(No Model.)

C. T. LEE.

SHOE.

No. 381,259. Patented Apr. 17, 1888.

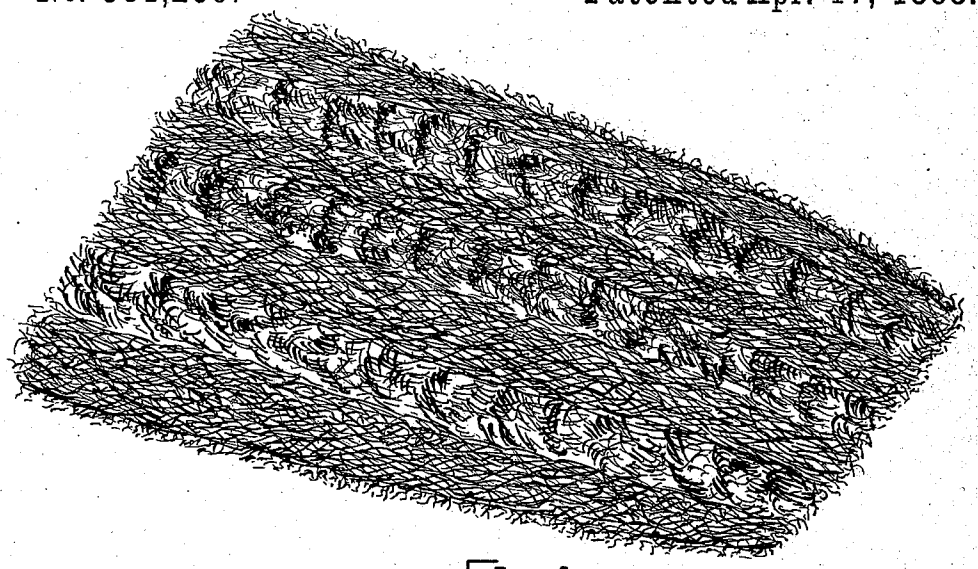


Fig. 1.

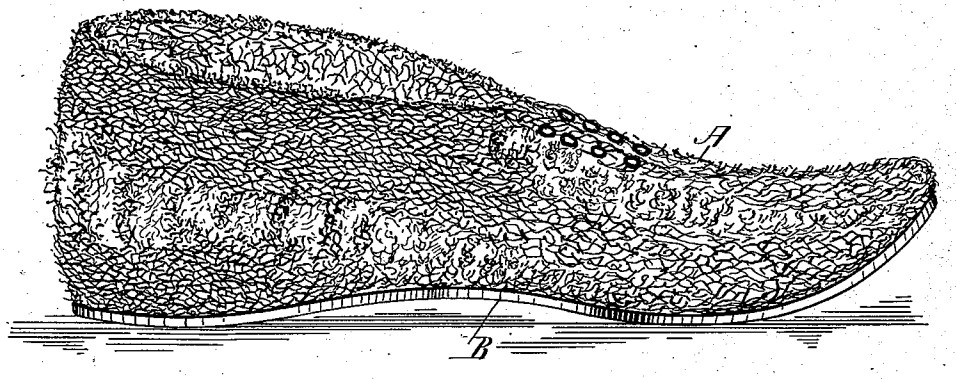


Fig. 2.

WITNESSES.

Fred. E. Foster.
Wm E. Rogers

INVENTOR.

Charles Tennant Lee
per John C. Fitzgerald,

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CHARLES TENNANT LEE, OF BOSTON, MASSACHUSETTS.

SHOE.

SPECIFICATION forming part of Letters Patent No. 381,259, dated April 17, 1888.

Application filed May 17, 1887. Serial No. 238,452. (No specimens.)

To all whom it may concern:

Be it known that I, CHARLES TENNANT LEE, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Foot-Coverings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a cheap and novel construction of foot-coverings, such as shoes and slippers, the object being to provide a lighter, cooler, better ventilated, and more ornamental article of foot-wear, which will also be easy to the wearer and useful for many purposes—as, for instance, in sea-bathing; and the invention consists in a boot, shoe, slipper, or other article of foot wear or covering made from the fibrous inner linings of the *Luffa acutangula*, or "dishcloth-gourd," as it is commonly called.

