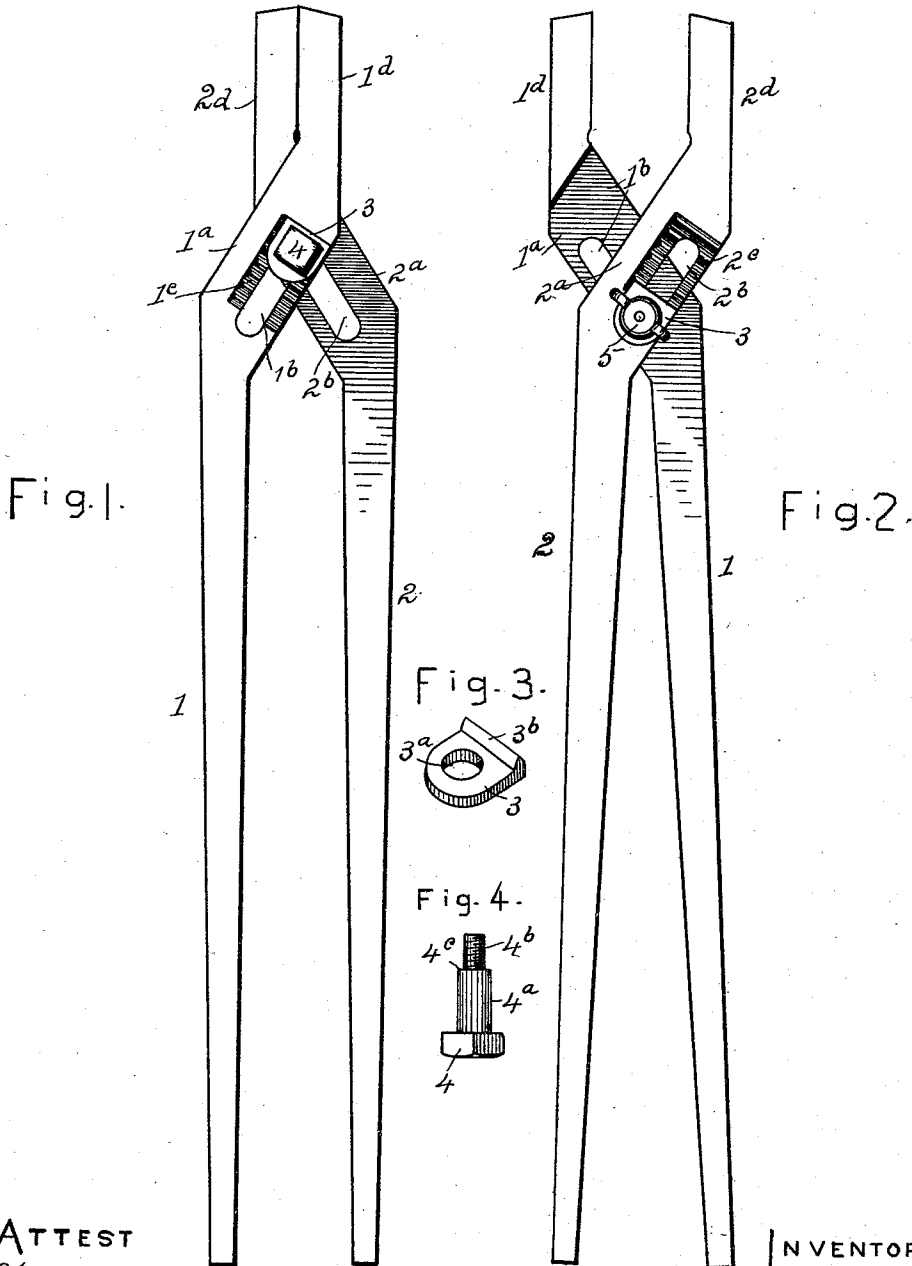


(No Model.)

W. M. HAWORTH.
BLACKSMITH'S TONGS.

No. 478,600.

