A. ROTH.

FRACTURE APPARATUS.

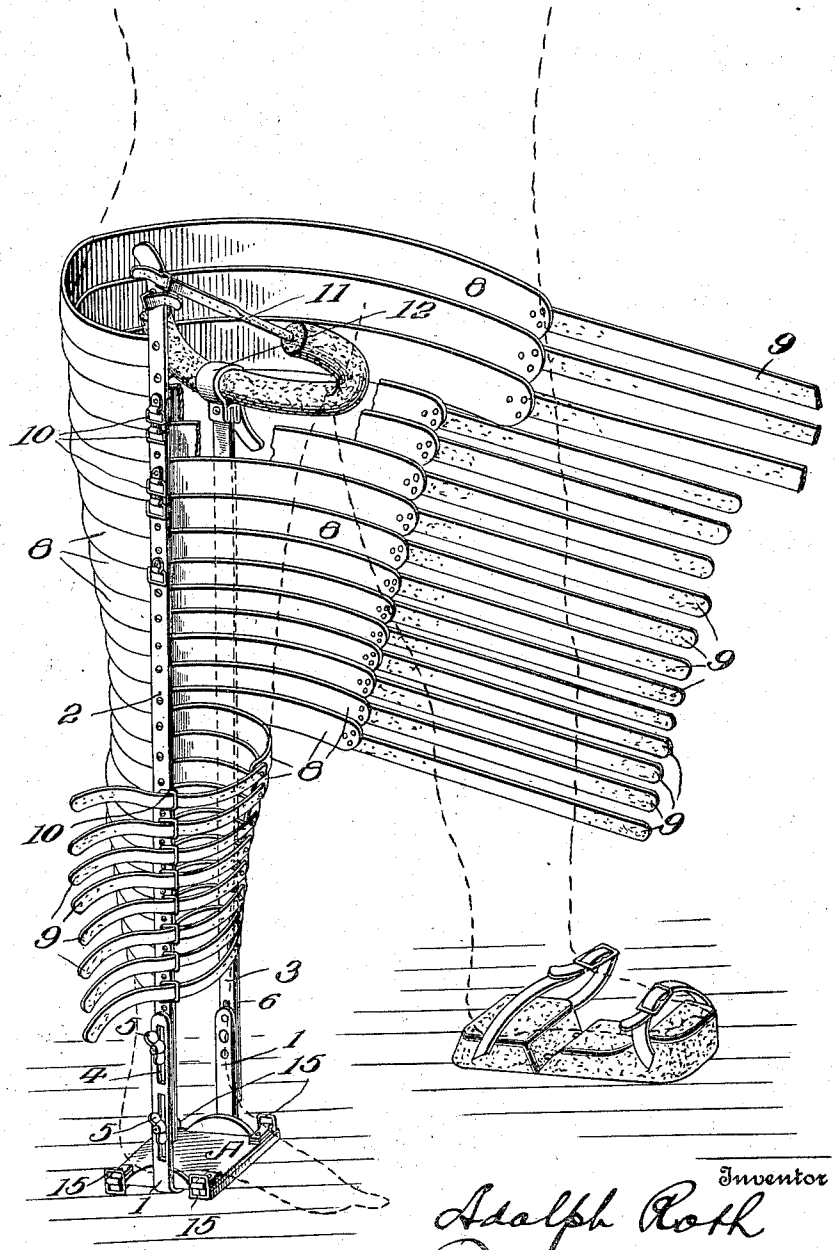
APPLICATION FILED MAR. 30, 1915.

1,226,013.

