

A. B. EDMANDS.

Manufacture of Eyelets and Apparatus for Setting the Same.

No. 124,346.

Patented March 5, 1872.

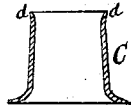


FIG. 1.

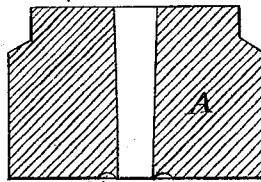


FIG. 2.

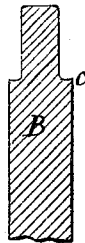


FIG. 3.

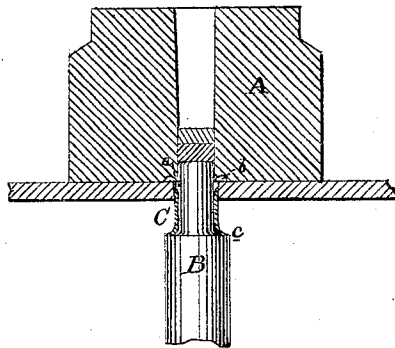


FIG. 4.

WITNESSES.

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ARTEMAS B. EDMANDS, OF SAUGUS, MASSACHUSETTS.

IMPROVEMENT IN THE MANUFACTURE OF EYELETS AND APPARATUS FOR SETTING THE SAME.

Specification forming part of Letters Patent No. 124,346, dated March 5, 1872.

Specifications of Improvements in the Manufacture of Eyelets and Apparatus for Setting the same, invented by ARTEMAS B. EDMANDS, of Saugus, in the county of Essex and State of Massachusetts.

My invention relates in the first place to the form of the eyelet; and it consists in giving to the metal around the small end of the eyelet a slight outward curve, so that the inside diameter of the eyelet at the extreme end shall be slightly larger than it is in the body of the eyelet, as will be described. The second part of my invention relates to the mode of setting the eyelet in leather, cloth, or material where it is desired to be used. Eyelets are very extensively used in the manufacture of boots and shoes, and very good machines are in use for inserting the eyelets in the leather; but so far as my knowledge extends, two distinct operations have to be performed to set an eyelet—viz., first, the holes are punched in one machine; and, second, the leather thus punched is taken to another machine and the eyelet is inserted in the hole previously punched and its edge turned over upon the leather. Now, the object of this, my invention, is to punch the holes and insert and set the eyelet at one and the same operation. The second part of my invention consists in the employment of a female punching-die, which may be secured firmly to the upper part of the frame of any suitable eyeleting-machine, and having its face or lower side so formed as to serve the double purpose of a female punching-die and a forming-die for clinching the eyelet onto the leather, when used in combination with a punch having the corners of its upper end rounded so that it may serve the purpose of taking the eyelet from the groove in which it is held, punching a hole in the leather and inserting the eyelet in the hole so made, and, at the same time, by virtue of a shoulder formed thereon, serve as a plunger or hammer to force the eyelet upward against the forming-die, which, by virtue of its shape and the peculiar shape of my improved eyelet, causes the eyelet to be turned over onto the leather and firmly clinched thereto, all by one upward movement of the plunger in which the punch is set.

It is obvious that my improved die and punch may be used by hand and an eyelet be set and the hole for the same be punched at one operation, when my improved eyelet is

used; or they may be attached to any of the first-class eyeleting-machines now in use with very little change.

It is also obvious that the common eyelet now in use may be used by swaging the small end of the same at some point during its passage from the brush-box to the punch.

In the drawing, Figure 1 represents a vertical section of my improved eyelet, drawn about four times its natural size. Fig. 2 is a vertical section of the female punching-die and the forming-die combined. Fig. 3 is a vertical section of the punch, and Fig. 4 is vertical section through the center of the forming-die, showing the operation of setting an eyelet. Figs. 2, 3, and 4 are drawn twice their natural size.

A is the upper die, having a cutting-edge, *a*, and the curved forming-surface *b*. B is the punch, the upper portion of which is made just large enough to fit the inner diameter of the eyelet C, and provided with a shoulder, *c*, on which the flange end of the eyelet rests. The upper portion of the punch B is made long enough to extend through the eyelet a distance at least equal to the thickness of the leather to be punched, and has its outer corner rounded so as to allow it to freely enter the eyelet. This punch may be used by hand or set in the plunger of an automatic eyeleting-machine.

The eyelet C is of the usual form, except that it has the metal around its small or unflanged end slightly curved outward, as shown at *d*, Fig. 1, to admit of the cutting-edge *a* of the female die entering between the eyelet and the punch and allow the curved surface *b* to turn the eyelet over onto the leather as the whole is moved upward by the shoulder *c* in an obvious manner.

I do not claim a pair of dies for clinching eyelets formed with concave grooves upon their faces, concentric with their axes, for turning the edge of the eyelet, for I am aware that that has been done before; but

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

1. As a new article of manufacture, I claim an eyelet, made of metal, having its small or unflanged end slightly curved outward, substantially as described, for the purpose specified.

2. In a machine for setting eyelets, I claim the upper clinching-die A, having the cutting-edge *a*, in combination with the punch B, having the heading shoulder *c* formed thereon, when said punch is set rigidly in the movable plunger of the machine and the upper end thereof is made convex and to fit the hole in the die A, arranged below the material to be acted upon in such a manner that said punch will take the eyelet from the supply-tube, punch the leather, insert

the eyelet therein, and clinch the same during one upward movement thereof, substantially as described.

Executed at Boston, Massachusetts, this 20th day of September, 1871.

ARTEMAS B. EDMANDS.

Witnesses:

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N. C. LOMBARD.