

(No Model.)

M. N. BRAY.

PROCESS OF MAKING COVERED LACING HOOKS.

No. 534.781.

Patented Feb. 26, 1895.



Fig. 1.



Fig. 2.

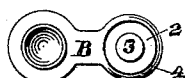


Fig. 3.



Fig. 4.

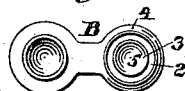


Fig. 5.



Fig. 6.

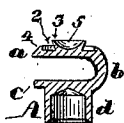


Fig. 7.

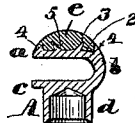


Fig. 8.

Witnesses:

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UNITED STATES PATENT OFFICE.

MELLEN N. BRAY, OF BOSTON, MASSACHUSETTS.

PROCESS OF MAKING COVERED LACING-HOOKS.

SPECIFICATION forming part of Letters Patent No. 534,781, dated February 26, 1895.

Application filed October 22, 1894. Serial No. 526,541. (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 the Process of Making Covered Lacing-Hooks, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to that class of lacing hooks which have their heads covered with pyroxyline or other similar material capable of being applied in a plastic state and then becoming hard and tough and to the process of making the same and it consists in certain novel features of construction, arrangement and combination of parts, and in the several successive operations performed to produce the finished article which will be readily understood by reference to the description of the accompanying drawings and to the claim hereto appended and in which my invention is clearly pointed out.

Figures 1 and 2 are respectively a plan and an elevation of a blank formed by swaging in suitable dies, and from which the completed metal hook shown in Fig. 7 is to be formed. Figs. 3 and 4 are respectively a plan and a longitudinal section of said blank after another operation has been performed thereon. Figs. 5 and 6 are similar views of the same blank after a third swaging operation has been performed thereon. Fig. 7 is a central vertical section of the metal hook completed ready to receive the protecting covering of plastic material, and Fig. 8 is a similar section of the same hook after the cap or covering of plastic material has been applied thereto.

In the drawings A is the metal lace hook provided with the outer head *a*, the neck *b* eccentric to said head, the flange *c* to rest upon the material in which it is to be set, and the shank *d* or any other suitable means of securing the same to the shoe or other article upon which it is to be employed.

The outer face of the head *a* has formed therein an annular recess 2 between the central inverted frusto-conical hub or boss 3, and the annular inwardly inclined rib 4, in such a manner that the recess 2 is wider at its bottom than at its top, thus forming a dovetail which serves effectually to firmly secure the covering *e*, of plastic material, to the metal

of the head without the expense and trouble of covering the inner face of said metal head with the plastic material which necessitates the making of the head of the hook more clumsy or the metal portion of the head much lighter and hence more liable to be bent out of shape.

In carrying out my invention to produce the lace hook above described and shown complete in Fig. 8 I first form a blank B of the form shown in Figs. 1 and 2 by swaging the metal into the desired shape, and then form in the outer face of that portion of the blank that is to form the outer head of the hook when completed an annular recess having perpendicular sides, as shown in Figs. 2 and 3, without cutting away stock, leaving an upwardly projecting cylindrical boss in the center of the head portion of said blank as shown. The head portion of said blank is then subjected to the action of suitable pressure dies to form a conical recess 5, in the upper surface of said central boss so as to expand its upper end, and at the same time the annular lip or rib surrounding said annular recess is acted upon by said die to contract its diameter at its outer edge, thereby imparting to said recess a dovetailed cross section, and then the neck thereof is bent in such a manner as to bring the flat, or non recessed, side of the head above and facing toward the flange *c* as shown in Fig. 7.

A piece of pyroxyline or other suitable material in a plastic state is then placed upon the outer surface of said head and pressure is applied thereto by a suitable die to force it into said dovetailed recess and impart the desired shape to the completed head as shown in Fig. 8.

In bending the neck of the hook after the recess in the outer face of the head portion of the metal hook is formed, that portion of the recess contiguous to the neck is stretched to a limited extent, and that, just sufficient to cause the outer rounded surface of the upper part of the neck to form a continuation of the spheroidal curvature of the plastic cap or covering leaving no crease, quirk or projection to catch in clothing or look unsightly, as shown in Fig. 8.

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

The process of making capped lacing hooks which consists in first forming a swaged blank with the head neck and inner head or flange portions in line with each other, and with a
5 shank or fastening portion projecting at right angles thereto; then swaging a recess in the outer surface of the head portion with perpendicular sides; then applying pressure to said head in near proximity to the wall of
10 said recess to cause said walls to incline inward and form a dovetailed recess; then bending the neck to bring the head into its proper

position over the inner flange and the shank; and finally applying the cap or covering of plastic material to the head and compacting 15 and shaping the same by pressure.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 19th day of October, A. D. 1894.

MELLEN N. BRAY.

Witnesses:

N. C. LOMBARD,
E. A. YORK.