Patented May 15, 1917.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

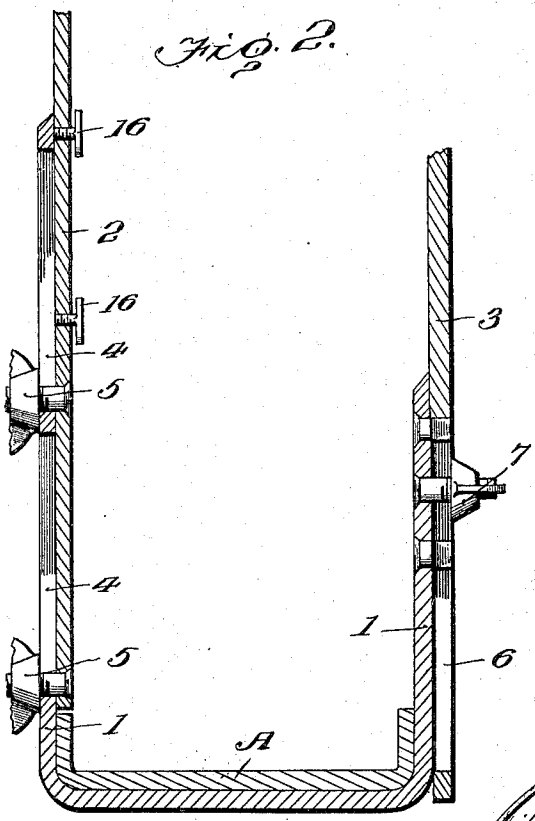
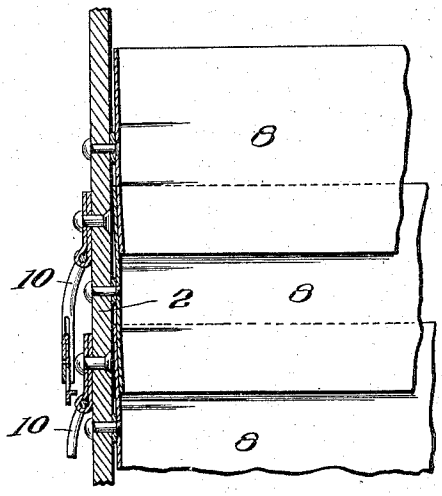


Fig. 3.



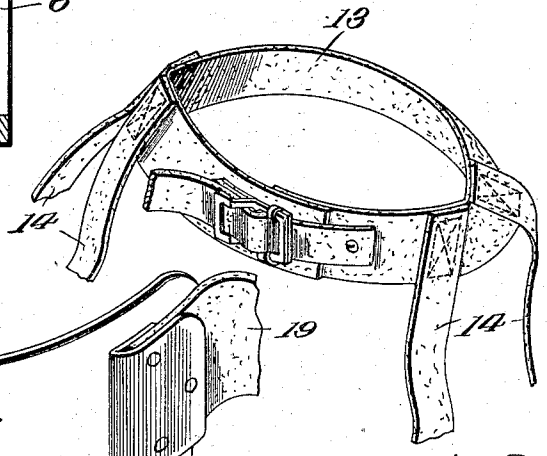


Fig. 5.

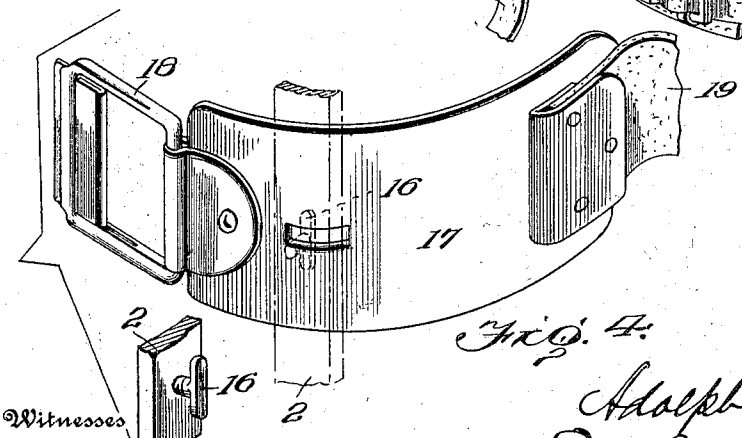


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

ADOLPH ROTH, OF NEW YORK, N. Y.

FRACTURE APPARATUS.

1,226,013. Specification of Letters Patent. Patented May 15, 1917.

Application filed March 30, 1915. Serial No. 18,147.

To all whom it may concern:

Be it known that I, ADOLPH ROTH, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fracture Apparatus, of which the following is a specification.

This invention relates to an improvement in fracture apparatus.

The invention is intended to be used as a substitute for plaster casts and the like, which are used in case of fractures of the limb.

The object is to provide means which will allow for the swelling of the limb, preventing dangerous constrictions which promptly follow fractures, and delay the application of an enveloping permanent dressing until it has subsided. The said means is capable of being adjusted and changed to the circumference that the injured limb requires, and by varying the tension thereof with the padding which is applied around the limb, the control of hemorrhage is facilitated by pressure at any desired point.

Also, by releasing the means at the level of the lesion, the infected wounds of compound fractures are rendered accessible to dressing and drainage without its being necessary to disturb the suspension and traction exerted on the limb.

