

(No Model.)

D. WHEELER.
METHOD OF FINISHING METALLIC SURFACES.

No. 437,468.

Patented Sept. 30, 1890.

Fig. 1.

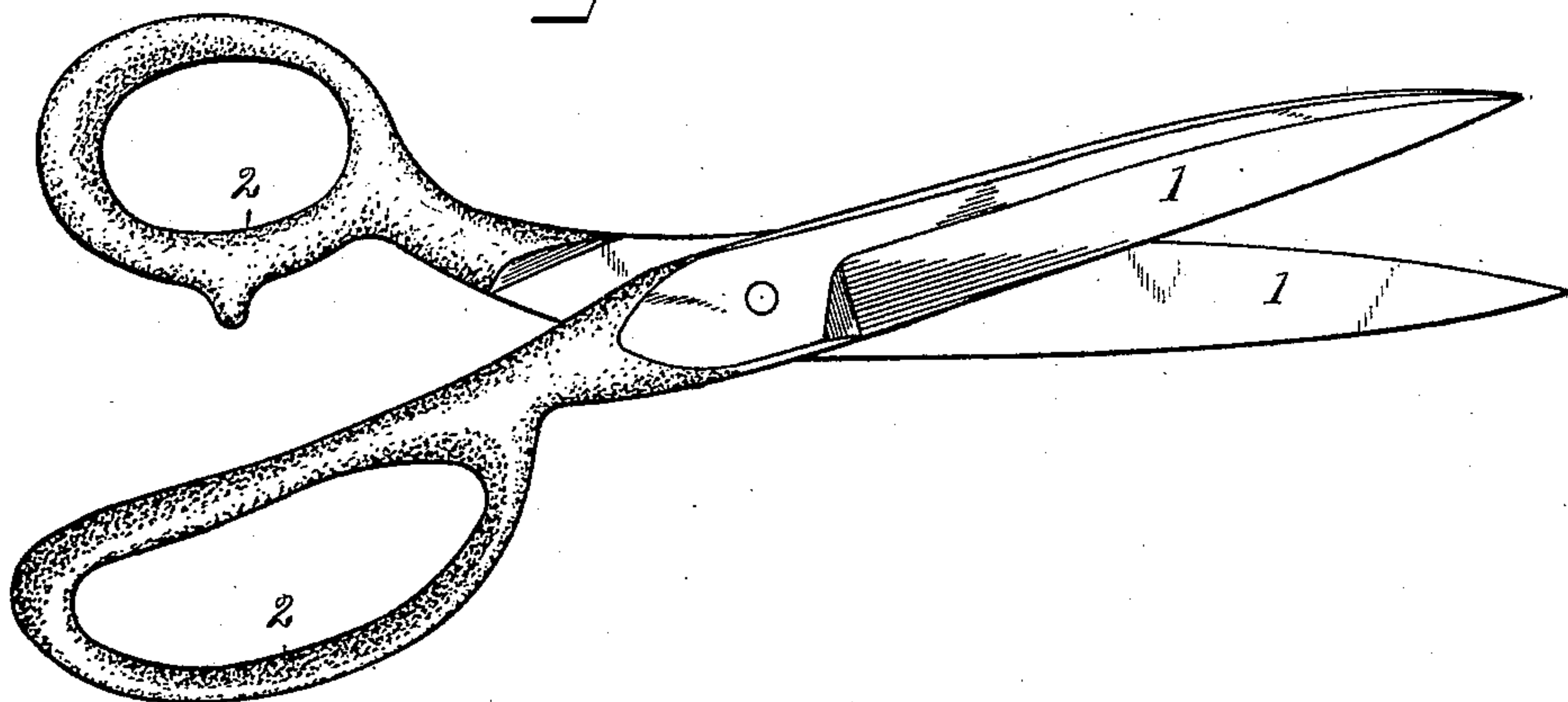
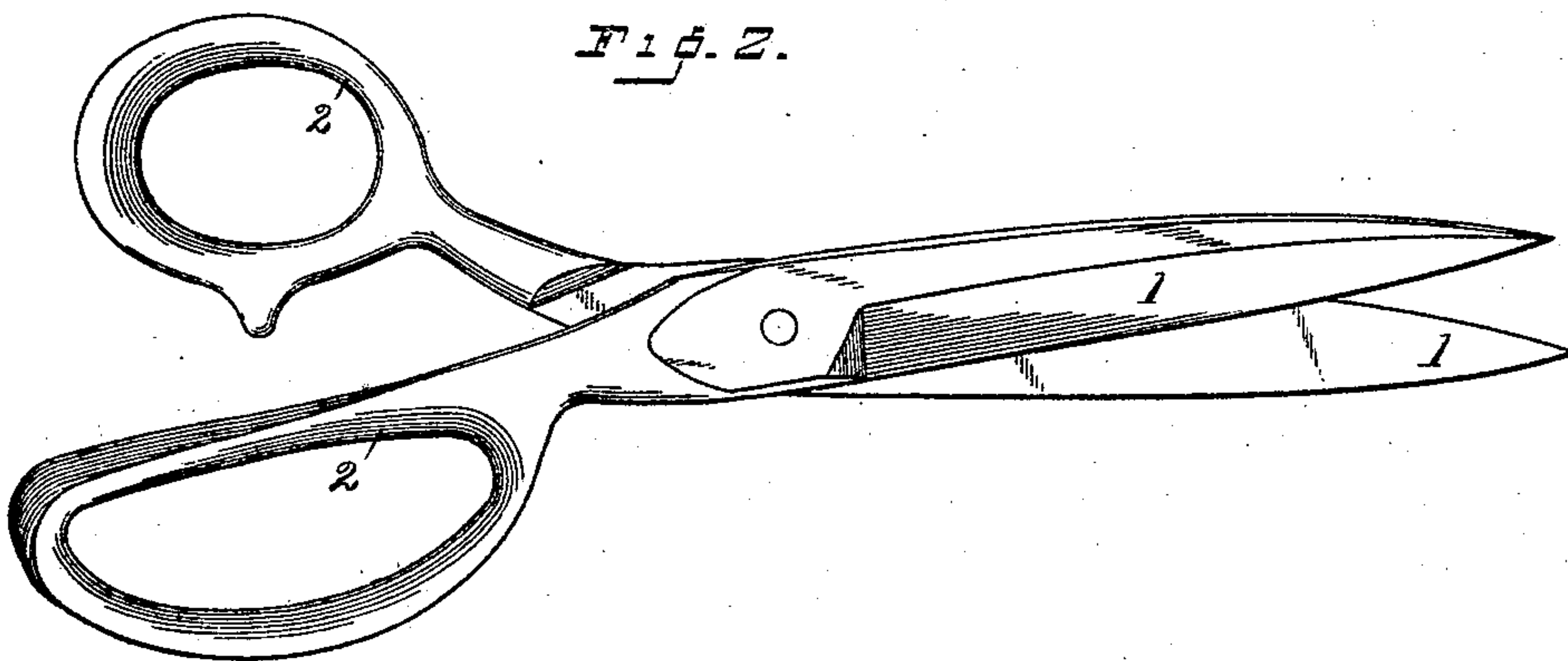


