

(No Model.)

P. A. RAYMOND.

PROCESS OF AND DEVICE FOR ATTACHING LACING STUDS.

No. 519,848.

Patented May 15, 1894.

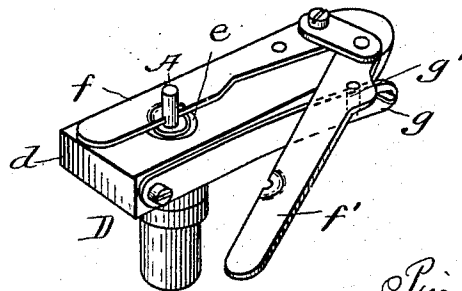
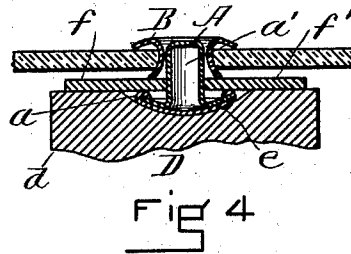
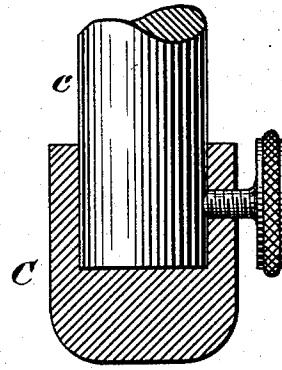
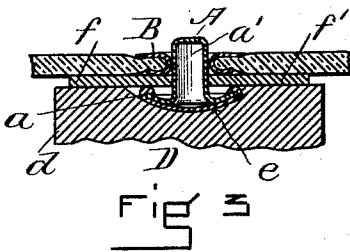
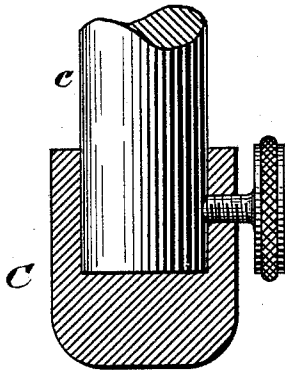
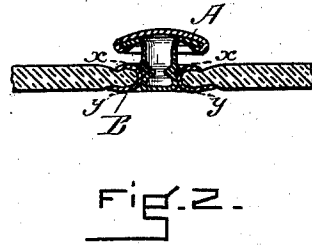
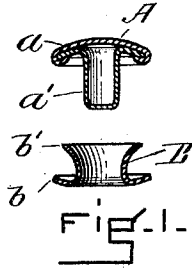


FIG. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

PIERRE ALBERT RAYMOND, OF GRENOBLE, FRANCE, ASSIGNOR TO THE
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PROCESS OF AND DEVICE FOR ATTACHING LACING-STUDS.

SPECIFICATION forming part of Letters Patent No. 519,848, dated May 15, 1894.

Application filed December 28, 1893. Serial No. 494,990. (No model.)

To all whom it may concern:

Be it known that I, PIERRE ALBERT RAYMOND, a citizen of the Republic of France, residing at Grenoble, Isère, France, have invented Improved Processes of Attaching Lacing-Studs and an Improvement in Lacing-Stud-Attaching Devices, of which the following is a full specification.

My invention relates to the setting of that class of lacing stud fasteners used on gloves, shoes, and other articles, in which an ordinary lacing cord is used in connection with studs or hooks attached to the edges of the gloves or other articles to engage the said lacing, and consists of a device and processes whereby the hooks are quickly and strongly attached to the glove, or other article, the special features of which are hereinafter described in detail.

Referring to the accompanying drawings, wherein like letters represent like parts, Figure 1 is a sectional view of the parts before setting of the lacing stud fastener, such as used with my device and process. Fig. 2 is a sectional view of the same after being set in the material of the glove, or other article. Figs. 3 and 4 are sectional views of my improved lacing-stud attaching device, showing the lacing stud placed in the material and in the dies preparatory to setting; Fig. 3, showing the eyelet previously set in the material. Fig. 5 is a perspective view of the lower part of my improved device, comprising the anvils and gage plates.

The lacing stud fasteners which I use with this device and process I have fully described in another application.

