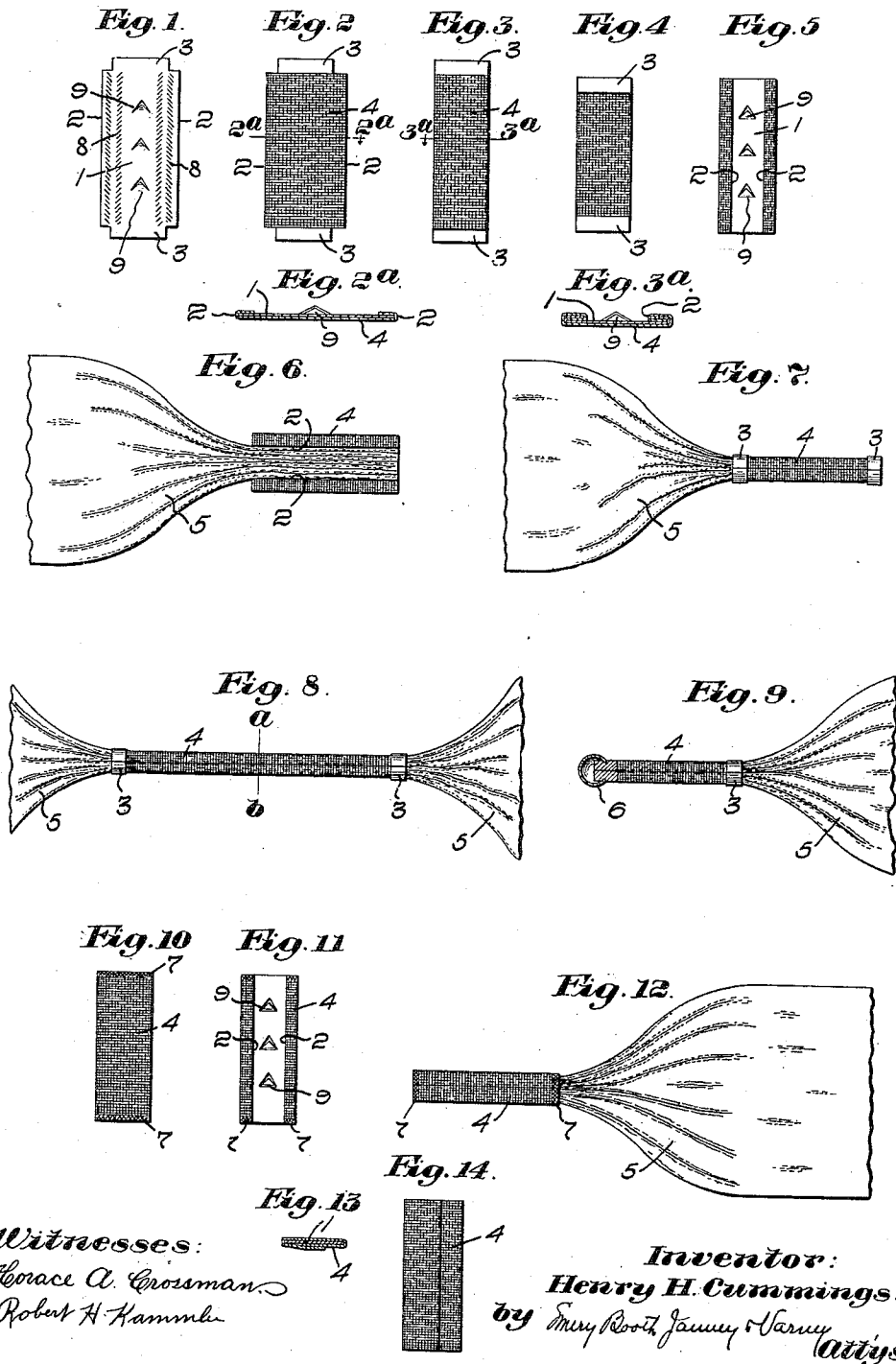


H. H. CUMMINGS.
SHOE LACING.
APPLICATION FILED JULY 18, 1910.

995,440.

Patented June 20, 1911.



UNITED STATES PATENT OFFICE.

HENRY H. CUMMINGS, OF NEWTON, MASSACHUSETTS.

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Specification of Letters Patent. Patented June 20, 1911.

