

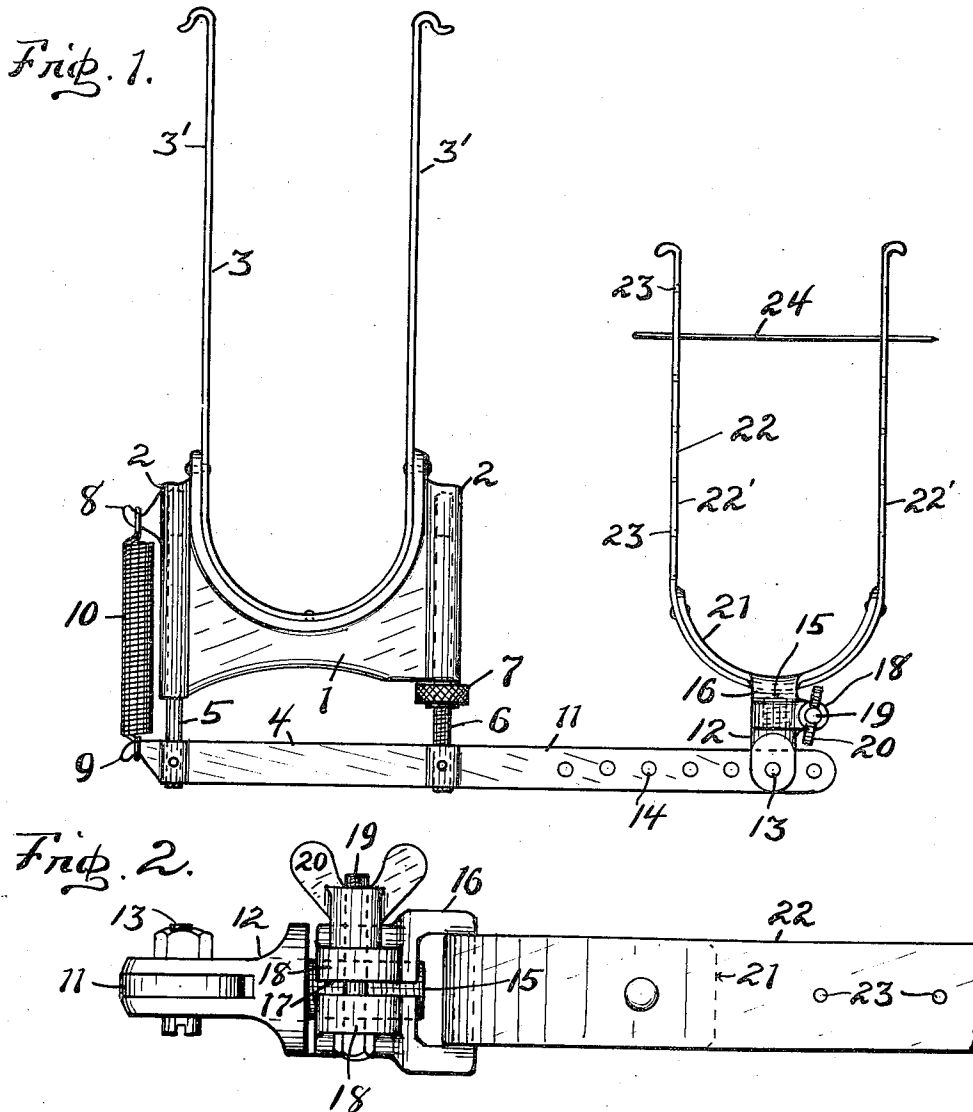
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SURGICAL LEG SPLINT

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SURGICAL LEG SPLINT

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This invention relates to improvements in surgical leg splints and the object thereof is to afford a splint for treatment of fracture of one leg of a person when the other leg is uninjured and wherein the uninjured leg is utilized as anchorage for the split when connected with the injured leg. Another object is to provide simple means of adjusting the parts of the splint that are connected respectively with the uninjured and injured legs so that more or less traction is applied to the injured leg in opposition to countertraction applied to the uninjured leg. And another object is to construct the splint so as to afford convenient means to permit rotation of the injured leg adjustably for more or less inversion or eversion thereof. Other objects and advantages of the invention will appear in the following description.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—
Fig. 1 is a plan view of a structure in which the invention is embodied; and

Fig. 2 is an enlarged fragmentary side view showing the adjustable connection between the sliding frame and a stirrup for the injured leg.

The illustrative embodiment of the invention comprises a frame 1 preferably formed of a plate having at each side thereof an elongated guide 2, said guides being relatively parallel, and to which is permanently secured an U-shaped strap constituting a stirrup 3.

In connection with the frame is provided a sliding member 4 having rigid rods 5 and 6 that are spaced apart and have axial movement in the corresponding guides 2 to afford adjustment of the sliding member toward and from said stirrup. The innermost rod 6 is threaded and has thereon an adjusting nut 7 that bears against the lower end of the innermost guide 2 so that upon manipulation of the nut the sliding member is adjustably moved relative to the frame. The frame has a hook 8 that projects from its outermost side, and a complementary hook 9 extends from the corresponding end of the sliding member 4 and said hooks are connected by means of a retracting spring 10.

