

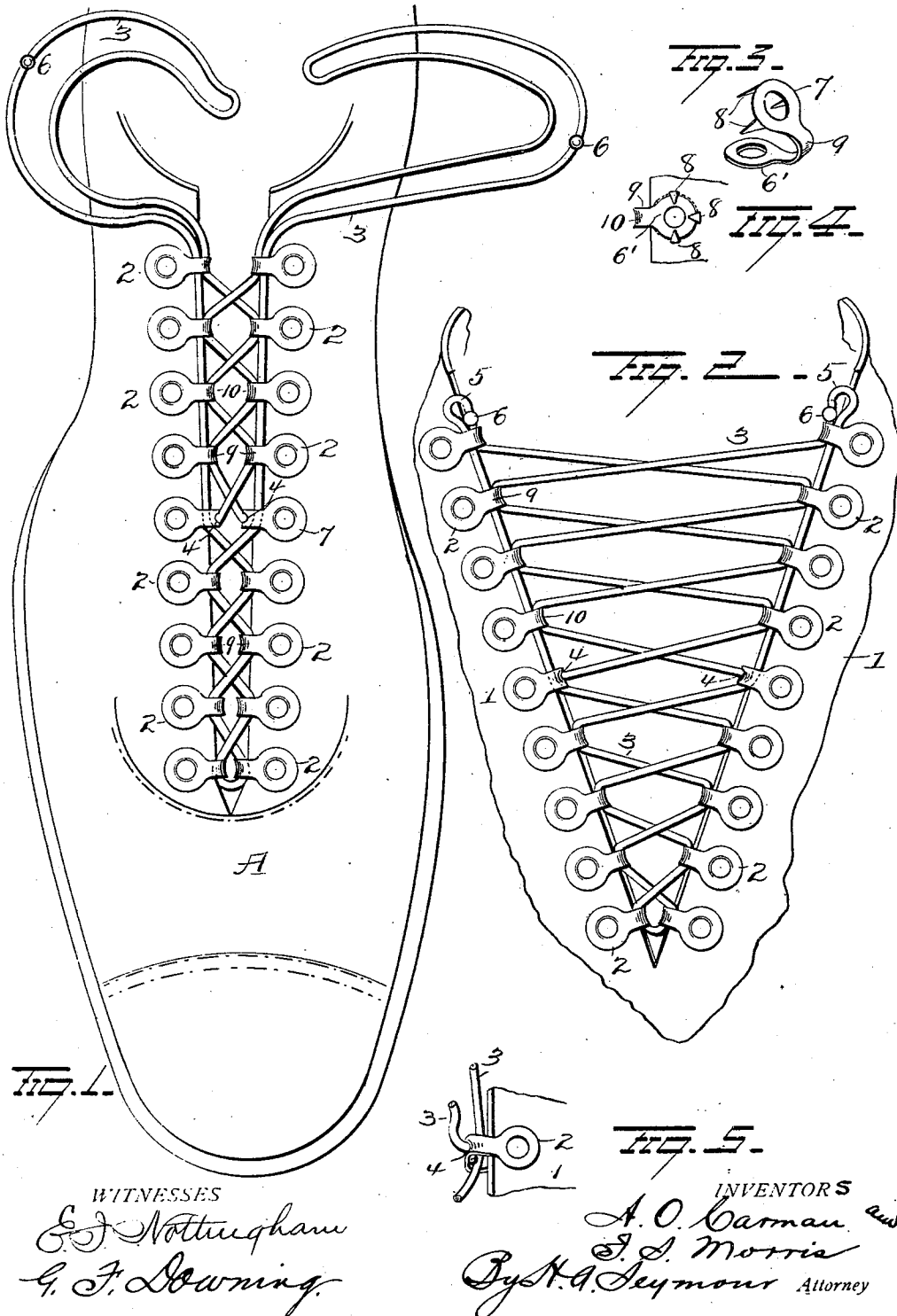
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Patented Mar. 13, 1900.

A. O. CARMAN & I. S. MORRIS.
FASTENING FOR BOOTS, SHOES, &c.

(Application filed Apr. 28, 1899.)

(No Model.)



UNITED STATES PATENT OFFICE.

ALVIN O. CARMAN AND ISAIAH S. MORRIS, OF BELDING, MICHIGAN.

FASTENING FOR BOOTS, SHOES, &c.

SPECIFICATION forming part of Letters Patent No. 645,308, dated March 13, 1900.

Application filed April 28, 1899. Serial No. 714,897. (No model.)

