POSTURE CONTROL AND CORRECTING DEVICE

ABSTRACT: A body encircling belt having a housed motor (electromagnetic, spring or other) of minimal size fixedly mounted thereon having a body contacting triggering device connected to and controlling its operation, said device being operable with the imparting of thrust or other appropriate movement thereto from its body contacted portion to activate the motor, and with discontinuance of thrust or appropriate movement thereto, to deactivate it, and a signal means connected to and operable by the activated motor.
POSTURE CONTROL AND CORRECTING DEVICE

BACKGROUND OF THE INVENTION

It has been conclusively established that with body slouch by a person, particularly, the chronic relation of his abdominal muscles, poor and unhealthy posture will be incurred resulting, amongst other ills, in waistline and abdominal obesity; that by retaining said muscles actively taut, hence exercised, good figure, physical fitness, and correct body posture will be maintained and/or attained and waistline obesity reduced or prevented.

FIELD OF THE INVENTION

In particular, the invention provides a belt which when worn by a person will serve a dual function: (1) as a device which will automatically signal its wearer of the occurrence or the existence of his incorrect body posture, especially, the abdomen, that the same may be corrected, and (2) that by the maintaining of corrective posture upon part of the wearer, both abdominal and waistline obesity will be avoided or remedied, and controlled.

SUMMARY OF THE INVENTION

Thus, the underlying or primary object of my invention is to prevent the continuing disuse and detrimental prolonged relaxation of a person's abdominal muscles by the provision and wearing of a body (abdominal) encircling belt provided with means automatically operable upon muscle relaxation and resultant abdominal distension signal such that it may be corrected by the wearer.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

One embodiment of the invention is now described with reference to the accompanying drawings, wherein

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a top view of a body encircling belt provided with the invention;

FIG. 2 is a perspective view of the invention showing it mounted on a portion of the body encircling belt with the body contacting triggering plate operatively positioned adjacent its inner side engaging the circuit closer for the electromagnets of a conventional type of buzzer or other signalling device together with the source of electrical energy thereof in dotted lines;

FIG. 3 is a perspective view of the invention wherein a modified form of body encircling belt carries it, plus a different form of circuit closing switch and means for actuating the same;

FIG. 4 is a perspective view showing another modified form of the invention which a conventional type of spring actuated motor is shown substituted for the electromagnetic motor of FIGS. 2 and 3;

FIG. 5 is a vertical longitudinal section through the casing, circuit closing switch, and body contacting triggering plate taken on line 5-5 of FIG. 2; and

FIG. 6 is a diagrammatic electric wiring plan of or for the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENT

With continued and detailed reference to the drawings, particularly, that form thereof shown in the FIGS. 2 and 5, the invention comprises a base or body 1 on which electromagnets 2 of a conventional form of electrical buzzer are mounted, provided with an armature 3 and a source of electrical energy, preferably in the form of a dry cell battery 4 appropriately mounted in proximity and connected thereto. A casing or cover 5 is engaged over and with the base enclosing the aforesaid components.

A normally open spring switch arm 6 is mounted, as at 7, on the base adjacent one end of its open or cutaway portion 8, spanning the same and engageable, at times, with an electrical contact 9 mounted on and suitably insulated from said base, as at 10.

The body or main portion of the switch arm, normally spaced from the contact 9, is positioned in substantially parallel relation to and outwardly of the base or bottom, as shown in FIG. 5. A wearer's body contacting and triggering plate 11 is received by and fixedly connected, as at 12, to the outer side of the switch arm in a suitable manner, being spaced outwardly from or with relation to said base. The area of the triggering plate, preferably, is extended in character.

The device, as hereinbefore described, is fixedly mounted upon or secured to a body encircling belt B by engaging rivets 14 through the base 1, or by other and appropriate means.

As shown in the FIG. 6 of the drawings, the source of electrical energy 4 is connected by wiring 15, in series, with the electromagnets 2, the switch arm 6 and the normally open contact 9; the triggering plate 11, being mounted in proximity to the switch arm in operative association therewith.

In use and assuming that the belt B carrying the device of my invention is snugly engaged about the waist of a person—about or over the person's abdomen—the triggering plate 11 is in contact therewith as indicated in FIG. 5 of the drawings, though not depressed to the extent that the switch arm 6 is in circuit closing position. It is also assumed that when so positioned or worn, the wearer has tensed his abdominal muscles and by such action, has prevented the imparting of thrust to said triggering plate 11. Should, however, the wearer of the device permit the abdominal muscles to relax and thus be distended, such distension will impart thrust to the triggering plate 11 moving it toward and into engagement with the spring switch arm 6 which, in turn, will make contact with the contact element 9, closing electrical circuit through the electromagnets 2 of the buzzer, causing an audible signal and cautioning said wearer to immediately tense the relaxed and distended abdominal muscles. With such tension and retracting, the retraction, plate 11, under outward movement urge from the spring switch arm 6, will cause opening of the previously established electrical circuit and deenergizing of the electromagnets 2, hence, discontinuing the audible signal.

