

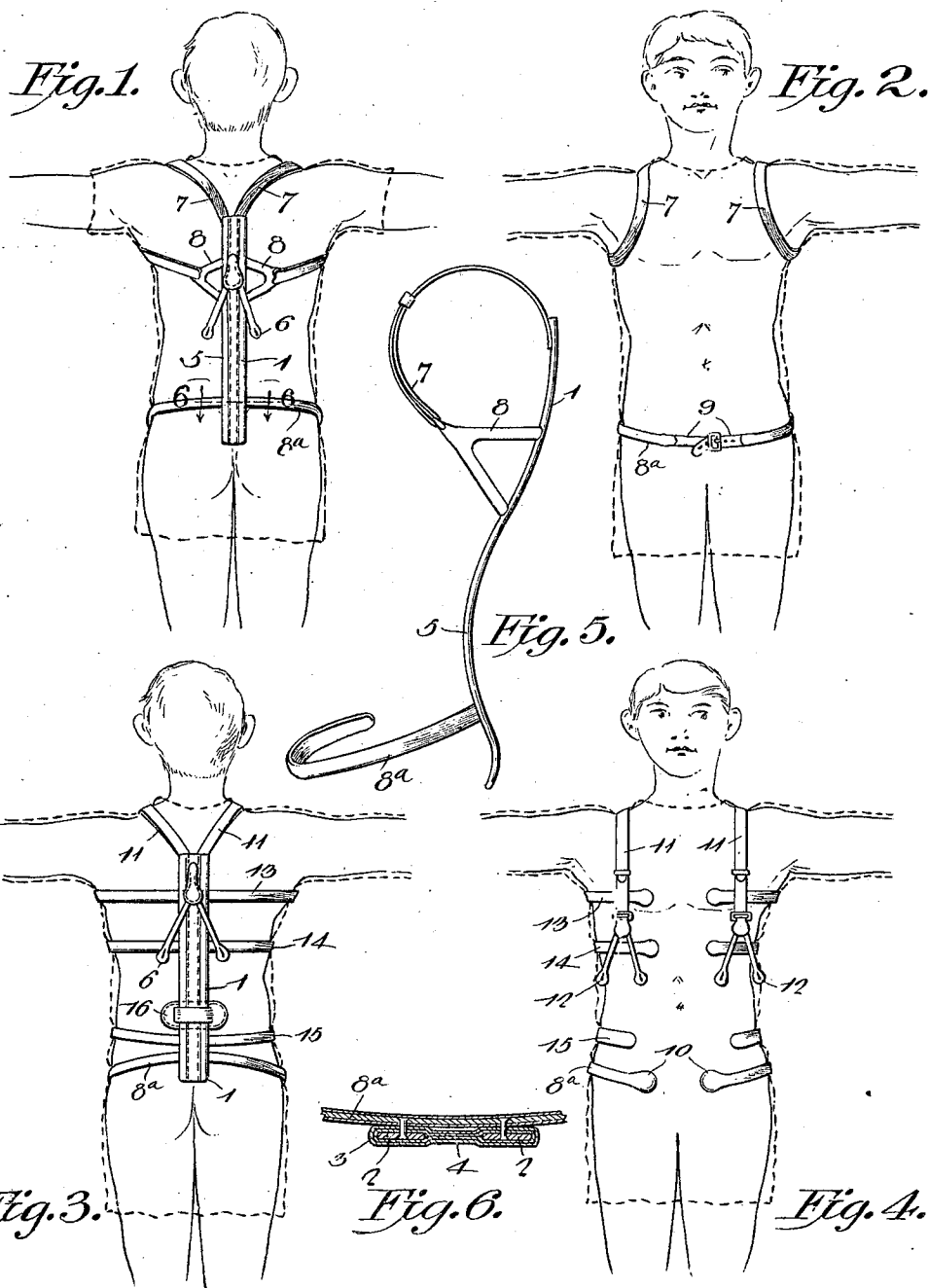
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Patented Dec. 18, 1900.

S. N. FITZPATRICK.
BODY BRACE.

(Application filed June 4, 1900.)

(No Model.)



Witnesses
J. Kaufman & Co.
Chas. S. Hoyer.

S. N. Fitzpatrick, Inventor
by C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL N. FITZPATRICK, OF CARTHAGE, TENNESSEE.

BODY-BRACE.

