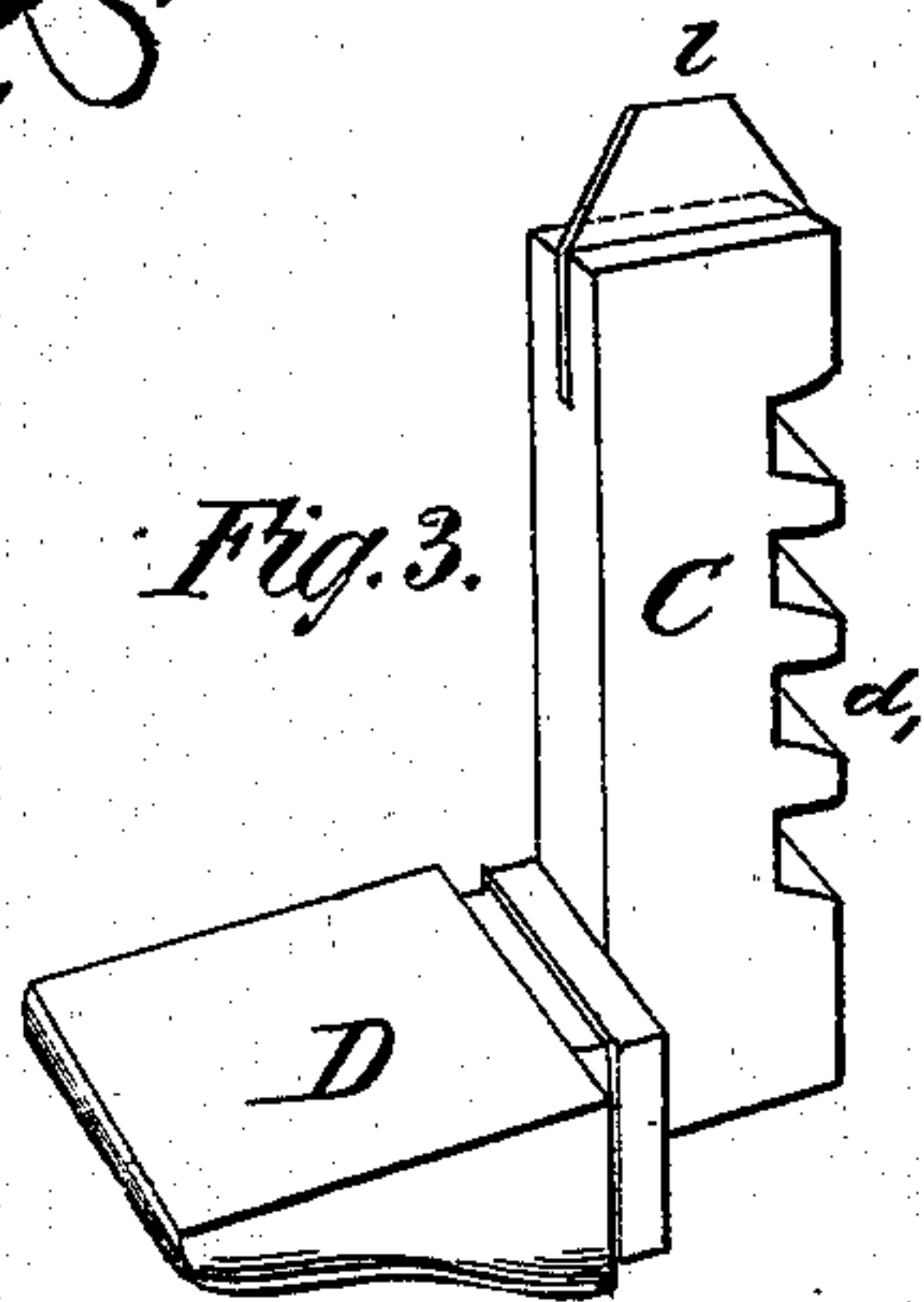
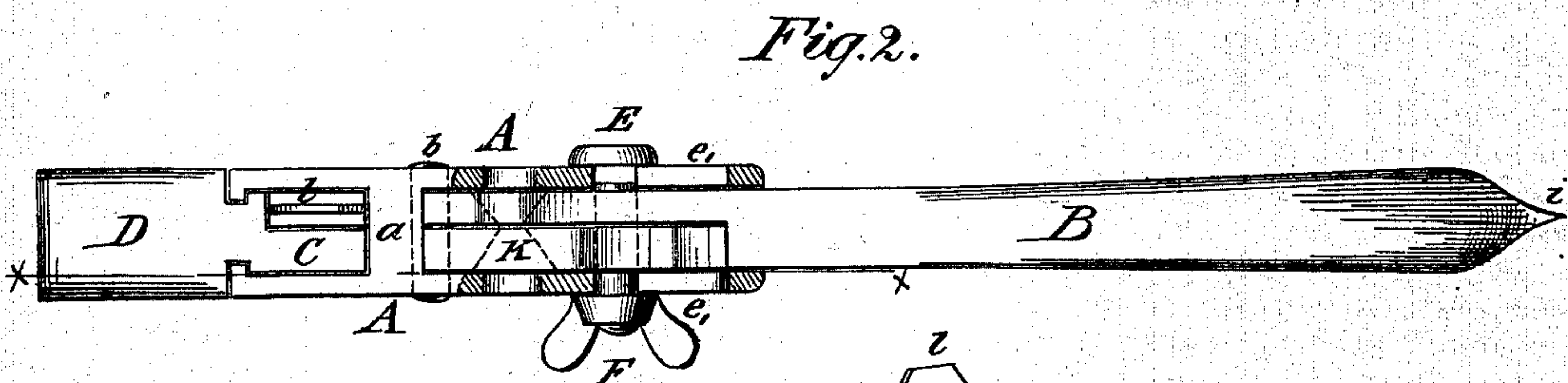