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To all whom it may concern:

Be it known that I, HENRY H. CUMMINGS, a citizen of the United States, and a resident of Newton, county of Middlesex, Commonwealth of Massachusetts, (whose post-office address is 69 Columbus street, Newton Highlands, Massachusetts,) have invented an Improvement in Shoe-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 lacings and more particularly to the tips of such lacings.

The invention will be best understood by reference to the following description when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings: Figure 1 shows a blank tip; Fig. 2 shows the same tip with its fabric covering; Fig. 2^a is a section in plan on the line 2^a—2^a in Fig. 2 but on an enlarged scale; Fig. 3 shows a covered blank with the side edges bent over; Fig. 3^a is a section in plan on the line 3^a—3^a in Fig. 3 but on an enlarged scale; Fig. 4 shows the same tip with the end edges bent over; Fig. 5 shows the reverse side of the tip illustrated in Fig. 4; Fig. 6 shows the mode of applying the tip of Fig. 5 to the gathered-in end of the lacing; Fig. 7 shows the tip of Fig. 6 pressed into shape about the end of the lacing; Fig. 8 shows the mode of forming the modified form of lacing tip; Fig. 9 shows the lacing tip of Fig. 8 completed; Figs. 10 and 11 show front and rear views of a modified form of tip blank; Fig. 12 shows the blank of Figs. 10 and 11 applied to the lacing; Fig. 13 shows section and Fig. 14 an elevation of still another modification.

In the ordinary construction of shoe lacing tips, where the metal blank is applied directly to the gathered-in end of the lacing to form the tip thereof, certain well known objections apply. The metal tip, in spite of the best precautions which can be taken, is easily detached from the lacing, the lacing invariably outlasting the attachment of the tip. Moreover, with continued wear, the lacquer or other finish on the metal becomes worn, giving the lacing a shabby and rusty appearance. Attempts to remedy these objections have resulted in the production of a variety of lacing tips which depend for their

attachment upon the introduction of a metal blank within the material of the lacing, the latter being rolled over outside the metal of the blank so as to cover and conceal the same and present a tip having the outward appearance of the lacing fabric and incapable of detachment except by the destruction of the fabric itself. The operation, however, of rolling up the fabric-incased blank is frequently a very troublesome operation to perform, particularly in the case of wide lacings or lacings of heavy material, and especially where it is desired to employ automatic machines for this operation.

The object of my present invention is to provide a tip which will have certain of the advantages of both the described forms of tips, being unlike the old metal tip in that it presents a fabric-covered exterior and is thereby more pleasing to the eye and also in that it has a much greater tenacity in its attachment to the material of the lacing. Unlike the fabric-covered tip heretofore employed my improved tip is susceptible of application to the lacing in substantially the same manner as the metal tips heretofore employed, that is to say, by being rolled up about the lacing end instead of within the same, and therefore lends itself more readily to a simple fastening operation by an automatic machine.

Referring to the drawings and to the embodiment of my invention shown, in Figs. 1 to 7 thereof I have shown in Fig. 1 a blank 1 which may be and preferably is of thin sheet metal, such as soft steel, brass, aluminum or any other suitable material lending itself readily to this use. The blank 1 is preferably, though not necessarily, formed with the side wings 2 and the end wings 3. The described blank is then covered upon one side with a piece 4 of fabric which is preferably the same fabric of which the lacing 5 to which the tip is to be attached is composed. The fabric may be applied with glue, gum or any other desired adhesive, and may cover partially or wholly only one side of the blank. Herein, however, I have shown the fabric coating as cut to a size slightly wider than the width of the blank so that the edges thereof can be lapped over the opposite side of the blank as represented in Fig. 2^a. The side wings 2 may then be bent over flat against the opposite face of the blank as represented in Figs. 3 and 3^a so that the turned over edges of the fabric

