

(No Model.)

E. K. WARREN.
STIFFENING CORD.

No. 550,855.

Patented Dec. 3, 1895.



Fig. 1

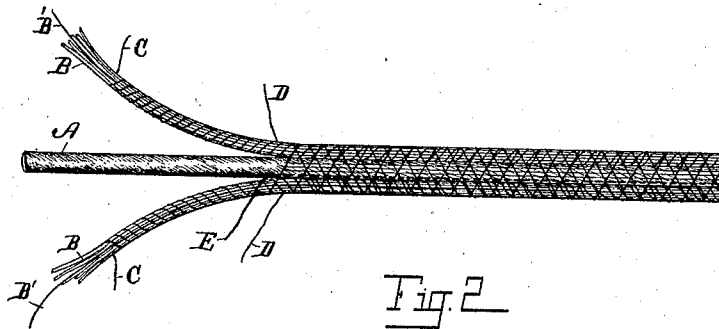


Fig. 2

Witnesses:

Walter S. Webb
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Att'y.

UNITED STATES PATENT OFFICE.

EDWARD K. WARREN, OF THREE OAKS, MICHIGAN.

STIFFENING-CORD.

SPECIFICATION forming part of Letters Patent No. 550,855, dated December 3, 1895.

Application filed June 5, 1895. Serial No. 551,747. (No specimens.)

To all whom it may concern:

Be it known that I, EDWARD K. WARREN, a citizen of the United States, residing at the village of Three Oaks, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Stiffening-Cords, of which the following is a specification.

My invention relates to improvements in stiffening-cords for garments, and relates particularly to such cords which are constructed from a proper combination and use of my improved featherbone, for which I received Letters Patent No. 286,749, dated October 16, 1883.

The objects of this invention are to provide a light stiffening-cord possessing great elasticity and strength for use in the dress-making and millinery art and wherever such cord may be found to be desirable. As heretofore constructed a cord of featherbone alone does not possess sufficient lateral strength to stand the strain in certain positions, and while it is very elastic it is too stiff and unyielding to serve perfectly the purpose for which it is intended. I secure the desirable qualities in such a cord of great lateral strength, lightness, and elasticity by the devices shown in the accompanying drawings, in which—

Figure 1 is a view of a piece of cord embodying the features of my invention, drawn full size, as I am now manufacturing the same. Fig. 2 is a much enlarged view showing the details of construction, the parts being shown large, so that every detail shall appear.

In the drawings similar letters of reference refer to similar parts throughout both the views.

Referring to the lettered parts of the drawings, A represents a strong soft cord of any suitable material possessing considerable size.

B B are very light cords constructed of featherbone, which is constructed of a fiber of quills similar to the manner in which the featherbone is constructed as described in my patent above referred to. The fiber of quills in this case is wound by the single strands C. The strand of featherbone used is very small, as can be readily understood from examining Fig. 1. To have this strand possess sufficient continuity to be used and

worked into a cord in this way, a thread B' extends the entire length of the same to give it sufficient body. A cord constructed in this way is placed to each side of the main soft cord A and is wound thereon by double strands D D, as will be readily understood from an inspection of Fig. 2. When a strand of featherbone is thus wound to each side of the cord A, a row of stitches E is sewed through the cord A, close to one of the strands, to compel the strands of featherbone to keep their appropriate positions to each side of the central cord to draw the threads D D tight about the same to give the cord firmness. A cord constructed in this way can be bent at very sharp angles, offering very little resistance to the bending, and as soon as it is released it will return to its normal position and will not have been injured in the least. This is due to the fact that the larger soft cord between does not permit the shorter strands to receive a sharp bend, but are only curved. Even when the cord is bent at a sharp angle it allows the featherbone strand to curve, which does not injure the fiber of the quill. A cord constructed in this particular manner is therefore of great value in finishing the edges of garments, as the edges of revers or the edges of skirts or any other garment or part of garments which it is desirable to keep flat and smooth and which it is also desirable to preserve in a pliable condition. It stands the bending without injuring its elastic qualities in the least, and when pressure is removed springs out flat again.

The cord A, even when of reduced size, when introduced into a long strip of featherbone in the manner indicated, serves the very useful purpose of giving the same great lateral strength, which has heretofore in some styles of featherbone been wanting.

Having thus described my improved stiffening-cord, what I claim as new, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a stiffening cord composed of a main central cord, A, of soft, flexible material; small cords, B, B, to each side of the same composed of the fiber of quills suitably wound together, the central cord and stiffening cords to each side being secured together by suitable strands wound

upon the same; and a row of longitudinal stitches through the cord, substantially as described for the purpose specified.

2. As an article of manufacture, a stiffening cord consisting of a main, central cord of soft, flexible material and a cord or cords composed of the fiber of quills of feathers, all suitably wound together to give the entire cord flexibility, elasticity and lateral strength,
10 as specified.

3. As an article of manufacture, the composite cord consisting of a central cord of soft,

flexible material; and lateral cords composed of stiff elastic fiber, all suitably united together by a thread wound upon the same to
15 provide a light elastic cord of great lateral strength, as specified.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

EDWARD K. WARREN. [L. S.]

Witnesses:

WM. C. HALL,

M. G. MCGAWN.