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K. F. HAHN

2,392,735

WALKING DEVICE

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Fig. 1

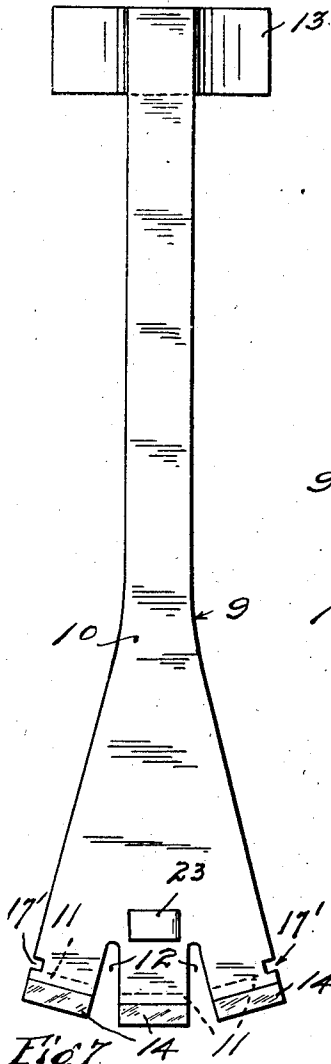


Fig. 2

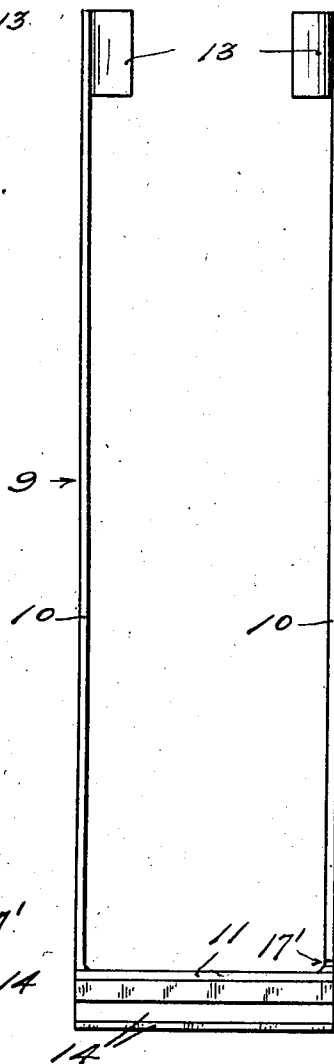


Fig. 3

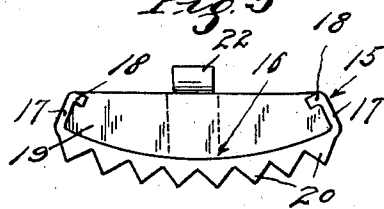


Fig. 4

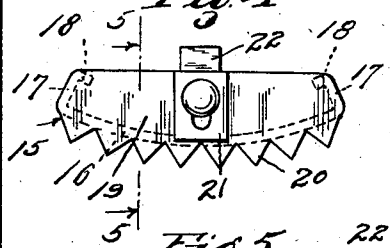


Fig. 5

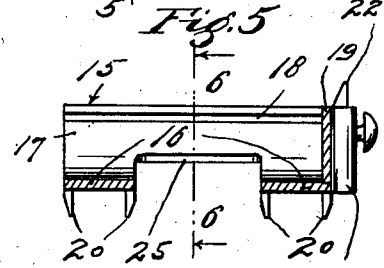


Fig. 6

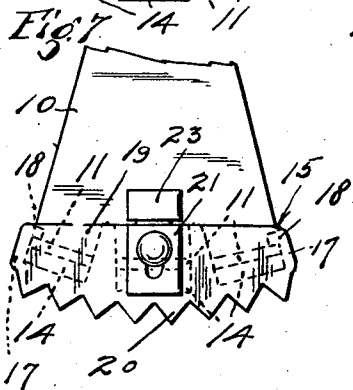
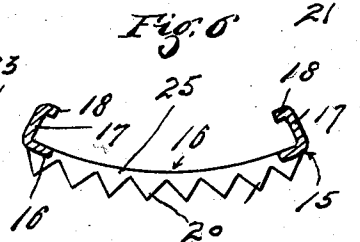
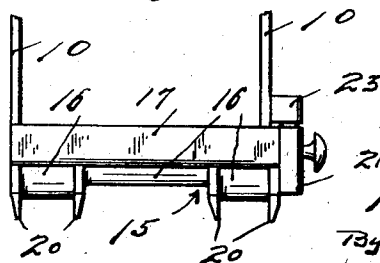


