

(No Model.)

F. EGGE.

METHOD OF COVERING LACING STUDS OR SIMILAR ARTICLES.

No. 557,526.

Patented Mar. 31, 1896.

Fig. 1.

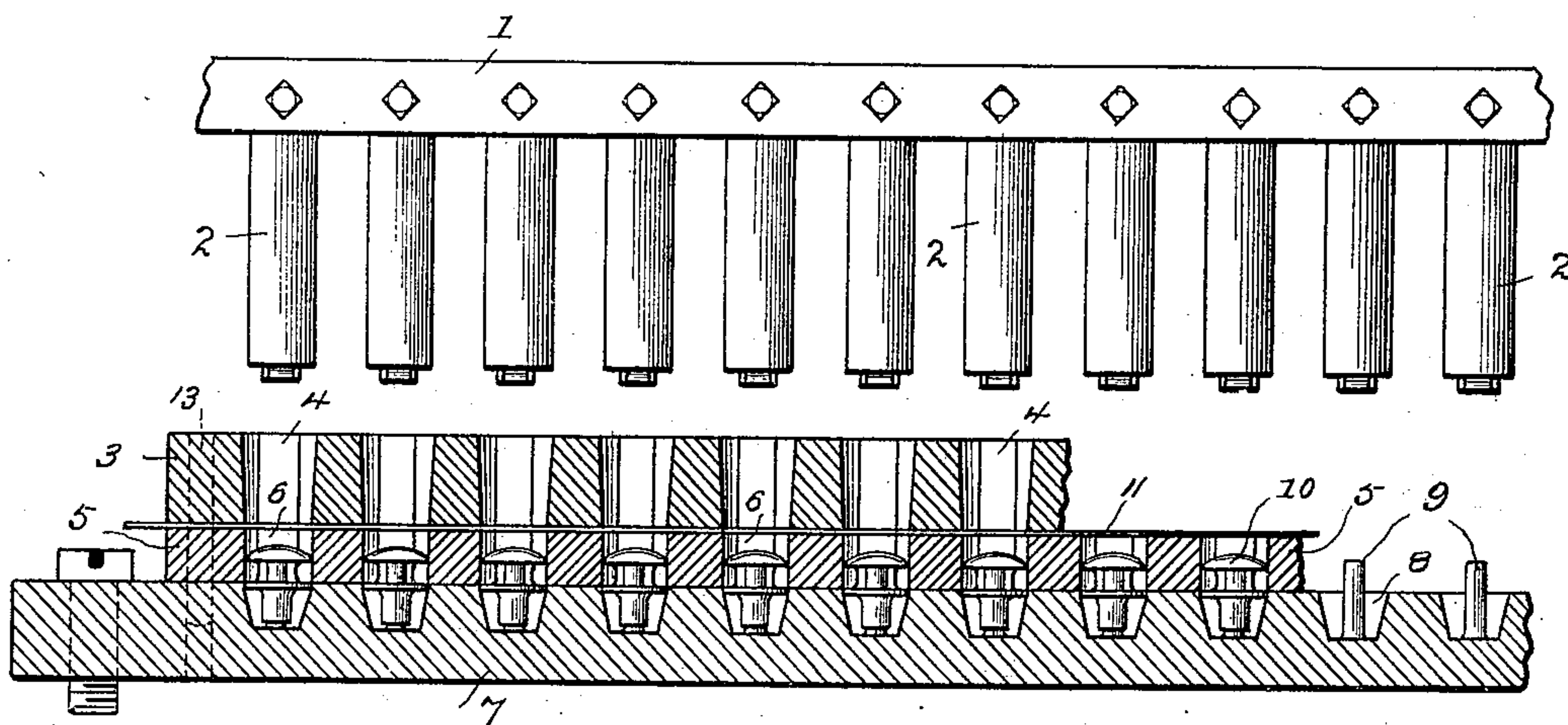


Fig. 2.

