Aug. 12, 1941. P. M. BAKER 2,252,607

EXTENSION SPLINT

Filed April 10, 1939 2 Sheets-Sheet 1

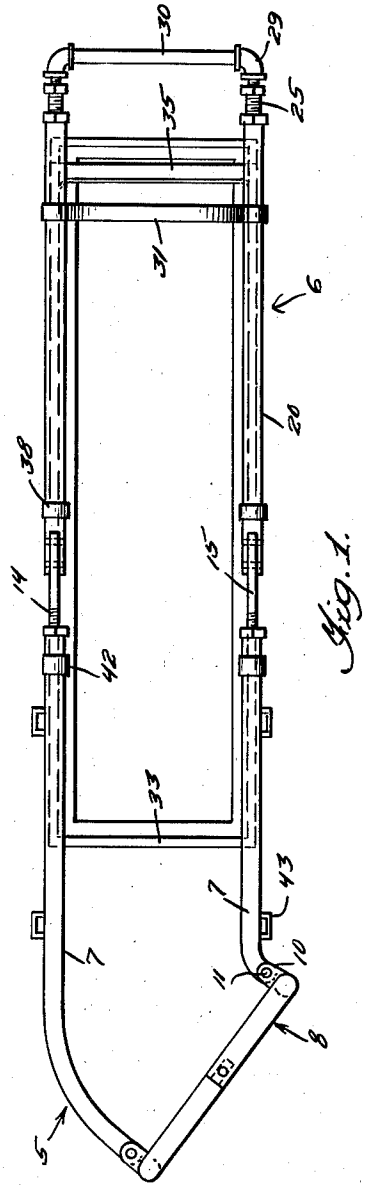


Fig. 1.

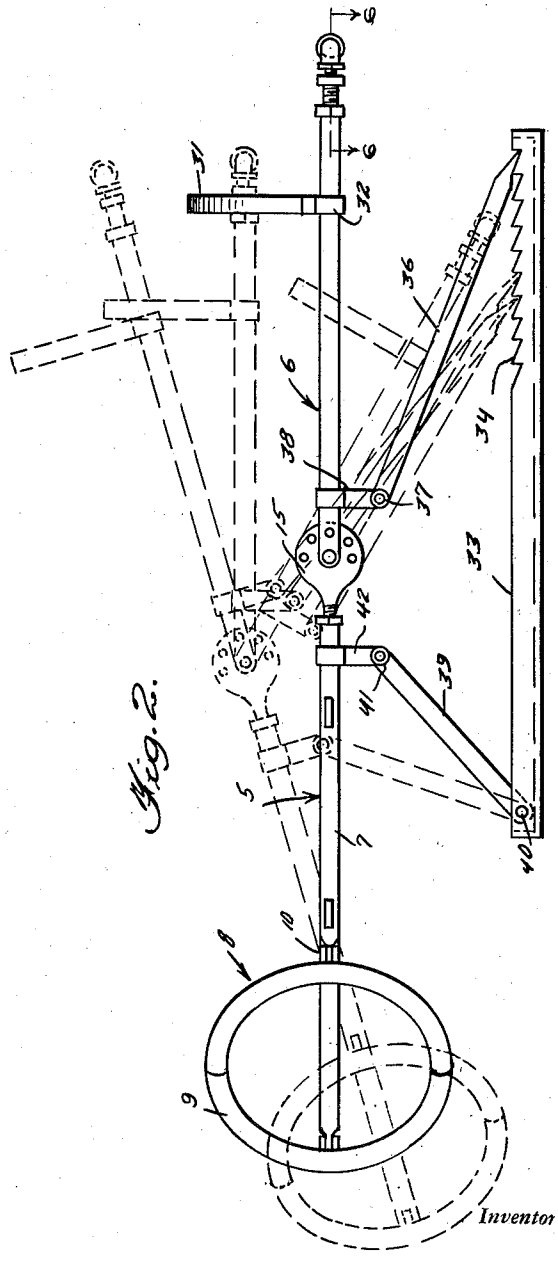


Fig. 2.

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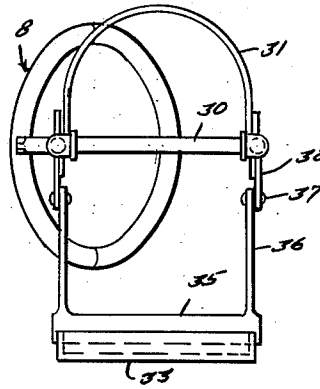


Fig. 3.

