United States Patent [19]

Tollefsbol

[11] **3,877,423**

[45] **Apr. 15, 1974**

[54] **ADJUSTABLE FOOT SUPPORT FOR A LEG CAST**

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[73] Assignee: **SmithKline Corporation,** Philadelphia, Pa.

[22] Filed: **Nov. 23, 1973**

[21] Appl. No.: **418,569**

[52] **U.S. Cl.** **128/83.5**

[51] **Int. Cl.** **A61f 5/04**

[58] **Field of Search** 128/83.5, 83; 3/4, 5; 272/70.1

[56] **References Cited**

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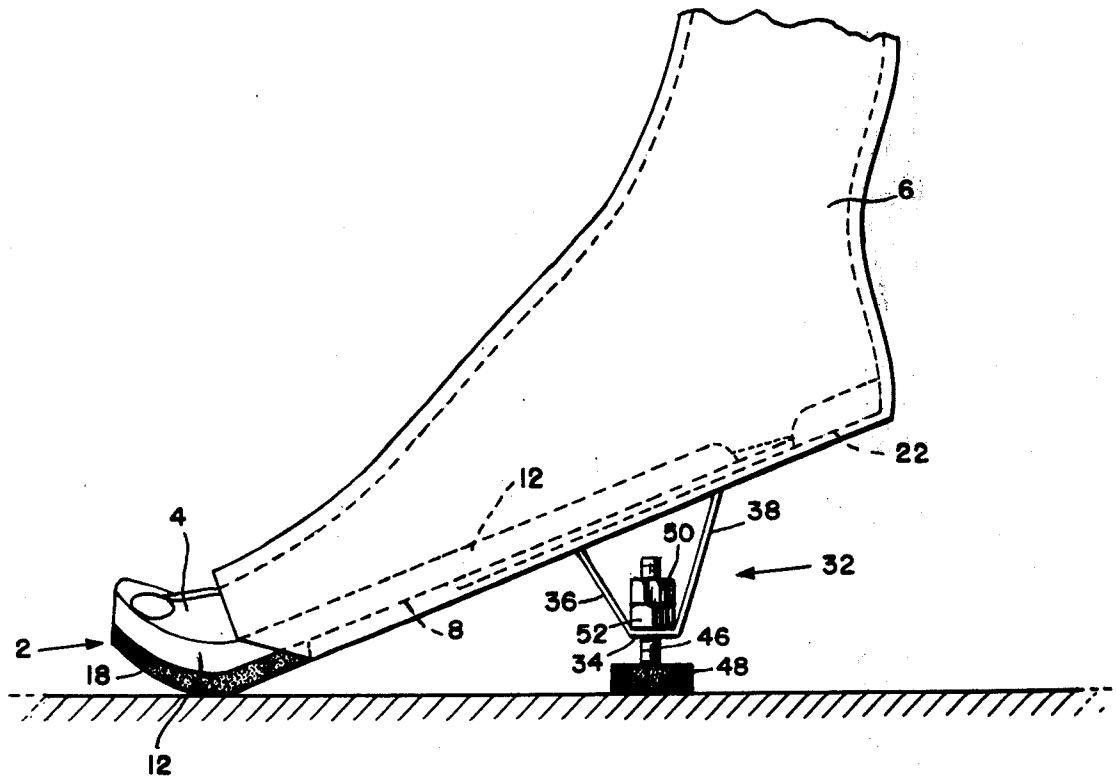
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Primary Examiner—Richard A. Gaudet
Assistant Examiner—J. Yasko
Attorney, Agent, or Firm—Smith, Harding, Earley & Follmer

[57] **ABSTRACT**

An adjustable foot support for a leg cast has a main foot plate having an upturned toe portion at its lower end and spaced openings along its length adjacent each side. A cooperating heel plate has a pair of spaced tangs passing through a pair of the openings in the foot plate and engaging the upper face of the foot plate, said heel plate having spaced openings along its length adjacent each side and adapted to register with the openings in the foot plate. A heel support member has securing tangs passing through registering openings in the foot and heel plate to secure the foot and heel plates together and has a pair of securing tangs engaging the heel plate..

