

M. A. WATSON.
ABDOMINAL SUPPORT OR BINDER.
APPLICATION FILED JAN. 2, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

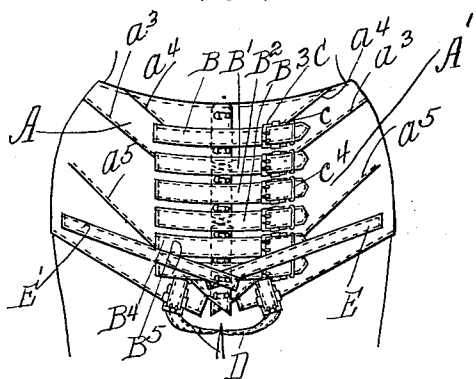


Fig. 2.

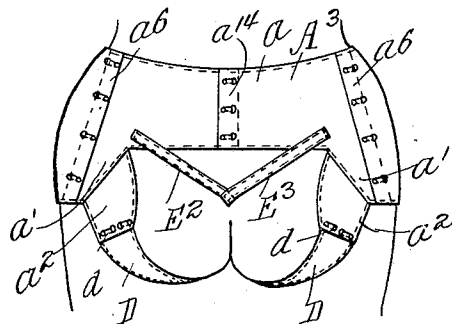


Fig. 3.

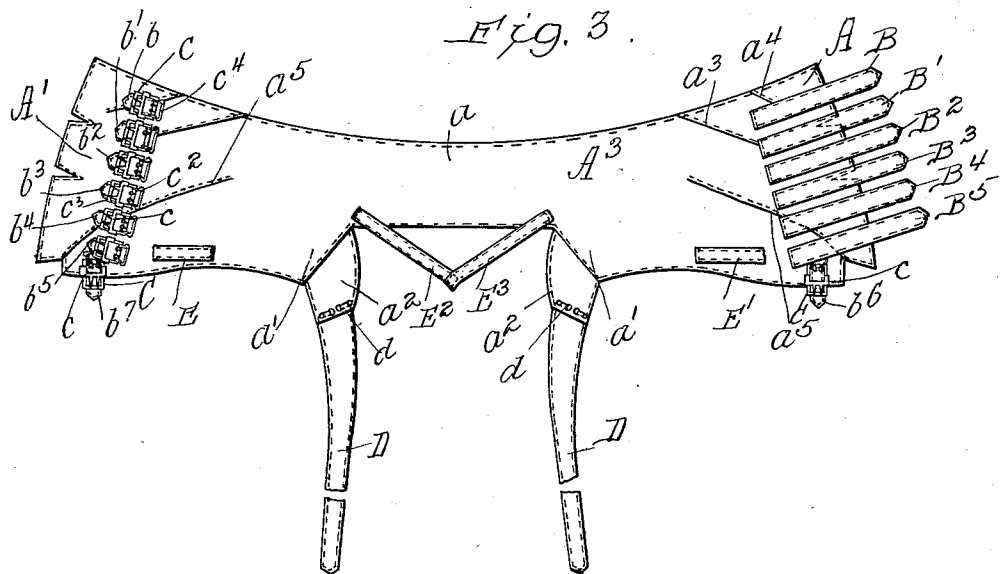
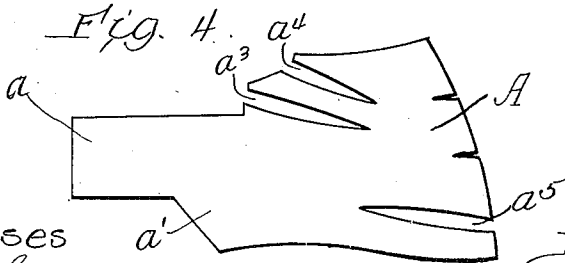


Fig. 4.



