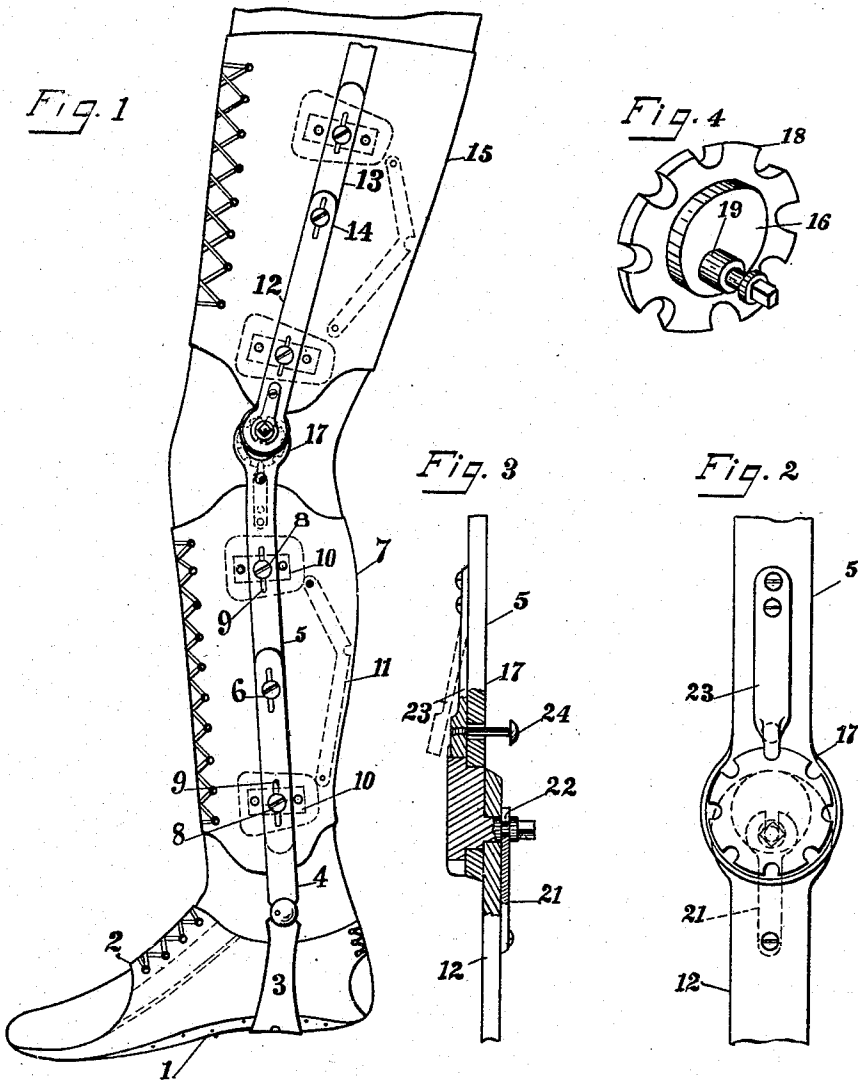


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ORTHOPEDIC APPARATUS.
APPLICATION FILED JULY 31, 1908.

911,243.

Patented Feb. 2, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE.

KARL JOHANNESSEN, OF DETROIT, MICHIGAN.

ORTHOPEDIC APPARATUS.

No. 911,243.

Specification of Letters Patent.

Patented Feb. 2, 1909.

Application filed July 31, 1908. Serial No. 446,232.

To all whom it may concern:

Be it known that I, KARL JOHANNESSEN, a subject of the King of Norway, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Orthopedic Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to orthopedic apparatus, and more particularly to means for supporting a joint or articulation so that its members do not press or bear on each other or sustain weight of other portions of the body, although free to move normally.

The invention consists in the matters hereinafter set forth, and more particularly pointed out in the appended claims.

20 In the drawings, Figure 1 is a view in elevation of an apparatus embodying features of the invention. Fig. 2 is a view in detail, enlarged, of an adjustable joint. Fig. 3 is a view in section through the joint. Fig. 4 is a view in detail of a pivot pin cam.

25 As showing one form of the device especially adapted for relieving the pressure between the parts of a knee joint, 1 indicates a foot plate with the usual leather or canvas 2 for securing a patient's foot thereto, and a rigid stirrup 3 extending to the ankle joint. A pair of extensible flat bars are pivoted in any preferred manner to the upper ends of the stirrup. The lower section 4 of each bar is clamped to the upper section 5 by a screw 6 engaging slots in the section, and a form 7 of hard, molded leather or the like, is likewise adjustably secured to the section by screws 8 engaging slots 9 in the bar and reinforcing plates 10 in the form, other stays 11 being used if desired. The section 5 is pivotally connected to one end of one member 12 of a second upper extensible bar 13 by an eccentrically adjustable joint, clamping screws 14 and a retaining band or form 15 being provided for securing the members of the bar 13 on the limb. This consists of a flat, thin disk 16 rotatable in a bearing aperture in the enlarged end 17 of the section 5 having an inner notched retaining flange 18 on one side and a pivot stud 19 on the other side, eccentric with the disk, engaging a bearing aperture in the member 12.

A forked arm 21 that is detachably secured on the member 12 and engages a peripheral

groove 22 in the stud, retains the cam disk 55 in place. The outer end of the stud is squared or otherwise fitted for the application of a wrench by which the cam disk may be turned. A spring finger 23 secured at one end to the inner face of the bar in which the disk is mounted, engages a notch in the disk flange when in normal position, and may be temporarily disengaged therefrom by a pin 24 passing through an enlarged aperture in the bar.

65 In operation, the apparatus is applied to the patient with the eccentric disk disposed to hold the extension rods in their closest relation. Then the cam is turned so as to force the rods apart until the patient can move the limb without feeling any weight on the joint, thereby giving it a chance to recover from a diseased condition. Obviously, when used for a knee joint, the upper bar is connected to a harness for the trunk of the body so that the weight is carried from the foot plate without loading the knee. When applied to any other joint suitable arrangements are likewise made whereby the weight is taken off the joint, while at the same time the joint 80 may be flexed as desired.

What I claim as my invention is:—

1. In an orthopedic apparatus, rigid supporting members adapted to be severally secured to the body on each side of an articulation, and a pivot member eccentrically adjustable in one member and journaled in the other member.

2. In an orthopedic apparatus, a pair of extensible, rigid bars, a disk adjustably rotatable in one bar, and a stud eccentric on the disk journaled in the contiguous end of the other bar.

3. In an orthopedic apparatus, a pair of extensible rigid bars, a disk rotatable in one bar having a notched flange, a spring finger on the bar adapted to interlock with the flange when in normal position, a stud eccentric on the disk journaled in the other bar, and a forked retaining arm on the outer bar engaging a peripheral groove in the extended end of the stud.

In testimony whereof I affix my signature in presence of two witnesses.

KARL JOHANNESSEN.

Witnesses:

C. R. STICKNEY,
OTTO F. BARTHEL.