

C. WEST & R. BERNARD.
MECHANICAL SURGERY APPLIANCE.
APPLICATION FILED JUNE 9, 1913.

1,116,773.

Patented Nov. 10, 1914.
2 SHEETS-SHEET 1.

Fig. 1.

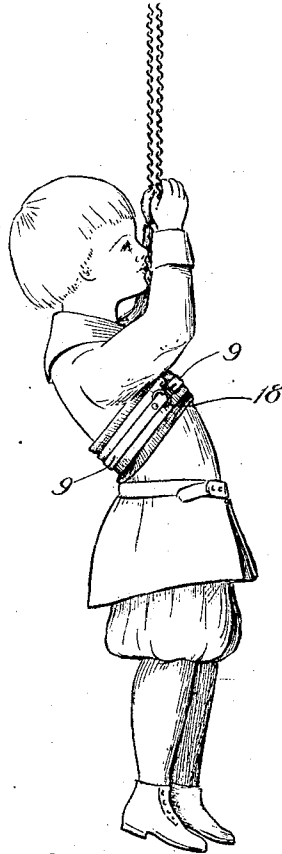


Fig. 2.

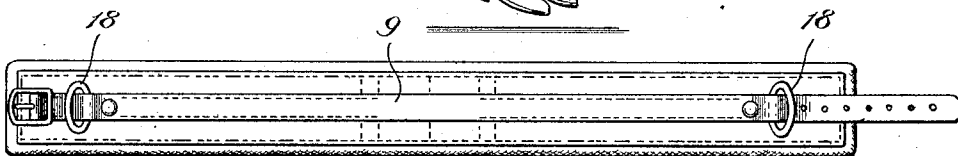
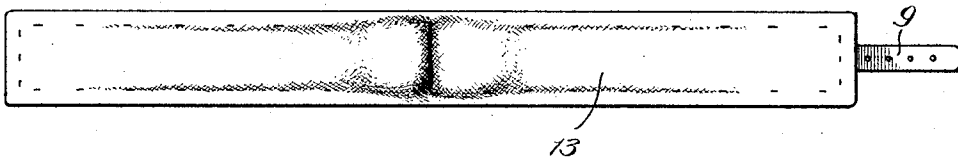


Fig. 3.



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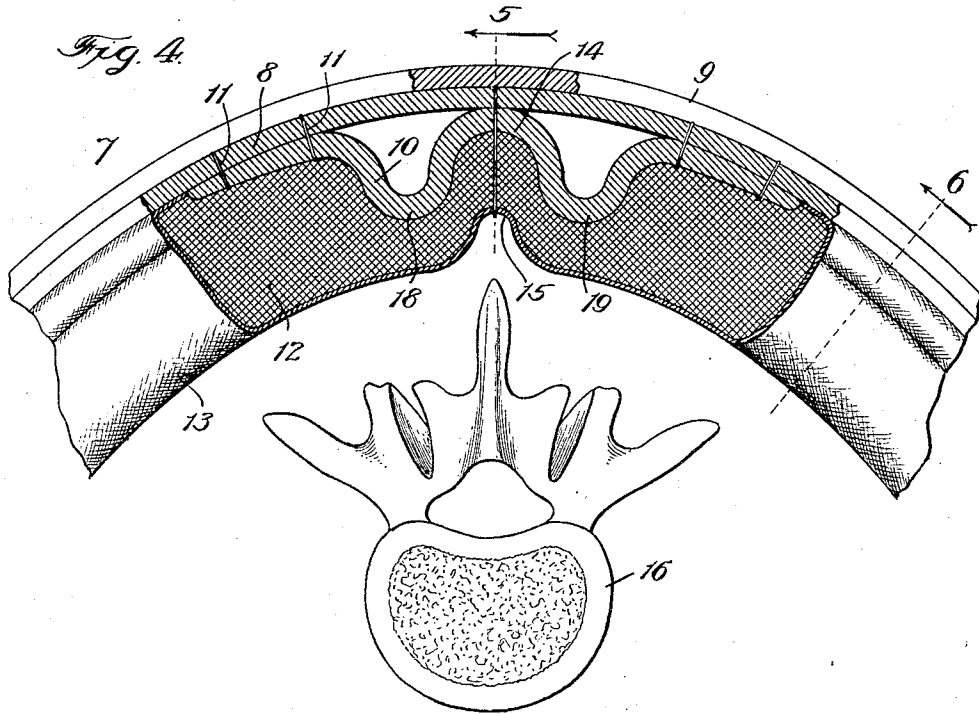


Fig. 5.