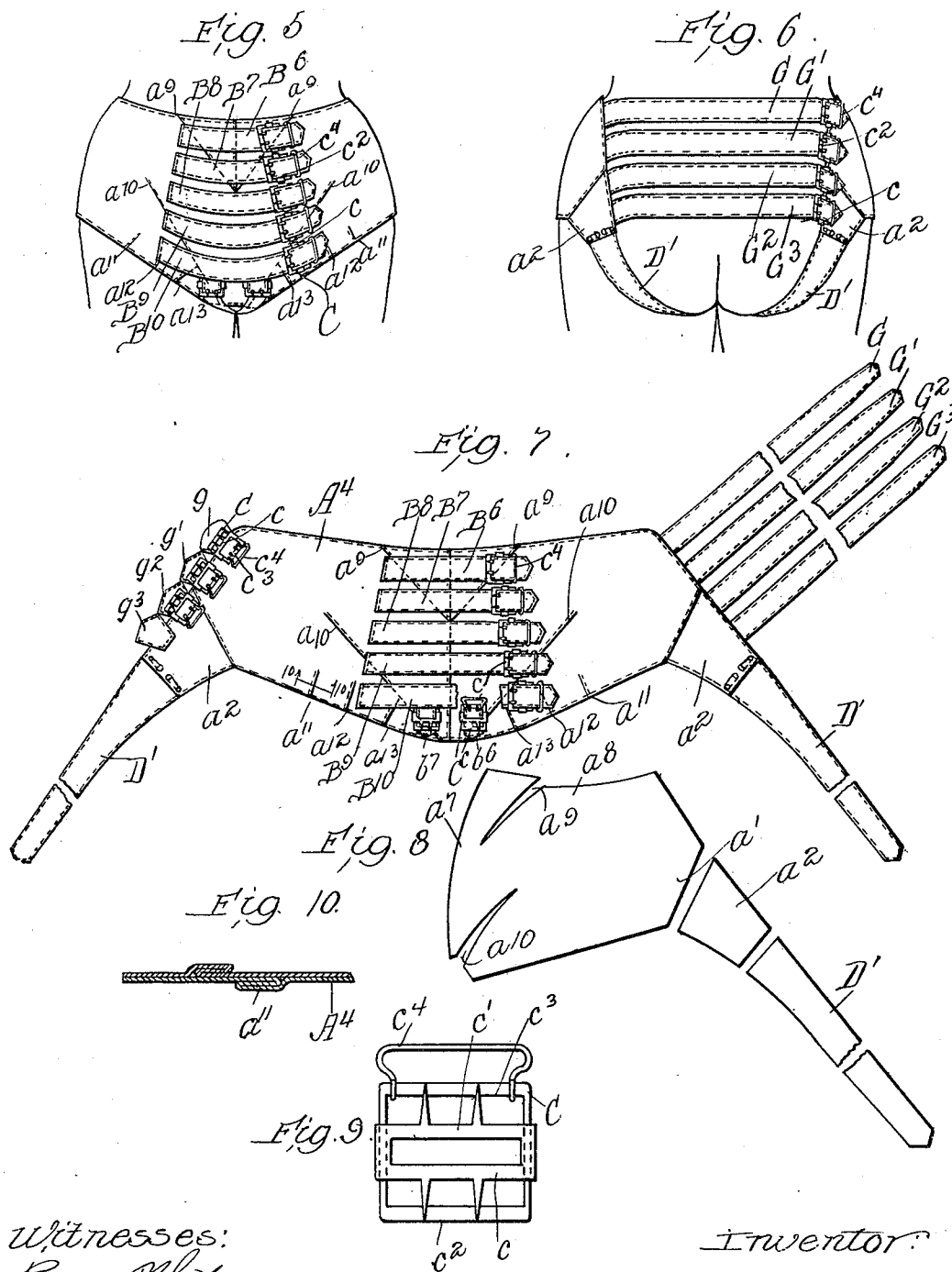
Witnesses
Ray White.
Harry R. White

Inventor
Mattie A. Watson,
By Charles E. White, Atty.

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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

MATTIE A. WATSON, OF CHICAGO, ILLINOIS.

ABDOMINAL SUPPORT OR BINDER.

No. 825,165.

Specification of Letters Patent.

Patented July 3, 1906.

Application filed January 2, 1906. Serial No. 294,103.

To all whom it may concern:

Be it known that I, MATTIE A. WATSON, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Abdominal Supports or Binders; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My present invention relates to the construction of that class of abdominal supports, bandages, or binders composed of linen, cotton, silk, drilling, coutil, or equivalent fabric of a non-elastic nature and having the required firmness, as well as capable of being thoroughly cleansed and sterilized without injury to the form or fabric of the binder, and especially to that class of binders wherein the shaping of the binder is effected by means of properly-disposed gores or darts and in which the support of the viscera, as well as the proper application of graded pressure, where required, is effected through the medium of adjustable straps; or, in other words, the present invention relates to that class of abdominal bandages or supports embodied in my previous patents, Nos. 612,072 and 612,073, dated October 11, 1898, on which the hereinafter-described construction is an improvement.

