

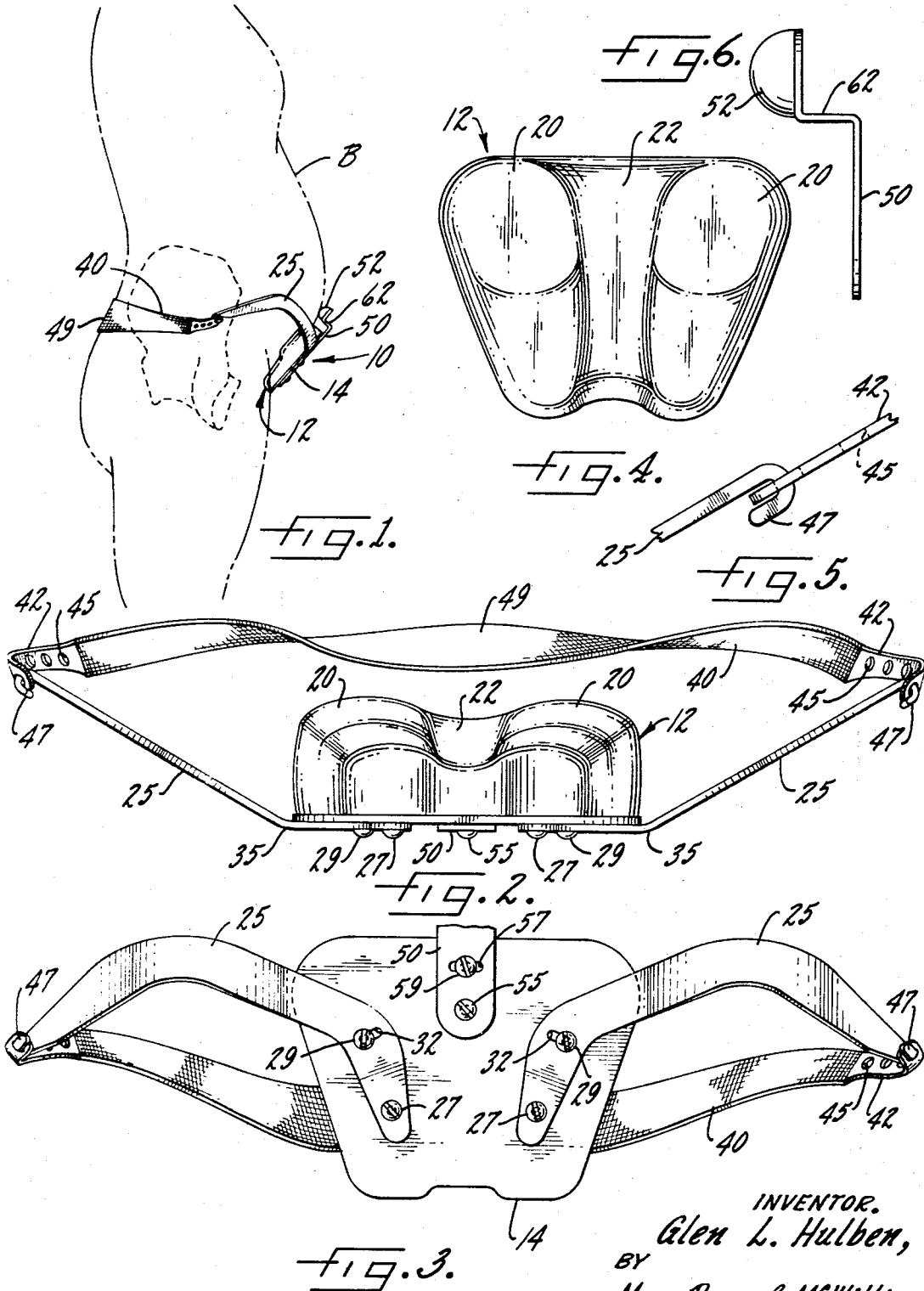
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HERNIA TRUSS

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HERNIA TRUSS
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The present invention relates to devices for the treatment of hernias by lending support to the distressed area of the body.

It is an object of the present invention to provide an improved hernia truss adapted to apply firm gentle pressure to the immediate area of discomfort, as well as the surrounding area, so as to prevent relocation of the protruding organ which might otherwise result from localized application.

It is another object of the present invention to provide a comfortable truss as characterized above which is so constructed as to remain in the exact position in which it is placed so that the user may bend, twist, or perform other activities, and which will also remain in place while the wearer is lying down or even asleep.

