

No. 618,879.

Patented Feb. 7, 1899.

W. F. HOBBS & E. N. SPERRY.

SCISSORS OR SHEARS.

(Application filed Nov. 15, 1897.)

(No Model.)

Fig. 1.

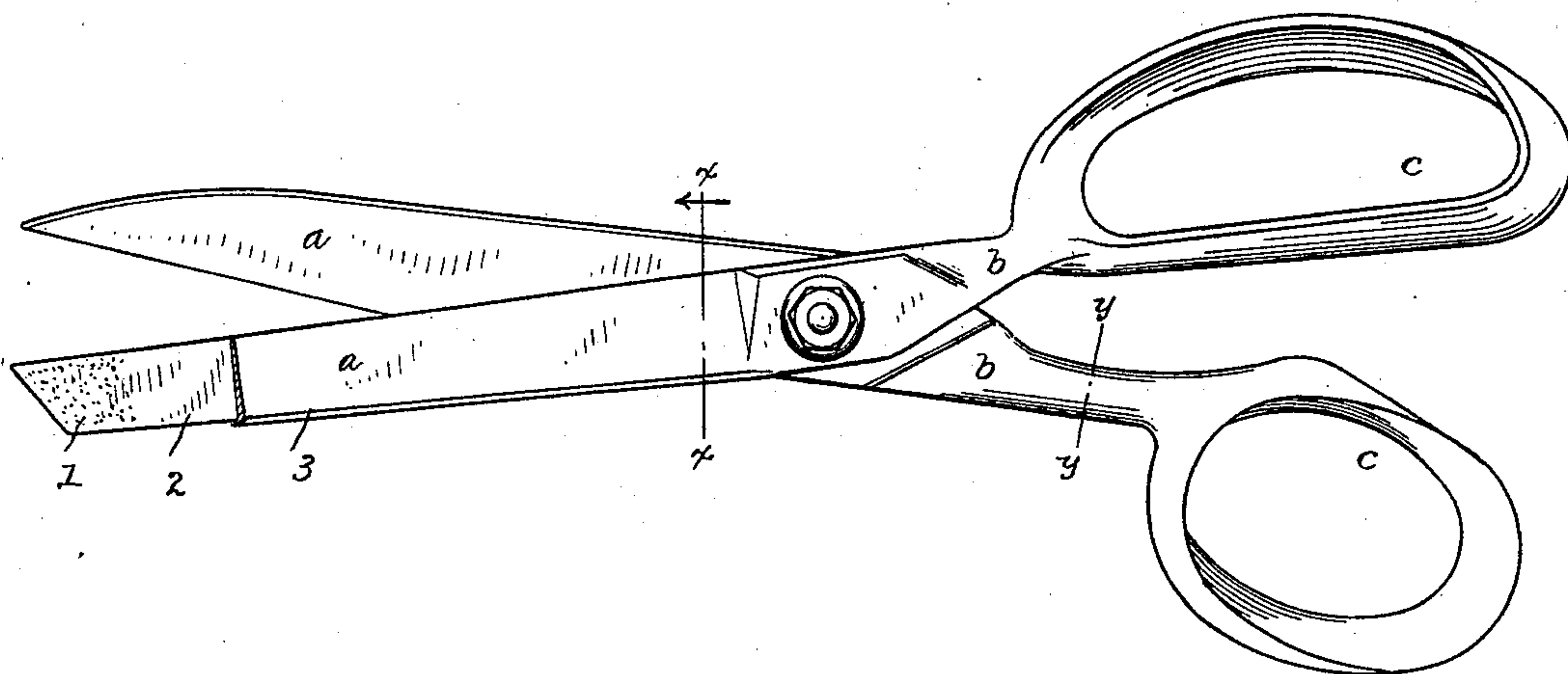


Fig. 2.

