No. 711,768. Patented Oct. 21, 1902.

J. P. HUGHES.

LACING FASTENER.

(Application filed Jan. 28, 1902.)

(No Model.)

FIG. I.

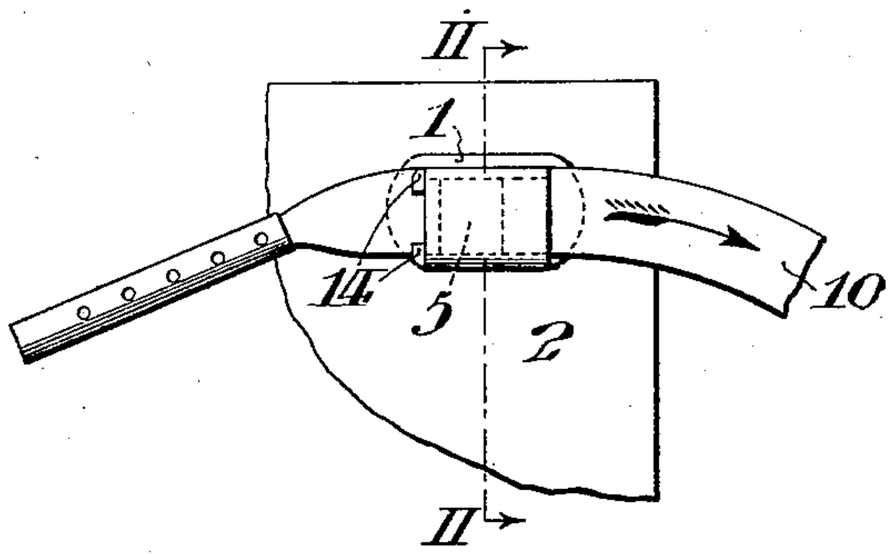


FIG. II.

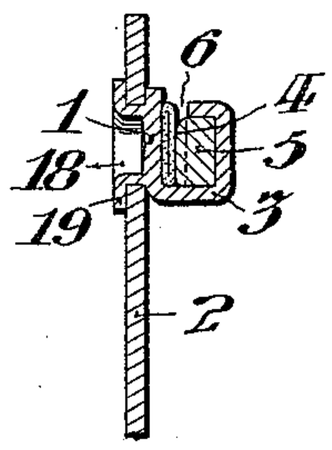


FIG. III.

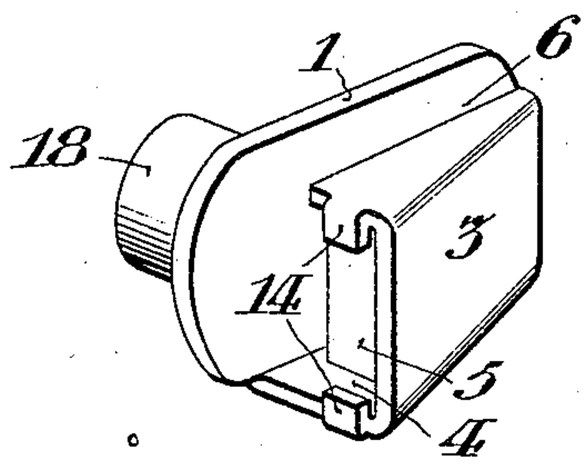


FIG. V.

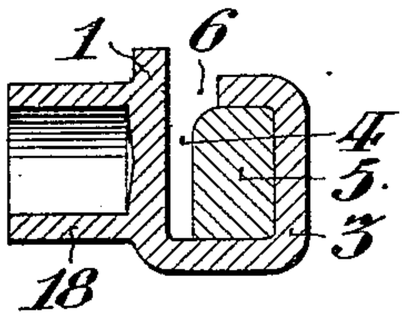
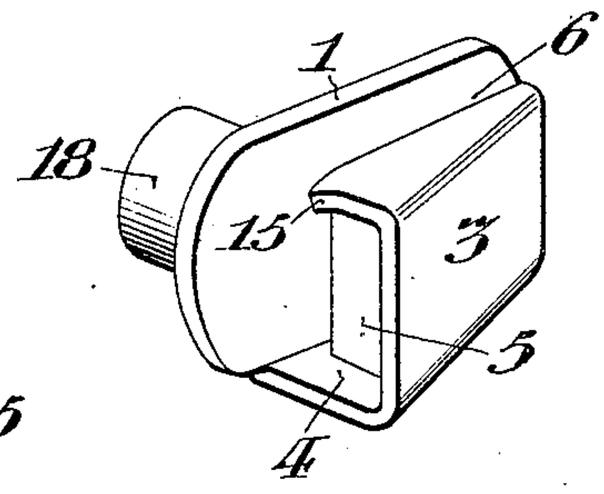


FIG. IV.



