July 11, 1933. F. DREY 1,918,022

SUPPORTING PAD

Filed June 5, 1928

Fig. 1

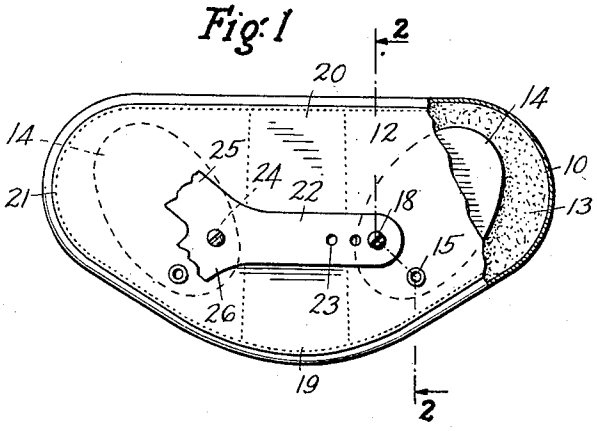


Fig. 2

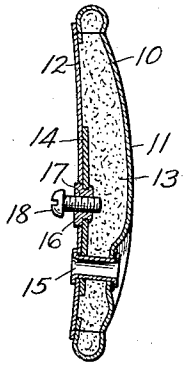
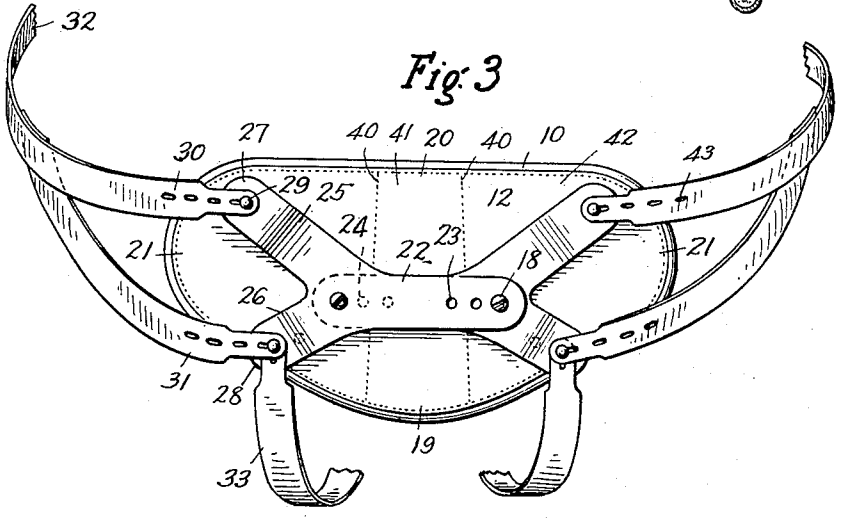


Fig. 3



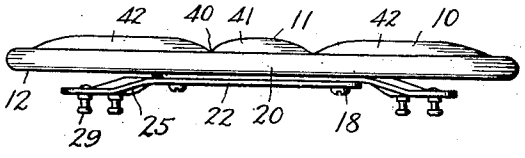


Fig. 4

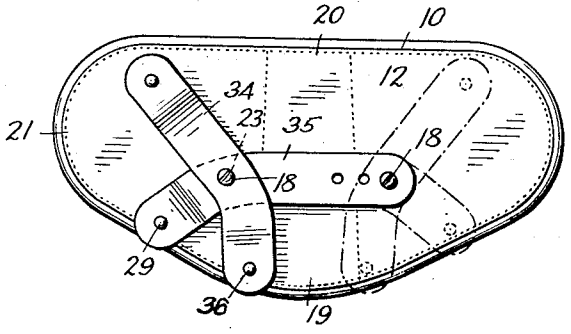


Fig. 5

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UNITED STATES PATENT OFFICE

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SUPPORTING PAD

Application filed June 5, 1928. Serial No. 283,052.

This invention relates to devices for supporting and lifting the visceral organs in the abdominal cavity and contemplates the provision of means for relieving the wearer from the effects of sacro strain and gastric intestinal disturbances, for the support of relaxed abdominal muscles, for correcting prolapsis of the stomach and the intestines and other internal organs, and for supporting and allowing the building up of weakened abdominal muscles and tissues. My improved supporter is designed to increase the intra-abdominal pressure to lift the stomach, intestines and transverse colon, and is indicated in case of abtosis where mechanical support is required. Supporters of this type heretofore in use have been objectionable in that they tend to exert pressure in the wrong direction and at points of the body where little or no pressure should be put, and also tend to become displaced or overturned, thereby failing to properly support the organs and tissues.

In my improved supporter, means are provided for putting upward and inward pressure in the proper direction and in the proper amount indirectly through suitable cushioning means whereby the abdominal organs and muscles are correctly supported at all times and under all ordinary conditions of use.

The various objects of my invention will appear from the description which follows, and from the drawing in which,

Fig. 1 is a front view of my improved supporting pad, partly broken away to show the interior plate.

