E. A. ENGSTROM.

LACE HOOK.

APPLICATION FILED MAY 25, 1909.

962,326. Patented June 21, 1910.

Fig. 1.

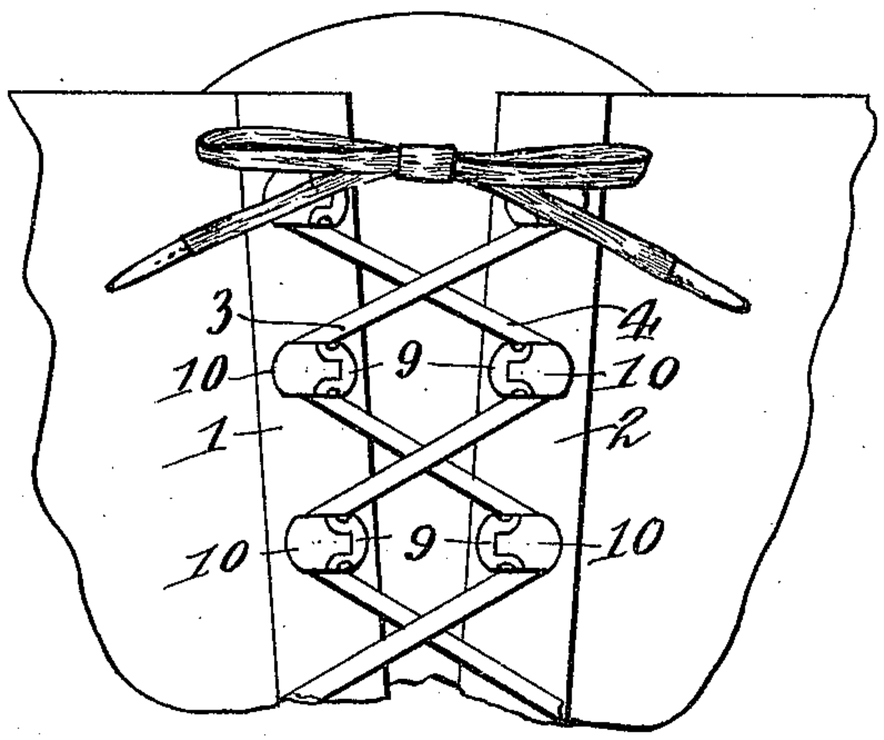


Fig. 2.

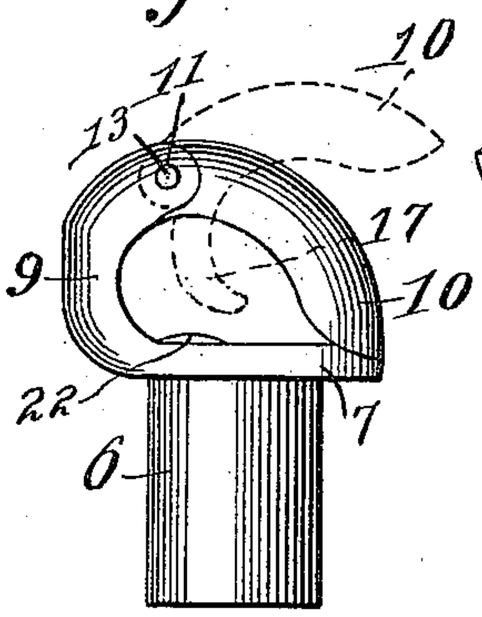


Fig. 5.

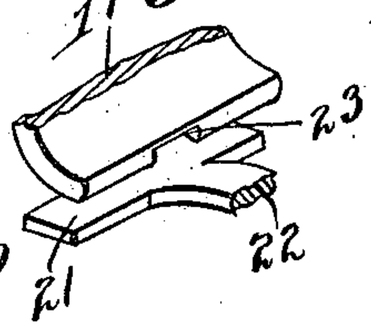


Fig. 3.

