

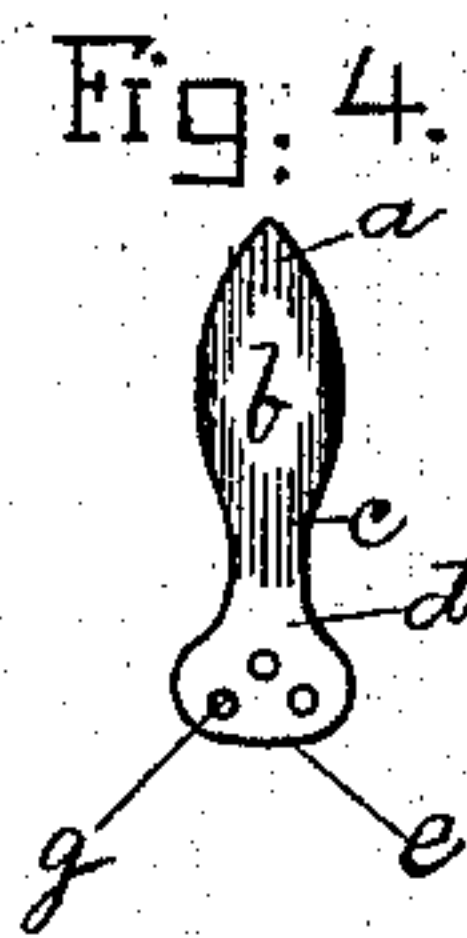
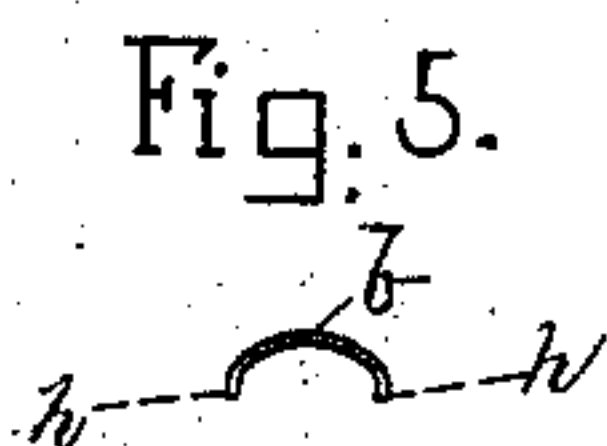
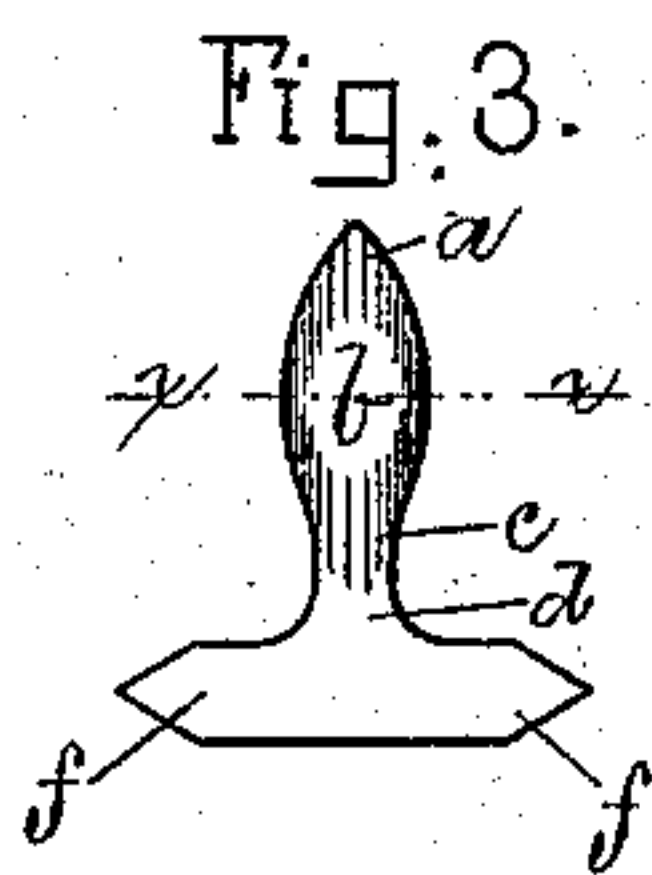
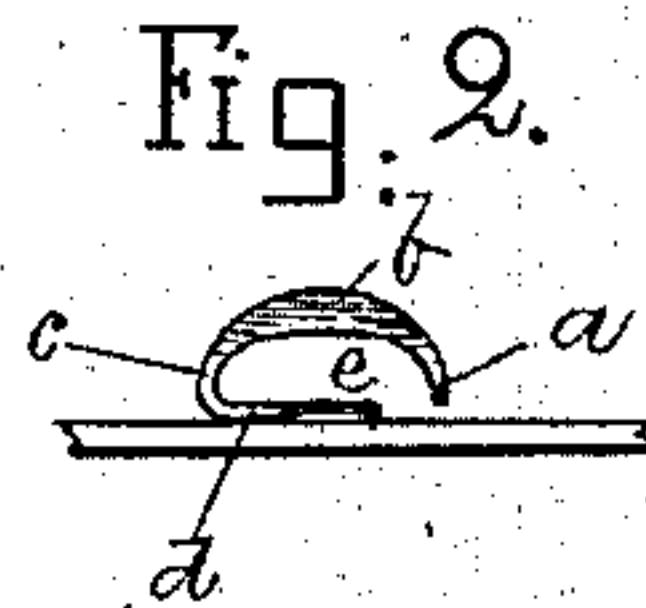
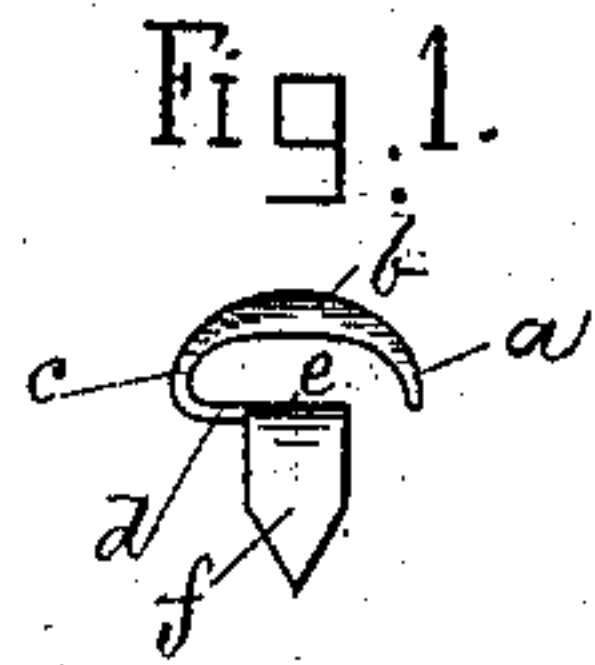
(No Model.)