10 Claims, 8 Drawing Figures



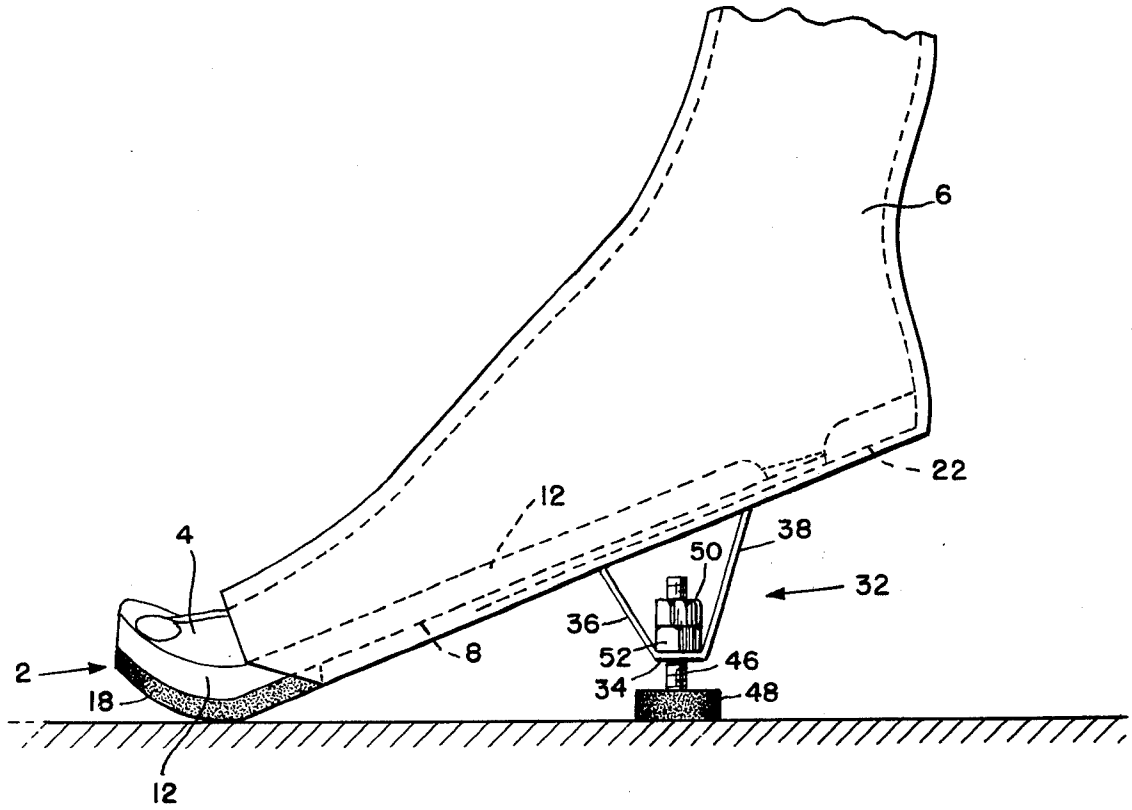

6
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12
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32
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46
2
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FIG. 1.

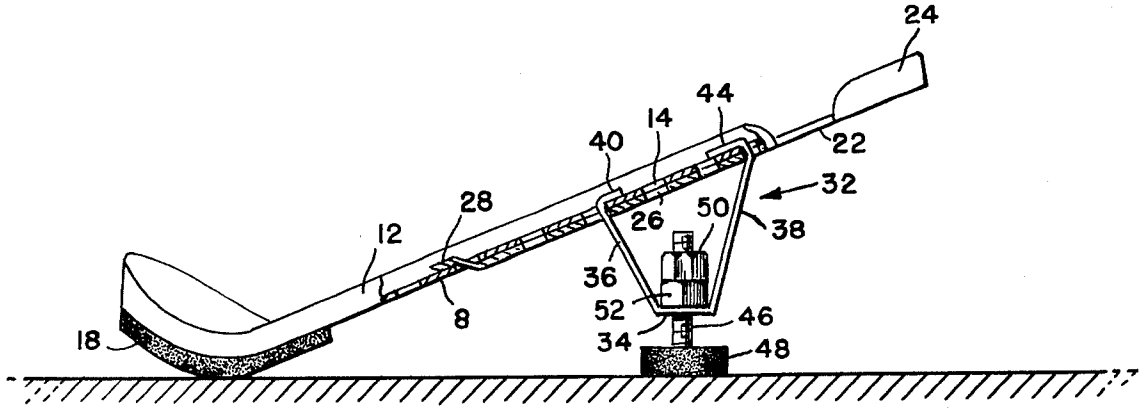

24
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FIG. 2.

