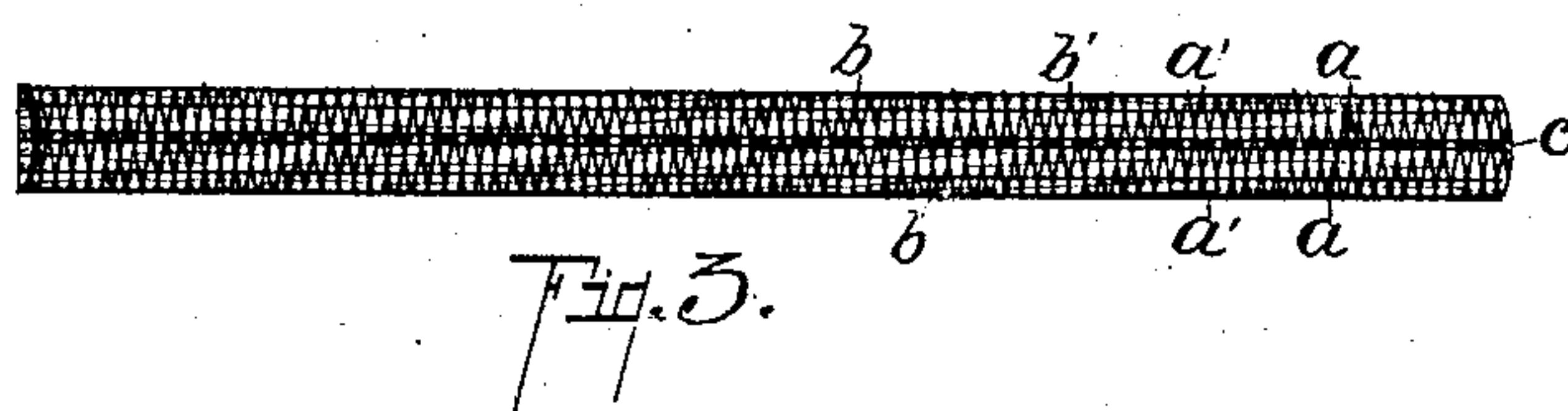
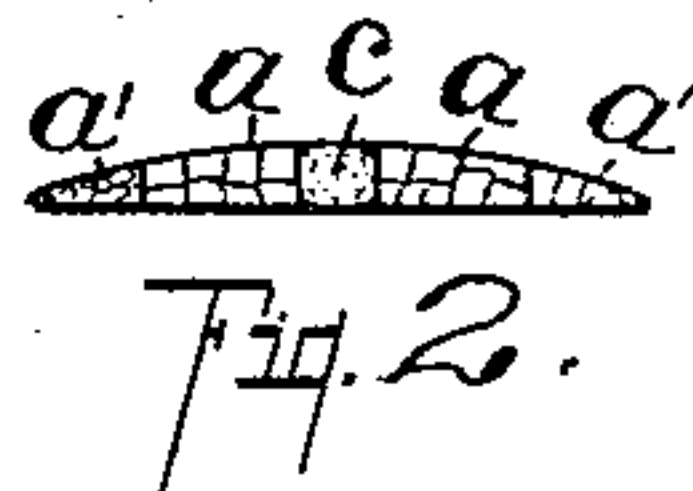
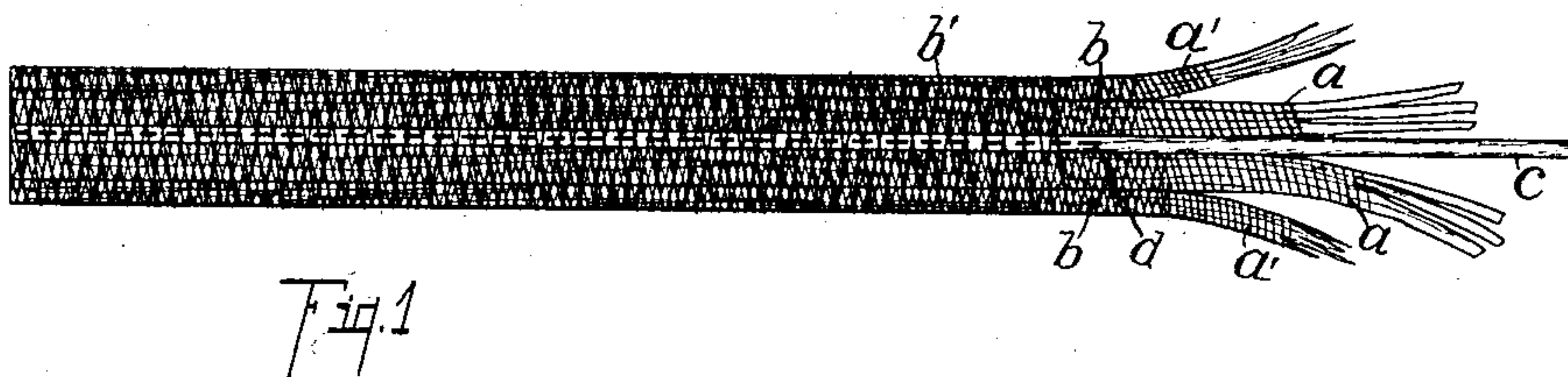


