(No Model.)

A. C. ESTABROOK.

DEVICE FOR MAKING COVERED EYELETS.

No. 568,131. Patented Sept. 22, 1896.

Fig. 1.

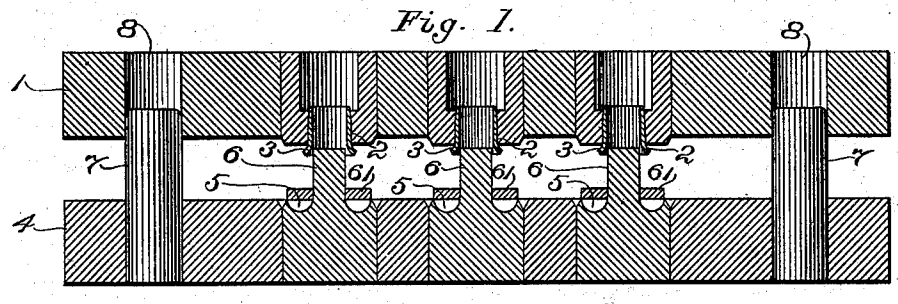


Fig. 2.

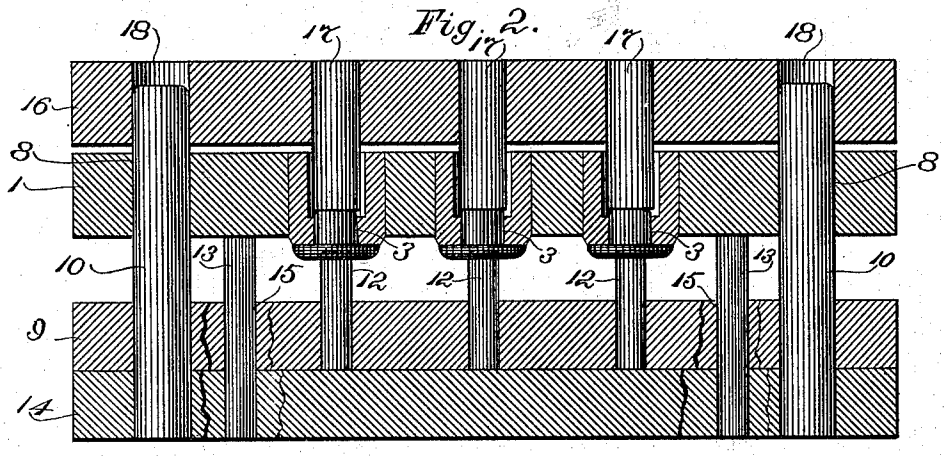


Fig. 3.

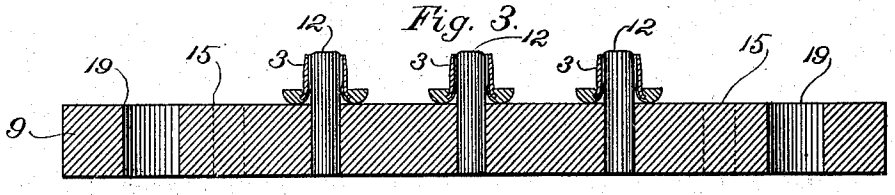


Fig. 4.

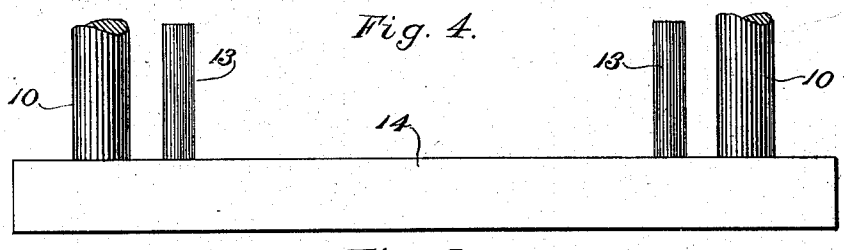
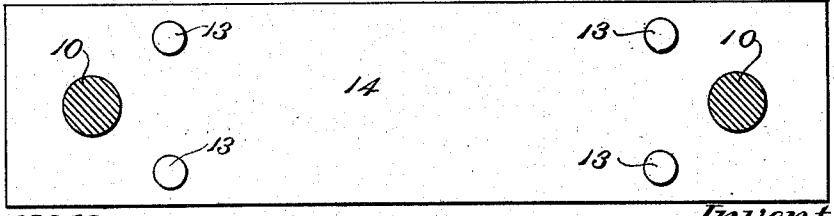