SPECIFICATION forming part of Letters Patent No. 664,250, dated December 18, 1900.

Application filed June 4, 1900. Serial No. 19,061. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL N. FITZPATRICK, a citizen of the United States, residing at Carthage, in the county of Smith and State of Tennessee, have invented a new and useful Body-Brace, of which the following is a specification.

This invention relates to a body-brace; and the particular intent and purpose of the same is to provide simple and effective means for bracing the vertebral column or the back adjacent thereto, and especially above the lumbar region at a point usually termed the "small of the back" or base of the spine, and which will always be retained in place irrespective of bodily movement or muscular exertion and held up by devices engaging the shoulders, and also having one or more transversely-extending body embracing and supporting devices, to a portion of which may be attached general abdominal, hernial, and pelvic pressure attachments, testicle-supports, suspensors, catamenial sacks, and bandages, and to the main bracing means at the back to also secure kidney or other pads and also to magnetize any portion of or all the combined bracing devices.

The invention consists in the construction and arrangement of the several parts, which will be more fully hereinafter described and claimed.

In the drawings, Figure 1 is an elevation of a portion of the human body, showing the position and mode of applying the main portion of the brace to the back. Fig. 2 is a similar view looking toward the front of the body. Fig. 3 is a view similar to Fig. 1 with additions to the brace. Fig. 4 is a front view of the device as arranged in Fig. 3. Fig. 5 is an edge elevation of the improved brace in its simplest form. Fig. 6 is a section on the line 6 6, Fig. 1.

Similar numerals of reference are employed to indicate corresponding parts in the several views.

The numeral 1 designates the main element of the improved device and which is a vertebral brace disposed vertically when applied and composed of a pair of band-springs 2, spaced apart from each other and inclosed in a fabric covering 3, with an intermediate flexible connecting-web 4, which rests di-

rectly over the vertebral column and permits freedom of movement of the said springs to compensate for bodily or muscular actions or contortions. This element extends from the lumbar region to a point about midway of the shoulders at the back and, as clearly shown by Fig. 5, is curved to conform to the contour of the portion of the back over which it is applied, and near its lower extremity the said element is formed with an inward depression 5, which snugly fits in the small of the back and serves as a fulcrum for the movement of the remaining portion of said element and also to concentrate the force of the bracing action of the entire device on a part of the human body which first becomes weakened or affected by strain or exertion. There are a variety of means for holding the said element in place and have it contribute to the support of an adjacent portion of the body, as well as rendered more effective itself by the addition of the holding devices, and in some instances it is proposed to separate the springs 2 a greater distance than that shown for attachment of counter retention means to acquire a bracing action in lateral directions and particularly around the shoulders. These changes will be made to render the device generally useful in strengthening weak body portions and will be mere matters of degree fully included in the scope of the invention. The simplest and most effective means for sustaining the element 1 and causing it to contribute to the support or bracing action of another part of the body is that shown by Figs. 1, 2, and 5, and consists in connecting rear suspender-ends 6 to the upper extremity thereof for securement to trousers at the rear in the ordinary manner. To the upper end of the said element are secured the rear ends of elastic webs or straps 7, which are adjustable and looped to pass over and around the shoulders to thereby form counterbraces to strengthen said parts and also maintain the element in central position or prevent it becoming misplaced in a lateral direction. The extremity of each web or strap 7 opposite that secured to the upper end of the element is provided with a bifurcated connector 8, having its terminals attached to the edge of the element, the connectors exerting an equal pull on the latter at diametrically opposite points. When

the suspender-ends 6 are attached to the trousers and the counterbraces applied over and under the shoulders, as explained, a strong reinforce for the back is provided, and the resiliency of the said element affects the counterbraces and tends to draw the shoulders back and fortifies the upper side body portions under the arms. To the lower portion of the element 1 a lower spring body-band 8^a is centrally secured and extends around the body just above the hips and in its simplest form has its front free ends connected by straps 9, one of the latter carrying a buckle for adjustable purposes. To the front portion of this body-band catamenial sacks or bandages, suspensors, or other testicle-supporters and pelvic pressure or supporting devices are adapted to be attached and be thereby sustained in position, and, as shown by Fig. 4, the ends of the said band are also supplied at times with hernial pressure-pads 10. The facility with which the various attachments enumerated can be held by the body-band 8^a will be obviously apparent, and other umbilical or abdominal devices can be used also in connection therewith, and under all circumstances the beneficial effect of the bracing action of the element 1 will render the operation of the several attachments more positive and brings the support to bear on the shoulders. In connection with this preferred form of the device it is also proposed to use corset-sections, which will be attached to the opposite edges of the element 1 and attached at the front, as usual, and the webs or straps will be attached to the upper front edge portions of the said sections with obvious advantages. Numerous other devices of this latter character could and will be attached to the element 1 without departing in the least from the spirit of the invention and by using the element 1 as a common feature to all.

