No. 850,610. PATENTED APR. 16, 1907.

J. R. WARD.

ADJUSTABLE SPLINT.

APPLICATION FILED AUG. 16, 1906.

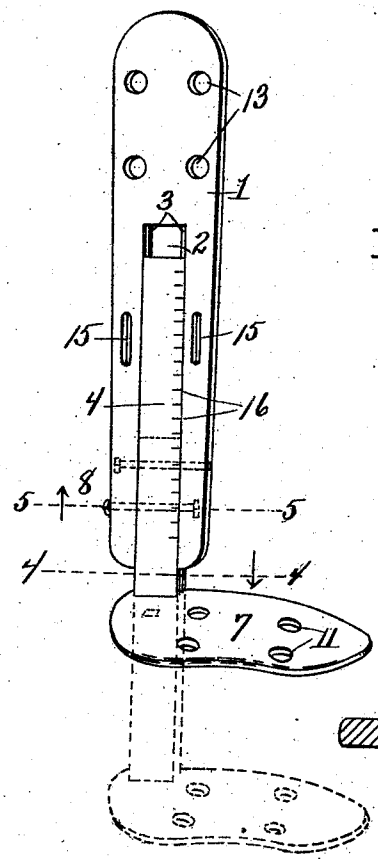


Fig. 1.

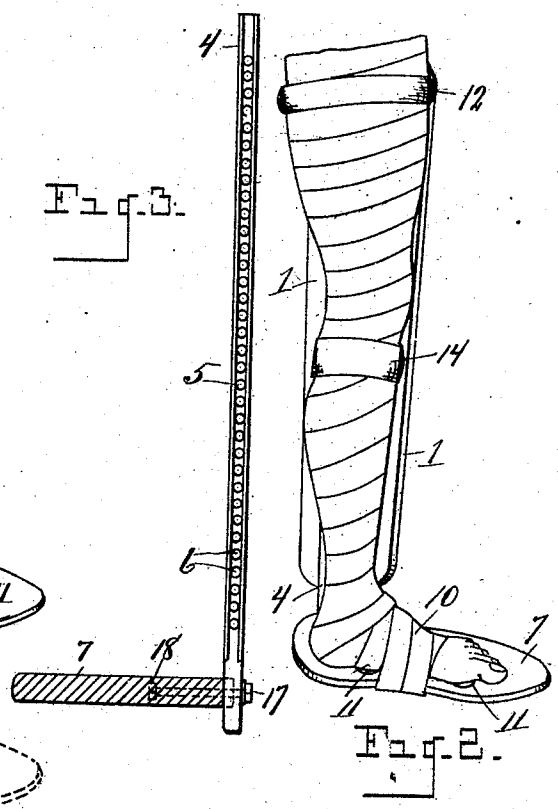


Fig. 2.

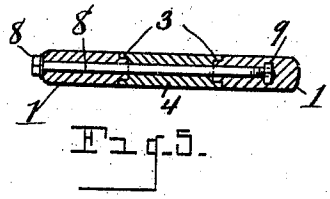


Fig. 3.

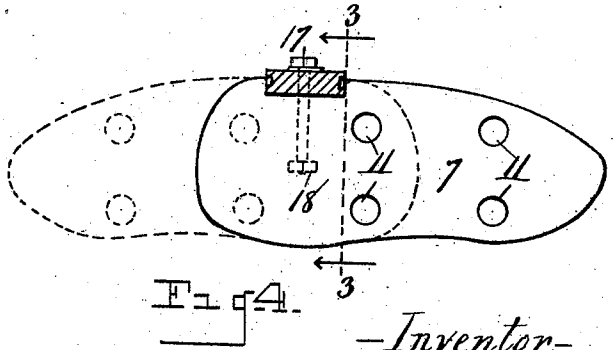


Fig. 4.

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UNITED STATES PATENT OFFICE.

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ADJUSTABLE SPLINT.

No. 850,610. Specification of Letters Patent. Patented April 16, 1907.

Application filed August 16, 1906. Serial No. 330,766.

To all whom it may concern:

Be it known that I, JAMES R. WARD, a citizen of the United States of America, residing at Detroit, in the county of Wayne, State of Michigan, have invented certain new and useful Improvements in Adjustable Splints; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to adjustable splints especially adapted for use in reducing the fracture of a broken limb, and consists in the construction and arrangement of parts hereinafter fully set forth, and pointed out particularly in the claims.

