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SACRO-ILIAC BELT

Filed Oct. 21, 1946

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

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Fig. 3

Fig. 4

Fig. 5

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2,554,337

SACROILIAC BELT

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Application October 21, 1946, Serial No. 704,767

7 Claims. (Cl. 128—96)

This invention relates to a sacro-iliac belt, and namely a corrective belt for use in conditions where the arthritic depression of the ilium bone and its mating condyle of the sacrum tend to slip out of joint. As heretofore devised, medical belts which professedly corrected this condition have been little more than cinch-straops and substantially the only result of their usage has been to subject the pelvic girdle to side pressure. This side pressure has, in many cases, been distributed partly upon the hip bones and partly upon the greater eminence or outer trochanter of the thigh bone, and which, in turn, is more than usually objectionable in that it tends to immobilize the latter, but even the prior belts which are free of this objection have to been characterized in that they transmit pressure to the hips of the wearer such that two opposing forces are set up at opposite sides of the pelvic girdle. The result of applying force in this manner is that the ilium or prominence of the hip, being crowd inwardly, is caused to also shift backwardly, and together with the resultant stiffening of the joint develops a separation rather than an articulation between process and socket. The principal object of the present invention is to overcome this disadvantageous result by designing a corrective belt in such a manner that the act of tightening the belt upon the wearer subjects the ilium to a forward and inward pressure bringing the condyle of the one and the mating depression of the other of the two principals of the sacro-iliac joint into regular register. With this and other advantages in view and which will appear and be understood in the course of the following description and claims, the invention consists in the novel construction and the adaptation and combination of parts hereinafter described and claimed.

In the drawings:

Figure 1 is a perspective view showing a sacro-iliac belt constructed to embody the teachings of the present invention.

Fig. 2 is a front elevation view, and Fig. 3 is a rear elevation view thereof, the belt being here shown as applied to a wearer and the scale which is used being reduced from that of Fig. 1.

Fig. 4 is a fragmentary horizontal sectional view taken at an enlarged scale on line 4—4 of Figs. 2 and 3; and

Fig. 5 is a detailed side elevation view looking in the direction of the arrows 5—5 of Fig. 4.

The sacro-iliac belt of the present invention is of a jointed nature comprised of four sections. Two of these sections lie at the back and are denoted generally by the numerals 10 and 11, and the other two sections lie at the front and are denoted generally by 12 and 13.

First describing the front sections, the same are desirably of a length sufficient to extend from the front center to a point well beyond the side center of that part of the wearer's body known as the pelvic girdle. Such front sections, considered in top plan, are shaped more or less to the surface contour of the body part which they overlie, and namely with the frontal end being relatively straight while the rear end is hooked in as it passes the crest of the ilium.

This frontal section is composed of a piece 14 of metal or other relatively stiff material, fibre-board for example, cushioned upon the inside by a block 15 of sponge rubber, the rubber being cemented or otherwise firmly held in place. The components 16—17 of a strap-and-buckle connection are permanently secured as by rivets 18 one to the frontal end of one section 12 and the other to the frontal end of the other section 13. Spaced-apart buckles 20, for a purpose to be hereinafter described, are also affixed, top and bottom, to the back edge of each front section.

The back sections 10 and 11 are intended to lie at opposite sides of the wearer's spine with their collective length made sufficient to span the greater length of the wearer's pelvic girdle. These sections are each comprised of an inner block 21 of felt having a flat and rigid stiffening board 22 firmly cemented as a backing therefor, and there is affixed to the backing board to overlie its outer surface a facing piece 23, preferably of leather, the ends of such piece being prolonged fore and aft beyond the cushioning block and its stiffener. The aft prolongation, denoted 24, is made rather wide and is pierced to provide two rows of holes with the holes being more or less equidistantly spaced in each of the rows. The outside row of holes is desirably fitted with grommets. Compared with the width of the prolongation 24, the forwardly directed prolongation 25 is rather narrow and occupies a position overlying the aft end of the front section 12 or 13, as the case may be, in the space between the buckles 20. For connecting each front section to the immediately adjacent back section, and such, desirably, as will permit pivotal movement of one relative to the other, a rivet or the like 26 is applied to the tab 25. The flexibility of the tab itself produces a substantial hinge connection between the front and back sections. In lieu of the described backing 22 and its facing piece 23, it is feasible to employ simply a stiff
plate of fibre-board and to rivet or otherwise fasten to the frontal end thereof a separate tab of leather to form the hinge, the two rows of holes being in this case bored through the fibre-board along the back margin of the latter.