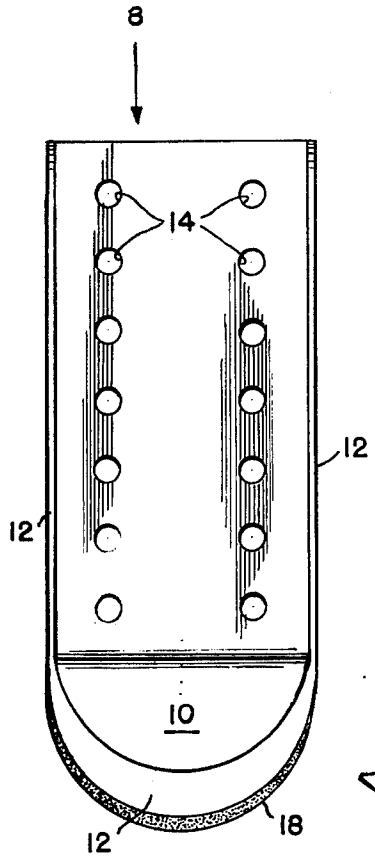


FIG. 3.

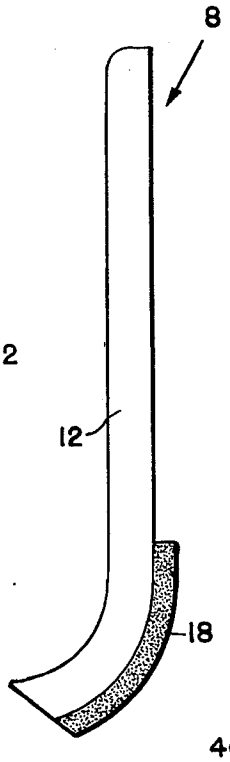


FIG. 4.

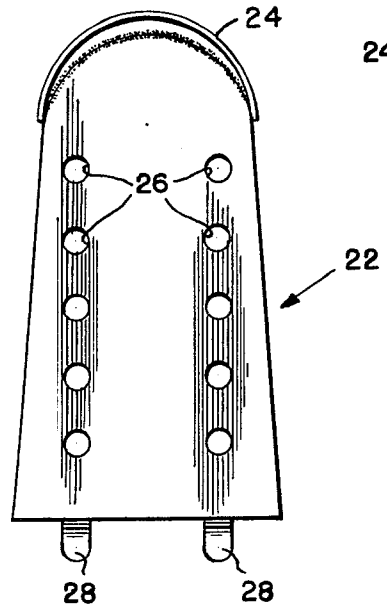


FIG. 5.

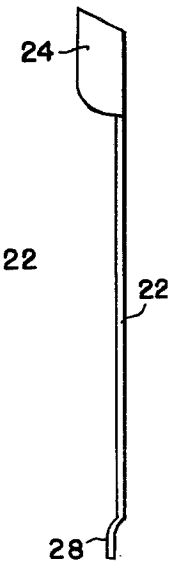


FIG. 6

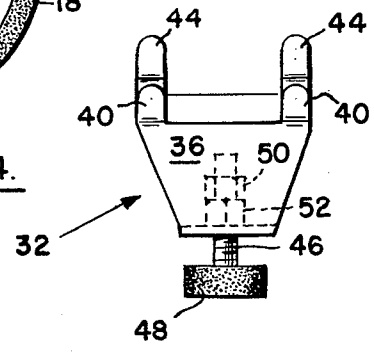


FIG. 7.

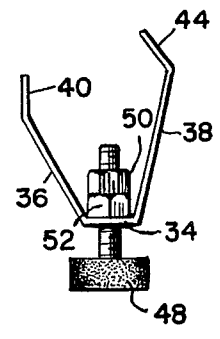


FIG. 8.

ADJUSTABLE FOOT SUPPORT FOR A LEG CAST

BACKGROUND OF THE INVENTION

There is a great need for a simple foot support for a walking leg cast which can readily be adjusted to support the patient's foot at the best angle. The inadequacy of walking leg cast foot supports has frequently resulted in hip injuries from twisting of the foot when walking in the cast.

BRIEF SUMMARY OF THE INVENTION

An adjustable foot support for a leg cast has a main foot plate having an upturned toe portion at its lower end and a heel plate with means to adjustably connect the lower end of the heel plate to the foot plate. A heel support member is adjustably connected to the main and heel plates. Advantageously the main foot plate and the heel plate are flanged and a resilient pad is secured to the lower face of the toe portion of the foot plate. The heel support member has means to vary its height and advantageously has a resilient bearing surface.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a side elevation of a device in accordance with the invention incorporated in a leg cast;

FIG. 2 is a side elevation of the device of FIG. 1;

FIG. 3 is a plan view of the main foot plate of the device of FIG. 2;

FIG. 4 is a side elevation of the foot plate of FIG. 2;

FIG. 5 is a plan view of the heel plate of the device of FIG. 2;

FIG. 6 is a side elevation of the heel plate of FIG. 2;

FIG. 7 is a front elevation of the foot support member of the device of FIG. 2, and

FIG. 8 is a side elevation of the foot support member of FIG. 2.

