

(No Model.)

G. TROXLER, Jr.
LACING STUD.

No. 442,277.

Patented Dec. 9, 1890.

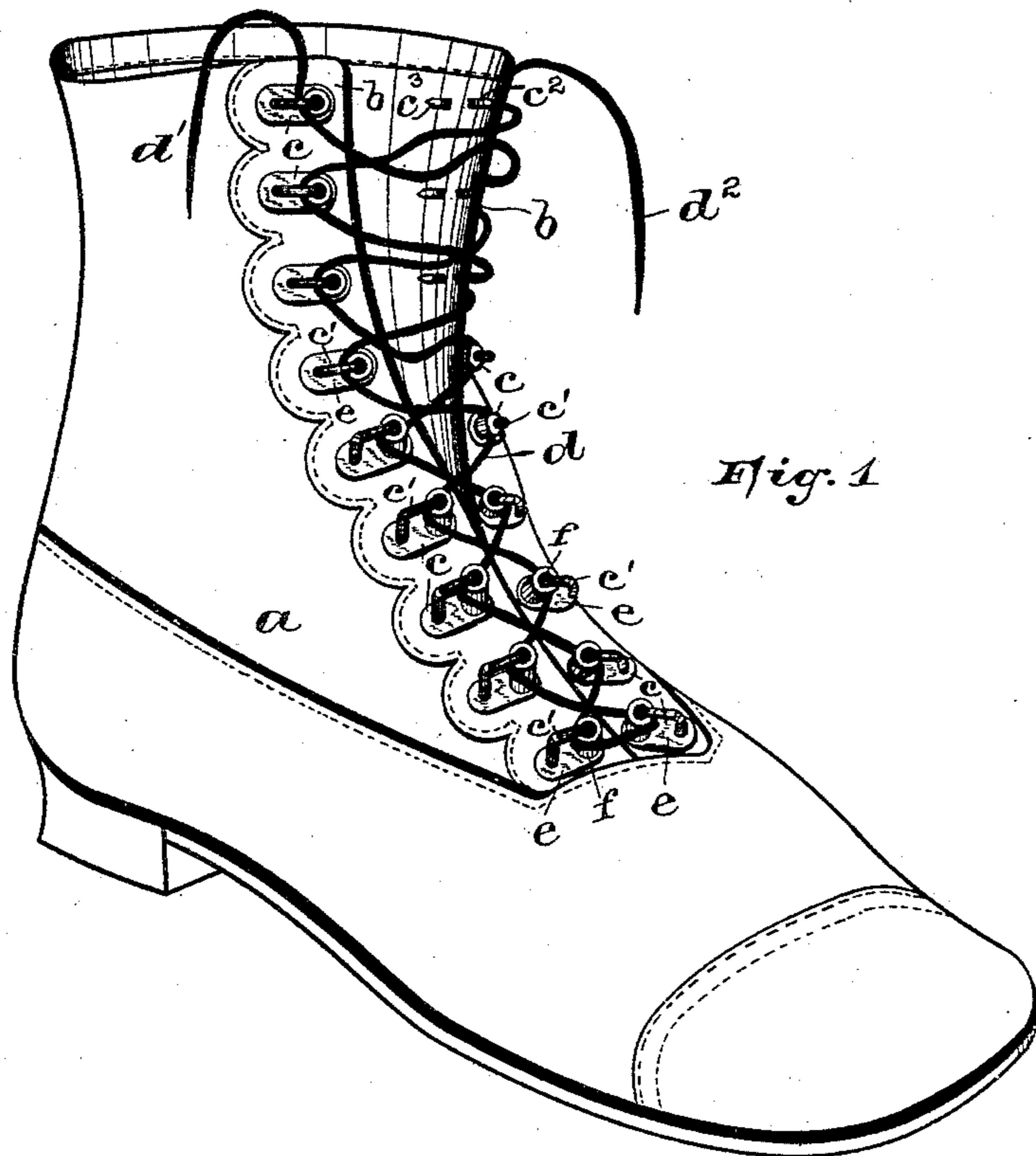


Fig. 1

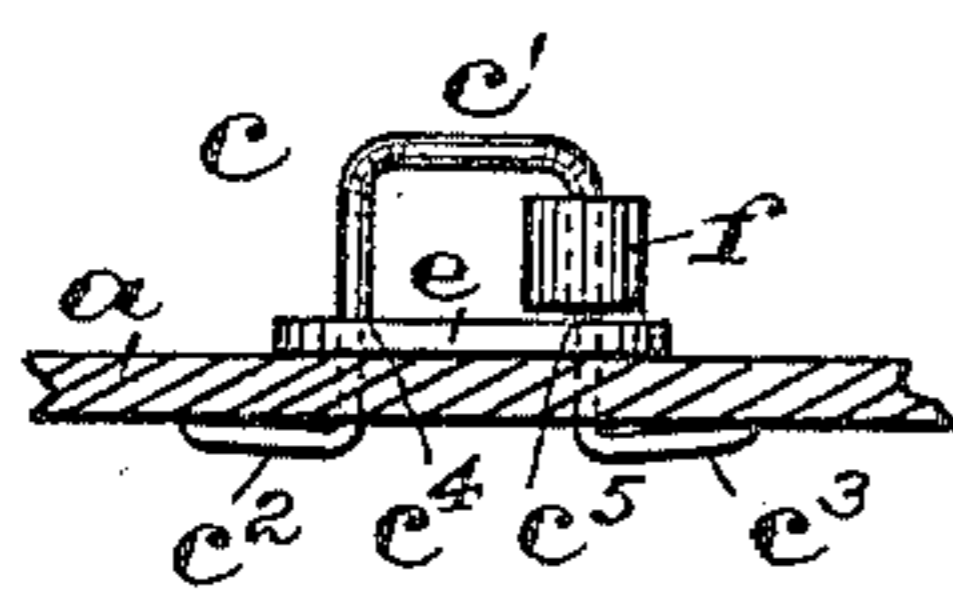


Fig. 2

