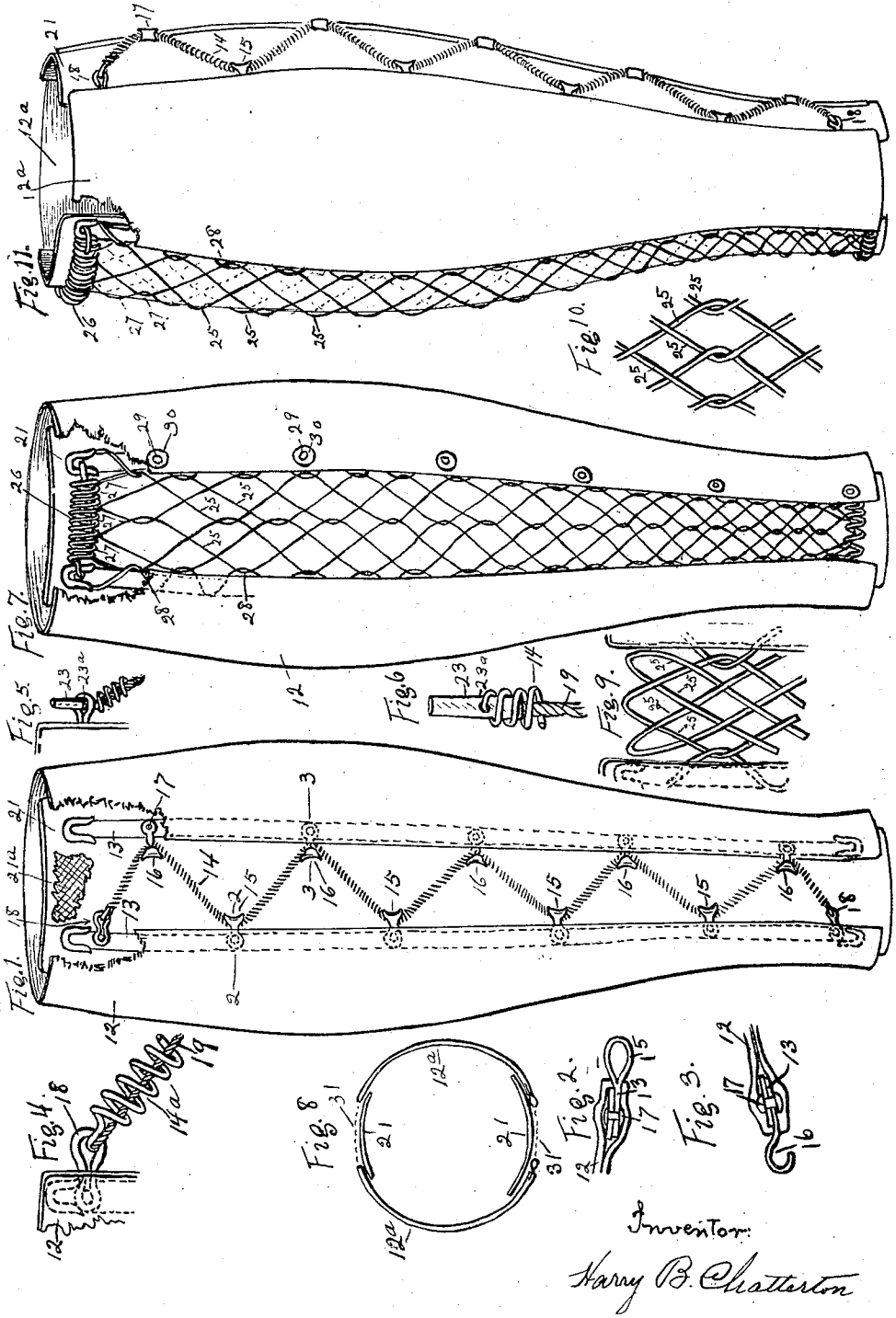
July 1, 1924. 1,499,805

H. B. CHATTERTON

ELASTIC BANDAGE

Filed Aug. 29, 1921



Inventor:
Harry B. Chatterton

Patented July 1, 1924. 1,499,805

UNITED STATES PATENT OFFICE.

HARRY B. CHATTERTON, OF WEST SOMERVILLE, MASSACHUSETTS.

ELASTIC BANDAGE.

Application filed August 29, 1921. Serial No. 496,211.

To all whom it may concern:

Be it known that I, HARRY B. CHATTERTON, a citizen of the United States, residing at West Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Elastic Bandages, of which the following is a specification.

