

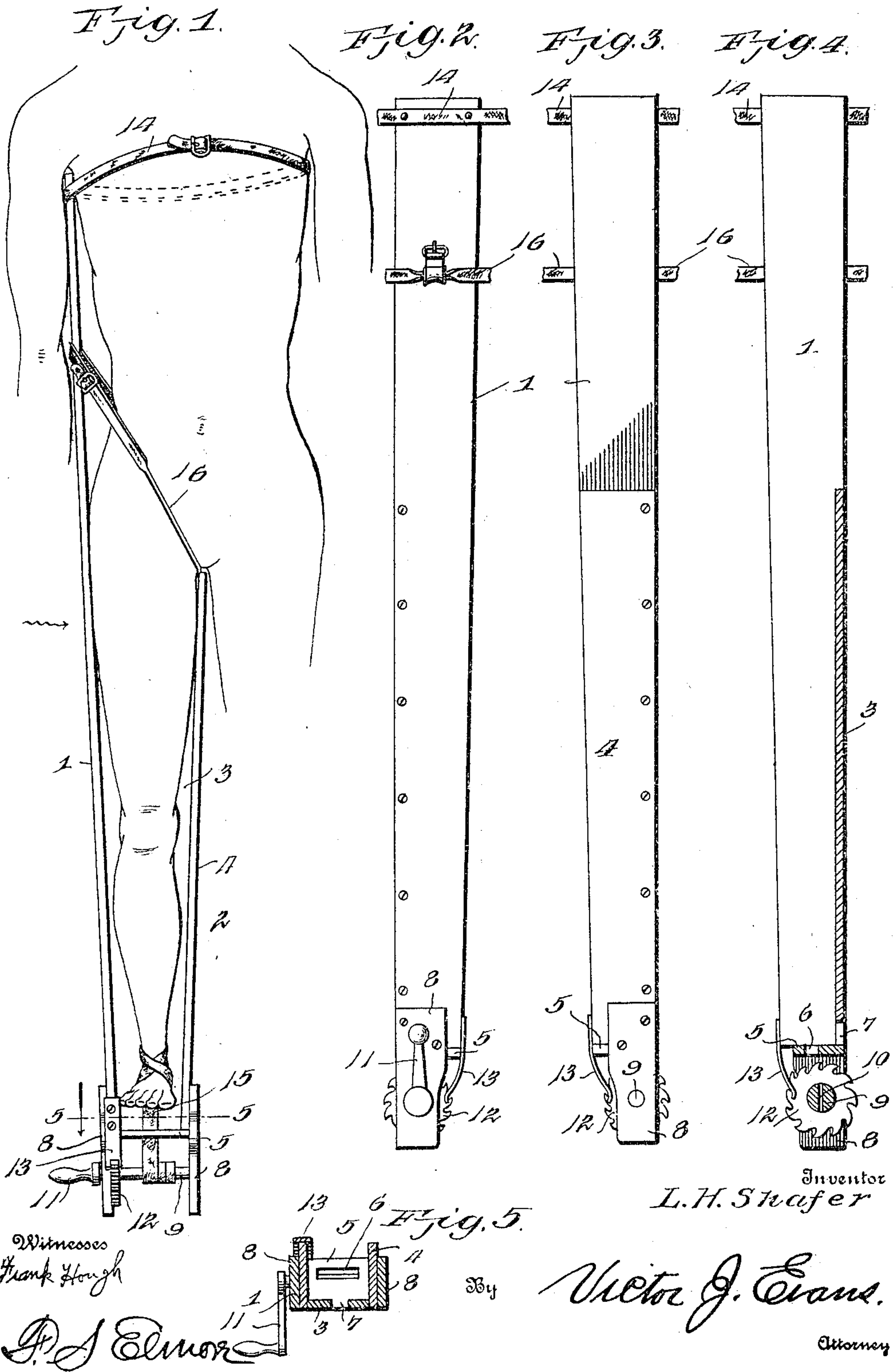
No. 819,607.

PATENTED MAY 1, 1906.

L. H. SHAFER.

SPLINT.

APPLICATION FILED NOV. 11, 1905.