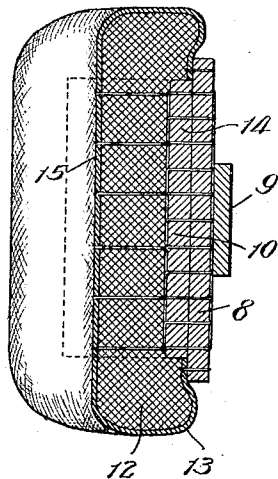
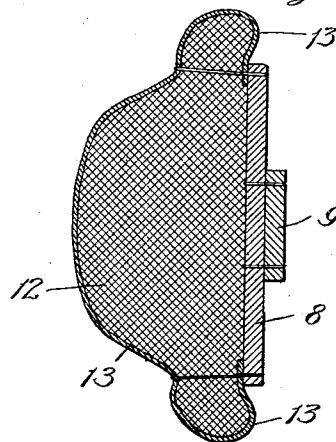


Fig. 6.



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UNITED STATES PATENT OFFICE.

CHARLOTTE WEST AND ROY BERNARD, OF CHICAGO, ILLINOIS.

MECHANICAL SURGERY APPLIANCE.

1,116,773.

Specification of Letters Patent.

Patented Nov. 10, 1914.

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To all whom it may concern:

Be it known that we, CHARLOTTE WEST and ROY BERNARD, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Mechanical Surgery Appliances, of which the following is a specification.

It has been discovered that certain diseases, one of which is infantile paralysis, may be successfully treated by producing an extension of the spinal column to substantially the limit of its normal capability and to some extent the spinal cord, thereby causing normal physiological functioning of the tissues involved. In the treatment of different diseases amenable to this form of treatment, the elongation of the spinal column should take place at different vertebrae, in the case of infantile paralysis it being found most effective to elongate the lower end of the spinal column beginning with the twelfth dorsal vertebra.

Our object is to provide a simple, economical and reliable appliance by which the treatment above referred to may be practised without danger of injury to the spinal column.

Referring to the accompanying drawing—
Figure 1 is a view in elevation showing our invention in use, the support to which the supporting-chains for the belt are attached being broken away. Fig. 2 is a face view of the belt (shown in flat condition) forming a part of the structure illustrated in Fig. 1. Fig. 3 is a similar view of the reverse side of the belt. Fig. 4 is an enlarged broken longitudinal sectional view of the belt, together with a sectional view of the spinal column, the latter and the belt being shown in the relative positions assumed by them when the belt is fastened in place about the body of the patient. Fig. 5 is a section taken at the line 5 on Fig. 4 and viewed in the direction of the arrow; and Fig. 6, a section taken at the line 6 on Fig. 4 and viewed in the direction of the arrow.

In carrying out our invention in the preferred manner we provide a belt-section 7 adapted to be strapped about the body of the patient at the point at which it is desired that the elongation of the spinal column take place, and means for supporting the belt in such position as will cause the patient to be wholly suspended by the belt.

The belt-section 7 may be of any suitable

form and of any suitable material, it being desirable that it be of such form that it will not injure the spinal column.

As we prefer to construct the belt it is formed of a body-section 8 of leather, said body-section being of a length sufficient to cause it to approximately encircle the body of the patient, a buckle-equipped-strap 9 being provided on the outer side of the body-section 8 to permit it to be fastened in position on the patient. Secured to the inner side of the body-section 8 to extend midway between the ends of the latter, is a strip 10 of relatively stiff leather which is bent into convoluted form, as represented (Fig. 4) the strip 10 being secured to the body-section 8 at those points where it lies against the latter, as by stitching it at 11, the strip 10 being preferably so formed as to cause its convoluted portion to be spaced from the body-section 8 a greater distance at its top than at the bottom of said section 8 and thus taper downwardly. Padding 12 of any suitable material, such as wool, extends over the inner side of the body-section 8 and strip 10, as represented, and is held in place by a covering 13 of any suitable material, such as cloth, which is stitched to the section 8 as indicated at 14.