covering are pinched in between the walls of the blank and the wings 2. This operation may be performed by any suitable automatic machine and may be performed the same time the fabric is cut and applied to the blank, so that the fabric may be held and retained on the blank by the pinching action of the wings 2 and without the use of glue or any other adhesive. To attach the coating still more securely to the blank the face thereof opposite to the face to be coated may be roughened as shown at 8 so that when the edges or wings are bent over as described the edges of the fabric will be clenched firmly between these roughened walls. At the same time the side wings 2 are turned over, or by a separate operation, if desired, the end wings 3 are also bent over flat against the blank but against the opposite or fabric-covered face thereof, so as to provide a binding for the edge of the fabric. With the blank thus fashioned, the latter is laid with the fabric-coated face down and the gathered in end of the lacing then laid on the upturned or opposite face of the blank as represented in Fig. 6. The blank is then rolled or curled over the gathered in lacing end, preferably by means of a suitable die and pressed so that it binds and encircles the lacing end and is compressed into the compact form represented in Fig. 7. The fabric covering for the exterior of the tip contacts with the fabric of the lacing and exerts a grip thereon which I term a fabric grip. It will be seen that although the tip piece is rolled about and encircles the exterior of the lacing fabric, the separate fabric coating on the tip piece is outside so that it presents the appearance and is in effect a fabric covered tip, the overturned metal binding rims 3 presenting the appearance of ferrules or beads separately applied thereto. Since the gathered-in end of the lacing is pinched between a portion of the fabric-covered blank the tip is held firmly secured to the lacing not only by the compression of the metallic blank over and about the lacing end as is usual in the case of metallic tips, but by the frictional pinching of the fabric on the blank against the fabric of the lacing which offers a much greater frictional resistance to the forcible detachment of the blank than the pinching of the metallic blank alone. There is therefore provided a fabric-covered tip wherein the fabric both improves the appearance of the metallic tip and acts as a retainer for the tip, while the tip itself can be applied by the simple methods which are in vogue in the case of ordinary metallic tips.

While the fabric coating serves as holding or retaining means for the tip, additional holding or retaining means may be provided which will further prevent the detachment of the tip. In the form represented in the drawings, I have provided such additional

holding means in the form of spurs 9 which are formed in the body of the blank itself by upsetting the metal thereof inwardly as shown in Figs. 1, 5 and 11, so that when the blank is applied to the lacing these barbl-like spurs sink into the fabric of the lacing and serve to prevent the detachment of the tip.

The described form of tip may be made with wide variations in form and construction and may be applied to the lacing in various ways. In Figs. 8 and 9 I have shown the application of this form of tip to a lacing fabric in such manner that the lacing may be fed continuously to a tip-applying machine and subsequently severed after the tip has been applied. In the latter case the blanks are made up as previously described, but are of double the length of the tip shown in Figs. 1-7. The lacing strip is gathered in and the elongated blank applied thereto as previously described forming a piece such as is represented in Fig. 8. This piece is then severed along the line *a b* so that the separate adjacent portions are adapted to form separate tips for separate lacings. To finish the end of the tip a metallic or other cap piece or bead 6 may be applied by any suitable device to the end of the tip as shown in Fig. 9, and serve as a protector for the edges of the fabric coating.

In place of the end rims 3 the blank may be constructed as shown in Figs. 10 and 11, the fabric coating for the blank however having selvage edges 7 so that when the blank is applied to the end of the lacing as represented in Fig. 12 the fabric at the ends of the tip will be protected by a selvage edge.

If desired the material of the covering for the blank may be applied as shown in Figs. 13 and 14 where with a plain flat blank the material is wrapped or folded entirely around the blank to completely cover the same, the overlapping edges of the material being connected one to the other to fasten it in place. The ends of the blank may be turned over as previously described or the cloth may be folded about the ends or the edges may be left raw. It will be observed that this gives a friction lining for the entire inner face of the blank.

While I have herein shown and described for purposes of illustration one specific form of my invention it will be understood that the same is not limited to the details of the construction therein shown or the particular mode of applying the tip, but that extensive deviations may be made therefrom without departing from the spirit thereof as defined by the appended claims.

Claims:

1. The combination with a lacing of a tip therefor comprising a metallic tip piece com-

pressed about the exterior of the fabric of the lacing, and a separate fabric-covering for the exterior of the tip, said fabric-covering having a portion in contact with the fabric of the lacing to exert a fabric grip thereon.

2. The combination with a lacing of a tip therefor comprising a metallic tip piece compressed about the exterior of the fabric of the lacing, a separate fabric-covering for the exterior of the tip providing a fabric grip between the tip and the lacing, the edges of the covering being lapped over and

about the edges of the tip piece and the edges of the latter being overturned to lie against the opposite face thereof and pinch the material of the fabric-covering between the said edges and the said face.

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

HENRY H. CUMMINGS.

Witnesses:

ROBERT H. KAMMLER,
LAURENCE C. JANNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