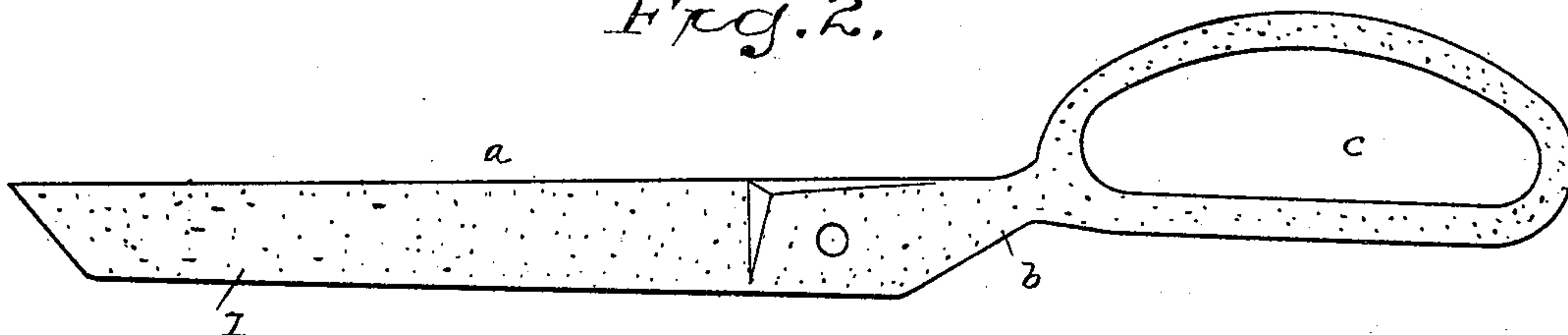


Fig. 3.

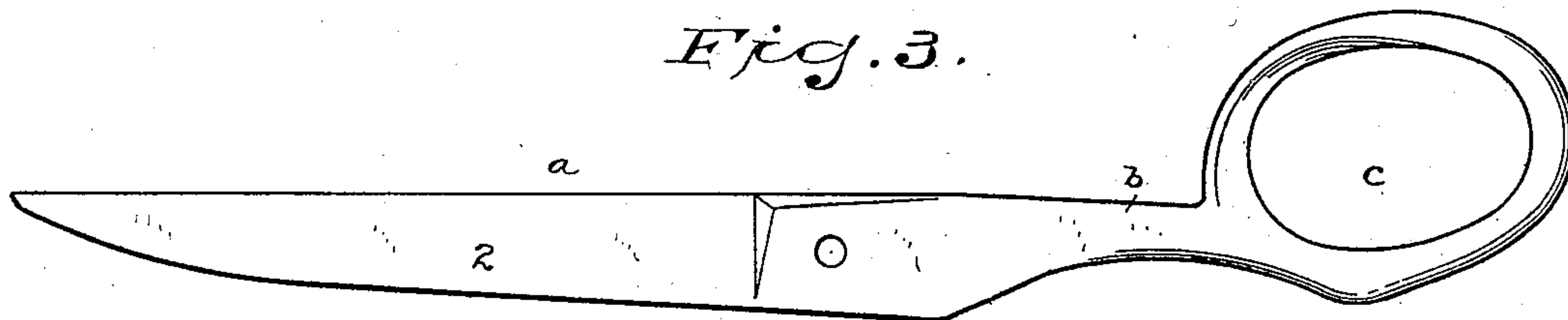


Fig. 4.

