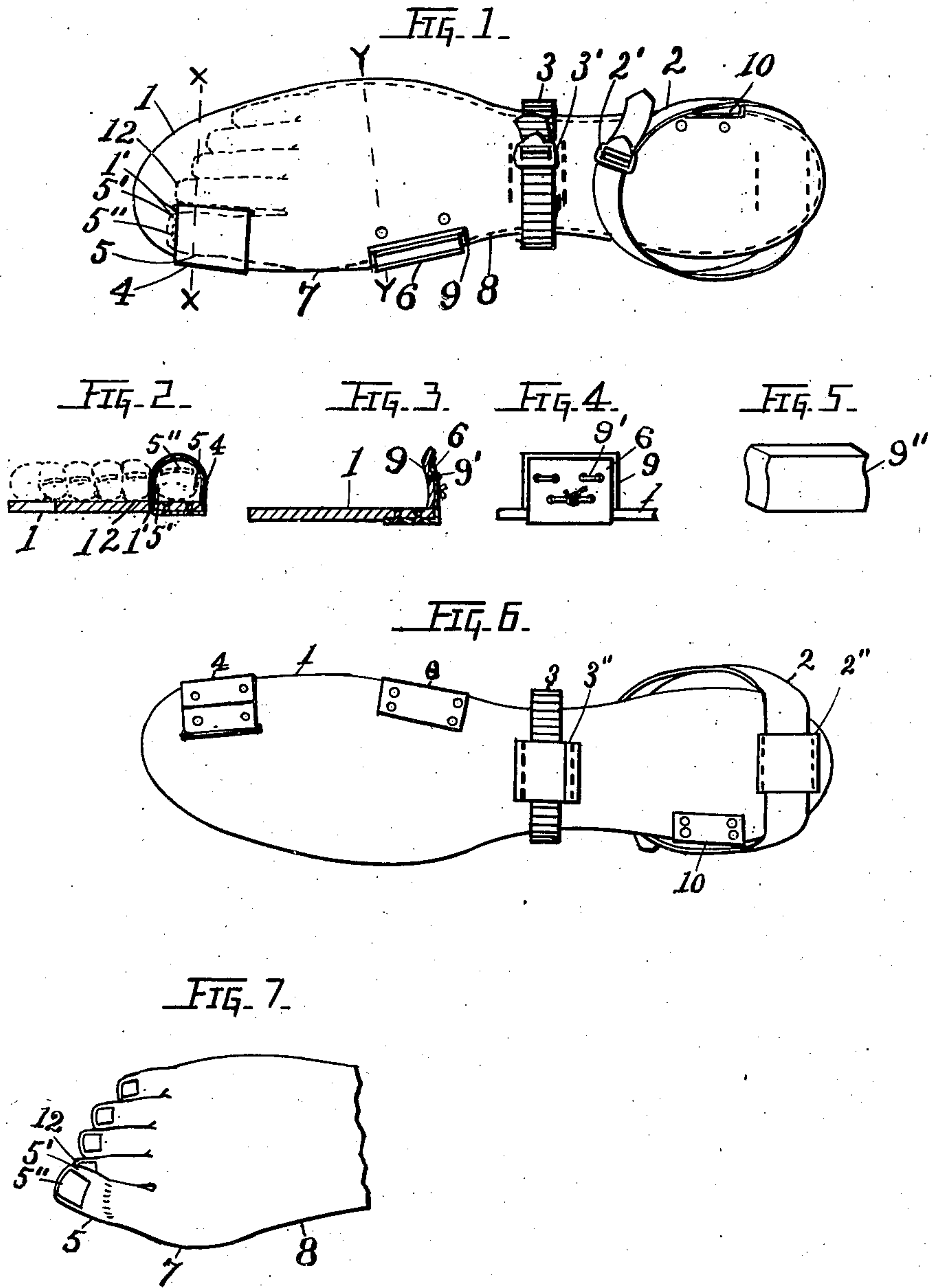


A. REED.  
 SURGICAL SANDAL FOR TREATMENT OF BUNIONS.  
 APPLICATION FILED OCT. 31, 1914.

1,167,019.

Patented Jan. 4, 1916.



WITNESSES:

*John J. Hinton*  
*Egbert L. Rees*

INVENTOR.  
*Adam Reed*

BY  
*George W. Hinton*  
 ATTORNEY.



# UNITED STATES PATENT OFFICE.

ADAM REED, OF BOZEMAN, MONTANA.

## SURGICAL SANDAL FOR TREATMENT OF BUNIONS.

1,167,019.

Specification of Letters Patent.

Patented Jan. 4, 1916.

Application filed October 31, 1914. Serial No. 869,601.

*To all whom it may concern:*

Be it known that I, ADAM REED, a citizen of the United States, residing at Bozeman, in the county of Gallatin and State of Montana, have invented certain new and useful Improvements in Surgical Sandals for Treatment of Bunions, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in surgical sandals for treatment of bunions, the objects of which are, first; to provide a surgical appliance of this class, by the use of which enlargement of the great toe joint, commonly known as a bunion, is reduced, and the great toe is gradually brought back to its normal position, second; to provide adjusting appliances for the sandal, whereby the strain on the enlarged joint is so adjusted, from time to time, during treatment of the same, that the great toe is gradually brought back to normal position without causing pain or an appreciable amount of discomfort to the wearer of the appliance, third;—to so construct the toe holding means, that the toe next to the great toe, can neither aggravate nor cause an ingrown toe nail on the great toe of the wearer, as is frequently done from pressure and rubbing of the adjacent surfaces of said toes.

