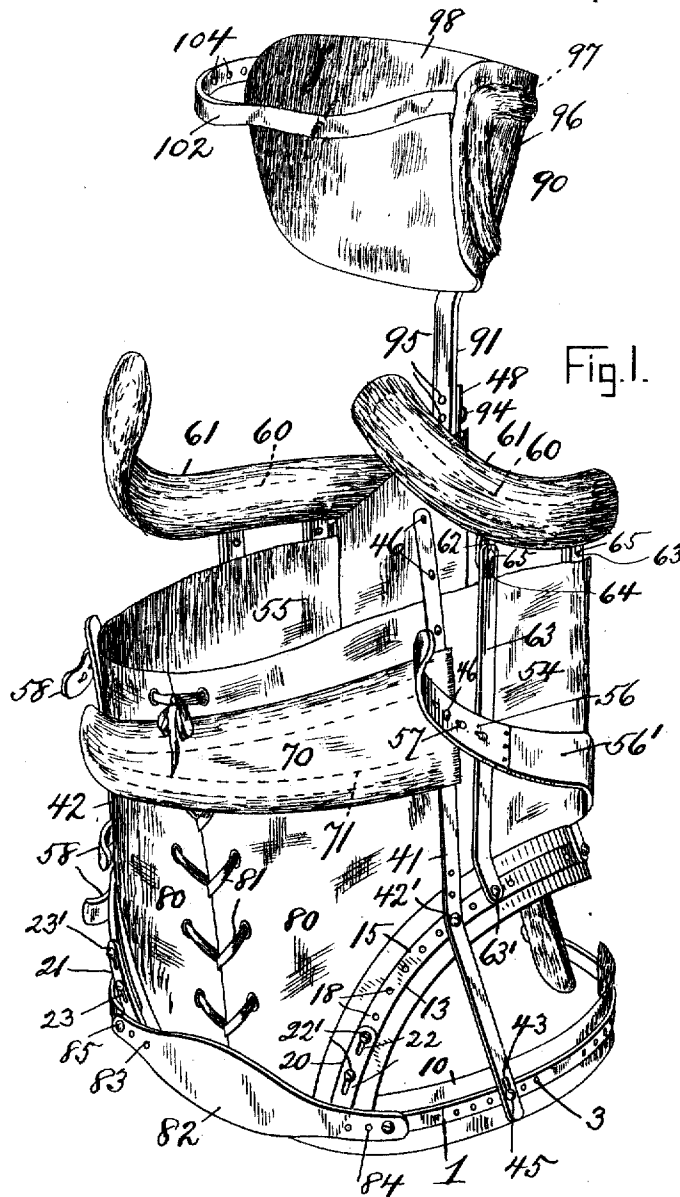


L. ROTH.
ORTHOPEDIC DEVICE.
APPLICATION FILED MAR. 17, 1909.

954,005.

Patented Apr. 5, 1910.

2 SHEETS—SHEET 1.



Inventor

Louis Roth.

By *C. A. Brandenburg.*
Attorney

Witnesses

C. H. Reichenbach
M. H. Darg.

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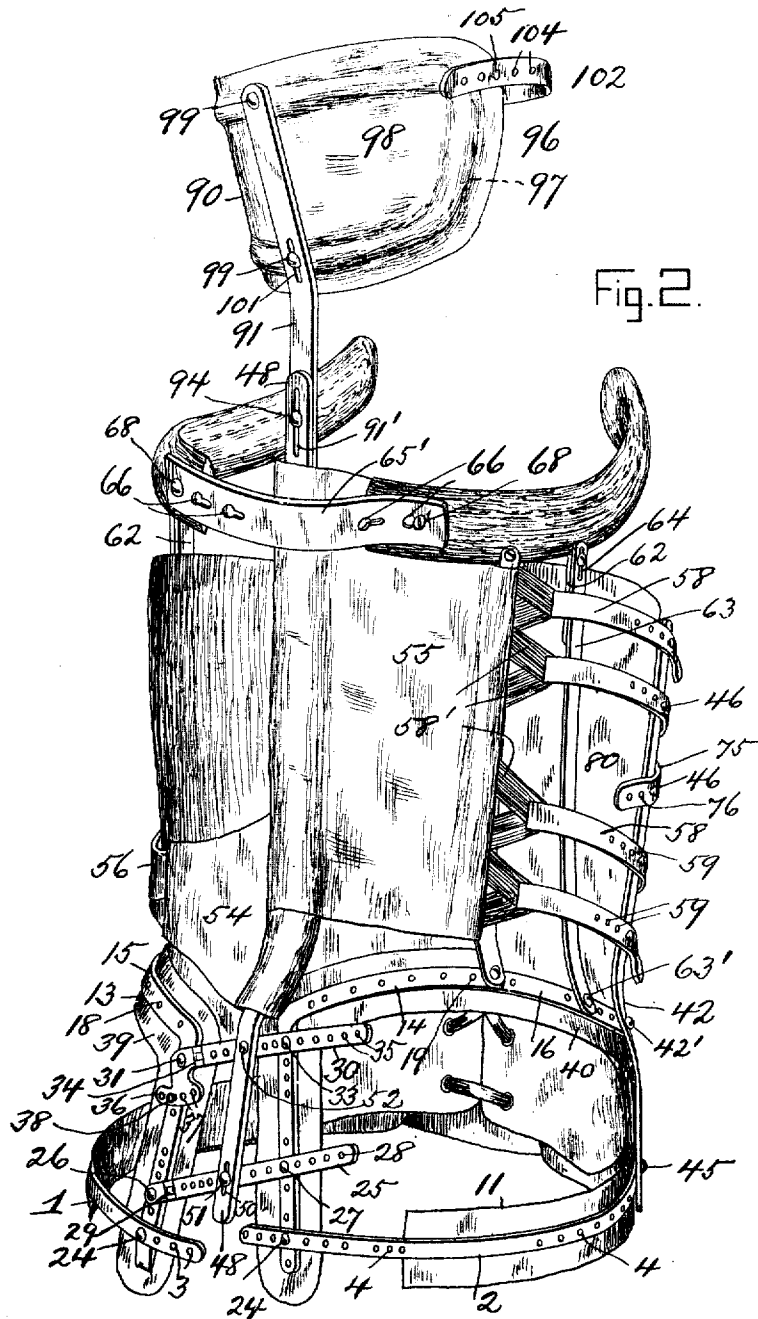