Patented July 12, 1892.



ATTEST

William Graham

Kelem Graham

INVENTOR

WILLIAM M. HAWORTH.

by his attorney

L. P. Graham

UNITED STATES PATENT OFFICE.

WILLIAM M. HAWORTH, OF DECATUR, ILLINOIS.

BLACKSMITH'S TONGS.

SPECIFICATION forming part of Letters Patent No. 478,600, dated July 12, 1892.

Application filed April 14, 1892. Serial No. 429,177. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. HAWORTH, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Blacksmiths' Tongs, of which the following is a specification.

This invention relates more particularly to tongs for blacksmiths and other metal-workers, though the principle is equally applicable to pinchers, wrenches, and grippers; and it consists in the details of construction and combination of parts, which enable the jaws to be adjusted with relation to each other in order to properly grasp either large, small, or intermediate objects, and which with incidental features of novelty are hereinafter set forth in detail, and specifically claimed.

In the drawings accompanying and forming a part of this specification, Figure 1 represents a pair of tongs with the jaws adjusted to grasp very small objects. Fig. 2 shows the opposite side of the same tongs with the jaws at the opposite extreme of adjustment. Fig. 3 is a perspective representation of a pivot-block, and Fig. 4 shows details in the construction of the pivot-bolt.

The tongs consist of two duplicate bars 1 and 2, which have details as follows, and which are secured together adjustably by means of the pivot-blocks 3 and the pivot-bolt 4. The handle of one bar is seen at 1 and 1^a. The handle deflects obliquely, forming a pivot portion, which is slotted longitudinally at 1^b and which has on its outer surface notches, teeth, or corrugations 1^c contiguous to the slot. The jaw 1^d is a continuation of the deflected part 1^a, and it is parallel, or nearly so, with a line drawn lengthwise through the handle.

The part 2 is, as before stated, a duplication of bar 1, and 2^a represents the deflected part, 2^b the slot, 2^c the corrugations, and 2^d the jaw, as in the description of bar 1. There are two pivot-blocks 3, each having a bolt-hole 3^a and a rib 3^b, adapted to the corrugations of the tong-bars. The pivot-blocks are placed one on each tong-bar, with the ribs resting in depressions of the corrugations, and they are secured together by bolt 4, which has

the round bearing 4^a, adapted to the slots of the tong-bars, the diminished and threaded end 4^b, adapted to the wing-nut 5, and the shoulder 4^c, which prevents the nut from binding the bars together. The bolt holds the pivot-blocks in position on the corrugated surfaces, and the blocks in turn hold the bolt in position in the slots of the bars. When it is desired to adjust the jaws, the nut 5 is loosened on the bolt, the pivot-blocks are shifted to an equal extent in the same relative direction on the corrugated surfaces, and the nut is again tightened. The bolt forms a pivot for both bars, thus doubling the wearing capacity as compared with a pivot fixed in one bar, and when the bolt finally becomes worn out it is easily renewed.

The adjustment of the jaws is easily and quickly effected and the tongs are calculated to take the place of the greater number usually kept to meet all requirements.

I claim—

1. In tongs or similar tools, the combination of the bars having oblique slots and corrugations contiguous to the slots, the pivot-blocks having ribs adapted to the corrugations, and a bolt extending through the slots and the blocks and adapted to hold the blocks in close contact with the corrugated surfaces, as set forth.

2. In tongs or similar tools, the combination of the bars having each a deflected and slotted portion intermediate its ends, with corrugations contiguous to the slots, the pivot-blocks having ribs adapted to the corrugations, the pivot-bolt adapted to the slots and to the blocks and having a shoulder distant from the head something more than the combined thickness of the bars and block, and also having a threaded end beyond the shoulder, and the nut adapted to the threaded end of the bolt, as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

WILLIAM M. HAWORTH.

Attest:

E. N. GRAY,
C. L. SMITH.