

June 26, 1934.

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1,964,694

SURGICAL SPLINT

Filed Feb. 23, 1934

Fig. 1.

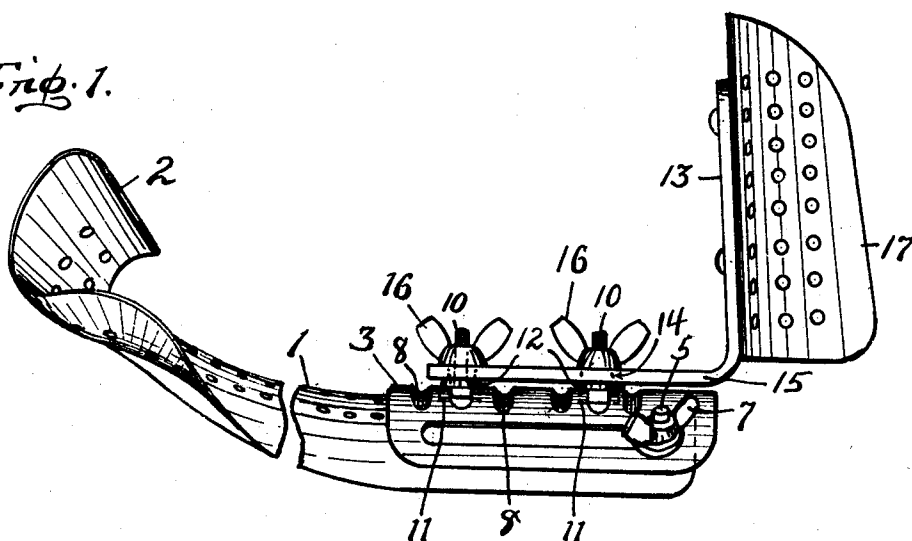
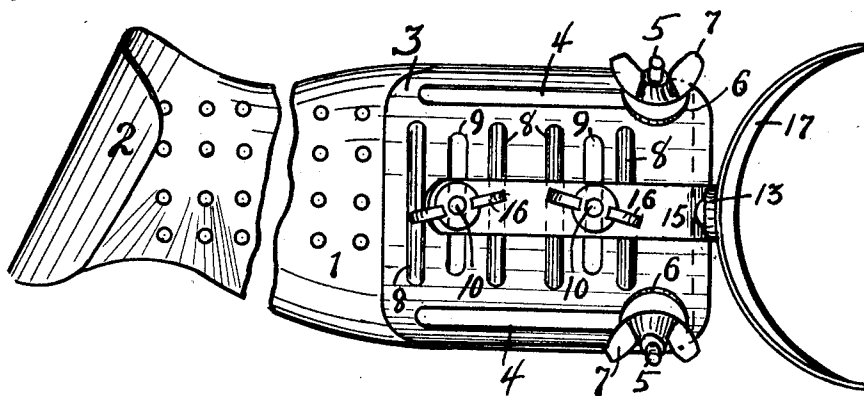


Fig. 2.



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UNITED STATES PATENT OFFICE

1,964,694

SURGICAL SPLINT

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Application February 23, 1934, Serial No. 712,557

4 Claims. (Cl. 128—89)

This invention relates to improvements in surgical splints adapted to be applied to the arm of a patient for treatment of fracture of the forearm. The object of the invention is to provide
5 a splint which includes means of adjustment between the parts of the splint that are applied to the upper arm and forearm in such manner that rotation of the forearm to a desired position and the securing of the forearm in such adjusted position is readily attained. A further object is to
10 provide means of adjustment between the upper arm and forearm members of the splint so that proper apposition, extension, inversion or eversion of the fractured bones of the forearm are readily
15 accomplished. Other objects and advantages of the invention will appear hereinafter.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—

Fig. 1 is a side elevation of a splint in which
20 the invention is shown; and

Fig. 2 is a top plan view projected from Fig. 1.

The illustrative embodiment consists of a forearm saddle 1 having at its outer end a hand grip 2, the saddle being preferably formed of perforated sheet metal such as aluminum and shaped
25 to approximately fit snugly the forearm, wrist and hand of an injured arm. The grip is preferably a continuation of the plate forming the saddle and is shaped approximately to fit in the palm
30 of the hand and suitably to be clasped between the palm and digits.

