

(No Model.)

J. W. BEAUMONT.  
ANVIL FOR EYELET SETTING.

No. 494,542.

Patented Apr. 4, 1893.

Fig. 1

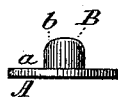


Fig. 2

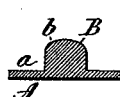


Fig. 3

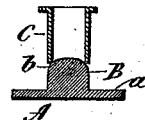


Fig. 4



Fig. 5

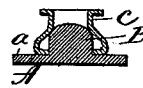


Fig. 6

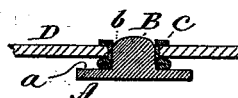


Fig. 7

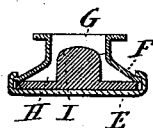


Fig. 8



Witnesses  
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# UNITED STATES PATENT OFFICE.

JAMES W. BEAUMONT, OF WATERBURY, CONNECTICUT.

## ANVIL FOR EYELET-SETTING.

SPECIFICATION forming part of Letters Patent No. 494,542, dated April 4, 1893.

Application filed May 31, 1892. Serial No. 434,848. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES W. BEAUMONT, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new  
5 Improvement in Anvils for Eyelet-Setting; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the  
10 same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the anvil; Fig. 2, a vertical central section of the same; Figs. 3, 4, 5 and 6, illustrate the use of the anvil in  
15 setting eyelets; Fig. 7, the invention as applied to a button; Fig. 8, modifications.

This invention relates to an improvement in the construction of the anvil in devices for setting eyelets, and may be used in an eyelet machine which is adapted to introduce eyelets  
20 into various articles, as corsets, shoes, and like purposes, or the anvils may be introduced into buttons which are adapted to be secured by means of an eyelet inserted through the material to which the button is to be attached, and  
25 the eyelet being forced into the button will strike the anvil so as to upset the end of the eyelet within the button so as to secure the eyelet or eyelet-like fastening to the button.

30 In the more general construction of anvils for setting eyelets, the anvil is made of conical shape, or substantially so, so that the open end of the eyelet striking upon the conical surface, the metal will be deflected and  
35 spread in all directions. The metal of the eyelet so deflected, if to any very considerable extent, unavoidably splits and leaves a ragged unfinished appearance, if exposed as in the case of shoes, corsets, &c., consequently in  
40 the anvils for setting eyelets for such purposes, the extent of upsetting is made as slight as possible, in order to avoid this ragged appearance, but the eyelets so set are easily pulled out.

45 In the case of button-fastenings, there being no exposure of the upset or split end of the eyelet, the metal may be thrown to a considerable extent into the button, but in such case while there is a greater extent of holding surface produced, the splitting of the  
50 metal weakens it, and frequently breaks the

metal, so that the fastening is easily pulled out from the button.

The object of my invention is the construction of an anvil which will upset the eyelet  
55 without deflecting its edge, and so that instead of spreading the metal as in the usual method, the upsetting will crush the tubular portion of the metal so as to produce a double  
60 flange around the upset end, and the invention consists in an anvil having a projection therefrom of a diameter substantially the same as the exterior diameter of the open  
65 end of the eyelet, or greater than the internal diameter of that end, the upper or exposed end of the anvil of substantially a conical shape around its edge, or so as to produce  
70 a deflecting surface at the edge, and the sides of the projection from the anvil forming substantially a right angle with the face of the anvil, and as more fully hereinafter described.

A, represents the anvil, which presents substantially a flat face *a*; from this face a projection B, is formed, the sides of which are at  
75 substantially right angles to the face *a*, of the anvil. This projection is of cylindrical shape, and of a diameter larger than the internal diameter of the eyelet to be set, the exposed  
80 end of the projection inclined so as to produce an outwardly deflecting surface, as at *b*, around the edge of the projection. The deflecting edge of the anvil is best produced by  
85 giving to the end of the anvil a convex or conical shape. The anvil thus constructed is applied to the setter, or wherever it is required, in the usual manner, may be in the common eyelet-setting machines or instruments, such as employed for setting eyelets  
in corsets, shoes, and like purposes.

In operation the eyelet C, is presented to  
90 the projection on the anvil B, in the usual manner, and as seen in Fig. 3, and so that the open end of the eyelet may concentrically strike the end of the projection. The projection  
95 as before stated, is of a diameter greater than the internal diameter of the open end of the eyelet, and preferably substantially the same diameter as the external diameter of the open end of the eyelet, and as seen in  
100 Fig. 3. The eyelet C, is then forced onto the projection B, as seen in Fig. 4. This operation expands the open end of the eyelet to

conform to the cylindrical shape of the projection, and which correspondingly enlarges the open end of the eyelet so as to bring the edge of the open end of the eyelet directly upon the flat surface or face *a*, of the anvil A, the metal of the eyelet striking the face in a direct longitudinal or vertical line, so that on the face of the anvil it meets a resistance in a direct straight line with the portion of the metal which surrounds the anvil. The right angle between the projection on the anvil and its face, which presents the metal of the eyelet in a direct straight line, offers a resistance to the further forcing of the eyelet onto the anvil, and prevents that open edge of the eyelet from being deflected away from the projection of the anvil, the result of this is that a continued forcing of the eyelet onto the anvil crushes the metal above the open end, and forces it outward, as represented at *c c*, Fig. 5, that is to say, as the edge of the eyelet cannot be deflected or thrown outward, it necessarily follows, that the continued force tending to drive the eyelet onto the anvil, will turn the metal which is spread around the projection, outward above the face of the anvil, and a still continued pressure upon the eyelet will force it down upon the face of the anvil until the metal is doubled, and so as to form a two thickness flange *d*, around the open end of the eyelet, as seen in Fig. 6, and this double edge of the eyelet comes upon the reverse side of the material or part through which the eyelet is introduced, D, Fig. 6 representing the material to which the eyelet is attached. The doubling of the metal so as to produce the two thickness flange around the end of the eyelet, gives not only a very great strength to the metal, but produces a neat and finished appearance. As the metal cannot split there is no liability to break, and the great strength and extent of the spread which may be thus produced upon the eyelet makes its security of the firmest possible character. While this invention is especially adapted for the construction of the anvil for eyelet setting machines or instruments, it is equally applicable for buttons in which the attaching

device is in the form of an eyelet, as for illustration, see Fig. 7, in which E, represents the face of a button, F, the back, and G, the central opening into the back of the button. Within the button the anvil H, is arranged having a central projection I, therefrom, of cylindrical shape, and concentric with the opening G, the sides of the projection of the anvil forming a right angle with the face of the anvil, and the deflecting end of the projection presented to the opening G, in the back of the button, so that when the eyelet is inserted, it will meet that projection, and operate as before described.

The illustration which is made to show the application of the anvil to one construction of button, will be sufficient to enable others to apply it to other known constructions, or to other articles in which an attachment is to be made by means of an eyelet.

While it is preferred to make the angle between the projection and the face, a right angle as described, that angle may be slightly acute, as seen in Fig. 8, it only being essential to the invention that that angle shall be no greater than a right angle.

I claim—

The herein described anvil for eyelet-setting, consisting of an anvil having a face with a cylindrical projection therefrom, the sides of the projection forming an angle no greater than a right angle forming substantially a square shoulder with the face of the anvil, and the projection of a diameter greater than the internal diameter of the eyelet to be set, the edge around the end of the projection of an outwardly deflecting shape so as to form a doubled flange on the eyelet, the edge of the metal being inward, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JAMES W. BEAUMONT.

Witnesses:

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BERNICE M. ANDREWS.