Fig. 8



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WALKING DEVICE

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6 Claims. (Cl. 128—87)

My invention relates to improvements in therapeutic devices and, more particularly, to a walking device for a person having his foot incased in a cast.

It is well known that in case of a fractured tibia or fibula or both, or in case of a fractured metatarsal bone or, in fact, any injury making it necessary for the patient to wear a cast, it is absolutely necessary to keep the cast out of contact with the ground in order to permit the wearer to walk and also to prevent the cast from being damaged by its contact with the ground.

It is now the general practice to permit a patient to walk after the injured member is held in a cast. The modern cast is made up of a strip or strips of gauze impregnated with plaster of Paris. This prepared strip is first soaked in water and then wrapped around the foot and over a surgical stocking worn by the patient until a cast of the proper size and strength has been built up.

The objects of this invention are: first, to provide a walking device that will support a cast out of contact with the ground in all of the various positions it may assume while the wearer is walking; second, to provide a walking device that will act as a brace for the lower leg section; third, to provide a walking device that will permit near natural walking action; fourth, to provide a walking device having a plurality of tread members spaced one in advance of the other; fifth, to provide a walking device having a plurality of tread members spaced, the one in advance of the other to leave gaps therebetween to prevent slipping; and sixth, to provide a walking device having a detachable anti-slip device.

Other objects of the invention will be apparent from the following description, reference being had to the drawing.

To the above end, generally stated, the invention consists of the novel devices and combination of devices hereinafter described and defined in the claims.

In the accompanying drawing, which illustrates the invention, like characters indicate like parts throughout the several views.

Referring to the drawing:

Fig. 1 is a side elevation of the improved walking device;

Fig. 2 is a front elevation of the same;

Fig. 3 is an end elevation of an anti-slip device for the walking device;

Fig. 4 is a view corresponding to Fig. 3, but showing the other end of the anti-slip device;

Fig. 5 is a view principally in section taken on the line 5—5 of Fig. 4;

Fig. 6 is a view in section taken on the line 6—6 of Fig. 5;

Fig. 7 is a fragmentary view of the walking device as shown in Fig. 1, and having the anti-slip device applied thereto; and

Fig. 8 is a side elevation of the parts shown in Fig. 7.

The numeral 9 indicates a U-shaped metal frame comprising long parallel side members 10 and a plurality of transverse bottom members 11, as shown three. Said side members 10, at their upper end portions, are in the form of relatively narrow straps and the lower end portions are substantially fan-shaped. The transverse members 11 are edgewise circumferentially spaced apart on the arc of a circle. Deep notches 12 are formed in the side members 10 between the transverse members 11. Curved members 13 are secured to the side members 10, at their upper end portions and extend transversely thereof. A flat rubber tread 14 is secured to each transverse member 11.

To apply the above described walking device to a patient's leg, whose foot is incased in a cast, the side members 10 are positioned at the sides of said leg and with the bottom of the cast positioned substantially one and a half inches above the transverse members 11. The device is held in this position, with the side members 10 substantially at the tarsus, while the leg is being wrapped with wet plaster-of-Paris-impregnated strips of gauze and with the side members 10 between the cast and the wrapping. This wrapping extends over the curved members 13 and downwardly substantially to the tarsus and is of sufficient thickness to rigidly secure the device in place.

When the wearer of the device is walking, the flat treads 14 successively move into contact with the ground with a rolling movement and one of said treads 14 is substantially always in flat contact with the ground. At the time one of the treads 14 is moving out of contact with the ground and the adjacent one is moving onto the ground, the spaced adjacent edges of said treads, with the gap therebetween, securely hold the walking device from slipping. The rolling movement of the treads 14 into and out of contact with the ground and their flat engagement therewith give the device a free and easy movement so that the wearer moves with a near natural walking movement and at the same time eliminates the danger of slipping.

