

(No Model.)

G. C. HILL.
LACING STUD.

No. 464,460.

Patented Dec. 1, 1891.

Fig. 1.

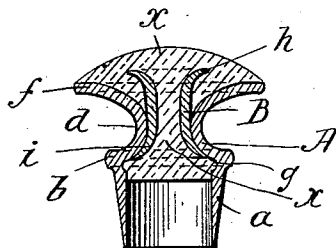
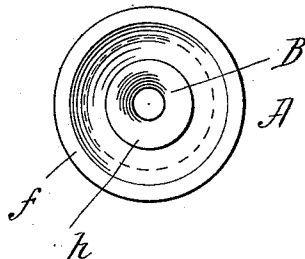


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

GILMAN C. HILL, OF WATERBURY, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE SPRINGFIELD SPECIALTY MANUFACTURING COMPANY, OF SPRINGFIELD, MASSACHUSETTS.

LACING-STUD.

SPECIFICATION forming part of Letters Patent No. 464,460, dated December 1, 1891.

Application filed July 9, 1891. Serial No. 398,984. (No model.)

To all whom it may concern:

Be it known that I, GILMAN C. HILL, a citizen of the United States, residing at Waterbury, in the county of New Haven and State of Connecticut, have invented new and useful Improvements in Lacing-Studs, of which the following is a specification.

This invention relates to improvements in lacing-studs for boots and shoes of the class wherein the top is formed of a composition of hardened plastic material, the same as or resembling that employed in the manufacture of hard-rubber buttons or imitations thereof.

The object of the invention is the construction of a lacing-stud having a metallic body or shell and composition top, which is most easy of production, cheap, and strong, and having the composition portion thereof so engaged or interlocked with the metallic portion that there will be no liability of the former separating from the latter.

The invention consists in the novel formation and construction of the metallic body or shell, and, furthermore, in the combination therewith of the composition or plastic material forming the top, which is interlocked with the metallic body, all substantially as will hereinafter more fully appear.

The present improvements are clearly illustrated in the accompanying drawings, Figure 1 being an axial section through the stud on an enlarged scale. Fig. 2 is a plan view of the metallic body without the composition top.

The body of the stud consists of the annular shell A and the collet or eyelet B. The shell A consists of the tubular shank *a*, above which is the annular rib or flange *b*, while above the latter the shell is necked or contracted, as at *d*, and then upwardly flaring, the top of the shell consisting of the flange or ledge *f*. The shoulder *g* is thus internally formed at the junction of the inner wall of the shank *a* with the inner wall of the necked portion of the shell. The collet B, which has a proportionate length, substantially as indicated in Fig. 1, is applied while in the form of an unclined eyelet at and within the contracted portion of the shell A—that is, the said collet is outwardly turned, as at *h*, only at its upper end the lower extremity thereof

being practically of cylindrical form. The eyelet or collet having been by its lower extremity entered within the shell *b*, about as far as the shoulder *g*, the same is by a proper tool or appliance upset or outwardly turned, as indicated at *z*, and caused to closely hug the inner wall of the outer shell at the contracted portion thereof. It will therefore be seen that there is thus constituted in or at the top of the metallic body of the stud an annular space between the top of the flaring wall *f* of the shell *a* and the upper portion of the collet, which is peculiarly adapted to permit of a most effectual interlocking thereof of the plastic material *x*, which forms the top. The plastic material *x* is also entered within and fills the internal space within the collet, and also for a slight distance below the latter, engaging the shoulder *g*, and has its upper portion molded and of rounded or other desired form for the top of the stud.

In the application of the plastic material by the molding thereof, the body of the stud, which in practice is a very thin shell, being struck up or otherwise formed, is subjected to a considerable strain or compression, which in some cases might result in the rupture thereof, or the widening of the neck *d*; but at present, however, by the provision of the internally-applied collet the body is practically and materially re-enforced, there being no liability at the time of the molding and compression, or packing in of the plastic material of warping or rupturing the stud at its neck. An inspection of Fig. 1 will clearly show the very efficient anchoring or interlocking of the plastic material both at the space outside of the upper flanged part of the collet, between the latter and the shell-flange *f*, and within and under the collet.

I claim—

A lacing-stud consisting of an annular metallic shell having intermediately thereof a contracted neck and having thereabove the outwardly-flaring flange or ledge surrounding the opening which is at the upper end of the shell, and the metallic bushing or collet in the form of an annular section, with the opening which is in its upper end surrounded by an outwardly-extended flange, and said collet

having its extremity farthest from said flange entered into the neck in said shell and engaged therewith, whereby the upper outwardly-flanged part of the collet is supported within and separated from the flaring ledge of the shell, and the plastic material entered within said collet and also covering same and the said ledge, and having an interlocking engagement within the annular space between the ledge and collet flange, substantially as is described.

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Witnesses.

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