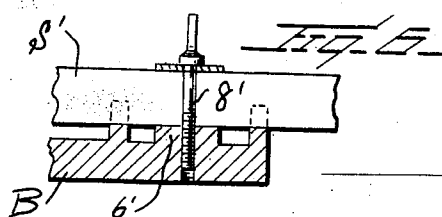
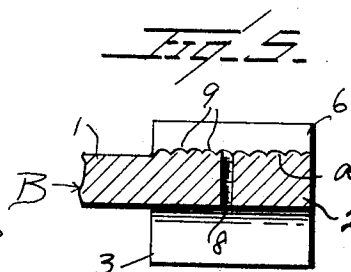
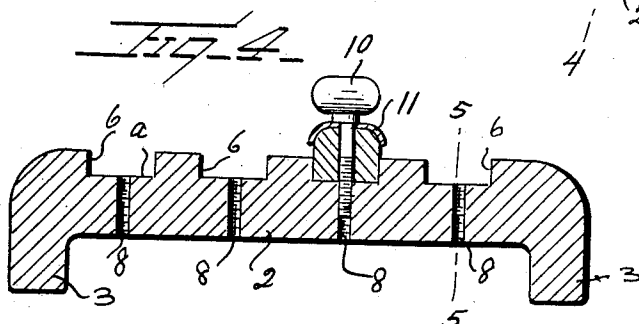
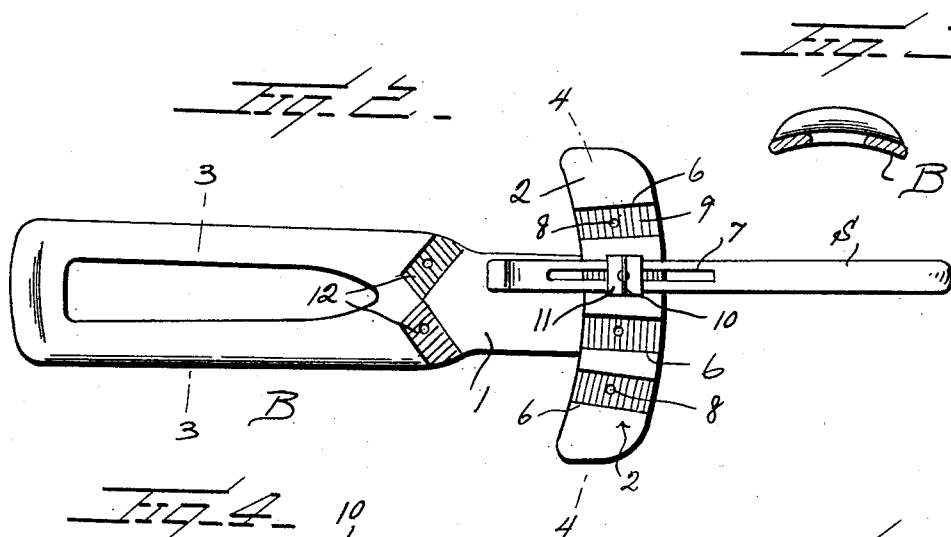
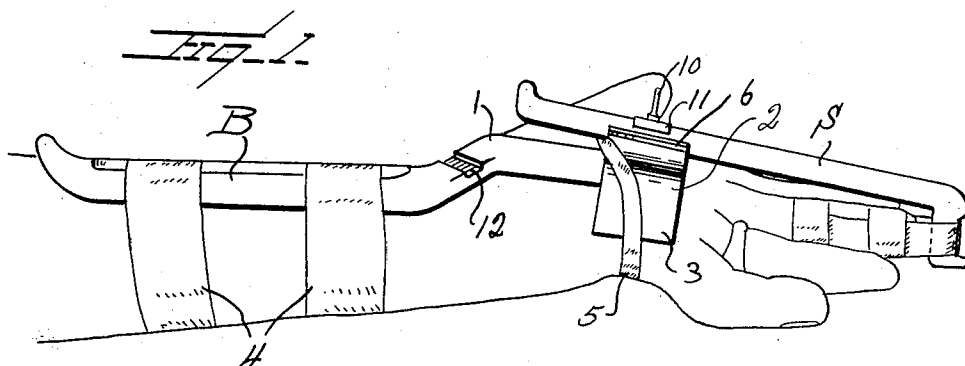


A. L. COTTON.
SURGICAL SPLINT.
APPLICATION FILED SEPT. 25, 1920.

1,389,741.

Patented Sept. 6, 1921.



INVENTOR.

A. L. Cotton

BY

Watson E. Coleman

ATTORNEY.

UNITED STATES PATENT OFFICE.

ARTHUR LAMBERT COTTON, OF SAYRE, PENNSYLVANIA.

SURGICAL SPLINT.

1,389,741.

Specification of Letters Patent.

Patented Sept. 6, 1921.

Application filed September 25, 1920. Serial No. 412,680.

To all whom it may concern:

Be it known that I, ARTHUR LAMBERT COTTON, a citizen of the United States, residing at Sayre, in the county of Bradford and State of Pennsylvania, have invented certain new and useful Improvements in Surgical Splints, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in surgical splints and has relation more particularly to a device of this general character especially designed and adapted for use in connection with the extremities of the human body and more particularly the phalanges, and it is an object of the invention to provide a device of this general character embodying novel and improved means whereby the requisite traction may be imposed on the fractured member.

Another object of the invention is to provide a novel and improved device of this general character which may be readily and conveniently applied in desired position and which may be employed in connection with one or more of the digits at an extremity of a person.

An additional object of the invention is to provide a novel and improved device of this general character which, in addition to use in connection with the digits, is also adapted for use in connection with the fracture of any bone in a hand or other extremity of the body other than the phalanges.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved surgical splint whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in side elevation of a splint constructed in accordance with an embodiment of my invention and in applied position.

