No. 765,227. PATENTED JULY 19, 1904.

H. H. CUMMINGS.

LACING.

APPLICATION FILED MAY 11, 1904.

NO MODEL.

Fig. 1

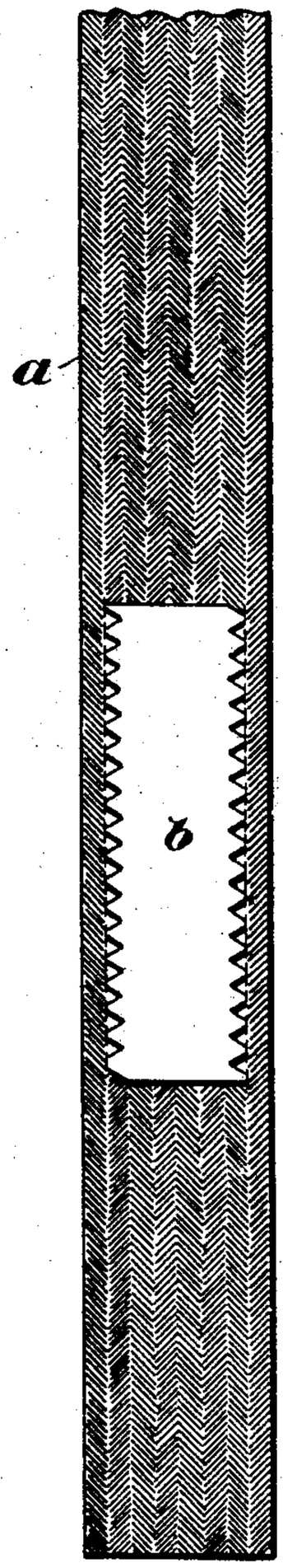


Fig. 2

Fig. 3

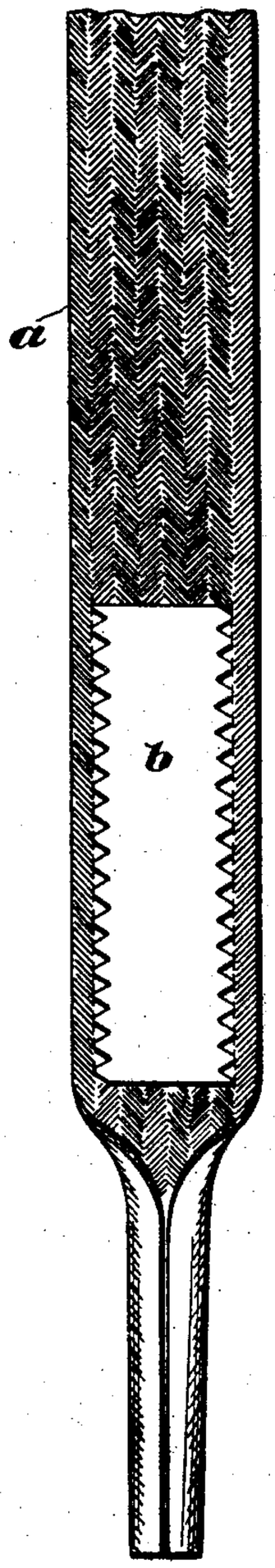


Fig. 4

Fig. 5

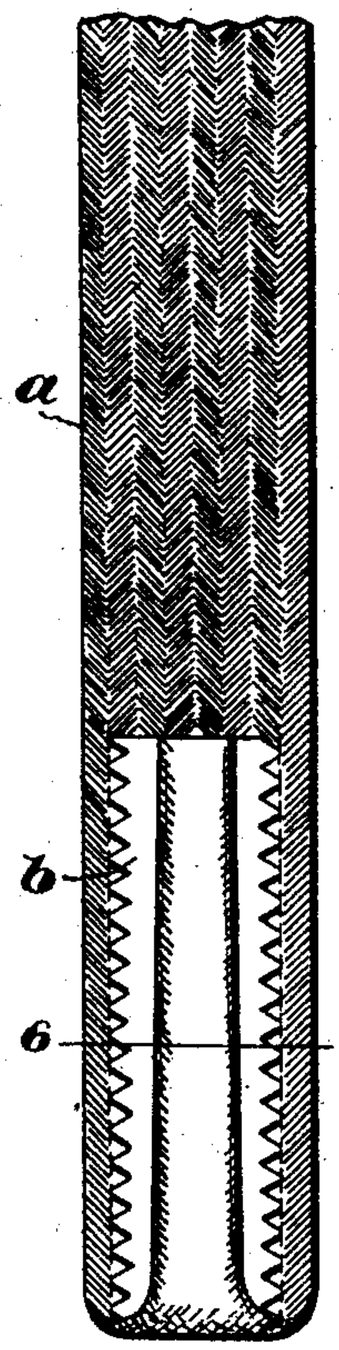


Fig. 6

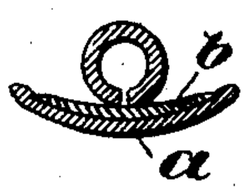


Fig. 7

Fig. 8

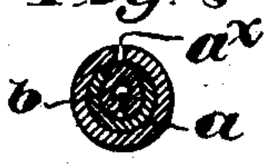
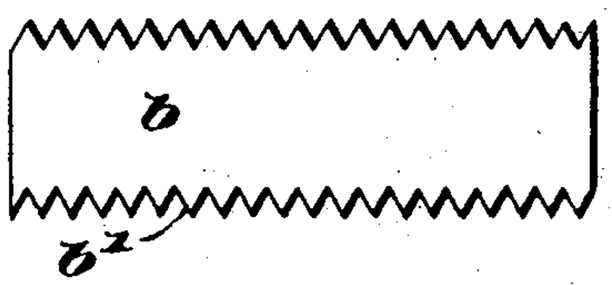


Fig. 9



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No. 765,227. Patented July 19, 1904.