These and other objects and advantages of the present invention will appear from the following detailed disclosure when taken in conjunction with the appended drawing, wherein:

FIG. 1 is a representation of a human torso, and demonstrating the position in which the truss of the present invention is worn;

FIG. 2 is an enlarged view of the truss and associated belt as seen from beneath the same;

FIG. 3 is a front elevation of the truss of the present invention;

FIG. 4 is a front elevation of the pad which forms a part of the truss of FIGS. 2 and 3; and

FIG. 5 is an enlarged fragmentary view of the connection between the arms from the backing plate and the belt used in conjunction with the improved truss of the present invention.

While it is possible in many cases to repair a hernia by surgical procedures, in those instances where such operative measures are not possible, and in many other instances where the patient, for some reason, does not wish to undergo surgery, trusses of many types have been developed, the greater number of which are adapted to apply highly localized pressure at the point where the organ is protruding through the cavity such as the inguinal ring, in the body so as to hold the particular organ in its usual place. These devices often permit a shifting of the hernia, and are difficult to retain properly positioned during the course of even normal activity.

The truss of the present invention achieves a high degree of success in containing the hernia while providing a high degree of comfort without substantially lessening the degree of activity to which the wearer may subject his body. Referring to FIG. 1, a profile of a human body, marked B, is illustrated. The truss of the present invention is indicated generally at 10, and embodies a novel pad construction, as best seen in FIGS. 2 and 4, bearing the identifying character 12. It is, in accordance with the invention, supported by a rigid back plate 14, best illustrated in FIG. 3.

Referring first to the pad itself, it will be appreciated that physical differences make it necessary to adapt the same to each individual patient. However, that pad has certain significant features of a novel character which are present irrespective of necessary adaptation to the individual wearer.

Thus, in keeping with the invention, the particular pad 12 is relatively large in area as compared with the localized balls and buttons of many other such trusses.

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The pad narrows from a relatively wide upper portion so as to fit snugly between the thighs in the lower pubic area, and is provided with an additional taper in its thickness, as seen in FIG. 2. The face of the pad, which contacts the

area of the body, is provided with a pair of raised portions 20 which extend upwardly from the lower portion of the truss in a somewhat divergent direction. These raised portions 20 are adapted to engage the immediate area of the hernia so as to hold the intestine or other organ in its customary place. However, the area of the pad about the portion 20 is of sufficient magnitude so as to also apply a suitable firm pressure to a substantial area surrounding the localized hernia itself. Thus, pressure is not only applied at the area of the hernia, but to the surrounding area as well, so as to prevent inadvertent displacement of the protruding organ to another location outside the primary hernia area. Accordingly, the pressure is equalized on the body not only at the hernia location, but in the surrounding area. As a result, comfort to the wearer in using the pad of the present invention is substantially increased due to the absence of a highly localized pressure.

The raised portions 20 define a central channel portion 22 between them which is adapted to rest against the pubic bone structure to provide optimum comfort in repeatable placement of the hernia truss when it is removed to be cleaned or for other purposes. Thus, the pad is readily located in the proper position to provide the advantages herein set forth.

From a manufacturing standpoint, a suitable firm but resistant material such as polyvinyl chloride may be employed to make the pad. The pad may also be laminar or a single piece without departing from the invention. A suitable surgical covering material may also be used, as desired.

The pad itself is held in place by a backing plate 14 which is of rigid construction, and may be formed of any suitable metal plate, preferably, but not necessarily, a non-corrosive material such as stainless steel or aluminum. The plate 14 takes the general profile of the pad to which it is applied, and the pad may be permanently fastened or simply placed in contact with plate 14. In either instance, the pad, as will hereinafter appear, will be held in the precise position in which it is placed, irrespective of the activity or position of the user or wearer.

Retention of the pad in its proper position is one of the major difficulties in the use of prior trusses. In keeping with the invention, a pair of arms 25, which, as seen in FIGS. 2 and 3, are constructed to virtually "embrace" the body about the pelvic girdle. The arms, which are rigid, are pivotally fastened to the plates 14 by means of a pivot screw or rivet 27 disposed at the lower portion of the backing plate 14 and approximately in line with the axis of the raised portion or ridge 20 of the pad. A second screw 29 is provided for each of the arms, disposed along the approximate same axis, and the arm 25 is slotted, transverse to the axis of the arm at 32 to permit limited movement about the pin 29 by the arms.