Fig. 2.



WITNESSES

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METHOD OF FINISHING METALLIC SURFACES.

SPECIFICATION forming part of Letters Patent No. 437,468, dated September 30, 1890.

Application filed July 28, 1890. Serial No. 360,204. (No model.)

To all whom it may concern:

Be it known that I, DWIGHT WHEELER, 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 Finishing Metallic Surfaces; 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 has for its object to devise a novel method of finishing the surface of metallic articles—for example, scissors or shears—as illustrated in the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of an article, in this instance a pair of shears, a portion of which is indicated as ground smooth in the usual manner and the other portion as left rough as it comes from the molds; and Fig. 2 is a similar view showing the roughened portions of the article finished smooth, as by my novel method.

It is of course well understood that it is common in the arts to japan metallic articles to produce a perfectly-black finish, and that there are other varnishes or sizes which when baked upon polished metallic articles in the same manner as ordinary japan impart thereto various bronze shades of finish, and that it is common to varnish metallic articles and apply metallic powders thereto, and that the metallic powders are frequently mixed with varnishes and sizes and applied with a brush. None of these modes of finish, however, are applicable to the finish of articles that require to be handled in use. The various japans are produced cheaply and are looked upon as cheap by the trade, and are objected to for that reason. They are, in brief, common, and therefore not acceptable. It is, furthermore, wholly impracticable to finish this class of articles with metallic powders in any of the ordinary modes, as it is impossible to make the finish permanent.

The object of my invention is to produce a neat and attractive metallic finish differing in appearance from the various finishes heretofore produced by plating which shall be perfectly hard and adapted to stand long-con-

tinued use without flaking or wearing off, and which may be produced at a mere fraction of the expense of a plated finish. I have experimented quite extensively with a view of attaining this result, and have succeeded in producing a finish having the appearance of smooth unpolished metal, which is thoroughly durable, which meets the requirements of the trade admirably and met with instant success the moment it was placed upon the market, and which can be produced at comparatively slight expense.

I take the article just as it comes from the molds and dip it, or dip that portion which it is desired to finish, in what is commonly known as "gold size," "bronze japan," &c. This size is a mixture of oils and gums and is a well-known article of commerce. After dipping the article it is allowed to drip for a moment to allow surplus size to run off. It is then baked at a temperature of 200° or 300° Fahrenheit, more or less, for a period of three or four hours, more or less, it being impossible to specify an exact temperature or an exact length of time required for the baking, it being of course well understood by those familiar with the art of japanning that too high a degree of heat will ruin the japan, and that if the temperature is too low a greater length of time is required and the results are less satisfactory. It is sufficient to say that the article is baked until the size has nearly set or hardened, but has not quite hardened, the size being sticky, or, as it is termed in the art, "tacky," when removed from the oven. In this sticky condition and without any delay I apply any of the well-known metallic powders of commerce—for example, silver, gold, or bronze powder. This powder may be applied in any suitable manner, as by a brush, although in practice I preferably apply it with a chamois-skin, putting on all the size will hold and rubbing off the excess of powder. The article is then placed in the oven a second time and baked for an hour or more. The effect of this second baking is to temporarily soften the size again and cause the coating of size and powder to flow slightly, after which the heat expels the remaining oil from the size and hardens it completely. The articles

are then removed from the oven and are ready for shipment or use.

In the drawings I have shown my invention as applied to a pair of shears, 1 denoting the blades, and 2 the bows. In Fig. 1 I have indicated the blades as ground smoothly and the bows as in their original rough condition, just as taken from the molds, and in Fig. 2 I have indicated the bows as finished smooth—
as, for instance, by my novel method.

Having thus described my invention, I claim—

The herein-described method of finishing metallic surfaces, the same consisting in dip-

ping the articles as they come from the molds into a suitable size, then baking the article until the size has nearly hardened, but removing it from the oven while still sticky, then applying all the metallic powder that the size will hold, rubbing off the excess, and finally baking a second time until the finish is thoroughly hardened.

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

DWIGHT WHEELER.

Witnesses:

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ARLEY I. MUNSON.