

(No Model.)

M. N. BRAY.

LACING STUD.

No. 273,706.

Patented Mar. 13, 1883.

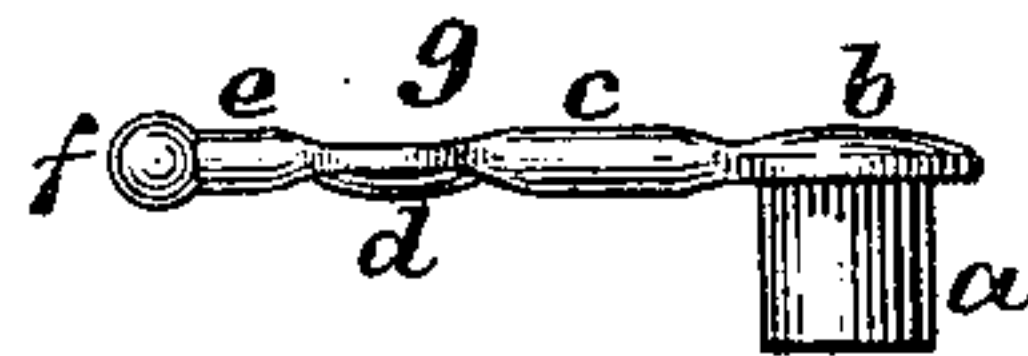


Fig. 5.

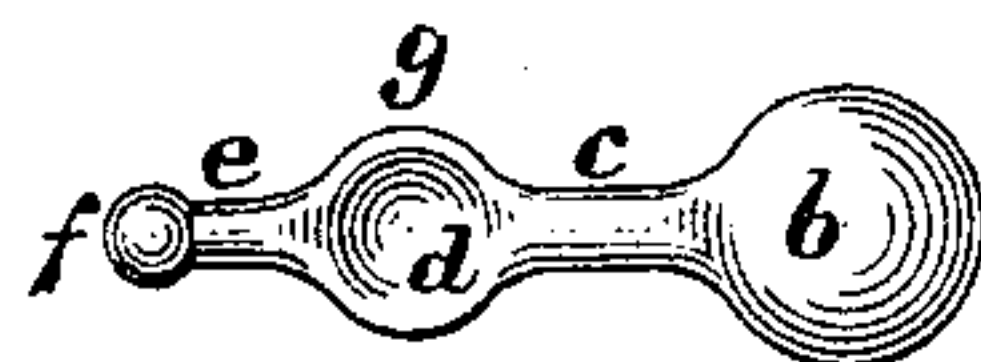


Fig. 4.

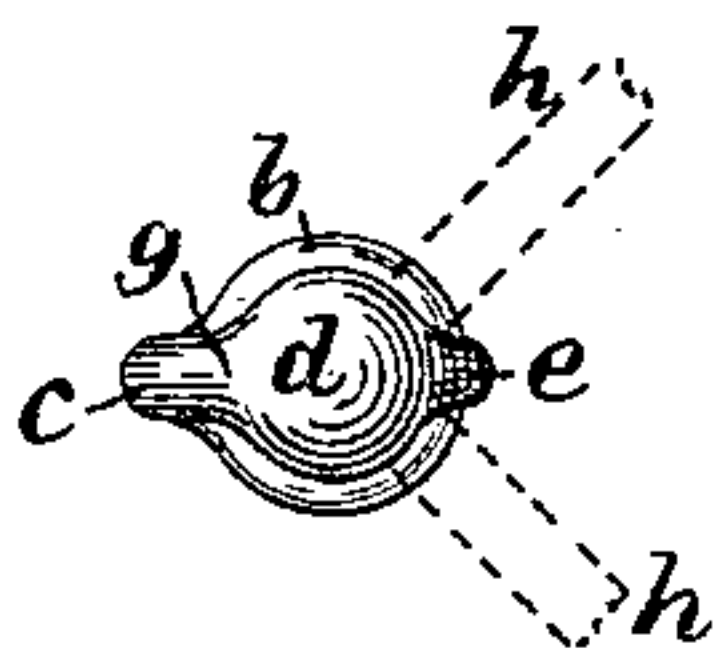


Fig. 2.

