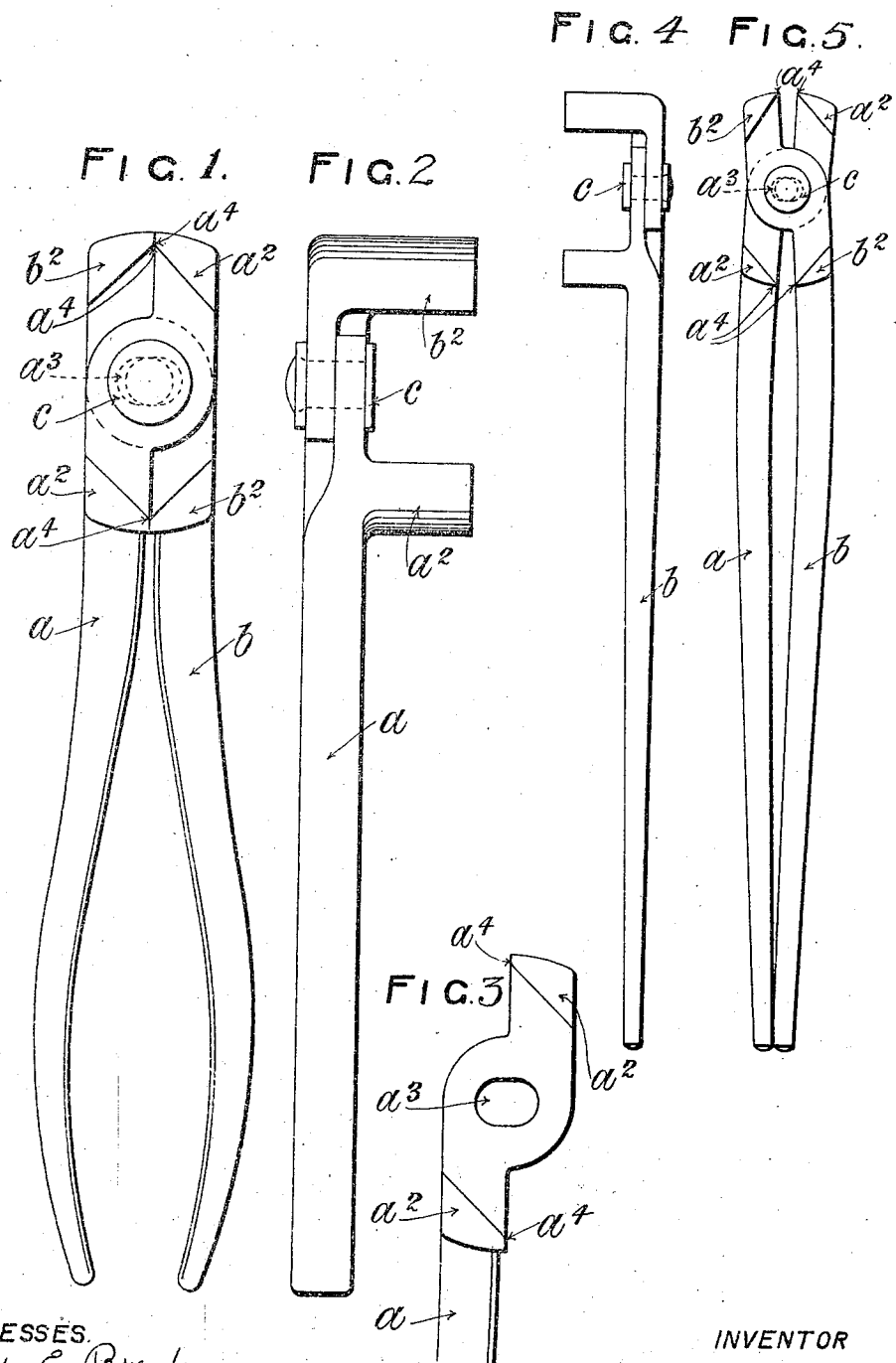


F. E. V. BEANES.
PLIERS, TONGS, AND LIKE TOOL.
APPLICATION FILED JUNE 13, 1912.

1,066,071.

Patented July 1, 1913.



WITNESSES.

