

G. LANZENDORFER.
FLEXIBLE FIBROUS MATERIAL.
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923,978.

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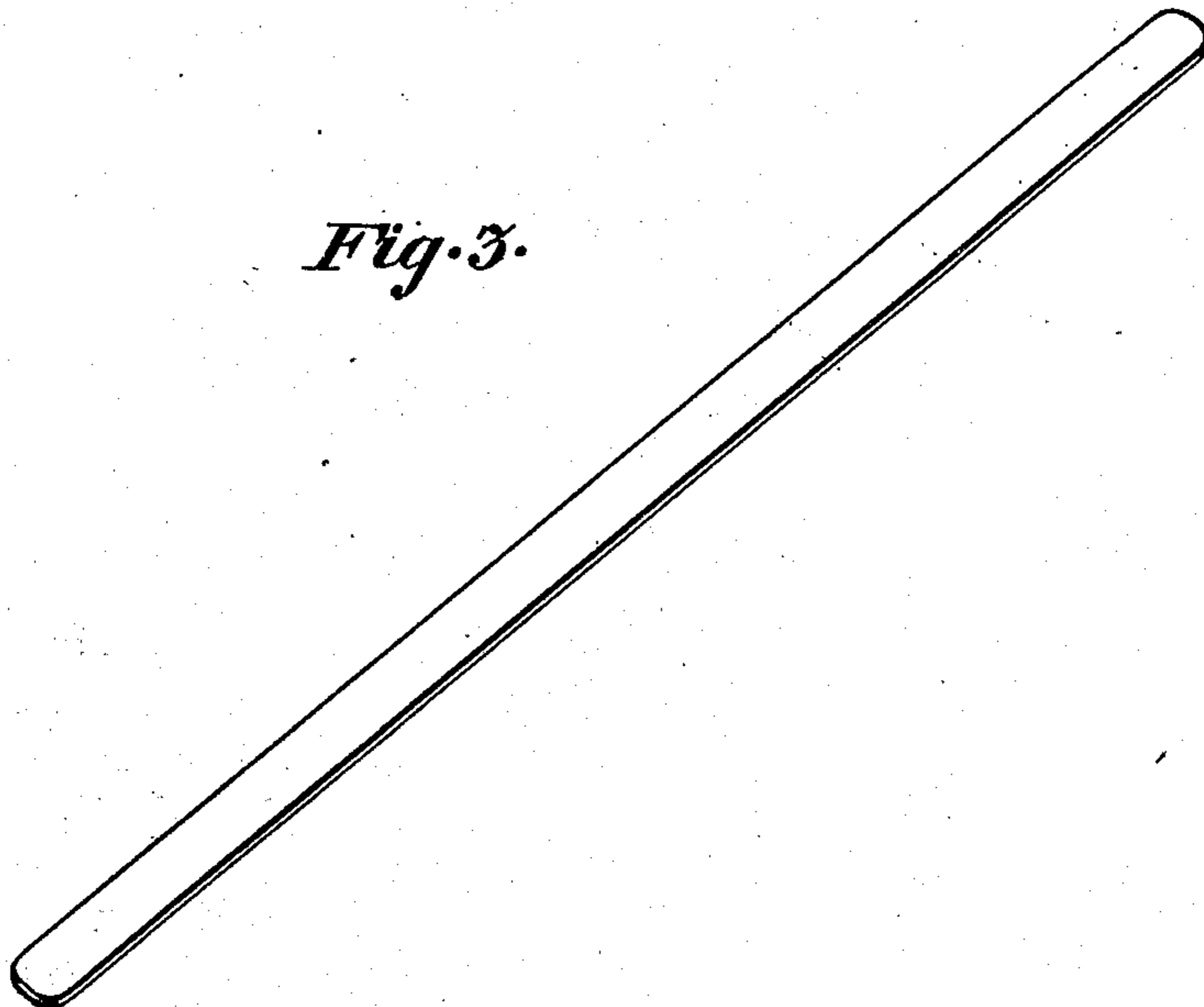
Fig. 1.



Fig. 2.



Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

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FLEXIBLE FIBROUS MATERIAL.

No. 923,978.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE LANZENDORFER, a citizen of the United States, residing at Boston, in the county of Suffolk, Commonwealth of Massachusetts, have invented an Improvement in Flexible Fibrous Material, of which the following description, in connection with the accompanying drawings, is a specification.