Fig. 2.

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UNITED STATES PATENT OFFICE.

LOUIS ROTH, OF NEW YORK, N. Y.

ORTHOPEDIC DEVICE.

954,005.

Specification of Letters Patent.

Patented Apr. 5, 1910.

Application filed March 17, 1909. Serial No. 484,037.

To all whom it may concern:

Be it known that I, LOUIS ROTH, a citizen of Austria-Hungary, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Orthopedic Devices, of which the following is a specification.

My invention relates to orthopedic devices and particularly to a corset-like device adapted to the cure of hunchback, gibbosity and kindred deformities such as spondylitis, skyfosis, scoliosis, and lordosis and also to the cure of certain spinal troubles, and among the objects in view is to provide a device of the character referred to which will be comparatively simple in its construction and which is adapted for a great number of adjustments to adapt the device to effect the best results and to be used upon patients of various sizes.

A further object is to provide a device which will be more comfortable in use and comparatively light in weight.

The invention consists in the novel construction, arrangement and combination of parts as hereinafter fully described, illustrated in the accompanying drawing and pointed out in the appended claims.

In the drawing: Figure 1 is a perspective view looking somewhat from the front of the device. Fig. 2 is a similar view looking somewhat from the rear thereof.

In carrying out my invention, I provide a device comprising as one of its elements, a corset-like body portion having two curved strips 1 and 2 adapted to extend over the hips from a point adjacent to the spinal column, around to a point in front of the wearer, these strips being provided with a plurality of openings 3 and 4 respectively.

10 and 11 indicate padding strips which are secured to the inner faces of the strips 1 and 2 to prevent the strips 1 and 2 from coming into direct contact with the body.

13 and 14 indicate pieces shaped as indicated, the portions 15 and 16 of said pieces being curved and adapted to bear upon the body at points directly over the upper portion of the hip bones. These pieces 13 and 14 are provided with a plurality of openings 18 and 19 respectively whereby they may

have adjustable connection with the strips 1 and 2.

20 and 21 indicate strips secured at one end to the strips 1 and 2 and being provided toward the opposite ends with slots 22 and 23 through which are adapted to pass adjusting screws 22', 23', which adjustably connect said strips 20 and 21 with the pieces 13 and 14. The pieces 13 and 14 at the opposite ends are adjustably connected with the strips 1 and 2 by means of adjusting screws 24. The pieces 13 and 14 are connected at the back by means of a strip 25 adjustably connected by a screw 26 to the piece 13 and similarly connected toward its other end to the piece 14 by a screw 27. The strip 25 is provided with a plurality of openings 28 to adapt the pieces 13 and 14 to be adjusted closer together or farther apart at the back to suit each individual patient. The piece 25 is preferably made in two parts hinged together as at 29.

