No. 671,711. Patented Apr. 9, 1901.

A. A. SODERBERG.

SHOE FASTENING.

(Application filed May 11, 1900.)

(No Model.)

Fig. 1.

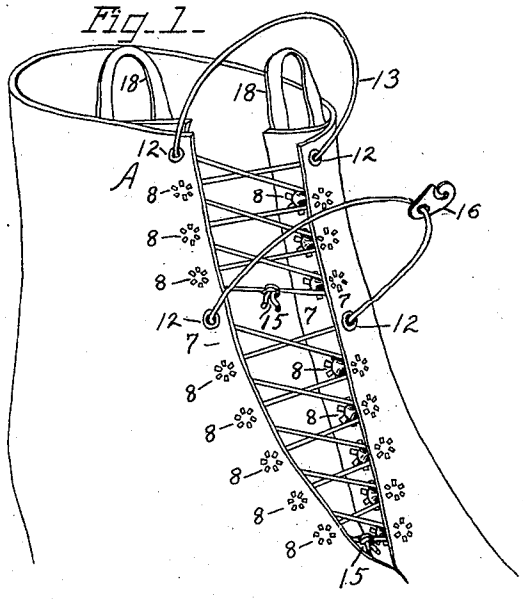


Fig. 2.

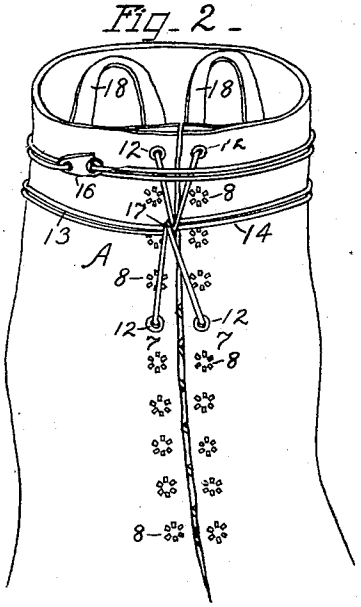


Fig. 3.

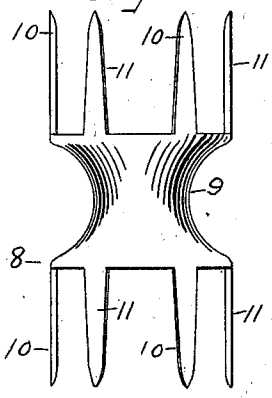


Fig. 4.

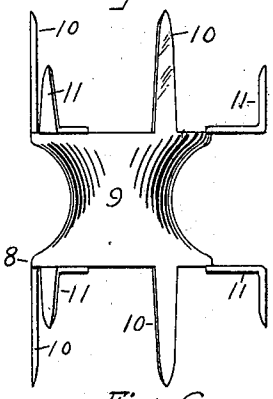


Fig. 5.

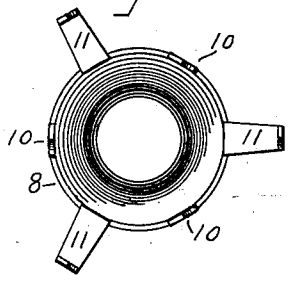
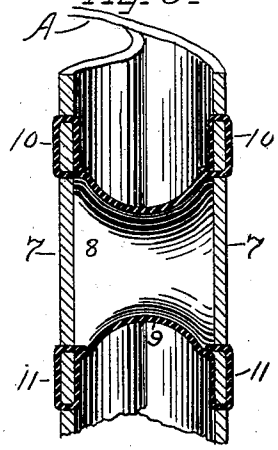


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALFRED A. SODERBERG, OF WORCESTER, MASSACHUSETTS.

SHOE-FASTENING.

SPECIFICATION forming part of Letters Patent No. 671,711, dated April 9, 1901.

Application filed May 11, 1900. Serial No. 16,321. (No model.)

To all whom it may concern:

Be it known that I, ALFRED A. SODERBERG, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Shoe-Fastenings, of which the following is a specification.

My invention relates to improvements in shoe-fastenings; and the objects of my improvement are to facilitate the drawing up and fastening of the lacings and to provide an improved lacing-stud.

