To all whom it may concern:

Be it known that I, CHARLES MUNTER, a citizen of the United States, residing in the city of New York, borough of Manhattan, county and State of New York, have invented a certain new and useful Combined Abdominal Support and Shoulder-Brace, of which the following is a specification.

The invention is a combined abdominal support and shoulder brace. Both abdominal supports and shoulder braces have long been employed separately, the abdominal support serving, in practice, to properly sustain the abdomen and the shoulder brace serving to force the shoulders back into proper position and, by so doing, lend correct curvature to the spine, for the purpose of stimulating proper respiration and correct carriage.

A universal disadvantage in abdominal supports resides in the fact that it is difficult to maintain them in proper position, and especially so when worn by corpulent persons, there being an ever-present tendency of the support to work down too low to operate with maximum efficiency. On the other hand, shoulder braces are open to the disadvantage that the belt which passes about the body, for the purpose of placing the brace under tension, invariably rides upwardly.

Various expedients have been resorted to for the purpose of holding the belt of the shoulder brace down, as well as other expedients for holding the abdominal support up, and, with the foregoing considerations in mind, the object of the present invention is to provide a garment embodying the combination of a shoulder brace and an abdominal support, the shoulder brace serving to hold up the abdominal support and the abdominal support serving to hold down the shoulder brace. By this interaction of the parts, dislodgment of the shoulder brace or abdominal support is counteracted and all the advantages of both garments are obtained to the maximum efficiency, without encountering the disadvantages referred to.

Features of the invention, other than those adverted to, as well as the advantages thereof, will be apparent from the following description read in conjunction with the accompanying drawings.

In the accompanying drawings I have illustrated different practical embodiments of the invention, but the constructions there shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 is a rear elevation of a garment embodying the present invention in place on a wearer.

Fig. 2 is a side elevation of the showing of Fig. 1.

Fig. 3 shows the garment laid out flat, and Figs. 4 and 5 are showings similar to that of Fig. 3, but illustrating modified forms of the garment of this invention.

In constructing the garment of this invention, the same either may be made from a single piece of material properly cut to shape and provided with a binding around the edge thereof, or may be built up from a plurality of pieces sewed together to give the proper shape. The garment embodies, theoretically, two elements, an abdominal support A and a shoulder brace B. Abdominal support A may be of any well known form and may be adapted for adjustment to the wearer in any desirable manner. In the form shown, said support is provided with an open front adapted to be closed by cooperating snap fasteners a and a', best shown in Fig. 3. For the purpose of adjustment, the support is shown as provided with openings C extending upwardly from the lower edge thereof to points below the upper edge, and with similar openings c extending from the upper edge downwardly to points above the lower edge. The openings are adapted to be adjusted to the degree desired by means of lacing d, which are secured to common belt sections D so that, when the belt sections are buckled together about the wearer, all of the openings e and C are simultaneously adjusted and the abdominal portion of the garment is properly molded to the figure.

Extending upwardly from the back of the abdominal support A, and preferably integral therewith, is the shoulder brace B. This may be of any well known form, but is here shown as embodying a back section E, from the opposite sides of which extend shoulder pieces e and e'. Both of the shoulder pieces may be closed, as shown at e', or both may be open, as shown at e. However, for the purpose of illustration, I have shown one open and one closed. When the open construction is employed, the garment is more easily put on, and, after the back portion has been properly positioned to overlie the back of the wearer, the sections of shoulder
piece e are carried over the shoulder and their free ends are secured together by cooperating snap fasteners f, f'. The garment may be provided with suitable stays g, properly disposed, if desired, although these are not essential.

The mode of operation of the garment, as well as the manner in which it serves to perform its functions, will be clearly understood from the foregoing description. It will be manifest that shoulder brace B is first put on and thereafter abdominal support A is wrapped about the figure, the fasteners a and a' brought into cooperative relation to close the open front, and belt portions D buckled together to obtain correct adjustment. The garment is manufactured in different sizes and the parts are so proportioned in each garment that, when a garment is upon a figure of corresponding size, the fit will be correct in every detail. Thus, when the parts are adjusted to the figure as described, it will be manifest that the upper or shoulder brace portion of the garment will positively preclude abdominal portion A from working down, while the abdominal portion will absolutely preclude the shoulder brace from working up or losing the proper tension on the shoulders. By reference to Figs. 2 and 3 it is noted that the adjustment openings e are positioned above the waist line and the laces d extend downwardly and forwardly to the belt D whereby pull upon the belt results in a downward and forward pull upon the back portion of the garment, thus tending to exert a backward pulling leverage upon the shoulders. At the same time the abdominal support is adjusted through these same laces and the laces extending forwardly and upwardly from the lower adjustment opening C.