The object of the invention is to provide simple and efficient means for keeping the limb perfectly straight and the bones in proper position, to obviate the use of a weight and pulley as commonly employed for overcoming the contracting force of the muscles, to provide for varying the length of the splint in accordance with the length of the limb, and to provide for placing and maintaining any desired tension upon the limb to hold the ends of the fractured bone in proper relation.

The above object is attained by the device illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of a splint involving my invention. Fig. 2 is a similar view showing the application of the splint in setting a broken limb. Fig. 3 is a sectional view as on line 3 3 of Fig. 4. Fig. 4 is a horizontal section as on line 4 4 of Fig. 1. Fig. 5 is a horizontal section as on line 5 5 of Fig. 1.

Referring to the characters of reference, 1 designates the body portion of the splint, having a slotted opening 2 through one end, extending longitudinally thereof, the opposite walls of said slot being provided with the inwardly-extending tongues 3. (See Fig. 5.) The telescopic section 4 of the splint is provided with channels 5 in the opposite edges thereof, which receive said tongues and confine said telescopic section within the slotted opening 2. Extending horizontally through the telescopic section parallel with the sides thereof are a number of apertures 6, placed closely together for the purpose of affording any degree of extension to the section 4. At the lower end of the telescopic section is the foot-rest 7.

To provide for locking the telescopic section when adjusted, a bolt 8 is employed, which passes freely through the main portion of the splint and through one of the apertures 6 in the telescopic section, the end of said bolt screwing into a nut 9, embedded in the main or relatively fixed portion of the splint. (See Fig. 5.) By withdrawing the bolt 8 and pulling outwardly upon the telescopic or extensible portion 4 the splint may be extended to any desired length and secured by reinserting the bolt 8 and screwing its inner end into the nut 9 by applying a suitable wrench to the head thereof.

In the application of this invention after applying the usual bandage or cast the foot is securely fastened to the foot-rest by bandages 10, which are passed through the holes 11 therein. The perineal pad 12, which embraces the thigh, is then securely tied through the holes 13 in the splint. The bolt 8 is then removed to allow freedom of movement of the telescopic section 4. To place the required tension on the muscles of the leg, said telescopic section is drawn outwardly by pulling upon the foot-piece 7. When the fracture shall have been reduced and the desired extension of the splint attained, it is secured by reinserting the bolt 8, which passes through one of the transverse apertures 6 in the telescopic section and is screwed into the embedded nut 9, thereby locking the extensible or telescopic section firmly in place. This arrangement places such stress upon the muscles as to maintain the ends of the fractured bone in proper relation without the necessity of attaching a weight and cord to the foot of the patient, as ordinarily practiced. If desired, an additional bandage 14 may be employed to hold the leg in position, the ends of said bandage being secured through the slotted openings 15 in the stationary portion of the splint.

Upon the extensible portion are graduations 16, (see Fig. 1,) which register with the transverse apertures 6 through said section and enable the parts to be brought into proper alinement to admit of the entrance of the bolt 8 into the opening in the extensible section. The splint is made reversible for use upon a right or left limb by loosening the bolt 17, which secures the foot-piece to the

lower end of the extensible section 4, and turning the foot-piece over upon said bolt, which acts as a pivot therefor, as shown by dotted lines in Fig. 4. After reversing the foot-piece it may again be secured by tightening the bolt 17. The threaded inner end of the bolt 17, like the bolt 8, screws into an embedded nut 18, as shown by dotted lines in Figs. 2 and 4.

It will be noted that provision is made for entering the bolt 8 from the opposite edges of the splint, the purpose of which is to always bring the head of the bolt where it will be readily accessible, whether or not the splint be used upon the right or left limb of the patient.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A splint, comprising a relatively fixed section rigid throughout its length, a relatively movable extensible section mounted upon the fixed section and lying wholly within the plane thereof, a foot-rest upon the extensible section, and means for locking the extensible section when adjusted.

2. A splint, comprising a relatively fixed section rigid throughout its length and having a longitudinal slot, having means for attachment to the upper portion of a limb, a movable extensible section mounted to slide in the slot of said relatively fixed section, having means for attachment to a foot, and means for locking the extensible section of the splint firmly to the relatively fixed section at any desired point of adjustment.

3. In a splint, the combination of a relatively fixed section adapted to be secured to the upper limb and having a central longitudinal slot, an extensible section carrying a foot-rest adapted for attachment to the lower limb, said extensible section lying within said slot and having a plurality of apertures therethrough and a bolt lying in the relatively fixed section adapted to be passed through any one of the apertures in the extensible section, and means for securing the bolt in place.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES R. WARD.

Witnesses:
WM. R. MCCREDIE,
E. S. WHEELER.