In the accompanying drawings, Figure 1 is a perspective view of the upper portion of a shoe with my lacing-studs and lacings applied thereto, the lacings being shown as loosened. Fig. 2 is a similar view of the same with the lacings tightened. Fig. 3 is an enlarged detached side elevation of my lacing-stud with its fastening-prongs unbent. Fig. 4 is a like view of the same with a preliminary bend in half of its prongs. Fig. 5 is a plan view of the same; and Fig. 6 is a central longitudinal section of one of my lacing-studs, together with the two flaps of a shoe, to which the same is secured by means of the fastening-prongs at the respective ends of the said stud.

A designates the upper portion of a shoe, having at each side of its front opening two flaps 7 7, between which the lacing-studs 8 are secured by means of fastening-prongs formed integral with the said studs at the ends thereof and which individually penetrate the leather of said flaps that covers the ends of the said studs. The studs are made from a drawn-up tube or from sheet metal in the form shown in Fig. 3, the same having the lacing-groove 9 at the middle of their length and the several prongs 10 11 at each end. I prefer to make preliminary bends in half of the prongs, as shown in the prongs 11 in Figs. 4 and 5, before passing the prongs through the leather in the flaps 7 7, to which they are secured. I then pass the prongs 10 through the leather on what I may call an "inner circle" coincident with the circular ends of the studs and the ends of the prongs 11 through the leather on an outer circle that is larger than the ends of the studs. After passing through the leather the projecting ends of the prongs 11 are doubled upon themselves on the outside of the flap and their tip ends passed a second time through the leather, just inside the ends of the studs, as shown at the lower portion of Fig. 6. The prongs 10 after passing through the leather are bent outwardly and down upon the outside of the flap, with their ends passing through the leather a second time on an outer circle and the projecting end bent over and clenched against the inner side of the flap, as shown at the upper portion of Fig. 6. While I prefer to clench the prongs in the particular manner shown, with half of them inserted like the prongs 10 and half like the prongs 11, it is obvious that all of the prongs could be inserted in the manner shown and described for either set of prongs. It should be noted that the leather is punctured only sufficiently to pass the prongs therethrough, without making a hole to admit the body of the studs, and consequently the ends of the studs between the prongs serve as the spacing device or seat for the flaps at the ends of the studs and the leather of the flaps covers or closes the otherwise open ends of the tubular studs.

I arrange the studs in the flaps on each side of the lacing-opening in an upper and lower series, and just above each series I place in the outer flap an ordinary eyelet 12, as shown in Figs. 1 and 2. I also provide two separate lacings 13 and 14, the lacing 13 being passed around the upper series of studs and through the upper eyelets and the lacing 14 around the lower series of studs and out through the eyelets at the upper end thereof. I prefer to make both of the lacings endless by uniting their ends at the lower end of each series of studs in knots, as at 15, leaving the desired length projecting at their doubled upper ends, one of which is provided with the hook 16 for fastening, as shown in Fig. 2. In this figure the hook 16 is on the lower lacing 14, the two doubled lacings being crossed at 17 and passed around the ankle, when the hook 16 on the lacing 14 is hooked into the doubled end of the lacing 13, the said lacings having been previously adjusted by means of the knots 15, so that the projecting ends are of the proper length to fit the wearer, and bring the lacings as taut as may be desired when

thus passed around the ankle and hooked. Pull-loops 18 are attached to the top of the shoe, preferably as shown.

By dividing the studs and lacings into two series the lacings are more readily operated, as there is much less friction on the lacings and less length of lacing to be drawn up and loosened.

It is apparent that some changes from the specific construction herein disclosed may be made, and therefore I do not wish to be understood as limiting myself to the precise form of construction shown and described, but desire the liberty to make such changes in working my invention as may fairly come within the spirit and scope of the same.

I claim as my invention—

1. In a shoe-fastening, the combination of the two flaps with the tubular lacing-studs with their ends abutting against the inner faces of the said flaps and integral fastening-prongs on the ends of said studs extending through the said flaps and by means of which the said studs are secured, substantially as described.

2. In a shoe-fastening, a lacing-stud consisting of a tubular body with a middle groove and a plurality of fastening-prongs at both ends of said body for securing the said ends, substantially as described.

3. In a shoe-fastening, the combination of the two flaps, with the tubular lacing-studs having a plurality of fastening-prongs at each end, the said prongs being individually passed through the leather twice, and clenched, substantially as described.

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