Fig. 2 is a vertical section of the same, taken on the line 2—2 of Fig. 1.

Fig. 3 is a front view of the pad, the bracing means therefor, and of the front ends of the pressure applying straps therefor.

Fig. 4 is a top view of the same, the straps being omitted for clearness and

Fig. 5 is a front view of a pad showing a modified form of the bracing means.

In that practical embodiment of my invention which I have illustrated, the comparatively soft pad 10 is made of the desired shape and area, the rear surface 11 being of chamois leather or other suitable material, to which is attached the front covering 12 which may also be of leather, suitable cushioning material 13 filling the interior of the pad to the desired thickness. At each side of the pad and in the interior thereof near the front 12, is arranged a metallic plate 14 of comparatively small area, illustrated as of elliptical outline, and preferably of annealed steel or other suitable bendable metal, adapted to be bent to conform to the shape of the abdomen, and to put the proper pressure thereon through the intermediary of the softer portion of the pad.

Each of said plates is held in proper position inside of the pad 10, as by means of a suitable flanged eyelet 15, passing through a suitable perforation in the plate, and serving also as a ventilating means. A bushing as 16 is suitably secured to each of the plates 14 and passes through the cover 12 to the exterior of the pad, at a point preferably below the horizontal center line of the pad. Said bushing is suitably headed and provided with an internal thread as 17 for the reception of a securing screw as 18.

It will be noted that the shape and disposition of the plates 14 is such that the pad remains comparatively soft and yieldable at the lower central projecting portion 19 thereof, where pressure is applied just above the pubic region, and also remains comparatively soft at the upper central part 20 thereof where the pad engages the abdomen, and also at the sides 21 thereof, so that when pressure is put upon the pad, the pad may automatically conform more closely to the shape of the body without undue pressure at the central part of its upper and lower edges.

Substantially vertical spaced lines of stitching 40 pass through the pad between the plates 14 and form the central bulged portion 41 and side bulged portions 42, and stitching serving also to form fold lines about which the pad may bend in its automatic adjustment to the body of the wearer.

For the purpose of properly applying pressure to the pad in the correct direction and for distributing the pressure, I have shown particularly in Fig. 3, a pair of bracing metallic members, preferably made of spring

steel sheet material, in the form of a Y, having a main arm 22 and branch arms 25 and 26. The main arm 22 of the spring brace is preferably disposed substantially horizontally across the middle of the pad, and is provided with an opening 24 near the branched end and a plurality of openings 23 near the other end thereof, through which the screws 18 are adapted to pass for holding both of the braces to the bushing 16, so that said braces are connected to the pad at two points only.

The branches 25 and 26 of the brace are so arranged that the upper branch 25 terminates near the upper side portion of the pad and the lower arm 26 terminates near the lower side portion thereof. By the use of a plurality of openings 23, I am enabled to make the braces in quantities and to adapt them for use in pads of different sizes, it being understood that the horizontal distance between the bushings 16 varies with pads of different sizes.

The free end portions 27 and 28 of the arms 25 and 26 respectively, are bent outwardly from the front of the pad and are normally in spaced relation thereto and out of contact therewith. (Fig. 4.) Each of said ends carries a suitable knob or button 29, adapted to receive the end of the branches 30 and 31 of the strap 32 which passes about the pad and which is provided with suitable adjusting means such as buckles, hooks, clasps and the like, as is well known in the art and which need not, therefore, be described in detail.

Said strap 32 may be of soft flexible material such as leather, or in the form of the usual springs used for pads of the type referred to. To the button at the end 28 of the arm 26, I prefer to attach also, a perineal strap as 33, passing under the crotch, or about the thighs of the wearer and secured at the back to the strap 32 or to any other suitable point of attachment, as may be found convenient or desirable, though it will be understood that the strap 33 may be omitted if desired.

The strap 33 resists the displacement of the pad under any movement of the wearer. Such displacement tends to occur by reason of the pad and the straps having a tendency to creep up to the narrower part of the body. By opposing this tendency toward displacement, the upper portion 20 of the pad is prevented from pressing with too much force against the abdomen. The strap 32, by reason of its attachment to the braces at four points in spaced relation to the pad, puts the greatest pressure upon the area where pressure is most needed and that is just below the center of the pad. At the same time, due to the inward or rearward pull of the strap 32, the ends 27 and 28 of the bracing members tend to be pulled inwardly towards the front 12 and tend to cause the pad to curve in the proper manner to make it conform automatically to the shape of the abdomen without putting undue pressure at the sides of said pad, whereby the pressure is distributed in varying degrees on the body. By reason of the pull of the branch 31 of the strap 32 on the lower side button of the arm 26, proper pressure in the correct direction upwardly and inwardly is put upon the pad, the pressure being greater at the bottom than at the top, thereby preventing the pad from becoming displaced or turning over or from pressing inwardly on the body at its upper edge. Additional holes 43 may be made in the ends 30 and 31 of the strap 32 whereby accurate adjustment of the pressure becomes possible, not only as to amount but as to direction.