DETAILED DESCRIPTION

As shown in FIG. 1, an adjustable foot support 2 in accordance with the invention is supporting the foot 4 to which it is secured by a walking leg cast indicated at 6.

The foot support 2 has a main foot plate 8 with an upturned toe portion 10. Upstanding flange 12 extends about the edge of toe portion 10 and along the full length of plate 8. Plate 8 also has a plurality of opposed openings 14. A resilient pad 18, for example of rubber, is secured by an adhesive (not shown) to the underside of the toe portion 10 to provide a resilient support for the plate 8.

A heel plate 22 cooperates with foot plate 8. Heel plate 22 has an upstanding flange 24 extending around the edge of its upper end, a plurality of opposed openings 26 and a pair of tangs 28, 28 extending from its lower edge. Tangs 28, 28 are secured in a pair of opposed openings 14, 14 in foot plate 8, the openings 14, 14 being selected depending upon the length of the patient's foot to confine the foot between the lower end of flange 12 and flange 24. Tangs 28, 28 engage the upper surface of foot plate 8.

A heel support member 32 has a plate 34 connected to an upstanding leg 36 and an upstanding leg 38. Leg 36 has a pair of tangs 40, 40 which pass through a pair of opposed openings 26, 26 in heel plate 22 and also pass through a pair of openings 14, 14 in main foot plate 8 and are then bent over to secure plates 8 and 22 together and to secure the heel support member 32 to these plates. Leg 38 has a pair of tangs 44, 44 which pass through a pair of opposed openings 26, 26 in heel plate 22 and are then bent over to secure the heel support member 32 to the heel plate 22.

Heel support member 32 has a threaded member 46 secured to a rubber head 48 and threadably secured to plate 34. A pair of nuts 50 and 52 are used to lock threaded member 46 in the desired position to place the foot support at the desired angle.

The foot support 2 is adjusted for the length of the patient's foot by placing tangs 28, 28 in the proper pair of openings 14, 14 and then the heel support member tangs 40 and 44 are secured to foot plate 8 and heel plate 22 to complete the assembly. Normally to make the patient's foot more comfortable a pad of the material used to make the cast is then placed in the foot support 2 and then the foot of the patient is placed over the pad and the cast completed so as to bind the foot to the foot support 2. Finally the length of member 46 is adjusted and nuts 50 and 52 tightened.

I claim:

1. An adjustable foot support for a leg cast comprising:
   - a main foot plate having an upturned toe portion at its lower end,
   - a heel plate,
   - first means adjustably connecting the lower end of the heel plate to the foot plate,
   - a heel support member,
   - second means mounted on said heel support member adjustably connecting said heel support member to the main foot and heel plates to mount the heel support member and secure the main foot and heel plates together at a point removed from the first mentioned means.

2. A device in accordance with claim 1 having a flange on the main foot plate extending around the edges of the sides and toe portion and a flange extending around the upper edge of the heel plate.

3. A device in accordance with claim 1 having a resilient pad secured to the lower face of the toe portion of the main foot plate.

4. A device in accordance with claim 1 in which the heel support member has means to vary its height.

5. A device in accordance with claim 4 in which the heel support member has a resilient bearing surface.

6. An adjustable foot support for a leg cast comprising:
   - a main foot plate having an upturned toe portion at its lower end and spaced openings along a portion of its length adjacent each side,
   - a heel plate having a pair of spaced tangs passing through a pair of said openings and engaging the upper face of said foot plate, said heel plate having spaced openings along a portion of its length adjacent each side and adapted to register with the openings in the foot plate,
   - a heel support member having securing tangs passing through registering openings in the foot and heel plates to secure the foot and heel plates together and having a pair of securing tangs secured to the heel plate.

7. A device in accordance with claim 6 having a flange on the foot plate extending around the edges of

the sides and toe portion and a flange extending around the upper edge of the heel plate.

8. A device in accordance with claim **6** having a resilient pad secured to the lower face of the toe portion of the main foot plate.

9. A device in accordance with claim **6** in which the heel support member has means to vary its height.

10. A device in accordance with claim **9** in which the heel support member has a resilient bearing surface.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,877,423 Dated Apr. 15, 1975

Inventor(s) Werner L. Tollefsbol

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

The issue date reading "Apr. 15, 1974" should read "Apr. 15, 1975".

Signed and Sealed this

Eighteenth Day of *October 1977*

[SEAL]

Attest:

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Attesting Officer

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Acting Commissioner of Patents and Trademarks