No. 680,249. Patented Aug. 13, 1901.

M. M. HEINITSH & J. T. MORIARTY.

SHOE LACING.

(Application filed Apr. 29, 1901.)

(No Model.)

Fig. 1.

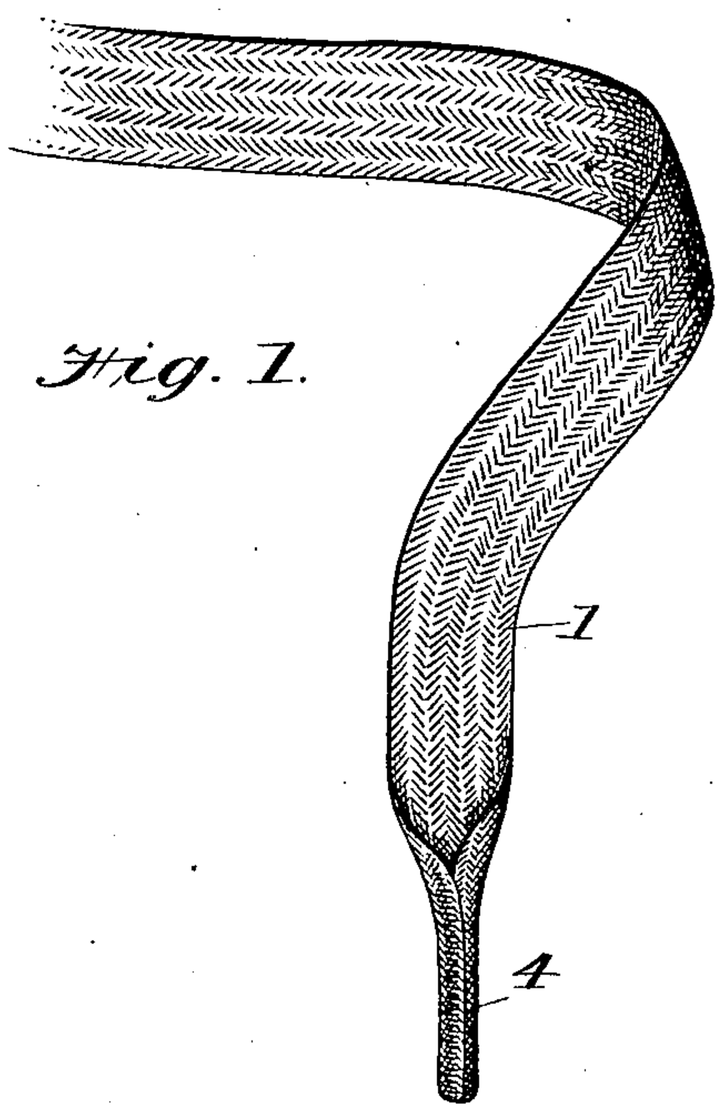

Fig. 2.

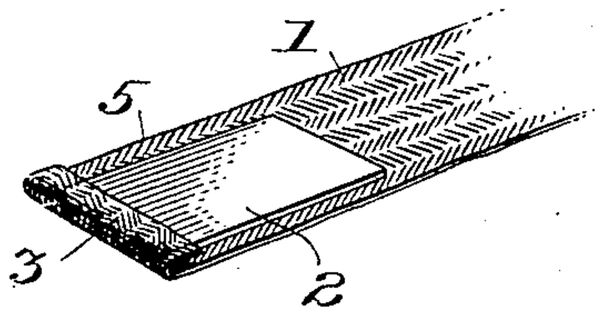

Fig. 3.

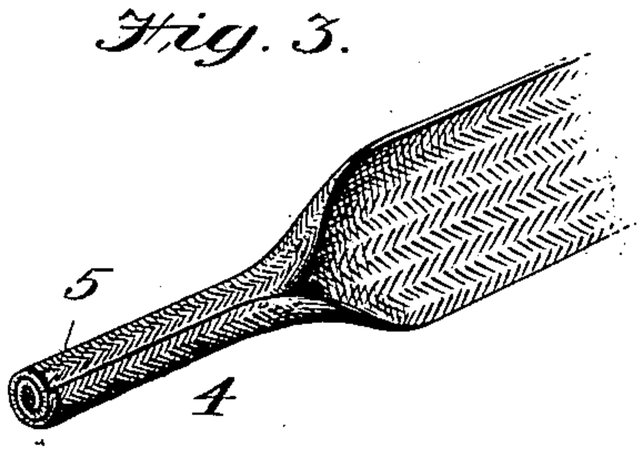

Fig. 4.

Fig. 5.

Witnesses.

Jno. T. Cross.

Chas. K. Bennett

Inventors,

Margaret M. Heinitsh
and Joseph T. Moriarty.

by Horace Pettit

their Attorney.

UNITED STATES PATENT OFFICE.

MARGARET M. HEINITSH, OF PHILADELPHIA, PENNSYLVANIA, AND JOSEPH T. MORIARTY, OF NEW BEDFORD, MASSACHUSETTS.