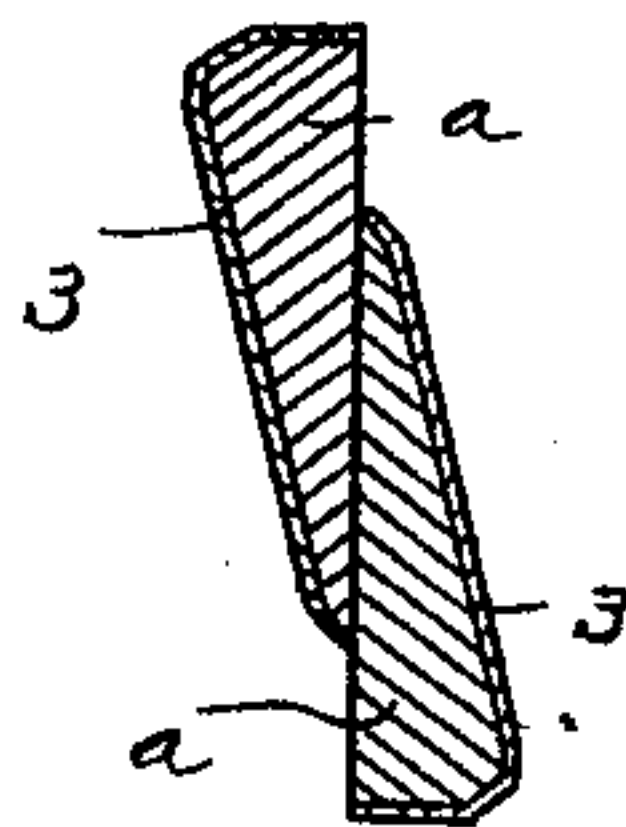
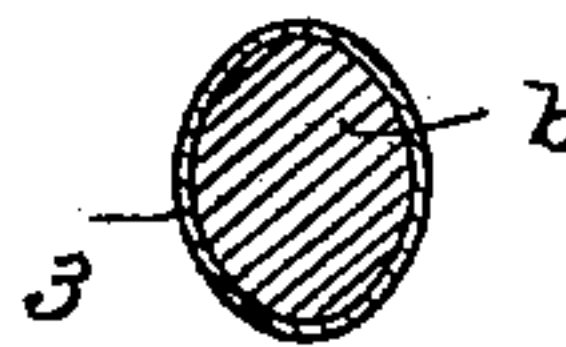


Fig. 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIS F. HOBBS AND ELLIE N. SPERRY, OF BRIDGEPORT, CONNECTICUT.

SCISSORS OR SHEARS.

SPECIFICATION forming part of Letters Patent No. 618,879, dated February 7, 1899.

Application filed November 15, 1897. Serial No. 658,582. (No model.)

To all whom it may concern:

Be it known that we, WILLIS F. HOBBS and ELLIE N. SPERRY, citizens of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Scissors or Shears; and we 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.

Our invention relates to the manufacture of scissors and shears, and has for its object to provide scissors and shears which shall have all the advantages, as regards serviceability and durability, of either forged or cast shears in connection with a white or other soft metal finish and at a much lower cost than has heretofore been possible with similar goods.

With these ends in view we have devised the novel scissors and shears hereinafter described, the same consisting of the usual corresponding parts and each part comprising an imperforate blade, shank, and bow, either blanked, forged, or cast in a single piece and then having cast over it, with the exception of upon the inner face of the blade, a layer of white or other soft metal, which becomes practically integral therewith.

We are aware that the shanks and bows of scissors and shears have been formed by casting soft metal about a sheet-metal blank, and also that scissors and shears have been made having blades consisting of thin cutting-plates of steel provided with a backing of soft metal, the soft metal being caused to adhere to the cutting-plate by providing the latter with holes through which the soft metal passes, the soft metal showing upon the inner face of the blade of the completed shears at these points and both the cutting-plate and the soft metal appearing upon the outer edge or back of the blade.

It is of course well understood that cast-iron shears possess excellent cutting qualities, but that they break very easily if dropped. This objection is wholly overcome in our present novel shears. It has likewise been found an objection to shears consisting of thin cutting-plates provided with a soft-metal back-