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALANSON C. ESTABROOK, OF NORTHAMPTON, MASSACHUSETTS.

DEVICE FOR MAKING COVERED EYELETS.

SPECIFICATION forming part of Letters Patent No. 568,131, dated September 22, 1896.

Application filed March 6, 1896. Serial No. 582,078. (No model.)

To all whom it may concern:

Be it known that I, ALANSON C. ESTABROOK, a citizen of the United States, residing at Northampton, in the county of Hampshire and State of Massachusetts, have invented certain new and useful Improvements in Devices for Making Covered Eyelets, &c., of which the following is a specification, reference being had therein to the accompanying drawings.

The invention will be described first with reference to the accompanying drawings, after which the distinguishing characteristics thereof will be pointed out particularly and defined distinctly in the claims at the close of this specification.

Figure 1 of the drawings shows in longitudinal section a pair of mold-plates or die-plates such as it has been proposed heretofore to employ in the manufacture of covered eyelets, the said figure showing also eyelets applied to one of the said mold-plates or die-plates and covering material applied to the other thereof in readiness to be molded upon the flanged ends of the said eyelets. Fig. 2 is a view in similar section showing the upper mold-plate or die-plate of Fig. 1, and also showing devices for discharging the eyelets therefrom and for receiving the eyelets as discharged and retaining them in position to be inspected subsequently for the purpose of picking out defective eyelets. Portions are broken out in this figure to show the spacing devices, which are described hereinafter. Fig. 3 is a sectional view of the eyelet-receiving plate with eyelets on the pins thereof. Fig. 4 is an edge view of the bottom plate in Fig. 2. Fig. 5 is a view thereof in plan, showing the arrangement of the pins which are applied thereto.

Heretofore in the manufacture of covered eyelets there has been employed for the purpose of molding heads or coverings of plastic material upon the flanged ends of the eyelets a pair of mold-plates or die-plates, such as those which are shown in Fig. 1, one of such plates, namely, that designated 1 in the said figure, being formed with a hole 2 for the reception of the body or barrel of the eyelet 3, while the other plate, namely, that designated 4, is formed with a circular recess 5, corresponding in conformation with the head or covering to be molded upon the flanged end of the eyelet, the said plate 4 being provided with a pin 6 at the center of the said recess to extend into the opening through the eyelet and effect the molding of the portion of the said head or covering which is applied to the inner surface of the barrel or body of the eyelet. Preliminary to the molding operation the plastic material is applied in the form of a washer 61 to the pin 6. The pair of plates 1 and 4 in practice is fitted to operate upon a considerable number of eyelets at a time. For convenience of illustration they are shown fitted to operate upon three eyelets at a time, but the manner of providing for a greater number will be obvious. The holes 2 2 in plate 1 may engage frictionally with the exteriors of the eyelets, so as to insure the retention of the latter therein on the separation of the pair of plates after the completion of the molding operation, or they may be equipped with some suitable form of retaining device, various forms of which are known. The steady-pins 7 7 on the plate 4 pass through holes 8 8 in plate 1 and cause the two plates to register properly with each other.

