

A. C. GAYNOR,
METHOD OF MAKING BULLETS AND SIMILAR ARTICLES.
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1,234,653.

Patented July 24, 1917.

Fig. 1

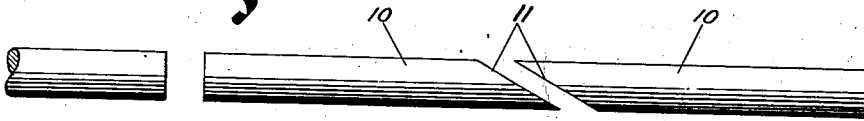


Fig. 2

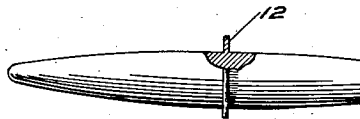


Fig. 3

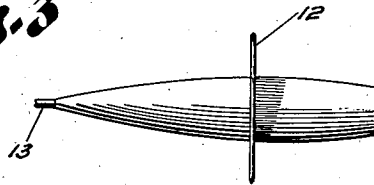
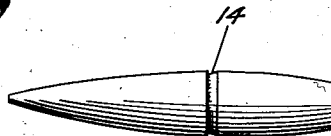


Fig. 4



Fig. 5



WITNESS

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METHOD OF MAKING BULLETS AND SIMILAR ARTICLES.

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To all whom it may concern:

Be it known that I, ARTHUR C. GAYNOR, a citizen of the United States, residing at Bridgeport, county of Fairfield, State of Connecticut, have invented an Improvement in Methods of Making Bullets and Similar Articles, of which the following is a specification.

This invention has for its object an improved method of making bullets and similar articles from wire, which will enable me to produce articles of this character that will be practically uniform in length, diameter, weight, density, and concentricity of ends, (by this I mean that bullets and similar articles produced by my novel method will easily fall within the specified tolerances) which will enable me to produce the articles by means of a reduced number of simple mechanical operations, not requiring skilled labor, and will effect a great saving in the cost of production, owing to the rapidity with which they may be produced, the great reduction in the amount of scrap and the practical elimination of loss from rejected articles, that is, articles not falling within the specified tolerances.

With this and other objects in view, I have devised the simple and novel method of making bullets and similar articles which I will now describe, referring to the accompanying drawing forming a part of this specification, and using reference characters to indicate the several parts.

Figure 1 is an elevation showing the manner in which two blanks are cut simultaneously from a length of wire, and

Figs. 2, 3, 4 and 5 are elevations illustrating successive steps in the method of making an article.

It will of course be understood that my novel method is not limited to the production of any special shape or type of bullet or similar article, but is equally adapted to the production of any of the various types of bullets in general use.

In carrying out my novel method, two blanks 10 are cut simultaneously from a length of wire. That is to say, a piece is severed from the length of wire, by a transverse cut, of sufficient length to form two blanks, and simultaneously with the cutting off of this piece of wire, it is severed at its mid-length by an oblique cut 11, thus form-

ing the two blanks, the angle of the oblique cut being relatively sharp, for example 27° more or less.

The first operation upon the blank is a swaging operation performed by means of dies acting upon the blank endwise. The effect of this operation, which is illustrated in Fig. 2, is to change the shape of the blank to something approaching the shape of the completed bullet. The length is reduced, the diameter is increased at the portion corresponding with the greatest diameter of the completed bullet, a circular web 12 is produced at the intersection of the dies, and the heel and point of the bullet are formed to approximately their final configuration.

The second operation is likewise a swaging operation performed by means of dies acting upon the blank endwise. The effect of this operation, which is illustrated in Fig. 3, is to complete the shaping of the bullet. The product of the first operation is somewhat compressed lengthwise, its diameter somewhat increased, the web is reduced in thickness and forced outward radially, and a teat 13 is left at the point of the bullet.

The next operation consists simply in removing the teat and the web, which may be removed separately or simultaneously, as preferred. The result of this operation is illustrated in Fig. 4.

If the article produced is a bullet, it is usually required to be provided with a circumferential groove 14, which is performed by a final operation or may, if preferred, be performed simultaneously with the removal of the web. A completed grooved bullet is illustrated in Fig. 5. This bullet meets all the requirements, as it is relatively inexpensive, falls easily within the specified tolerances, and has been proved by numerous tests to shoot true.

Having thus described my invention, I claim:

1. The method of making bullets and similar articles, which consists in dividing a length of wire into blanks each cut substantially perpendicularly to its axis at one end and obliquely at the other end thereof, subjecting each blank to a preliminary endwise swaging operation to approximately form the article, then subjecting the partly formed article to a final endwise swaging

operation, and then finishing the article by removal of the surplus protruded metal remaining after the swaging operations.

2. The method of making bullets and similar articles, which consists in cutting from
5 a length of wire pieces of sufficient length to form two articles, severing each piece at its mid-length by an oblique cut, at a relatively sharp angle, to form two identical

blanks, subjecting each blank to a preliminary endwise swaging operation to approximately form the article, then subjecting the partly formed article to a final endwise swaging operation, leaving a circular web and a teat at the point, and then removing
15 the web and the teat.

In testimony whereof I affix my signature.
ARTHUR C. GAYNOR.