30 indicates a strip similar to the strip 25, though somewhat shorter, this strip 30 being adjustably connected by a screw 31 at one end to the piece 13 and similarly connected toward its opposite end to the piece 14 by the screw 33. The strip 30 is also preferably made in two parts hinged together as at 34 and has perforations 35 and it is also provided with a hook-shaped projection 36, provided with a plurality of perforations 37, which may be adjustably secured by a screw 38 engaging the perforations in the piece 13. The perforations in the said hook-shaped projection are arranged in the manner shown, *i. e.*, with some of the perforations on a curve whereby the piece 30 can be swung upon the screw 31 as a pivot when such movement of the strip 30 is desired or necessary owing to the relative position of the parts 13 and 14 being altered when adjusting the said parts to suit the figure of the patient, and when the strip 30 has been properly adjusted the screw 38 is then made to secure the projecting portion of the strip 30 to the piece 13. By providing numerous perforations in the strips 25, 30, I am enabled to get precise adjustment for each patient.

To the inner faces of the pieces 13 and 14

are secured padding strips 39 and 40 to prevent the said pieces from coming into direct contact with the body.

41 and 42 indicate strips adjustably secured intermediate their length by screws 42' to the pieces 13 and 14. Each of the strips 41 and 42 is provided at its lower end with a slot 43 adjustably secured to the pieces 1 and 2 by means of screws 45, and said strips 41 and 42 are provided with studs 46, toward their upper ends.

48 indicates a strip, the lower end of which is provided with a slot 50 and is adjustably secured to the strip 25 by a screw 51 passing through the slot 50. The strip 48 is also adjustably secured to the piece 30 by means of the screw 52.

54 and 55 indicate non-elastic flexible webbing or canvas secured in any desired manner at one edge to the strip 48, and the webbing 54 is provided at its opposite edge with a soft leather strap 56 having perforations 57 adapted to be adjustably engaged with one of the studs 46 on the strip 41. The strap 56 is attached to the webbing 54 through the medium of elastic strips 56'. The webbing 55 is provided with a plurality of soft leather straps 58, each having perforations 59 adapted to adjustably engage with the studs on the strip 42. The straps 58 are attached to the webbing 55 through the media of elastic webbing 58'. The webbing strips or pieces are adapted to bear against the back of the wearer to assist in supporting same and tending to correct by their pressure the deformity of the patient and the shape of these webbing pieces may be varied as desired, and they may be reversed in their positions according to the location of the deformity of the patient.

60 indicates curved pieces adapted to engage beneath the arms of the wearer and are provided with padding as at 61. The pieces 60 are provided with depending strips or arms 62 to which are adjustably secured the upper ends of strips 63 provided with slots 64, screws 65 passing through these slots and engaging perforations in the strips 62. The lower ends of the strips 63 are adjustably secured by screws 63' to the pieces 13 and 14. A leather strap 65' is provided toward opposite ends with perforations 66 adjustably engaging with studs 68 carried by the pieces 60. This strap passes across the upper part of the back of the wearer to give additional support to the back.

Secured at one edge to the strip 41 is a webbing 70 within which is contained a curved metallic piece 71 adapted to extend across or partially across the front of the wearer. The webbing 70 is provided with a strap 75 having perforations 76 adapted to adjustably engage with a stud 46 on the strip 42.

80 indicate non-elastic flexible webbing pieces adapted to form a support for the stomach and upper part of the abdomen and these webbing pieces are secured at one edge to two of the strips 63 and the adjacent front edges of the webbing pieces are adapted to be laced together by a lacing 81.

82 is a flexible strap provided at opposite ends with perforations 83, 84, and a screw 85 is adapted to pass through any one of the perforations 83 and into a threaded perforation in the strip 1 while a screw 86 is adapted to pass through any of the openings 84 and engage with a threaded perforation in the strip 2. The strap 82 is adapted to bear upon the abdomen of the patient and form a support therefor, and it also forms an adjustable connection for the strips 1, 2, at the front.

90 indicates a head support which is adapted to be adjustably, as well as detachably, supported by the corset-like device hereinbefore described. Said head support comprises a strip 91 adjustably and detachably supported on the strip 48, the latter having a slot 91' through which slot passes a screw 94 which is adapted to engage in any one of a series of threaded openings 95 in the strip 91. By loosening the screw the strip 91 may be adjusted vertically upon the strip 48 and said screw then tightened to hold the strip 91 in adjusted position.

To the upper end of the strip 91 is suitably secured a head-rest 96 shaped to comfortably yet snugly engage the back of the head to hold the same firmly in erect position and prevent turning thereof. The rest 96 is preferably constructed of a metallic frame 97 curved to fit the back of the head, and covered with leather 98 or the like. I preferably secure the rest 96 to the strip 91 in a detachable manner, as by screws 99 which pass through strip 91 and into the frame 97, so that the rest 96 can be readily detached from the strip 91 for any purpose. I preferably provide the strip 91 with a slot 101 through which the lower screw 99 passes, whereby rests 96 of varying sizes may be used in connection with the same strip 91. The rest 96 is provided with a flexible strap 102 secured at one end to the rest 96 and having a plurality of openings 104 adapted to be engaged by a stud 105 on the rest 96. The strap is adapted to pass closely over the forehead of the patient to prevent the head moving forward. By making the strap adjustable, the device is adapted to fit over heads of varying sizes. The head support as a whole is intended for use with patients having spinal troubles where it is necessary to support the head erect and immovably in position, and where it is not desired to use said head support it

may be detached from the corset-like device by removing the screw 94.