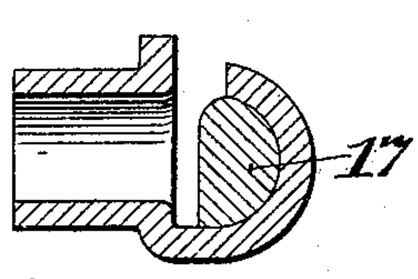


FIG. VI.

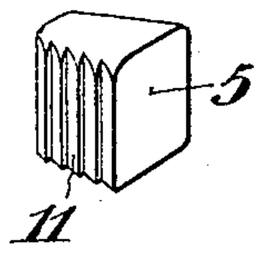


FIG. VIII.

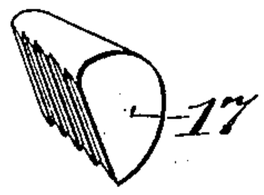
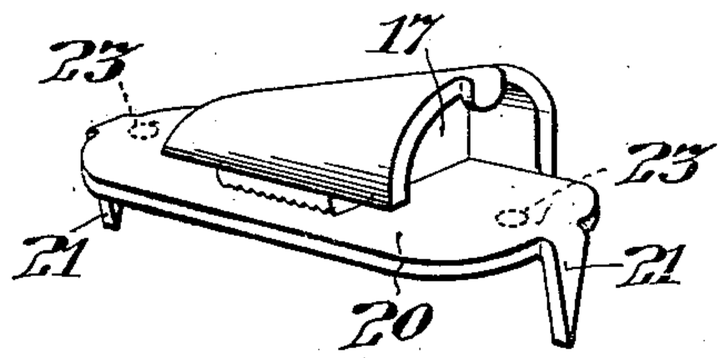


FIG. IX.



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UNITED STATES PATENT OFFICE.

JULIA P. HUGHES, OF WESTCHESTER, PENNSYLVANIA.

LACING-FASTENER.

SPECIFICATION forming part of Letters Patent No. 711,768, dated October 21, 1902.

Application filed January 28, 1902. Serial No. 91,565. (No model.)

To all whom it may concern:

Be it known that I, JULIA P. HUGHES, of Westchester, in the State of Pennsylvania, have invented certain new and useful Improvements in Lacing-Fasteners, whereof the following is a specification, reference being had to the accompanying drawings.

My invention is applicable to articles of apparel, such as shoes and leggings and other laced articles; and it is the object of my improvements to provide a device which may be readily manipulated to either grip or release a lacing, but which automatically retains the lacing against accidental displacement while engaged therewith.

My invention comprises the combination of two relatively movable parts arranged to either grip or release a lacing in accordance with the direction of the relative movement of said parts. In the forms of my invention hereinafter set forth both of said relatively movable members are wedge-shaped. One forms a casing for the other, and the casing member is provided with means for attaching it to the article to be laced.

My invention comprehends the various novel features of construction and arrangement hereinafter specified and claimed.

In the drawings, Figure I is a front view of a fastener embodying my improvements attached to a fragment of a laced article. Fig. II is a sectional view taken on the line II II in Fig. I. Fig. III is a perspective view of a fastener embodying my improvements. Fig. IV is a perspective view of a fastener, showing modified means for retaining the wedge member in the casing. Fig. V is a detached sectional view of the fastener shown in section in Fig. II, showing the initial form of its attaching means. Fig. VI is a perspective view of the wedge member shown in section in Figs. II and V. Fig. VII is a detached sectional view of a fastener comprising a modified form of casing and wedge member. Fig. VIII is a perspective view of the wedge member shown in section in Fig. VII. Fig. IX is a perspective view of a fastener similar to that shown in Fig. VII, but provided with different attaching means.