# UNITED STATES PATENT OFFICE.

LOUIS H. SHAFER, OF FRIDLEY, MONTANA.

## SPLINT.

No. 819,607.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed November 11, 1905. Serial No. 286,903.

*To all whom it may concern:*

Be it known that I, LOUIS H. SHAFER, a citizen of the United States, residing at Fridley, in the county of Park and State of Montana, have invented new and useful Improvements in Splints, of which the following is a specification.

This invention relates to splints of the type employed for stretching broken limbs during the operation of setting the latter, and has for its objects to produce a comparatively simple inexpensive device of this character which may be conveniently and firmly attached to the patient, one wherein the fractured member may be subjected to the proper amount of tension, and one in which the parts may be properly locked to preserve the tension on the limb during a predetermined period.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a top plan view of a splint embodying the invention and showing the same applied for use. Fig. 2 is a side elevation of the device viewed in the direction indicated by the arrow in Fig. 1. Fig. 3 is a similar view taken from the opposite side. Fig. 4 is a section taken centrally and longitudinally through the splint. Fig. 5 is a detail section taken on the line 5 5 of Fig. 1.

Referring to the drawings, 1 designates the splint, provided at its forward end with a limb-receiving box or casing 2, having an upper open side and formed on the splint 1 by means of a base piece or board 3 and a side board 4, said box being closed at its forward end by means of an end wall 5, provided with an opening 6, arranged in central alinement with an opening 7, formed at the forward ends of the base-piece 3. It will be observed in this connection that the splint 1 forms and constitutes one side of the box 2 and is also projected in rear of the same to present a rearward extension on the box.

Attached to the side walls of the box and projecting forwardly therefrom is a pair of bearing members or arms 8, having journaled therein a rotary member or shaft 9, provided with a transverse opening or slot 10 and equipped with an operation-handle 11, there being fixed upon the shaft a ratchet-wheel 12, designed for engagement by a spring-pawl 13, attached to the member 1 and serv-

ing to lock the shaft against backward rotation.

Riveted or otherwise secured to the member 1 adjacent its rear end is a strap or band 14, designed for application around the body of the patient at a point beneath the armpits, while threaded through the openings 6 is a tension element or band 15, adapted to engage around the ankle and foot of the injured limb and to be wound upon the shaft 9 for properly stretching the limb, there being attached to the member 1 at an appropriate point between its ends a retaining strap or band 16, designed for engagement around the limb at the thigh and serving to hold the splint against longitudinal movement.

In practice when the device is applied for use, as in Fig. 1, it will be held securely in place owing to the application of the belt 14 around the body and the band 16 around the thigh portion of the limb, whereby tension exerted upon the limb through the medium of the strap or element 15 will effectually stretch the injured member, upward movement of the splint being prevented during the stretching operation by means of the band 16. In applying tension to the injured member the strap 15 is looped around the ankle and foot, as illustrated, and the shaft 9 rotated, through the medium of the handle 11, for winding the strap and exerting the proper tension. It will be observed that after the required tension has been exerted the shaft will be locked against backward rotation by engagement of the pawl 13 with ratchet 12, and, furthermore, that when the conditions are such as to require it the band 15 may be threaded through the opening 7 for exerting a lateral and longitudinal tension on the limb.

From the foregoing it is apparent that I produce a simple device admirably adapted for the attainment of the ends in view, it being understood that in attaining these ends minor changes in the details herein set forth may be resorted to without departing from the spirit of the invention.

Having thus fully described my invention, what I claim as new is—

In a device of the class described, a longitudinally-extended rigid member, a box provided at the forward portion thereof and having an opening, bearing-arms attached to and projecting forwardly from the box, a shaft journaled for rotation in said arms at a point in advance of the box, a tension-strap attached to and to be wound upon the shaft,

said strap being adapted to play through the opening and to be engaged with the limb to be treated, a ratchet fixed upon the shaft a pawl designed for engagement with the  
5 ratchet to lock the shaft against movement in one direction, and a crank-handle fixed upon and for operating the shaft.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS H. SHAFER.

Witnesses:

JOHN CLIFFORD,  
G. W. WOOD.