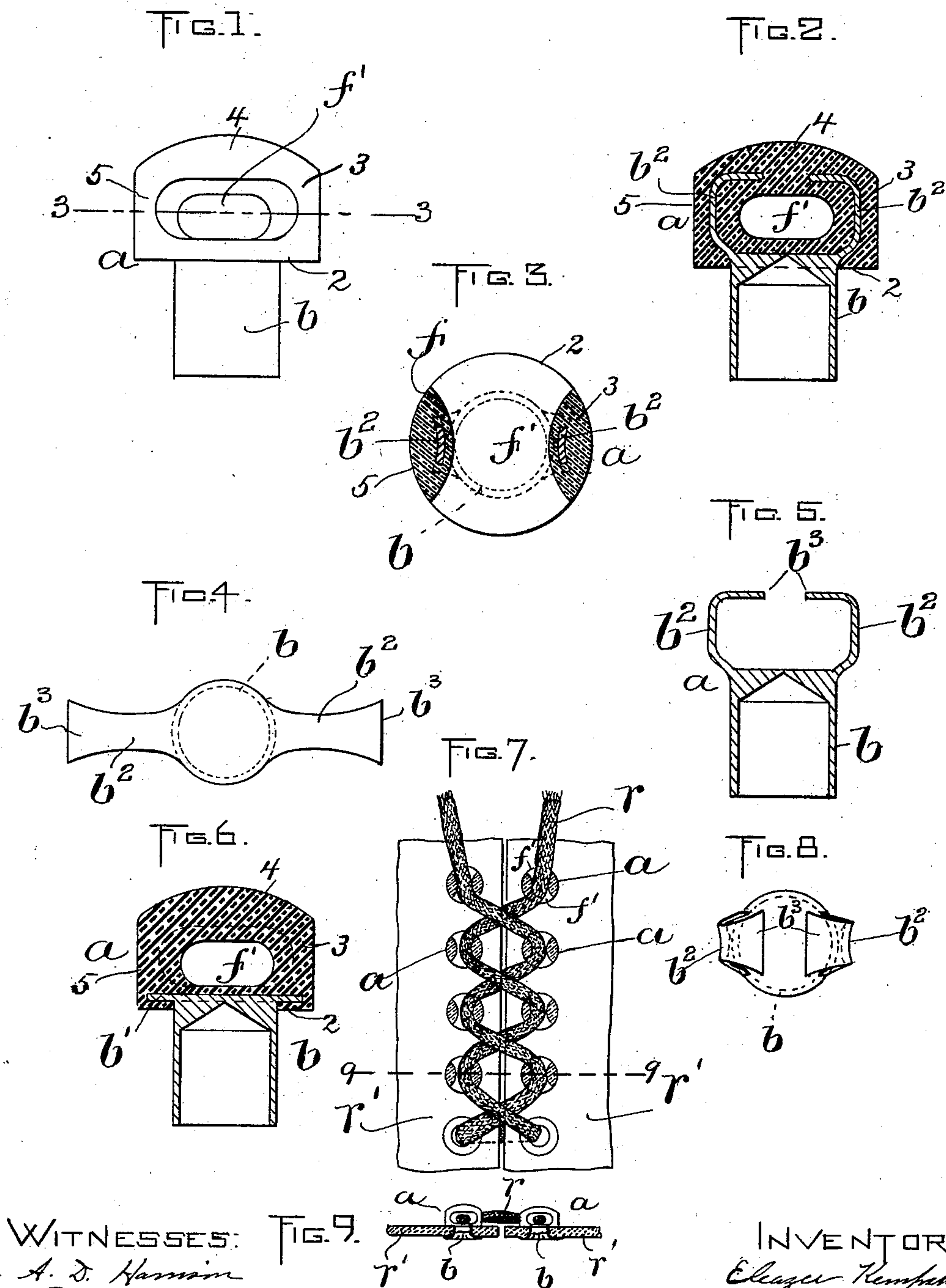


(No Model.)

E. KEMPSHALL.  
LACING GUIDE.

No. 599,906.

Patented Mar. 1, 1898.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## LACING-GUIDE.

SPECIFICATION forming part of Letters Patent No. 599,906, dated March 1, 1898.

Application filed October 4, 1897. Serial No. 653,921. (No model.)

*To all whom it may concern:*

Be it known that I, ELEAZER KEMPSHALL, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Lacing-Guides, of which the following is a specification.

This invention relates to so-called "fast-color" lacing-guides used particularly on boots and shoes and constructed to guide a lacing cord or cords wholly on the exterior of the boot or shoe or other holder for a series of the guides, the guide comprising a base formed to bear on said holder and provided with an attaching device to enter and engage the holder, a neck projecting outwardly from the base at one side of the center, and a head formed on the outer portion of the neck and projecting therefrom over the base, said base, neck, and head forming a lace-guiding throat or recess and composed of a wear-resisting material, such as celluloid, which is made plastic by heat and presents surfaces which do not change color when subjected to frictional wear, and are therefore known as "fast-color" or "wear-resisting" surfaces.

Letters Patent of the United States No. 579,112, dated March 16, 1897, shows a lacing-guide to which the above description is applicable. In the guide shown in said patent, however, the head is connected with the base by one neck only, the lace-receiving throat or recess being open at one side. In other words, the base, neck, and head form a lacing-hook, from the throat or recess of which the lace is free to escape laterally when not under sufficient tension to hold it against the neck. The fast-color material or composition employed is relatively brittle, and the head supported only at one side by a single neck is therefore liable to be detached by the breakage of the neck when the latter is made relatively slender to give the throat or recess an ample depth. My invention has for its object to provide a fast-color guide of this character in which the head shall not be dependent for its support on a single neck, and, further, to enable the guide to retain the lacing, so that it cannot escape laterally from the throat or recess.

