D. SCHULER.

GARMENT STAY.

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1,106,477.

Patented Aug. 11, 1914.

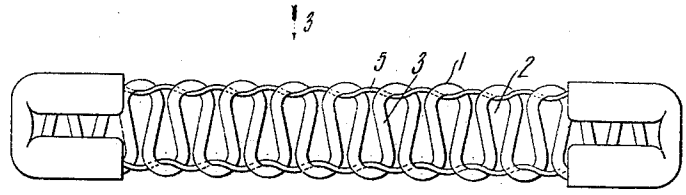


FIG. 1



FIG. 2



FIG. 3

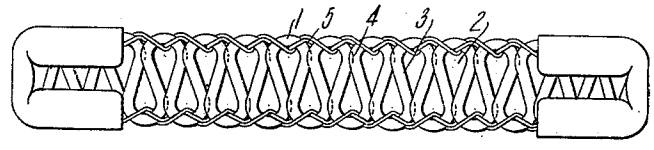


FIG. 4



FIG. 5

WITNESSES

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DAVID SCHULER, OF NIAGARA FALLS, ONTARIO, CANADA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE SPIRELLA COMPANY, OF MEADVILLE, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

GARMENT-STAY.

1,106,477. Specification of Letters Patent. Patented Aug. 11, 1914.

Application filed March 8, 1913. Serial No. 752,995.

To all whom it may concern:

Be it known that I, DAVID SCHULER, a resident of Niagara Falls, in the Province of Ontario, Canada, have invented a new and useful Improvement in Garment-Stays, of which the following is a specification.

This invention relates to garment stays or stiffeners for corsets and the like, and particularly to such as are made of wire.

The object of the invention is to produce an improved wire garment stay which is flexible and resilient in a flatwise direction, but which is stiff and inflexible or risistant as against edgewise bending or flexing, so that it may be used not only as an ordinary garment stay or stiffener, but also as a front clasp or eyelet member for corsets and the like.

A further object of the invention is to produce an improved stay or stiffener of the character described, which is simple, and durable and may be easily fabricated.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a portion of a stay embodying one form of the invention; Fig. 2 is an edge view of the same looking in the direction of the arrow 2, Fig. 1; Fig. 3 is a similar view of the other edge of the stay, looking in the direction of the arrow 3, Fig. 1; Fig. 4 is a plan view of a stay embodying a modified form of the invention; and Fig. 5 is an edge view of the same.

The stay shown in the drawings comprises a body made up of one or more wires 1 bent back and forth to form loops, eyes or convolutions 2, and connecting crossings 3. The stay body may take a variety of forms. The loops or eyes 2 may be pear-shaped, as shown in Figs. 1 and 4, and may either be flat and all in the same plane, as in Fig. 1, or may each be in a plane slightly inclined to the general plane of the stay, so that successive eyes or loops slightly overlap each other, as at 4. The crossings 3 may also be inclined transversely of the stay, as in Fig. 1, or may be more nearly transverse, as in Fig. 6.

The stays described are all preferably formed of strong spring wire, having considerable flexibility and resiliency, and as described to this point, may be bent or flexed either flatwise or edgewise, and may also be twisted, without taking a permanent bend or set, and are useful as stiffening means in corsets, supporters and the like. To enable the stay to also be used as a front clasp for the front meeting edges, or as an eyelet or lacing member for the rear meeting edges of corsets, it is necessary that it have little or no flexibility edgewise, such as might permit the strain at the spaced clasp members or studs to open gaps between the meeting edges of the corset, or, in other words, bend the stay or front clasp edgewise into sinuous form. Such bending affects the stay differently along its opposite edges. Along the convex edge the adjacent eyes or loops are separated, longitudinally of the stay from each other, while along the concave edge the adjacent eyes or loops tend to move closer together. If the eyes or loops are in the same plane, as shown in the drawings, the edgewise bending is secured more by the separation of the eyes or loops along the convex edge, than by moving toward each other along the concave edge, which latter action is opposed by the abutting relation of the eyes or loops. For this reason I provide the stay with suitable means for tying or binding together successive eyes or loops along the edge or edges of the stay, to prevent them from separating longitudinally of the stay, thus preventing the same from being bent or flexed edgewise or being elongated. This, however, is accomplished without decreasing or affecting the flatwise flexibility and resiliency of the stay, so that it may still bend in that direction to follow and conform to the shape of the body.

In the embodiment of the invention shown in Fig. 1, the stay is provided, along one or both of its edges, with a supplemental tying or binding wire 5, which is threaded or laced through the successive eyes, loops or convolutions 2. This wire may be of any form and composition, but is preferably a strong steel spring wire, such as piano wire, and of smaller gage than the wire 1 forming the stay body. The supplemental wire may be threaded or laced through the eyes or loops in any desired manner, but preferably as shown, by passing it through one loop or eye in one direction and then bending the wire around or over the edge of the stay and threading it through the next successive loop or eye in the same direction as through the

first, and so on. In effect, this amounts to coiling or bending the supplemental wire into a spiral, having a pitch equal to the distance between successive eyes or loops of the main body wire 1, the successive coils of which are threaded through successive eyes or loops. In the fabrication of the stay the supplemental tying or binding wire will be drawn or stretched taut as it is threaded through the loops of the body wire, so that there will be no slack in the tying or binding wire in the finished stay. The successive eyes or loops of the body wire are therefore firmly secured to each other independently of the fact that they are portions of the same body wire. Edgewise bending of the stay in either direction is resisted by two distinct factors, first by the tying or binding wires along that edge of the stay which would tend to become convex, and second, by the abutting relation between the adjacent eyes or loops along that edge of the stay which tends to become concave.