By securing the walking device to the wearer's legs with the cast spaced above the treads 14, said

cast is always out of contact with the ground during the various positions of the treads 14 relative to the ground.

Figs. 3 to 6, inclusive, show a novel anti-slip device 15 for the above described walking device and Figs. 7 and 8 show the same applied to said device.

This anti-slip device 15 includes a curved body member 16, that extends under the treads 14, and front and rear side members 17. These side members 17 have at their upper longitudinal edges inturned lock flanges 18 that extend into notches 17' in one of the side members 10 and thereby detachably connect the anti-slip device 15 to the walking device. The anti-slip device 15 also includes an end member 19. On the bottom of the body member 16 are four rows of teeth 20 and which rows are concentric with said body member.

The end member 19, by its engagement with the frame 19, acts as a stop to hold the anti-slip device 15 from moving on the walking device in one direction and a latch 21 holds the anti-slip device 15 from moving in the opposite direction. This latch 21 is secured to the end member 16 and its spring-projected bolt 22 detachably interlocks with a keeper member 23 on the respective side member 10.

The lock flanges 18 securely hold the anti-slip device 15 against either forward or backward movement relative to the walking device and the end member 20 and the latch 21 securely hold the anti-slip device 15 against endwise movement in either direction relative to the walking device. The central portion of the body member 16 is cut away at 25 and the four longitudinal edge portion of said body member are turned downwardly to afford the necessary stock in which the teeth 20 are cut. By cutting away the body portion at 25, sufficient stock is removed to materially lighten the weight of the anti-slip device 15.

From the above description, it is evident that the ice creeper 15 may be very quickly and easily applied to the walking device or removed therefrom.

It will be understood that the invention described is capable of various modifications within the scope of the invention herein disclosed and claimed.

What I claim is:

1. In a device of the class described, a frame having a pair of laterally spaced side members, each side member having on its lower end a plurality of downwardly diverging prongs, transverse members connecting opposite prongs, said transverse members being substantially on the arc of a circle, and a tread applied to each transverse member.

2. In a device of the class described, a U-

shaped frame, the lower end portions of the side members of the frame being substantially fan-shaped, the transverse portion of the frame comprising a plurality of members spaced, the one in advance of the other on said fan-shaped portions of the side members and on the arc of a circle, notches in the fan-shaped portions of the frame between the transverse members of said frame, and rubber treads applied to said transverse members.

3. In a device of the class described, a U-shaped frame, the transverse portion of the frame comprising a plurality of tread members spaced the one in advance of the other, an anti-slip device having a body member, front and rear upstanding members on the body member, inturned flanges on the upstanding members, notches in the side members in which the flanges are slidably mounted, and a plurality of rows of depending teeth on the body member.

4. In a device of the class described, a U-shaped frame, the transverse portion of the frame comprising a plurality of tread members spaced the one in advance of the other, an anti-slip device having a body member, front and rear upstanding members on the body member, inturned flanges on the upstanding members, notches in the side members in which the flanges are slidably mounted, a plurality of rows of depending teeth on the body member, and means including a releasable member for holding the anti-slip device against removal from the frame.

5. In a device of the class described, a U-shaped frame, the transverse portion of the frame comprising a plurality of tread members spaced the one in advance of the other, an anti-slip device having a body member, front and rear upstanding members on the body member, inturned flanges on the upstanding members, notches in the side members in which the flanges are slidably mounted, a plurality of rows of depending teeth on the body member, and means including a latch for holding the anti-slip device against removal from the frame.

6. In a device of the class described, a U-shaped frame, the transverse portion of the frame comprising a plurality of tread members spaced the one in advance of the other on the arc of a circle, an anti-slip device having a curved body member, front and rear upstanding members, inturned flanges on the upstanding members slidably mounted in notches in the side members of the frame, a side member between the front and rear member and affording a stop to limit the sliding movement of the anti-slip device onto the frame, and a latch holding the anti-slip device against removal from the frame.

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