With the use of a plaster cast, which is generally customary in cases of fracture, it is necessary that the wearer remain in an incumbent position for weeks. With this apparatus, it has been demonstrated and proven that in cases of fracture, the limb can be dressed and bandaged, and then the apparatus applied, and after the application of the apparatus to the fractured limb, the injured person can move about and walk, no weight or pressure whatever being brought to bear upon the injured member when walking.

The invention consists of certain other novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings:—

Figure 1 is a perspective view showing some of the parts in position as applied to a limb, and others in the position assumed before application;

Fig. 2 is a detail vertical sectional view through the two bars and foot plate;

Fig. 3 is a detail sectional view showing the manner of applying the bands to the external bar;

Fig. 4 is a perspective view showing the manner of applying one of the removable bands to the external bar; and

Fig. 5 is a perspective view of the traction or ankle straps.

A, represents a base or foot plate, to which is connected members or posts 1, 1. Connected to these members are two bars. An external bar 2 is connected to one of the members 1, and an internal bar 3 is connected to the other member. One of the members is provided with an elongated slot 4, through which set screws 5 extend for connecting the external bar thereto, and permitting of vertical adjustment of said bar. The internal bar 3 is provided with an elongated slot 6, through which set screws 7 connected to the inner post member 1 extend for adjustably connecting the said internal bar to the post or member.

Pivotally mounted upon the external bar are a plurality of bands 8, 8. The edges of the adjacent bands overlap, that is, each band has one edge overlapping an adjacent band, and the other edge underlapping.

These bands are preferably made of metal, and are provided at their ends with suitable tabbing such as web fabric. Pivotally connected to the external bar 2, and intermediate the pivotal connections of the bands, are buckles or fasteners 10, 10. The ends of the tabs 9 are adapted to be connected to and drawn through the fasteners for binding the band upon the limb for holding the fractured member in place after it has been set. These bands are curved to accommodate the fullness of the leg, to the posterior surface of which they are applied in tile fashion. The bands are wrapped around the waist, pelvis, and limb, and powerful pressure can be exerted at any level, while the bands over a wound can be taken down for the purpose of draining or dressing, and the other remain fixed.

To support the perineum, a long strap 11,

on which there is a tubular rider of padded chamois skin to be adjusted in the crutch, is looped around the thigh, and fastened to the external bar 2 to the uppermost fastening. To prevent it from slipping down the leg, a small strap 12 passes over the strap 11, and is attached to the upper end of the internal bar 3. The bands at the level of the suspended perineum strap pass readily under or over, as is necessary.

Traction is obtained by a collar 13, which is fastened to the ankle straps 14, extending therefrom to buckles 15 connected to the base 1.

This apparatus can be used on either limb, by causing the bands and buckles to be revolved a half revolution, or 180°, and by means of the screws 5 and 7, the apparatus can be lengthened and shortened through the adjustment between the bars 2 and 3 and the posts or members 1. When it is desirable to extend the bars, it is often necessary to provide additional bands to be passed around the limb above the ankle. To provide for such an exigency, studs 16 are provided along the inner surface of the bar 2 to which are connected bands 17, which are provided with elongated slots, whereby the bands can be connected to the studs by inserting the studs 16 in the bands and turning the bands a quarter revolution. Buckles 18 are connected to the bands, and tabs 19 are connected to the other terminals of the bands for fastening the metallic bands around the limb.

These bands are preferably made of aluminum, the external bar 2 reaches well above the pelvis, and can be bent to hold the limb in abduction or adduction if desired, while the internal bar is made to reach just to the perineum.

This apparatus is desired to meet emergencies and complicated conditions readily and easily. It is to be used in fractures, gun shot fractures, gun shot wounds, luxations, and dislocations.

Its ease in manipulation and adaptability to either lower extremity and moderate weight are its salient features. It may serve as a temporary splint instead of a spica, or it may be used as a permanent splint, depending upon the practicability of recumbent or ambulatory treatment.

I claim:—

1. In a fracture apparatus, the combination with a support, of external and internal members connected to the support and located on each side of the injured limb, a plurality of bands connected to the external member, and means on said external member to which the terminals of the bands are connected, a perineum strap connected to said external member, and means for connecting said strap to the internal member.

2. In a fracture apparatus, the combination with a support, of external and internal members connected to the support and located on each side of the injured limb, a plurality of reversible bands connected to the external member, and reversible means on said external member to which the terminals of the bands are connected, a perineum strap connected to said external member, and means for connecting said strap to the internal member.

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

ADOLPH ROTH.

Witnesses:
RICHARD KORACS,
EUGENE J. GROSS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."