

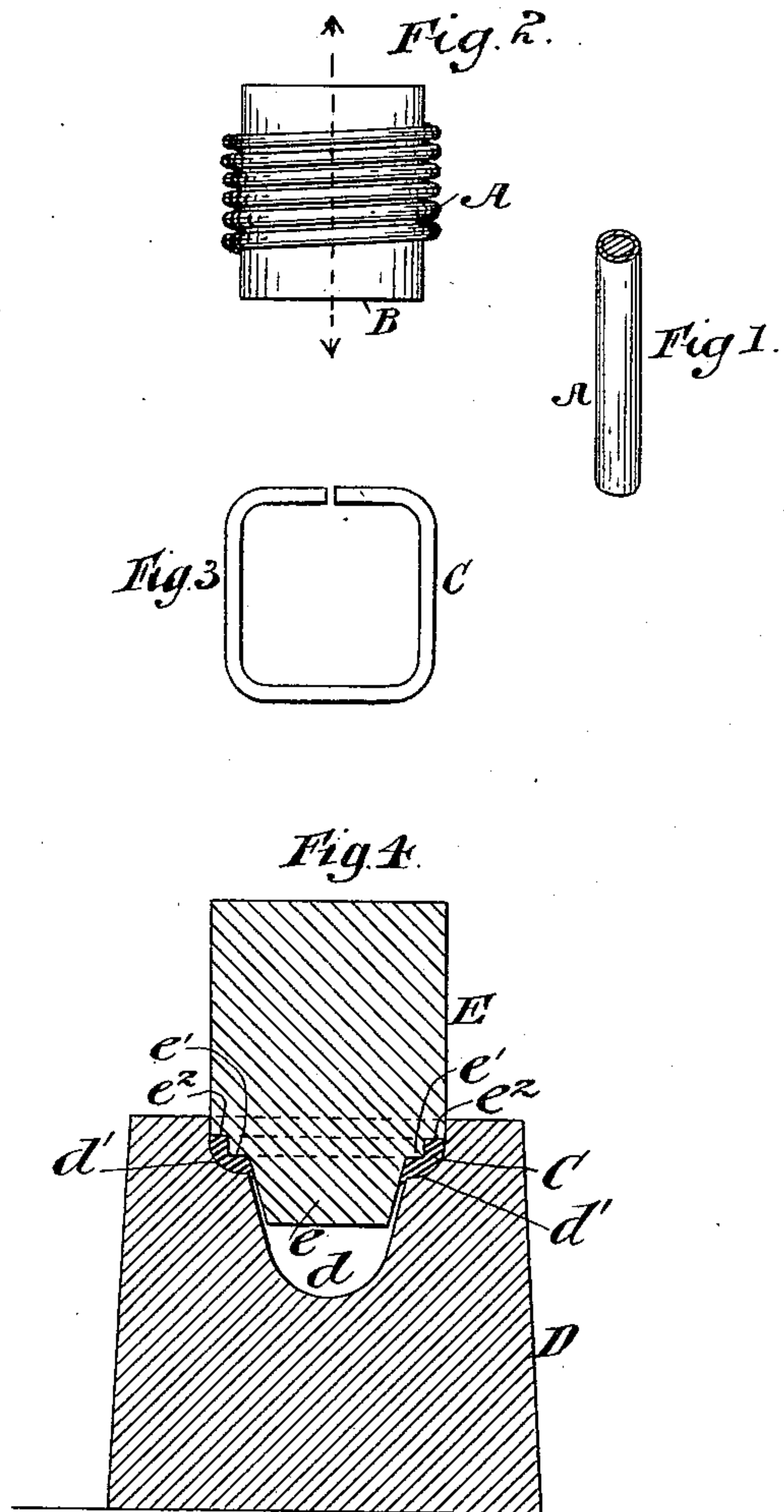
(No Model.)

L. B. BYRNE.

## METHOD OF MAKING PARTS OF BUTTONS.

No. 373,515.