Referring to the form of my invention shown in Figs. I to V, inclusive, 1 is the casing member of the fastener, which member being attached to the article 2, which is to be laced, is relatively stationary. Said member 1 comprises the casing 3, having the wedge-shaped recess 4, in which is fitted the wedge-shaped member 5, which is movable longitudinally in said recess. The longitudinal opening 6, leading to said recess 4, is adapted to receive the lacing 10, and said lacing being inserted when the wedge 5 is at the left-hand side of Fig. I movement of said lacing in the direction of the arrow in said figure causes the lacing fabric to engage the serrations 11 on the inner face of the wedge and shift the latter within the wedge-shaped recess of the casing 3 to grip the lacing. It is to be understood that the ordinary stress upon the lacing 10 is in the direction of said arrow in Fig. I and serves merely to more firmly grip the lacing between the wedge and its casing. However, by slight reverse movement of the lacing 10 the latter may be readily released from the wedge and uplifted through the opening 6 in the recess 4. The edge of the wedge 5 adjoining said opening 6 is preferably rounded, as indicated in the several figures, to facilitate the entrance of the lacing between the serrated face of the wedge and the face of the casing member opposed thereto.

In the form shown in Fig. III the wedge 5 is retained in the casing 3 by the inwardly-turned lugs 14. Said lugs may, however, be dispensed with and the wedge 5 be retained in the casing 3 by the depressed corner 15 of the latter, as shown in Fig. IV.

Although the casing 3 may be conveniently formed of rectangular cross-section, as indicated in Figs. II and V, the peculiar wedging operation above described may be effected in casings of different configuration. For instance, the wedge-casing may be made cylindriform, as shown in Figs. VII and IX, with the advantage that the correspondingly-shaped wedge 17 will by partial rotation in the casing automatically adapt itself to a lacing which is thicker upon one edge than it is upon the other.

I find it convenient to provide the casing member 1 with attaching means comprising the tubular shank 18, which, being initially shaped as shown in Fig. V, is entered through

an aperture in the article 2 and flanged upon the opposite side thereof, as shown at 19 in Fig. II. However, said tubular shank 18 is not essential to the operation of my fastener, which may be provided with attaching means of any convenient form. For instance, as shown in Fig. IX, the base-plate 20 of the casing member is provided with prongs 21, which may be clenched through the article which is to be laced. Said casing member may also be provided with apertures 23 to receive rivets or similar attaching means.

The casing member shown in Fig. IX may be conveniently stamped from sheet metal, and it is to be noted that all of the forms of my invention which I have illustrated may be readily manufactured by ordinary metal-forming machinery.

I do not desire to limit myself to the precise construction and arrangement which I have shown, as it is obvious that various modifications may be made therein without departing from the essential features of my invention.

I claim—

1. In a lacing-fastener, the combination with a casing; of a movable member inclosed by said casing, and arranged to reciprocate longitudinally therein; said casing having means, independent of the lacing and said movable member, arranged to retain the latter in said casing, substantially as set forth.

2. In a lacing-fastener, the combination with a casing; of a movable wedge-shaped member, inclosed by said casing and arranged to reciprocate both laterally and longitudinally therein; said casing having means, independent of said movable member, arranged to retain the latter in said casing, substantially as set forth.

3. In a lacing-fastener, the combination with a stationary casing having attaching means and a wedge-shaped recess; of a wedge-shaped movable member inclosed by said casing and arranged to reciprocate both laterally and longitudinally in said recess; said casing having means, independent of said movable member, arranged to retain the latter in said casing, substantially as set forth.

4. In a lacing-fastener, the combination with a stationary casing, comprising a wedge-shaped recess open at both ends, closed upon one side, and having a longitudinal opening in the opposite side extending from end to end thereof; of a movable member inclosed by said casing and arranged to reciprocate both laterally and longitudinally in said recess; said wedge-shaped member having a serrated face, substantially as set forth.

5. In a lacing-fastener, the combination with a stationary casing whose top is in integral relation with its bottom and incloses a wedge-shaped recess, said casing being provided with a tubular attaching-shank in integral relation with the bottom plate thereof; of a wedge-shaped movable member inclosed by said casing and arranged to reciprocate both laterally and longitudinally therein, substantially as set forth.

6. In a lacing-fastener, the combination with a casing having a wedge-shaped recess; of a movable wedge-shaped member inclosed by said casing; said wedge-shaped member having a serrated face and a rounded back, and being arranged to reciprocate longitudinally and partially rotate in said casing, which latter is rounded to correspond with the rounded back of said wedge-shaped member, substantially as set forth.

7. In a lacing-fastener, the combination with a casing; of a movable member inclosed by said casing, and arranged to reciprocate both laterally and longitudinally therein; said casing having a projecting member, independent of said movable member, and bent to retain the latter in said casing, substantially as set forth.

In testimony whereof I have hereunto signed my name, at Westchester, Pennsylvania, this 25th day of January, 1902.

JULIA P. HUGHES.

Witnesses:

ARTHUR E. PAIGE,

E. L. FULLERTON.