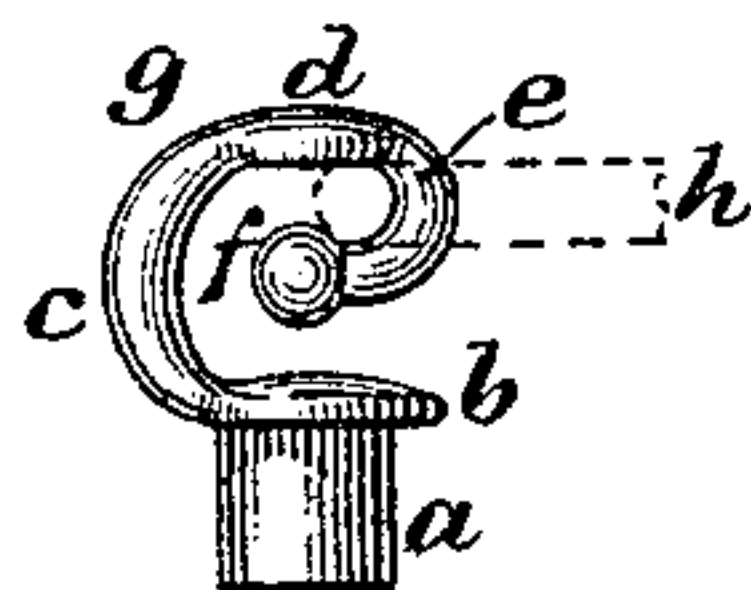


Fig. 1.

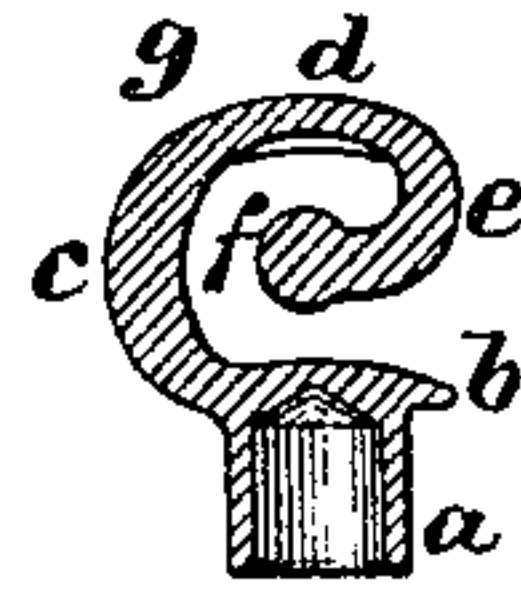


Fig. 3.

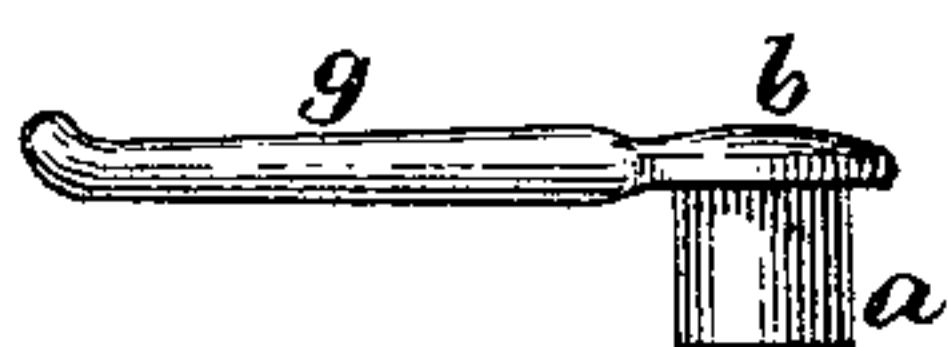


Fig. 9.



Fig. 7.

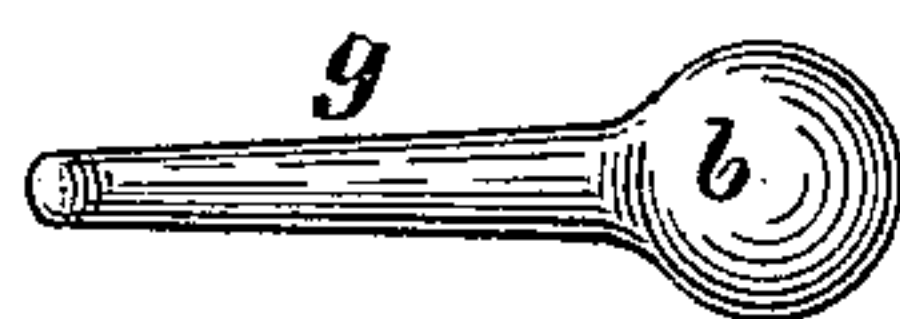


Fig. 8.

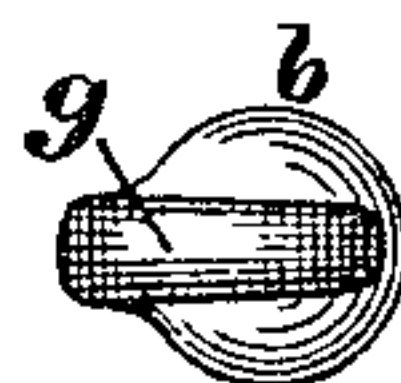


Fig. 6.

