(No Model.)

H. T. RUSSELL.

METHOD OF MAKING SCISSORS.

No. 329,855. Patented Nov. 3, 1885.

Fig. 1.

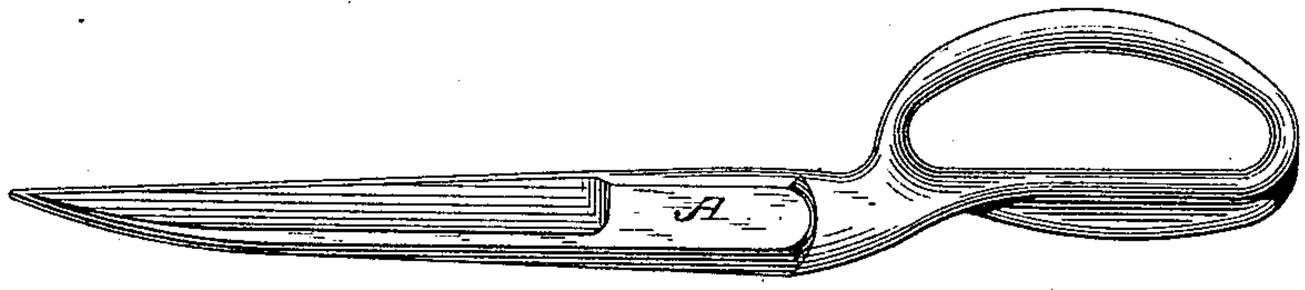


Fig. 2.

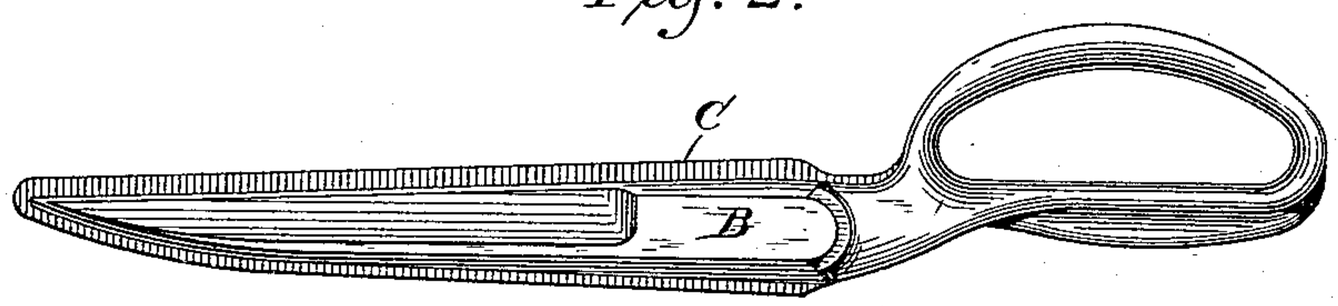
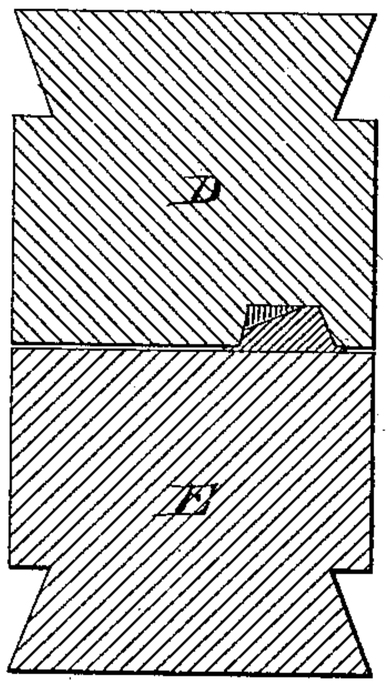


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

HENRY T. RUSSELL, OF CHICAGO, ILLINOIS.

METHOD OF MAKING SCISSORS.

SPECIFICATION forming part of Letters Patent No. 329,855, dated November 3, 1885.

Application filed April 6, 1885. Serial No. 161,372. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. RUSSELL, a citizen of the United States, residing at Chicago, Illinois, have invented new and useful Improvements in Methods of Making Scissors, of which the following is a specification.

My invention relates to certain new and useful improvements in the method of making scissor-blades. The most common method of making these articles may be briefly stated as follows: Malleable-iron blanks in the general form which blades are to finally assume are cast, then finished by shearing or grinding, and finally they have a cutting-edge of steel welded to them in the proper position. This method is very defective, principally for the reason that in making the blades in accordance with it a very large percentage of blanks are utterly worthless, and are thrown aside and sold for scrap-iron, because of their being made too porous in casting, or in some other way incapacitated for use.

The object of my invention is to form these blades in such a manner that loss will be wholly avoided, the method of making the article simplified and cheapened, and a better article produced than can be done by the method now in use.

With these objects in view my improved method consists in forming a blank of cast-steel, compressing the same between dies, by which a projecting lip or flange is formed beyond that portion to be used in the perfected blade, and, finally, in trimming off this projecting lip or flange to produce a keen cutting-edge or smooth edge, according to the portion of the blade upon which the lip is carried.

In order that those skilled in the art to which my invention relates may know how to apply my improved method, I will now proceed to describe the same in connection with the accompanying drawings, in which—

Figure 1 represents the cast-steel blank. Fig. 2 represents the blank after having been compressed between the dies, and Fig. 3 represents a vertical section of a pair of forming-dies, showing a blank in the act of being compressed.

In carrying my method into practice I first form a blank, as shown in Fig. 1 of the drawings, by casting, the material employed being cast-steel. This blank is made somewhat thicker than it is intended the completed blade to be, so that allowance is made for the reduction in size caused by subsequent steps in the process. This blank is heated and subjected to pressure between two dies, which are preferably made as represented in the drawings—that is, one, and preferably the lower, die is provided with an intaglio of the form which it is designed should be assumed by the outside of the blade, and the upper die is plain, in order to form the inside smooth face. The effect of the compression between the dies is to condense and refine the metal of which the blade is made, and also to force out the surplus metal, which is not taken up by the condensing or refining, toward the cutting-edge or back of the blade in the form of a flange or lip, C. In finishing the blank it is only necessary to remove this flange by any of the well-known methods of grinding or shearing. This leaves the blade with a perfect cutting-edge, even before the finishing process of polishing, &c.

It has been found by practical tests that, although the material employed is much more expensive than that which has generally been used for the purpose of making the larger portion of scissor-blades, the total cost of the finished article in quantity has been very much less than that of an equal quantity of scissors made after the old method and from the material generally employed. This advantage is attained by the utter absence of loss from imperfect blanks and the omission of the expensive processes of welding on the cutting-edge, grinding, &c.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The method of forming scissor-blades, which consists in first casting cast-steel into the general form which the article is to finally assume; secondly, in compressing this blank between dies, whereby the metal is compressed and refined; and, finally, in finishing by shearing or grinding the surplus metal at the edges.

2. The method of forming scissor-blades from cast-steel, which consists, first, in casting a blank containing an excess of metal over

what is required to form the completed blank; second, in compressing the blank between dies for the purpose of condensing and refining the metal and forcing out the surplus material into the form of a projecting flange; and, finally, removing the said flange by grinding or shearing, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HENRY T. RUSSELL.

Witnesses:
A. B. JUNE,
H. C. JUNE.