Under some circumstances it may be sufficient to thread a single supplemental tying or binding wire through the loops or eyes along only one edge of the stay, as for example, when the use to which the stay is to be put requires that it be stiff and resistant to edgewise bending in one direction only, and flexible in the other edgewise direction; or, it may be that stiffness in one direction is desirable and important, while in the other direction it is immaterial whether the stay is stiff or flexible. In most cases, however, edgewise stiffness in both directions is desirable, and to secure this effect I preferably provide two supplemental wires, one along each edge of the stay, as shown in Fig. 1. These wires are preferably threaded through the eyes or loops in opposite directions. That is, viewing the stay as a whole, as shown in Fig. 1, the supplemental wire at one edge will be brought up through each loop from beneath and then bent around or over the edge of the stay and then up through the next loop, and so on, while the supplemental wire at the other edge will be brought up through each eye or loop from beneath and then bent around or over the edge of the stay and then up through the next successive eye or loop, in the same direction longitudinally of the stay as on the other edge. In other words, the spirals of the two supplemental tying or binding wires run in opposite directions. This will be readily observed by comparison of Figs. 2 and 3, which illustrate the opposite edges of the stay shown in Fig. 1.

Since the supplemental wire is drawn very tightly through the eyes or loops, it has a natural tendency to twist successive eyes or loops with reference to each other about the longitudinal axis of the stay, so that when a single supplemental wire is used, or when the twist in the two supplemental wires at opposite edges of the stay is in the same direction, the stay as a whole is given a decided twist around its longitudinal axis, and different parts thereof are in different planes. By twisting or threading the supplemental wires through the eyes or loops in opposite directions, as stated, the two wires neutralize each other, and the twisting effect of one is balanced by that of the other, thus producing a perfectly flat stay. For the same reasons, when only one edge of the stay is to be tied, bound or reinforced, this may be accomplished by two wires threaded or twisted in opposite directions through the loops or eyes along the same edge of the stay, as in Fig. 4, thus producing a stay which is flat and without twist, and which is stiff as against edgewise bending in one direction. Also, both edges may be reinforced or bound with two supplemental wires, making four in all, which produces a much stronger and more durable stay or stiffener.

What I claim is:—

1. A garment stay comprising wire bent into loops or convolutions, and provided with a plurality of supplemental tying or binding wires, each of said wires being threaded through all of the loops or convolutions along one edge of the stay, the two wires being threaded through said loops or convolutions in opposite directions, to thereby produce a flat stay which is flexible flatwise but stiff as against edgewise flexure.

2. A garment stay comprising wire bent into loops or convolutions, and provided along each edge with a pluraliy of supplemental tying or binding wires threaded through said loops or convolutions in opposite directions, to thereby produce a flat stay which is stiff as against edgewise flexure.

3. A garment stay comprising wire bent back and forth to form oppositely disposed loops or eyes and connecting crossings, and provided at each edge with a plurality of supplemental tying or binding wires threaded through said loops or eyes in opposite directions to thereby produce a flat stay which is flexible flatwise but stiff as against edgewise flexure.

4. A garment stay comprising wire bent back and forth to form oppositely disposed loops or eyes and connecting crossings, said stay being provided at each edge with a plurality of supplemental tying or binding wires threaded through the loops or eyes thereof, thereby forming a stay which is flexible flatwise but stiff as against edgewise flexure in either direction.

5. A garment stay comprising wire bent to form a series of loops or convolutions lying along the edges of the stay, and supplemental tying or binding wires therefor,

one of said wires being tightly twisted around the closed ends of the loops or convolutions at each edge of the stay, whereby the stay is stiffened against edgewise flexure.

6. A garment stay comprising wire bent to form a series of loops or convolutions lying along the edges of the stay, and supplemental tying or binding wires for stiffening said stay against edgewise flexure, said wires being twisted spirally around the closed ends of the loops or convolutions along both edges of the stay.

7. A garment stay comprising wire bent to form a series of loops or convolutions lying along the edges of the stay, and supplemental tying or binding wires for stiffening said stay against edgewise flexure, said wires being twisted spirally around the closed ends of the loops or convolutions along both edges of the stay, said tying or binding wires being twisted spirally in opposite directions.

8. A garment stay comprising wire bent back and forth to form a series of oppositely disposed loops or eyes and connecting crossings, and a plurality of supplemental tying or binding wires tightly twisted around and between the closed ends of the loops or eyes at each edge of the stay, whereby the stay is stiffened against edgewise flexure.

In testimony whereof, I have hereunto set my hand.

DAVID SCHULER.

Witnesses:
GEO. W. KNOX,
MONICA MENKEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."