Oct. 2, 1923. 1,469,687

H. M. PFALTZGRAFF

ABDOMINAL SUPPORT

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FIG. 1.

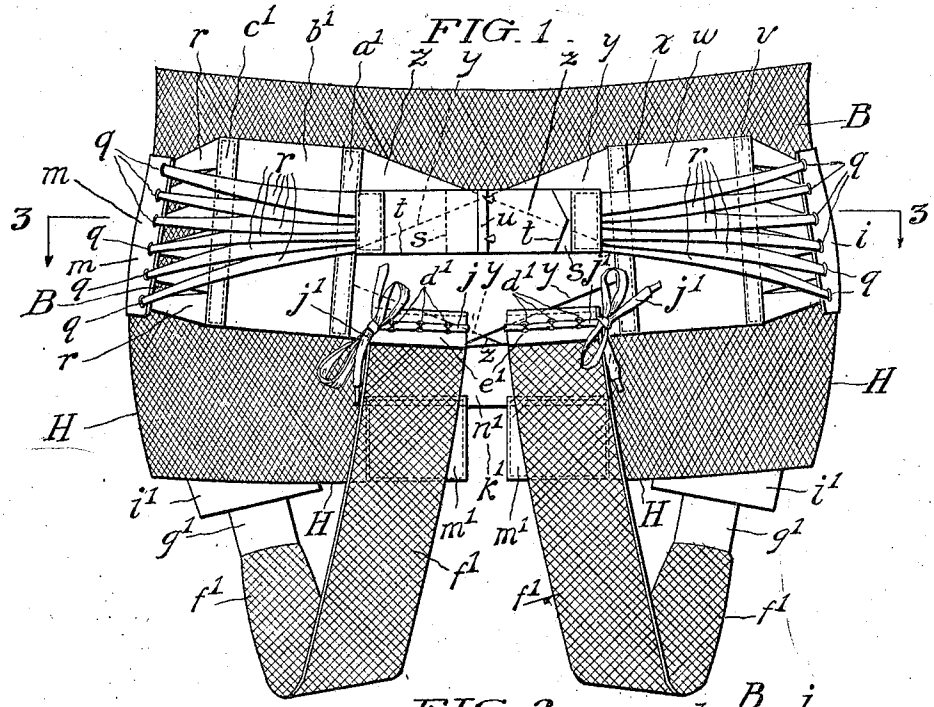
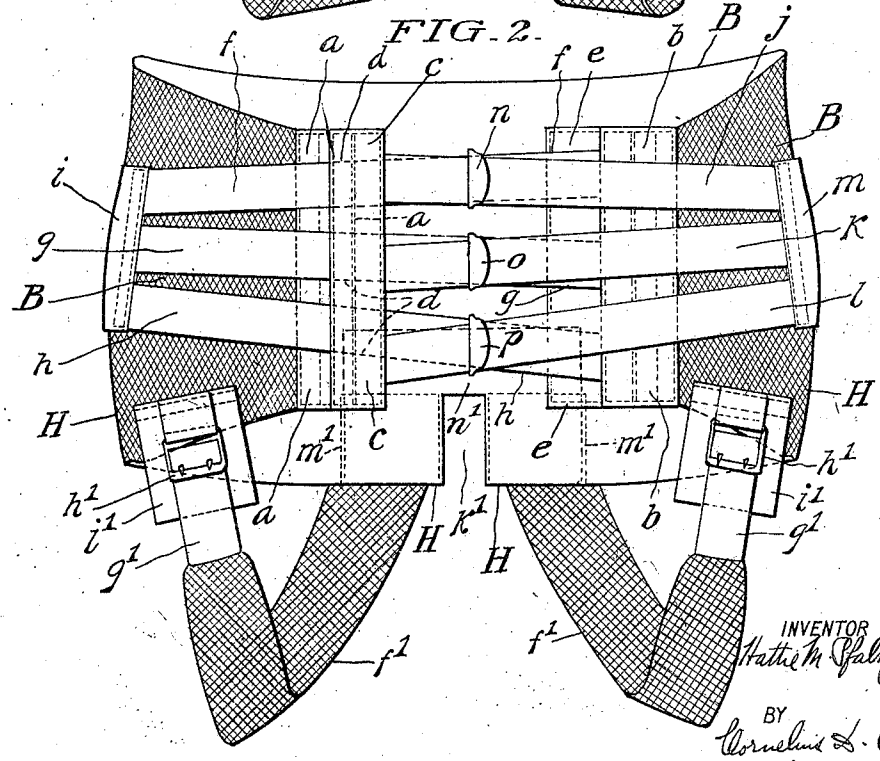


FIG. 2.