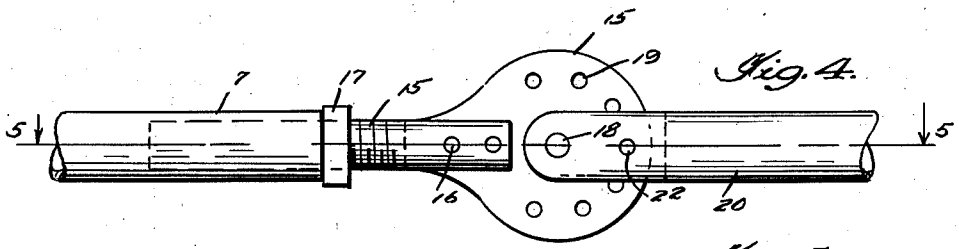


Fig. 4.

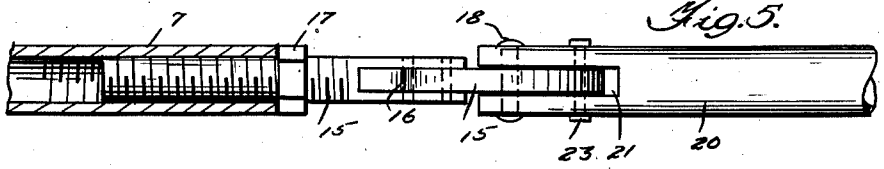


Fig. 5.

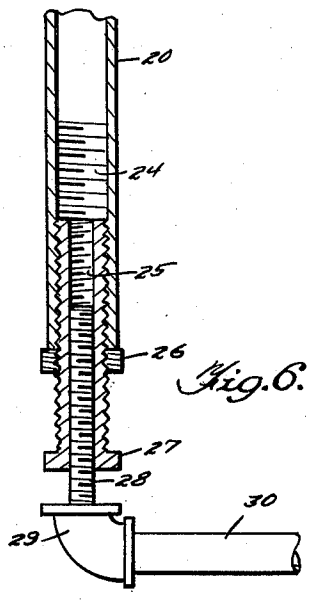


Fig. 6.

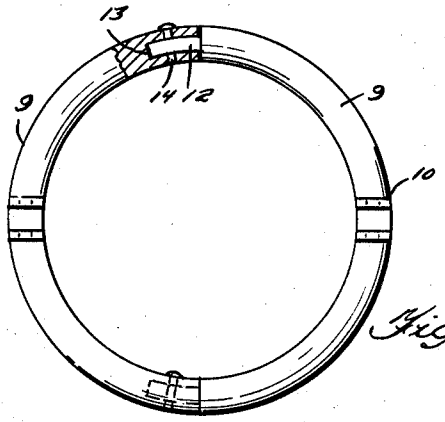


Fig. 7.

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UNITED STATES PATENT OFFICE

2,252,607

EXTENSION SPLINT

Philip M. Baker, Memphis, Mo.

Application April 10, 1939, Serial No. 267,122

2 Claims. (Cl. 128—85)

The present invention relates to new and useful improvements in extensible and adjustable leg splints and has for its primary object to provide a pair of longitudinally adjustable anterior and posterior splint sections, each including spaced parallel longitudinally extending tubular members adapted for positioning at opposite sides of the leg of a person, and in which the members at each side of the leg are pivotally connected to each other for vertical adjustment of the ends of said sections and also providing means for vertically adjusting the splint bodily and for securing the splint in a desired inclined position.

A further important object of the present invention is to provide a device of this character adapted to eliminate the use of weights, springs, pulleys and other unnecessary cumbersome and inconvenient bedside constructions for the reduction of fractures of bones and the reduction of subluxations or dislocation of joints of the extremities, or for the application of continued traction or extension upon the extremities for any purpose whatsoever.

A still further object is to provide a device of this character of simple and practical construction, which is efficient in performance, relatively inexpensive to manufacture, easy to adjust and otherwise well adapted for the purposes for which the same is intended.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which—

Figure 1 is a top plan view,

Figure 2 is a side elevational view,

Figure 3 is an end elevational view showing the anterior end of the splint,

Figure 4 is an enlarged fragmentary detail in side elevation of the pivotal connection for the anterior and posterior sections of the splint,

Figure 5 is a similar top plan fragmentary view of the pivotal connection shown in Figure 4 and taken substantially on a line 5—5 thereof,

Figure 6 is a fragmentary sectional view showing the telescopic adjustment for the outer end of the anterior section taken substantially on a line 6—6 of Figure 2, and

Figure 7 is a detail of one of the supporting rings at the inner end of the posterior section.

Referring now to the drawings in detail, wherein for the purpose of illustration I have disclosed a preferred embodiment of the invention, the numeral 5 designates the posterior section of the splint while the numeral 6 designates the anterior section thereof. The posterior section 5 comprises a pair of spaced parallel tubular members 7 which are curved uniformly in a horizontal direction at one end and to which is secured a transversely split ring 8, said ring embodying a pair of semi-circular sections 9 each having ears 10 projecting from an intermediate portion thereof for pivotally attaching to the respective tubular members 7 by pins 11. The ends of the sections of the ring are connected together by circumferentially extending pins 12 formed on one section inserted in recesses 13 of the other section and secured therein by transverse pins 14 as shown in detail in Figure 7 of the drawings.