Witnesses:

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UNITED STATES PATENT OFFICE.

MELLEN N. BRAY, OF BOSTON, MASSACHUSETTS.

LACING-STUD.

SPECIFICATION forming part of Letters Patent No. 273,706, dated March 13, 1883.

Application filed January 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, MELLEN N. BRAY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Lacing-Studs, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a novel form of lacing-stud for use on boots, shoes, and other articles, and its construction will be best understood by reference to the following description of the drawings, in which—

Figure 1 is an elevation of a lacing-stud illustrating my invention. Fig. 2 is an end view or plan of the same. Fig. 3 is a central vertical section. Figs. 4 and 5 are respectively a plan and elevation of the same as it appears before the hook portion is bent to the required shape. Figs. 6 and 7 are respectively a plan and elevation of a modified form of stud, and Figs. 8 and 9 are respectively a plan and elevation of the same before the hook portion is bent to its finished shape.

My improved stud, as shown in Figs. 1, 2, and 3, consists of a tubular shank, *a*, for securing it to the leather or other material, provided with a head, *b*, adapted to rest upon said material, and having the neck *c* of the hook portion *g* extending upward from one side of the head *b*, as shown, and carrying the disk *d*, located above the head *b* and central, or nearly so, with the axis of the shank *a*. From the opposite side of the disk *d* extends the end portion, *e*, of the hook *g*, curving downward and backward toward the neck *c* and provided at its end with the ball *f*. The portions *c* and *e* of the hook *g* are well rounded, being oval or circular in cross-section, so that no sharp corners or edges will be presented to injure the lacing-cord. The object of the disk *d* is to better protect the lacing-cord, to strengthen the hook, and to add a neat and smooth appearance to the same, for which purpose it is made convex upon its upper side, or concavo-convex, as shown.

This lacing-stud is shown as being made in one piece of metal, and it is designed to be formed from a piece of wire of a diameter corresponding to that of the shank *a* by bending the end of the wire at right angles to the remaining portion and swaging the same to form the head *b*, disk *d*, ball *f*, and portions *c* and *e*

of the hook *g* in the position as shown in Figs. 4 and 5, all by the action of suitable dies, and then bending the hook *g* into the proper shape to form the finished stud, as shown in Figs. 1, 2, and 3, the shank *a* being drilled to form a tube.

In securing the lacing-stud to the leather or other material, the shank *a* is inserted therein and clinched upon the inner side thereof in a well-known manner, with the portion *e* of the hook *g* toward the slit or opening in the boot, shoe, or other article. The lacing-cord is then passed between the head *b* and ball *f*, thence upward between the ball *f* and neck *c*, and thence between the disk *d* and ball *f* into contact with the hook *e* in the position shown in dotted lines at *h* in Figs. 1 and 2, where it is securely held by the tension of said cord. The ball *f* contracts the opening beneath the disk *d* and effectually prevents the lacing-cord from slipping out of the hook in case said cord should become loosened or slackened.

The especial advantage of this form of lacing-stud is that any portion of the dress or clothing which may come in contact with the hook is effectually prevented from catching thereon, inasmuch as the opening of the hook, or the space between the head *b* and ball *f*, is beneath the lacing-cord *h*, which thus prevents said opening from being reached by anything which would be likely to engage with said hook.

It is not necessary that the hook *g* should be provided with the ball *f* or disk *d*, as a very serviceable hook may be made without them, as illustrated by the modified form shown in Figs. 6 and 7, where both the disk *d* and ball *f* are dispensed with, the end of the hook *g* being turned upward, thus answering the same purpose as the ball *f*—viz., to prevent the lacing-cord from slipping out of its proper place. This modified form of lacing-stud is designed to be made in the same manner as the one previously described by subjecting the wire to the action of suitable bending or swaging dies to shape it to the form shown in Figs. 8 and 9, and then bending the hook *g* to form the finished stud, as shown in Figs. 6 and 7.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a lacing-stud, the combination of the head *b*, the hook *g*, bent upward from one side of said head, over said head, downward, and in-

ward, with its end directly over the head *b*, and means of securing the head *b* to a shoe or other article, substantially as and for the purposes described.

5 2. In a lacing-stud, the combination of the tubular shank *a*, head *b*, and hook *g*, bent upward from one side of said head, over said head, downward toward the opposite side of said head, and inward, with its end directly over the
10 shank *a*, all made in one piece from a single piece of metal, substantially as and for the purposes described.

3. In a lacing-stud, the combination of the

tubular shank *a*, head *b*, and hook *g*, bent as set forth, and provided with the disk *d* and 15 ball *f*, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 4th day of January 20 A. D. 1883.

MELLEN N. BRAY.

Witnesses:

E. A. HEMMENWAY,
W. H. CHAPMAN.