This invention relates chiefly to an elastic bandage to be worn in the place usually occupied by a stocking leg on a human leg having varicose veins, the object being to provide a covering adapted to conform closely and yieldingly to all parts of the leg embraced by it and exert the desired confining pressure on protuberances caused by varicose veins, and also adapted to be conveniently applied and removed.

The invention is embodied in the improved bandage hereinafter described and claimed, adapted to be applied to a member of a human body, such as a leg.

Of the accompanying drawings forming a part of this specification—

Figure 1 is a front perspective view of an elastic bandage embodying the invention.

Figure 2 is a fragmentary section on line 2—2 of Figure 1.

Figure 3 is a fragmentary section on line 3—3 of Figure 1.

Figure 4 is an enlargement of a portion of Figure 1.

Figure 5 is a view of a portion of Figure 1, showing a modification.

Figure 6 is an enlargement of the end portion of the ligature shown by Figures 1 and 4—modified.

Figure 7 is a view similar to a portion of Figure 1, showing another construction.

Figure 8 is a conventional end view of the bandage, showing another construction.

Figure 9 is a fragmentary side view, showing a portion of the elastic fabric hereinafter described.

Figure 10 is a fragmentary side view showing a portion of modification of said fabric.

Figure 11 is a perspective view, showing a bandage of the construction shown conventionally by Figure 8.

The same reference characters indicate the same parts in all of the figures.

My improved bandage comprises a flexible body section 12, preferably shaped and proportioned to partially embrace a leg and conform to the embraced portion. The section is preferably of woven fabric. The longitudinal edges of the section 12 are provided with flexible stays 13, extending the entire length of said edges, and of any suitable construction. For example, the stays may be of spring steel, such as is employed for corset stays, or they may be composed of wire strands bent into interengaged loops elongated crosswise of the stay, as indicated by Figure 1, this form of stay being flexible edgewise, as well as sidewise.

In the embodiment of the invention shown by Figures 1 to 5, the stays 13 are provided with coupling members, adapted to engage an elastic contractile ligature 14, constituting an embodiment of resilient connecting means, whereby the stays and the longitudinal edges of the body section 12 are yieldingly connected and normally drawn toward each other, so that all parts of the body section are caused to exert a uniform yielding pressure on the portion of the leg covered by the body section. One stay 13 may be provided with eye-shaped coupling members 15, the other stay being provided with hook-shaped coupling members 16, as shown by Figures 1, 2 and 3. The shanks of said members are secured to the stays by pivots 17. The opposite ends of the ligature are, in this embodiment of the invention, secured permanently to the end portions of the stay having the eye-shaped coupling members 15, said stay being provided with terminal eyes 18, with which the ends of the ligature are permanently engaged. The ligature is therefore permanently engaged with the eye-shaped members 15, and is adapted to be detachably engaged with the hook members 16. The contractibility of the ligature is such that when it is engaged with each series of coupling members, it exerts the desired contracting pressure on the body section 12.

When the ligature is separated from the hook-shaped coupling members, it becomes inoperative, and permits the opening of the body section preparatory to its removal from, and application to, the leg The ligature is preferably composed of a helically coiled resilient wire 14^a, shown much enlarged by Figures 4 and 6. The ends of the wire are suitably secured to the terminal eyes 18, its convolutions being normally caused to contact with each other by the

resilience of the wire. To limit the extension of the ligature and prevent its coils, especially at the end portions, from being distorted, or straightened out by the longitudinal strain which elongates the ligature from its normal length, I provide a flexible, substantially inextensible core 19, which may be a cord of rubber and cotton, or other fibrous material, extending through the helical ligature, and secured with the ends thereof to the eyes 18. The core is longer than the ligature when the latter is contracted, and becomes taut when the ligature is extended to a predetermined maximum length.

The bandage also comprises a flexible intermediate filling section 21, overlapped by the longitudinal edges of the body section 12, and filling the space between said edges. The section 21 is confined against a portion of the leg by said longitudinal edges, and by the resilient ligature 14, the latter bridging the space between the longitudinal edges of the body section 12, and exerting inward pressure on the filling section practically throughout the entire length of the latter, so that although the ligature is not directly connected with the filling section, and does not exert a pulling strain thereon, it exerts a distributed inward pressure on practically all parts of the filling section and on the portion of a limb covered by said section. I prefer to make the filling section by enclosing a piece 21^a of wire cloth in a cloth covering, the wire cloth being suitably flexible, and at the same time having sufficient stiffness to distribute the pressure over the entire leg area covered by the filling section, so that the portions of the filling section on which the stretches of the ligature do not bear, are prevented from bulging outward by the wire cloth.

