

- [54] **BIOMECHANICAL ANKLE**
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FOREIGN PATENT DOCUMENTS

- 883321 6/1953 Fed. Rep. of Germany 3/6
- 487389 7/1921 France 3/6

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[57] **ABSTRACT**

An improved biomechanical ankle is provided which imitates the three primary categories of movement in a human foot. Parallel sole and limb supporting plates are held in spaced relationship by an upright post. The limb supporting plate is connected to the post with a ball and socket joint. A helical spring is fixed between the plates to provide resilient support to the anterior portion of the foot in imitation of normal muscular control. The ball and socket joint, in cooperation with the spring, permits the biomechanical ankle to imitate the inversion-eversion, plantar flexion-dorsiflexion, and lateral rotation found in a normal human foot.

Related U.S. Application Data

- [63] Continuation-in-part of Ser. No. 348,244, Feb. 12, 1982, Pat. No. 4,442,554.

- [51] Int. Cl.⁵ A61F 2/66
- [52] U.S. Cl. 623/52
- [58] Field of Search 623/47, 48, 49, 50, 623/51, 52, 53, 54

References Cited

U.S. PATENT DOCUMENTS

- 2,470,480 5/1949 Fogg 3/35
- 3,196,463 7/1965 Farneth 3/32
- 4,306,320 12/1981 Delp 3/31
- 4,442,554 4/1984 Copes 3/35

9 Claims, 6 Drawing Sheets

