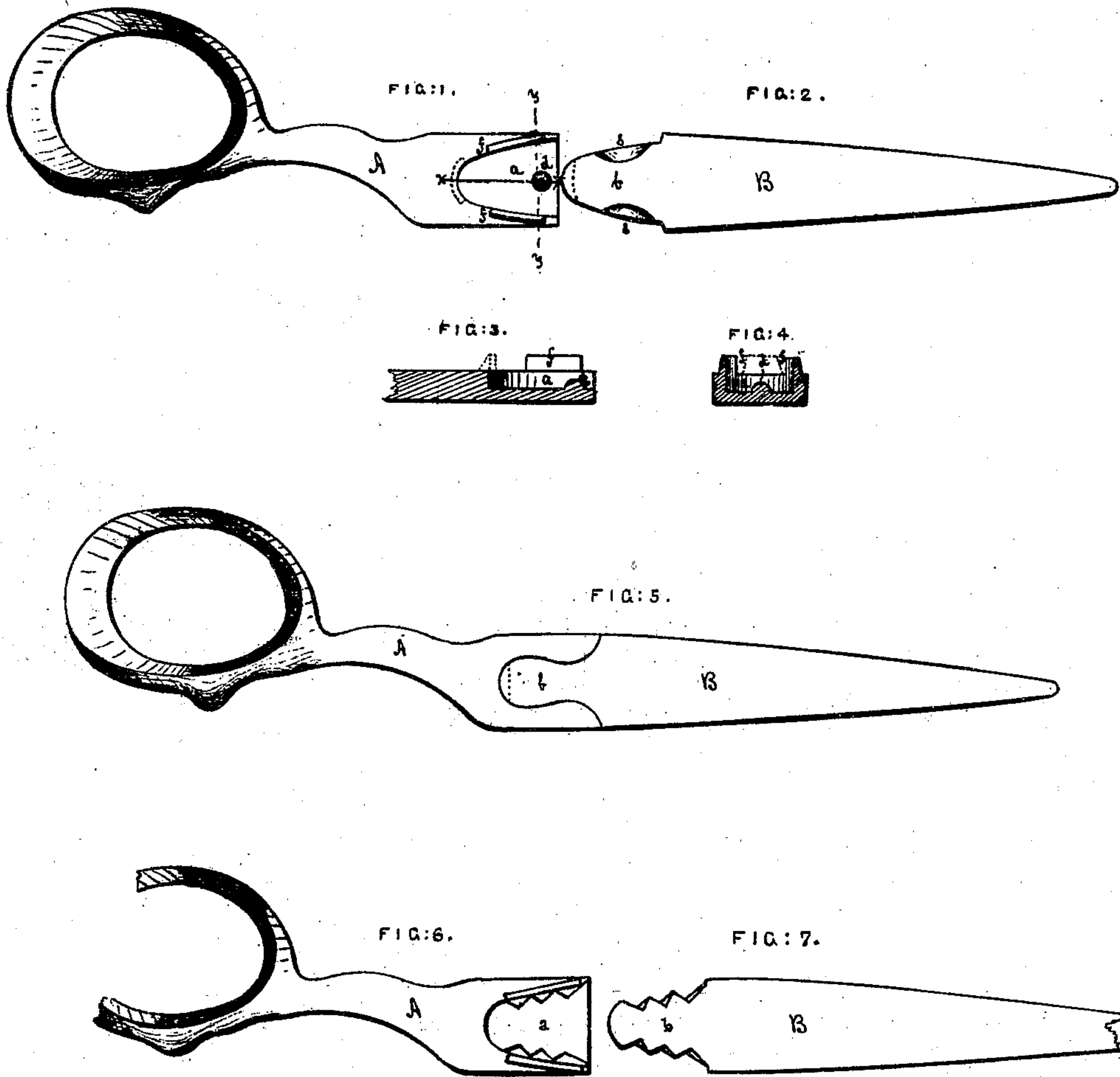


W.B. & A.J. Barnard,

Manif. Shears.

No. 106649.

Patented Aug. 23. 1870



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WITNESSES

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WILLIAM B. BARNARD AND ANDREW J. BARNARD, OF WATERVILLE, CONNECTICUT.

*Letters Patent No. 106,649, dated August 23, 1870.*

## IMPROVEMENT IN MANUFACTURE OF SHEARS.

The Schedule referred to in these Letters Patent and making part of the same

We, WILLIAM B. BARNARD and ANDREW J. BARNARD, of Waterville, in the county of New Haven and State of Connecticut, have invented certain Improvements in the Manufacture of Shears, of which the following is a specification.