In applying the bandage the filling section 21 is placed on one side of the leg, usually the front side, and the body section 12 is then placed upon the leg with its longitudinal edges overlapping the longitudinal edges of the filling section. The elastic ligature is then rendered operative by stretching and engaging it with the hook-shaped coupling members 16. The permanent connection of the ligature at both ends with the terminal eyes 18, enables the ligature to be quickly and conveniently rendered operative and inoperative, by engaging it with, and separating it from, the coupling members 16. If desired, the ligature may be detachably connected at one end with one end of the eyes 18, as indicated by Figure 5, so that the ligature may be detached from each set of coupling members. To separably engage the upper end of the ligature with the upper terminal eye 18, I may provide the ligature with a rigid tip 23, adapted to be passed through the eye, the inner end of the tip forming a shoulder or stop 23^a, adapted to abut against the eye in such a manner as to prevent accidental withdrawal of the tip from the eye. The ligature may be provided with any other suitable device for this purpose. The ligature in this modification, is rendered inoperative by detaching it first from the upper eye 18, and then allowing it to slip through the coupling members.

I do not limit myself to an elongated contractile elastic ligature, as the resilient means yieldingly connecting the stays and the longitudinal edges of the body section 12.

Figures 7, 9 and 10 show a construction, in which the resilient means is embodied in a normally contracted fabric composed of resilient wire strands 25, and transverse normally contracted helical springs 26, constituting the upper and lower ends of the fabric. Looped portions of the strands 25 are interengaged at 27 with convolutions of the springs 26, and other looped portions are interengaged at 28 with the stays 13. The said fabric performs the same function as the ligature 14. The fabric may be rendered inoperative by detachably connecting one of the longitudinal edges of the body section 12 with one of the stays 13, for example, by snap fasteners, including stud members 29, attached to the stay, and socket members 30 attached to the body section. Hooks and eyes may be substituted for the snap-fasteners.

If desired, the stocking may be provided with resilient contractile connecting means at each of two opposite sides, as indicated conventionally by Figure 8, and by Figure 11, in which 12^a, 12^a indicate a two-part body section 21, 21 two intermediate filling sections, and 31, 31 two resilient connecting means.

The filling sections 21 in this construction are arranged to bear on opposite sides of the leg, one of the parts 12^a bearing on the front and the other on the back of the leg. The elastic connecting means at one side of the stocking may include the ligature 14, and the elastic connecting means at the opposite side may include the said fabric, as shown by Figure 11.

I claim:

1. An elastic bandage comprising a flexible body section having spaced apart longitudinal edges and coupling members adjacent to said edges, an intermediate flexible filling section overlapped by the longitudinal edges of the body section, and adapted to cover a portion of a limb between said edges, and an elongated resilient contractile connection engaged with said coupling members and adapted to yieldingly contract the body section, said connection bearing on the outer surface of the filling section and exerting a distributed yielding inward pressure thereon, means being provided for re-

leasing the normal tension of the resilient connection to permit the opening of the bandage.

2. An elastic bandage comprising a flexible body section, having spaced apart longitudinal edges provided with coupling members, and an elastic contractile ligature composed of helically coiled wire engaged with said coupling members and with the body section, and adapted to normally contract the body section upon a body member, means being provided for rendering said ligature inoperative, and thereby permitting the opening of the bandage.

3. An elastic bandage comprising a flexible body section, stay strips secured to the longitudinal edges thereof, and provided with coupling members, said stay strips being spaced apart when the bandage is in use, and an elastic contractile ligature composed of helically coiled wire engaged with said coupling members and with the body section, and adapted to normally contract the body section upon a body member, means being provided for rendering said ligature inoperative, and thereby permitting the opening of the bandage.

4. An elastic bandage comprising a flexible body section, stay strips secured to the longitudinal edges thereof, and provided with coupling members, said stay strips being spaced apart when the bandage is in use, and an elastic contractile ligature composed of helically coiled wire engaged with said coupling members and with the body section, and adapted to normally contract the body section on a body member, means being provided for rendering said ligature inoperative, and thereby permitting the opening of the bandage, said ligature being provided with an inextensible flexible core, secured to the ends of the ligature and extending loosely through it to limit the extension of the ligature, the length of said core being greater than the normal length of the ligature.

In testimony whereof I have affixed my signature.

HARRY B. CHATTERTON.