The arms themselves, as seen in FIG. 2, are flush with the plate 14 until they pass beyond the extremities of the plate, where they are bent, as at 35, inwardly so as to fit about the lower pelvic region of the wearer. The arms extend approximately half way about the body of the wearer, where they are engaged by a retaining strap 40.

The arms, by virtue of their pivot mounting, may be adjusted by the wearer to concentrate pressure either lower or higher on the pad. They are preferably constructed of resilient spring tempered aluminum and are placed in slight tension when the belt is fastened thereto so that the belt is taut at all times.

The belt is preferably constructed of a relatively non-

resilient material such as canvas, and covered with any suitable surgical felt or other material to prevent chafing or wearing when placed against the skin. The belt or strap, formed with a pair of tongues 42 (which may be of leather), one at each end thereof, is provided to hold the backing plate in place. These tongues are provided with a plurality of apertures 45. The end of the arms 25 are narrowed down into hooks 47 which are narrow and rounded so as to permit a certain amount of swivel movement between the apertures 45 which are engaged by the tongue 42 and the tongue itself. This swiveling movement permits the pad to be retained in position while the wearer is active. The belt itself is relatively wide at its center area at 49, and is adapted to fit snugly on the posterior side of the wearer on the buttocks close to the base of the spine.

It is a feature of the present invention that when the wearer bends, stoops or reclines, the strap 40 will pivot, to the extent necessary, about the hooks 47, thus bringing about no change in position of the arms 25 or the pad 12. Accordingly, the pad remains firmly in the necessary position at all times, irrespective of the activity of the user.

An added feature of the invention is the provision of apparatus for applying firm, yet comfortable, pressure to the area of a navel hernia, while at the same time achieving the various objectives and advantages set forth hereinabove. More particularly, an upstanding finger 50 is provided having a semi-circular pad 52 mounted to the end thereof in any suitable fashion. The finger 50 is fastened to the upper portion of the backing plate 14 by means of a pivot pin 55, which may be a screw or rivet, and projects upwardly toward the navel. The finger is free to pivot, a limited amount, about the pin 55 within the confines of a slot 57 formed in the finger above the pivot pin 55. An additional pin 59 extends from the backing plate through the slot to define the limits of movement. Because of the angle at which the backing plate is normally disposed on the wearer, the finger may be offset as at 62 so as to move the pad 52 into close proximity with the navel, thus assuring that the proper pressure is applied. The pad 52 may, of course, be formed of any suitable material such as that which is used for the pad 12. It will be appreciated that because of the degree of freedom provided between the backing plate and the finger, normal activities of the wearer will not displace the pad from the desired location.

The result is that the truss itself, which requires no straps about the crotch, but only the single strap 40 connecting the firmly placed arms 25, remains in position

at all times, and applies the necessary pressure to hold the hernia in place, as well as providing a surrounding area of equal pressure to prevent the hernia from relocating due to severely localized pressure in the area of the hernia itself due to a sneeze or cough, for example.

It will be appreciated that the principles embodied in the present invention are valid whether the hernia is a result of the protrusion of an organ through the inguinal ring or whether it is due to some injury in a related area of the body.

I claim as my invention:

1. A hernia truss comprising a pad having a broad surface area in excess of the area of the hernia damage, said pad being relatively thick, resilient, but firm material, a backing plate adapted to hold said pad against the area of the hernia, said backing plate being flat, and adapted to support the entire area of the pad, a pair of elongated arms, pivotally mounted on said backing plate, and adapted to extend about a portion of a body on either side thereof from said backing plate, said arms each having a hooked end, and a relatively non-resilient strap engaged with said hooked ends, and adapted to pivot about said hooked end, to permit movement of said body without disturbing the position of said pad.

2. A truss as set forth in claim 1 wherein said pad is constructed of a foam material such as polyvinyl chloride, and is tapered inwardly from top to bottom, a pair of raised portions formed on the face of said pad for pressing against the area of the hernia.

3. A truss as set forth in claim 1 wherein said arms are contoured to embrace a portion of the pelvic girdle and said strap is non-resilient and adapted to engage the upper portion of the buttocks of the wearer.

4. A truss as set forth in claim 1 including a navel support comprising a finger extending upwardly from said backing plate, said arm having a pad mounted thereto extending against the navel to apply pressure thereto.

5. A truss as set forth in claim 4 wherein said finger is mounted for limited movement transverse to said backing plate in the plane thereof.

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