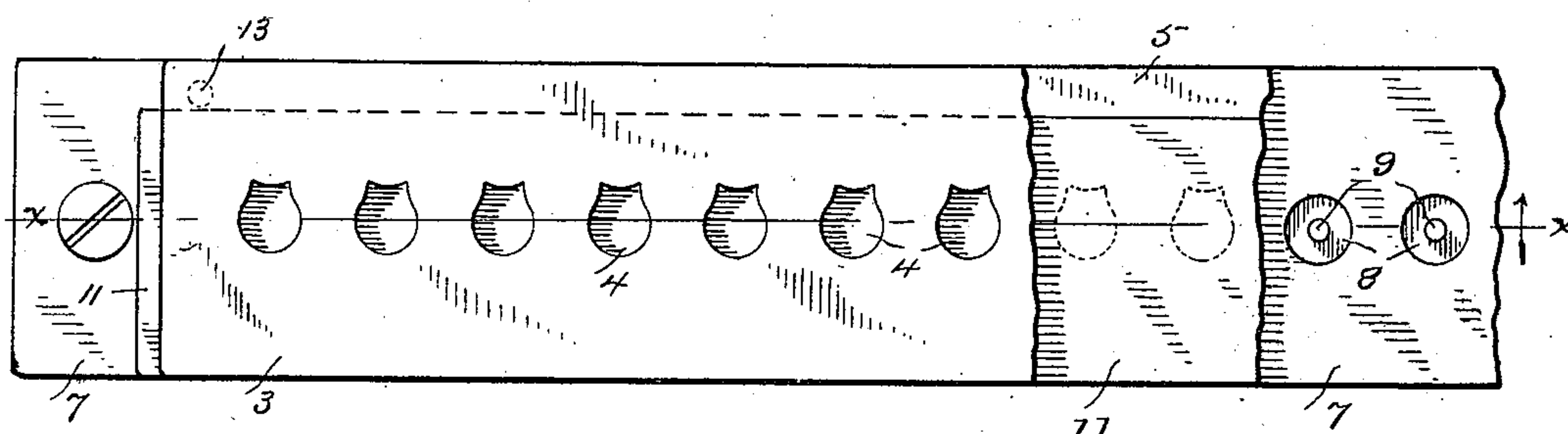


Fig. 3.

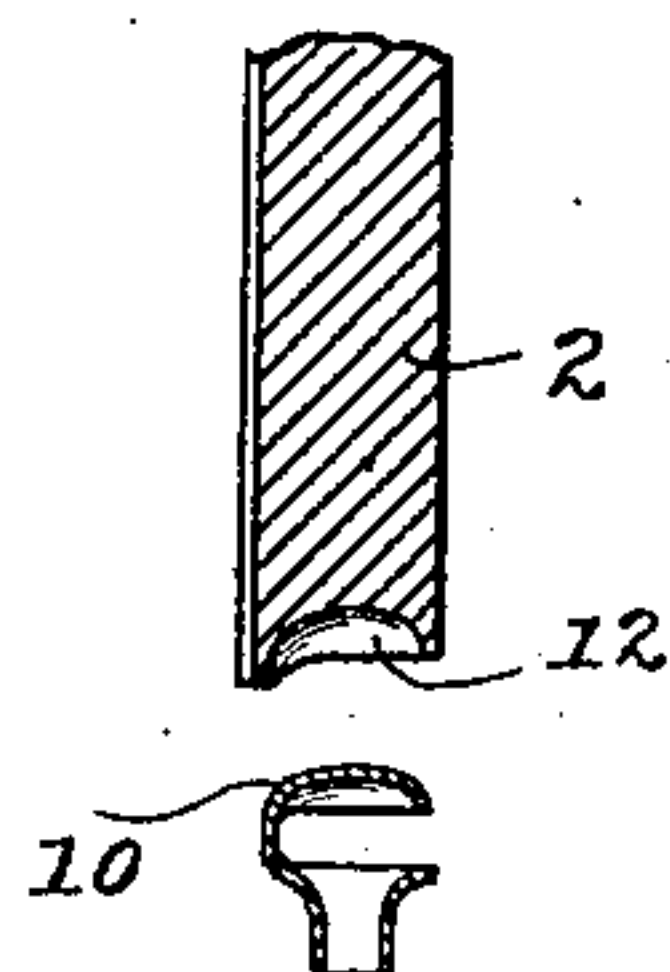
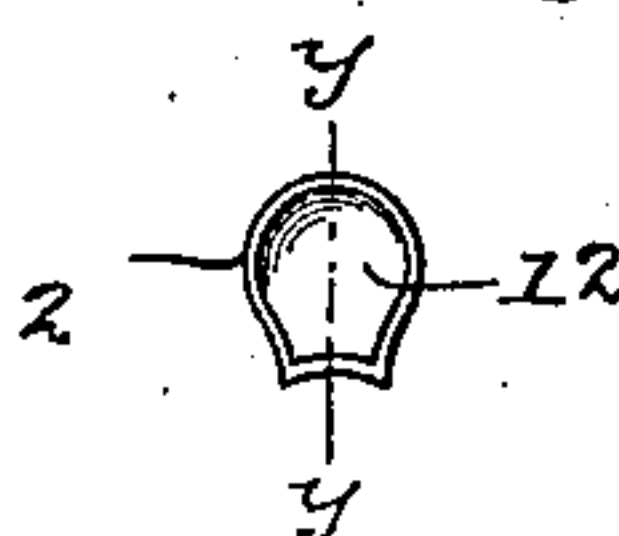


Fig. 4.



WITNESSES

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METHOD OF COVERING LACING-STUDS OR SIMILAR ARTICLES.

SPECIFICATION forming part of Letters Patent No. 557,526, dated March 31, 1896.