Patented Nov. 22, 1887.



Witnesses  
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# UNITED STATES PATENT OFFICE.

LUKE B. BYRNE, OF PROVIDENCE, RHODE ISLAND.

## METHOD OF MAKING PARTS OF BUTTONS.

SPECIFICATION forming part of Letters Patent No. 373,515, dated November 22, 1887.

Application filed May 26, 1887. Serial No. 239,380. (No model.)

*To all whom it may concern:*

Be it known that I, LUKE B. BYRNE, of Providence, in the county of Providence and State of Rhode Island, have invented a certain  
5 new and useful Improvement in the Method of Making Parts of Buttons or Studs and other Articles of Jewelry, of which the following is a specification.

The object of my improvement is to produce  
10 a frame for the head or front of a button or stud, or for an analogous part of another article of jewelry, which shall be covered with a plate of gold or analogous metal not only at the outer or exposed surface, but also around  
15 the rear edge.

The improvement consists in producing a wire covered with gold, in winding or coiling the wire around a mandrel, in cutting the wire  
20 lengthwise of the mandrel and transversely of the several coils, in taking the rings so formed and joining their ends, in placing the rings so formed in a die, and in striking up the rings by means of a former or punch while in the die to impart to them the desired ornamental con-  
25 figuration.

In the accompanying drawings, Figure 1 represents a piece of plated wire. The end of the wire exhibits the plating of precious metal, although somewhat exaggerated in thickness.  
30 Fig. 2 is a side view of a mandrel having such a wire coiled upon it. The dotted line, having arrow-heads at the ends, indicates the line upon which the coils of wire are cut to form rings. Fig. 3 is a view of one of the rings. Fig. 4 is  
35 a vertical section of a die and punch, whereby rings, after having their ends soldered together, are struck up into ornamental shape.

Similar letters of reference designate corresponding parts in all the figures.

40 A designates a wire having a plating surrounding it. It may be made by any approved process.

B designates a mandrel, around which the wire A is coiled.

45 C designates a ring, produced by cutting the coils of wire in the direction of the length of the mandrel and soldering the ends of the severed pieces together.

D designates a die into which a ring of the

kind described is laid. It will be seen that  
50 this die consists of a block of metal with a cavity, *d*, in the upper end, and a shouldered recess, *d'*, adjacent to such cavity. This recess forms the matrix of the die. The rings to be treated in the die are laid one at a time in the  
55 matrix *d'*.

E designates a former or punch. It has a projection, *e*, which is adapted to enter the cavity *d* of the die D. It is provided around  
60 this projection with a fillet, *e'*, and above this fillet is provided with a shoulder, *e''*.

The matrix-recess *d* of the die is shown as concave or rounded in a vertical direction. The fillet *e'* of the punch is, however, angular. The  
65 fillet is, therefore, adapted to force the ring to be formed into the matrix-recess of the die, so as to cause it to derive from the latter a shape corresponding to its shape. The shoulder *e''*  
70 serves to flatten out a portion of the ring. The portion of the punch above the shoulder being of approximately the same size as the die, the shape of the finished ring may be understood from an inspection of Fig. 4, which shows it between the die and punch.

By means of this process I am enabled to  
75 produce from a plated wire a frame which shall be covered with plate not only at the front, but also at the rear of its outer edge portion. Should there be any surplus material forced  
80 into the cavity *d* of the die D, it may be trimmed off. A stone or other ornamental part may be inserted into a frame thus made.

What I claim as my invention, and desire to secure by Letters Patent, is—

The process of making a frame for a button,  
85 stud, or other article of jewelry, consisting in producing a plated wire, in coiling such wire upon a mandrel, in cutting the wire transversely so as to sever it into a number of pieces, in uniting the ends of these pieces to form  
90 rings, and in swaging these rings by means of a die and former or punch, substantially as specified.

LUKE B. BYRNE.

Witnesses:

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