(No Model.)

J. H. DAVIS.

CAST JOINTED TOOL.

No. 271,043. Patented Jan. 23, 1883.

FIG. 1.

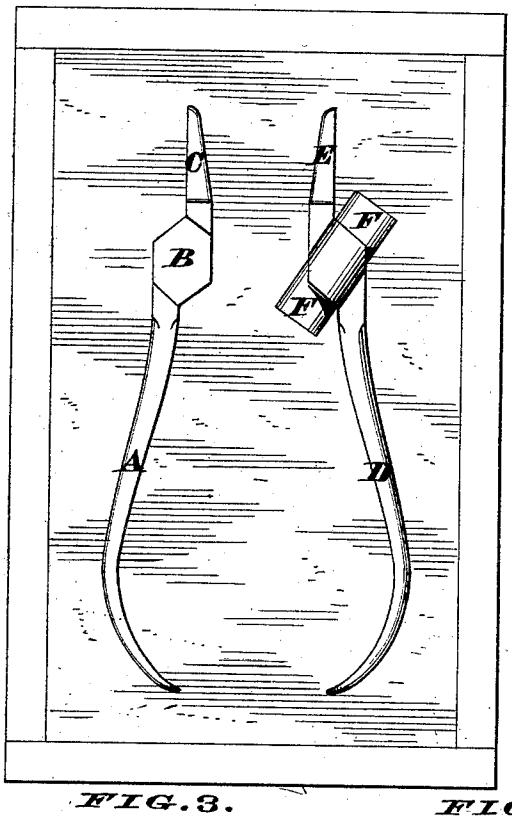


FIG. 2.

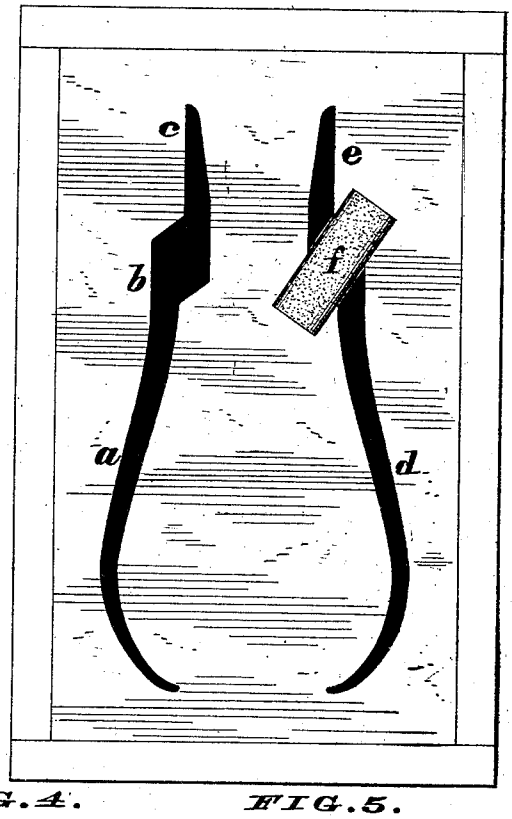


FIG. 3.

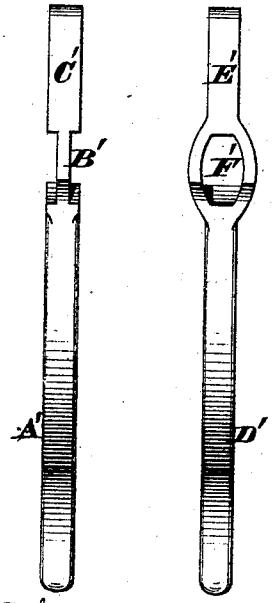


FIG. 4.

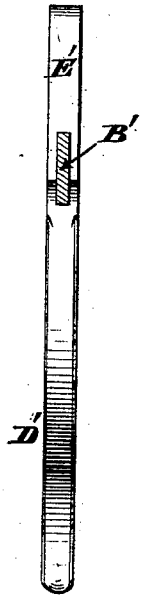
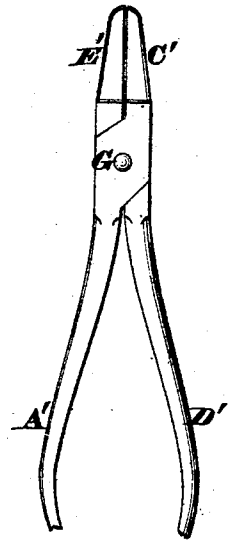


FIG. 5.



