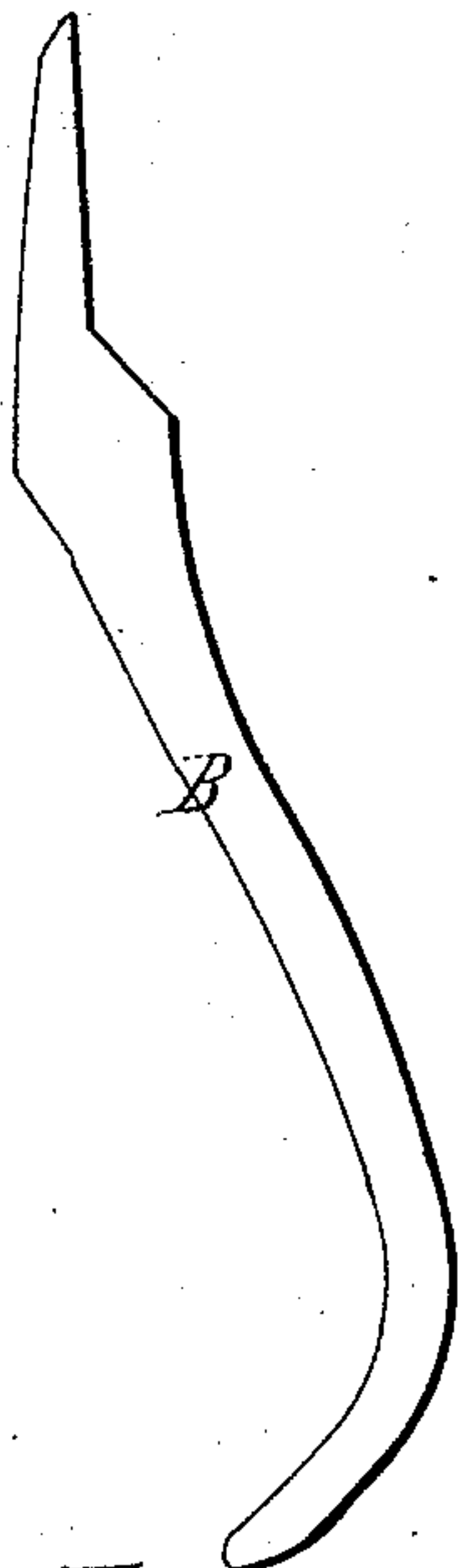


*H. Wilkinson,*  
*Wire-Working Tool.*  
*N<sup>o</sup> 20,460. Patented June 1, 1858.*