It will be noted that I have provided a device which is particularly well adapted for the cure of the different deformities hereinbefore specified and that I have provided for a variety of adjustments to suit each individual case whereby the best results may be obtained.

10 All of the various strips excepting those specified as being made of flexible material, may be made of any desired metal as steel, aluminum, etc. Also, the various perforations provided in the metallic strips of the device to permit of adjustable connection of the parts are screw-threaded within which perforations engage the screws for securing the parts together.

It will be understood that minor changes in details of construction and arrangement of parts might be made without departing from the scope of the present invention.

What I claim is:—

1. In a device of the character described, 25 the combination with the strips 1, 2, of strips 13, 14, adjustably connected at their ends to the strips 1, 2, and adjustable connections between the strips 13, 14 at the back comprising a strip 30, a screw 31 adjustably connecting said strip 30 to strip 13, 30 said strip 30 being made in two parts hinged together and provided with perforations 35 and 37, and screws 33, 38, engaging within said perforations and within perforations in the strips 13 and 14 as set forth.

2. In a device of the character described, the combination with strips 1, 2, and an adjustable connection for the said strips at the front, of strips 13, 14, adjustably connected at their ends to the strips 1, 2, adjustable connections between strips 13, 14, at the back comprising a strip 30 a screw 31 adjustably connecting said strip 30 to strip 13, 45 said strip 30 being made in two parts hinged together and provided with perforations 35 and 37, and screws 33, 38, engaging within said perforations and within perforations in the strips 13 and 14, upright strips 63 connected at one end to the strips 13, 14, 50 non-elastic flexible webbing strips secured at one end to the strips 63, and means for adjustably securing the adjacent edges of the webbing strips together.

3. In a device of the character described, 55 the combination of strips 1, 2, of strips 13, 14, adjustably connected at their ends to the strips 1, 2, strips 41, 42, carried by the strips 13, 14, and having an adjustable connection at their lower ends to the strips 1, 60 2, adjustable connections between strips 13, 14, at the back comprising a strip 30 a screw 31 adjustably connecting said strip 30 to strip 13, said strip 30 being made in two parts hinged together and provided with

perforations 35 and 37, and screws 33, 38, 65 engaging within said perforations and within perforations in the strips 13 and 14, a webbing secured at one edge to the strip 41 and a leather strap secured to the said webbing and adapted to be adjustably secured 70 to the strip 42.

4. In a device of the character described, the combination with strips 13, 14, adjustable connections for strips 13, 14, at the back comprising a strip 30, a screw 31 adjustably connecting said strip 30 to strip 13, 75 said strip 30 being made in two parts hinged together and provided with perforations 35 and 37, and screws 33, 38, engaging within said perforations and within perforations in the strips 13 and 14, of strips 63 secured at one end to the said strips 13, 14, curved 80 pieces 60 having arms adjustably secured to the strips 63 and a strap adjustably connecting the curved strips. 85

5. In a device of the character described, the combination with a corset-like body portion having an upright strip centrally at the back, of a head-support carried by said strip and adjustable relatively thereto. 90

6. In a device of the character described, the combination with a corset-like body portion having an upright strip centrally at the back, of a head-support detachably carried by said strip. 95

7. In a device of the character described, the combination with a corset-like body portion having an upright strip centrally at the back, of a head-support comprising a head-rest and a supporting strip to which said head-rest is detachably connected, said head-support having a depending strip connected with the said upright strip of the corset-like body portion. 100

8. In a device of the character described, 105 the combination with a corset-like body portion having an upright strip centrally at the back, of a head support comprising a head-rest and a strip connected with said upright strip and detachably secured at one end to said head-rest and having a slot, and a securing screw passing through the slot and detachably engaging with the head-rest. 110

9. In a device of the character described, the combination with a corset-like body portion having an upright strip centrally at the back, of a head-support comprising a head-rest embodying a metallic frame curved to fit the head as described, and a covering of flexible material for said frame, 120 and said head-support having a depending strip connected with the upright strip of the corset-like body portion. 125

10. In a device of the character described, the combination with a corset-like body portion having an upright strip centrally at the back, of a head-support comprising a head-rest embodying a metallic frame curved to

fit the head as described, a covering of
flexible material for said frame and a strap
having adjustable connection with the head-
rest and adapted to pass around the fore-
5 head, and said head-support having a de-
pending strip connected with the said up-
right strip.

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

LOUIS ROTH.

Witnesses:

N. PH. SCHINDLER, Jr.,
LEO ROTH, Jr.