The strip 10 is so formed as to present a recessed section 14 about midway between the ends of the section 8, opposite to which the padding 12 is slightly depressed, as indicated at 15, for a purpose hereinafter explained.

In using the appliance it is fastened about the body of the patient in position to cause the posterior process of the spinal column to oppose the recessed portion 14 of the strip 10 substantially as represented in Fig. 4, the spinal column being represented at 16, the belt being so positioned as to cause it to embrace the body of the patient immediately above the point at which elongation of the spinal column is to be effected. After positioning the belt as described, the strap 9 is buckled about the patient and the patient then suspended from the belt in inclined position substantially as represented for the desired length of time by any suitable means, as for example, by chains 17, depending from any suitable support and fastened to rings 18 on the belt, as represented in Fig. 1, these rings being so located as shown as to cause the belt to incline downwardly and rearwardly when suspend-

ing a patient as represented in Fig. 1, in practice these rings preferably being positioned to extend opposite the mammary lines of the patient.

5 It will be understood from the foregoing that by constructing the appliance in accordance with the preferred form of our invention, the portion of the spinal column which is most susceptible to injury, viz., the
10 posterior process thereof is protected as it extends into a recess in the belt which causes the weight of the patient to be borne by those portions of the spinal column which extend at opposite sides of the posterior
15 process thereof. Furthermore by thus forming the belt there is a tendency to the stimulation of the posterior branches of the spinal nerves, viz., those at the opposite sides of the posterior process, due to the
20 provision of the sections 18 and 19 of the strip 10, against which the transverse process of the spinal column bear, this last referred to feature also being of importance, as it prevents undue pressure against the
25 ribs of the patient.

While we have illustrated and described a particular embodiment of our invention, we do not wish to be understood as intending to limit it thereto, as the same may be variously modified and altered without departing from the spirit of our invention.

What we claim as new and desire to secure by Letters Patent is—

1. An appliance for the purpose set forth,
35 comprising a belt-section adapted to be strapped to the body of the patient, and means directly connected with said belt-section for suspending the latter from a suitable support in rearwardly downwardly
40 inclined position while supporting a patient, said belt containing a recess on its inner side to oppose the posterior process of the spinal column, for the purpose set forth.

2. An appliance for the purpose set forth,
45 comprising a belt-section adapted to be strapped to the body of the patient, and means directly connected with said belt-section

for suspending the latter from a suitable support in rearwardly downwardly inclined position while supporting a patient, 50 said belt being formed on its inner side with spaced sections affording a recess therebetween, for the purpose set forth.

3. An appliance for the purpose set forth, comprising a belt-section adapted to be 55 strapped to the body of the patient, and means directly connected with said belt-section for suspending the latter from a suitable support in rearwardly downwardly inclined position while supporting a patient, 60 said belt being formed with a body-section provided on its inner side with a recess to oppose the posterior process of the spinal column and padding confined on said body-portion, for the purpose set forth. 65

4. A belt for the purpose set forth formed of a body-section, a section of relatively stiff material thereon of convoluted form affording a recess and padding extending 70 over said sections.

5. A belt for the purpose set forth formed of a body-section of leather, a strip of relatively stiff leather secured thereto and of convoluted form and affording a recess and padding extending over said section and 75 strip.

6. A mechanical surgery appliance comprising a belt adapted to be fastened about the body of the patient, and means directly 80 connected with said belt at points at opposite sides of the median line of the body substantially coincident in vertical planes with the mammary lines for suspending the belt from a suitable support whereby the belt is caused to incline rearwardly and 85 downwardly while supporting the patient without lateral strain, for the purpose set forth.

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In the presence of—
O. C. AVISUS,
N. B. DEARBORN.