In Figs. 3 and 4 the improved device is shown in modified form, and in this instance webs or straps 11 are attached to the upper end of the element 1 and continued over the shoulders in regular suspender form and have front securing ends 12 adjustably connected thereto for attachment to the front portions of trousers in the ordinary manner. The counterbraces (shown in Figs. 1 and 2) are replaced by equivalent means in the form of an upper spring body-band 13, extending around under the arms, with the front free ends resting on opposite sides of the chest. Below the said band 13 and parallel therewith is a similar intermediate spring body-band 14, and above the lower band 8^a is a shorter abdominal band 15, which will materially assist the band 8^a in its operation, the two lower bands conjointly operating to strengthen the abdomen and render the treatment of hernia effectual and also brace the bowels, particularly in cases of extreme rotundity or where a muscular defect is present. These body-bands also assist the element 1 in strengthening weak or deformed backs and will be ex-

ceptionally beneficial in cases of spinal curvature or abnormal developments. The lower body-bands will also be highly efficient in the treatment of female weaknesses—such as prolapsus uteri, umbilical rupture, and the like—and while pregnant will afford exceptional advantages in supporting the abdomen under strain of the fetus. The upper body-bands will also brace a weakened rib or an intercostal weakness without in the least interfering with the action of the respiratory organism and the necessary flexure for this purpose.

In some instances it is also proposed to attach a pad 16 to the lower or other portion of the element 1, and, as shown, the said pad bears against the back in the region of the kidneys, and it is also intended to magnetize this pad or any other part of the complete device that may be desired or to apply absorbent devices carrying medicaments for special exterior treatments.

The improved device is applicable to either males or females, and aside from the incidental features mentioned and the advantages accruing therefrom the salient feature is the back-supporting function of the element 1, which affords a brace at a point that first becomes impaired or weakened, particularly in persons who are required to stand erect for long successive periods of time, and, secondarily, to have body-bands, either single or plural, conjunctively operate therewith in an interdependent relation. The main suspension in all the forms is from the shoulders of the wearer, and misplacement from a central position of the element 1 is impossible, yet the ordinary free movements of the body are not in the least obstructed.

Having thus described the invention, what is claimed as new is—

1. In a device of the character set forth, the combination of a back-engaging member having a resilient action and consisting of two similarly-curved band-springs inclosed in a covering with a space between the inner edges thereof filled by a connecting-web extending their full length, means at the upper portion of the member for exerting a downward pull thereon, and retention devices extending over and under the shoulders of the body of the wearer.

2. In a device of the character set forth, the combination of a back-engaging member consisting of a pair of separated resilient devices completely inclosed and having an intermediate connecting-web the full length thereof to rest over the spine of the wearer, means connected to the upper portion of the member to extend over and under the shoulders of the body of the wearer, and one or more body-bands extending laterally from the member below the said means and having a resilient action.

3. In a device of the character set forth, the combination of a back-engaging member consisting of completely-inclosed resilient devices

having a web extending full length between them to rest over the spine of the wearer, a pad for attachment to the lower portion of said member, means connected to the upper
5 portion of the member to extend over and under the shoulders of the wearer, a body-band of a resilient nature below the said means, a waistband, and a suspender-end fastened to the upper portion of the member, the said
10 means, body-band and waistband emanating directly from the said member.

4. In a device of the character set forth, the combination of a back-engaging element hav-

ing a resilient action and consisting of a pair of curved band-springs inclosed in a covering 15 and connected by an intermediate web extending full length between the band-springs to rest over the spine of the wearer, and means for holding the said element in position.

In testimony that I claim the foregoing as 20 my own I have hereto affixed my signature in the presence of two witnesses.

SAMUEL N. FITZPATRICK.

Witnesses:

E. E. COYLE,

HARRY H. HOLLANDER.