Jan. 18, 1949. H. T. TREACE 2,459,729

SURGICAL TABLE

Filed April 22, 1947

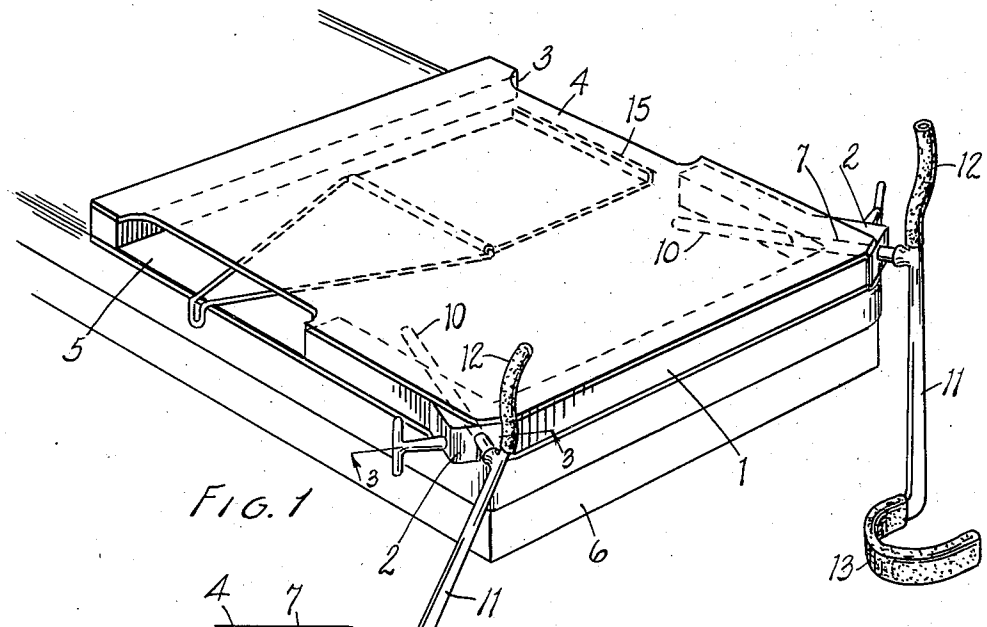


FIG. 1

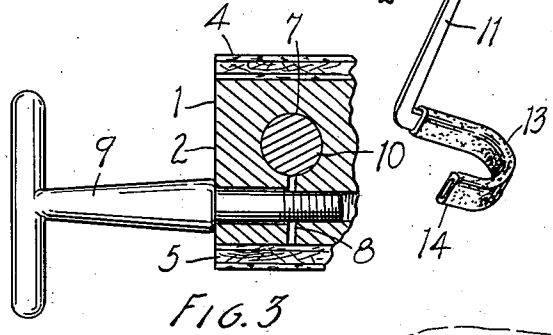


FIG. 3

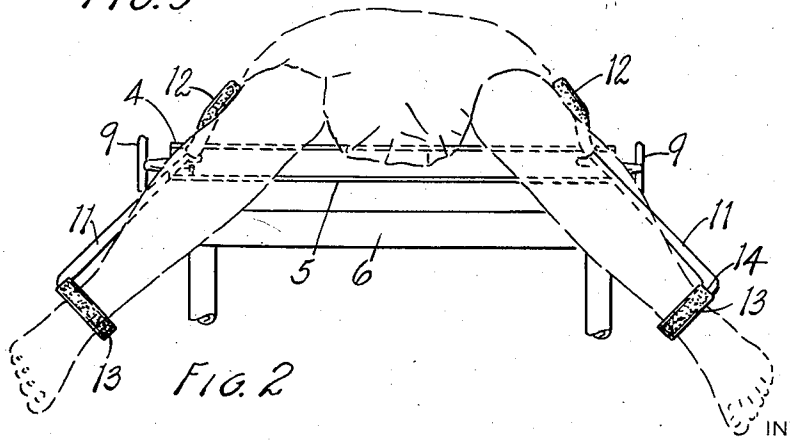


FIG. 2

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Patented Jan. 18, 1949 2,459,729

UNITED STATES PATENT OFFICE

2,459,729

SURGICAL TABLE

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Application April 22, 1947, Serial No. 742,994

9 Claims. (Cl. 311—11)

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This invention relates to improvements in a surgical table.

The principal objects of this invention are:

First, to provide a surgical table with leg engaging braces for twisting and holding the hip bones of a patient about the axis of the bones to various positions convenient for treatment or X-ray of the bones.

Second, to provide braces for a surgical table which will locate and hold the hip bones of a patient in any of several diverged and rotated positions to facilitate the surgical treatment, setting or X-ray of the patient's hip bones.

