Sept. 14, 1926. 1,599,762

C. W. GUTHRIE ET AL

ABDOMINAL BELT

Filed Sept. 19, 1923 2 Sheets-Sheet 1

Fig. 2.

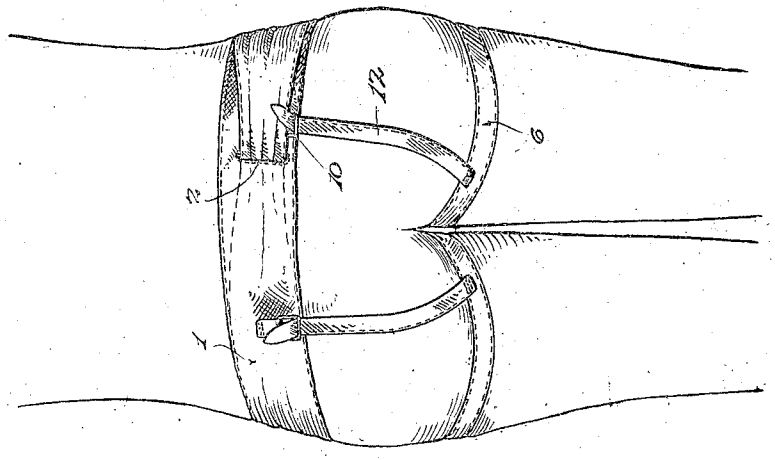
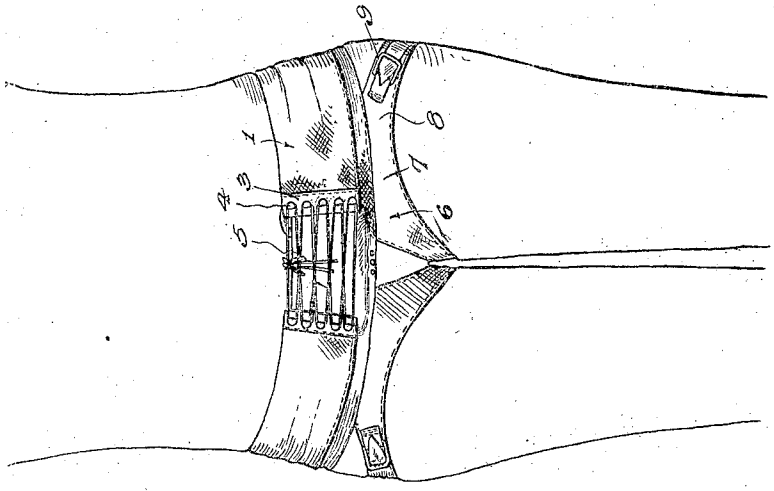


Fig. 1.