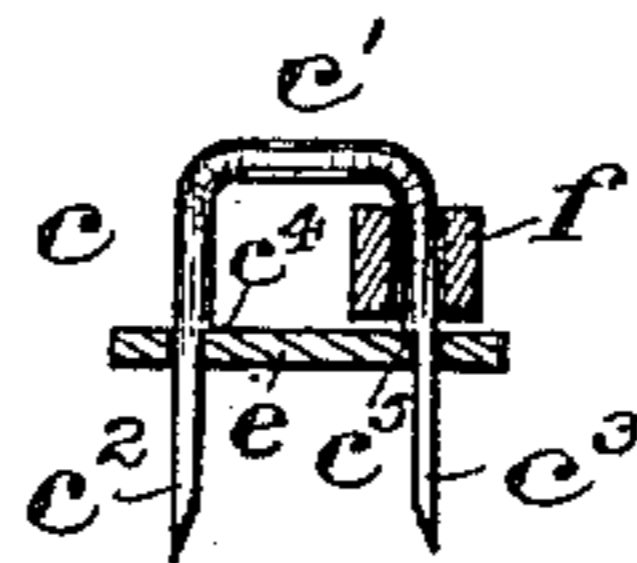


Fig. 3

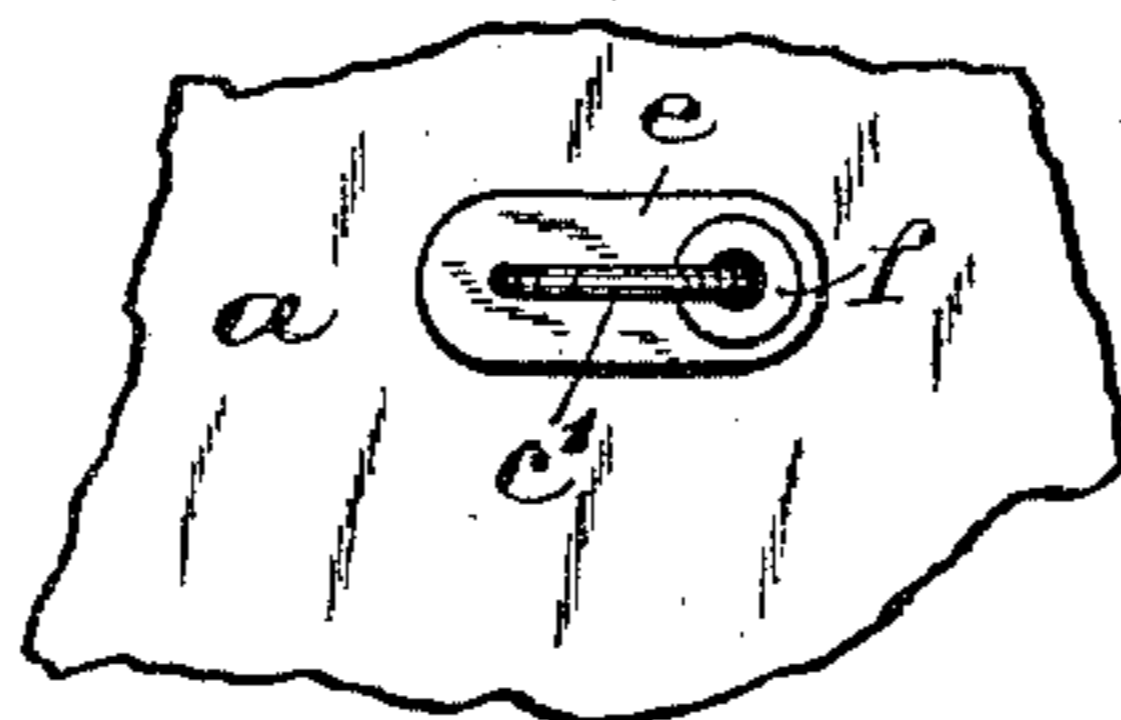


Fig. 4

WITNESSES:

Wm. H. Campfield
John G. Tinsley

INVENTOR:

Gustavus Troxler, Jr.
BY Fred C. Fraentzel, ATT'Y.