Third, to provide an appliance which may be easily positioned on a standard surgical table for holding the legs and hips of a patient in the manner described above.

Fourth, to provide a surgical appliance for facilitating the desired relative positioning of a patient's hip bone and an X-ray plate.

Other objects and advantages pertaining to the details and economies of the invention will be apparent from the following description and claims.

The drawings, of which there is on sheet, illustrate a preferred form of my appliance supported on a standard surgical table.

Fig. 1 is a fragmentary perspective view of a surgical table with my appliance in place thereon.

Fig. 2 is a fragmentary end elevational view of my surgical table operatively applied to the legs of a patient.

Fig. 3 is a fragmentary cross sectional view along the line 3—3 in Fig. 1.

My appliance comprises a rigid frame member 1 of generally U-shaped contour having outwardly diverging corner projections 2 at the lower corners thereof. An upper frame member 3 is spaced from the upper ends of the U-shaped frame member 1 and the two frame members are covered and joined by a top panel 4. A bottom panel 5 is secured to the undersides of the frame members 1 and 3 to add strength and rigidity to the appliance. The appliance is preferably made of such dimensions as to fit on top of a standard surgical table indicated at 6.

The end projections 2 of the lower frame member 1 are drilled as at 7 (see Fig. 3) to provide horizontal bores which diverge outwardly toward the lower end of the appliance and the table 6.

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The underside of the frame member 1 is slotted as at 8, the slots extending to the bores 7 and screw clamps 9 are provided for drawing the sides of the slots together.

The bores 7 are arranged to receive the outwardly diverging shafts 10 which may be slid in or out of the bores and rotated and clamped in any position in the corner projections 2. The outer ends of the shafts 10 are securely fastened to torsion bars 11 which extend generally perpendicular to the ends of the shafts 10. The torsion bars 11 are provided with outwardly offset and inwardly curved upper ends 12 and with inwardly offset and outwardly curved hook portions 13 on their lower ends. The hook portions 13 and curved upper portions 12 are desirably covered by rubber or other padding sleeves 14.

With reference to Fig. 2, it will be noted that when the appliance is supported on a surgical table the angles or lower legs of a patient may be fitted within the lower hook portions 13 with the curved upper ends 12 of the torsion bars bearing against the outside of the patient's legs adjacent to the knee joints. By rotating the lower ends of the torsion bars outwardly, the upper ends 12 of the bars will press the knee joints of the patient slightly inwardly and result in a twisting of the hip bones of the patient. By moving the torsion bars 11 to the desired position and clamping the shafts 10 in adjusted position with the clamping screws 9, the hip bone of the patient may be held, within limits, in any desired position convenient for performing surgical treatment or setting of the hip bones. Longitudinal tension on the hips of the patient may, of course, be provided by pressing the shafts 10 inwardly in the corner projections 2 so that the back of the patient's lower leg engages the end of the surgical table and then by lowering the head of the operating table the patient's own weight on the inclined plane provides the traction.

Preferably, the top panel 4 of the appliance is made of plywood or some other non-metallic material so that a cassette 15 holding an X-ray plate may be slid between the upper and lower panels underneath an injured hip bone for taking X-ray pictures of the injury.

The device is of great assistance to a surgeon in holding the legs and hips of a patient suffering from a fractured hip in the desired position for

X-ray or surgical treatment. While I have illustrated the appliance as a separate attachment for a surgical table, the shafts 10 and torsion bars 11 could obviously be supplied directly on the surgical table 6 if such were desired. Other minor modifications of the appliance should also be obvious without further description.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A surgical appliance for holding the hips of a patient in fixed position comprising a U-shaped lower frame member having outwardly diverging projections in the lower corners thereof, an upper frame member spaced from the upper end of said lower frame member, a top panel of non-metallic material joining said frame members, a flat bottom panel joining said frame members on the bottom sides thereof and adapted to rest upon a surgical table, said corner projections of said lower frame member defining outwardly diverging bores parallel to the planes of said panels and slots opening to said bores along the bottom surface thereof, shaft members positioned in said bores, screw clamps for drawing the sides of said slots together to clamp said shafts in said bores, and torsion bars secured perpendicularly to the ends of said shafts, said torsion bars having outwardly offset and inwardly curved ends above said shafts and inwardly offset and outwardly opening hook portions on the lower ends thereof.