In that modification shown in Fig. 5, I substitute for the brace which I have shown in Fig. 3, made of a single piece of material, two separate pieces 34 and 35. By so making the brace in two pieces, I am able to economize in material and at the same time, to provide an additional button 36 at the lower end of the piece 34 for the attachment of the strap 33. Each of said pieces 34 and 35 is provided with a suitable perforation 23 through which is passed the screw 18, which screw also passes through the end of the member 34 at the other side of the pad. By varying the shapes of the members 34 and 35, the buttons for attachment of the straps may be arranged as desired.

It will be noted that by the provision of the bracing members across the pad, pressure is applied upwardly and inwardly upon the abdominal region, the greatest pressure being applied near the center of the pad where it is most needed, while the bottom central portion 19 is free to fit above and to conform to the shape of the pubic bone without undue pressure thereon and the upper central portion 20 is allowed to conform to the shape of the body without cutting thereinto. At the same time, the side portions 21 of the pad, while pressed gently against the body, are not forced thereinto, due to the spacing of the ends 27 and 28 of the braces from the front of the pad, and the pressure distributed thereby over the entire area of the pad. The strap 32 being adjustable and adjustably attachable to the supporter, greater pressure may be applied to the top or bottom of the pad as may be desired, and the amount of pressure varied, as may be found desirable.

It will also be seen that I have provided a simple and effective bracing structure for applying the pressure to the pad in the proper direction, which can be readily stamped from sheet material and secured in place for use with pads varying in size. While I have illustrated and described a preferred embod-

iment of my invention, I do not intend to be understood as limiting myself thereto but intend to claim my invention as broadly as may be permitted by the state of the prior art and the terms of the appended claims.

I claim:

1. In a supporter of the character described, a pad, plates in said pad, a hollow, internally threaded bushing secured to each of said plates and passing to the exterior of the pad, and narrow, elongated metallic bracing members removably secured to said bushings, and arranged on the outside of the pad, terminal outer ends on said members vertically spaced from each other and arranged adjacent the upper and lower edges of the pad respectively and adjacent one end of the pad, and providing a pair of vertically spaced connective points at each end of the pad, to which securing straps may be connected, the ends of said members being normally free of and in spaced relation to said pad, but arranged inside of the edges thereof, and yielding under the stress applied thereto by a securing strap.

2. In a supporter of the character described, a pad, bendable plates in said pad arranged near the sides of said pad and leaving the middle portion of said pad free of said plates, a hollow internally threaded bushing secured to each of said plates and passing to the front exterior of the pad and elongated metal strips across the horizontal middle portion of said pad on the exterior face thereof, provided with vertically spaced buttons at the upper and lower side edges of the pad and overlapping near their inner ends, and a screw removably securing said strips to each of said bushings.

3. In a supporter of the character described, a pad, including an upright central section and side sections bendable relatively to the central section and independently of the adjustment of the central section, upright lines of stitching forming bend lines between said sections adapted to be arranged near and above the pelvic region of the wearer and means for bracing said pad and adapted to put upward and inward pressure thereon simultaneously, comprising overlapping elongated metallic members secured to the front face of said pad and bracing the horizontal middle portion thereof only, and outwardly divergent vertically spaced ends on said members terminating at the ends and inwardly of the periphery of said pad, and means for applying a circumferential pull to said ends, comprising a branched strap, the end of each of the branches of the strap being connected to one of said ends and being otherwise free of the pad.

4. In a supporter of the character described, a pad, a pair of substantially vertical lines of stitching, symmetrically spaced about the vertical center line of the pad and providing flexible fold lines for the pad about which the pad may be bent, and dividing the pad into a central portion and end portions, a strap for said pad adapted to pass about the body of the wearer, said strap being adapted to flex the end portions relatively to and independently of the central portion and independently of each other, a pair of branches at the front of the strap, and means for connecting the front ends of said branches to the end portions of the pad, including a pair of similar Y-shaped metallic members, each provided with a narrow horizontal portion arranged at substantially the horizontal center line of the pad and overlapping each other, means for removably securing said horizontal portions to each other in overlapping relation and to an end portion of the pad, outer branched ends on each of said members diverging toward the edge of the pad, and spaced forwardly of the front face of the end portion of the pad and arranged adjacent the edges of said end portion, and vertically spaced buttons on the extremities of the outer ends of the members to which the ends of said branches may be detachably secured for exerting upward and rearward pressure simultaneously on the body of the wearer when the strap is tightened.

5. In a supporter of the character described, a pad, lines of stitching dividing the pad into an upright central section and independently adjustable end sections, a pair of elongated spring metallic strips, each of said strips having a horizontal portion extending across the central pad section and overlapping the corresponding horizontal section of the other strip throughout the lengths thereof, said strips having V-shaped, branched, spaced ends joined at the horizontal portions and diverging outwardly toward the edge of the pad and terminating near said edge, buttons on the extremities of said ends, straps securable to said buttons for applying pressure to the pad upwardly and inwardly, and screws removably securing the strips to each other and to the pad.

FRAIM DREY.