I attain these objects by the devices illustrated in the accompanying drawing, in which:—

Figure 1 is a top plan of the sandal, the foot of the wearer being indicated by dotted lines. Fig. 2 is a vertical section on the line X X, seen in Fig. 1, looking toward the right. Fig. 3 is a similar section, on the line Y Y, seen in Fig. 1, showing details of the foot stop. Fig. 4 is a side elevation of the foot stop. Fig. 5 is a view in perspective of a thick foot stop pad. Fig. 6 is a bottom plan of the sandal. Fig. 7 is a top view of a portion of a foot, showing a deformed and diseased great toe joint, before application of the sandal.

My invention, in its preferred form, comprises a sole 1, formed preferably of sole leather, said sole having a slot 1' formed through the toe portion thereof. Said sole is provided with heel strap 2 and shank strap 3. Said straps are provided with securing means 2' and 3', respectively, whereby said sandal is adjustably secured on the foot of a person. Said straps are preferably

formed of elastic web, while said strap securing means may be either flat buckles, as shown, or any other well known strap securing devices. Said straps pass through flat loops 2'' and 3'', secured on the bottom of the heel and shank portions, respectively, of sole 1, as seen in Fig. 6.

Great toe holder 4 is preferably formed of rigid sheet metal and has all of its surfaces which are above sole 1, covered with elastic material, such as felt, flannel, or the like. One of the edge portions of said holder is passed downward through slot 1', and is bent flat beneath sole 1, and riveted thereon, as seen in Fig. 2. The other edge of said holder is passed downward against the edge of said sole, is also bent flat therebeneath, and riveted thereon, thus forming a semicircular sleeve, adapted to receive the great toe 5, of a person.

Foot stop 6 is preferably formed of rigid sheet metal, and is placed against the inner edge of sole 1, at a point just back of enlarged joint 7. The lower edge portion of said foot stop is bent flat beneath the bottom of said sole, and riveted thereon. Said stop is formed to fit the inner edge of foot 8, and is provided with cushion 9, which is held against the operative surface of said stop, by stitches 9', formed preferably of strong thread, passed through said stop and pad.

Heel stop 10 is secured on the outer edge of the heel portion of sole 1, and except that it is adapted to fit the side surface of the heel of a person, is like the described foot stop, both in construction and operation, and is therefore neither shown in detail, nor fully described. Cushion 9'', (seen in Fig. 5,) is of greater thickness than cushion 9, and is used in place of the latter, as hereinafter described.

In application and use, buckles 2' and 3' are unfastened, great toe 5 is inserted in holder 4, foot 8 is forced into the position seen in Fig. 1, thereby straightening toe 5 from the position seen in Fig. 6, and holding it in the position seen in Fig. 1, after which straps 1 and 2 are adjustably secured as desired, upon the instep of the wearer. While the sandal is thus worn, it will be understood, that the fleshy portion or flap 5' of toe 5, presses against the side of holder 4, with the foot 8 held in position by stops 6 and 10. After the described sandal has been thus worn for a sufficient length of time,



which is determined by the lightness of said pressure of toe 5; the sandal is removed from the foot 8, stitches 9' are cut, they and pad 9 are removed from foot stop 6, and a thicker pad 9'', (see Fig. 5,) is stitched on said foot stop. If so desired, the padding of heel stop 10, may be similarly changed. It will be understood, that the thicker pad holds foot 8, (which afterward is placed as previously described,) in a position, clockwise to the position shown in Fig 1, while toe 5 is held in the previously described position, by toe holder 4, thus causing said toe to be held more nearly in line with foot 8. These adjustments are repeated from time to time, until toe 5 has thereby been caused to set, or grow into its normal position, after which the described sandal is no longer worn. Said sandal may be provided with a sole of sufficient thickness to be worn without a shoe or any other covering for the foot 8, other than hosiery, (not shown,) especially formed with a bifurcated toe portion; or be adapted to be worn in an ordinary shoe; in which latter case straps 2 and 3, with their securing means 2' and 3' are removed from the sandal, and the use of same is dispensed with.

By referring to Fig. 6, it will be seen and understood, that in afflictions of this character, great toe 5 overlaps the adjacent toe 12, and that in walking, its fleshy portion, or flap 5' is pressed downward upon said adjacent toe; thereby causing said flap to be pressed against the adjacent edge of great toe nail 5'', which causes said nail to cut into said flap and also said edge of said nail

to turn downward and form what is termed an ingrown nail. These actions are repeated so frequently in walking, that aggravation of the thus cut flap is heightened, ulceration of the flap ensues, and the same becomes a painful and serious affliction.

It will be seen and understood, by referring to Fig. 2, that toe holder 4 prevents the upward pressure of toe 12 against said flap, and thus assists in relieving said affliction, and also while worn, prevents the forming of an ingrown nail on great toe 5.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

A surgical sandal, comprising a sole adapted to cover the entire bottom of the foot of a person, said sole being formed of sole leather and the like; securing means detachably secured on said sole whereby the latter is detachably secured on said foot; a rigid sleeve secured to the toe portion of said sole said sleeve being adapted to receive and hold the great toe of said foot in natural alinement with said sole; holding means for holding said foot against lateral movement on said sole; and changeable pads of varying thicknesses detachably secured on the operative surfaces of said holding means for laterally adjusting the position of said foot.

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

ADAM REED.

Witnesses:

JOSEPH O. THOMPSON,  
ROBERT L. FETTERS.