Among the several objects of the present invention, in addition to the avoidance of the unequal support and pressure incident to binders formed in part of elastic material, is the provision of means for affording an increased and uniform support to the viscera of the inguinal and hypogastric regions; the provision of means for enlarging or contracting the binder along the groin-lines and at the pubic region, and generally for varying the size of the binder without destroying the fit thereof; the provision of means for protecting the wearer from the chafing of the buckles whereby the strap connections are rendered adjustable, and, finally, the provision of means for facilitating the personal application and adjustment of the binder or bandage by the wearer, all of which will be hereinafter fully set forth and be finally pointed out in the claims.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same,

either in the form shown in the accompanying drawings or in such modifications thereof as circumstances may dictate.

In the drawings, Figure 1 is a front elevation of a device embodying my invention, showing the same in place. Fig. 2 is a rear elevation of the same. Fig. 3 is a view of the binder or support, showing the same opened out to its fullest extent. Fig. 4 is a view illustrating the cutting of one end of the binder, showing the cuts for the darts. Fig. 5 is a front elevation of a slightly-modified form of binder. Fig. 6 is a rear elevation of the same. Fig. 7 is a view of the binder, showing the same opened fully out and part of the straps broken away. Fig. 8 is a view illustrating the cutting of the fabric. Fig. 9 is a plan view of the double-tongued buckle. Fig. 10 is a transverse section taken on line 10 10 of Fig. 7 and illustrating the construction of the darts.

Like symbols refer to like parts wherever they occur.

Referring first to Figs. 1 to 4, inclusive, a strip of fabric—such as linen, cotton, silk, or any suitable material and of a length sufficient to extend around the abdomen—is cut to correspond approximately in shape at the ends with Fig. 4, thus providing relatively broad end portions A and A' and a relatively narrow back or central portion a , as shown in Fig. 3. At the lower edges between the ends and the center the strips are cut to provide obliquely upward and inwardly directed edges a' over each hip. Two such strips are placed one on the other and stitched together, and obliquely inward and downwardly directed tabs or ends a^2 are stitched between the same to afford attachment for the perineal straps.

At each of the relatively broad ends of the support or bandage the material is cut or slitted from the top between the ends and the center and forwardly toward the ends, as shown in Fig. 4, removing, as shown, two wedge-shaped gores, and the cut edges are sewed together to afford darts a^3 a^4 and forming neat smooth seams, and the top of the bandage is cut to a suitable sweep or curve, as shown in Fig. 3, to fit to and around the body.

One or more corresponding darts a^5 , similarly made, are provided, which extend obliquely upwardly and inwardly from the lower corner at each end, thus causing the ends of said bandage to assume a convex curvature to fit to the abdomen of the wearer.

Of course the number and depth and the inclination of said darts are such that when the bandage is in place it fits perfectly to the form. As shown, one or more short slits are cut in the end of the binder to facilitate fastening the ends onto another with safety-pins or other attaching means and drawing the binder tightly to the person.

Secured at one end of the bandage and extending in alinement therewith are straps B, B', B², B³, B⁴, and B⁵, which may be of any desired number and which are of material similar to that of which the supporter or binder is made or of any suitable material. These are firmly stitched to and project beyond the end for a desired length, as shown in Figs. 1 and 3. Stitched to the opposite end of the bandage are short straps or tabs b to b⁵, inclusive, of material similar to straps B to B⁵, inclusive, and which, as shown, are stitched to the end of the bandage and upon which is detachably engaged a double buckle, (indicated as a whole by C.) Said straps provide means not only for securing the supporter about the body, but also afford means for lifting and supporting the abdominal walls. Said buckles comprise each a double forwardly and rearwardly directed tongue c c' and the front and rear bars c² c³, which hinge beneath the tongues. Connected on the rear bar c³ of said buckle is a loop or conductor, of wire or other suitable material, c⁴, bent at its ends to engage said bar and to increase the size of the loop, as shown in Fig. 9. Said loops retain the ends of the straps, which protrude through the buckles, and conduct the same, flat, to the person.

Attached near the ends of the support or binder, one on each side the center when the ends are brought together, as shown in Figs. 1 and 3, are tabs b⁶ and b⁷, corresponding with the tabs b to b⁵ in form and construction, but are directed downwardly, and upon each of which is secured a buckle C, such as before described. These receive and adjustably engage the tapered end of the perineal straps D, each of which, as shown, is slightly curved and is secured at its relatively broad rear end to the perineal tabs a² by means of safety-pins d or other suitable detachable means. Said perineal straps are of a length and so shaped and secured to the supporter as to make the same perfectly adjustable and adapted to fit about and beneath the thigh and perineum, and the front ends are drawn laterally and upwardly and attached to the tabs b⁶ b⁷, respectively, by means of the buckles, thus holding the bandage from working up and from wrinkling.