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FIG. 3.

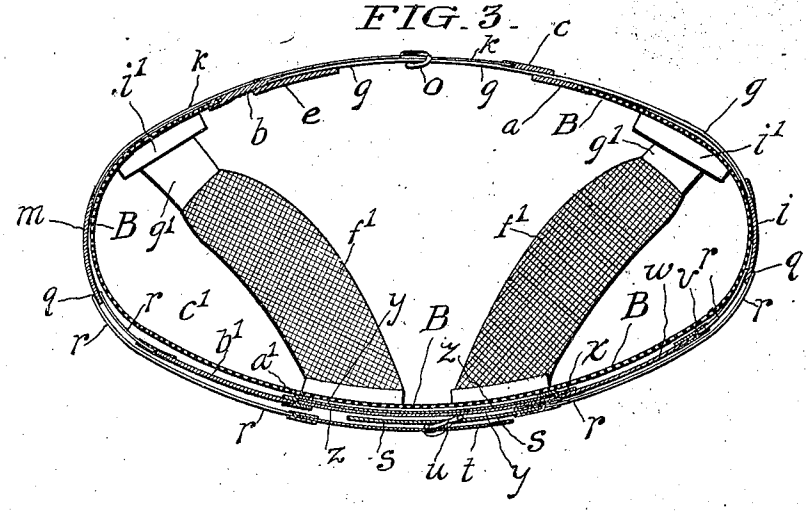
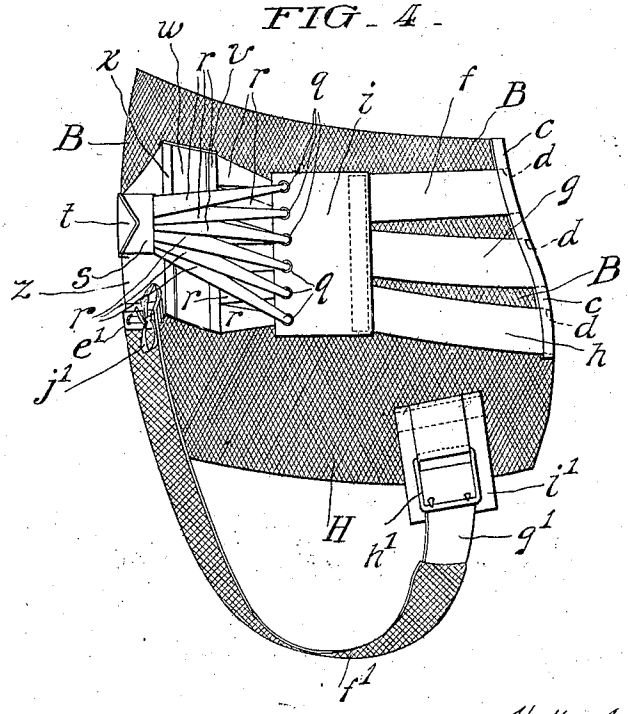


FIG. 4.



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UNITED STATES PATENT OFFICE.

HATTIE M. PFALTZGRAFF, OF ATLANTIC CITY, NEW JERSEY.

ABDOMINAL SUPPORT.

Application filed January 6, 1920. Serial No. 349,700.

To all whom it may concern:

Be it known that I, HATTIE M. PFALTZGRAFF, a citizen of the United States, residing in Atlantic City, county of Atlantic, State of New Jersey, have invented certain new and useful Improvements in Abdominal Supports, of which the following is a specification.

My invention relates to abdominal belts or supports utilizable for any of the known purposes to which such structures have commonly been applied.

My invention resides in an abdominal belt or support having the characteristics hereinafter described and claimed, which is particularly effective, comfortable to the wearer and of improved adaptability because of the relations of the structural parts and the mode of applying tension thereto for effecting pressures upon the abdomen or any desired organ or part.