Should there be repeated relaxation and so, distension of the abdominal muscles, the alarm of signalling operation of the device will be repeated.

A modified form of the invention is shown in the FIG. 3 of the drawings, eliminating the use of the body contacting triggering plate 11 na the switch arm 6 and contact 9. In lieu thereof, a conventional type of throw switch (not shown) is employed, being mounted on the body or base 1 within the cover 5. Said switch is actuated (closed) by the usual hand lever or other throw device 14 fixedly mounted on the base 1 within the casing 5 in proximity to one end thereof.

An opening or window 15 is formed in the adjacent end wall of the cover 5, permitting the passing of a suitable pull chain 16, or its equivalent, therethrough into the device casing or housing and its connection to the switch throw lever 14—the remaining portion of said chain being without the casing, for a purpose presently described.

The body encircling belt B, made of suitable material, on which the device of the invention is fixedly mounted, has an elastic or other form of stretchable link or piece 17 inserted therein, as by dividing the belt and effecting its insertion between the space divided end portions and securely connecting the same thereto.

The remaining or outer end of the pull chain 16 is connected to the outwardly spaced portion of the belt B, as at 18, spanning the elastic link or piece 17 and effecting a tethered connection between the switch lever 14 and said outwardly spaced belt portion, with predetermined stretching of the elastic insert 17, pull will be imparted to the chain 16 sufficient to move the switch lever 14 to its "closed" or "on" position energizing the electromagnetic motor and effecting an audible signal to the belt wearer that his abdominal muscles may be tensioned and thus, permit the return of the switch lever 14 to its "open" position, deenergizing the electromagnets 2 of the buzzer signalling device.
Another and further modified form of the invention is shown in FIG. 4 of the drawings. Herein a conventional type of spring actuated motor (not shown) replaces the hereinbefore described buzzer used in the first described embodiment of the invention (FIGS. 2, 5 and 6), being housed within the casing or housing constituted by the aforesaid base 1 and cover 5 as shown in FIG. 5. A spring motor winding key 19 is positioned on and extended from the outer side or top of the casing 5, being connected to the usual or conventional type of motor drive spring within the casing. This form of the invention employs a triggering plate 11 such as described in connection with the preferred form of the invention, as shown in the FIGS. 2 and 5, mounted on the spring arm 6 suitably and said plate operatively connected to the spring motor whereby, when depressed, as when the abdominal muscles of a wearer are relaxed and distended, the spring motor will be actuated to effect an audible signal.

It will and is to be understood that the invention may be embodied in still other specific forms without departing from the spirit or essential characteristics thereof. The hereinbefore described embodiments are, therefore, to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing descriptions, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

I claim:

1. A posture control and correcting device comprising,
   a. a torso encircling belt,
   b. a body mounted on the belt having an opening therein,
   c. an angularly formed spring switch arm mounted at one end thereof on a portion of the body adjacent said open-

ing with its remaining portion spanning the opening and extended therethrough in outward and substantially horizontally spaced relation to the body,
   d. a triggering plate mounted on said remaining portion of the arm in spaced relation to the body,
   e. an electric contact on a portion of the body engageable, at times, by the free end portion of the spring switch arm,
   f. an electromagnetic motor signal mounted on the body electrically connected to said contact, and said switch arm, and,
   g. a casing engaged over the body and electromagnetic mo-

2. A posture control and correcting device comprising: a. a torso encircling belt comprised of relatively spaced sec-

   tions joined by a stretchable link,
   b. a body mounted on one belt section,
   c. an electromagnetic motor signal mounted on the body,
   d. a switch for energizing and deenergizing the motor on the body, and
   e. nonstretchable means spanning the stretchable link con-

   nected at one end to said switch and the other to the rela-

   tively spaced belt section.

3. The structure of claim 2 modified to the extent that an elas-

   tic splicing interconnects the relatively spaced sections and
   that nonelastic means span said elastic splicing, one end of
   which is connected to the switch and the other to the relatively spaced belt sections.

4. The structure of claim 2 modified to the extent that the relatively spaced belt sections are joined beyond the body by stretchable linkage.