UNITED STATES PATENT OFFICE.

GUSTAVUS TROXLER, JR., OF NEWARK, NEW JERSEY, ASSIGNOR OF ONE-HALF TO HERMAN W. GEDICKE, OF SAME PLACE.

LACING-STUD.

SPECIFICATION forming part of Letters Patent No. 442,277, dated December 9, 1890.

Application filed September 3, 1890. Serial No. 363,808. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS TROXLER, JR., a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Lacing Studs; and I 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in that class of lacing-studs for readily securing the meeting edges of the shoe-upper upon and around the foot without the necessity of placing the lacing-cord separately around each stud while putting on or removing the shoe.

The invention consists in the application of such studs to said meeting edges, provided with revolving eyelets or pulleys, so that after the foot has been placed within the shoe the same can be laced by means of one pull on the ends of the lacing-cord, and the meeting edges of the upper thereby brought together down the front of the foot.

The invention is more fully described in the following detailed description, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a shoe, illustrating the meeting edges of the upper spread apart for the reception of the foot, provided with my improved lacing-studs and a lacing-cord in position for bringing the meeting edges together in position on the foot. Fig. 2 is a front elevation of one of the studs secured to a part of the upper, which is represented in cross-section. Fig. 3 is a similar view of a stud removed from the upper, certain parts being represented in vertical section. Fig. 4 is a top view of one of the studs in position on the upper.

In said view similar reference-letters are employed to indicate corresponding parts in each of the views.

In the drawings, *a* denotes the shoe-upper; *b b*, the meeting edges of the same, adapted to come together down the front of the foot.

c are the lacing-studs, which are applied to each of said meeting edges, and *d* is a lacing-cord arranged in said studs, as clearly illustrated in Fig. 1.

The lacing-studs may be secured to the upper in any convenient manner; but the present construction (illustrated in the accompanying drawings) is the preferred form. Said lacing-studs are preferably formed from a piece of stout wire *c'*, bent U shape to form a staple, as shown, and provided with pointed ends or prongs *c²* and *c³*, which are inserted through perforations in a bearing-plate *e*, said pointed ends *c²* and *c³* being cut away to form the shoulders *c⁴* and *c⁵*, which, when said ends have been inserted in the perforations in the bearing-plate *e*, rest upon the upper surface of said plate, as clearly shown in Figs. 2 and 3. On one of the ends of the U-shaped staple *c'* is arranged a tubular eye or pulley *f*, which rotates upon the bearing-plate *e* and about the bent staple when the lacing-cord is drawn tight, as will be evident from the drawings.

When the several parts of the lacing-stud have been arranged in position on the upper and the prongs or pointed ends *c²* and *c³* have been inserted through the perforations in the bearing-plate and also through the leather, they are turned down by means of suitable machines or by hand, firmly securing the staples in position upon the upper.

When the upper has been provided with the desired number of staples or lacing-studs, a lacing-cord is inserted beneath the U-shaped part thereof, as shown in Fig. 1, so that the cord is in contact with one edge of each pulley or tubular eye, the ends of the cord projecting from the upper studs, as shown in said figure.

When the meeting edges of the shoe have been spread apart, as shown in Fig. 1, the foot can readily be inserted in the shoe, and by pulling on the ends *d'* and *d²* of the cord all the pulleys or tubular eyes secured to the lacing-studs are operated at the same time, bringing the meeting edges of the upper together, when the ends of the cord can be tied into a knot. By simply untying the knot the shoe can be removed from the foot, the meet-

ing edges of the upper assuming the positions shown in Fig. 1.

I do not wish to be understood as limiting my invention to any special form of lacing-stud provided with a pulley; but the construction herein shown, which is staple form, is preferable, as thereby the lacing-cord is always held in position ready for engagement with the tubular eyes or pulleys.

10 The present invention is applicable to all kinds of shoes as well as gloves.

Having thus described my invention, what I claim is—

15 In a lacing-stud, the combination, with a perforated bearing-plate, of a staple provided

with pointed ends adapted to be passed through said perforated bearing-plate and secured to the shoe-upper, said pointed ends being provided with shoulders adapted to rest upon the upper side of the bearing-plate, and a pulley or tubular eye on one of said ends, as and for the purposes set forth. 20

In testimony that I claim the invention set forth above I have hereunto set my hand this 2d day of September, 1890.

GUSTAVUS TROXLER, JR.

Witnesses:

FREDK. C. FRAENTZEL,
HERMAN W. GEDICKE.