Dec. 24, 1929. H. G. NORWOOD 1,740,953

TRUSS

Filed Jan. 31, 1928

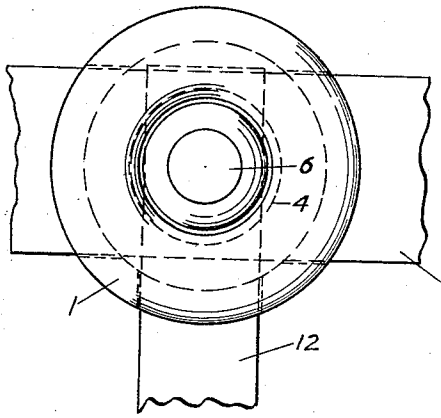


FIG. 1

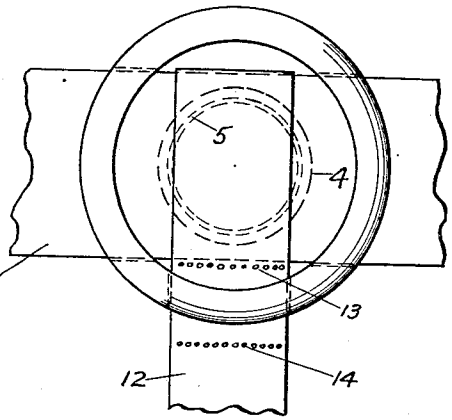


FIG. 2

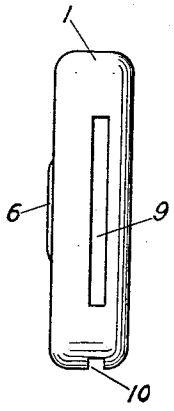


FIG. 3

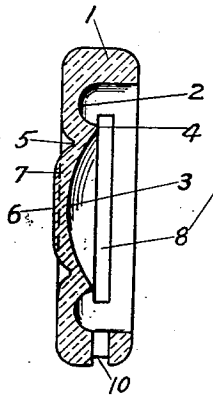


FIG. 5

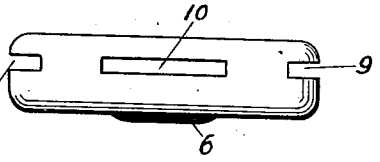


FIG. 4

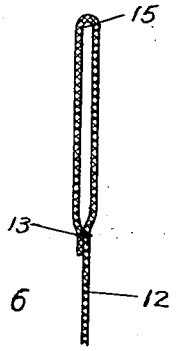


FIG. 6

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HARRY G. NORWOOD, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF TO A. D. T. LIBBY, OF EAST ORANGE, NEW JERSEY, AND ONE-HALF TO CLARENCE S. MAYER, OF NEW YORK, N. Y.

TRUSS

Application filed January 31, 1928. Serial No. 250,750.

This invention relates to an improved form of truss especially adapted for use in the case of a hernia.

In my application, Serial No. 213,540, filed August 17, 1927, I have shown and described a special form of truss in which the cushion member is of a special design carried on some suitable supporting means. One form of the supporting means shown and described in said application comprises a holder of hard rubber or other strong and preferably non-metallic substance.

Since the time of making my invention disclosed in said application, I have studied this problem very much more and have now discovered that the hard supporting or holding member of my previous application can be done away with entirely and the cushion per se may be mounted or carried directly on the straps going around the person's body, thereby securing a device of this kind which gives the greatest amount of ease and can thus be worn day and night. The cushion comprising the subject matter of my present invention is of the double-arch type as disclosed in my previous application above referred to, but modified in order to enable it to be carried directly by the body straps. Consequently, the principal object of my invention may be stated as being directed to providing a truss which would be easier and more comfortable than those previously designed, and one in which parts have been reduced to a minimum, thereby lightening the device and making it cheaper to manufacture. The other objects of my invention are similar to those stated in my previous application; to wit:

To provide a truss which acts on the hernia so as to tend to close the same rather than to open it.

To provide a truss having bearing surfaces separated in such a manner and constructed so as to attain the objects previously set forth.

To provide a truss having the central portion, which engages the rupture, of greater flexibility than the co-acting adjacent part whereby the tendency of the peripheral portion is to push the flesh toward the rupture and thereby facilitate the healing of the tissue at that point.

To provide a truss having its flesh engaging surfaces so arranged as to automatically assist in holding the truss in position. These and other objects will be clear after a study of the specification and drawing in which

Figure 1 is a plan view of the truss showing the supporting straps in position but having the ends cut off.

Figure 2 is a rear view of Figure 1.

Figure 3 is a side view of the cushion comprising the truss, without the straps.

Figure 4 is a side view of the truss without the straps, looking upward at Figure 2.

Figure 5 is a central vertical section through the truss as shown in Figure 1, without the straps.

Figure 6 is a view of the auxiliary strap showing the loop through which the main strap is passed.

Referring now to the details in which like numbers refer to corresponding parts in the different views noted, 1 is the cushion (preferably of soft rubber) comprising the truss. The cushion is made up of two arched portions, the outer peripheral arch 2 and a central arch 3. These two arches have a common annular abutment 4 and the arches are separated on the surface which engages the flesh so as to provide an annular recess 5, which recess acting in connection with the moisture of the body tends by suction to hold the truss in its proper place.

The central arched portion has preferably its outer or flesh engaging surface 6 flat for a distance and this portion also preferably projects a certain distance as indicated by the dotted line 7, Figure 5, beyond the plane of the flesh engaging surface of the outer arched portion. This last mentioned portion terminates in an annular rim which projects beyond the plane of the edge of the abutment 4, as is clearly shown in Figure 5.

