

(No Model.)

B. F. WHEELER & F. W. MACQUESTEN.

GARMENT STAY.

No. 388,936.

Patented Sept. 4, 1888.

Fig 1.

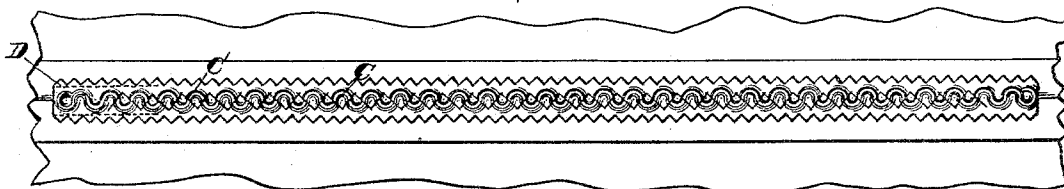


Fig 2.



Fig 3.



Fig 4.



Fig 5.

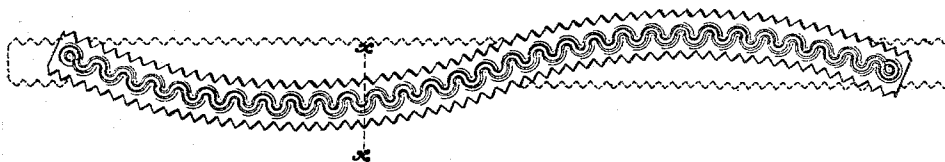


Fig 6.



Attest.
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UNITED STATES PATENT OFFICE.

BENJAMIN F. WHEELER AND FREDERIC W. MACQUESTEN, OF DETROIT, MICHIGAN, ASSIGNORS, BY DIRECT AND MESNE ASSIGNMENTS, TO THE DETROIT STAY COMPANY.

GARMENT-STAY.

SPECIFICATION forming part of Letters Patent No. 388,936, dated September 4, 1888.

Application filed May 26, 1888. Serial No. 275,149. (No model.)

To all whom it may concern:

Be it known that we, BENJAMIN F. WHEELER and FREDERIC W. MACQUESTEN, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented certain new and useful Improvements in Garment-Stays; and we declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 shows one of our improved stays in use on the seam of a garment. Fig. 2 shows one of our stays opened up at one end, illustrating the lower fabric with an adhesive coating or sheet of rubber upon it, and showing the wire resting thereon. Fig. 3 is a longitudinal section of one of our stays, showing how the fabrics adhere to each other between the crimps of the wire. Fig. 4 shows one of our crimped wires with the ends bent into loop form. Fig. 5 shows how the stay may yield laterally or edgewise. Fig. 6 shows the relation of the fabric, the wire, and the adhesive material or rubber tissue.

A is a dress-seam. B is our stay. C shows a line of stitches which cross back and forth over the wire and illustrate how a narrow stay may be fastened to the garment. D shows stitches at the sides for fastening it to the garment. E is the upper fabric, and E' the lower fabric, of our stay. F is a surface coating of adhesive material or a sheet of gutta-percha tissue. G is the crimped wire, and g shows its bent end.

This invention relates to new and improved features in the construction of garment stays or stiffenings for ladies' dress-waists, &c.

The objects of this invention are to produce an article for attachment to the seams of dress-waists or other garments for the purpose of stiffening the same, which, unlike other articles of this class as heretofore constructed, shall be capable of lateral as well as transverse flexibility, so as to more readily conform to and yield with the movements of the body, one that may be very light and extremely narrow in form, so as not to be cumbersome, and in

which the stiffening-strand shall be so formed as to be free from sharp corners or abrupt angles, and thus be less liable from wear to work through its covering and puncture the garment to which it is attached. This has constituted a great objection in this class of goods where the stays have been constructed from flat steel blades having square-cut ends. In such stays, as a means of avoiding the sharp corners at the ends of such blades, it has been found necessary to apply metal caps to said ends, to give them a rounded surface, or to round the corners by an emery-wheel, or to otherwise prepare the metal strip. Such appliances and such treatment of the metallic strips have not proven entirely satisfactory, since such attachments or additional manipulation of the blade add increased weight and bulk to the stay, as well as expense in its production.

By our present invention we have not only overcome the above objections, but are enabled to produce a much better and cheaper article, which embodies a number of good qualities not found in the articles of this class as heretofore constructed, and which will be fully set forth in the following specification.