F. M. PIPER & J. H. REED.

LACING STUD.

No. 326,148.

Patented Sept. 15, 1885.



Witnesses.

Robert Wallaer,
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UNITED STATES PATENT OFFICE.

FRANCIS M. PIPER AND JAMES H. REED, OF LYNN, MASSACHUSETTS.

LACING-STUD.

SPECIFICATION forming part of Letters Patent No. 326,148, dated September 15, 1885.

Application filed May 1, 1885. (No model.)

To all whom it may concern:

Be it known that we, FRANCIS M. PIPER and JAMES H. REED, both of Lynn, county of Essex, State of Massachusetts, have invented
5 a new and useful Improvement in Lacing-Studs, of which the following, taken in connection with the drawings accompanying and forming a part hereof, is a specification.

The object of our invention is the production of a lacing stud of improved form, and at less cost than has been hitherto done to our knowledge; and it consists in certain peculiarities of form and construction hereinafter described.

15 In the drawings, Figure 1 is a side elevation; Fig. 2, a similar view showing the stud secured to the material. Fig. 3 is a plan view of the blank used in making a pronged stud, and Fig. 4 the same view of a blank used in
20 making a stud provided with eyes by which it may be secured to the material. Fig. 5 is a section on line *x x*, Figs. 3 and 4.

For convenience of description, we will designate the various parts of the stud as follows:
25 *a*, the beak; *b*, the crown; *c*, the neck; *d*, the flat portion of the neck; *e*, the plate; *f*, the prongs; *g*, the eyes; *h*, the edges of the crown.

In the manufacture of our improved stud we use a sheet of metal, and cut from said
30 sheet, by means of dies, a blank of the form shown in Figs. 3 and 4, according as it is desired to produce a stud provided with prongs or eyes. The portion of this blank forming the crown *b* of the stud is made convex, as
35 shown in Fig. 5, and is provided with the downwardly-projecting edges *h*. The convexity, as also the projecting edges, is given it when it is stamped from the sheet of metal, the operation being simultaneous. A blank
40 of this form and construction being produced, the beak *a* is bent downward so as to be on the level of the plate *e* in the finished stud. (See Fig. 1.) The neck *c* is so bent and set as to assume the form shown, Figs. 1 and 2, the

portion nearest the crown of the stud being 45 nearly in a vertical position, while the portion marked *d*, adjoining the plate, lies in the same horizontal plane as the plate, and acts as a brace to keep the stud in its normal position in the material while subjected to the
50 strain of the lace. The plate *e* is located directly beneath the central portion of the crown, and serves, by means of prongs or eyes, to secure the stud to the material. The beak *a*, being carried downward to the level of the
55 plate, prevents the lace from accidentally slipping the stud, while this position of the beak and the convex shape of the crown prevent the stud from catching in the clothing. The downwardly-projecting edges *h* of the crown
60 give an appearance of solidity, as well as a superior finish.

We are enabled by the construction above described to obtain a lacing-stud which can be rapidly and cheaply produced, which will
65 not readily slip the lace, and which, under ordinary conditions, will maintain its proper position when in use and under the strain of a tight lace.

What we claim is—

70 As an improved manufacture, a lacing-stud blank of the form shown, cut from sheet metal, and having the portion designed from the crown of the stud of a convex shape, said crown being provided with downwardly-projecting edges *h*, and having at one end a beak
75 which will project, when the stud is formed, downward to the level of the plate, and at the other a neck and a plate, *e*, provided with means whereby the finished stud may be se-
80 cured to the material, substantially as shown and described.

FRANCIS M. PIPER.
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Witnesses:

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