Oppositely disposed in the wall of this rim is a pair of slots 8 and 9. The length of the slots is suitable to accommodate the belt 11 which is adapted to pass around the wearer's body. Usually a belt of this kind is approximately 1½ inches wide. In the portion between the slots 8 and 9, is at least one other slot 10 which is not as long as the slots 8 and

9, but may be wider to accommodate a double thickness of an auxiliary belt 12. This belt 12 has its end looped back on itself and is preferably stitched as is indicated at 13 and 14, Figure 2, stitching 13 being positioned so that the belt 11 will preferably fit tightly within the looped portion when the belts are assembled as shown in Figures 1 and 2. Instead of bringing the looped end of the auxiliary belt outside the periphery of the rim of the cushion and stitching the same at 14, the end of the loop 15 may terminate within the periphery and only one stitching 13 is then required, as is shown in Figure 6.

After the end of the auxiliary belt 12 has been looped and stitched in either of the forms as above described, this looped end is passed through the slot 10 and then the main belt 11 is pushed through the slots 8 and 9 and through the looped portion of the belt within the periphery of the rim of the cushion, and as the belts are thus assembled, they lie against the annular abutment 4 of the arches 2 and 3, thereby giving support to both of these arches, so that the reaction of one arch to the other is taken by the belts instead of by the rigid support member as shown in my previously mentioned pending application.

The anchorage of the auxiliary belt 12 to the main belt 11 is thus one that can be readily shifted so that the truss can be positioned at the proper place on the main belt, but the arrangement is such that the truss cushion is held to the belts without any danger of moving out of place.

From what has been said, it will be observed that this design of a truss is such that it will bend and thereby conform to the contour of the body of the person wearing it and to compensate for this bending of the truss whereby the central portion of the same would tend to be below the plane of the exterior portion, I have carried the central portion 6 outwardly as indicated in Figures 3, 4, and 5, as previously described.

It is to be understood that the truss may take some other form than the circular form shown, in order to fit the particular hernia to which the truss may be applied. It is intended that the claims should cover various shapes of cushions or a cushion which is carried directly on the body straps.

Having thus described the invention, what I claim is:

1. A hernia truss comprising; a cushion of resilient material having a central arch bearing portion and an integral outer arch bearing portion concentrically spaced apart from the central portion and terminating in a rim, said portions having a common abutment spaced from the rim and means for carrying the cushion directly on the body strap, said means consisting of slots oppositely disposed in the rim to receive the main body strap, the slots being positioned so the body strap engages said abutment and at least another slot through the rim of the cushion to receive an auxiliary strap adapted to be supported by the body strap.

2. A one-piece hernia truss comprising; a cushion of resilient material having a pair of separated arch-bearing portions with an annular abutment common to both arches, the outer arch terminating in a rim extending beyond the plane of said common abutment, said rim having slots oppositely positioned so their inner edges are substantially in the same plane with the edge of said abutment whereby when the main body strap is passed through said slots it engages said abutment, said rim having at least another slot to receive an auxiliary strap which is adapted to cooperate with the main body strap within the confines of said rim.

3. A hernia truss comprising; a cushion of resilient material having a pair of spaced arch-bearing portions with an annular abutment common to both arches, the outer arch terminating in a rim extending beyond the plane of said common abutment, said rim having slots oppositely positioned so their inner edges are substantially in the same plane with the edge of said abutment whereby when the main body strap is passed through said slots it engages said abutment, said rim having another slot between the first two but of greater width to receive the looped end of an auxiliary strap which loop engages the abutment and encompasses the main body strap within the periphery of said rim.

4. A hernia truss comprising; a cushion of resilient material having a central arched portion and a peripheral arched portion spaced from the central portion, said arched portions having a common fulcrum abutment and the flesh engaging surface of the central arched portion extending slightly beyond the corresponding surface of the outer arched portion and means for supporting the cushion directly on the body straps so said common abutment rests entirely on the straps.

5. A hernia truss comprising; a cushion of resilient material having a central arched portion and a peripheral arched portion spaced from the central portion, said arched portions having a common fulcrum abutment and the flesh engaging surface of the central arched portion being flat for a distance and extending beyond the corresponding surface of the outer arched portion, said latter portion terminating in a rim extending beyond the plane of said common abutment, said rim having slots oppositely positioned so their inner edges are substantially in the same plane with the edge of said abutment whereby when the main body strap is passed through said slots it engages said abutment, said rim having another slot between the first two but of greater width to receive the looped

end of an auxiliary strap which loop engages the abutment and encompasses the main body strap within the periphery of said rim.

6. A hernia truss comprising; a one-piece cushion capable of conforming to the contour of the body to which it is applied, said cushion having a pair of concentrically-arranged flesh-engaging arches joined in a common abutment, the central arch flesh engaging portion projecting somewhat beyond and more flexible than the outer arch flesh engaging portion, and means for supporting the cushion directly on the body straps so said common abutment rests entirely on the straps.

7. A hernia truss comprising; a one-piece cushion capable of conforming to the contour of the body to which it is applied, said cushion having a pair of concentrically-arranged flesh-engaging arches joined in a common abutment, the central arch flesh engaging portion projecting somewhat beyond the outer arch flesh engaging portion, said latter portion having a rearwardly extending annular rim, said rim having slots therein through which the body straps pass, said straps cooperating with said common abutment to hold the central arch against the hernia.

In testimony whereof, I affix my signature.

HARRY G. NORWOOD.