For an illustration of one of the various forms my invention may take, reference is to be had to the accompanying drawings, in which:

Fig. 1 is a front elevational view of an abdominal support embodying my invention.

Fig. 2 is a rear elevational view of the same.

Fig. 3 is a horizontal sectional view, partly in plan, taken on the line 3—3 of Fig. 1.

Fig. 4 is a side elevational view.

Referring to the drawings, B is a main belt, preferably of elastic or semi-elastic knitted, porous or equivalent fabric, lying next to the body of the wearer and extending continuously across the abdomen around the sides to the back and terminating in the vertically extending strips *a* and *b*, preferably of inelastic cloth or equivalent fabric. To the strip *a* is stitched the strip *c*, leaving between the strips *a* and *c* several gaps or unstitched parts *d*. There is stitched to the strip *b* upon its inner face the flap *e*. Through the aforesaid gaps *d* between strips *a* and *c* extend the straps *f*, *g* and *h*, preferably of inelastic webbing, secured at one end to the vertically extending strip *i* preferably of inelastic cloth, and preferably disposed at or adjacent the hip of the wearer. The straps *f*, *g* and *h* at their other ends are attached to the aforesaid strip *b* and overlying the flap *e*. Secured at one end to the strip *c* are the straps *j*, *k* and *l*, preferably of inelastic webbing, and at their opposite ends is secured the vertically extending strip *m* similar to and disposed symmetrically with respect to the strip *i* at the opposite side of the wearer. The straps *f* and *j* extend through a buckle or clasp *n* and are adapted to be held firmly to each other thereby. Similarly, the other pairs of straps *g*, *k* and *h*, *l* are passed through and are adapted to be held to each other by the buckles or clasps *o* and *p*.

Adjacent the front edge of the strips *i* and *m* is disposed a row of eyelets *q* through which extend strapping means or straps *r*, preferably inelastic. The set of straps *r* coacting with the strip *i* is secured at one end to the short strap *s*, preferably of inelastic webbing, and the straps *r* cooperating with the strip *m* are secured at one end to the strap *t*, also preferably of inelastic webbing, the buckle *u* being secured to the strap *s* and the strap *t* extending through the buckle *u* and adapted, when the latter strap has been drawn taut, to hold straps *s* and *t*, forming a third belt in their adjusted position. The other ends of the straps *r* coacting with the side strip *i* are secured at *v* to the vertical edge of the strip *w*, preferably of inelastic fabric, which in turn is secured at its edge *x* to the right ends, as viewed in Fig. 1, of the crossed members *y* and *z* of preferably inelastic webbing, the left ends of these members *y* and *z* being secured at a^1 to the preferably inelastic strip b^1 to which at its edge c^1 there are secured the ends of the straps *r* cooperating with the strip *m*.

The main belt B has hip extensions H integral therewith and extending below the hip over the thighs, forming in effect thigh straps integral with the seamless main belt B.

The members *y* and *z* constitute a second and inelastic belt member, preferably entirely free from the main belt B, except for the straps *r*.

In the lower edges of the inelastic belt *y z* are provided eyelets with which register eyelets d^1 in the inelastic pieces e^1 secured upon the ends of the preferably elastic or semi-elastic leg straps f^1, which may be of material similar to the belt B. At its other end each leg strap f^1 has secured thereto a piece of webbing g^1, preferably elastic, as rubber elastic, held by the buckle h^1 secured to the reinforcing or inelastic piece i^1 se-

cured to the main belt at the extension H slightly to the rear of the hips of the wearer. The aforementioned pieces e^1 are secured to the inelastic belt y, z by laces j^1 extending through the eyelets d^1 and the eyelets in the members y and z.

As shown in Fig. 1, the hip extensions H extend around to the front of the wearer where, however, they are recessed at k^1, lateral reinforcing pieces m^1, m^1 being attached to the extensions H, and above them across the upper edge of the recess k^1 is the reinforcing strip n^1.