In the accompanying drawings, which serve to illustrate a foot-covering formed from the linings of the *Luffa acutangula* in the manner herein set forth, Figure 1 represents the inner lining of a seed-pod of the *Luffa acutangula* spread open. Fig. 2 is a perspective view of an article of foot-wear made from these seed-pod linings.

Similar letters of reference designate corresponding parts in all the figures.

The material out of which I construct shoes and the like articles, as herein specified, belongs to the botanical family *Cucurbitaceæ*, genus *Luffa*, and species *Acutangula cylindrica* or *Ægyptiaca*. These names of the species appear to be employed interchangeably to designate substantially the same plant, the only difference between the *cylindrica* and the *acutangula* residing in the character of the outer skin, the inside portion of each being of the same fibrous texture. This "*Luffa acutangula*," as it may be called, is found in the Antilles and throughout the tropics generally. It also grows in the southern portions of the United States and in Japan. It is a vine which produces seed-pods which attain considerable size and which have fibrous linings composed of interlaced fibers. These linings are of extreme lightness and much strength and constitute the material out of which my improved articles of foot-wear are manufactured.

To make a boot, shoe, or slipper or similar article, I proceed in either of two ways. In the first way the fibrous portion of the pod is split longitudinally and the core or placentæ removed, thus leaving a sheet of material similar to that shown in Fig. 1. It will be noted that the fibrous linings are easily taken from the pod, for the latter has an outer covering, which when dry is readily detachable from the lining. This fibrous sheet of the lining is then formed into the upper of a shoe upon a last in the same manner as an ordinary shoe or slipper would be. In Fig. 2 this upper is lettered A. In order to form the upper more easily it may be found convenient to moisten the fabric, after which it can be shaped in a mold or other device or by hand. The wetting of the material develops a mucilaginous substance therein, which serves as a stiffener to the article after it becomes dry. The upper A is next fixed upon a sole, B, made in the proper shape of leather or of the same kind of a fibrous sheet as that forming the upper or of the placental portion. When one lining is found insufficient to make the upper of the necessary size, several linings may be cut into the desired shapes and sewed together. Trimmings and other ornamentations may be placed on the shoes thus constructed in the same manner as they are used with the ordinary leather shoes.

Another mode of making the shoe or slipper consists in taking advantage of the natural form of the gourd, which approximates the form of a shoe, and therefore in not splitting the lining into a sheet, but making instead an incision into the side of the gourd nearer the larger end of sufficient size to admit the entrance of a last after the placentæ has been removed through the incision. The lining may be turned, if desired, so that the inside surface shall become the outside, thus placing the smoother surface within and bringing the placental ridges upon the outside. When the last has been introduced within the gourd, it will be easy to shape the latter into the form of a shoe upon it. It is only necessary to sew the heel end and draw up the toe part after cutting off as much of the length of the gourd

as is required to fit the length of the last. To this form a sole may or may not be added, as already specified, in the first instance or in any other way.

The article of foot-wear herein described is found to be especially advantageous for use in sea-bathing. Its interlaced fibrous structure makes it exceedingly light and cool and permits the free passage of water through it. It is easy to the feet, and while it absorbs more or less of the water does not lose its shape.

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

1. As an improved article of manufacture, a shoe, slipper, or other article of foot-wear made wholly or in part from the fibrous inner lining of the seed-pod of the vine or plant known as the *Luffa acutangula*, as specified.

2. As an improved article of manufacture, the herein-described foot-covering, consisting of an upper made from the fibrous inner lining of the seed-pod of the *Luffa acutangula* and a leather sole secured to said upper, as specified.

In testimony whereof I affix my signature in presence of two witnesses.

CHAS. TENNANT LEE.

Witnesses:

GEORGE O. G. COALE,

FRED B. O'NEIL.