Application filed April 4, 1895. Serial No. 544,414. (No specimens.)

To all whom it may concern:

Be it known that I, FREDERICK EGGE, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Methods of Covering Lacing-Studs or Similar Articles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the manufacture of lacing-studs and similar articles, and has for its object to produce a novel method of covering the heads with celluloid or other plastic material.

With this end in view I have devised the novel method and mechanism for carrying the same into effect which I will now describe, referring by numbers to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view, partly in elevation and partly in section, on the line xx in Fig. 2, illustrating mechanism for carrying my novel method into effect; Fig. 2, a plan view, the guide-plate being broken away to show a sheet of material lying above the die and the sheet and die being broken away to show the lower plate; Fig. 3, a section of the punch and an ordinary lacing-stud on the line yy in Fig. 4, and Fig. 4 is an inverted plan view of the punch.

The mechanism I employ consists of a plate 1 carrying a series of punches 2, a guide-plate 3 having openings 4, through which the punches pass, a die-plate 5, which is provided with openings 6, which receive the heads to be covered and the upper edges of which serve as the dies to cut blanks of material from the sheet to form the covers, and a lower plate 7 having recesses 8 to receive the bases of the studs or other articles to be covered and having pins 9 extending upward from the bottoms of the recesses over which the studs or other articles to be covered are passed and the upper ends of which support the heads.

10 denotes the article to be covered, in the present instance a lacing-stud, as already stated, which is simply the ordinary lacing-stud blanked out from sheet metal and drawn and formed to shape.

11 denotes a sheet of celluloid or other plastic material from which the covers are blanked out.

The punches cut the covers to the exact size required to cover the tops and edges of the heads.

In use the articles to be covered are placed upon the pins, recesses 8 in the lower plate being so shaped as to receive them in the exact position in which they are required to be placed to be operated upon, the heads of the articles extending above the plate and lying, when the parts are in operative position, in opening 6 in the die-plate. The punches and dies are of course made to cut the covers to the exact size required, and the bases of the punches are provided with countersunk recesses 12, which just correspond to the shape of the heads to be covered. The sheet of covering material is placed between the die-plate and the guide-plate, and the punches and the die-plate and the guide-plate with the sheet of covering material between them are heated to a temperature that will soften the sheet of covering material sufficiently to make it plastic. Just before placing the die-plate, guide-plate and punches in operative position I place a small quantity of adhesive solution upon each head. The heads are slightly roughened before they are placed in position to be operated upon. The special adhesive solution used is not of the essence of my invention, although I ordinarily use a solution of celluloid in collodion.

In practice the adhesive solution may be placed upon the heads by mechanical means or by hand, the special means used not being of the essence of my invention. The die-plate, guide-plate and the punches are then placed in operative position upon the lower plate, the three plates being held so that the openings in the guide-plate and die-plate will register with the recesses in the lower plate by pins 13, (see dotted lines,) which are secured either to the guide-plate or the lower plate and pass through holes in the die-plate. For convenience in illustration I have simply shown a single line of punches. In practice I use a large number of punches carried by a single plate and make the openings in the guide-plate and die-plate and the recesses in the lower plate to correspond with the

punches. In this manner a gross, more or less, of studs or other articles may be covered at a single operation.

When the parts are in position, a single
5 blow from the gang of punches cuts out the covers, carries the covers down into the die-plate and sets them firmly on the heads of the studs or other articles. As already stated, the bases of the punches are countersunk or
10 recessed out so as to correspond with the shape of the heads to be covered. The punches are allowed to remain in the lowered position for a short time until the covers have become sufficiently plastic under the action of the
15 heat to be combined with the adhesive and firmly set on the heads. The gang of punches is then raised, the guide-plate and the die-plate removed, and a new lower plate with studs thereon is placed in position. The
20 sheet of covering material is then moved between the die-plate and the guide-plate to such a position as to cause a solid surface to register with openings 4 and 6, and the die-plate and guide-plate with the sheet of material between them and the punches are
25 again heated as before.

As above stated, the punches are heated and also the die-plate and guide-plate with the sheet of covering material between them.
30 Without this heating of the material the lat-

ter could not be practically applied to the heads, as it is too resilient to be held by the adhesive on the rounded surfaces of said heads.

By subjecting the covers to the action of 35 heat they are made sufficiently plastic to be readily changed from the flat shape to the shape caused by the heads and punches, and yet, owing to the use of the adhesive, the covers do not require to be made so plastic 40 as to retain this shape independently of the adhesive. Furthermore, the heating of the covers and the adhesive causes them to combine and become firmly set on the heads.

Having thus described my invention, I 45 claim—

The improvement in the art of providing metallic heads with covers of non-metallic material which consists in interposing ad-
hesive material between the heads and the 50 covers, and subjecting the adhesive and the covers to the action of heat while under pressure on the heads.

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

FREDERICK EGGE.

Witnesses:

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