

S. H. FLEMING.
GARMENT STAY.
APPLICATION FILED DEC. 26, 1911.

1,059,291.

Patented Apr. 15, 1913.

Fig. 1.

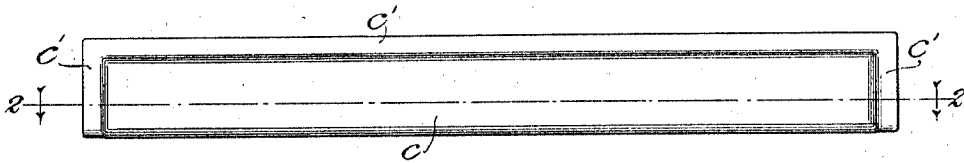


Fig. 2.

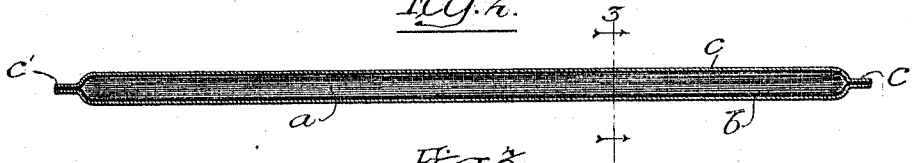


Fig. 3.



Fig. 4.

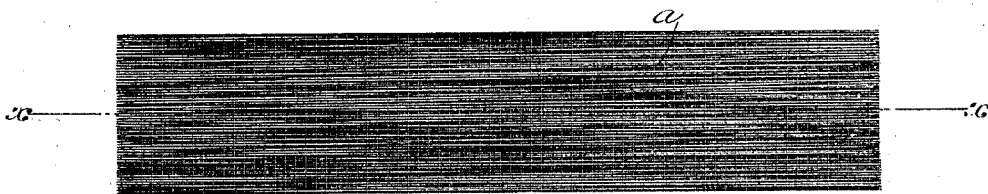
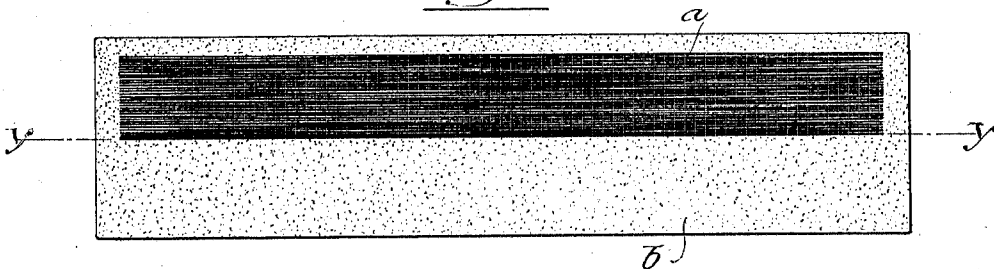


Fig. 5.



Witnesses:

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UNITED STATES PATENT OFFICE.

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GARMENT-STAY.

1,059,291.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed December 26, 1911. Serial No. 667,936.

To all whom it may concern:

Be it known that I, STEPHEN H. FLEMING, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Garment-Stays, of which the following is a full, clear, and exact description.

The invention relates to garment stays and seeks to provide an improved stiffening stay for garments, neckwear and the like, which can be subjected to laundry processes without losing its shape, stiffness or resiliency. At the present time, it is usual to remove such stays from a garment before the latter is laundried, but the present invention provides a stay which can be subjected without injury to the hot liquids and irons employed in ordinary laundry processes.

The invention consists in the features of improvement hereinafter set forth, illustrated in the preferred form in the accompanying drawing and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a plan view of the improved stay. Fig. 2 is a longitudinal section thereof on the line 2—2 of Fig. 1. Fig. 3 is a cross section on the line 3—3 of Fig. 2. Figs. 4 and 5 are plan views illustrating parts of the stay during the process of manufacture.