Hilda C. Bready.
W. H. Davidson

INVENTOR
F. E. V. Beanes.
Percy H. Moore
Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK EDWARD VESEY BEANES, OF BLACKHEATH, ENGLAND.

PLIERS, TONGS, AND LIKE TOOL.

1,066,071.

Specification of Letters Patent.

Patented July 1, 1913.

Application filed June 13, 1912. Serial No. 703,444.

To all whom it may concern:

Be it known that I, FREDERICK EDWARD VESEY BEANES, a subject of the King of Great Britain and Ireland, and resident of 4 Morden road, Blackheath, in the county of Kent, England, have invented certain new and useful Improvements in Pliers, Tongs, and Like Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to a new or improved tool of the pliers or tongs type, and has for its object the production of a tool having a greater range of utility and a better and more certain grip of the article to be manipulated than is at present possible with tools of this type.

A tool constructed according to this invention comprises essentially two pairs of off-set jaws, one pair on each side of the pivot or fulcrum, the arrangement being such that the article to be held or manipulated is equally gripped at two separate points in its length or on its surface.

In the accompanying drawing: Figures 1 and 2 are views in front elevation and side elevation respectively of a tool constructed according to this invention. Fig. 3 is a part view in front elevation of one of the jaws thereof, and Figs. 4 and 5 are views in side elevation and front elevation respectively—on a reduced scale—of forge tongs.

A convenient construction of tool having horizontally arranged jaws consists in forming a suitable handle part *a* on one end of which is formed a bearing *a*¹ for the pivot pin *c*. On each side of the axis of said bearing a lug or jaw *a*² is formed to one side of the handle part or is offset. Each said lug or jaw *a*² is also so situated as to be on opposite sides of the axis of the handle, *i. e.* transversely to the axis of the bearing. The other handle part *b* formed in identically the same way (except so far as alteration is necessitated by reason of its different position when assembled) with jaws *b*² is pivoted to the other part *a*, thereby producing a tool having a pair of gripping jaws on each side of the axis of the pivot, and on operating the handles the movements of each pair of

jaws being simultaneous the article gripped will be equally gripped at two separate points in its length or on its surface.

The jaws are preferably so arranged as to have their gripping surfaces parallel when open to the fullest extent. In some cases each jaw may have a plate pivoted thereto in such a way as to provide a parallel movement of the gripping surfaces. In order that such tools may be arranged to grip not only articles having two parallel surfaces but also irregular or taper or wedge-shaped articles and to increase the range in diameter of the articles capable of being gripped, a construction is employed whereby provision is made for a limited movement in the same plane between the one part carrying one pair of jaws and the other part carrying the other pair of jaws. A convenient arrangement is to form the bearings for the pivot pin *c* in each of said parts *a* and *b* as slots *a*³ transversely arranged with respect to the longitudinal axis of the tool. The jaws are preferably so arranged as to have their gripping points *a*⁴, other than in the entirely closed position, always at a point less than the extreme edges of the jaws, see particularly Figs. 1, 2, and 3.

In forge tongs or other long-handled tools it is preferable that in the closed position of such tools the gripping points *a*⁴ of the jaws are some distance apart in order to obviate the extremities of the handles being excessively far apart in gripping large articles of a size equal to the capacity of the jaws.

By locating two pairs of jaws on opposite sides of the pivot point and providing the transverse slots *a*³ for the reception of the pivot pin it will be noted that when either the forward or rear pair of jaws meet or when they grip an article inserted therebetween the one pair of jaws serve as a fulcrum for the other pair. This is important in that it permits the jaws to automatically adjust themselves to grip articles of taper or other irregular shape.

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

1. A pair of tongs or pliers comprising 100

two pivotally connected members and two pairs of jaws thereon, the jaws of each member being placed on opposite sides of the pivot, and the pivotal connection being such
5 as to permit at that point a limited transverse movement of the members toward and from each other.

2. A pair of tongs or pliers comprising two members and two pairs of jaws thereon,
10 one of said members having a transverse

slot, and a pivot passing through said slot pivotally connecting said members together.

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

FREDERICK EDWARD VESEY BEANES.

Witnesses:

G. O. SYMES,

O. J. WORTH.