Upon the rear portion of the saddle 1 is adjustably positioned a transversely arched plate 3 provided upon each side thereof with a longitudinally extending slot 4 through which slots project
35 corresponding threaded studs 5 having thereon washers 6 and thumb nuts 7. The studs are firmly anchored in the saddle 1 adjacent the rear end thereof, and when the thumb nuts 7 are tightened,
40 the plate 3 is clamped upon said saddle and firmly held in place thereon. The slots 4 permit the plate 3 to be moved longitudinally on the saddle to adjusted positions when said thumb nuts are
45 loosened. The plate 3 has formed therein a series of transversely disposed depressions to form corresponding ribs 8 that bear upon the upper adjacent face of the saddle 1 so that the general inner face of the plate 3 is held in a position spaced
50 from the saddle. The plate 3 also has a pair of transversely disposed slots located respectively between adjacent pairs of said ribs 8 and through each slot extends a bolt 10 the head 11 of which is disposed between the inner face of the plate 3 and adjacent the face of the saddle. Above the
55 plate 3 on each bolt 10 is disposed a spacer 12 upon

which rests an angle bracket 13 through which the bolts 10 extend. The openings 14 in the bracket for the bolts 10 are elongated sufficiently to permit more or less adjustable relative movement with respect to the bracket and the bolts.
60 The bolts are adjustably movable transversely in the slots 9 so that the lower arm 15 of the bracket 13 may be moved angularly with respect to the axis of the arched plate 3. Upon the upper ends of the bolts 10 are disposed thumb nuts 16
65 which when tightened causes the bracket arm 15 to be clamped in connection with the plate 3.

The bracket 13 has secured to its upright rear portion an upper arm saddle 17 formed preferably of sheet metal and shaped to fit anteriorly the
70 upper arm when the saddle 1 is positioned upon the forearm and the arm is bent approximately at right angles at the elbow.

In use, the saddle 1 is applied to the forearm with the hand in supine position with the digits extending exteriorly about the grip 2. The
75 thumb nuts 7 are then loosened and the plate 3 is adjusted longitudinally on the saddle 1 so that the upper arm saddle 17 is fitted to the forearm of the patient. By making this adjustment
80 so that the hand grip and upper arm saddle are spaced properly apart from each other the forearm is subjected to tension for such extension thereof as desired by the surgeon. By manipulation of the thumb nuts 16 the forearm saddle
85 1 together with the arched plate 3 is adjustably turned laterally with respect to the arm 15 of the bracket 13 thus causing more or less rotation of the forearm. Also, because of the elongated openings 14 in the bracket the forearm
90 saddle and the arch plate may be bodily turned with respect to the bracket upon a vertical axis in a horizontal plane in either direction and thereby is applied more or less adjustment selectively to the forearm for inversion or eversion
95 thereof.

When the fracture has been reduced and the splint applied the saddles are anchored to the arm while held in their adjusted positions by customary expedients such as bandages or tapes,
100 or, by encasing the splint or portions thereof together with corresponding parts of the arm in a cast as in the usual practice of surgery.

I claim:—

1. In a forearm fracture splint, a forearm saddle provided at one end thereof with a hand grip,
105 an arched plate on the other end of said saddle disposed for longitudinal adjustment thereon and provided with means for securing the plate in adjusted positions, said plate having a series of
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transversely disposed ribs spaced apart that project from its inner face to hold said plate spaced from the saddle and having also transversely disposed slots located between the corresponding pairs of said ribs, bolts extending through and adjustably movable in said slots, an angular bracket one arm of which has elongated openings therein through which said bolts respectively extend, spacers on said bolts disposed between said plate and bracket, nuts on said bolts for securing said bracket in adjusted positions, and an upper arm saddle disposed on the other arm of said bracket.

2. In a forearm fracture splint, a forearm saddle provided at one end thereof with a hand grip, an arched plate on the other end of said saddle disposed for longitudinal adjustment thereon and provided with means for securing the plate in adjusted positions, said plate having transversely disposed slots therein, bolts extending through and adjustably movable in said slots, an angular bracket one arm of which has openings therein larger than said bolts and through which said bolts project, spacers on said bolts disposed between said plate and bracket, nuts on said bolts for securing said bracket in adjusted positions, and an upper arm saddle disposed on the other arm of said bracket.

3. In a forearm fracture splint, a forearm saddle provided at one end thereof with a hand grip, an arched plate on the other end of said saddle disposed for longitudinal adjustment thereon and provided with means for securing the plate in adjusted positions, said plate having transversely disposed slots therein, bolts extending through and adjustably movable in said slots, an angular bracket one arm of which has openings therein larger than said bolts and through which said bolts project, nuts on said bolts for securing said bracket in adjusted positions, and an upper arm saddle disposed on the other arm of said bracket.

4. In a forearm fracture splint, a forearm saddle having at one end thereof a hand grip, an arched plate on the other end of said saddle disposed for longitudinal adjustment thereon, means for securing said plate and saddle relatively in adjusted positions, an angular bracket one arm of which is secured in connection with said plate for relative lateral and turning adjustment, means for securing said bracket and plate in adjusted positions, and an upper arm saddle secured to the other arm of said bracket.

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