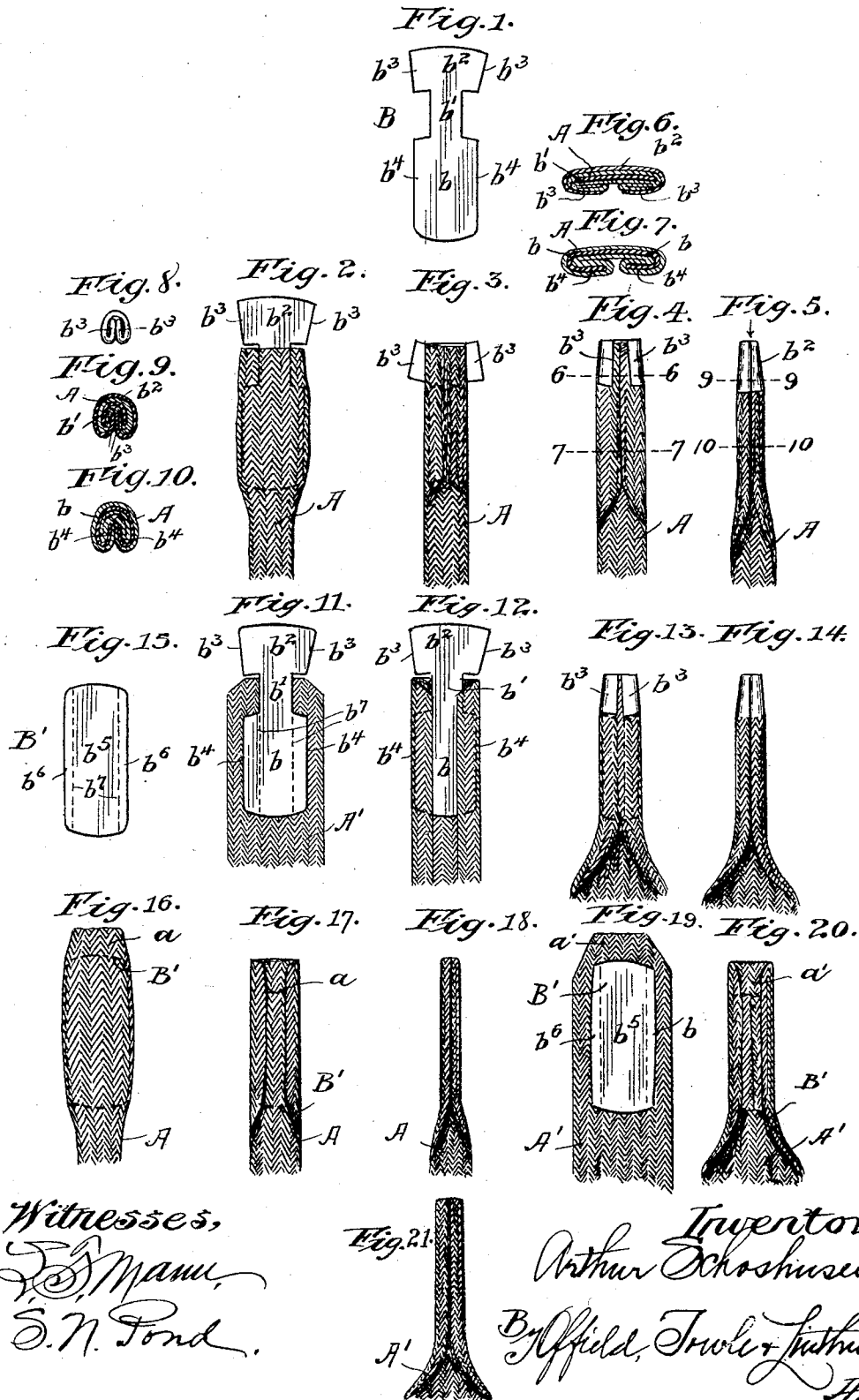


A. SCHOSHUSEN.
LACING.

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UNITED STATES PATENT OFFICE.