Straps E E' near the bottom of the binder and well out on each thigh extend forwardly and obliquely downwardly, as shown in Fig. 1, and are connected at their inner ends by means of safety-pins or other suitable means. Corresponding straps E² and E³, secured at

the rear side of the binder, are also connected together at their adjacent ends and afford means for attaching thereto a catamenial bandage, if desired. This, of course, may be attached to said straps by means of safety-pins or by any suitable means. The supporter or binder is usually so constructed as to permit a fold a¹⁴ to be taken in the back, as shown in Fig. 2, and a corresponding fold a⁵ to be taken at or a little back of the hip. Owing to the construction described, the binder is thus perfectly adapted for use where constantly varying conditions as to size and form obtain—as, for instance, in cases where it is desired to gradually increase the size of the binder or support by letting out the folds or for certain surgical cases where it is required to progressively reduce the size of the bandage from day to day to maintain a constant and uniform pressure and support.

The binder may also be varied in form and size by overlapping the ends and securing the same with safety-pins, as shown in Fig. 1.

If preferred, instead of opening the front ends of the binder the front ends may be permanently secured together and the binder opened in the back. Such a binder, which is substantially identical in all other respects with the binder indicated in Figs. 1 to 4, is shown in Figs. 5 to 8, inclusive. In this construction the pieces of fabric from which the binder or supporter is formed are cut substantially as shown in Fig. 8—that is to say, to afford a convexly-curved front portion a⁷—and is also inwardly curved at its top, as indicated by a⁸, and tapers toward the rear extremity, which is provided with an oblique laterally-cut edge corresponding with the similar edge or margin a' in Fig. 4 and to which is secured the perineal tabs a², corresponding with the perineal tabs a² shown in Figs. 2 and 3 and which are similarly secured to the binder. Said pieces of fabric are cut to afford a convex curvature from the top downwardly and forwardly toward the middle of the binder when united and from the lower corner obliquely upward to form one or more upper and lower darts a⁹ and a¹⁰, which extend from a vertical center line obliquely upward and outwardly and may be of any desired number, extent, or angle with a central line to mold the bandage to fit the form for which intended. Darts a¹¹, a¹², and a¹³ are provided at the lower edge of the binder, which incline inwardly and upwardly toward the center line, as shown in Figs. 5 and 7, and are formed without cutting the material by bending a fold of each layer of the fabric inwardly on each side of the binder, as shown in Fig. 10, and arranging the folds one on each side of the dart-line, so that said folds do not overlap each other, thereby avoiding unnecessarily increasing of the thickness of the binder at the darts and maintain the desired fullness above the dart

and symmetry of the binder and increase the supporting power of the binder, and of course can be let out should it be desired to increase the size of the binder at its bottom. The darts a^{11} , a^{12} , and a^{13} shown at the lower edge of binder in Figs. 5 and 7 of the drawings and in cross-section Fig. 10 of the drawings are to be understood as also applied to the form of the binder which opens in front, as illustrated in Figs. 1 and 3 of the drawings; but for the sake of clearness these darts have been omitted in Figs. 1 and 3.

Secured on one side of the vertical center line of the binder are straps B^6 to B^{10} , inclusive, which may of course be of any desired number, which extend transversely and are engaged by buckles C, such as before described, and which are removably secured on the tabs identical in construction with the tabs b' to b^5 , inclusive. (Shown in Fig. 3.) Perineal tabs b^6 and b^7 are also secured one on each side of the center line and extend obliquely downwardly, and removably secured to each of the same is a buckle C, adapted to engage the tapered ends of the removable perineal straps D' . Said perineal straps may be either flat for their entire length and tapered toward the extremity, as shown, or may be rolled or rounded where the same passes beneath the perineum should the use of the binder desire.

Secured on one of the rear edges of the binder A^4 are straps G to G^3 , inclusive, the first two of which are secured to the end of the binder and the remaining two of which are secured to perineal tab a^2 , as shown, and all of which are bluntly pointed on the ends and shaped to afford a long end taper, thus facilitating passing the same into the buckles. On the opposite end of the bandage and on the perineal tab a^2 are tabs g , g' , g^2 , and g^3 , corresponding in position with the straps G to G^3 , inclusive, at the opposite end of the bandage or binder. Said tabs g to g^3 , as shown, are formed with a flare, or, in other words, are made relatively broad at the end, and the tab g is broad and rounded, not only to protect the body from contact of the buckle, but as well to avoid such sharp angles or corners as would be likely to chafe the skin.