To all whom it may concern:

Be it known that we, ALVIN O. CARMAN and ISAIAH S. MORRIS, of Belding, in the county of Ionia and State of Michigan, have invented certain new and useful Improvements in Fastenings for Boots, Shoes, &c.; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to an improvement in fastenings for boots and shoes and other wearing-apparel; and it consists of a boot, shoe, or other article the meeting edges of which are provided with a series of lacing-studs, preferably arranged in oppositely-located pairs, and a cord or string passed through the loops of the bottom pair of said lacing-studs, the center thereof resting between the latter and interlaced to a point at or adjacent to the center of said article and then passed from thence in an upward direction straight through the loops of the remaining lacing-studs and then interlaced downwardly to a point at or adjacent to the center of the article or to the pair of lacing-studs next above the pair of the first series, where the ends of the cord or string are fastened, thus rendering it possible to easily and quickly draw together or separate the meeting edges of the article by simply pulling on the loops formed at the top of said meeting edges or spreading the latter apart, as occasion or necessity may require.

Our invention further consists in certain novel features of construction and combinations of parts, as will be more fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a boot or shoe provided with our improved lacing-studs and laced in accordance with our improved method. Fig. 2 is a view of a boot or shoe in which the meeting edges thereof are represented in an unlaced position. Fig. 3 is a view of a lacing-stud before it is applied to a boot or shoe or other article. Fig. 4 is a side elevation of a lacing-stud as applied to a boot or shoe or other article, and Fig. 5 is a detached view of one of the lacing-studs to which the ends of the string or cord are attached.

A represents a boot or shoe, legging, corset,

or other similar article, and 1 the meeting edges thereof, which latter are provided with a series of oppositely-disposed lacing-studs 2, said lacing-studs being so constructed and secured as to form a series of oppositely-located loops disposed along the adjacent faces of said meeting edges for the passage of the lacing cord or string 3.

To lace a boot, shoe, or other article in accordance with our invention, one end of cord or string 3 is first passed through the loops of the bottom pair of lacing-studs until the center thereof centers the open space between said pair of lacing-studs. Both sections of said cord or string are then interlaced to a point near the center of the article and the ends thereof are then passed upwardly in a string-line to the top of the article, each section of the cord or string in this instance passing through loops of but a single meeting edge. The ends thus passed upwardly through the top loops are then passed downwardly in an interlacing manner to the pair of lacing-studs provided with the holes 4 4, through which latter they are passed, and after said ends have been provided with knots or equivalent enlargements sufficient in size to prevent their escape through holes 4 4 the meeting edges 1 may be readily and quickly drawn tightly together by pulling on the loops 5 5, formed in string 3 by interlacing the string downwardly, as described. These loops are prevented from being drawn through the lacing-studs by the beads 6 6, secured on said looped ends of string 3, as shown in Fig. 2. When the meeting edges 1 have been properly adjusted, the looped ends 5 5 of the lacing cord or string may be tied in any approved or convenient manner.

A separation of the meeting edges may be easily and quickly effected by first untying the looped sections of cord or string 3 and then spreading said meeting edges apart by pulling thereon in opposite directions, thus effecting a quick separation of the parts without removing any portion of said cord or string from engagement with the lacing-studs.

Each of the lacing-studs is struck from a single piece of suitable material and in the form shown in Fig. 3, and it consists of the perforated end sections 6' 7, preferably circular in shape, the latter of said end sections

being of a diameter greater than the former and provided with a series of projecting spurs 8 and a central or connecting section 9, having a depression 10 formed between its side edges for the purpose of causing said side edges to curve upwardly and inwardly when said stud is bent or upset, as shown in Figs. 4 and 5. By thus constructing central section 10 an outwardly-curved interior is provided at the looped or closed end of each lacing-stud, thus providing a surface for the passage of cord or string 3 entirely free from sharp edges, whereby undue wear is prevented and the life of the said cord or string greatly prolonged. These lacing-studs may be fastened along the meeting edges of a boot, shoe, or other article, as shown in Figs. 1 and 2, either by hand or with the aid of a suitably-constructed machine, and they may be first bent to the shape shown in Fig. 4 and then secured in place, or they may be bent and secured at one and the same operation.

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

1. In a fastening device, the combination with two members to be fastened and series of studs or eyes on the adjacent edges of the respective members, of a lacing-cord having

an intermediate portion passing alternately through a lower portion of the respective series of studs and then up successively through the studs or eyes of the respective series, said cord having its two ends laced down alternately through the upper studs or eyes of the respective series and having their free extremities fixed to diametrically-opposite studs at the upper end of the lower alternate lacing.

2. In a fastening device, the combination with two members to be fastened and series of studs or eyes at the edges of the respective members, of a single lacing-cord having an intermediate portion laced alternately through a part of the two series of studs or eyes; its ends laced alternately through the remaining studs or eyes and having their free extremities secured to intermediate studs or eyes of the respective series and the remaining portions of said cord forming two closed loops.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

ALVIN O. CARMAN.
ISAIAH S. MORRIS.

Witnesses:

JOHN E. STEVENS,
M. A. REED.