As an attachment between the prolongation 24 of one back section and the prolongation 24 of the other back section, and one which will permit a take-up of the spacing therebetween, there is provided an arrangement comprised of a multiplicity of thongs 27 passed through the holes of the prolongations 24. These thongs are made from a leather strap and are produced by riveting the strap from one end for the greater part of the length, leaving upon the other end a root or parent part 28 suitably pierced with holes for attachment to the buckles 20. In applying these ganged thongs, the root end of each strap is caused to be attached to a related buckle and the thongs are then threaded through the holes of one back section and anchored to the other section. Taking the strap attached to the upper buckle of the front section 12 as an example, the procedure is one of passing the three thongs along the outside of the back section 10 and thence threading the same through the three top grommets of the back section 11, whence the free ends of the thongs are returned to the prolongation of the back section 10 and threaded from the inside through the top holes of the second row of piercings, whereupon the projecting free ends are knotted at 30 to preclude being drawn back through the holes. These steps, as well as the countertart thereof performed upon the other three straps, can be clearly traced by an examination of Fig. 3 of the drawing.

When the belt is first applied to a wearer, the root ends 28 of the straps are taken up relative to the buckles 20 in the degree necessary to properly fit the belt to the pelvic girdle, and no further adjustment is thereafter required, the wearer simply fastening and unfastening the frontal strap 16 when applying and removing the belt. The action of the hooked back end of the front section, working in conjunction with the stiff back sections 10 and 11, in performing the intended end of drawing the sacrum and the ilium into proper registration will, it is believed, be readily understood from the foregoing description taken in connection with the illustration of my now preferred embodiment of the invention. It should, perhaps, be pointed out that the commercial model of the belt incorporates a fabric jacketing for each section, but for simplicity in illustration and clarity in an understanding of the same this is eliminated from the drawing.

While there is herein shown and described the preferred embodiment of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What I claim is:

1. A jointed sacro-iliac belt comprising two connecting inflexible back sections arranged when the belt is in service to lie one at one side and the other at the other side of the wearer's spine and collectively spanning the greater length of the back of the wearer's pelvic girdle, and two front sections hingedly connected by their aft ends to the forward end of a related said back section, said front sections being each formed with an inwardly hooked rear extremity and being stiffened to hold the shape of said hook, complementary belt-tightening means being provided on the forward ends of the two front sections.

2. A jointed sacro-iliac belt according to claim 1 in which the back sections are each comprised of an inner block of cushion material backed by a stiffening board and having a tab of flexible material fixed to the backing board and extending forwardly from the latter, the tab being joined to the adjacent front section and producing the hinge which connects the two.

3. A jointed sacro-iliac belt according to claim 1 in which the hinge connection between the back and the front sections comprises a tab of leather attached by one end to the back section and by the other end to the front section.

4. A jointed sacro-iliac belt according to claim 1 in which the front and back sections, in addition to their hinge attachment, are connected for pivotal adjustment about a transverse axis.

5. A jointed sacro-iliac belt according to claim 1 in which each of the four sections are cushioned upon the inside, the two front sections by sponge rubber and the two back sections by felt.

6. A jointed sacro-iliac belt according to claim 1 wherein adjustable means are provided for adjusting the distance between the connected back sections.

7. A jointed sacro-iliac belt according to claim 1 wherein each back section is provided with a backing member presenting a longitudinal prolongation, each prolongation being pierced with a severality of holes, and a strap for each backing member attached by its head end to a respective backing member and having its other end slit longitudinally to form a gang of thongs, each thong being threaded through a respective hole of the prolongation of the other backing member and returned and passed through a respective hole of the parent prolongation with the free extremity knotted to preclude the same being drawn back through the hole.

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