In Fig. 2, which shows my lacing stud fastener attached to the material, it will be seen that the eyelet B is firmly clinched to the material; the lower end of the attaching eyelet *a'* is upset in the eyelet B, being expanded or compressed within said eyelet B, and consequently adhering strongly thereto and resisting any attempt to push it through or pull it out of said eyelet B; the upper end of the eyelet *a'* forms a neck or shank and holds the head of my lacing stud fastener at any desired distance above the material. All of these results are accomplished in one operation of

setting, by means of the device and process herein described, shown in Figs. 3, 4, and 5.

With my device I use a machine or press provided with the movable plunger *c* carrying on its lower end the die C, which is simply flat on its lower side. The device lettered D in the drawings, which rests in the machine directly beneath the plunger consists of a solid lower die *d*, having in its upper side a concavity *e*, in which the head of my lacing stud fastener is placed, the shank or eyelet *a'* projecting upward; and resting on top of the die *d*, and covering the concavity *e* is the gage and split anvil plate *f f'*. One half of this gage and anvil plate is firmly riveted to the die *d*, while the other half *f'* is pivoted thereto and capable of being swung around in a horizontal plane in order to insert or remove a stud head A. The plate *f f'* not only acts as an anvil plate, but also as a gage to determine the height of the head of the stud above the material as will be hereinafter fully explained. The movable half *f'* of the gage and anvil plate is pressed firmly against the other half by the spring *g*, which bears against the pin *g'* projecting downward from the lower side of the piece *f'*, near its pivot end, and the two pieces *f f'* are perforated at the union to allow the shank *a'* to project through, while they closely embrace it. The device D thus embodies two anvils and acts as a holder of the rivet, both to adjust it in its correct position, and to hold it in place while the act of setting takes place. In setting a lacing stud fastener a head A is placed in the lower die, the shank *a'* projecting up through the split gage and anvil plate *f f'*, as shown in the drawings. The eyelet B is then placed loosely in the material on which the lacing stud fastener is to be set, and pushed over the end of the upwardly projecting shank *a'*, the flared end of its shank *b'* resting on the split gage and anvil plate *f f'*. The upper die is then pressed down upon the end of the shank *a'* and the eyelet B. The split gage and anvil plate *f f'* clinches the eyelet B firmly to the material, while at the same time the end of the shank *a'* is upset by the die C spreading as hereinbefore stated, within the eyelet B. The eyelet B may, if desired, be previously

set in the material, as shown in Fig. 3, in which case the pieces ff' serve only as a gage and to hold the shank a' firmly while it is being riveted. The manner in which the shank is grasped by the split anvil plate prevents the upper part from being upset or thickened, and confines the upsetting to the end or that portion between the lines xx and yy , the upper part remaining straight and of the same diameter as before.

In the operation of setting the pressure is continued until the eyelet B and the material are pressed down firmly on the split gage and anvil plate ff' , and it will be seen that the split plate ff' thus interposed between the material and the head serves not only as an anvil to clinch the eyelet B but also acts as a gage and prevents the head from being set down close to the material.

It is evident that the distance between the head and the material, *i. e.*, the length of the neck should vary according to the size of the studs, and the lace employed, and this is very easily accomplished in my device by varying the thickness of the interposed gage plate. It will be observed that the above described operations are simultaneously performed by

one pressure of the dies, and for this reason the end of the shank is compressed tightly within the eyelet B.

I claim—

1. A lacing stud attaching device consisting of the two parts C and D; the part D consisting of the anvil d and the anvil and gage ff' comprising two arms, one of which is rigidly secured to the anvil plate, and the other of which is pivoted thereto, substantially as described.

2. The herein described process of attaching lacing stud fasteners, consisting of combining a stud A with an encircling eyelet, and interposing a gage between the head of the stud and the material, and compressing the rivet between two unyielding surfaces, whereby the head is set at any desired distance from the material, and the rivet is compressed within the walls of the eyelet, substantially as described.

In witness whereof I have hereunto set my hand.

PIERRE ALBERT RAYMOND.

Witnesses:

C. KUGCH,

J. MOURDTH.