mouth of the tip socket in such manner as to prevent the spreading and cracking of the latter, and secondly to provide improved means for movably connecting the bushing with the staff in such manner as to permit any desired inclination of the staff relatively to the tread face of the tip, so that said face may have an extended bearing on the ground without being inclined with the staff.

The invention consists in the improvement which I will proceed to describe and claim.

Of the accompanying drawings forming a part of this specification,—Figure 1 represents a side elevation of a portion of a crutch staff having a terminal embodying my invention. Fig. 2 represents a section on line 2—2 of Fig. 1.

The same reference characters indicate the same parts in all of the figures.

In the drawings, (Figs. 1 and 2), 12 represents a terminal member adapted to be attached to a crutch staff 13, said member being preferably formed as a ferrule closed at one end, and internally threaded to be secured upon the staff. The closed end of the ferrule is provided with a downwardly projecting shank or ball member, having a contracted neck portion 14, and a substantially spherical head portion 15. A metallic foot is provided, on which an elastic tip 16 is removably fitted, said foot being movably engaged with the ball member 15, so that it is adapted to tip or rock thereon with the tip 16, in any direction.

The foot as here shown is composed of a hollow metallic shell 17, which is internally screw threaded and has a cylindrical outer surface which closely fits the interior of the tip 16, an externally threaded metallic sleeve 18, which is screwed into the shell 17 and has an outwardly projecting flange 19, and an inwardly projecting lip 20 at its outer end, and a plunger 21 which is movable in the sleeve and has a cupped outer end bearing on the outer portion of the ball member 15. The lip 20 forms a contracted mouth, which is of smaller diameter than the head of the ball member 15, and so engages the neck portion of the ball member as to prevent the withdrawal of the ball member from the sleeve, while permitting the socket member formed by the sleeve, the lip 20, and the plunger 21, to tip freely in any direction on the ball member.

22 represents an annular elastic rubber cushion which is interposed between the bottom of the terminal member 12, and the top of the flange 19, and surrounds the neck portion of the ball member, the opposed surfaces of the member 12 and flange 19 being preferably grooved as shown by Fig. 2, to engage the cushion and prevent it from slipping laterally. The cushion 22 yieldingly maintains the bushing and tip in alinement with the staff, and permits any desired inclination of the staff while the tread face of the tip bears, with little or no tipping, on the ground. The plunger 21 is yieldingly supported by a spring 23, interposed between a shoulder on the plunger and the closed bottom of the shell 17. Said spring constitutes a buffer which coöperates with the elastic tip and the cushion 22 in cushioning the staff and the weight imposed upon it. The plunger is removable through the lower end of the sleeve 18, so that the parts may be readily assembled, the ball member being inserted in the lower end of the sleeve 18, before being secured by its threaded shank to the member 12.

24 represents a ring preferably composed of sheet metal, which surrounds the mouth of the shell 17, and has a depending annular flange 25 which surrounds and bears closely on the mouth of the tip 16, the object of said flange being to prevent the spreading and cracking of the mouth of the tip, thus overcoming an objection often experienced in the use of elastic tips of this character. The flange may be provided with depending resilient fingers 26 bearing on the exterior of the tip.

I claim:—

1. An attachment for crutches, canes, and the like, comprising a terminal member adapted for attachment to a staff, and provided with a downwardly projecting ball member, a foot having a socket movably engaged with the ball member, an elastic tip fitted on said foot, and an annular elastic cushion interposed between the terminal member and foot and surrounding the neck portion of the ball member.

2. An attachment for crutches, canes, and the like comprising a terminal member adapted for attachment to a staff, and provided with a downwardly projecting ball member, a foot composed of an internally threaded shell an externally threaded flanged sleeve, engaged with the shell, and having a contracted mouth engaging the inner portion of the ball member, a plunger movable in the sleeve and bearing on the outer portion of the ball member, said sleeve and plunger constituting a socket member movably engaged with the ball member, a spring interposed between the plunger and the bottom of the shell, and holding the plunger yieldingly against the ball member, and an elastic tip fitted on the shell.

3. An attachment for crutches, canes, and the like, comprising a terminal member adapted for attachment to a staff, and provided with a downwardly projecting ball member, a foot composed of an internally threaded shell, an externally threaded flanged sleeve, engaged with the shell, and having a contracted mouth engaging the inner portion of the ball member, a plunger movable in the sleeve, and bearing on the outer portion of the ball member, said sleeve and plunger constituting a socket member movably engaged with the ball member, a spring interposed between the plunger and the bottom of the shell, and holding the plunger yieldingly against the ball member, an elastic tip fitted on the shell, and an annular elastic cushion interposed between the sleeve flange and the terminal member.

4. An attachment for crutches, canes, and the like, comprising a terminal member adapted for attachment to a staff, and provided with a downwardly projecting ball member, a foot composed of an internally threaded shell, an externally threaded flanged sleeve, engaged with the shell, and having a contracted mouth engaging the inner portion of the ball member, a plunger movable in the sleeve, and bearing on the outer portion of the ball member, said sleeve and plunger constituting a socket member movably engaged with the ball member, a spring interposed between the plunger and the bottom of the shell, and holding the plunger yieldingly against the ball member, an elastic tip fitted on the shell, and a ring surrounding the mouth of the shell, and having an annular depending flange surrounding and confining the mouth of the tip.

In testimony whereof I have affixed my signature, in presence of two witnesses.

PHILIP W. PRATT.

Witnesses:
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