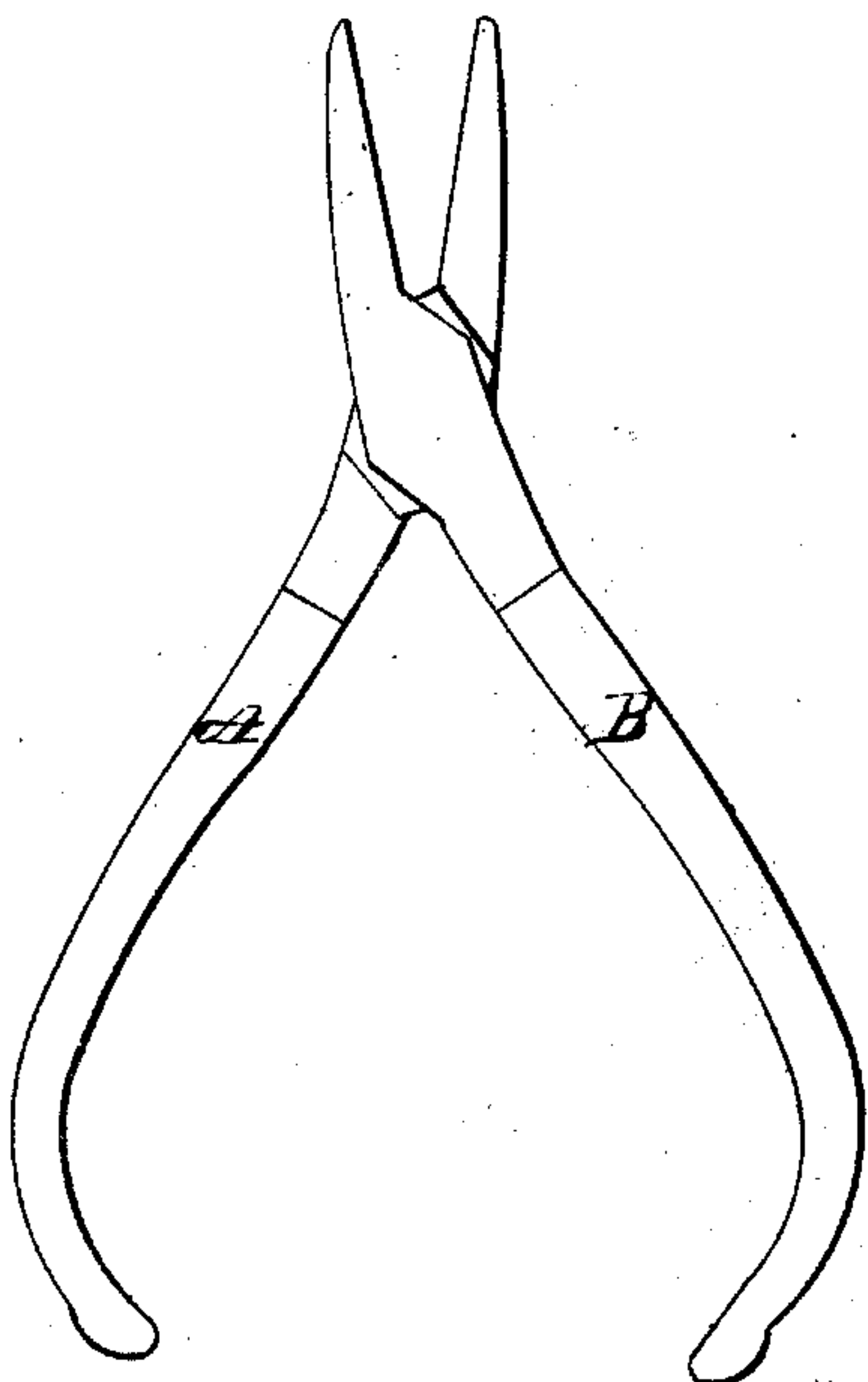
*Fig. 2*



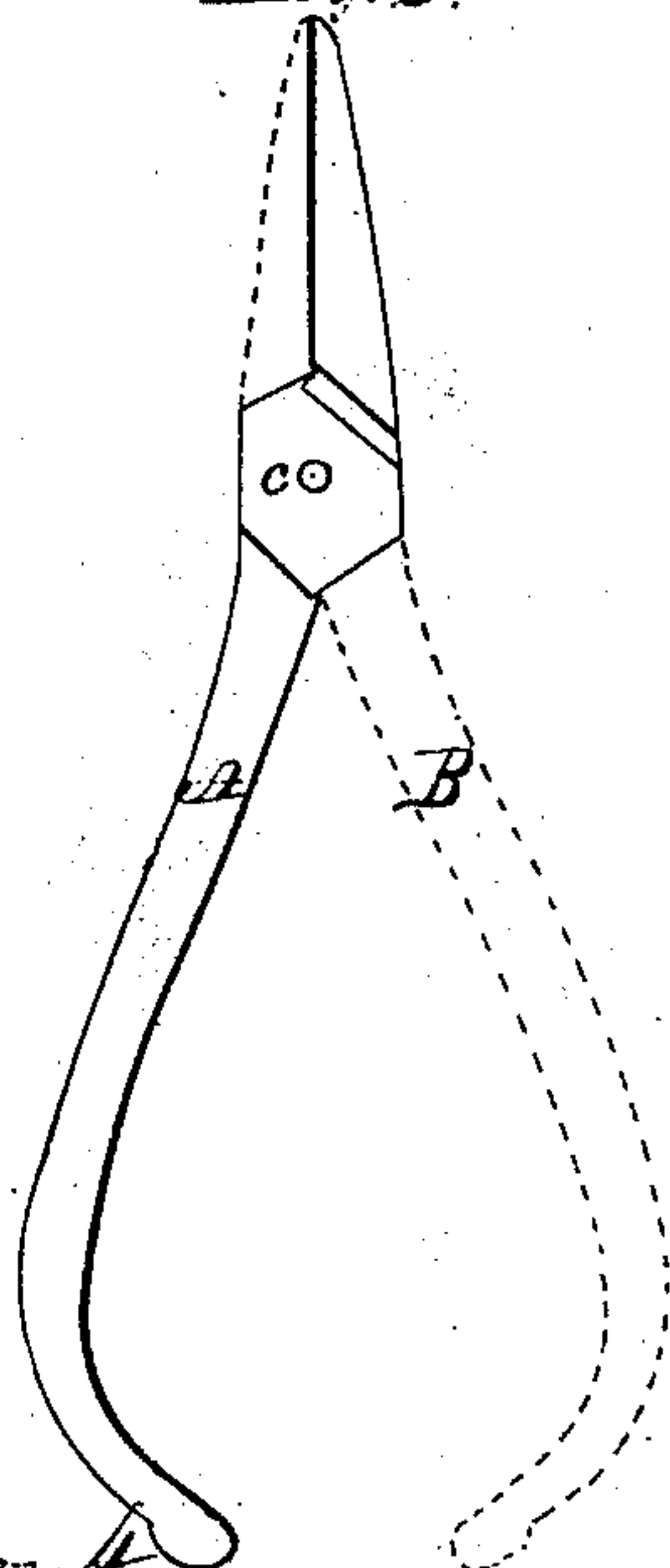
*Fig. 1.*



*Fig. 4.*



*Fig. 3.*



*Inventor.*

*Henry Wilkinson*

# UNITED STATES PATENT OFFICE.

HENRY WILKINSON, OF COLLINSVILLE, CONNECTICUT.

## IMPROVEMENT IN THE MANUFACTURE OF PLIERS.

Specification forming part of Letters Patent No. 20,460, dated June 1, 1858.

*To all whom it may concern:*

Be it known that I, HENRY WILKINSON, of the town of Collinsville, county of Hartford, and State of Connecticut, have invented a new and useful Improvement in the Method of Constructing Pliers and other Mechanical and Useful Articles of that Class; and I do hereby declare that the following is a correct description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the peculiar method of forming the joints of pliers and other articles of the kind of malleable iron.

To enable others skilled in the art to make and use my invention, I will now proceed to describe the article and mode of construction.

In the drawings, Figure 1 is a view of one half of a plier, showing the two nipples on the tenon. Fig. 2 is the half with the mortise; Fig. 3, the half with the tenon and nipples *c c* and the way it is placed in the mold for casting preparatory to running in the metal to form Fig. 2, (see dotted lines;) Fig. 4, a plan of a pair of pliers complete.

The improvement which I claim as new is the construction of the articles of cast malleable iron, tempered, case-hardened, and warranted equal in strength and durability to steel for the purposes intended, and the peculiar method of forming and casting the same.

I first prepare the two patterns of half parts of pliers for casting. (See Figs. 2 and 3.) I then mold and cast the half A with the nipples *c c*, which, when cast and cold, I prepare and place in the sand or mold, where the impression is already made for the other half, Fig. 2, B, to be placed as shown by the dotted lines, Fig. 3. The metal is then poured in and runs all over the tenon and the nipples and forms the half B, completing a pair of pliers with a perfect joint, except the trimming off and finishing when cold. Before casting the half B the tenon part of the half A is slightly touched with tar and sand. This simple method of operation makes an excellent and free-working joint, neat, strong, and cheap, superior in many respects to the kind made in the usual manner, and obviates the difficulty in the peculiar manner of forging the joints of pliers and pinions and other articles of that class.

I do not claim the nipple-joint or its adaptation.

What I claim as my invention, and desire to secure by Letters Patent, is—

The mode of constructing malleable-iron pliers by casting one half over the other in the manner as herein described.

HENRY WILKINSON.

Witnesses:

WM. VINE,  
D. W. PARDEE.