To these ends my invention consists in the

improvements which I will now proceed to describe.

Figure 1 represents in side elevation a lacing-guide constructed in accordance with my invention. Fig. 2 represents a vertical section thereof. Fig. 3 represents a cross-sectional view thereof on the line 3 3 of Fig. 1. Fig. 4 represents a top plan view of the blank used in the construction of the guide shown in Figs. 2 and 3. Fig. 5 represents a vertical sectional view of the blank. Fig. 6 represents a vertical sectional view of a modification. Fig. 7 represents a plan view showing a series of my improved lacing-guides in position on the supporting parts of a boot or shoe with the lacing running through the guides, the guides being shown in section. Fig. 8 represents a top plan view of the blank formed as shown in Fig. 5. Fig. 9 represents a cross-sectional view of the fabric on the line 9 9 of Fig. 7.

Referring to the drawings, in the best embodiment of my invention now known to me, *a* represents a lacing-guide comprising a post having a base 2, formed to bear on the guide-holding part *r'* of a boot or shoe or other article, two necks 3 and 5, projecting from said base at opposite sides of its center, and a head 4, formed on the outer ends of the necks, the relative arrangement of the base 2, necks 3 and 5, and head 4 being such that they form a lace-receiving orifice *f'*, which surrounds the lacing. The guide is molded from a suitable plastic material or composition, such as celluloid, and is provided with an attaching member or device *b*, which projects from the base 2 and is adapted to engage the holder *r'*. The lacing is therefore confined in the guide against escape in a lateral direction, so that when a series of the guides are assembled, as shown in Fig. 7, the lacing is permanently retained in the guides, and its free ends are always in condition to enable the two holding parts *r' r'* to be drawn together by a pull on said free ends.

The inner surfaces of the necks 3 and 5, in consequence of the wear-resisting material of which they are made, present antifrictional bearings to the lacing, enabling the latter to slip easily endwise through the guides.



The necks 3 and 5 are preferably elongated in cross-section in the direction of the movement of the lacing, as shown in Figs. 3 and 7, the surfaces against which the lacing bears being preferably longer than the thickness of the necks between their inner and outer surfaces. This form not only enables the necks to present relatively long bearings to the lacings, preventing abrupt flexure and fraying of the lacings when they are moving endwise through the guides, but also involves an advantageous distribution of the material of the necks, so that the orifice  $f'$  may be made of ample width without requiring an objectionably bulky construction. In other words, the thickness or diameter of the post from the outer surface of one neck to the outer surface of the other may be reduced to the minimum without sacrificing strength of construction. The flange of the attaching device may therefore be located wholly below the arch formed by the two necks and the head, as shown in Fig. 6.

The attaching member  $b$  serves two purposes—one as an anchorage for the material composing the guide  $a$  and the other for securing the guide to the holder by upsetting the lower part of the attaching member, as shown in Fig. 9, or in any preferred way. Other forms of attaching members may be used, if desired.

The material composing the guide may be anchored to the member  $b$  either by being molded about a flange  $b'$  on said member, as shown in Fig. 6, or by being molded about projections  $b^2$ , extending up from the top of the member  $b$  into the two necks, forming a sort of skeleton frame, as shown in Figs. 2, 3, 4, and 5. When the projections  $b^2$  are used, the ends  $b^3$  are preferably dovetailed, as shown in Fig. 8, whereby the ends are securely anchored to the plastic material to resist lateral strain, and to all practical purposes forming a structure firm and rigid as though the ends were welded or fastened together or as though the members  $b^2$  were not separated, but formed one extension.

When the form of blank  $b$ , as shown in Fig. 5, is employed, it is preferably struck up from a flat piece, as shown in Fig. 4, and by subsequent operations the members  $b^2$  bent into place.

Various modifications will suggest themselves to those skilled in the art without departing from the spirit and scope of the invention.

Having thus explained the nature of my invention and described a way of constructing and using the same, though without at-

tempting to set forth all of the forms in which it may be made or all of the modes of its use, what I claim, and desire to secure by Letters Patent, is—

1. A lace-guide, made of celluloid or other plastic material, and comprising a head or post containing a transverse orifice formed to surround the lacing, the said guide having a suitable attaching member projecting below the post.

2. A wear-resisting lacing-guide having an inner portion or base formed to bear on a guide support or holder and provided with an attaching device, a neck projecting from the base at one side of the center thereof, a head formed on said neck, and extending therefrom over the base, the said base, neck, and head being made of plastic material, such as celluloid, and relatively arranged to form a lace-guiding recess like that of a lacing-hook, and an additional neck of the same material integral with the head and base, and projecting from the base at the opposite side of its center from the first-mentioned neck, said additional neck constituting a lacing-retaining guard, and an additional support for the head.

3. A lace-guide comprising a base, having an attaching device, a wear-resisting head, and two wear-resisting necks connecting the head with the base, the said necks confining the lacing against lateral displacement, and distributing the support of the head, whereby liability of detachment of the head from the base is reduced.

4. A lace-guide consisting of a post of plastic material such as celluloid having an inner end or base formed to bear on a holder, two necks projecting outwardly from the base and having inner surfaces forming the sides of a lace-guiding orifice which is transverse to the axis of the post, the surfaces of the necks being longer in the direction of the movement of the lacing than the thickness of the necks from their inner to their outer surfaces, whereby elongated lace-bearings are formed, and the thickness of the post is reduced to the minimum, and an externally convex outer end or head connecting the outer ends of the necks, said guide or post having an attaching device projecting from its inner end.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of September, A. D. 1897.

ELEAZER KEMPSHALL.

Witnesses:

A. D. HARRISON,  
P. W. PEZZETTI.