Our invention consists of improvements in the means of securing the handles of shears to their blades, said improvements being applicable not only to those classes of shears in which the handles are separately formed preparatory to their attachment to the blades, but also to those in which the handles are cast upon the blades by the process described in the Letters Patent No. 737, granted to George Ropes, May 10, 1838.

The first part of our invention relates to the overlapping of the side edges of that portion of the tang of the blade, which is inserted in a recess in the handle by means of projections from the strips on either side of said recess.

Recesses or notches are formed in or upon the side edges of the tangs into which the metallic projections are hammered down or upset, if the handle is first formed separately, or made to flow when the handle is cast upon the tang in a molten state, the object of our invention being to avoid entirely the necessity of perforating the tang to receive a rivet, as such perforation of the tang to receive a rivet often causes the tang to crack or break in securing the handle thereto, and produces a consequent loss of the stock, and also to do away entirely with the use of a rivet in the joint, which, if made homogeneous with the handle, is often found defective in the casting, causing a loss of stock; or, if made loose, is expensive in manufacture and use.

Our invention relates, in the second place, to the formation of a small recess in the under side of the end of the tang to receive a counterpart teat or projection on the end of the handle within the recess which receives the tang, our object being to retain an advantage of a rivet, viz: retention of the blade in the handle in such manner as to prevent the blade from sliding off of the tang, either longitudinally or laterally, without the disadvantages which result from a perforation of the tang, and the formation of a rivet to fit therein.

In the accompanying drawing—

Figure 1 is a plan view of the handle, and

Figure 2, a plan view of the blade of one of the halves or divisions of our improved shears.

Figure 3 is a longitudinal section in the line *x x*, and

Figure 4, a transverse section in the line *y y* of fig. 1.

Figure 5 is a plan of the handle and blade united.

Figures 6 and 7 are plan views, respectively, of a handle and blade detached, illustrating a modification of our invention.

A A represent handles, and B B blades of our shears, *a* being the recess in the end of each handle, and *b* the tang end of each blade.

The recess *a* is formed of such a shape and of such depth and extent as to receive and closely embrace the tang end *b* of the blade.

The tang *b* is beveled off or recessed on each side on its upper edge, as shown at *s s*, fig. 1, and projections *f f* are formed upon each edge of the recess in the handle to correspond with the recesses *s s* of the tang, so that, when the tang *b* is fitted into the recess *a*, the projections *f f* on either side may be hammered down to overlap and fill up the recesses *s s*, which, from their peculiar shape, will then serve to retain and hold the blade securely upon the end of the handle without further fastening, as shown in fig. 5.

In some cases we also bevel off the end of the tang on its upper side, and hammer down thereinto a projection left on the upper end of the recess, as illustrated by dotted lines in the first five figures of the drawing, and we contemplate making a projection entirely around the edge of the recess, either continuous or broken, to be hammered down, as described, to overlap the tang on all three sides.

Where a yet stronger fastening of the handle to the blade is desired, we not only form recesses, as described, in the edges of the tang, on each side thereof, but we serrate the sides of the tang, (see fig. 7,) and form counterpart serrations in the sides of the recess in the handle, (see fig. 6,) so that, when the one is fitted into the other, a compound dovetail joint is formed between the two.

The sides of the recess in the handle are provided with the projections *f f*, as heretofore described, which, when beaten down or upset into the beveled recesses in the edges of the tang, to overlap the same, complete and secure the joint.

Where the edges of the tang are not serrated, as just described, and as illustrated in figs. 6 and 7, a short teat or lug, *d*, may be cast in the face or bottom of the recess *a*, as shown in figs. 1, 3, and 4, and a counterpart recess be formed in the under side of the tang to fit thereon.

This lug and recess, in combination with the overlapping edges of the recess, form as strong and secure a joint as that obtained by means of rivets passing wholly through the tang without the loss attendant upon the use of the latter.



We claim as our invention—

1. In the construction of shears, scissors, &c., a blade, secured to its handle by means of projections upon the edges of the recess formed to receive the tang of the blade, made to overlap the edges of the tang, which are recessed or beveled for the purpose, substantially in the manner herein set forth.

2. In combination with the overlapping edges of the recess in the handle, made to secure the edges of the tang of the blade of a pair of shears, as de-

scribed, a teat or projection formed in the handle to fit into a counterpart recess in the tang of the blade and secure the same, substantially as herein set forth.

Witness our hands to this specification.

WM. B. BARNARD.

ANDREW J. BARNARD.

Witnesses:

WM. W. BONNETT,

J. W. WEBSTER.