ARTHUR SCHOSHUSEN, OF CHICAGO, ILLINOIS.

LACING.

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To all whom it may concern:

Be it known that I, ARTHUR SCHOSHUSEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lacings, of which the following is a specification.

My invention relates to lacings such as are employed for the fastenings of shoes, corsets, &c.; and its object is to provide a new and improved lacing tip or stiffener of simple and inexpensive construction and increased durability as compared with tips heretofore used for similar purposes. In one form my invention provides a tip having an exposed metallic point, while in another form it is designed to be entirely incased and concealed in the end of the lacing.

In the accompanying drawings I have illustrated my improved tip and the manner of applying the same to the end of a lacing in connection with both a tubular lacing and a lacing of the wide single-strip style, and, referring thereto—

Figure 1 is a plan view of the sheet-metal blank from which the tip or stiffener is formed. Fig. 2 shows the shank of the tip inserted in the end of a tubular lacing. Fig. 3 illustrates the next two steps in the operation of forming up the tip, consisting in folding over the side wings and bending the head of the blank down against the cloth covering the neck. Fig. 4 illustrates the next succeeding step, which consists in folding the side portions of the head inwardly upon the fabric of the lacing. Fig. 5 illustrates the completed tip formed by bending together the longitudinal halves of the partly-finished tip shown in Fig. 4. Fig. 6 is a cross-sectional view of the partly-finished tip on the line 6 6 of Fig. 4. Fig. 7 is a similar view on the line 7 7 of Fig. 4. Fig. 8 is an end view of the finished tip shown in Fig. 5. Fig. 9 is a cross-sectional view of the finished tip on the line 9 9 of Fig. 5. Fig. 10 is a similar view on the line 10 10 of Fig. 5. Fig. 11 shows the blank of Fig. 1 applied to a wide single-strip lacing. Fig. 12 illustrates the next step in the operation, consisting of folding the edge portions of the lacing over the wings of the blank. Fig. 13 illustrates the condition of the lacing at the conclusion of the next three steps in the operation, which consist in folding inwardly the wings of the body and the overlying portions of the lacing, turning down the head portion, and folding inwardly the sides of said head

portion. Fig. 14 illustrates the completed tip formed by bending together the longitudinal halves of the partly-finished tip shown in Fig. 13. Fig. 15 shows the form of blank used in making an inclosed or covered tip. Fig. 16 shows the latter inserted in the end of a tubular lacing. Fig. 17 illustrates the next two steps of the operation, consisting in folding down the upper end portion of the lacing over the upper end of the blank and then bending inwardly over the same the side portions of the blank. Fig. 18 illustrates the completed tip formed by bending together the longitudinal halves of the partly-finished tip shown in Fig. 17. Fig. 19 shows the blank of Fig. 15 applied to a wide single-strip lacing preliminary to its incorporation therein. Fig. 20 shows the upper end of the lacing bent down over the upper end of the blank and the sides of the blank and overlying lacing folded inwardly over the bent-down upper end portion, and Fig. 21 shows the finished tip formed by bending together the longitudinal halves of the partly-finished tip shown in Fig. 20.

Referring first to Figs. 1 to 10, inclusive, A designates a tubular lacing, and B designates as an entirety a thin sheet-metal blank from which my improved tip having an exposed metallic end is formed. This blank comprises a body portion *b*, a neck *b'*, a head *b''*, side wings *b³* on said head, and side wings *b⁴* on said body. In applying the tip the body portion *b*, with its integral wings *b⁴* and the neck *b'*, is inserted in the open end of the tubular lacing A to the extent indicated in Fig. 2. The body *b*, with the side wings *b⁴*, is of somewhat greater width than the contracted width of the lacing, thereby causing the latter to bulge somewhat when the blank is inserted, as shown in Fig. 2. The next step consists in folding the wings *b⁴*, with those portions of the lacing overlying the same, over around the main body portion *b*, as clearly indicated in Fig. 3, after which the head *b''*, with the wings *b³*, is bent back upon a transverse line across the upper end of the neck *b'* to the position shown in Fig. 3, wherein the head lies over and against the lacing which incloses the neck *b'*, with the wings *b³* projecting from either side thereof. This done, the wings *b³* are next bent inwardly toward each other, so as to overlie and compress the edges of the lacing adjacent to its end, as shown in Fig. 4, after which the blank thus folded and bent, with the end portion of the lacing engaged thereby, is doubled or folded together along the lon-