Inventor

C. W. Guthrie.

W. T. Buckner.

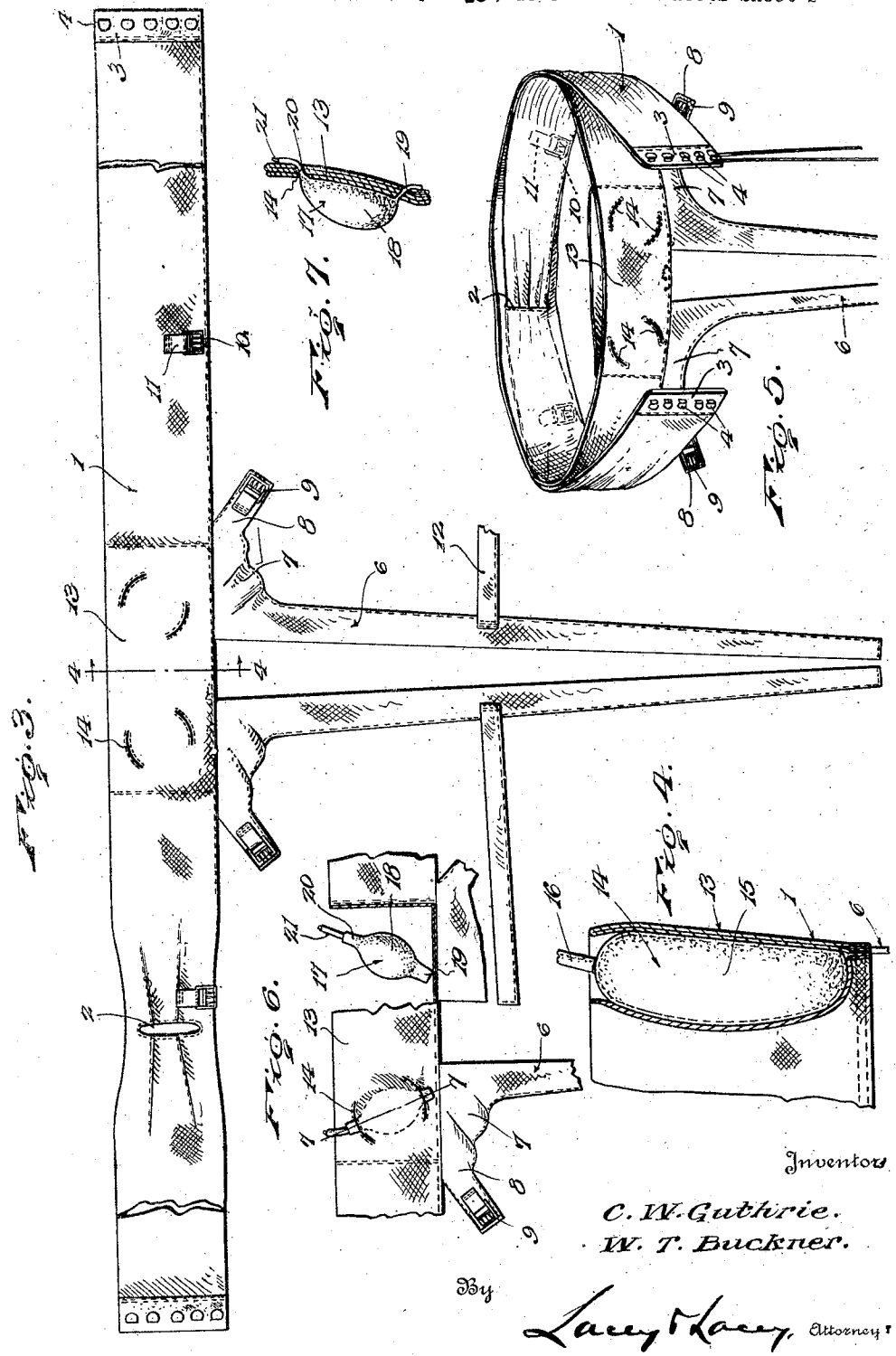
By Lacy & Lacy, Attorneys

Sept. 14, 1926. 1,599,762

C. W. GUTHRIE ET AL

ABDOMINAL BELT

Filed Sept. 19, 1923 2 Sheets-Sheet 2



Inventor

C. W. Guthrie.
W. T. Buckner.

By Lacey & Lacey, Attorneys

Patented Sept. 14, 1926. 1,599,762

UNITED STATES PATENT OFFICE.

CHARLES W. GUTHRIE AND WILLIAM T. BUCKNER, OF SHELBYVILLE, KENTUCKY.

ABDOMINAL BELT.

Application filed September 19, 1923. Serial No. 663,658.

This invention relates to improvements in abdominal supporters or bandanges, and has as one of its objects to provide a device which may be employed in the manner of an ordinary abdominal support or, by a slight rearrangement of its parts, may be employed with great efficiency where the wearer is afflicted with hernia.

One disadvantage presented by abdominal bandages or supports of the ordinary construction is that when the wearer assumes various postures, the support is liable to become displaced so that it ceases to function in the proper manner and is also liable to cause considerable discomfort. Therefore it is another important object of the present invention to provide an abdominal support which will remain in proper supporting position practically regardless of the postures which the wearer may assume and regardless of any exertion on his part. In this connection, it is likewise the object of the invention to provide a peculiar arrangement of thigh straps such that the bandage portion of the support, or, in other words, the portion which extends across the abdomen, will not only be held taut and suitably tensioned while the wearer is standing erect, but will be likewise so held, and with an equal degree of efficiency, while the wearer is seated or is bending over or assuming a stooping posture.

Another object of the invention is to provide the bandage portion of the support with means whereby an inflatable pad may be supported thereon so as to cause the exertion of a desirable degree of pressure against the hernia or rupture.

Another object of the invention is to provide means whereby the inflatable pad may be adjusted so as to be properly located with relation to the hernia or rupture and thus increase the efficiency of the device and effect the exertion of pressure at precisely the required point.