The straps E, E' , E^2 , and E^3 , such as shown in Figs. 1 and 2, to afford attachment with a catamenial bandage, may be secured to the binder or supporter A^4 , if desired. For convenience, however, the same are not shown. In attaching this binder the same is drawn about the body and the straps G to G^3 engaged with the buckles on the corresponding tabs which extend beneath the buckles and shield the wearer from discomfort. The perineal straps are drawn inwardly to their characteristic position, indicated by the name, and the ends thereof are attached to the buckles engaged on the pe-

rineal tabs b^6 b^7 , which are so placed that when the said straps when drawn about each thigh slipping of the binder is impossible.

The operation is as follows: The construction permits the binder or bandage to be fitted perfectly to the form of the wearer. By varying the number, size, and inclination of the darts or varying the darts in all three respects any desired amount of fullness at the abdominal part of the binder may be secured. From the construction shown in Figs. 1 to 4, inclusive, folds of any desired width may be taken either at the middle or rear side of the bandage (indicated as a whole by A^3) or between the perineal tabs and the ends of the darts, thus materially reducing or varying the size of the binder to suit the requirements of the patient without in any respect varying the shape or fit. The straps B to B^5 and B^6 to B^{10} on the front of the binders enable the binder to lift and support the viscera. The lower straps, which extend approximately to the pubes when in place, when drawn tight exert a desired lifting effect to carry the weight of the viscera, while the upper and intermediate straps also support the internal organs and as well are useful in applying more or less inward and backward compression, important after many surgical operations to prevent rupture.

It is obvious from the construction that the bandage or binder is useful for all purposes for which an obesity support is desired, and also that owing to its perfect adaptability as to size, taken with its straps and buckles, and also from the fact the tension or supporting pressure can be secured both at the rear and at the front side and in fact at any desired point in the binder, it is perfectly adapted for all the requirements of surgical use. This is, furthermore, evident from the fact that the perineal straps, as well as all the buckles, may be quickly removed from the binder, permitting thorough washing and boiling of all parts thereof as readily as any other article made of fabric. Furthermore, there being no elastic or rubber present in the construction the unpleasant and uncomfortable drawing and heating effect of rubber and unequal stretching and the excessive weight thereof is avoided, and in consequence a binder or support of maximum strength, durability, and sanitary qualities and minimum weight is secured and the user and the nurse can at all times rely upon the satisfactory performance of its function.

Obviously the constructions are substantially identical in character, with the exception that the back straps are used in one in lieu of the integrally-connected back portions in the other; but obviously straps may be used on the back of that binder also, if desired, and many details of construction may be varied without departing from the principles of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An abdominal binder or supporter, having an abdominal or front portion provided with obliquely-disposed darts, and a plurality of adjustable straps which extend transversely across the said section and its darts.
2. An abdominal binder or supporter, having an abdominal or front portion provided with a plurality of divergent darts which extend upward and outward from the median line of said abdominal portion, and also provided with a plurality of transversely-disposed adjustable straps which extend across the said front portion and its darts.
3. An abdominal binder or support comprised of a double thickness of material and provided with darts formed by the arrangement of the folds of the separate thicknesses on opposite sides of the dart-line.
4. An abdominal binder or supporter having an abdominal portion provided with obliquely-disposed converging darts, and darts which extend upwardly and inwardly from the lower margin of said abdominal portion thereof.
5. An abdominal binder or supporter, having an abdominal portion provided with ob-

liquely-disposed darts, a plurality of adjustable straps which extend transversely across said abdominal portion and across the oblique darts thereof, and also darts which extend upwardly and inwardly from the lower margin of said abdominal portion of the binder.

6. An abdominal binder or support, having an abdominal or front portion separable on the median line and provided with obliquely-disposed darts which extend upward and outward from said median line, and a plurality of adjustable straps which extend transversely of said abdominal or front portion and across the darts thereof.

7. The combination in an abdominal binder or support, of a body portion having obliquely and inwardly disposed tabs or ends a^2 located at the hip portions thereof, and perineal straps detachably secured to said tabs or ends and detachably connected to the pubic portion of the binder.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

MATTIE A. WATSON.

Witnesses:

C. W. HILLS,
ANNA B. HILLS.