The appliance described is applied to the body by inserting both feet through the main belt B and drawing the entire appliance upwardly along the legs to position adjacent the hips, whereupon the leg straps f^1, f^1 are passed around the inside of the legs and buckled at h^1, h^1. With the appliance in position, the integral hip extensions H extend below the hips, and circumferential tension is put upon the main belt B by the sets of straps f, g, h, and j, k and l, the tension pulling the ends of the belt member B at the back of the person toward each other. This tension is produced by pulling the strap t through the buckle u, thereby putting tension upon the straps, r which pull forward upon the strips i and m to which the aforesaid straps, f, g, h are attached, and simultaneously pull on opposite ends of the inelastic belt comprising members y and z, such tension forcing the abdomen inwardly.

Accordingly, by my improved structure, by the single movement of drawing upon and buckling the strap t with respect to the strap s the main semi-elastic or elastic belt B is put under tension; and in addition the inelastic belts y, z and s, t are put under tension, the tensions of all the belts being, if desired, held by the single buckle u; or the tension of the main belt B may be held by closing the clasps n, o, p.

This structure allows great freedom of movement of the body, nevertheless applying pressure thereto, and particularly the abdomen or any organ or part to which it is desired particularly to apply pressure.

The leg straps f^1, normally free from the buckles h^1, are passed downwardly in front and then around the inner sides of the thighs, when upwardly to the buckles h, where they are adjusted and secured, the elastic webbing g^1 allowing freedom of movement of the legs with respect to the body and restraining the inelastic belt structures from rising upwardly to position where it would effect less pressure upon the body.

The integral extensions H upon the main belt B closely embrace the thighs and assist in frictionally holding the entire structure in operative position upon the body.

The clasps n, o and p, once the tension has been placed upon the belt B, will hold the strap members to each other and so maintain the main belt B under tension, even if the straps r are slackened. But these clasps are rather auxiliary in nature and allow a certain degree of freedom or independence of the inelastic belt structures from the main or elastic belt structure B.

What I claim is:

1. An abdominal support comprising a main belt extending across the abdomen and terminating in ends at the back, crossed straps secured to said ends of said belt and extending around toward the front, a second belt separate from said main belt and overlying said main belt in front, and strapping means co-acting with said straps and said second belt for simultaneously putting both belts under tension.

2. An abdominal support comprising a main belt of yielding material extending across the abdomen and terminating in free ends at the back, crossed straps secured to the ends of said belt and extending around toward the front, a second belt of inelastic material overlying said belt in front, a third belt overlying said second belt and means for simultaneously putting said belts under tension.

3. An abdominal support comprising a main belt extending across the abdomen and terminating in free ends at the back, crossed straps secured to the ends of said belt and extending around toward the front, a second belt in front, means overlying said second belt for simultaneously putting said second belt and said straps under tension, and means clasping said straps to each other adjacent their crossing.

4. An abdominal support comprising a main belt extending across the abdomen and terminating in free ends at the back, crossed straps secured to the ends of said belt and extending around toward the front, a second belt in front, strapping means attached to each end of said second belt and slidingly co-acting with the front ends of said straps, and means for holding said strapping means under tension.

5. An abdominal support comprising a main belt extending across the abdomen and terminating in free ends at the back, crossed straps secured to the ends of said belt and extending around toward the front, a second belt in front, strapping means attached to each end of said second belt and slidingly co-acting with the front ends of said straps, and a third belt for holding said strapping means under tension.

6. An abdominal support comprising a main belt extending across the abdomen and terminating in ends at the back, crossed straps secured to the ends of said belt and extending around toward the front, said belt having hip extensions integral therewith, a second belt overlying said main belt

in front, means for simultaneously putting said belts under tension comprising strapping means connected with said straps and with said second belt, and leg straps attached at one end to said second belt and at the opposite end to said hip extensions.

7. An abdominal support comprising a main belt extending across the abdomen and terminating in ends at the back, straps secured to the ends of said belt and extending in opposite directions around toward the front, a second belt overlying said main belt in front, and means for putting said belts simultaneously under tension comprising strapping means attached to opposite ends of said second belt and looped back across and overlying said second belt and having slidable co-action with the ends of said straps.

8. An abdominal support comprising a main belt, a second belt overlying said main belt in front, means co-acting with both belts for placing them under tension, and leg straps attached at one end to said second belt and at their opposite ends attached at the rear to said main belt.

In testimony whereof I have hereunto affixed my signature this 3rd day of January, 1920.

HATTIE M. PFALTZGRAFF.