Another object of the invention is generally to provide an abdominal support which may be readily and quickly applied and removed and which may be readily laundered as occasion may require.

In the accompanying drawings:

Figure 1 is a perspective view showing the suport embodying the invention applied, the view representing the front of the support;

Figure 2 is a similar view looking at the rear of the support;

Figure 3 is a view in elevation of the support spread out;

Figure 4 is a detail vertical sectional view on the line 4—4 of Figure 1 illustrating the manner of supporting one form of pressure pad upon the bandage part of the support;

Figure 5 is a perspective view of the support arranged in substantially the manner required for its application;

Figure 6 is a view similar to Figure 3 and of a fragmentary nature and illustrating a modified arrangement of pressure exerting pad;

Figure 7 is a detail sectional view on the line 7—7 of Figure 6.

The support embodying the invention comprises a bandage portion which is indicated in general by the numeral 1 and which may be made up of one or more plies of cloth and which is in the form of a belt of substantially uniform width throughout its length, the belt being of a length to adapt it to substantially twice encircle the body of the wearer. Near its intermediate portion the belt is formed with a slot indicated by the numeral 2 and extending vertically of the belt, and in applying the belt about the body, the said intermediate portion of the belt is disposed snugly against the abdomen, and the side stretches of the belt are led rearwardly about the body, that stretch other than the one in which the slot 2 is formed being threaded through the slot as clearly illustrated in Figure 5 of the drawings, and the end portions of the stretches being brought around to the front of the body and overlapping the said intermediate portion. In order that the belt may be held tightly and snugly about the body, it is provided at the ends of its stretches with tabs 3 of leather or any other suitable relatively stiff material having hooks 4, and a lacing string 5 is laced back and forth about the hooks, and tied in a bowknot.

United at their upper ends to the lower edge of the intermediate portion of the belt 1 are thigh straps indicated in general by

the numeral 6. Each strap 6 is relatively broad at its upper end so as to provide a web portion 7 united, as stated, to the lower edge of the intermediate portion of the belt, and each web portion is provided at its end relatively remote from the other web portion, with an extension 8 to the end of which is connected a buckle indicated by the numeral 9. The extensions 8 of the two thigh straps extend in a general downward and outwardly inclined direction and the buckles 9 serve a purpose to be presently explained. Buckles 10 are supported upon the belt at the intermediate portion thereof and close to the lower edge of the belt and preferably from relatively short straps or tabs 11, stitched or otherwise united to the belt, and straps 12 are secured to the thigh straps 6 at a point suitably spaced below the attached webbed upper end 7 of the said thigh straps and extend laterally in opposite directions from the said straps 6.

At this point and by reference to Figures 1 and 2 of the drawings, it will be observed that after the belt has been passed about the body and suitably adjusted, its ends may be laced together as shown in Figure 1 of the drawings, after which the two thigh straps 6 are individually passed about the thighs of the wearer by being led rearwardly through the crotch, around the thighs, and back to the front where their ends are engaged with the buckles 9, the straps being drawn relatively tight so as to exert a desirable degree of tension on the intermediate or bandage portion of the belt. Preferably the straps are so adjusted that they will extend downwardly at their rear sides and be more or less securely anchored against upward displacement upon the thighs. The straps 12 are next led in an upward direction and are engaged through the corresponding buckles 10. It will now be apparent that the intermediate portion of the belt 1 is snugly held to the abdomen when the wearer of the support is standing erect, and constitutes a highly efficient means for supporting the abdomen. It will likewise be evident that in the event the wearer stoops over or sits down, the straps 12 will be tensioned as will also the straps 6, thus exerting a downward and rearward pull upon the lower marginal portion of the intermediate part of the belt 1 and causing this part to very snugly fit the abdomen and properly support the same.