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UNITED STATES PATENT OFFICE.

JOHN H. DAVIS, OF COVINGTON, KENTUCKY, ASSIGNOR OF ONE-HALF TO HENRY ADAMS, OF SAME PLACE.

CAST JOINTED TOOL.

SPECIFICATION forming part of Letters Patent No. 271,043, dated January 23, 1883.

Application filed October 23, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. DAVIS, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Methods of Manufacturing Cast Jointed Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a novel method of manufacturing pliers, punches, tongs, and similar cast tools whose joints are formed by a male or tenon member that is pivoted within a female or mortised member; and the improvement consists in casting the mortise around a bulging core, then knocking out the latter, passing the tenon through the opening thus afforded, and finally flattening said bulged portion down onto said tenon, after which act a pivot is applied to the tool, so as to prevent longitudinal shifting of either of the members of the same, as hereinafter more fully described, and pointed out in the claim.

In the annexed drawings, Figure 1 is a plan of an ordinary molder's flask, the patterns of a jointed tool being shown embedded in the sand. Fig. 2 is a similar plan, but showing the patterns removed and the bulging core inserted in the "print." Fig. 3 is an elevation showing the inner surfaces of the male and female members of the tool after being removed from the flask and the core knocked out of the mortise. Fig. 4 is an elevation of the inner surface of the female member of the tool after its bulged portion has been flattened down onto the tenon of the male member, said tenon being sectioned. Fig. 5 is a side elevation of the finished tool.

Referring to Fig. 1, A represents the handle or lever, B the tenon, and C the jaw, of a pattern of the male member of a pair of pliers or punches or other similar jointed tool or implement capable of playing on a fixed pivot.

D represents the lever, and E the jaw, of the pattern of the complementary part or female member of the jointed tool, this pattern being provided with a bulging core-print, F, for a purpose that will presently appear. These patterns having been properly rammed in the mold and then removed therefrom, an impression will be left in the sand, as seen in Fig. 2, in which illustration *a*, *b*, *c*, *d*, and *e* represent the cavities formed respectively by the various parts, A B C D E, of the patterns. A bulging core, *f*, is then dropped into the impression made by the print F, after which act the drag and cope of the flask are secured together and the molten steel or other metal is poured into said flask in the usual manner.

When the castings are taken out of the sand the male pattern A B C will of course be exactly duplicated, as seen at A′ B′ C′ in Figs. 3 and 5, and the female pattern D E will be reproduced, as shown at D′ E′ in the same illustrations. Furthermore, it is apparent that the core *f* will have caused the metal of the female member to bulge outwardly on both sides at the junction of lever D′ with its jaw E′. Consequently when this core is knocked out a mortise or eye, F′, will be left in the female member of the tool, which mortise should be sufficiently wide to admit the jaw C of the complementary or male member of the implement. This jaw is accordingly passed through said mortise, and the bulged sides of the same are flattened down onto the tenon or male joint B, as represented in Figs. 4 and 5.

The finishing step in the manufacture consists in applying a customary rivet, G, to the joint, so as to prevent either of the members shifting longitudinally, and the tool is at once completed and ready for use.

For some purpose it may be found advisable to file or otherwise dress up the meeting surfaces of the mortise and tenon before uniting the male and female members of the tool; but for most ordinary uses said members may be coupled together precisely as they are taken out of the sand, as the continual opening and closing of the jaws will soon wear the joint so as to cause it to work perfectly smooth and even. Finally, my invention is not to be limited to any special form of cast jointed tools provided with a fixed pivot. Neither is it to be confined to any particular metal, although steel is preferred, for obvious reasons.

I am aware it is not new to bow outwardly certain portions of monkey-wrench frames and then flatten these bowed parts against the sliding jaws or other shiftable devices, as such a construction of implement is seen in several patents. Therefore my claim is not to be con-

strued as an attempt to cover the process, broadly, but is expressly limited to the manufacture of such jointed tools as are provided with a fixed pivot that effectually prevents longitudinal shifting of either member of the implement, as herein described.

I claim as my invention—

The within-described method of manufacturing jointed tools, which method consists in casting the female member around a bulging core, then knocking out the latter and passing the tenon of the male member through the enlarged mortise thus produced, then flattening the sides of said mortise down onto the tenon, and finally applying a pivot to the joint, for the purpose of preventing longitudinal shifting of either member of the implement, substantially as herein described and illustrated.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. DAVIS.

Witnesses:

JAMES H. LAYMAN,

EMMETT N. PARKER.