SHOE-LACING.

SPECIFICATION forming part of Letters Patent No. 680,249, dated August 13, 1901.

Application filed April 29, 1901. Serial No. 57,874. (No model.)

To all whom it may concern:

Be it known that we, MARGARET M. HEINITSH, a resident of the city of Philadelphia, State of Pennsylvania, and JOSEPH T. MORIARTY, a resident of New Bedford, State of Massachusetts, citizens of the United States, have invented certain new and useful Improvements in Shoe-Lacings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

Our invention relates to certain improvements in lacings for shoes, corsets, and the like, and particularly to an improved tip therefor.

The principal object of our invention is to generally improve shoe and corset lacings by providing a tip for the same which is so constructed as to be strong and durable and at the same time neat in appearance.

A further object of the invention is to provide a tip having a metallic stiffening which is completely hidden from view and attached to the webbing of the lacing in such manner that it cannot be detached therefrom by the wearing out of the webbing on the outside of same, as is the case with the covered tips now in use.

Another object of the invention is to so construct the tip as to provide a reinforced end composed of the lacing material and hardened so as to withstand considerable wear before the breaking through to the metallic stiffening.

With these main objects in view the invention consists in the novel arrangement and construction of the tip, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective view of a portion of a lacing made in accordance with our invention. Fig. 2 is a detail perspective view of the tip before it is rolled, illustrating the manner of forming the same. Fig. 3 is a perspective view of the tip on a slightly-enlarged scale, illustrating the same after rolled. Fig. 4 is a cross-sectional view through the stiffening-piece, showing it coiled, but with the webbing removed. Fig. 5 is a cross-sectional view through the completed tip.

In carrying out our invention the webbing 1, from which the lacing is made, is spread out flat at its ends, as shown in Fig. 2, and a thin metallic plate 2 is placed upon the same. The end 3 of the webbing is then turned over, as illustrated, and the metallic stiffening and webbing tightly coiled or rolled up together, thus forming a tip 4, such as illustrated in Fig. 3 of the drawings. After this process is completed the tips are then dipped in a liquid solution, which hardens the webbing and thoroughly permeates the tip end and solidifies the same, also cementing the webbing to the metal. By turning over the webbing and rolling the same in the manner above described a good thickness of material is provided for the end of the tip, and after dipping into the hardening solution this end becomes hard and tough and is able to withstand considerable wear before it cuts through to the metal stiffening 2. This is a decided advantage over existing tips, as in all covered tips the extreme end or point generally cuts through in a very short space of time. By rolling the metal strip and webbing up together in the manner before described a strong, stiff, and durable tip is produced, and even should the outside webbing wear through to the metal the said metal will still be held to the webbing by the inside coils.

The solution used for coating the tip after it is formed must be of such a character as to not injure the webbing or effect the looks of the same, and we find that a solution of shellac colored with lamp-black produces the best results, as it hardens very quickly and renders the webbing quite tough, thereby increasing the wearing qualities of the tip. We do not wish, however, to confine ourselves to this particular solution, as others might be found which would produce equally good results.

The rolling or coiling of the tip is accomplished by suitable machinery, and this rolling must be quite close or tight in order to reduce the size of the tip. The outer edge 5 of the webbing must be turned over, as illustrated in Figs. 3 and 5 of the drawings, so that it will be securely held by the last coil of the stiffening-strip.

From the foregoing description it will be

readily seen that we have produced a tip for shoe and corset lacings which is very neat in appearance strong, and substantial, and having increased wearing qualities over others of this character.

Having fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a lacing, the combination of a web-covered tip comprising in cross-section a convolute having an outer layer of webbing, and a series of layers of thin metal and webbing substantially alternately disposed, as described.

2. In a lacing, the combination of a tip comprising a metal strip rolled together closely with the webbing forming a coil, the outer edges of the said webbing overlapping the outer edge of the metal strip and confined between the coils of the roll, substantially as described.

3. In a lacing, the combination of a tip comprising a metal strip rolled closely with the webbing forming a coil, the outer edge of the said webbing overlapping the outer edge of the metal strip and confined between the coils of the roll, the ends of the webbing overlapping the metal strip before rolling, substantially as described.

4. In a lacing, the combination of a web-covered tip forming a cross-section a convolute comprising an outer layer of webbing, a coating of hardening material permeating the webbing, and a series of layers of thin metal and webbing substantially alternately disposed, the hardening material operating to cement and unite the webbing to the metal, as described.

Signed by me, the said MARGARET M. HEINITSH, at Philadelphia, Pennsylvania, this 23d day of April, 1901.

MARGARET M. HEINITSH.

Witnesses:
CHARLES H. SPECKMAN,
JNO. T. CROSS.

Signed by me, the said JOSEPH T. MORIARTY, at New Bedford, Massachusetts, this 24th day of April, 1901.

JOSEPH T. MORIARTY.

Witnesses:
GEORGE N. GARDINER,
CHAS. E. GIBBS.