In order that the device may be adapted for the support of a pressure exerting pad, a cloth blank is stitched at its lateral and lower margins to the inner face of the belt 1 and constitutes one wall of a pocket which is indicated in general by the numeral 13, the pocket opening at its upper side substantially in a plane with the upper edge of the said belt, as clearly shown in Figures 3, 4 and 5 of the drawings. Within this pocket 13 there may be disposed a pressure exerting pad which is indicated by the numeral 14 and which comprises an inflatable bag 15 of rubber or any other suitable material which occupies substantially the entire pocket and which is provided at its side which is uppermost when the pad is arranged within the pocket, with an air tube 16 through the medium of which air under pressure may be pumped or otherwise forced into the pad to inflate the same. It will be observed that the pocket 13 extends a substantial distance across the front of the abdomen when the support is applied and that inasmuch as the pressure exerting pad 15 substantially fills the pocket, substantially even pressure will be exerted against the abdomen to support the same. However, inasmuch as the pad is pneumatic, the wearer of the support will experience no discomfort such as might be the case if a pad of a solid nature were employed.

Where the support is to be employed by a person afflicted with hernia or rupture, it is desirable to apply pressure principally at one point and in order that this may be accomplished one or two pressure exerting pads such as those illustrated in Figures 6 and 7 of the drawings and indicated in general by the numeral 17, may be employed. Each of the pads 17 comprises an inflatable bag 18 having at its lower end a tab extension 19 and at its upper end a similar extension 20 in which latter extension is fitted an air tube 21 providing for inflation of the bag. The walls of the pocket 13 are formed at correspondingly located points, with arcuate slots or incisions 14, and the incisions are arranged in pairs at opposite sides of the middle of the pocket, as best shown in Figure 3 of the drawings, and the incisions of each pair extend on arcs of a common circle. Likewise, the incisions are disposed with their intermediate points located in a line oblique to the vertical median line of the pocket, as shown in the drawings. In employing the pressure exerting pad 17, one or two of the pads may be used depending upon whether the rupture is single or double, and in any event the tab extension 19 at the lower end of the pad is inserted through the lower incision of one of the sets, or both of the sets as the case may be, and the upper tab extension 20 is inserted through the upper incisions of corresponding sets, as likewise the inflating air tube 21, the bag 18 being disposed bodily against the inner side of the belt 1, rather than within the pocket, as shown clearly in Figure 7 of the drawings. The tabs 19 and 20 are of a width considerably less than the length of the incisions through which they are inserted, and due to the arcuate extent of the incisions, it will be evident that the

bags may be adjusted angularly or bodily along diagonal lines, to so position each bag that it may be brought to bear directly at the point of location of the rupture or hernia and thus most effectually perform its supporting function and cause the least inconvience to the wearer.

From the foregoing description of the invention it will be seen that there is provided an abdominal support which may be readily and conveniently applied and removed and which when in place will support the abdomen without any material inconvenience to the wearer. It will also be evident that regardless of any posture which the wearer might assume, there will be no likelihood of displacement of the abdomen supporting portion of the belt so that the belt will at all times perform its duty. Likewise it will be evident that because of the peculiar arrangement of the thigh straps 6, and the straps 12 associated therewith, there is no likelihood of the thigh straps working into the crotch and causing inconvenience. Also it will be observed that there is provided convenient means whereby any required arrangement of pressure exerting pads may be employed or the device utilized without the presence of any pads of this nature whatsoever.

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

1. An abdominal supporting belt provided with means for securing it about the abdomen, and provided with spaced diagonally disposed incisions, and a pad having terminal tab extensions to engage the incisions and admit of angular adjustment of the pad.

2. An abdominal supporting belt provided with means for securing it about the abdomen, and provided with spaced diagonally disposed arcuate incisions, and an elongated pad having terminal tab extensions to engage the incisions and admit of angular adjustment of the pad.

3. An abdominal supporting belt provided with means for securing it about the abdomen, and provided with spaced diagonally disposed arcuate incisions, a fabric piece placed against the inner side of the belt opposite the part in which the incisions are found and stitched at its ends and lower edge to the belt to form an upwardly opening pocket, and an elongated pad within the pocket having terminal tab extensions to engage the said arcuate incisions and admit of angular adjustment of the pad.

4. An abdominal support comprising a flexible belt having means adapting it to be secured about the abdomen, the flexible front portion of the belt having oppositely located arcuate incisions therein, an inflatable rubber pressure-exerting pad disposed against the said portion of the belt and having integral tab extensions adjustably engaged in said incisions, the said pad being of elongate oval form, and an inflating tube for the pad leading through one of said tab extensions.

In testimony whereof we affix our signatures.

CHARLES W. GUTHRIE. [L. S.]
WILLIAM T. BUCKNER. [L. S.]