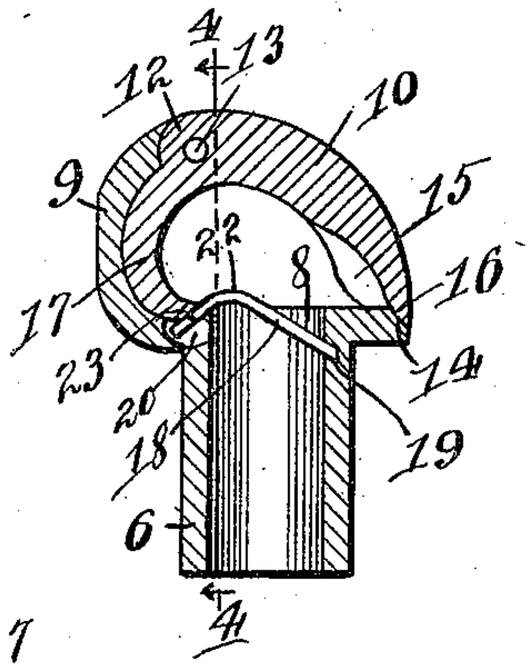
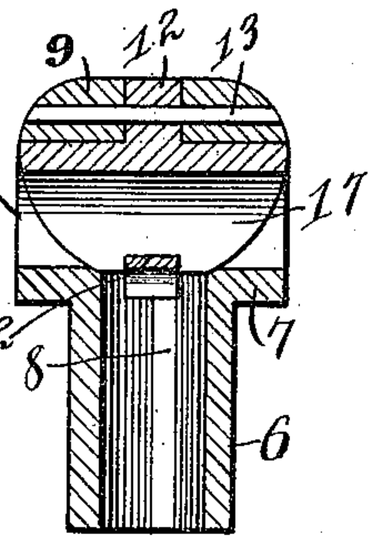


Fig. 4.



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UNITED STATES PATENT OFFICE.

ERICK A. ENGSTROM, OF HILL, MONTANA.

LACE-HOOK.

962,326. Specification of Letters Patent. **Patented June 21, 1910.**

Application filed May 25, 1909. Serial No. 498,182.

To all whom it may concern:

Be it known that I, ERICK A. ENGSTROM, a citizen of the United States, residing at Hill, in the county of Chouteau and State of Montana, have invented new and useful Improvements in Lace-Hooks, of which the following is a specification.

This invention relates to lacing hooks or studs adapted for use upon the meeting edges of shoe uppers and other garments or articles employing laces for uniting such meeting edges.

One object of the invention is to provide a lacing hook or stud which is especially adapted for use on ladies' shoes to enable the laces to be easily applied and disconnected, and yet prevent any possibility of the edges of skirts catching in the hooks and becoming torn or otherwise injured.

A further object of the invention is to provide a lacing hook or stud which, while admitting of the ready passage of the lacing therethrough, will securely retain the same in position and prevent any liability of casual disconnection thereof in use.

The invention consists of the features of construction, combination and arrangement of parts hereinafter fully described and claimed, reference being had to the accompanying drawings, in which:—

Figure 1 is a front elevation of a portion of a shoe upper embodying my invention. Fig. 2 is a plan view of one of the lacing hooks or studs, showing in dotted lines the guard moved to release position. Fig. 3 is a vertical longitudinal section of the same. Fig. 4 is a vertical transverse section on the line 4—4 of Fig. 3. Fig. 5 is a detail view illustrating a feature of construction.

Referring to the drawings, 1 and 2 designate the meeting edges of a shoe upper or other similar garment or article, and 3 and 4 the laces employed for connecting the same.

The laces may be passed at the lower portions of the meeting edges through the usual eyelets, or the hooks or studs may be arranged along the entire length of each meeting edge. Each hook or stud 5 is composed of a hollow shank 6, adapted to be upset or riveted in position in the usual manner. This shank carries at its outer end a head 7 arranged to bear against the outer surface of the meeting edge to which it is applied, and having an opening 8 arranged in alinement with the bore of the hollow shank.

