

(No Model.)

M. BRAY.

PROCESS OF MAKING LACING STUDS.

No. 256,116.

Patented Apr. 11, 1882.

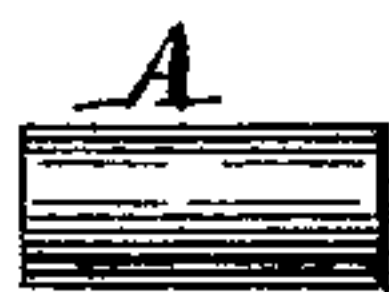


Fig. 1.



Fig. 3.

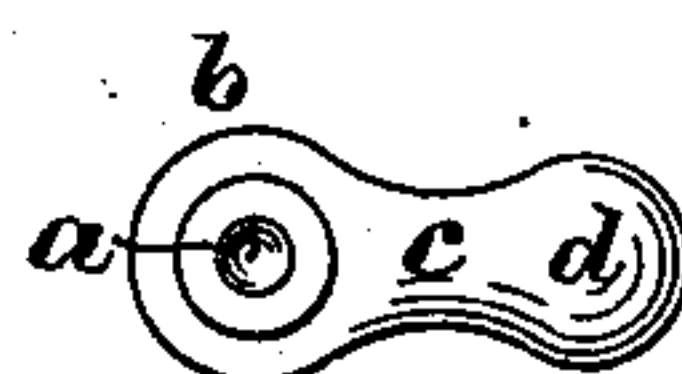


Fig. 4.

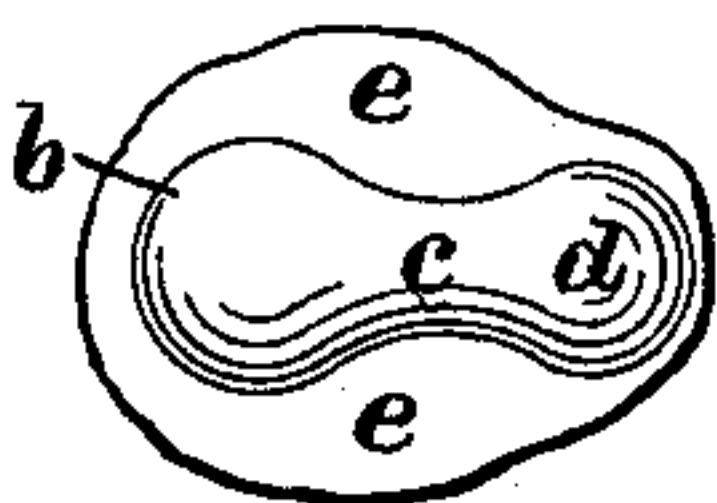


Fig. 2.



Fig. 5.

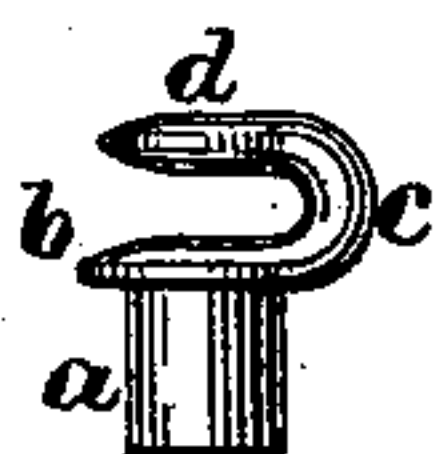


Fig. 6.

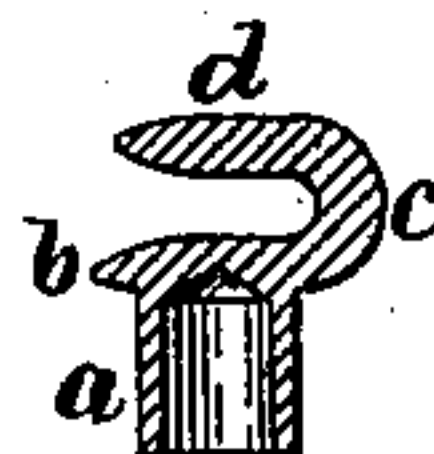


Fig. 7.

WITNESSES:

E. A. Kemmenway
Thomas Hibbard

INVENTOR:

Mellen Bray
BY *N. G. Lombard*
ATTORNEY.

UNITED STATES PATENT OFFICE.

MELLEN BRAY, OF NEWTON, MASSACHUSETTS.

PROCESS OF MAKING LACING-STUDS.

SPECIFICATION forming part of Letters Patent No. 256,116, dated April 11, 1882.

Application filed December 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, MELLEN BRAY, of Newton, in the county of Middlesex and State of Massachusetts, have invented a new and useful Process of Forming Lacing-Studs, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to a process of forming lacing studs or hooks from wire of a diameter about equal to the diameter of the shank of said stud; and it consists in cutting from said wire a cylinder of suitable length, submitting said blank to the action of dies to bend one portion thereof at right angles to the other portion and emboss or swage the same, so as to form a shoulder around the shank and give shape to the neck and outer head projecting radially from one side of said shank, bending said neck to bring the outer head over the shank, and then drilling out the center of the shank to form a tube.

Figure 1 of the drawings is an elevation of a cylinder of iron wire from which a lacing-stud is to be formed. Figs. 2 and 3 are respectively a plan and side elevation of the same piece of metal after it has been subjected to the action of the bending and swaging dies. Figs. 4 and 5 are respectively an inverted plan and a longitudinal section of the same after being subjected to the action of the trimming-dies. Fig. 6 is a side elevation after the neck is bent, and Fig. 7 is a vertical section of the same after the shank has been drilled.

In carrying out my improved process I first cut from a wire of a diameter corresponding to the desired diameter of the shank to be formed a blank, A, of the proper length, as shown in Fig. 1. The blank A is then subjected to the action of a pair of dies to bend a portion of said blank at right angles to its other portion and flatten it out or partially swage it to the shape desired, and then to a second pair of dies to complete the swaging to the shape shown in Figs. 2 and 3, in which *a* is the shank;

b, the collar or shoulder which bears upon the material when the stud is set; *c*, the neck; *d*, the outer or button head, and *e* the fin or surplus metal thrown out between the swaging-dies. This surplus metal or fin *e* is then cut away by a pair of suitably-shaped dies, and the neck *c* is bent so as to bring the button-head *d* directly over the shank *a* and inner head or collar, *b*, as shown in Fig. 6, after which the shank *a* is drilled out to form a tube, as shown in Fig. 7, when the stud is complete, except tumbling and coating its exterior with a suitable covering of japan, lacquer, tin, or other metal, which latter operations constitute no part of my present invention.

By this process I am enabled to produce lacing-studs having all the advantages of strength and neatness of finish of the studs now formed by cutting the neck and outer head from a solid piece of metal without bending, and at a very material saving in cost.

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

The process of forming lacing studs or hooks which consists in cutting a cylindrical blank from a wire of a diameter about equal to the desired diameter of the shank of the stud or hook to be made, bending one portion of said blank at right angles to the other portion, and embossing or swaging said bent-over portion by means of suitable dies to give contour to the parts which are to constitute the neck and the outer or button head, bending the neck to bring the button-head over the shank and inner head, and then drilling out the center of the shank, substantially as and for the purposes described.

Executed at Boston, Massachusetts, this 16th day of December, A. D. 1881.

MELLEN BRAY.

Witnesses:

N. C. LOMBARD,
E. A. HEMMENWAY.