After the separation of the plates 1 and 4, with the eyelets remaining in the holes 2 2 of plate 1, it becomes necessary to eject or remove the eyelets from the said holes. Inspection of the eyelets to discover damaged and defective ones is necessary also after the molding. To facilitate these operations, I provide as follows: After the separation of the plates 1 and 4 I place the plate 1 immediately above the plate 9, Fig. 2, as shown in the latter figure, the plate 9 being equipped with a series of short pins 12 12, which are fitted to pass into the openings of the eyelets when the latter are forced from the holes 2 2 of plate 1. The said pins are arranged on plate 9 to register properly with the holes 2 2, and the projecting portions thereof are of approximately the same length as the finished eyelets, or may be shorter, if desired, being made only long enough to insure the eyelets remaining in place after having been caused to pass onto the same.

I employ suitable means to space the plates 1 and 9 apart, so as to hold the plate 1 at a sufficient distance from the plate 9 to permit of the eyelets being discharged from plate 1.

Pins 13 13, projecting the requisite distance upwardly from the plate 9, are shown in Fig. 2, they receiving the plate 1 upon their upper ends and supporting it. Since in practice a considerable number of plates corresponding with that which is designated 9 will be employed in a factory and will be used successively with eyelets which are ejected from the mold-plate 1, I prefer to attach a series of the pins 13 13 to a plate 14 and to form the plate 9 with a corresponding series of holes 15 15, through which the said pins may pass. This enables me to reduce expense by saving the cost of applying a separate set of the pins 13 13 to every plate 9. It secures also greater convenience in the handling of the plate 9 after the eyelets have been transferred from the holes 2 2 of plate 1 to the pins 12 12 of the said plate 9. To provide for the said transfer, I use a plate 16, having pins or projections 17 17. The said pins or projections are intended to pass into the countersunk portions of the holes 2 2 from above in Fig. 2 and to act against the inner ends of the eyelets, as indicated in said figure, so that when the plate 16 is pressed downwardly in Fig. 2 the eyelets will be discharged from the holes 2 2 and onto the pins 12 12. Holes 18 18 in the plate 16 receive the steady-pins 10 10 of plate 14, which pins also pass through holes 19 19 in plate 9 and the holes 8 8 in plate 1. The pins 12 12 are so short that they neither obstruct the view of the eyelets, which are mounted thereon, nor cast shadows upon the said eyelets. While the eyelets remain upon the pins 12 12 all the portions thereof which are not in contact with the upper surface of plate 9 are exposed to view, so that inspection of such portions may be performed perfectly.

I have described my invention solely as applied in the manufacture of covered eyelets, but it will be apparent that use thereof may be made in the manufacture of other articles as well.

I claim as my invention—

1. The combination with a mold-plate which has applied thereto a series of eyelets or other articles and assists in molding heads or coverings of plastic material upon the same, and means to discharge the said series from the said mold-plate after the molding operation, of a plate constructed to receive the said series as it is discharged from the mold-plate and to hold the same in shape for inspection, substantially as described.

2. The combination with a mold-plate which has applied thereto a series of eyelets or other articles and assists in molding heads or coverings of plastic material upon the same, and means to discharge the said series from the said mold-plate after the molding operation, of a plate constructed to receive the said series as it is discharged from the mold-plate and to hold the same in shape for inspection, and spacing means to separate the receiving-plate from the mold-plate a sufficient distance to permit the discharge of the eyelets or other articles to be effected, substantially as described.

3. The combination with a mold-plate which has applied thereto a series of eyelets or other articles and assists in molding heads or coverings of plastic material upon the same, and a discharge-plate having pins to discharge the said series from the said mold-plate after the molding operation, of a receiving-plate having pins to receive the said series as it is discharged from the mold-plate and to hold the same in shape for inspection, of a plate having pins which pass through holes in said receiving-plate and limit the approach of the mold-plate thereto, to provide space for the discharge of the said series from the mold-plate, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ALANSON C. ESTABROOK.

Witnesses:

FRANK N. LOCK,

GEORGE H. RAY.