longitudinal median line of the blank, producing
 the finished tip shown in Figs. 5 and 8, where-
 in it will be observed that all parts of the
 blank excepting the head and its wings are
 5 completely incased in the lacing and concealed
 from view. The stiffener is secured in the
 lacing primarily by reason of the clamping
 of the lacing between the folded-over wings
 10 b^4 and the body portion b , said wings being
 pressed hard against the body and preventing
 the pulling out of the stiffener. Said wings
 15 b^3 of the head folded over upon the upper end
 portion of the lacing also contribute in a less
 degree to the anchorage of the stiffener in
 the lacing. The final doubling together of
 the longitudinal halves of the lacing and incor-
 20 porated stiffener to the finished form shown
 in Fig. 5 is simply to reduce the transverse
 dimensions of the tip and give it a neat, point-
 ed, and finished appearance; but this final
 folding is not at all essential for the purpose
 of clamping the lacing in the bends or folds
 of the metallic stiffener. The enlarged cross-
 25 sectional views, Figs. 6 to 10, inclusive, all
 serve to illustrate how the fabric of the lac-
 ing is clamped and held between the wings and
 the body portion and head of the stiffener.

Where the tip is applied to a wide single-
 30 strip lacing, as illustrated in Figs. 11 to 14,
 inclusive, substantially the same operations
 as to folding and bending of the tip are car-
 ried out as hereinabove set forth. In this
 case, as shown in Fig. 11, the body, neck,
 and wing portions of the blank are laid lon-
 35 gitudinally and centrally upon the end of the
 lacing A' , the edges of the lacing being then
 folded inwardly over the body, wings, and
 around the neck, as shown in Fig. 12. The
 head with its wings is then bent backwardly
 40 to overlie the end portion of the fabric cov-
 ering the neck, after which the covered wings
 of the body portion are folded inwardly to
 clamp the edges of the folded end of the fab-
 ric against the intermediate body portion,
 45 and the wings b^3 of the head are then folded
 inwardly, producing the result shown in Fig.
 13, or the wings of the body may first be
 folded inwardly and the head then bent down
 and its wings inwardly turned, as found most
 50 convenient or expedient. The tip in the con-
 dition shown in Fig. 13 is then folded to-
 gether along its longitudinal median line, pro-
 ducing the finished tip shown in Fig. 14, which
 closely resembles in appearance the tubular
 55 lacing-tip shown in Fig. 5.

The principle of my invention is capable
 of being carried out in both tubular and sin-
 gle-strip lacing-tips, wherein the metallic stiff-
 60 ener is completely incorporated in the end
 of the lacing and concealed from view. In
 this form of the invention I modify the form
 of the metallic blank by omitting the head
 and neck portions and preferably make the
 body portion of increased length as compared
 65 with the body portion of the headed blank.