The head 7 is provided at its outer side with a hook 9 to which is pivoted a guard 10. The said guard 10 comprises a longitudinally curved body having a convex outer face and a concave inner face. The free end of the hook 9 is bifurcated to form spaced ears 11, and the inner end of the guard 10 is formed with a lug or ear 12 to fit between said ears 11, through which a pivot pin or pintle 13 is passed to pivotally mount the guard upon the hook.

The head 7, which is in the form of an oblong rim shoulder at the outer end of the shank 6, has its outer face opposite the hook 9 beveled, as at 14, and the free end of the guard 10 is concaved, as at 15, to fit about the same, and is formed with a beveled end 16 to rest against the beveled face 14 when the guard is closed, to form a smooth joint and thus prevent any possibility of the edges of the skirt of the wearer being caught in any part of the stud and becoming torn or otherwise injured.

The inner face of the hook 9 is concaved to receive a segmental arm 17 carried by the inner end of the guard 10, against which arm the lace passing through the stud bears and thus serves to a large extent to hold the guard from accidental opening movement. The opening 8 is closed by a plate or leaf spring 18, which is fixed at one end in a socket 19 formed in the shank 6 adjacent the beveled face 14, the opposite end of the spring being free and arranged to seat loosely within a socket or recess 20 formed in the head adjacent the base of the hook 9.

The free end of the spring is T-shaped, as shown at 21, and the intermediate portion of the spring adjacent thereto is provided with a shoulder, hump or offset 22, projecting slightly beyond the outer face of the head, so as to lie within the path of opening movement of the arm 17 and thus tend further to prevent accidental opening movement of the guard. As shown, the outer face of the free end of the arm 17 is provided with an inturned lip 23 having a beveled or concaved lower face and provided in its free edge with a notch 24 to receive and accommodate the offset free end of the

spring, the beveled face of the lip being adapted to ride over the offset or humped portion of the spring when the guard is closed, the spring yielding under pressure and then returning to normal position so as to resist outward pivotal movement of the arm. The construction, however, is such that when pressure is applied by the lace against the free end of the guard, or the latter is pulled upon by the thumb and finger of the hand of the operator, the guard may be readily opened to permit withdrawal of the lace, the lip of the arm sliding outward over the spring in this operation.

In practice, it will be understood, as shown, that the studs are arranged on the meeting edges 1 and 2 in oppositely alined pairs and that the laces are threaded through the transverse passages formed by the closed guards of the studs in the usual manner and then tied at their free ends to hold the meeting edges drawn together. When the meeting edges are connected in this manner, the laces will bear against the arms 17 and the guards 10 will thereby be held closed, any tendency to opening movement of the guards being further prevented by the resistance of the springs 22. Hence the guards will be securely held in a closed position to prevent accidental disengagement of the laces, while they will also prevent any possibility of the skirts of the wearer becoming caught or entangled in the hooks or any other portions of the studs.

Having thus described the invention what is claimed as new is:—

A stud of the character described comprising a hollow shank, a hook arranged at one side of the shank, said shank being provided with a flange formed with a recess at the base of the hook, a guard pivoted at one end to the free end of the hook and having a curved arm adapted to seat within the hook when the guard is closed, said arm being provided with a beveled free end adapted to overlie said recess and provided with a transverse notch therein, and a spring fixed at one end within the hollow shank diametrically opposite the recess and having its free end extending into said recess to engage the notch in the guard and provided with a T-shaped or cross portion, said spring being provided adjacent said cross portion with an offset projecting beyond the flanged end of the stud for engagement with the beveled end of the guard, whereby the latter will be held in closed position.

In testimony whereof I affix my signature in presence of two witnesses.

ERICK A. ENGSTROM.

Witnesses:

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C. E. CASPER.