No. 771,404.

PATENTED OCT. 4, 1904.

E. K. WARREN.
CORSET STIFFENER.
APPLICATION FILED DEC. 17, 1901.

NO MODEL.



Witnesses:

Alice E. Houghton
Otis A. Earl

Inventor,

Edward K. Warren
By Fred L. Chappell
Att'y.

UNITED STATES PATENT OFFICE.

EDWARD K. WARREN, OF THREEOAKS, MICHIGAN.

CORSET-STIFFENER.

SPECIFICATION forming part of Letters Patent No. 771,404, dated October 4, 1904.

Application filed December 17, 1901. Serial No. 86,187. (No model.)

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 Threeoaks, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Corset-Stiffeners or Dress-Stays, of which the following is a specification.

This invention relates to improvements in corset-stiffeners or dress-stays.

Heretofore in the formation of stiffening-blades it has been endeavored to obtain a blade which is comparatively thick at the center and thin at each edge, so that the same would combine or blend readily with any garment that it was used upon.

It is the object of this invention to produce a stiffening-blade which is satisfactory and effective, the edges of which are very thin and the central part of which has sufficient thickness of body to make a substantial stiffener.

Further objects will definitely appear from the detailed description to follow.

I accomplish the objects of this invention by the devices and means described in this specification.

The invention is clearly defined and pointed out in the claim.

A structure embodying the features of my invention is fully illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a detail view showing detail of construction of a stiffening-blade embodying the features of my invention. Fig. 2 is a detail cross-sectional view of Fig. 1. Fig. 3 is a detail perspective view of the stiffening-blade in its finished form.

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

The views, except that of Fig. 3, which is about the usual size, are shown considerably enlarged.

Referring to the lettered parts of the drawings, *a a* and *a' a'* are bundles of fibered quill, and *c* is a small soft cord, on either side of which the bundles of fibered quill *a a'* are arranged. The bundles of fiber *a* and *a'* are each

suitably wrapped by a wrapping-thread in the usual manner, and I preferably bind the bundles *a* and *a'* by suitable wrapping-thread *b*. When the whole is assembled, it is all bound together by suitable wrapping-threads *b'* and stitched through the center, as at *d*, to bind the wrapping-threads in place. This is all accomplished substantially in the manner described in United States Letters Patent No. 388,993, issued to me on the 25th day of September, 1888. The cords *a' a'* are very fine and of superior material, while the cords *a a* are of heavier and coarser material. After the strands and cords are assembled and bound together, as above stated, I then treat the blade in the same manner or in a similar manner to that described in United States Letters Patent No. 559,827, of May 12, 1896. I then pass the same through a pair of rollers, one of which has a flat periphery and the other of which has a peripheral groove, so that one side of the blade will be flat and the other slightly curved. Heavy pressure is applied in the final step of the processing, and as the cords at the edge are of superior quality of material it preserves the alinement and makes a very firm edge to the blade, whereby it blends in use in a garment very effectively.

By the processing, as heretofore mentioned, the blade is formed into one composite blade of superior quality. The cord in the center of the blade is of particular advantage when it is desired to attach the same by hand. This cord is only of sufficient width to permit the free passing of a needle and affords a soft place for the insertion of a needle, so that a tailor or seamstress can easily attach to a garment.

I desire to remark that the features of winding blades of hard material close onto a textile cord in the center and then processing the same, as before mentioned, is of very great advantage in the formation of a blade of such material as whalebone or other resilient fibers.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The composite blade made up of a stiff resilient blade at each side, composed of resilient fibers, a textile cord at the center, the

whole being retained together by suitable wrapping-threads, and suitably sized and compressed, with the edges of said blades very thin and the center part comparatively thick,
5 whereby a resilient blade is formed with a comparatively soft center, for the passage of a needle in attaching the same, 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:

MORRIS G. MCGAWN,
MARY A. DAVIDSON.