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H. G. CLASH

1,863,188

SURGICAL APPLIANCE

Filed Aug. 28, 1929

Fig. 1.

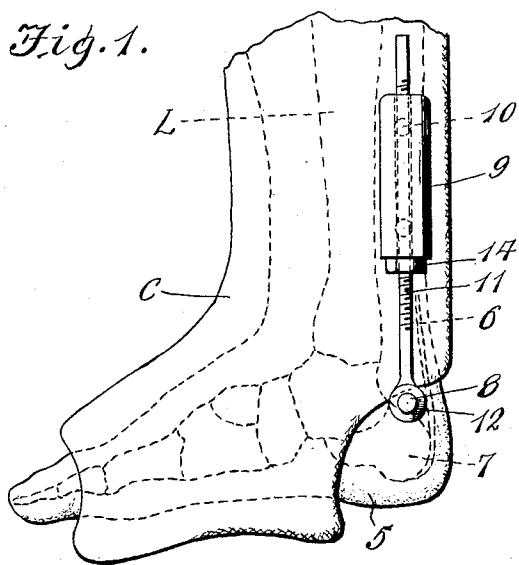


Fig. 2.

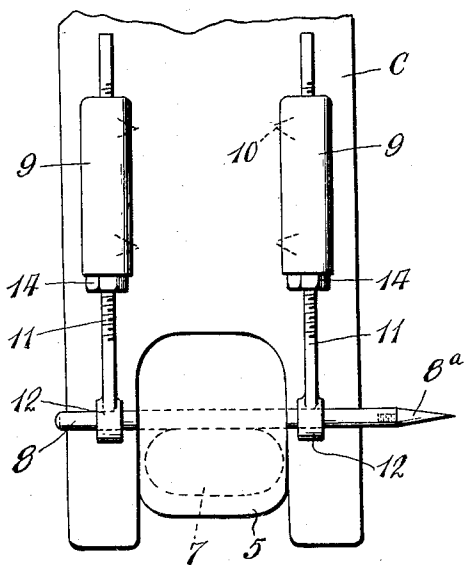


Fig. 3.

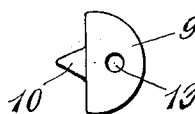
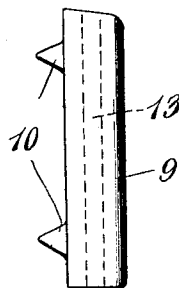


Fig. 4.

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SURGICAL APPLIANCE

Application filed August 23, 1929. Serial No. 383,063.

My invention relates to improvements in surgical appliances, and, more particularly, to means adapted to prevent abnormal healing or knitting of fractured or broken bones.

5 In the illustrated adaptation of my invention, I have shown the appliance holding the heel bone of the foot against movement to an abnormal position under influence of a contracting Achilles cord.

10 An object is to provide a simple appliance of the above character, capable of effectually performing its function and requiring very little attention while in use.

15 It is also an object to provide an appliance for the purpose stated, constituting few comparatively inexpensive elements which may be easily and quickly assembled for use.

Other objects will be in part obvious and in part pointed out hereinafter.

20 In the drawing:

Fig. 1 is a fragmentary elevation illustrating one adaptation of my invention;

Fig. 2 is a rear elevation thereof;

25 Fig. 3 is an edge view of one of the anchor members or bars; and

Fig. 4 is an end elevation of one of said bars.

In the preferred embodiment of my invention as illustrated in the accompanying drawing, I have shown the appliance as employed in connection with a plaster of Paris cast which is being used to hold the bones of a foot in proper relation to each other and to the leg bone while knitting together. Obviously, 35 this appliance may well be employed in other connections. In this disclosure, the foot 5 (Fig. 1) has been broken and a plaster of Paris cast C has been placed about it and adjacent portions of the leg in order to effect 40 proper healing of the break. Where the cast alone is so relied upon, considerable difficulty has been experienced in effecting satisfactory healing. Mainly, this difficulty is due to contraction of the Achilles cord 6 extending upwardly along the rear side of the leg bone L 45 and connected at its lower end to the heel bone 7. Such shortening of this cord causes upward movement of the heel bone and permits healing of the foot in an abnormal position relative to the leg bone L. The serious 50

objections to these conditions are entirely obvious.

My invention entirely eliminates the above enumerated objectionable conditions by preventing contraction of the Achilles cord 6. 55 Thus the heel bone cannot move upwardly and cause the foot to heal in an unnatural position. This is obtained by an appliance including a pin 8 which is projected through the flesh just inwardly of the Achilles cord 60 6 and in contact with the upper side of the heel bone 7. A removable point 8^a is attachable to one end of the pin 8 to facilitate placing of the pin as shown in the drawing. The pin 8 is held against upward movement (due 65 to the tendency of the cord 6 to contract and carry the heel bone therewith) by means of a pair of stationary anchoring members 9 or bars securely fastened to the plaster of Paris cast C by spurs or prongs 10 and rigidly connected to said pin by rods 11. 75

In the present disclosure, these rods 11 are screw threaded and at one end are formed with collars 12 through which the pin 8 extends. The other ends of these rods 11 75 pass freely through oversized openings 13 extending lengthwise through the anchor bars 9. Adjusting or tensioning nuts 14 are threaded on the rods 11 and normally abut the lower ends of the anchor bars. These nuts 80 are adjusted to move the rods downwardly until the Achilles cord assumes a normal tension and the heel bone is normally positioned. Through the use of this appliance, one is assured that proper healing of the injured 85 member will be effected.

Modifications may be resorted to within the spirit and scope of the appended claims.

What I claim is:

1. A surgical appliance comprising a cross-pin, a pair of toothed anchoring bars spaced apart, a pair of adjustable connectors between the bars and end portions of said pin, said connectors in effect forming longitudinal extensions of the bars, and means for effecting relative lengthwise movement of the bars and connectors to adjust the position of the cross-pin. 95

2. A surgical appliance comprising a cross-pin, a pair of toothed anchoring bars spaced 100

apart and having openings extending lengthwise therethrough, a pair of threaded rods connected to the pin and extending into said openings, and means for adjusting the position of the rods lengthwise in said openings to thereby change the spaced relation of the pin and bars.

3. In combination, a cast arranged to at least partially enclose a member, a pair of
10 anchoring bars attached to the cast, said bars spaced apart and each having an opening therein, a cross-pin adapted to extend through said member, adjustable rods connected to the ends of said cross-pin and extending
15 through said openings, and means for changing the positions of the rods in said openings to thereby adjust the cross-pin relative to the cast and anchoring bars.

4. In combination, a cast arranged to at least partially enclose a member, a pair of
20 anchoring bars attached to the cast, said bars spaced apart and each having an opening therein, a cross-pin adapted to extend through said member, adjustable rods connected to the ends of said cross-pin and extending through said openings, and nuts
25 threaded on the rods and bearing against the anchoring bars, said nuts being adjustable to move the rods lengthwise relative to the
30 bars and thereby change the position of the cross-pin relative to the cast.

Signed at Toledo, in the county of Lucas and State of Ohio, this 13th day of August, 1929.

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HARWOOD G. CLASH.

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