This invention relates to flexible fibrous material such, for instance, as is used in making dress stays and the like.

The invention consists in an improved article of manufacture.

Among other objects the invention is designed to supply a tough, readily flexible though elastic material which shall be easy and economical to make.

The character of the invention may be best understood by reference to a specific method, and the product thereof embodying the invention, which are described herein for purposes of illustration.

It is to be understood of course that the invention is not essentially limited to the specific described details of the illustrative article of manufacture.

In the accompanying drawings,—Figure 1 comprises a transverse section of a strip of the preferred raw material; Fig. 2, a transverse section of like material, treated by the illustrative method; and Fig. 3, a perspective of a product of the preferred method.

A raw material suitable to the practice of the invention consists of a piece of fibrous vegetable material, in substantially its natural condition, as exemplified in reed, bamboo and the like. Such material, while possessing constituent qualities of utility in making flexible fibrous material, is naturally too inelastic and brittle to suit commercial purposes.

A preferred article embodying the invention may be made by suitably modifying raw material such as suggested, while retaining all the desirable qualities of its fibers.

The preferred article may be made by subjecting vegetable fibers to a separating treatment service to remove therefrom, more or less completely, non-fibrous material which may tend to modify the qualities of the fiber and to fill the interstices of the material. Such a separating treatment may

consist in subjecting the fibers to an alkaline bath—for instance, to a bath of caustic soda solution, which is the preferred agency for this purpose. In this manner a product may be obtained wherein the fibers are in a more or less pure condition, and in such raw material as has been described the interstices or cells intervening between the fibers may be substantially vacant.

In reed, bamboo and the like the cells between the ligneous fibers may be partially or completely filled with non-fibrous substances, as albumen and the like as indicated by dots in Fig. 1; and the described separating treatment may have the effect of separating out at least part of these substances.

If it is to be desired that the finished product have some color other than the natural color of the fibrous material, the same may be dyed at any suitable stage in the method, and preferably after the material has been subjected to the separating treatment. Thereupon it may be washed to remove surplus dyestuff and mordants.

The interstices between the fibers—as the cells in reed, bamboo or the like—I prefer to fill with some substance serving to give elasticity to the finished product; and an adhesive may suit this purpose, since it makes the fibers cohere strongly and gives the material desired unity of elastic structure. The filling material may be supplied to the fibers in any practicable manner, as by soaking the fibers therein or placing the preferred raw material endwise in a bath of liquid filler, as glue, and permitting the latter to be drawn into the more or less vacant interstices by capillary attraction.

When the filling material has been suitably intermingled with the fibers, the mass (preferably partially dried) may be compacted by rolling, squeezing or in any other suitable manner, to solidify the same into such form as shown in Figs. 2 and 3.

The finished article (Fig. 3) produced by the above described illustrative method possesses many advantages which will appear to those skilled in the art. For instance, it comprises tenacious vegetable fibers, related substantially as in nature, the same having a filling material to give the mass elastic body and coherence, and being compacted to solidify the mass and make it even more elastic.

As will appear to those skilled in the art, the invention is not essentially limited to the specific details hereinbefore set forth; or to the exact steps or sequence of operations
5 above described to explain the manufacture of an article embodying this invention.

Claim—

1. An article of manufacture consisting of a piece of natural fibrous vegetable material
10 having a part of its non-fibrous constituents replaced by glue, and the whole substantially compacted transversely, the fibers of the piece having substantially natural longitudinal relations and retaining tensile and
15 flexing strength.

2. As an article of manufacture, an elastic dress stay or the like consisting of a strip of natural vegetable fibrous material having part of its non-fibrous constituents removed and its fibers treated with stiffening
20 substance and substantially compacted transversely while preserving the natural longitudinal relations between the fibers to retain tensile and flexing strength.

3. An article of manufacture consisting of 25 a piece of natural vegetable fibrous material of the genus of reed, having part of its non-fibrous constituents removed and a stiffening substance applied to the remaining fibers, the whole being substantially compacted 30 transversely of the fibers, the latter having substantially natural longitudinal relations.

4. As an article of manufacture, an elastic dress stay or the like, consisting of a strip of natural vegetable fibrous material of the 35 genus of reed, having part of its non-fibrous constituents removed and a stiffening substance applied to the remaining fibers, the whole being substantially compacted transversely of the fibers, the latter having sub- 40 stantially natural longitudinal relations.

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

GEORGE LANZENDORFER.

Witnesses:

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