Fig. 2 is a view in top plan of my improved device as disclosed in Fig. 1.

Fig. 3 is a detail sectional view taken substantially on the line 3—3 of Fig. 2.

Fig. 4 is an enlarged sectional view taken substantially on the line 4—4 of Fig. 2.

Fig. 5 is a sectional view taken substantially on the line 5—5 of Fig. 4, and

Fig. 6 is a fragmentary view illustrating a modified form of invention.

As disclosed in the accompanying drawings, B denotes an elongated body member comprised in my improved splint and which has one end portion of a cross sectional configuration to snugly engage the fore arm of a person immediately adjacent the wrist. The forward end portion of the body B is offset, as at 1, to permit said forward end portion to overlie the palm of the hand. The forward end portion of the body B is provided with a cross head 2 extending equidistantly beyond the opposite sides of the body B and terminating in the upstanding wings or lugs 3 adapted to overlie the side portions of the hand.

The body B may be effectively employed in connection with a fracture of the bones within the hand proper or at the wrist and said member is maintained in applied position through the medium of relatively broad strips 4 of adhesive tape wrapped around the fore arm and the portion of the body B in contact therewith and by the adhesive strap 5 disposed around the palm portion of the hand and the portion of the body B in contact therewith.

The back face of the cross head 2 at points spaced longitudinally thereof is provided with the guides 6 positioned substantially in alinement with the fingers of the hand and which guides 6 may be grooves or channels, as particularly illustrated in Fig. 2, or may comprise the sleeve 6', as illustrated in Fig. 6.

An elongated splint S is adapted to coact with each of the guides 6 and said splint is positioned in accordance with the finger to be treated and a splint S is adapted to be used in connection with each fractured finger, when necessary.

Each of the splints S is provided with an elongated and longitudinally directed slot through which is directed a clamp screw 8 in threaded engagement with the base wall a of a guide 6. Said base wall a of each of the guides 6 is provided with transversely directed ribs or corrugations 9 to facilitate the maintenance of the splint S in desired position.

The clamping screw 8 is provided with a head 10 which contacts with a clamping

washer 11, said washer being substantially U-shaped in form and straddling the splint.

In the form of invention illustrated in Fig. 6, the splint S is held in desired longitudinal adjustment by the clamping screw 8' threaded through a sleeve 6' and having requisite engagement with the splint S'.

In practice, after the body B has been properly applied to the hand and the adjacent portion of the fore arm, as hereinbefore explained, adhesive tape is secured along the sides of the fractured finger and looped around the depending lug or hook member carried by the outer end portion of the co-acting splint S. While this is being done, the splint S is clamped against movement relative to the body B with the lug or hook member about one-half inch beyond the tip of the finger. After the tape has been properly applied to the finger and to the lug or hook member, the screw is loosened and the splint S forced outwardly until the requisite traction is obtained, whereupon the screw is adjusted to firmly clamp the splint S against movement relative to the body B.

It is to be understood that the splint S employed is to be of a length in accordance with the finger of the hand with which it co-acts.

My improved device is also adapted for use in connection with the thumb of a hand and for which reason the offset portion 2 of the body B at opposite sides is provided with the guideways 12 disposed on a requisite incline with respect to the longitudinal axis of the body B and each of which guideways is adapted to operatively engage in the manner as hereinbefore set forth a splint for proper attachment to the thumb to impose the desired traction thereon. A guide 12 is arranged at opposite sides of the body B in order that a single device may be employed with equal facility and convenience in connection with the right hand or the left hand.

It is preferred that the body B and each of the splints S and the parts concomitant thereto be made of aluminum and of such form whereby an X-ray will effectively penetrate the splint or the body in order to determine whether or not the bones have proper union.

From the foregoing description it is thought to be obvious that a surgical splint constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in

carrying out my invention in practice except as hereinafter claimed.

I claim:

1. A device for imposing traction on a fractured digit comprising an elongated body adapted to snugly contact with an extremity of the human body and provided with guides positioned adjacent the inner ends of the digits of an extremity of the human body to which the device is applied, and a splint adjustably connected with the body and extending lengthwise of and terminating in advance of the digit to be treated, the forward end portion of the splint being provided with a member overlying the tip of said digit.

2. A device for imposing traction on a fractured digit comprising an elongated body adapted to snugly contact with an extremity of the human body and provided with guides positioned adjacent the inner ends of the digits of an extremity of the human body to which the device is applied, and a splint adjustably connected with the body and extending lengthwise of and terminating in advance of the digit to be treated, the forward end portion of the splint being provided with a member overlying the tip of said digit, said member constituting a hook.

3. A device for imposing traction on a fractured digit comprising an elongated body adapted to snugly contact with an extremity of the human body and provided with guides positioned adjacent the inner ends of the digits of an extremity of the human body to which the device is applied, a splint adjustably connected with the body and extending lengthwise of and terminating in advance of the digit to be treated, the forward end portion of the splint being provided with a member overlying the tip of said digit, and means for locking the splint against endwise movement relative to the body.

4. A device for imposing traction on a fractured digit comprising an elongated body adapted to snugly contact with an extremity of the human body and provided with guides positioned adjacent the inner ends of the digits of an extremity of the human body to which the device is applied, and a splint adjustably connected with the body and extending lengthwise of and terminating in advance of the digit to be treated, the forward end portion of the splint being provided with a member overlying the tip of said digit, the opposite end portions of the body having wings to overlie the sides of the extremity of the human body to which the device is applied.

In testimony whereof I hereunto affix my signature.

ARTHUR LAMBERT COTTON.