ing that the soft-metal rivets showed upon the inner face of the blades, and a more serious objection has been that the cutting-plates were not stiff enough to retain the necessary "spring" of the blades, but that the blades would bend or spring out of shape and that when once sprung out of shape they were prevented from springing back to their normal position owing to the fact that the mass of soft metal to which the thin plates were secured would act to hold the plates in any position in which they were placed—that is, when the plates became sprung out of shape in ordinary use or by dropping them the mass of soft metal would prevent their springing back to shape. This objection likewise is wholly overcome in our novel shears. The blades are formed complete and with the usual bevel and may be either blanked, cast, or forged, the blades having their full strength and stiffness and retaining their position in use just as perfectly as ordinary forged or cast shears. The soft-metal outer layer has two important functions when used in connection with stiff blades. First, it constitutes a highly-attractive and durable finish, and, second, it serves as a cushion for cast shears, it having been found in practice that the blades and bows of cast-metal shears finished in our novel manner by inclosing them in an outer layer of soft metal will not break under ordinary circumstances when dropped, but are equally durable with forged shears or with shears consisting of cutting-plates provided with a soft-metal backing.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of a pair of our novel shears complete, the outer layer of soft metal being broken away from the end of one of the blades and the extreme end of the same blade being stippled to indicate the rough condition of the blade before dipping in molten metal or electroplating; Fig. 2, an elevation of one of the blades detached, the stippling indicating the absence of any finish whatever; Fig. 3, an elevation of the other blade, which is shown smooth to indicate that it has been dipped in molten metal or electroplated; Fig. 4, a section on an enlarged scale of the completed

shears on the line $x x$ in Fig. 1, and Fig. 5 is a section on the same scale of one of the shanks on the line $y y$ in Fig. 1.

a indicates the blades, which are imperforate, b the shanks, and c the bows, which may be of any ordinary or preferred size or design. These parts are either blanked, cast, or forged in a single piece.

1 in Fig. 1 indicates a portion of a blade which is wholly unfinished, the same number appearing likewise in Fig. 2 and indicating that the entire part is unfinished.

2 in Fig. 1 indicates a portion of the blade which has been plated by dipping in molten metal, electroplated or otherwise, the same number appearing likewise in Fig. 3 and indicating that the entire part has been plated, and 3, wherever it appears, indicates the outer layer of soft metal which is cast about each part or half-shear, with the exception of upon the inner face of the blade.

The mode of making our novel shears is as follows: The blades, shanks, and bows are either blanked, cast, or forged in a single piece and left rough, with the exception of the usual grinding upon the inner face of the blade and upon the edge. It should be understood that the blades are formed to standard shape and provided with the ordinary bevel. The parts are then plated by dipping in molten soft metal, electroplating or otherwise. After plating the parts are placed in molds of suitable construction and soft metal is cast entirely about them, with the exception of upon the inner faces of the blades, thus forming the outer layer 3.

It is an important feature of our invention that the outer layer 3 of soft metal wholly covers the outer edge or back of the blades, rendering finishing of part a unnecessary. This outer layer is not an independent shell which is liable to become separated from the part unless riveted, cast through, or otherwise mechanically secured thereto; but owing to the fact that each part is first plated by dipping in molten soft metal or electroplated therewith the outer layer when cast

upon the plated part becomes an integral portion thereof and does not become separated therefrom in use.

The completed parts may be finished in any suitable manner—as, for example, with a sand-buff in the manner that soft metal is ordinarily finished.

Steel and iron scissors and shears as ordinarily made require to be finished by emery-wheels, the result being that no two parts are exactly alike, but the parts of each pair of scissors or shears require to be fitted. This is wholly done away with by our invention, which insures that all the parts will be exactly alike, and fine fitting of the parts is thus wholly done away with.

Having thus described our invention, we claim—

1. Scissors and shears consisting of members each of which comprises an imperforate blade, shank and bow formed in a single piece, said members being covered, with the exception of the inner face of the blade, with a coating or plating of soft metal which is in turn covered with an outer layer or shell of soft metal which is cast thereon and which is thus firmly united thereto in the process of casting.

2. The method of making scissors and shears which consists in forming members, comprising imperforate blades, shanks and bows, in a single piece; then plating the members with soft metal, and then casting upon the plating of each member, except upon the inner face of the blade, an outer layer or shell of soft metal which is united with the hard-metal member by the soft metal deposited by plating, so that the outer cast-metal layer becomes an integral part of the said member.

In testimony whereof we affix our signatures in presence of two witnesses.

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Witnesses:

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