The stiffening-strand which we employ in the construction of our invention consists of a small wire strand, preferably spring wire or steel, or it may be of brass or other metal. So, also, the wire is preferably round in section, but may be square or other sectional form. This wire is corrugated or crimped to give it a broadened bearing or surface on two sides and still be capable of its lateral flexibility. The end crimps or corrugations of the strand are preferably continued or bent around until the ends of the wire meet the body portion of the strand, thus shielding the sharp ends of the wire and forming rounded surfaces at the ends of the strands. The strands thus formed are provided with a covering of textile fabric, which is secured thereto by coating the inner face of one of the covering fabrics only with a suitable flexible cement, or by means of an interposed sheet of gutta-percha tissue, which shall lie between the strand and one of the fabrics, the other fabric being placed over the strand and coated surface of the opposite fabric, when the parts are subjected to either heat and press-

ure, or pressure alone, whereby the fabrics are brought in contact with each other between the crimps of the strands and at the sides of the metallic strand, and by the cement or gutta-percha tissue become united. The ends of the sheet of fabric on which the gutta-percha tissue or cement is applied may, if desired, be folded over the rounded ends of the strand and secured to the back face of the opposite covering of textile fabric, thus more securely protecting the ends of the strand, which by this manner of construction would have no possible tendency to work through its covering and puncture the garment to which it is attached. The covering fabrics being securely united between the crimps or corrugations of the strand, it will be effectually prevented from any end movement, and as the wire of itself is round and the ends on which the strain would naturally be brought are also usually bent around, as described, any wear from friction brought on said ends would have less tendency to cause them to penetrate the substance with which they are in contact. So, also, since the strand is capable of lateral as well as transverse flexibility, it will readily yield in all directions and relieve the strain on the ends.

We are aware that the use of gutta percha tissue as a means of cementing or uniting textile fabrics for various purposes is old, and that steel or metallic blades have been covered with cloth rendered water-proof by flexible impervious cements, and also that such blades have been covered with cloth having sheets of rubber or gutta-percha tissue lying on each side of the blade, and that such blades have been covered in various ways with such material; but we are not aware that strands of crimped spring-wire have been employed as a stiffening-strand and fastened rigidly in place between adhesive surfaces of fabric—that is to say, so that a fabric above it and another fabric below it may be caused to adhere together either directly or upon an interposed sheet of gutta-percha tissue and be caused to embrace the crimped wire, not only outside of its outer edges, but between its crimps, thereby not only deriving the advantage of the strength and elasticity of the crimped wire, which enables the stay to flex in all directions, but giving to the wire the stiffness and support which are afforded by the flat adhering surfaces between the bends of the crimps and beyond the crimps at the sides of the strand, and this construction is the thing which constitutes the essential feature of our invention.

We are aware that crimped wires have been introduced into tapes and pockets wherein the wire has been left free within the said tape or pockets, and the fabrics on the opposite sides of the wire, not being brought together and caused to adhere to each other, did not afford, as in our device, a strong stiffening-web.

This stay may have the fabrics project at the sides to facilitate sewing to the garment in the usual way; but the material between the corrugations or crimps furnishes sufficient fabric through which stitches may be passed, and so the stay may be made very narrow and less fabric be employed in its construction than is possible with stays having flat strips or strands of metal.

Of course the device is not limited strictly to dress-stays, for it is equally applicable to corsets and garments of every character, or for other uses where like stays may be employed, and they may be employed singly, or a series of strands may be employed side by side in a single broad stay or surface.

What we claim is—

1. A universally-flexible stay consisting of a crimped wire bent at its ends and interposed with a sheet of gutta percha tissue between two surfaces of fabric, the whole pressed together, whereby the fabrics are caused to adhere both at the edges and in the spaces between the crimps, substantially as and for the purposes described.

2. A universally-flexible stay consisting of a crimped wire interposed with an adhesive substance between two sheets of fabric, one of said fabrics with the adhesive substance folded over one or both ends of the stay onto the back of the other fabric, and the whole united by pressure, substantially as described.

3. A garment-stay consisting of a crimped strand of strong wire, in combination with two embracing-surfaces of fabric and an interposed adhesive material, the whole united and made integral by pressure, said fabric brought together between the crimps and beyond its edges, and constituting a stiffening-web to stiffen the stay against too great lateral flexibility, substantially as described.

In testimony whereof we sign this specification in presence of two witnesses.

BENJAMIN F. WHEELER.
FREDERIC W. MACQUESTEN.

Witnesses:

M. B. O'DOHERTY,
SAMUEL E. THOMAS.