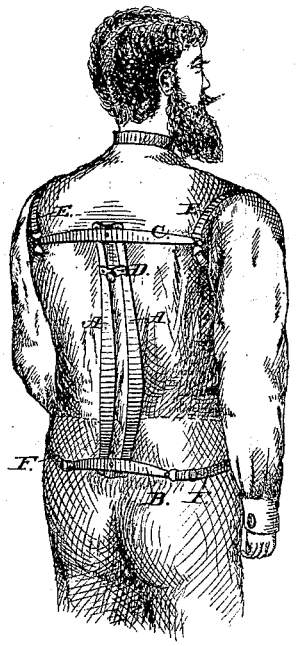
J. W. PARTRIDGE.

Back and Shoulder Brace.

No. 199,463. Patented Jan. 22, 1878.

Fig. 1.



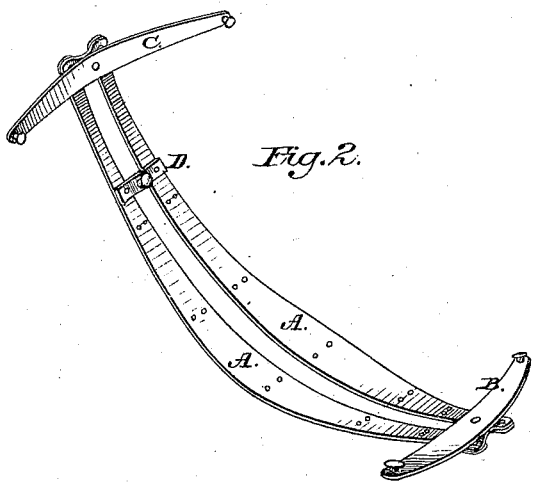


Fig. 2.

Attest:

Edward Dale

Inventor:

John W. Partridge

UNITED STATES PATENT OFFICE.

JOHN W. PARTRIDGE, OF BOSTON, ASSIGNOR TO ESTHER E. PARTRIDGE, OF BROOKLINE, MASSACHUSETTS.

IMPROVEMENT IN BACK AND SHOULDER BRACES.

Specification forming part of Letters Patent No. **199,463**, dated January 22, 1878; application filed October 22, 1877.

To all whom it may concern:

Be it known that I, JOHN W. PARTRIDGE, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Back and Shoulder Braces, of which the following is a specification, reference being had to the accompanying drawings.

The object of my invention is to prevent a tendency to a round-shouldered or stooping form, protruding shoulder-blades, and a narrow, contracted chest, with resulting disorders, as also to correct and cure such already existing evils. These results it is proposed to accomplish by the use of graduated springs, so formed, combined, and applied as to support the spine in its erect normal attitude, and draw back and hold the shoulders in their proper relative position.

Figure 1 represents a perspective view of my supporter or brace in position on the person.

A is the graduated supporting-spring, constructed by attaching together, by means of arched cross-pieces, two graduated or tapered springs, at such distance apart that they shall bear upon the spine on each side the vertebral points its entire length, which should extend from the sacrum to a central point between the shoulders. This spring may also be made by cutting it entire from a sheet of metal; but I prefer making it as above. B is a short graduated spring, slightly curved outward, as seen in Fig. 2, and is riveted in its center to the arched cross-piece at the lower end of spring A, and to its ends the belt is attached. C is a graduated spring, pivoted to spring A at or near its upper end, bent outward from its center, as seen in Fig. 2, extending across the back nearly from shoulder to shoulder, to the ends of which the shoulder-straps are attached. This spring, by its peculiar form and bend, when brought into position by adjusting the shoulder-straps, has the effect of depressing the upper end of spring A into the hollow of the back, at the same time affording a gentle and yielding pressure upon the scapula. D is a stud on which to button garment-suspenders. The shoulder-straps E E, as also the belt F, are supplied with devices for lengthening or shortening at pleasure, and the ends with loops to form pivotal attachment with the springs upon studs. This belt, passing around the bones of the pelvis, just above the hip-joints and under the abdomen, makes, when attached to a proper pad in front, a most efficient abdominal supporter. All the attachments being pivotal and the springs sufficiently flexible, the supporting-spring A maintains its position on the spine in any changing attitude of the body.

Fig. 2 represents an oblique view of the springs attached together, showing their form and bend when not in use. The dots seen are perforations in the spring for the attachment of wire or strips of another metal, to produce galvanic action, which may be used in cases where electrical effect is desired.

Springs B and C are tapered and bent in such a manner that the adjustment to the person of the straps and belt attached at their extremities depresses each end of spring A, bringing it to a bearing its entire length upon the spine, affording support where most needed—results not attainable with springs of uniform width and power.

My graduated spring is new in such constructions, and is so formed that it does not bear on the points of the spinal process, but evenly distributes the pressure upon each side, so as to afford continuous support.

For making the spring, I use, in preference, sheet-steel of suitable thickness. The power of the springs may be increased or diminished by variation in width, as well as by using thicker or thinner metal.

By making springs of differing lengths, widths, and power, such as are adapted to a given case can readily be selected. The springs should be plated or enameled to prevent rusting, and may be covered with a sheath.

The points of novelty in the apparatus I have described, which I claim as my invention, and wish to secure by Letters Patent, are—

1. The parallel connected springs A A, made widest at a point below the center and tapering in each direction, to make the spring strongest at the waist, all as and for the purposes set forth.

2. In combination with the above-described

springs A A, the rigid connecting-pieces, centrally arched or raised to avoid contact with any vertebral protuberance, and to allow free turning motion to the cross-springs C and B, as and for the purposes set forth.

3. In combination with the upright springs A A and their arched connections, the cross-springs B C, loosely pivoted to the raised cross-connections, and tapering each way from a central point, all as and for the purposes set forth.

4. The combination of the upright graduated springs A A with central raised connections, the loosely-pivoted cross-springs B C, provided with knobs or other securing devices at each end, and the connection D, provided with a knob, all as and for the purposes set forth.

JOHN W. PARTRIDGE.

Witnesses:
W. L. G. HUNT,
EDWARD I. DALE.