(No Model.)

R. R. T. GRANT.

LACE FASTENER.

No. 588,981. Patented Aug. 31, 1897.

Fig. 1

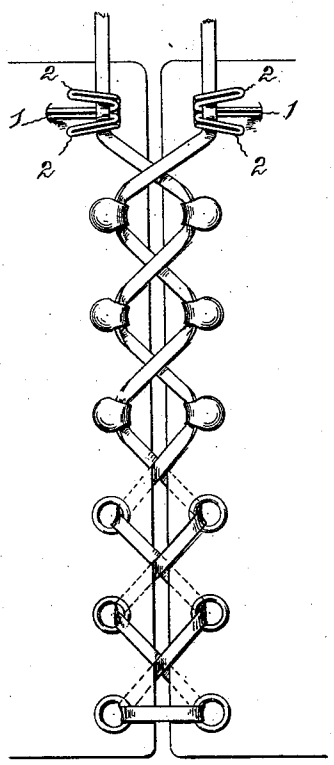


Fig. 2

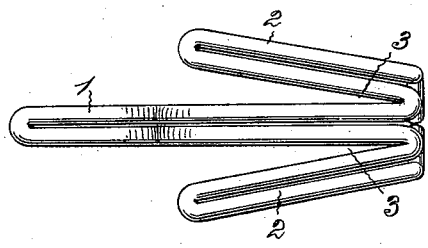


Fig. 3

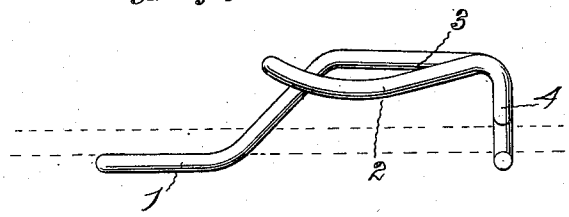
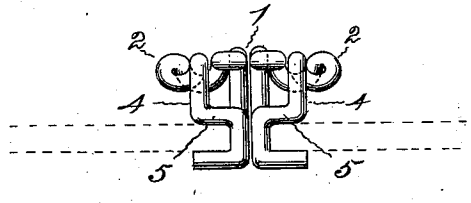


Fig. 4



Witnesses:
E. W. Fothergill.
E. J. Hyde.

Inventor,
Robert R. T. Grant, by
Harry R. Williams,
atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT R. T. GRANT, OF WESTVILLE, CONNECTICUT.

LACE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 588,981, dated August 31, 1897.

Application filed February 23, 1897. Serial No. 624,575. (No model.)

To all whom it may concern:

Be it known that I, ROBERT R. T. GRANT, a citizen of the United States, residing at Westville, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Lace-Fasteners, of which the following is a specification.

The invention relates to those devices which are adapted to be attached to the flaps or adjacent parts of shoes, leggings, gloves, corsets, and the like articles that are intended to be laced for securing the ends of the laces so as to obviate the necessity of tying knots.

The object of the invention is to produce a very simple and inexpensive device that will not have any edges to unduly wear out the lace or the adjacent clothing, which is so formed and shaped that it can be easily applied to any ordinary flap or similar laced part in such manner as to stand quite near to the surface of the material, and which, while permitting an easy and quick manipulation of the lace for fastening or unfastening, will hold very securely whether the lace is loose or under considerable strain.

To this end the invention resides in a device bent to shape from a piece of wire with supporting ends and projecting tongues bent into such forms and arranged in such planes with relation to each other that the lace can be drawn by a simple motion into the grasping-mouths between the tongues and there be held without danger of slip or accidental removal, the more tightly the greater the strain, as more particularly hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, Figure 1 shows the laced flaps of a shoe provided with a pair of lace-fasteners embodying the invention. Fig. 2 is a greatly-enlarged plan of one of the fasteners. Fig. 3 is a side elevation of the same, with the position of the material to which it is adapted to be attached illustrated by dotted lines; and Fig. 4 is an end view of the same.

The fastener is bent to shape from a piece of wire of suitable size and stiffness with a middle tongue 1 and side tongues 2. The middle tongue is formed by doubling the wire at about the middle of its length upon itself, so that the parts of the wire which compose the sides of this tongue are practically parallel. The side tongues are formed by bending forward the wires that make the sides of the middle tongue and then doubling back these wires, so that each of the side tongues is composed of two parts of wire that are practically parallel with each other. The side tongues are not quite as long as the middle tongue and they are bent when formed to stand obliquely to the middle tongue, so that V-shaped mouths 3 are formed between the middle tongue and the side tongues. The back ends of the wire forming the outsides of the side tongues are bent downward and then preferably inward toward each other and again downward, providing prongs 4, that may be passed through the material of the flap or other part to which the fastener is to be attached for securing it in place.