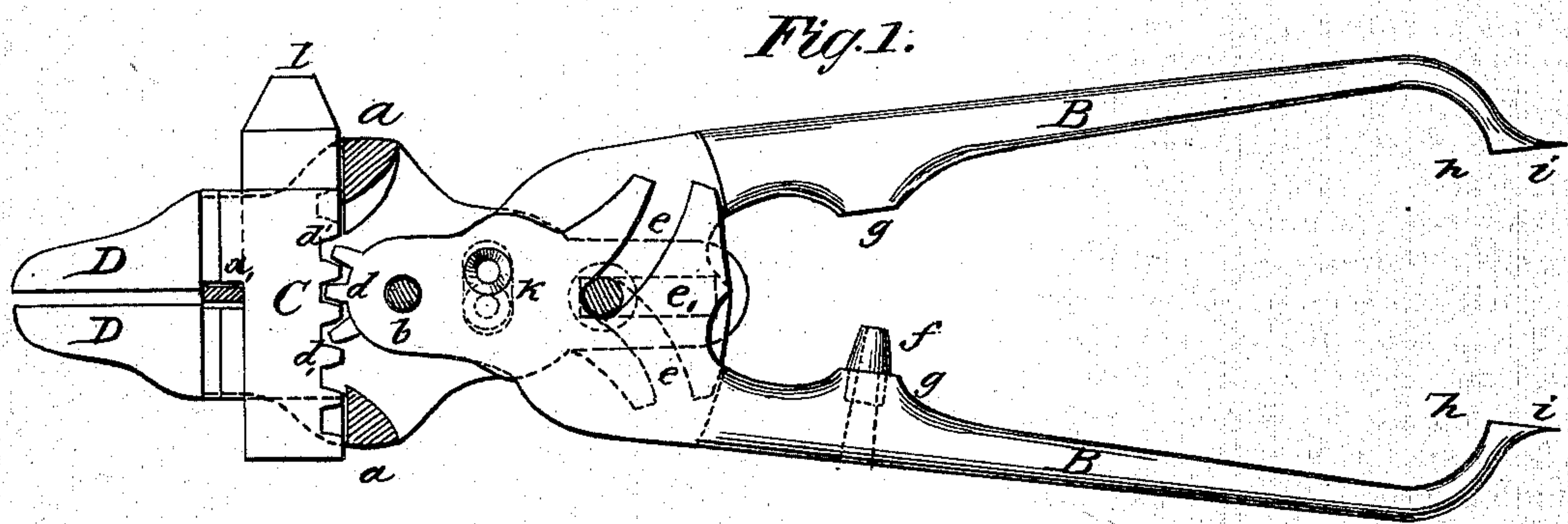