The other ends of the tubular members 7 are internally threaded for threadedly receiving the stems 14 projecting radially from a disklike member 15 and secured thereto by rivets or the like 16. The stems 14 are secured in longitudinally adjusted position in the tubular member 7 by means of jamb nuts 17 threaded on the stem.

The disks 15 are provided with a center pivot pin 18 and a plurality of concentrically arranged openings 19 adjacent the edge of each disk.

The anterior section 6 also includes a pair of spaced parallel tubular members 20—20 likewise positioned at opposite sides of the leg of the patient, each tubular member 20 having a bifurcated end 21 receiving one of the disks 15 and pivoted on the pin 18.

The tubular members 20 are also provided with openings 22 adjacent the ends thereof for receiving a locking pin 23 adapted for insertion transversely of said tubular members into the openings 19 of the disks 15.

The outer ends of the tubular members 20 are internally threaded as shown at 24 for threadedly receiving an internally and externally threaded sleeve 25, the sleeve being secured in longitudinally adjusted position by means of a jamb nut 26. The outer end of the sleeve 25 is provided with a polygonal head 27 for adjusting the sleeve in the tubular member 20.

A stem 28 is threadedly inserted in the sleeve 25 for longitudinal adjustment relative to the sleeve, the outer end of the stem being secured to an elbow 29, the elbows of the respective tubular members 20—20 being connected by a transversely extending foot bar or tube 30.

A U-shaped member 31 has each end formed with a ring 32 which is slidably mounted on the tubular members 20, the member 31 extending upwardly transversely of the anterior splint section 6 and is designed to support the bed cloth-

ing or the like out of contact with the leg of the patient.

The splint is supported on a rectangular shaped base frame 33, preferably of angle iron construction and having the upper edge of its longitudinal members adjacent one end formed with ratchet teeth 34 adapted for engagement by a cross bar 35 on the lower ends of a pair of brace members 36—36, the other ends of the brace members 36 being pivotally mounted as at 37, to the lower ends of brackets 38—38, which are attached to the tubular members 20 adjacent their inner ends.

Likewise, the tubular members 7 of the posterior section 5 are supported on brace members 39 which have one end pivoted as at 40 to the base 33, the other ends of said braces being pivoted as at 41 to brackets 42 secured to the members 7 adjacent their pivoted ends.

The sections of the ring 8 may be padded and are positioned on the limb of the patient in the region of the crotch with the tubular members 7 and 20 extending longitudinally at opposite sides of the limb and the end cross bar 30 adjusted to abut the foot. The splint may be strapped to the limb by the loops 43.

The anterior or the posterior sections may be adjusted longitudinally individually and the splint may be vertically adjusted bodily by means of the braces 36, or the anterior section may be pivotally adjusted on the plates 15, into a desired position as shown by the dotted lines in Figure 2 of the drawings.

It is believed the details of construction and manner of use of the device will be readily understood from the foregoing without further detailed explanation.

I make the following claims for my extension splint:

1. In a device of the character described, a splint including a pair of substantially U-shaped members, perforated plates secured to the free ends of one of said U-shaped members, the other of said U-shaped members having notches in its free ends in which said plates are pivotally secured to provide hinge connections between the U-shaped members, clamp hinge members secured to the U-shaped members adjacent said hinge connections at opposite sides thereof, a base for said hingedly connected U-shaped members, said base including spaced parallel side members having notches near one end thereof, a pair of supporting links pivotally secured at their top end portions to one pair of clamp hinge members and pivotally secured at their bottom end portions to the base, a pair of supporting links pivotally secured at their top end portions to the other of said clamp hinge members, and a tie rod secured to and between the bottom end portions of said second named supporting links engageable with a selected pair of said notches in said base to hold said hingedly connected U-shaped members in adjusted position.

2. In a device of the character described, a splint including a pair of substantially U-shaped members, perforated plates secured to the free ends of one of said U-shaped members, the other of said U-shaped members having notches in its free ends in which said plates are pivotally secured to provide hinge connections between the U-shaped members, clamp hinge members secured to the U-shaped members adjacent said hinge connections at opposite sides thereof, a base for said hingedly connected U-shaped members, said base including spaced parallel side members having notches near one end thereof, a pair of supporting links pivotally secured at their top end portions to one pair of clamp hinge members and pivotally secured at their bottom end portions to the base, a pair of supporting links pivotally secured at their top end portions to the other of said clamp hinge members, said last named supporting links being selectively engageable at their lower ends with said notches in the base to hold the U-shaped members in adjusted position, means at the outer end of one of said pair of U-shaped members for embracing a person's leg and a U-shaped member adjustably connected longitudinally at the outer end of the other of said pair of U-shaped members for engagement by the foot of the person.

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