

(No Model.)

I. DE V. WARNER.
CORSET STIFFENER.

No. 403,161.

Patented May 14, 1889.

Fig. 1.

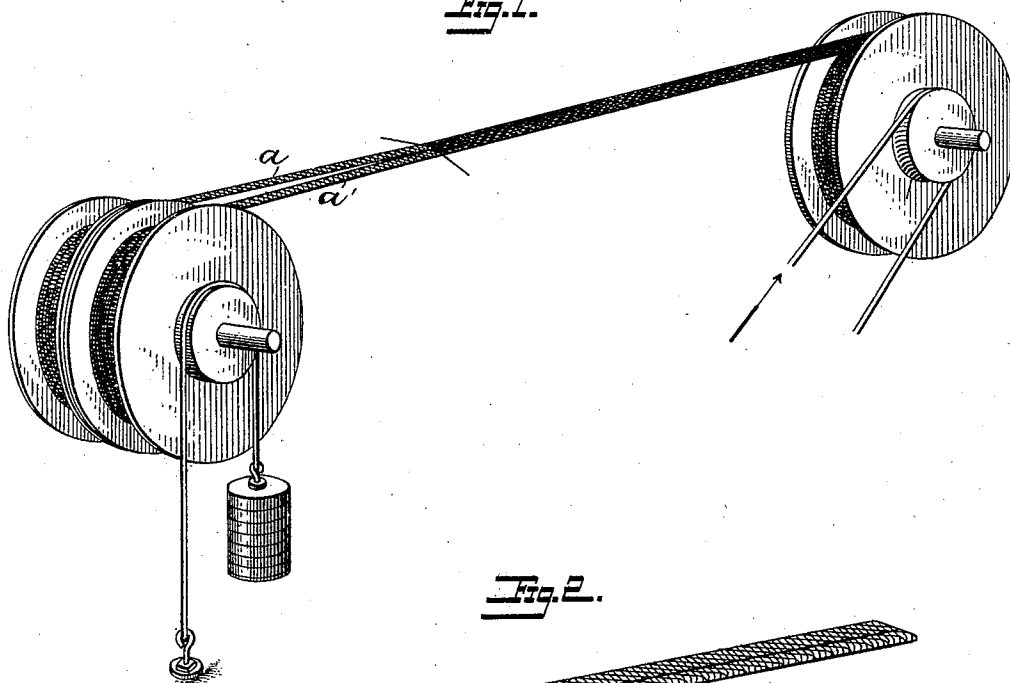


Fig. 2.

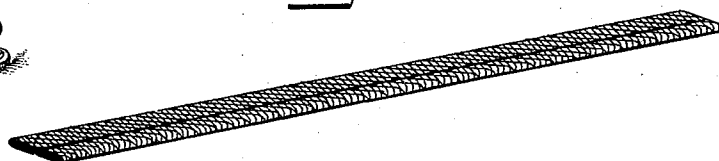


Fig. 3.

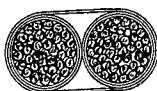


Fig. 4.



Witnesses.
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UNITED STATES PATENT OFFICE.

IRA DE VER WARNER, OF BRIDGEPORT, CONNECTICUT.

CORSET-STIFFENER.

SPECIFICATION forming part of Letters Patent No. 403,161, dated May 14, 1889.

Application filed September 29, 1888. Serial No. 286,760. (No model.)

To all whom it may concern:

Be it known that I, IRA DE VER WARNER, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented a new and useful Improvement in Corset-Stiffeners, of which the following is a full, clear, and exact specification.

That class of dress-stiffeners consisting of parallel connected bundles of fiber has heretofore proved to be of great availability for many purposes connected with articles of wearing-apparel; but prior to my invention, hereinafter set forth, such stiffeners have not been available for use as substitutes for ordinary whalebones, such as must be inserted longitudinally in the pockets of corsets. This defect in such stiffeners resulted from their waved, twisted, and bent shapes caused by the waved, twisted, and bent character of the fibers of which the bundles are composed.

I have succeeded after many trials and experiments in producing a stiffening-blade in which the fibers are straight and parallel to each other, and to the straight edges of the blade in which they are closely and permanently combined in their straightened condition, and which, while tougher and less capable of being broken than ordinary whalebone, possesses the required elasticity, lightness, and compactness, and which has proved in practice to be a most desirable and effective substitute for the more expensive whalebone blades.

One method of constructing the improved stiffening-blade is fully set forth in a separate application, Serial No. 286,759, and need not be referred to in detail herein, the said method consisting, generally, in first forming from "ixtle" or "Tampico" fibers bundles or cords of such fibers which are naturally bent or crooked, and which are arranged longitudinally in the bundle and as nearly straight and parallel as practicable; and two or more of such bundles or cords are then brought side by side, and sufficient tension is applied to each to straighten it to coincide with a perfectly straight line, and the bundles are then bound together tightly by overlaying or bind-

ing material, as bands or threads wrapped round the bundles and preferably cemented, so as to form a more finished surface and prevent the binding material from fraying at the ends of the blades formed by cutting a compound strip into sections. When the fibers are of ixtle, they are condensed and tempered by pressure between heated dies for a suitable length of time, being thereby consolidated, flattened, and to a certain extent polished.

The straight blades formed as above described can be inserted longitudinally in the pockets of corsets like ordinary whalebones, and when secured therein serve to stiffen the corset as well as the more expensive material for which they are substituted, while they are lighter and tougher than whalebone and do not exceed the same in bulk.

In the accompanying drawings, Figure 1 illustrates the manner of combining the two bundles *a a* under tension to form a straight compound bundle, and Fig. 2 illustrates the completed flattened blade. Fig. 3 is an enlarged cross-section of the bundles of fibers as arranged side by side before pressing. Fig. 4 is an enlarged cross-section of the flattened finished blade.

I claim—

1. A flat stiffening-blade consisting of bundles of fibers arranged side by side, with a surrounding binding material confining the fibers of the said bundles in straight lines parallel with each other and with the edges of the blades, substantially as set forth.

2. A flat stiffening-blade consisting of bundles of fibers arranged side by side, with a surrounding binding material confining the fibers of the said bundles in straight lines parallel with each other and with the edges of the blade and cemented to the inclosed fibers, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

IRA DE VER WARNER.

Witnesses:

F. S. ANDREWS,
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