H. B. WHITEHEAD.
Implements.

No. 139,748.

Patented June 10, 1873.



Witnesses:

John Becker
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Inventor:

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UNITED STATES PATENT OFFICE.

HENRY B. WHITEHEAD, OF HOLLY SPRINGS, MISSISSIPPI.

IMPROVEMENT IN IMPLEMENTS.

Specification forming part of Letters Patent No. 139,748, dated June 10, 1873; application filed February 1, 1873.

To all whom it may concern:

Be it known that I, HENRY B. WHITEHEAD, of Holly Springs, in the county of Marshall and State of Mississippi, have invented a new and Improved Combination Tool, of which the following is a specification:

Figure 1 represents a top view of my invention, partly in section, on the line *x x*, Fig. 2. Fig. 2 is a side view of the same, also partly in section; and Fig. 3 a detail perspective view of one of the shanks as combined with the jaw and screw-driver.

Similar letters of reference indicate corresponding parts.

My invention relates to an improved tool for use as pliers or as a hand-vice; and consists in an arrangement of jaws having perpendicular toothed shanks, and transverse-slotted handles provided with teeth on their pivot ends for engaging with the jaw-shanks, whereby a parallel motion of the jaws is produced.

I have incidentally adapted the above-named parts to perform other functions by slight modifications of construction.

In the drawing, A represents the double-flanged frame or casing, which is connected at its sides and upper end by supports *a* and *a*. Pivoted at *b* are the handles B, and supplied at their rounded ends with two or more teeth, *d*. Curved slots *e*, below the pivot *b*, are applied to the handles in such a manner that they stand at nearly right angles toward each other. Somewhat below the slots a punch, *f*, is placed on a projection, *g*, of one handle, which works on a similar projection, *g*, of the other handle. The ends of the handles are curved toward the inside and supplied with longitudinally-projecting points, forming thereby at *h* the caliper-points, and at *i* the end points of a pair of dividers. Both handles B are furthermore provided between the pivots *b* and the slots *e* with conical holes *k*, corresponding to holes in the frame A. These conical holes are not placed centrally above each other, but some distance to the right and left of the longitudinal axis of the tool, so that the holes act on closing, after opening the handles for the admission of a wire, like

shears, cutting the same at the point desired. Two straight shanks, C, are wedged transversely into the frame A, and slide on the guiding-supports *a* and *a*. Their lower sides are supplied with a series of teeth, *d'*, which gear into the corresponding teeth of the handles B. Attached to the shanks, and at right angles, are jaws D, Figs. 1 and 3, which act as pliers as soon as the handles are operated, which motion is transmitted to the pivot *b* and gearing *d d'*. One of the shanks C is further provided with a steel blade, *l*, to be used as a screw-driver. The curved slots *e* of the handles correspond with longitudinal slots *e'* in frame A, which guide the connecting-bolt E. Bolt E is provided at the lower side with a washer, and is formed of square shape, so far as it moves in the lower guide-slot *e'*. Its upper end is threaded and provided with a thumb-screw, F. When the thumb-screw F is loose, and the handles are opened and closed, the bolt E is caused, by the slots *e* of the same, to traverse in the slots *e'* of frame A, and to produce a parallel movement of the jaws D, and their application as pliers.

By tightening the thumb-screw F the jaws may be set and used as a hand-vice. The handles, when used as calipers and dividers, and opened to the desired angle, are thereby held in position. When the handles are thrown out as far as the frame will allow the jaws may be moved one or two teeth, and can then be used to gripe larger bodies than in the former state.

This tool may be made of malleable iron, steel, or other suitable material.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The combination, with the casing A, of the jaws D D, toothed shanks or bars C C perpendicular thereto, the handles B toothed at *b* and provided with the slots *e e*, and the bolt E, substantially as shown and described.

HENRY B. WHITEHEAD.

Witnesses:

J. T. WHITEHEAD,
JIN. JAMES.