A marked advantage of a garment of this character, in addition to those advantages specified, is the fact that the chest or forward upper part of the torso is entirely unumbered. The garment thus covers as little of the body as possible to obtain the desired result and is not uncomfortably warm in the summer. Moreover, the back is supported throughout substantially its entire height and, since the pulling of the garment taut, when the same is put on, automatically forces the garment to partake of the proper configuration of the human spinal column, the wearer is caused to assume the correct poise and carriage and proper respiration will result.

In Fig. 4 of the drawings, a modified form of the invention is illustrated. This form differs from the form of Figs. 1, 2 and 3 chiefly in the manner of adjusting the garment to the wearer. Instead of providing openings c and c', as in Fig. 3, which extend only through the abdominal portion of the garment, the garment of Fig. 4 is provided with openings C which extend from the lower edge of the garment upwardly to the arm holes in the shoulder brace portion. With each of these openings cooperate laces d corresponding to laces d, and with said laces are associated belt sections D, corresponding to belt sections D. The form of Fig. 4 has the advantage over the form of Fig. 3 of allowing of the adjustment of both the abdominal supporting portion and the shoulder brace portion, whereas, in the construction of Fig. 3, only the abdominal portion is adjustable.

The modified construction of Fig. 4 is very similar to that of Fig. 4, except that a single central back opening C is provided. This opening may be laced in any suitable manner, but is here shown as provided with a lacing of the character described and claimed in my companion application, "Laced article of apparel," Serial No. 205,624, filed December 5, 1917. Lace d is threaded through eyelets on either sides of opening C and is tied at d. Belt sections D are associated with the lace for the purpose of adjusting the opening after the garment is in place on the wearer.

In either of the garments shown in Figs. 4 and 5, stays may be provided and may be disposed in any desirable manner, but these stays have not been illustrated since they form no part of the present invention.

In the foregoing different embodiments of the invention have been illustrated different manners of adjusting the garment to the wearer. Many other forms of the invention might be illustrated, but it is not thought necessary, as it is to be understood that the present invention is not limited to these specific details, it being as broadly novel as is commensurate with the appended claims.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. As a new article of apparel, a combined shoulder brace and abdominal support embodying a solid back member extending downwardly from substantially the neck of the wearer to below the waist line, the lower portion of said back member being common to and forming part of both the abdominal support and shoulder brace, the upper portion of said back member being provided with shoulder straps or members which extend over the shoulders of the wearer and thence downwardly under the arm pits to the lateral edges of the back member to which they are secured, the lower portion of the back member having side portions associated with the back member extending about the body and secured together over the abdomen, said side portions having adjustment openings, and belt operated lacing.
associated with the adjustment openings, for simultaneously effecting adjustment of both the abdominal support and shoulder brace to the body of the wearer.

2. As a new article of apparel, a combined shoulder brace and abdominal support embodying a solid back member extending downwardly from substantially the neck of the wearer to below the waist line, the lower portion of said back member being common to and forming part of both the abdominal support and shoulder brace, the upper portion of said back member being provided with shoulder straps or members which extend over the shoulders of the wearer and thence downwardly under the arm pits to the lateral edges of the back member to which they are secured, the lower portion of the back member having side portions, integral therewith and associated with the back member extending about the body and secured together over the abdomen, said side portions having adjustment openings, and belt operated lacing associated with the adjustment openings, for simultaneously effecting adjustment of both the abdominal support and shoulder brace to the body of the wearer.

3. As a new article of apparel, a combined shoulder brace and abdominal support embodying a back member extending downwardly from substantially the neck of the wearer to below the waist line, the lower portion of said back member being common to and forming part of both the abdominal support and shoulder brace, the upper portion of said back member being provided with shoulder straps which extend over the shoulders of the wearer and thence downwardly under the arm pits to the lateral edges of the back member, the lower portion of the back member having side portions associated with the back member adapted to extend about the body and to be secured together over the abdomen, said garment having adjustment openings and belt operated lacing associated with the adjustment openings for simultaneously effecting adjustment of both the abdominal support and shoulder brace to the body of the wearer.

4. As a new article of apparel, a combined shoulder brace and abdominal support embodying a back member extending downwardly from substantially the neck of the wearer to below the waist line, the lower portion of said back member being common to and forming part of both the abdominal support and shoulder brace, the upper portion of said back member being provided with shoulder straps which extend over the shoulders of the wearer and thence downwardly under the arm pits to the lateral edges of the back member, the lower portion of the back member having side portions extending about the body and secured together over the abdomen, the garment being entirely open at the front above the abdomen, said garment having adjustment openings in its side portions and belt operated lacing associated with the adjustment openings for simultaneously effecting adjustment of both the abdominal support and shoulder brace to the body of the wearer.

In testimony whereof I have signed my name to this specification.

CHARLES MUNTER.