The sliding member 4 has a lateral extension 11 that projects outwardly from the end thereof opposite to that of its connection with said spring, and has secured thereto a bracket 12 by means of a bolt 13 that is inserted selectively through perforations 14 in the sliding member. The bracket 12 has a stud 15 that has threaded relation with a clamp 16 posed thereon, one side of which has a slot 17 made therein and is provided

with ears 18 through which a threaded bolt 19 extends. The bolt is provided with a thumb-nut 20 which by proper manipulation thereof tightens the clamp 16 upon the stud and in this manner the clamp is held in angular adjustments upon the stud.

The clamp 16 has an arcuate extension 21 to which is permanently secured an U-shaped strap constituting a stirrup 22 which preferably has a series of perforations 23 made therein for the reception of a skeletal pin 24 when use of such pin is desired.

In use, the stirrup 3 is placed astride of the lower extremity of the uninjured leg of the patient, and the side members 3' of the stirrup 3 are secured to the uninjured leg preferably by applying a plaster cast about the uninjured leg and encompassing the side members of the stirrup. The frame 1 is thus firmly held attached to the uninjured leg of the patient. The other stirrup 22 is then secured to the injured leg conveniently by the use of a plaster cast applied to the injured leg and encasing the side members 22' of said stirrup therein. If so desired a skeletal pin 24 may be applied so as to extend through the perforations 23 in the stirrup and through the bone of the injured leg so as to forestall relative movement between the stirrup and the injured leg.

After the stirrups have been attached to the legs of the patient by means of plaster casts or by any other suitable expedients as the surgeon may elect, by manipulating the nut 7 upon the rod 6 so that pressure of the nut is exerted against the base 1, tension is thereby applied to the injured leg and axial pressure on the uninjured leg because of the consequent movement of the adjustable sliding member outwardly from the frame.

The rods 5 and 6 on the sliding member 4 are parallel with each other and slide in the corresponding guides 2 when the adjusting nut 7 is turned on the threaded rod 6. The spring 10 by its contracting action tends to move the sliding member 4 toward the frame 1 to an extent limited by adjustment of the nut 7 on the rod 6. Upon adjustment of the nut 7 so as to move the sliding member outwardly from the base the spring 10 is expanded and thereupon extension is applied to the injured leg to a corresponding extent. The effect of the spring tends to counterbalance the extension applied to the injured leg which circumstance admits of balanced movement of the sliding member with respect to the frame whereby binding of the rods 5 and 6 in the guides 2 is obviated.

In this manner when the yoke 3 is firmly attached on the uninjured leg and the stirrup 22 is secured to the injured leg more or less traction is applied readily to the injured leg according to adjustment of the nut 7 on the rod 6.

The bracket 12 has more or less free lateral swinging movement upon the axis of the bolt 13 to accommodate the angle of divergence of the legs of the patient, and by positioning the bolt in a selected one of the perforations 14 in the sliding member the legs are held spread apart to the desired extent.

By adjustably turning and securing the clamp 16 on the stud 15 more or less inversion of the injured leg secured in the stirrup 22 is applied.

I claim:—

1. In a splint of the character described, a stirrup having a frame provided with a guide at each side thereof, said guides being relatively parallel, a sliding member including rigid parallel rods spaced apart that have longitudinal movement respectively in said guides, one of said rods being threaded and provided with an adjusting nut bearing against said frame, a retracting spring having connections respectively with one end of said sliding member and the corresponding side of said frame that tends to impart movement to said sliding member toward said frame to an extent limited by said adjusting nut, said sliding member having a lateral extension that projects outwardly from its opposite end provided with a series of perforations therein, a bracket secured to said extension by a bolt inserted selectively through said perforations and which has lateral swinging movement on said bolt, a clamp adjustably posed rotatably in connection with said bracket provided with

means for securing the clamp in adjusted positions on said bracket, and a second stirrup in connection with said clamp.

2. In a splint of the character described, a stirrup having a frame, a sliding member connected with said frame to have guided movement lengthwise with respect to said stirrup and provided with means thereon engageable with the frame to limit movement of the sliding member relative to the frame in one direction, a retracting spring connecting said sliding member at one end thereof with said frame, the opposite end of said sliding member having an outwardly projecting extension, a bracket secured to said extension having lateral adjustment thereon and lateral swinging movement relative thereto, a clamp adjustably posed rotatively in connection with said bracket provided with means for securing it in adjusted positions thereon, and a second stirrup secured to said clamp.

3. In a splint of the character described, a stirrup provided with a frame secured thereto, a member connected with said frame to have sliding movement relative thereto directly toward and from said stirrup, a retracting spring connecting one end of said member with said frame, the opposite end of said member having a projecting extension, means for adjusting said member in its guided movement respecting the frame in opposition to restraint of said spring, and a second stirrup having a connection with said extension arranged to permit lateral adjustment thereon and angular rotative adjustment with respect to the longitudinal axis of said second stirrup.

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