

H. R. RUSSELL.

PLIERS.

No. 188,262.

Patented March 13, 1877.

Fig 1.

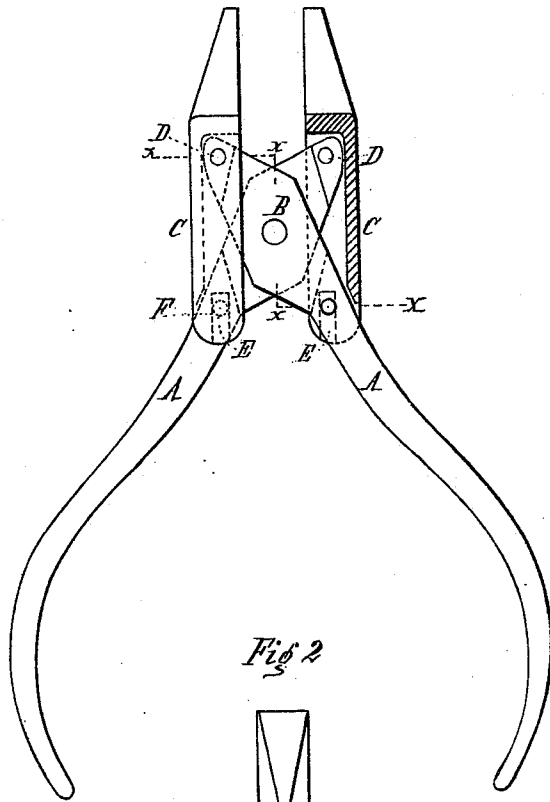


Fig 2

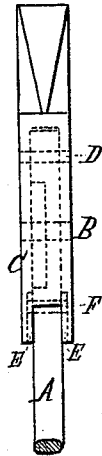
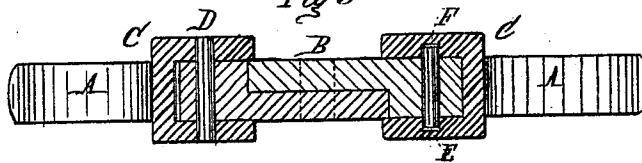


Fig 3



Witnesses

E. W. Lonsdale
A. H. Harvey

Inventor

Henry R. Russell

UNITED STATES PATENT OFFICE.

HENRY R. RUSSELL, OF SWARTHMORE COLLEGE, PENNSYLVANIA.

IMPROVEMENT IN PLIERS.

Specification forming part of Letters Patent No. 188,262, dated March 13, 1877; application filed January 3, 1877.

To all whom it may concern:

Be it known that I, HENRY R. RUSSELL, of Swarthmore College, State of Pennsylvania, have invented a new and useful Improvement in Parallel Pliers, Vises, and other similar tools.

My invention relates to an improvement in the parallel pliers, vises, and similar tools, for which Letters Patent No. 168,924 were granted to Henry R. Russell and his assignee, Isaac S. Russell, October 19, 1875.

It is the object of my invention to increase the strength of the jaws, to prevent dirt from getting into the joints, and to improve the appearance of the tool; and it is applicable to all tools to which the aforesaid patented improvement applies.

The nature of the improvement will be understood from the accompanying drawings and explanation.

Figure 1 is a side elevation of my improved parallel pliers, with a part sectioned to show the grooved-out jaw. Fig. 2 is a rear elevation. Fig. 3 is a section on the line *xx* of Fig. 1, and shows what quantity of metal is left in the jaws C C after being grooved out.

Similar letters of reference indicate corresponding parts.

As in the improvement above referred to, the jaws C C are slotted at right angles to

their faces, so as to receive the levers or handles A A, and they are kept parallel by means of the pins D D, and the guide-pins F working in the open-ended slots E E, but the slots above mentioned, made in the jaws C C to receive the handles, do not extend through the jaws C C, a portion of metal being left to form backs, (see part sectioned in Fig. 1 and Fig. 3,) so connecting the two parts or sides of the jaws that form each of the slots made therein to receive the handles, as to add greatly to the strength of the jaws, to keep dirt out of the joints, and to improve the general appearance of the tool.

This improvement is meant to embrace the back, however formed, whether it be a portion of one solid piece that forms the whole jaw, or whether it be a separate piece attached to the jaw by brazing, soldering, or any other means.

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

Parallel pliers, having the slotted jaws C C, the sides of which communicate closely with the closed back, substantially as described.

HENRY R. RUSSELL.

Witnesses:

ED. V. LANSDALE,
B. H. LOWRY.