Referring to Figs. 15 to 18, inclusive, B' ,
 Fig. 15, may designate as an entirety the
 blank form of stiffener, consisting of the in-
 termediate body portion b^5 and the longitu-
 70 dinal side wings b^6 , extending the full length
 thereof, the lines of fold between the body
 and wings being indicated by the parallel lon-
 gitudinal dotted lines b^7 . In applying this
 stiffener to a tubular lacing it is simply in-
 75 serted into the end of said lacing far enough
 to leave the end flap or fold on the latter, (des-
 ignated by a .) In the first operation of form-
 ing the tip this flap a is folded down against
 the fabric, overlying the upper end of the
 blank on either side of the latter, after which
 80 the wings b^6 , with the marginal portions of
 the fabric covering them, are folded inwardly,
 so as to overlie and fasten down the flap a , as
 clearly shown in Fig. 17. That done, the final
 and finishing operation consists, as already
 85 described in connection with Figs. 5 and 14,
 in simply bending together the longitudinal
 halves along the longitudinal median line of
 the blank, producing the completely incased
 and inclosed tip shown in Fig. 18. In the
 application of this form of stiffener to the
 wide single-strip lacing substantially the same
 operations are carried out, the blank being
 first laid directly upon the end of the lacing,
 as shown in Fig. 19, the end flap a' of the lac-
 95 ing being then folded down across the upper
 end of the blank, the edge portions of the
 lacing being then folded over the wings b^6 ,
 and the latter, thus covered, being folded in-
 wardly to clamp said edge portions of the lac-
 100 ing against the body portion of the stiffener,
 all as shown in Fig. 20, after which the partly-
 finished tip is folded together along its lon-
 gitudinal median line, producing the finished
 article shown in Fig. 21.

It will be observed as constituting a feature
 common to both forms of stiffener-blanks here-
 in described and to both applications of the
 same that the metallic stiffener is anchored
 and secured in and to the end of the lacing
 110 through the provision of the longitudinally-
 extending wings on the main body portion of
 the stiffener, which are folded over upon
 said body portion in such a way as to clamp
 therebetween a portion of the lacing, the final
 115 fold being, as already suggested, simply for
 the purpose of reducing the transverse dimen-
 sions of the tip and giving the same a neat
 and finished appearance. In the manufacture
 of my improved lacing-tip the only operations
 120 required are bending and folding operations,
 which are simple and easily and cheaply per-
 formed as compared with the more usual op-
 erations of rolling and curling, so as to pro-
 duce a substantially round tip. Furthermore,
 125 I have found by practical tests that the grip
 of the fabric upon the metallic stiffener is
 stronger and more secure where said parts
 are folded and compressed together than where
 they are simply rolled up together, so as to
 130

hold the fabric between meeting or overlapping longitudinal edges of the stiffener.

I claim—

1. The combination with a lacing, of a metallic stiffener therefor of less width than said lacing, said stiffener having a body portion and side wings over which latter the edge portions of the lacing are folded, said wings and their covering edge portions of the lacing being folded over upon said body portion, and the longitudinal halves of the stiffener being folded together flat on the longitudinal median line, substantially as described.

2. The combination with a tubular lacing, of a metallic stiffener therefor having a body portion with side wings inserted into the end of said tubular lacing, said wings with the side portions of the lacing covering the same being folded over upon the fabric covering, said body portion thereby clamping the lacing between said wings and body portion, and the longitudinal halves of the stiffener being folded together flat on the longitudinal median line, substantially as described.

3. The combination with a lacing, of a metallic stiffener therefor having a head portion with side wings, an intermediate neck portion, and a body portion with side wings, the side wings of said body portion being folded over

upon the latter and clamping the edge portions of the lacing between said wings and body portion, said head portion being bent back over the fabric covering the neck with its side wings folded inwardly over the latter, and the longitudinal halves of the stiffener thus formed being folded together flat on the longitudinal median line, substantially as described.

4. The combination with a tubular lacing, of a metallic stiffener therefor having a body portion with side wings and an intermediate neck portion inserted into the end of the lacing, and a head portion with side wings projecting from the end of said lacing, the side wings of said body portion being folded over upon the latter and clamping the edge portions of the lacing between said wings and body portion, said head portion being bent back over the fabric covering the neck with its side wings folded inwardly over the latter, and the longitudinal halves of the stiffener thus formed being folded together flat on the longitudinal median line, substantially as described.

ARTHUR SCHOSHUSEN.

Witnesses:

SAMUEL N. POND,

FREDERICK C. GOODWIN.