2. A surgical appliance for holding the hips of a patient in fixed position comprising a U-shaped lower frame member having outwardly diverging projections in the lower corners thereof, an upper frame member spaced from the upper end of said lower frame member, a top panel of non-metallic material joining said frame members, a flat bottom panel joining said frame members on the bottom sides thereof and adapted to rest upon a surgical table, the corners of said lower frame member defining outwardly diverging bores and slots opening to said bores, shaft members positioned in said bores, screw clamps for drawing the sides of said slots together to clamp said shafts in said bores, and torsion bars secured to the ends of said shafts, said torsion bars having inwardly curved ends above said shafts and outwardly opening hook portions on the lower ends thereof.

3. A surgical appliance for holding the hips of a patient in fixed position comprising a lower frame member having outwardly diverging projections in the lower corners thereof, an upper frame member spaced from the upper end of said lower frame member, a top panel of non-metallic material joining said frame members, a flat lower panel joining said frame members on the undersides thereof and adapted to rest upon a surgical table, said corner projections of said lower frame member defining laterally diverging bores and slots opening thereto, shaft members positioned in said bores, clamps for drawing the sides of said slots together to clamp said shafts in said bores, torsion bars secured to the ends of said shafts, said torsion bars having inwardly facing upper leg engaging end portions above said shafts and outwardly facing lower leg engaging portions on the lower ends thereof and open at the bottom.

4. A surgical appliance for holding the hips of a patient in fixed position comprising a lower frame member having outwardly diverging projections in the lower corners thereof, an upper frame member spaced from the upper end of said lower frame member, a top panel of non-metallic material joining said frame members, said corner projections of said lower frame member defining laterally diverging bores and slots opening thereto, shaft members positioned in said bores, clamps for drawing the sides of said slots together to clamp said shafts in said bores, torsion bars secured to the ends of said shafts, said torsion bars having inwardly facing upper leg engaging end portions above said shafts and outwardly facing lower leg engaging portions on the lower ends thereof and open at the bottom.

5. A device for holding the hip bone of a patient in adjusted position on a surgical table comprising a horizontal shaft extending laterally outwardly from the foot of said table and generally parallel to the hip bone of the patient, a screw clamp for clamping said shaft in rotatably and axially adjusted position relative to said table, and a torsion bar having an outwardly offset inwardly curved upper portion arranged to engage the outer side of the patient's leg adjacent to the knee joint thereof and an inwardly offset outwardly opening lower hook portion arranged to engage the inner side of the patient's lower leg adjacent to the ankle thereof.

6. A device for holding the hip bone of a patient in adjusted position on a surgical table comprising a horizontal shaft extending outwardly and laterally from the foot of said table, a clamp for clamping said shaft in rotatably and axially adjusted position relative to said table, and a torsion bar secured to the end of said shaft, said torsion bar having an inwardly facing upper portion arranged to engage the outer side of the patient's leg adjacent to the knee joint thereof and an outwardly facing lower portion, open at the bottom and arranged to engage the inner side of the patient's lower leg adjacent to the ankle thereof.

7. A surgical table for adjusting and holding the hip bone of a patient comprising a panel arranged to support the hips of the patient, a frame member supporting the lower end of said panel and having laterally diverging, horizontal bores in the lower portion thereof, shafts positioned in said bores, clamping means for clamping said shafts in said bores in rotatably and axially adjusted position, and torsion bars secured to the ends of said shafts, said torsion bars having upper portions arranged to engage the outer surface of the patient's legs adjacent to the knee joints thereof, and downwardly extending portions arranged to pass the patient's feet and to engage the inner sides of the lower portion of the patient's legs, said frame member terminating below the upper end of said panel to permit the insertion of a cassette under said panel.

8. The combination of a table adapted to support the hips of a patient, a pair of leg supporting and positioning bars provided with pivots mounted on the foot of the table in horizontally spaced relation, the pivots being disposed in an outwardly diverging relation from the foot of the table, said bars having outwardly facing stirrups below the pivots thereof adapted to pass the patient's feet and to supportingly engage the inner sides of the patient's legs adjacent the ankles thereof and having parts projecting upwardly of the pivots adapted to engage the outer sides of the patient's legs above but adjacent to the knees, and means for securing the bars in their adjusted positions.

9. The combination of a table adapted to sup-

port the hips of a patient and provided with a chamber below its top adapted to receive and support an X-ray plate, a pair of leg supporting and positioning bars provided with pivots mounted on the foot of the table in horizontally spaced relation, said bars terminating in outwardly facing stirrups below the pivots thereof adapted to pass the patient's feet and to supportingly engage the inner sides of the patient's legs adjacent the ankles thereof and having parts projecting upwardly of the pivots adapted to engage the outer sides of the patient's legs above but adjacent to the knees, and means for securing the bars in their adjusted positions.

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