The improved stay comprises a stiffening body formed of a bundle or layers of bristles, such as stiff hairs or bristles. Hog bristles are preferably employed and the best results have been attained with those known to the trade as Russian hog bristles. The bundle or layers of hog bristles are loosely assembled within an inclosing, water tight envelop. In the preferred embodiment of the invention, the envelop is formed of vulcanized india rubber reinforced with fabric. As shown in the drawing, the improved stay comprises the bundle or layers of bristles *a* which are arranged parallel to one another and which are loosely assembled and completely inclosed within an envelop formed of a layer *b* of vulcanized india rubber and an outer reinforcing cover *c* of textile fabric.

In manufacturing the improved stay, the strip of fabric which forms the reinforcement of the envelop is covered on one side with a thin film or coat of raw india rubber. Preferably, the fabric strip is calendered on one side with a thin sheet of raw rubber compound containing sulfur or other suit-

able vulcanizing agent. The bristles *a* are arranged straight and parallel to one another in bundles or layers and their ends are evenly trimmed. To facilitate the handling and assembling of the bristles during the process of manufacture, a small amount of a thin solution of raw rubber may be applied thereto and particularly to the ends of the bristles to hold them together. The rubber solution thus used to loosely hold the layers of bristles together should not, however, contain any vulcanizing agent. The bristles used to form a stay are preferably arranged in a layer as indicated in Fig. 4. The layer is divided upon the longitudinal line X—X, and the two portions superposed with the thick ends of the bristles of one portion overlying the thin ends of the bristles of the other. The superposed layers are then placed upon a thin sheet of raw rubber compound or upon a strip of fabric coated with raw rubber compound, as indicated in Fig. 5. The sheet of rubber or rubber coated fabric is then folded upon the line *y—y* and is of such size that portions thereof will extend beyond the ends and beyond one side of the inner stiffening body of bristles. These extending edge portions *c'* will overlap and be cemented together by the raw rubber coat or film. The stay thus formed is then subjected to heat sufficient to vulcanize or cure the raw rubber contained in the envelop.

The raw rubber used in holding the bristles parallel and in a layer formation during the processes of manufacture is not vulcanized about the separate bristles, but instead, will tend, during the vulcanizing process, to part from the bristles and adhere to the body of the inclosing envelop, since it will be taken up by the vulcanizing elements in the envelop. The separate bristles, in the finished product, are therefore not embedded in the vulcanized rubber portion of the stay and, for the most part, are not cemented together or to the envelop. On the contrary, they are loosely assembled within the inclosing envelop and this arrangement has been found to materially increase the life and resiliency of the stay, since the bristles are free to move relatively to one another to some extent as the stay is bent. The water tight inclosing envelop of vulcanized rubber protects the bristles from the boiling water and hot alkali used in the laundry. When so protected and kept dry,

the heat used in ordinary laundry processes will not affect the bristles and the natural resiliency thereof will be maintained. It is therefore unnecessary to remove the improved stays from a garment before subjecting the latter to washing and ironing processes. The projecting portions *c'* of the envelop form sewing edges by which the stay may be secured to the garment without perforating the main body of the water tight envelop. The improved stay is particularly well adapted for use upon neck bands, collars and the like, but, by arranging the groups of bristles end to end and overlapping, longer stays can be formed for other garments.

It is obvious that the details of construction and manufacture set forth may be varied without departure from the essentials of the invention as defined in the claims.

I claim as my invention:

1. A resilient garment stay comprising a stiffening body of fibers loosely assembled within an inclosing, water-tight envelop, substantially as described. 25
2. A resilient garment stay comprising a stiffening body of bristles loosely assembled within an inclosing envelop of vulcanized india rubber, substantially as described.
3. A resilient garment stay comprising a stiffening body of bristles loosely assembled within an inclosing, water-tight envelop formed of vulcanized india rubber and reinforced with a layer of fabric, said envelop having a projecting sewing edge, substantially as described. 35

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Witnesses:

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