The back ends of all of the tongues are preferably in substantially the same horizontal plane. The middle tongue usually rises a little above the plane of the other tongues as it extends forward, and then after extending downward for some distance is again carried forward, the front end being adapted to pass through the material to which the fastener is to be attached. The side tongues usually extend forward and downward a little below the plane of the middle tongue, and then the ends of the side tongues are bent upward so as to cross the plane of the downwardly-extending part of the middle tongue, as shown in Fig. 3.

The fastener is preferably secured in position for use by passing the front end of the middle tongue through an opening in the material and then forcing the prongs 4 through the material and bending them over on the under side. If the prongs are given an angular bend, so as to form the horizontal parts 5, (shown in Fig. 4,) the fastener will be supported by these parts so as to stand a slight distance from the surface of the material to which it is attached.

This fastener is firmly secured in position by the bent prongs and by the front end of the middle tongue in a manner which precludes its being wrenched from the part to which it is attached, and this attachment at both front and back ends also prevents the fastener from tipping up under the pull of the lace. With the middle tongue extend-

ing down through the material and the side tongues crossing the plane of the middle tongue any lace drawn beneath the ends of the side tongues is surely guided under the side tongues and over the high part of the middle tongue into the V-shaped mouths between the tongues, and, as the middle tongue is higher than the plane of the side tongues, a lace drawn into the V-shaped mouths between the tongues is not liable to accidentally slip out. The tongues of double wire are stiff, and consequently will not spring so as to allow the lace to slip, and the doubling of the wire to form these in this manner enables the provision of means whereby the fastener can be secured at both ends to the material. The fastener is attached in such manner that the greater the strain on the lace the tighter the lace will be drawn into the V-shaped mouths between the stiff double-wire tongues, and the lace is surely guided into the correct position. With the middle tongue passing beneath the surface of the material a lace cannot get beneath this tongue but will slide over it and beneath the side tongues as it is drawn into position. The fastener being formed of wire, there are no sharp edges or corners that will unduly wear the lace which it holds, and it can be readily bent to shape by automatic machinery, so as to be comparatively inexpensive. The fastener can be attached so as to stand quite close to the surface of the material and the lace surely drawn into the parts so as to be tightly grasped, and one or more can be quickly attached to any flap or similar part of a shoe, legging, glove, corset, or like article that is to be laced for holding the end or ends of the lace.

I claim as my invention—

1. A lace-fastener bent to shape from wire with a middle tongue and side tongues extending obliquely to the middle tongue so as to form V-shaped mouths between the tongues, the front end of the middle tongue being bent below the plane of the side tongues and the front ends of the side tongues crossing and extending beyond the plane of the bent-down portion of the middle tongue, substantially as specified.

2. A lace-fastener bent to shape from wire with a middle tongue and side tongues extending obliquely to the middle tongue so as to form V-shaped mouths between the tongues, the front end of the middle tongue being bent below the plane of the side tongues, the front ends of the side tongues crossing and extending beyond the plane of the bent-down portion of the middle tongue, and the back ends of the side tongues being bent downwardly to form prongs for securing the fastener in position, substantially as specified.

3. A lace-fastener bent to shape from wire with a middle tongue and side tongues extending obliquely to the middle tongue so as to form V-shaped mouths between the tongues, the front end of the middle tongue being bent below the plane of the side tongues, the front ends of the side tongues crossing and extending beyond the plane of the bent-down portion of the middle tongue, and the back ends of the side tongues being bent downwardly and horizontally to form supports for the fastener and then downwardly to form prongs for securing the fastener in position, substantially as specified.

4. A lace-fastener bent to shape from wire and having a relatively long middle tongue and relatively short side tongues extending obliquely to the middle tongue so as to form V-shaped mouths between the tongues, the front end of the middle tongue being bent downwardly and adapted to pass beneath the surface of the material to which the fastener is to be attached for holding the front end of the fastener, and the back ends of the side tongues being bent so as to pass beneath the surface of the material to which the fastener is to be attached for holding the back end of the fastener, substantially as specified.

5. A lace-fastener bent to shape from wire with a middle tongue formed of two parts of the wire that extend substantially parallel and with side tongues standing obliquely to the middle tongue so as to form V-shaped mouths between the tongues, each of the side tongues being formed of two parts of the wire that extend substantially parallel and the ends of the wire extending from the back ends of the tongues downwardly to form attaching-prongs, substantially as specified.

ROBERT R. T. GRANT.

Witnesses:
THOMAS B. GOLD,
MARSDEN GOLD.