UNITED STATES PATENT OFFICE.

HENRY H. CUMMINGS, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO BOSTON SPIRAL TAGGING COMPANY, OF HINGHAM, MASSACHUSETTS, A CORPORATION OF MAINE, AND FREDERICK L. EMERY, TRUSTEE, OF BOSTON, MASSACHUSETTS.

LACING.

SPECIFICATION forming part of Letters Patent No. 765,227, dated July 19, 1904.

Application filed May 11, 1904. Serial No. 207,422. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, residing at Malden, in the county of Middlesex and State of Massachusetts, have invented an Improvement in Lacings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to improvements for stiffening and strengthening the extremities of shoe or other lacings, and is designed more particularly as an improvement upon the structure set forth in my copending application, Serial No. 122,787, filed September 10, 1902.

An aim of the invention is to so construct and arrange the stiffening member that it will be securely incorporated with the lacing and at the same time will be reinforced against any crushing or distorting effect.

The character and scope of the invention will be clearly apparent from a description of one embodiment thereof, which is illustrated in the accompanying drawings, in which—

Figures 1 and 2 illustrate in plan and end view, respectively, a lacing to which the stiffening member has been attached, these views showing the lacing and stiffening member before formation thereof into general cylindrical shape. Figs. 3 and 4 are views similar to Figs. 1 and 2, respectively showing the extremity of the lacing after the first step in the formation of the tip has been performed. Fig. 5 is a plan view showing a further step in the formation of a lacing-tip. Fig. 6 is a sectional view on the line 6 6, Fig. 5. Fig. 7 is a plan view of the completed tip. Fig. 8 is a cross-section on the line 8 8, Fig. 7; and Fig. 9 is a plan view of a detached tip-forming blank.

In the particular embodiment of the invention herein selected for illustration the lacing *a* may be of any suitable or desired formation or structure, usually, however, of tubular woven or braided fabric, which may be severed in required lengths. The stiffener proper, *b*, in blank is shown in Fig. 9, the same, as there shown, being provided at its edges with a plurality of serrations or locking projections *b'*. This stiffener may be laid upon the flattened lacing, near the extremity thereof, as shown in Figs. 1, 3, and 5, with the serrations or locking projections securely embedded in the fabric thereof, as indicated in Figs. 2 and 6. The portion *a'* of the lacing projecting beyond the blank *b* may then be folded or rolled upon itself, as shown in Fig. 3, and such folded portion then laid over upon the face of the blank *b*, as shown in Fig. 5, to form a filling or reinforce for the completed tip. With the edges of the lacing thus securely locked or embedded upon the serrated edges of the blank the edges of the stiffener and lacing together are then preferably turned over or rolled into general cylindrical form, as shown in Figs. 7 and 8, thereby inclosing the extremity *a'* of the lacing and turning the serrated or locking points *b'* inward out of sight and access and giving to the lacing end the appearance of a smooth covered stiffened extremity in which the tip is entirely concealed. Preferably the adjacent edges of the covered end where they are brought one opposite the other in forming the cylindrical end referred to are left slightly separated one from the other, as indicated at $a^{\times}$, Figs. 7 and 8, to give to the end a certain amount of elasticity or spring, which it would not possess were the two edges brought directly into contact one with the other. This construction tends to prevent distortion of the end under comparatively slight blows or pressure, which were there no give or yield to the end would necessarily produce a distortion thereof, for no matter how much the cover of the cylindrical end may be distorted it is practically impossible to loosen the locking engagement between the stiffener and the lacing. The power to resist distortion is, furthermore, greatly augmented by the arrangement of the folded extremity of the lace within the stiffening member *a*, as described, since this forms a somewhat closely-packed filling or

reinforcing member for the stiffener, and, furthermore, the infolding of the lace over the end of the stiffener produces a finished end for the lacing which presents a neat appearance and is proof against possible raveling of the fabric of which the lacing is composed.

I do not claim, broadly, in this application a stiffening member for a lacing having its edges secured to the edges only of the lacing, since this forms the subject-matter of my copending application, Serial No. 122,787, filed September 10, 1902.

The invention is obviously not limited to the particular embodiment thereof herein described, but is susceptible of many changes, both in the structure and arrangement of parts, without departing from the spirit and scope thereof.

I claim—

1. The combination with a lacing, of a stiffening member therefor having turned-over edges and provided with a filling and having its edges independently secured to the edges of said lacing.

2. The combination with a lacing, of a stiffening member therefor inclosing a section of the lacing and having its edges independently secured to the edges of said lacing.

3. The combination with a lacing, of a stiffening member therefor having its edges independently secured to said lacing and rolled into tubular form and inclosing a section of the lacing.

4. A lacing having its end folded back upon itself and a stiffening member independently secured along its edges to the edges of said lacing and adapted to inclose said folded end.

5. A lacing provided at its end with a stiffening member covered on both faces by and independently secured at its side edge to the edges of said lacing.

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

HENRY H. CUMMINGS.

Witnesses:

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